ENVIRONMENTAL IMPACT STATEMENT

Ebor Battery Energy Storage System

Bridge Energy Projects Pty Ltd

P003134

Rev: D

19 May 2026

Premise

PART OF THE Amey GROUP

© Premise 2026

This report has been prepared by Premise Australia for Bridge Energy Projects Pty Ltd; may only be used and relied on by Bridge Energy Projects Pty Ltd; must not be copied to, used by, or relied on by any persons other than Bridge Energy Projects Pty Ltd without the prior written consent of Premise. If Bridge Energy Projects Pty Ltd wishes to provide this Report to a third party recipient to use and rely upon, the recipient agrees: to acknowledge that the basis on which this Report may be relied upon is consistent with the principles in this section of the Report; and to the maximum extent permitted by law, Premise shall not have, and the recipient forever releases Premise from, any liability to recipient for loss or damage howsoever in connection with, arising from or in the respect of this Report whether such liability arises in contract, tort including negligence.

Document Reference: P003134 EIS01 Rev D

Document Authorisation					
Revision	**Revision Date**	**Details**			
A	23/01/2026	For client review			
B	28/03/2026	Client review of project description			
C	13/04/2026	Final			
D	19/05/2026	Minor amendments to navigable links			
Prepared by		**Reviewed by**		**Authorised by**	
Jennifer Evans		Jack Morrissey		David Walker	

ABBREVIATIONS

Abbreviation	Abbreviated term
ABN	Australian Business Number
ABS	Australian Bureau of Statistics
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACH	Aboriginal Cultural Heritage
AEMO	Australian Energy Market Operator
AEP	Annual Exceedance Probability
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
ANL	Acceptable Noise Levels
ARC	Armidale Regional Council
ARLEP	Armidale Regional Local Environmental Plan
BAM	Biodiversity Assessment Method
BAM-C	Biodiversity Assessment Method Calculator
BAL/BAR	Basic Left Turn / Basic Right Turn
BESS	Battery Energy Storage System
BDAR	Biodiversity Development Assessment Report
BFAR	Bush Fire Assessment Report
BOM	Bureau of Meteorology
BSAL	Biophysical Strategic Agricultural Land
CBD	Central Business District
CCTV	Closed Circuit Television
CEMP	Construction Environmental Management Plan
CFP	Chance Finds Protocol
CPI	Consumer Price Index
CPHR	Conservation Programs, Heritage and Regulation Group
CSP	Community Strategic Plan
CSEP	Community and Stakeholder Engagement Plan
DA	Development Application
DCP	Development Control Plan
DECCW	Department of Climate Change, Energy, the Environment and Water

Abbreviation	Abbreviated term
DNG	Derived Native Grassland
DoE	Commonwealth Department of Environment
DPI	NSW Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
DPHI	NSW Department of Planning, Housing and Infrastructure
EDC	Estimated Development Cost
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
ENM	Excavated Natural Material
EOR	Engagement Outcomes Report
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regs	*Environmental Planning and Assessment Regulation 2021*
EPBC Act	Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*
ESD	Ecologically Sustainable Development
ESS	Energy Savings Scheme
ETL	Electricity Transmission Line
FIA	Flood Impact Assessment
FRNSW	Fire and Rescue New South Wales
FTE	Full Time Equivalent
HTW	High Treat Weed
ICNG	Interim Construction Noise Guideline (2009)
IBRA	Interim Biogeographical Regionalisation of Australia
IPP	Industry Participation Plan
NPI	*Noise Policy for Industry 2017*
LEP	Local Environmental Plan
LGA	Local Government Area
LPI	NSW Land and Property Information
LUCRA	Land Use Conflict Risk Assessment

Abbreviation	Abbreviated term
LSAR	Land, Soil and Agriculture Report
LSPS	Local Strategic Planning Statement
LTESA	Long-Term Energy Service Agreements
MNES	Matters of National Environmental Significance
MVPS	Medium Voltage Power Station
NEM	National Electricity Market
NEREZ	New England Renewable Energy Zone
NSW	New South Wales
NSWLALC	New South Wales Local Aboriginal Land Council
NVIA	Noise Vibration Impact Assessment
OEH	NSW Office Environment and Heritage
OSOM	Over Size Over Mass
PCT	Plant Community Type
PBP 2019	*Planning for Bush Fire Protection 2019*
PDRS	Peak Demand Reduction Scheme
PHA	Preliminary Hazards Analysis
RAP	Registered Aboriginal Party
REAP	Registered Environmental Assessment Practitioner
REAP	NSW Renewable Energy Action Plan
REZ	Renewable Energy Zone
RFS	NSW Rural Fire Service
RMS	NSW Roads and Maritime Service
SAII	Serious and Irreversible Impacts
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SES	State Emergency Service
SIA	Social Impact Assessment
SSD	State Significant Development
SSI	State Significant Infrastructure

Abbreviation	Abbreviated term
TfNSW	Transport for New South Wales
TIA	Transport Impact Assessment
TEC	Threatened Ecological Community
TSR	Travelling Stock Route
UNE	University of New England
UNESCO	United Nations Educational, Scientific and Cultural Organization
VIA	Visual Impact Assessment
VIS	Vegetation Integrity Score
WAD	Works Authorisation Deed
WIA	Water Impact Assessment
WMP	Waste Management Plan
Units of measure	
ºC	degrees Celsius
dB(A)	A-weighted decibel
Ha	Hectare
m	Metres
m/s	Metres per second
ML	Megalitre
MPIA	Member Planning Institute Australia
MW	Megawatt
MWAC	Megawatt alternating current
MWh	Megawatt hour

CONTENTS

1. INTRODUCTION 1
1.1 THE APPLICANT 1
1.2 ENVIRONMENTAL RECORD OF APPLICANT 1
1.3 SIMPLE PROJECT DESCRIPTION 2
1.4 BACKGROUND 3
1.5 RELATED DEVELOPMENT 4
1.6 RESTRICTIONS OR COVENANTS 4
1.7 STATEMENT STRUCTURE AND SCOPE 5
2. STRATEGIC CONTEXT 6
2.1 STRATEGIC JUSTIFICATION 6
2.1.1 NSW 2021 PLAN (NSW GOVERNMENT 2011) AND RENEWABLE ENERGY ACTION PLAN (NSW GOVERNMENT 2013) 6
2.1.2 NSW ELECTRICITY STRATEGY & ELECTRICITY INFRASTRUCTURE ROADMAP 7
2.1.3 ENERGY SECURITY SAFEGUARD (NSW GOVERNMENT 2020) 7
2.1.4 RENEWABLE ENERGY POLICY FRAMEWORK 8
2.1.5 NEW ENGLAND NORTH WEST REGIONAL PLAN 2041 8
2.1.6 ADVANCING OUR REGION: TOWARD 50,000 LOCAL STRATEGIC PLANNING STATEMENT 9
2.1.7 COMMUNITY STRATEGIC PLAN 2017-2027 9
2.1.8 ARMIDALE RENEWABLE ENERGY COMMUNITY BENEFIT FRAMEWORK 2024 10
2.2 RELATIONSHIP TO NATIONAL ELECTRICITY MARKET 10
2.3 KEY FEATURES OF THE SITE AND SURROUNDS 10
2.3.1 SITE DESCRIPTION 10
2.3.2 THE LOCALITY 11
2.4 ANALYSIS OF FEASIBLE ALTERNATIVES TO THE PROJECT 17
2.4.1 OPTION 1 17
2.4.2 OPTION 2 17
2.4.3 OPTION 3 17
2.5 EXISTING AGREEMENTS 18
3. PROJECT DESCRIPTION 19
3.1 PROJECT OVERVIEW 19
3.2 USES AND ACTIVITIES 25
3.2.1 BATTERIES 25
3.2.2 UNDERGROUND CABLING 25
3.2.3 TRANSMISSION LINE 25
3.2.4 INVERTERS, TRANSFORMERS AND SWITCHGEAR 25
3.2.5 ACCESS AND INTERNAL TRACKS 26
3.2.6 ANCILLARY TEMPORARY FACILITIES AND CONSTRUCTION COMPOUND 26

3.2.7 SECURITY 26
3.2.8 SUBDIVISION 26
3.3 PROJECT PHASES 26
3.3.1 PRE CONSTRUCTION PHASE 26
3.3.2 CONSTRUCTION PHASE 27
3.3.3 OPERATIONAL PHASE 28
3.3.4 RE-POWERING AND DECOMMISSIONING PHASE 28
4. STATUTORY CONTEXT 30
4.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 33
4.1.1 OBJECTS OF THE EP&A ACT 33
4.2 OTHER ENVIRONMENTAL PLANNING INSTRUMENTS 35
4.2.1 ARMIDALE REGIONAL LOCAL ENVIRONMENTAL PLAN 2012 35
5. COMMUNITY ENGAGEMENT 40
5.1 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS 40
5.2 COMMUNITY AND ENGAGEMENT STAKEHOLDER PLAN 41
5.3 STAKEHOLDERS 41
5.4 ENGAGEMENT TOOLS AND ACTIVITIES 41
5.5 ENGAGEMENT DURING SCOPING 43
5.6 COMMUNITY ENGAGEMENT DURING THE PREPARATION OF THE EIS 45
5.7 REGULATOR ENGAGEMENT DURING PREPARATION OF THE EIS 46
5.8 ENGAGEMENT OUTCOMES 47
5.8.1 SUMMARY OF COMMUNITY AND STAKEHOLDER KEY ISSUES 47
5.8.2 SUMMARY OF REGULATOR KEY ISSUES 49
5.9 FUTURE ENGAGEMENT 51
5.9.1 PUBLIC EXHIBITION OF THE EIS 51
5.9.2 POST-APPROVALS AND CONSTRUCTION 52
5.9.3 MONITORING AND REVIEW 53
6. ASSESSMENT OF IMPACTS 54
6.1 BIODIVERSITY 54
6.1.1 INTRODUCTION 55
6.1.2 EXISTING ENVIRONMENT 55
6.1.3 KOALA HABITAT 57
6.1.4 ASSESSMENT OF IMPACTS 57
6.1.5 MITIGATION MEASURES 59
6.2 ABORIGINAL HERITAGE 63
6.2.1 INTRODUCTION 63
6.2.2 EXISTING ENVIRONMENT 64
6.2.3 ASSESSMENT IMPACTS 64

6.2.4 MITIGATION MEASURES 66
6.3 HISTORIC HERITAGE 66
6.3.1 INTRODUCTION 67
6.3.2 EXISTING ENVIRONMENT 67
6.3.3 ASSESSMENT IMPACTS 69
6.3.4 MITIGATION MEASURES 69
6.4 LAND 69
6.4.1 INTRODUCTION 70
6.4.2 EXISTING ENVIRONMENT 70
6.4.3 ASSESSMENT IMPACTS 73
6.4.4 MITIGATION MEASURES 75
6.4.5 RESIDUAL IMPACTS 79
6.5 CONTAMINATION 79
6.5.1 INTRODUCTION 80
6.5.2 EXISTING ENVIRONMENT 80
6.5.3 ASSESSMENT IMPACTS 81
6.5.4 MITIGATION MEASURES 85
6.6 VISUAL 85
6.6.1 INTRODUCTION 85
6.6.2 EXISTING ENVIRONMENT 85
6.6.3 ASSESSMENT IMPACTS 86
6.6.4 MITIGATION MEASURES 87
6.7 NOISE AND VIBRATION 87
6.7.1 INTRODUCTION 87
6.7.2 EXISTING ENVIRONMENT 88
6.7.3 ASSESSMENT IMPACTS 90
6.7.4 MITIGATION MEASURES 91
6.8 TRAFFIC, ACCESS AND TRANSPORT 92
6.8.1 INTRODUCTION 92
6.8.2 EXISTING ENVIRONMENT 93
6.8.3 ASSESSMENT IMPACTS 93
6.8.4 MITIGATION MEASURES 98
6.9 WATER 99
6.9.1 FLOOD IMPACT ASSESSMENT 100
6.9.2 WATER IMPACT ASSESSMENT 103
6.10 HAZARDS 111
6.10.1 INTRODUCTION 112
6.10.2 EXISTING ENVIRONMENT 112
6.10.3 ASSESSMENT IMPACTS 112

6.10.4 CAPTURE OF FIREFIGHTING WATER 117
6.10.5 MITIGATION MEASURES 118
6.10.6 ASSESSMENT CONCLUSION 118
6.11 BUSH FIRE 118
6.11.1 INTRODUCTION 119
6.11.2 EXISTING ENVIRONMENT 119
6.11.3 ASSESSMENT IMPACTS 121
6.11.4 MITIGATION MEASURES 122
6.12 SOCIAL 124
6.12.1 INTRODUCTION 124
6.12.2 EXISTING ENVIRONMENT 125
6.12.3 ASSESSMENT IMPACTS 126
6.12.4 MITIGATION MEASURES 129
6.13 ECONOMIC 129
6.13.1 CONSTRUCTION 130
6.13.2 OPERATIONS 130
6.13.3 BENEFIT SHARING AND AGREEMENTS 131
6.13.4 MITIGATION MEASURES 131
6.14 WASTE 132
6.14.1 INTRODUCTION 132
6.14.2 EXISTING ENVIRONMENT 132
6.14.3 ASSESSMENT OF IMPACTS 133
6.14.4 MITIGATION MEASURES 136
6.15 CONSTRUCTION IMPACTS 137
6.16 CUMULATIVE IMPACTS 138
6.16.1 INTRODUCTION 138
6.16.2 EXISTING ENVIRONMENT 138
6.16.3 ASSESSMENT IMPACTS 143
7. JUSTIFICATION OF THE PROJECT 147
7.1 DESIGN OF THE PROJECT 147
7.2 CONSISTENCY WITH THE PROJECT WITH THE STRATEGIC CONTEXT 147
7.3 COMPLIANCE WITH RELEVANT STATUTORY REQUIREMENTS 147
7.4 COMMUNITY VIEWS 148
7.5 ECONOMIC, SOCIAL, ENVIRONMENTAL AND CUMULATIVE IMPACTS 148
7.6 COMPLIANCE MONITORING AND COMMUNICATION 149
7.7 KEY UNCERTAINTIES 149
7.8 PUBLIC INTEREST 149
7.9 ECOLOGICALLY SUSTAINABLE DEVELOPMENT 150
7.9.1 PRECAUTIONARY PRINCIPLE 151

7.9.2 INTER-GENERATIONAL EQUITY 151
7.9.3 CONSERVATION OF BIOLOGICAL DIVERSITY AND ECOLOGICAL INTEGRITY 151
7.9.4 IMPROVED VALUATION, PRICING AND INCENTIVE MECHANISMS 152
7.10 SITE SUITABILITY 152
7.11 CONCLUSION 152
8. REFERENCES 153

TABLES

Table 1 – Development Options 17
Table 2 - Project summary 20
Table 3 - Mandatory considerations table 30
Table 4 – Pre-conditions table 32
Table 5 - Response to SEARs 40
Table 6 - List of tools and their application 42
Table 7 - Engagement overview during the scoping phase 44
Table 8 - Summary of community engagement and key matters raised 45
Table 9 - Summary of regulatory engagement and key matters 47
Table 10 - Summary of community and stakeholder engagement outcomes 48
Table 11 - Summary of regulator engagement outcomes 50
Table 12 - Engagement activities to support exhibition of the EIS 51
Table 13 - Impact Assessment Level 54
Table 14 – Biodiversity SEARs 54
Table 15 - Candidate fauna species on the study area 56
Table 16 – Biodiversity mitigation measures 60
Table 17 – Heritage SEARs 63
Table 18 – Heritage SEARs 66
Table 19 – Land SEARs 69
Table 20 – Land SEARs 79
Table 21 – Visual SEARs 85
Table 22 – Noise SEARs 87
Table 23 - Noise sensitive receivers 88
Table 24 – Transport SEARs 92
Table 25 - Trip distribution routes 95
Table 26 - Local sight distance requirements 96
Table 27 - Local sight distance 96
Table 28 – Water and Soil SEARs 99
Table 29 – Hazards SEARs 111
Table 30 – Hazard SEARs 118
Table 31 - APZ requirements (FDI 80 areas) 121

Table 32 – Social SEARs 124
Table 33 - Social study area 125
Table 34 - Summary of assessed social impacts 126
Table 35 - Economic and Benefit-Sharing SEARs 129
Table 36 - Waste SEARs 132
Table 37 - Relevant projects 139
Table 38 - SEARs requirements SSD-85362210 160
Table 39 - Commonwealth legislation 172
Table 40 - NSW Legislation 172
Table 41 - Summary of mitigation measures 181

FIGURES

Figure 1 – Regional context 13
Figure 2 - Local context 14
Figure 3 – Land zoning 15
Figure 4 - Constraints map 16
Figure 5 – Development footprint 23
Figure 6 – Receivers 24
Figure 7 - Proposed subdivision – option A 38
Figure 8 - Proposed subdivision – option B 39
Figure 9 - Historic heritage 68
Figure 10 - Land and soil capability 72
Figure 11 - Sensitive receivers 89
Figure 12 - Daily traffic distribution 95
Figure 13 - AM peak traffic distribution 95
Figure 14 - PM peak traffic distribution 95
Figure 15 - Escorted OSOM vehicle transporting transformer (source: OSOM route assessments) 97
Figure 16 - Local catchments 102
Figure 17 - Water 106
Figure 18 - Bush Fire Prone Land 120
Figure 19 - Cumulative impacts 142

APPENDICES

Appendix A SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS 158
Appendix B SEARS CHECKLIST 159
Appendix C DETAILED MAPS AND PLANS 170
Appendix D STATUTORY COMPLIANCE TABLE 171
Appendix E CONSULTATION 179
Appendix F MITIGATION MEASURES 180
Appendix G LAND TITLES 198
Appendix H BIODIVERSITY DEVELOPMENT ASSESSMENT REPORT 199
Appendix I ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT 200
Appendix J LAND USE CONFLICT RISK ASSESSMENT 201
Appendix K LAND, SOIL AND AGRICULTURE REPORT 202
Appendix L VISUAL IMPACT ASSESSMENT 203
Appendix M NOISE AND VIBRATION IMPACT ASSESSMENT 204
Appendix N TRANSPORT IMPACT ASSESSMENT 205
Appendix O OVERSIZE AND OVERMASS ROUTE STUDY 206
Appendix P OVERSIZE AND OVERMASS ROUTE STUDY 207
Appendix Q WATER IMPACT ASSESSMENT 208
Appendix R FLOOD IMPACT ASSESSMENT 209
Appendix S PRELIMINARY HAZARD ANALYSIS 210
Appendix T BUSH FIRE ASSESSMENT REPORT 211
Appendix U SOCIAL IMPACT ASSESSMENT 212
Appendix V COMMUNITY AND STAKEHOLDER ENGAGEMENT PLAN 213
Appendix W WASTE MANAGEMENT PLAN 214

CERTIFICATION

For submission of an environmental impact statement (EIS) under Part 4, Division 4.1 of the NSW *Environmental Planning and Assessment Act 1979*.

Project Details	
Project Name	Ebor Battery Energy Storage System Bridge Energy Pty Ltd (The Applicant) is proposing to develop an approximately 100 Megawatt AC (MW) / 870 MWh Battery Energy Storage System (BESS) on land known as Lot 2 DP 749654 at 8511 Waterfall Way, Ebor, NSW, 2453.
Application Number	SSD-85362210
Address of the land in respect of which the development application is made	> Part Lot 2 DP 749654 - 8511 Waterfall Way, Ebor, NSW, 2453; > Part Lot 7024 DP1117640 - 8514 Waterfall Way, Ebor, NSW, 2453; > Part Lot 7005 DP1117635 - Grafton Road, Ebor, NSW, 2453; and > Waterfall Way road reserve.

Applicant Details
Bridge Energy Projects Pty Ltd Level 1, 27 James Street, Fortitude Valley Qld 4064

Details of persons by whom this EIS was prepared		
Jennifer Evans Diploma Town Planning (partial completion) Premise Australia Pty Ltd 1st Floor, 62 Wingewarra Street, DUBBO NSW 2830	Jack Morrissey B.Urban and Regional Planning Premise Australia Pty Ltd 1st Floor, 62 Wingewarra Street, DUBBO NSW 2830	David Walker B.Urban and Regional Planning Premise Australia Pty Ltd Level 1, 60-62 McNamara Street ORANGE NSW 2800 PO Box 1963 ORANGE NSW 2800

Declaration by registered environmental assessment practitioner	
Name	David Walker
Registration number	7333
Organisation registered with	Planning Institute of Australia

The undersigned declares that this EIS:

> has been prepared in accordance with the *Environmental Planning and Assessment Regulation 2021*;

> contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the EIS relates;

> does not contain information that is false or misleading;

> addresses the Planning Secretary's environmental assessment requirements (SEARs) for the project;

Project Details
> identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments; > has been prepared having regard to the Department's State Significant Development Guidelines - Preparing an Environmental Impact Statement; > contains a simple and easy to understand summary of the project as a whole, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development; > contains a consolidated description of the project in a single chapter of the EIS; > contains an accurate summary of the findings of any community engagement; and > contains an accurate summary of the detailed technical assessment of the impacts of the project as a whole.
 DAVID WALKER **B. URBAN AND REGIONAL PLANNING (MPIA)** **19/05/26**

EXECUTIVE SUMMARY

Introduction

Bridge Energy Projects Pty Ltd, the Applicant, seeks to develop a Battery Energy Storage System (BESS) on land known as Lot 2 DP 749654 at 8511 Waterfall Way, Ebor, NSW within the Armidale Regional Local Government Area (LGA).

The BESS would have a maximum energy discharge of 100 Megawatts (MW), an energy storage output capacity of 800 MW hours (MWh) and an effective energy storage capacity at the beginning of service life of 870 MWh (equating to 8+hours of storage at the point of discharge).

The Ebor BESS has been awarded a Long-Term Energy Service Agreement (LTESA) under the NSW Electricity Infrastructure Roadmap.

The project is to be known as the Ebor BESS. The project area is located across the following land parcels:

- Part Lot 2 DP 749654 - 8511 Waterfall Way, Ebor, NSW, 2453;
- Part Lot 7024 DP1117640 - 8514 Waterfall Way, Ebor, NSW, 2453;
- Part Lot 7005 DP1117635 - Grafton Road, Ebor, NSW, 2453; and
- Waterfall Way road reserve.

The development footprint for the Ebor BESS includes all areas where physical impacts are proposed and assessed. The development footprint includes the BESS infrastructure, a new property access and internal driveway and connecting electricity transmission line.

The project area is approximately 17.55 hectares (ha), while the development footprint has an area of approximately 11.24 ha.

The proposed development is characterised as State Significant Development ('SSD') as the proposal is for the purpose of electricity generating works with an estimated development cost ('EDC') of more than $30 million, pursuant to Section 20 of Schedule 1 of *State Environmental Planning Policy (Planning Systems) 2021.*

Proposal

The Ebor BESS project comprises a BESS with a maximum energy discharge of 100 MW, an energy storage output capacity of 800 MWh and an effective energy storage capacity at the beginning of service life of 870 MWh (equating to 8+hours of storage at the point of discharge) and includes the following key infrastructure:

- Enclosed lithium-ion batteries (modules approximately 12.19m long x 3.1m high x 2.44m wide);
- Power conversion systems including associated transformers;
- Underground power and fibre optic cabling interconnecting the equipment;
- Grid connection equipment including switchgear, protection and control equipment, metering, reactive power equipment, filtering equipment, transformers and enclosures/buildings for housing equipment;

- An underground transmission line of up to approximately 350 meters (m) long to connect the BESS to the nearby Transgrid (Line 966) 132 kilovolt (kV) overhead transmission line;
- Earthing and lightning protection systems;
- Storage area/enclosure, internal access tracks, on-site parking, security fencing, CCTV, and temporary construction laydown area;
- Stormwater detention basin designed to mitigate flows in a 0.5% AEP event; and
- Construction of new site access from Waterfall Way (Grafton Road) in the south-east, crossing the existing travelling stock route being Lot 7005 DP1117635 and Lot 7024 DP1117640.

Consistent with the definitions contained within *IEC 62933-1 Electrical Energy Storage (EES) Systems – Part 1*, the proposed Ebor BESS has a maximum energy discharge capacity of 100 MW a maximum energy storage output capacity of 800 MWh, and an effective energy storage capacity at the beginning of service life of 870 MWh.

This higher effective energy storage capacity at the beginning of service is required to account for battery degradation and losses over time, in order to ensure that the maximum energy discharge capacity of 800 MWh is achieved at the point of connection, as required over the 14-year term of the NSW Government LTESA.

Accordingly, while the project was originally described in the SEARs request as a 100 MW / 800 MWh BESS, refinement of the battery configuration and application of the IEC 62933-1 definitions during project design has resulted in the proposed operational capacity being defined as 100 MW / 870 MWh. Notably, this does not alter the nature of the development from what was presented in the scoping report or the overall operational characteristics of the proposed development.

It is also proposed to subdivide the land to create a freehold lot for dedication to Transgrid to host the project switching station (and potentially substation), subject to final agreement with Transgrid. The subdivided switching station lot will be either approximately 1.06 ha or 1.96 ha in area, with the residual being approximately 251 ha in area. The residual lot will host an existing dwelling and agricultural buildings as well as the BESS infrastructure. The BESS infrastructure will be the subject of a lease of premises to provide security of tenure for the applicant. The switching station lot will have a right of carriageway over the proposed internal access driveway to provide legal access. There would be no change in the access arrangements for the residue lot.

The primary components associated with the installation of the BESS are as follows:

- Site investigations, vegetation clearing, road upgrades, levelling, access way construction, drainage system installation and installation of foundations/supports to install equipment on;
- Transport to site and installation of equipment;
- Testing and commissioning of the equipment;
- Operation and maintenance.

Environmental issues

An analysis of site constraints via an environmental risk assessment process has identified the following key environmental issues which it was deemed warranted quantitative assessment:

- Biodiversity;

- Heritage;
- Land;
- Contamination;
- Visual;
- Noise and vibration;
- Traffic, access and transport;
- Water;
- Hazards;
- Bush Fire;
- Social and economic; and
- Waste.

Comprehensive engagement has been completed with the community, agencies and other relevant stakeholders to ensure that the project objectives are clearly understood and so that any feedback on the project can be considered and incorporated where necessary.

Mitigation measures outlined in relation to each of the above matters would be addressed in a construction environmental management plan or operational environmental management plan as appropriate sitting beneath an overarching Environmental Management Strategy.

A summary of the outcomes of quantitative analysis for key impact areas is provided in the following sections.

BIODIVERSITY

A Biodiversity Development Assessment Report (BDAR) has been prepared by Water Technology Pty Ltd (WT) and is provided in **Appendix H**.

Site surveys were completed by WT, including Biodiversity Assessment Method (BAM) transects in October/November 2025 and January 2026, together with targeted searches between October 2025 and January 2026. Flora surveys identified that the majority of the approximately 34 hectare (ha) study area features non-native vegetation (23.60 ha), with the remainder (10.36 ha) featuring Plant Community Types (PCT) 3288, Northern Escarpment Messmate Moist Grassy Forest and PCT 3379, Barrington-Point Lookout Montane Grassy Forest. Neither of these PCTs are associated with any Threatened Ecological Communities (TECs) under the NSW *Biodiversity Conservation Act 2016* (BC Act) or the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). PCT 3379 is found in the west of the site near the property access, while PCT 3288 is found in the east of the site near the transmission line. Direct impacts to PCT 3288 are minimal due to adoption of underground trenching methods. Impacts to PCT 3379 will occur as a consequence of the development of the site access, with total impacts limited to up to 1,679 m^2, or less than 0.5% of the study area. There is no flora credit liability.

Fauna species predicted to occur within the study area were narrowed down to nine (9) species. Targeted searches for these nine (9) species confirmed that they do not occur on site and will not be impacted by the project. Despite this, due to the potential for residual impacts to Greater Glider habitat associated with construction of the property access, two species credits apply.

Mitigation measures have also been recommended to ensure that impacts are mitigated and avoided where possible. Residual impacts are appropriately managed through the biodiversity assessment framework and associated offset obligations, as detailed in **Appendix F**.

HERITAGE

An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared by Premise and is provided in **Appendix I**.

An archaeological survey was undertaken on 25 February 2026 by Premise Archaeologist accompanied by two (2) Registered Aboriginal Party (RAP) representatives. Results of the archaeological survey and in-depth desktop research has determined the following:

- No previously recorded Aboriginal sites are located within 200m of the proposed development footprint.
- Two new Aboriginals sites were identified and recorded during the archaeological survey however both sites are located outside of the development footprint and will not be impacted on;
- The development footprint demonstrates overall low to moderate archaeological potential; and
- The remainder of the Project Area is considered to have been subject to disturbance through historical agricultural activities, clearance of vegetation, erection of farm infrastructure and road construction.

Mitigation measures are proposed, including preparation of a chance finds protocol.

LAND

A Land Use Conflict Risk Assessment (LUCRA) and Land, Soil and Agriculture Report (LSAR) have been prepared by Premise and are provided in **Appendix J** and **Appendix K** respectively.

The LUCRA and LSAR demonstrate that the project area is suitable for the proposed development, with no significant constraints relating to land capability, contamination, or existing land uses. Impacts to land are localised to the development footprint, with minimal loss of agricultural land and no fragmentation of surrounding land uses. Subject to implementation of mitigation measures, impacts to soils, land capability and agricultural productivity are low, temporary and reversible, with the site capable of being returned to agricultural use following decommissioning.

Land related impacts are considered manageable and reversible, with mitigation measures consolidated in **Appendix F** ensuring the ongoing viability of surrounding agricultural land uses.

CONTAMINATION

The preliminary site investigation within the LSAR confirms that the project area is not contaminated and is suitable for the proposed development in accordance with the *State Environmental Planning Policy (Resilience and Hazards) 2021*. Potential contamination risks during construction and operation are limited to typical activities such as spills and soil disturbance and are manageable through standard environmental controls. No cumulative contamination impacts or constraints to surrounding land uses are anticipated, and residual contamination risks are low and acceptable.

VISUAL

A Visual Impact Assessment (VIA) has been prepared by Premise and is provided in **Appendix L**.

The VIA demonstrates that the proposed development will result in low visual impacts across the study area, reflecting the modified rural landscape, limited visibility and low sensitivity of identified viewpoints. Visual impacts are confined to one public viewpoint and one private receiver, with impacts assessed as low to very low.

The development will be visually recessive within the broader landscape and, noting the absence of cumulative impacts, will not result in a material change to visual amenity. Given the limited extent and magnitude of visibility, no specific mitigation measures are required to achieve acceptable visual outcomes.

NOISE AND VIBRATION

A Noise and Vibration Impact Assessment (NVIA) has been prepared by Assured Environmental and is provided in **Appendix M**.

The NVIA indicates that construction noise may exceed management levels at nearby receivers; however, impacts are temporary, intermittent and manageable with standard mitigation measures.

Operational noise is predicted to comply with all relevant criteria under the *NSW Noise Policy for Industry* (2017), with no significant impacts at sensitive receivers. Traffic noise impacts are negligible, and cumulative impacts are not anticipated. Accordingly, residual noise impacts are low and acceptable.

Implementation of standard construction mitigation measures in **Appendix F** ensures that temporary impacts are appropriately controlled, with compliant operational outcomes achieved.

TRAFFIC, ACCESS AND TRANSPORT

A Traffic Impact Assessment (TIA) has been prepared by Premise and is provided in **Appendix N**. Oversize Overmass Route Studies have been prepared by ARES Group for the route from the Port of Brisbane (**Appendix O**) and by Amber for the route from the Glen Waverly, Victoria (**Appendix P**).

The TIA demonstrates that the surrounding road network can accommodate the proposed development, with impacts primarily associated with the construction phase. Traffic volumes, including heavy and over-dimensional vehicles, can be safely managed with appropriate access design, route planning and traffic management measures. Required access upgrades are minor and achievable, and cumulative traffic impacts are minimal, subject to implementation of mitigation measures consolidated in **Appendix F**.

WATER

A Water Impact Assessment (WIA) (**Appendix Q**) and Flood Impact Assessment (FIA) (**Appendix R**) have been prepared by Premise.

The WIA and FIA confirm that the project will result in only minor and localised changes to flood behaviour, with natural flow paths and flood storage functions largely maintained. Flood level and velocity changes are negligible to minor and do not result in adverse off-site impacts.

The project is also considered resilient under climate change scenarios and subject to the incorporated design measures, is hydraulically suitable with low and acceptable residual impacts. The proposed mitigation measures

ensure that flood behaviour is maintained, and any impacts remain localised and within acceptable limits. Mitigation measures to manage residual impacts are identified within **Appendix F**.

Consultation has been undertaken with Armidale Regional Council regarding water supply for the proposed development. Council has confirmed capacity within their existing network to accommodate the anticipated construction water demand; evidence of this consultation provided in **Appendix E**.

HAZARDS

A Preliminary Hazard Analysis (PHA) has been prepared by Riskcon Engineering is attached in **Appendix S**.

The PHA concludes that the proposed development does not present unacceptable risks to surrounding land uses or the community. All identified hazard scenarios have been assessed, with no credible off-site impacts identified. The project meets applicable risk criteria under Hazardous Industry Planning Advisory Papers and is appropriately classified as potentially hazardous. Subject to implementation of mitigation measures, the design controls and embedded safety systems within the project ensure that risks remain within the acceptable thresholds.

A Bush Fire Assessment Report (BFAR) has been prepared by Bushfire Consulting Services and is provided in **Appendix T**.

The BFAR demonstrates that the proposed development can be safely undertaken on bushfire prone land, with risks appropriately managed in accordance with *Planning for Bush Fire Protection 2019*. The development footprint is located outside of areas of highest bushfire risk, and the nature of the infrastructure, combined with asset protection measures, ensures that the risk of bushfire ignition and spread is low. Subject to the implementation of recommended mitigation measures, bushfire risks are considered manageable, with residual impacts low and acceptable.

Implementation of asset protection and operational mitigation measures identified in **Appendix F** ensures bushfire risks are appropriately mitigated in accordance with relevant guidelines.

SOCIAL

A Social Impact Assessment (SIA) has been prepared by Onward Consulting Pty Ltd and is provided in **Appendix U**.

The SIA identifies that the proposed development will result in a range of local and regional economic and social benefits, including employment generation, support for local businesses and contribution to energy security. Potential social impacts during construction, such as temporary increases in traffic, workforce accommodation demand and amenity impacts, are localised and manageable through standard mitigation measures and stakeholder engagement. The development is not expected to result in significant adverse social impacts and is considered to provide a net positive contribution to the local and regional community, with residual impacts low and acceptable. A benefit sharing offer has been submitted to Armidale Regional Council that is consistent with the requirements of the DPHI Benefit Sharing Guideline, together with support for a number of local initiatives.

A range of mitigation measures to address residual impacts have been identified and are consolidated in **Appendix F**. Ongoing stakeholder engagement and standard mitigation measures will ensure that social impacts are localised and effectively addressed.

ECONOMIC

Premise has assessed the economic impacts of the development in **Section 6.13**. The key impacts identified included increased employment, investment in the local economy, and pressure on local services including accommodation. The development is anticipated to generate up to 60 construction jobs. Once operational, the project would provide up to five (5) FTE jobs. Mitigation measures including an Industry Participation Plan (IPP) which would engage local businesses to provide for the demands of the construction of the project.

WASTE

A Waste Management Plan (WMP) has been prepared by Premise and is provided in **Appendix W**.

The WMP identifies, quantifies and classifies waste streams associated with the construction, operation and decommissioning of the proposed development in accordance with NSW EPA requirements.

Waste generation is highest during construction and decommissioning and is largely comprised of general solid and construction and demolition waste, with smaller quantities of regulated and hazardous materials. All waste will be managed in accordance with the waste hierarchy, prioritising avoidance, reuse and recycling, and will be transported to appropriately licensed facilities.

Subject to implementation of the WMP and associated mitigation measures, impacts on the receiving environment and local waste infrastructure are expected to be minimal. Mitigation measures to manage residual impacts are outlined in **Appendix F**.

Justification

The NSW Government has recognised that the NSW electricity system needs to change, acknowledging that traditional generators are ageing, and the State's transmission system is congested. Further, electricity prices are putting pressure on households and businesses. These factors have informed the preparation of Government policies and documents, the provisions of which have filtered to the local scale and informed local plan making.

The project will contribute to the provision of renewable energy in NSW and facilitate private investment in the state's electricity system over the next decade and beyond, a key consideration of the NSW Electricity Strategy. The BESS has an anticipated lifespan of up to 25 years and will contribute to the NSW Government's three objectives for the electricity system: reliability, affordability and sustainability.

The project would support the electricity supply market shift from a centralised power generation system, overly reliant on fossil fuels, to a dispersed and smaller scale system. The project provides firming capacity to the market by filling supply gaps when renewable energy sources are not producing.

The project will contribute to balancing the grid and support the performance and future uptake of renewable energy. The project seeks to invest in and contribute to the local economy through the creation of jobs and provision of affordable electricity.

The project has been sited and designed to minimise environmental impacts. Where impacts cannot be avoided, mitigation measures have been proposed.

The Proposal is consistent with the objects and matters for consideration in the EP&A Act (**Section 4.1.1**) and with the principles of Ecologically Sustainable Development (**Section 7.9**).

Conclusion

The assessments presented in this Environmental Impact Statement demonstrate that the proposed Ebor BESS would deliver a range of economic, energy security and strategic benefits at the local, regional and state level, supporting the transition to renewable energy and the achievement of relevant energy and emissions reduction targets.

The technical studies undertaken to inform the EIS confirm that the proposed development can be designed, constructed and operated without resulting in unacceptable environmental impacts. Potential effects on environmental values and nearby residential receivers have been identified and are capable of being effectively managed through the implementation of standard and project-specific mitigation measures.

The proposal has been assessed having regard to the objects of the *Environmental Planning and Assessment Act 1979* and the principles of Ecologically Sustainable Development and is considered to be consistent with these statutory considerations.

Overall, the EIS concludes that the proposed development would not result in significant adverse impacts on environmental, cultural, social or economic values at the local or regional scale and on balance, is considered to be in the public interest.

1. INTRODUCTION

Premise Australia Pty Ltd (Premise) has been commissioned by Bridge Energy Projects Pty Ltd (Bridge Energy) to prepare an Environmental Impact Statement (EIS) to accompany a Development Application (DA) to develop a Battery Energy Storage System (BESS). The BESS would have a maximum energy discharge of 100 Megawatts (MW), an energy storage output capacity of 800 MW hours (MWh) and an effective energy storage capacity at the beginning of service life of 870 MWh (equating to 8+hours of storage at the point of discharge).

The Ebor BESS will be located on land known as part Lot 2 DP 749654 at 8511 Waterfall Way, Ebor, NSW within the Armidale Regional Local Government Area (LGA).

1.1 The Applicant

Bridge Energy Projects Pty Ltd (the 'Applicant') (ABN 29 687 445 389) is an Australian-registered energy development company focused on delivering flexible power generation and grid-scale energy storage infrastructure that supports the transition to a resilient and lower-emission electricity system.

Bridge Energy is developing a portfolio of strategically located energy projects across Australia, including Battery Energy Storage Systems (BESS) and other flexible generation assets designed to enhance grid reliability and facilitate the integration of renewable energy.

The Applicant is based at Level 1, 27 James Street, Fortitude Valley, Queensland, 4064.

1.2 Environmental Record of Applicant

The Applicant, Bridge Energy Projects Pty Ltd, is an Australian-owned energy development company focused on the delivery of flexible generation and energy storage infrastructure to support the transition to a decarbonised electricity grid.

Bridge Energy develops and progresses energy projects including large-scale battery energy storage systems (BESS) and flexible generation infrastructure, with a focus on enhancing grid reliability and supporting integration of renewable energy.

The Applicant is an Australian private company and is currently progressing a portfolio of energy projects, including the Ebor BESS and other proposed energy reserve developments.

The environmental policy and planning framework is built on the following pillars:

- Regulatory Alignment and Environmental Risk Management – Bridge will comply with all relevant Commonwealth, State, and Territory laws, undertaking thorough due diligence, including environmental impact assessments, biodiversity reporting, and risk mitigation planning for each project.
- Stakeholder Engagement and Transparency - Bridge prioritise early and meaningful consultation with local communities, Traditional Owners, and government agencies to ensure that environmental concerns are addressed and incorporated into project development.
- Expert Collaboration and Best Practice Integration - Bridge partners with experienced environmental and planning consultants to ensure that the latest regulatory guidance and industry best practices are reflected in our work.
- Sustainability and Continuous Improvement - Beyond compliance, their approach supports Australia's broader climate and energy objectives. Bridge strive to minimise impacts, restore habitat where possible, and build long-term environmental resilience into each development.

Bridge's environmental policy ensures that environmental responsibility is not just a legal obligation, but a core value embedded throughout their organisation and operations.

1.3 Simple project description

The proposed Ebor Battery Energy Storage System (BESS) comprises a utility-scale energy storage facility with a maximum energy discharge of 100 Megawatts (MW), an energy storage output capacity of 800 MW hours (MWh) and an effective energy storage capacity at the beginning of service life of 870 MWh (equating to 8+hours of storage at the point of discharge). The development is located within a project area of approximately 17.55 hectares (ha), with a development footprint of approximately 11.24 ha.

The development will include the installation of enclosed lithium-ion battery units, medium voltage power station (MVPS) containers, and associated grid connection infrastructure. The BESS will connect to the existing 132 kilovolt (kV) Transgrid overhead electricity transmission line located to the east of the project area via an underground transmission line of approximately 350 metres (m) within a 15 m easement.

Key components of the proposed development include:

- Enclosed lithium-ion battery units (approximately 12.19m long x 3.1m high x 2.44m wide);
- Power conversion systems and associated transformers;
- Underground power and fibre optic cabling interconnecting equipment;
- Grid connection infrastructure, including switchgear, protection and control systems, metering, reactive power equipment, filtering equipment and auxiliary transformers;
- An underground transmission line connecting to the existing 132 kV network;
- Earthing and lightning protection systems;
- Ancillary infrastructure including a site office, storage areas, internal access tracks, on-site parking, security fencing and CCTV;
- Stormwater detention basin designed to mitigate flows in a 0.5% AEP event; and
- Construction of site access from Waterfall Way, including crossing of existing travelling stock routes.

The construction phase will involve site establishment, vegetation clearing, earthworks, access and drainage infrastructure installation, and the delivery and installation of BESS equipment, followed by testing and commissioning. The operational phase will involve ongoing monitoring and maintenance of the project.

The application proposes subdivision of the land to create a freehold lot for dedication to Transgrid to host the project switching station (and potentially substation), subject to final agreement with Transgrid. The subdivided switching station lot will be either approximately 1.06 ha or 1.96 ha in size, with the residual being approximately 251 ha in size. The residual lot will host an existing dwelling and agricultural buildings as well as the BESS infrastructure. The BESS infrastructure will be the subject of a lease of premises to provide security of tenure for the applicant. The switching station lot will have a right of carriageway over the proposed internal access driveway to provide legal access. There would be no change in the access arrangements for the residue lot.

The objectives of the proposed development are to:

- Provide grid-scale energy storage to support the stability and reliability of the electricity network;
- Enable the efficient integration of renewable energy by storing excess generation and supplying energy during periods of peak demand;

- Improve utilisation of existing electricity infrastructure through co-location with established transmission assets;
- Minimise environmental and land use impacts through appropriate site selection and design; and
- Contribute to State and national energy transition objectives by supporting a more flexible and resilient electricity system.

1.4 Background

The proposed Ebor BESS has been designed to provide grid flexibility services and to support the efficient operation of the existing electricity network. The facility would operate by charging during periods of lower electricity demand or lower market prices and discharging during periods of higher demand, thereby responding dynamically to market and network conditions.

By storing energy that may otherwise be underutilised during periods of low demand and making that energy available during peak demand periods, the Ebor BESS would contribute to improved network efficiency, enhanced system reliability and greater stability of electricity supply. In doing so, the project would support the integration of renewable energy generation and assist in balancing variability in supply, providing benefits to the broader electricity system and electricity consumers.

A range of strategies have been incorporated throughout the project's conception, design and development to avoid, minimise and where necessary, mitigate residual environmental and land use impacts. These strategies reflect a risk-based approach and are summarised below.

In this context, it is noted that:

- The site selection has prioritised a location immediately adjacent to existing high-voltage overhead electricity transmission infrastructure (Transgrid Line 966), reducing the need for additional linear infrastructure and reducing potential land use and environmental disturbance;
- The site is well separated from residentially zoned land and non-associated dwellings, reducing the potential for amenity impacts;
- The development is located wholly within RU1 – Primary Production zoned land, where utility-scale energy infrastructure is permissible with consent and compatible with surrounding land uses;
- The site provides for suitable access arrangements, enabling construction and operational traffic to be accommodated without the need for significant upgrades to the surrounding road network; and

The project has been refined to respond to the outcomes of technical studies, including:

- Installation of the site access in a location that seeks to avoid significant impacts to vegetation and habitat;
- Situated in a location that will result in almost no visual or noise impact to the community;
- Adequate clearance to adjacent extent vegetation, including hollow bearing trees, to ensure direct and indirect impacts are minimised; and
- Installation of an underground transmission cable from shared transmission network to the site to avoid the removal of Greater Glider (endangered species) habitat.

These factors have informed the project design and layout and have been fundamental to reducing potential environmental, social and land use impacts while enabling the delivery of essential energy infrastructure.

1.5 Related development

A review of the Armidale Regional Council's (ARC) DA tracker in January 2026 for the site address of 8511 Waterfall Way, Ebor returned zero (0) search results for past development applications on the site. The applicant is not aware of any existing development consents related to the site.

There are no existing or approved developments within the project area, including any existing use rights or continuing use rights, that will be incorporated into or operated in conjunction with the proposed development.

The project is proposed as a standalone development and will operate under a single SSD application. Ancillary infrastructure required for the project, including grid connection and site access, forms part of this application and has been assessed within this EIS.

No additional development is required to facilitate the project that would be subject to a separate approval process.

1.6 Restrictions or covenants

A review of the land titles for the site confirms the following restrictions and easements:

- Lot 2 DP 749654:
  - Land excludes minerals and is subject to reservations and conditions in favour of the Crown - see Crown grant(s);
  - Easement(s) affecting the part(s) shown so burdened in the title diagram created by:
    - L298467 for transmission line 45.72 wide DP939930
    - O896597 l298467 easement vested in New South Wales electricity transmission authority
  - At438337 mortgage to National Australia Bank limited.
- Part Lot 7024 DP1117640:
  - The land is a reserve within the meaning of Part 5 of the *Crown Lands Act 1989* and there are restrictions on transfer and other dealings in the land under that act, which may require consent of the minister.
  - Limited title. Limitation pursuant to Section 28t(4) of the *Real Property Act, 1900*. The boundaries of the land comprised herein have not been investigated by the registrar general.
- Part Lot 7005 DP1117635:
  - The land is a reserve within the meaning of part 5 of the *Crown Lands Act 1989* and there are restrictions on transfer and other dealings in the land under that act, which may require consent of the minister.
  - Limited title. Limitation pursuant to section 28t(4) of the *Real Property Act, 1900*. The boundaries of the land comprised herein have not been investigated by the registrar general.
  - Notification in government gazette dated 9.9.1988 Fols 4736-4737 easement for transmission line 60 metres wide affecting the part of the land above described shown so burdened in DP638768.

The above restrictions or covenants are not a barrier to the project proceeding.

1.7 Statement structure and scope

The structure and content of this EIS addresses the Secretary's Environmental Assessment Requirements (SEARs SSD-85362210) issued by DPHI on 27 June 2025. The SEARs were issued by DPHI following a 'request for Secretary's Requirements for the preparation of an Environmental Impact Statement', submitted to DPHI on the 28 May 2025.

A copy of the SEARs is provided in **Appendix A**.

Appendix B provides a checklist identifying where these environmental assessment requirements have been addressed in this EIS.

In accordance with the *State Significant Development Guidelines – Preparing an Environmental Impact Statement* (DPHI, 2026), this EIS has been prepared and is provided in the following format:

- **Section 1 (Introduction)** of this report sets the context for detailed assessment of the project in the following sections of the EIS and includes a description of the applicant, the project, the background to the project, any related development and any restrictions or covenants that apply to the site.
- **Section 2 (Strategic Context)** of this report provides the strategic context and includes any supporting strategies, policies or plans, key features of the site and surrounds, likelihood of generating cumulative impacts any agreements entered into with other parties.
- **Section 3 (Project Description)** outlines the proposed development, including the project area, physical layout and design, uses and activities and timing.
- **Section 4 (Statutory Context)** details the statutory context relevant to the justification and evaluation of the project.
- **Section 5 (Engagement)** identifies the key stakeholders for the project and describes what actions were taken with respect to community engagement in accordance with Undertaking Engagement Guidelines for State Significant Projects and SEARs.
- **Section 6 (Assessment of Impacts)** identifies the impacts of the proposed development, including the condition of the existing environment, the ability to avoid, mitigate and/or offset the impacts of the development, the scale and nature of the predicted impacts, key uncertainties associated with the assessment and proposed measures to deal with these uncertainties.
- **Section 7 (Justification of the Project)** provides the justification for the proposed development, including impact avoidance or minimisation measures, consistency with the strategic context, compliance with any relevant statutory requirements, outcomes of community engagement, the scale and nature of the impacts of the project, how compliance will be monitored and how key uncertainties will be addressed.

2. STRATEGIC CONTEXT

This section identifies key strategic considerations that are of relevance to the assessment of the project.

2.1 Strategic Justification

The NSW Government has recognised that the NSW electricity system needs to change, acknowledging that traditional generators are ageing, and the State's transmission system is congested. Further, electricity prices are putting pressure on households and businesses. This realisation has informed the preparation of Government policies and documents, the provisions of which have filtered to the local scale and informed local plan making.

The project supports the electricity supply market shift from a centralised power generation system, overly reliant on fossil fuels, to a dispersed and smaller scale system. The project provides firming capacity to the market by filling supply gaps when renewable energy sources are not producing

In the following sections is a discussion of the applicable state and local strategies, policies and plans and how the project is facilitating the objectives of each as they relate to the delivery of renewable energy.

2.1.1 NSW 2021 PLAN (NSW GOVERNMENT 2011) AND RENEWABLE ENERGY ACTION PLAN (NSW GOVERNMENT 2013)

The NSW 2021 plan, released in 2011, sets state-wide priorities for action and guides resource allocation. Goal 22 of this plan seeks to protect the natural environment and includes a specific target to increase renewable energy. The plan states:

> *"We will contribute to the national renewable energy target by promoting energy security through a more diverse energy mix, reducing coal dependence, increasing energy efficiency and moving to lower emission energy sources. Specific initiatives include:*
>
> - *Building the Moree solar power plant in partnership with the Commonwealth Government under the Solar Flagship Program*
> - *Establishing a Joint Industry Government Taskforce to develop a Renewable Energy Action Plan for NSW to identify opportunities for investment in renewable energy sources."*

Since release of the 2021 plan, the NSW Government has overseen the development of the NSW Renewable Energy Action Plan (REAP). The vision of the plan is a 'secure, affordable and clean future for NSW'. Goal 1 of the REAP is to attract renewable energy investment, including to 'support mid-scale solar PV to enable an uptake of solar technologies where they are most cost effective'.

The proposed BESS sits comfortably within this state-led objective and is consistent with the goal and intent of the REAP. Large scale battery systems represent a fundamental component of the REAP, facilitating greater flexibility in electrical generation and stabilising the grid such that further deployment of renewables can be made possible.

Through assisting the expansion of renewable forms of electrical generation, the proposed BESS further supports the *NSW Government's Climate Change Policy Framework* (NSW, 2016). This framework is committed to effective action on climate change, outlining long term objectives to achieve net-zero emissions by 2050 and to make New South Wales more resilient to a changing climate. The achievement of net zero emissions by 2050 is reliant on transitions towards more sustainable and renewable forms of electrical production.

The project supports this objective by improving the reliability and stability of the electrical grid. The ability of the proposed BESS system to balance electrical demand and supply assists the management of variations in electrical demand and supply which are expected to increase with transitions to more sustainable and renewable forms of electrical production. The proposed development is consequently consistent with the objective of the *NSW Government's Climate Change Policy Framework* (NSW, 2016), supporting transitions toward lower emissions and improving the resilience of NSW to a changing climate.

2.1.2 NSW ELECTRICITY STRATEGY & ELECTRICITY INFRASTRUCTURE ROADMAP

To address pressing matters around reliability, affordability and the fostering of a sustainable electricity future that supports a growing economy, the NSW Government has formed the NSW Electricity Strategy.

The NSW Electricity Strategy strives to:

- Deliver Australia's first coordinated Renewable Energy Zone in the Central-West Orana region;
- Save energy, especially at times of peak demand, via the Energy Security Safeguard;
- Support the development of new electricity generators;
- Set a target to bolster the state's energy resilience; and
- Make it easier and more efficient to do energy business in NSW.

The strategy encourages new private investment in NSW's electricity system over the next decade to support an estimated 1200 jobs, primarily in regional NSW. The strategy closely aligns with the NSW Government's 'Net Zero Plan Stage 1: 2020–2030'.

In November 2020, the NSW Government released the Electricity Infrastructure Roadmap, enabled by the *Electricity Infrastructure Investment Act 2020*. The Roadmap builds on the foundations of the Electricity Strategy and is expected to attract up to $32 billion of private investment in regional energy infrastructure by 2030 and support over 9,000 jobs, mostly in regional NSW.

The NSW Electricity Strategy acknowledges that firmed renewables are now the most cost-competitive form of new generation and cost less than the current wholesale electricity price.

The project will contribute to the provision of renewable energy in NSW and facilitate private investment in the state's electricity system over the next decade and beyond, a key consideration of the NSW Electricity Strategy. The BESS has an anticipated lifespan in the order of 25 years and will contribute to the NSW Government's three objectives for the electricity system: reliability, affordability and sustainability.

Five Renewable Energy Zones (REZs) are at various stages of development including in the Central West-Orana, New England, South-West, Hunter-Central Coast and Illawarra, selected based on the availability of resources and existing connecting infrastructure. The site is located east of the New England REZ and is considered to provide significant strategic value given the sites proximity existing Transgrid 132 kV electrical infrastructure (Line 966).

2.1.3 ENERGY SECURITY SAFEGUARD (NSW GOVERNMENT 2020)

The Energy Security Safeguard forms part of the NSW Government's Electricity Strategy and is established under the *Electricity Infrastructure Investment Act 2020*. The Safeguard provides a framework to improve the affordability, reliability and sustainability of the NSW electricity system by supporting investment in new energy infrastructure and ensuring sufficient capacity is available to meet future demand.

As part of this framework, the NSW Government has established the Peak Demand Reduction Scheme (PDRS) under the *Electricity Supply Amendment (Peak Demand Reduction Scheme) Regulation 2021*. The PDRS is designed to encourage activities that reduce electricity demand during peak periods, including flexible demand response measures, thereby reducing pressure on the electricity network during periods of high demand.

When implemented alongside the Energy Savings Scheme (ESS), the PDRS is forecast to deliver a net economic benefit of approximately $1.2 billion to NSW by 2040, through reduced wholesale electricity prices and avoided network investment.

While the proposed Ebor BESS is not a demand reduction mechanism in itself, it supports the broader objectives of the Energy Security Safeguard by providing dispatchable capacity during peak demand periods. By storing energy during periods of lower demand and discharging during peak conditions, the project would contribute to system reliability and resilience, particularly in the context of the progressive retirement of ageing coal-fired generation in NSW.

2.1.4 RENEWABLE ENERGY POLICY FRAMEWORK

The Renewable Energy Policy Framework and associated Renewable Energy Benefit Sharing Guideline, published by the NSW Department of Planning, Housing and Infrastructure (DPHI) in November 2024, establish the NSW Government's approach to supporting the transition to renewable energy, achieving legislated net zero emissions targets by 2050, and securing a reliable and affordable electricity supply for New South Wales.

While the Policy Framework primarily addresses large-scale solar, wind, hydrogen and transmission infrastructure, it also expressly recognises the role of both associated and stand-alone battery energy storage systems (BESS) in supporting the electricity system. In this regard, the Framework identifies a need for approximately two gigawatts of long-duration energy storage to support system reliability and the integration of renewable generation.

The Renewable Energy Benefit Sharing Guideline is relevant to the proposed development as a stand-alone BESS project and provides guidance on the identification, development and delivery of benefit-sharing arrangements with host communities. The Guideline emphasises early and ongoing engagement with local communities and landowners, and supports a range of benefit-sharing mechanisms, including neighbourhood benefit sharing, community benefit programs, and private agreements with host and adjacent landowners.

The proposed Ebor BESS is being progressed as a new State Significant Development application submitted under the Benefit Sharing Guideline. Consistent with the Guideline, the Applicant has commenced engagement with the local community and relevant stakeholders regarding potential benefit-sharing opportunities. These discussions will continue as the project progresses, with the aim of developing benefit-sharing outcomes that are proportionate to the scale of the development and responsive to local context and community feedback.

2.1.5 NEW ENGLAND NORTH WEST REGIONAL PLAN 2041

The New England North West Regional Plan 2041 (Regional Plan) is the NSW Government's strategy for guiding land use planning decisions for the New England North West Region for the next 20 years. The Regional Plan acknowledges the following key renewable energy focussed outcomes:

Objective 9 of this plan is "Lead renewable energy technology and investment" (p.43), with the New England REZ identified as a key initiative.

The proposed BESS project supports objective 9 and intended renewable energy outcomes of the New England North West Regional Plan 2041 by providing capacity to reduce the Region's reliance on fossil fuels and increase electricity storage for reuse during peak consumption periods.

2.1.6 ADVANCING OUR REGION: TOWARD 50,000 LOCAL STRATEGIC PLANNING STATEMENT

The ARC Advancing our region: Toward 50,000: Local Strategic Planning Statement (LSPS) was adopted by Council in April 2024. The LSPS sets the vision and priorities of ARC for next 20 year, directs further investigations to how identify where and how future growth will be managed, identifies where further strategic land use planning is required and explains the planning priorities and related actions.

The LSPS acknowledges the opportunities provided by the New England REZ, taking advantage of natural endowments like high solar exposure. Renewable energy is recognised as driving growth in the region, with the New England REZ expected to deliver approximately eight gigawatts of network capacity, which will in turn generate approximately 210 permanent/direct jobs and 140 indirect jobs. This is in addition to construction jobs

Objective 9 of the regional plan seeks to support a sustainable and resilient region.

A review of relevant planning priorities within the LSPS identifies the following:

- Planning priority A2 relies on renewable energy as an 'engine industry' that will drive demand for employment in the short to medium term, noting the anticipated 350 jobs anticipated to be delivered by renewable energy projects;
- Planning priority A5 seeks to ensure that the region achieves water security, particularly in the context of delivering renewable energy projects;
- Planning priority C3 seeks to improve resilience and improve climate change preparedness, including implementing the actions of the Council's Renewable Energy Action Plan;
- Planning priority C4 relates to the role of the New England region will play in supporting and playing a key role in achieving Australia carbon targets. Through delivery of approximately 8 gigawatts of renewable energy, the New England REZ will offset the emissions for more than 500,000 people.

The development is consistent with the vision of planning priorities A2, A5, C3 and C4 of the Armidale LSPS.

2.1.7 COMMUNITY STRATEGIC PLAN 2017-2027

The ARC Community Strategic Plan 2017-2027 (CSP) seeks to deliver the following community vision:

We want a harmonious region which celebrates the diversity and uniqueness of our communities, provides opportunities for all people to reach their potential, encourages engagement with our environment, cultures and lifestyles, while supporting growth, opportunity and innovation.

The four strategic directions to deliver the vision are:

• Environment and Infrastructure

• Growth, Prosperity and Economic Development

• Leadership for the Region

• Our People and Community

Relevant to this project is community outcome 2 under strategic direction environment and infrastructure, which seeks to provide for cost effective access to renewable energy for local businesses and community.

The proposed Ebor BESS is not inconsistent with the vision and strategic directions of the CSP and will directly assist to respond to community outcome 2 in relation to environment and infrastructure.

2.1.8 ARMIDALE RENEWABLE ENERGY COMMUNITY BENEFIT FRAMEWORK 2024

The framework was adopted by Council in May 2024. The framework seeks to promote benefit sharing strategies associated with the development of state and regionally significant renewable energy projects.

For battery projects, Council seeks to secure community benefits of $850 MW of capacity per annum. Capacity is not defined in the policy. The basis for this policy appears to the DPHI Draft Energy Policy Framework and the draft Benefit Sharing Policy. However, the draft framework and policy did not directly address energy storage projects. These drafts have now been superseded by the adopted framework – refer **Section 2.1.4**.

2.2 Relationship to National Electricity Market

The Australian Energy Market Operator (AEMO) operates the National Electricity Market (NEM) within NSW and surrounding states and territories. The AEMO has published the 2023 System Strength, Inertia and NSCAS Reports which identifies existing shortfalls and system strength nodes within the NEM. While there are no shortfalls identified within NSW generally, or the New England region specifically, the reports do demonstrate the increase in declared security need over the past decade as the NEM transitions from retiring coal generation to renewable generation. The AEMO highlights that technologies such as "batteries, solar and wind farms connected to the system with advanced inverters" will help in meeting these needs.

The proposed development comprises a battery energy storage system that is located outside of an identified REZ, but within 350 metres of a high capacity overhead transmission line. This strategic location is expected to provide opportunities for energy storage to support system strength and stability during and after disturbances to the NEM.

2.3 Key features of the site and surrounds

2.3.1 SITE DESCRIPTION

The project area for the Ebor BESS comprises all of the land subject to assessment and is identified by the yellow line on project figures throughout this EIS. The development footprint is the red line boundary and includes the land on which physical impacts will occur associated with project disturbance, including but not limited to areas for infrastructure, road works, access tracks, defendable space, fencing and temporary laydown areas. The extent of the project area and development footprint are reflected in **Figure 5**.

The project area has an area of approximately 17.55 ha (of which the development footprint comprises approximately 11.24 ha).

The project area and development footprint are located across:

- Part Lot 2 DP 749654;
- Part Lot 7024 DP1117640;
- Part Lot 7005 DP1117635; and
- Waterfall Way road reserve.

The project area and development footprint enclose an area of Waterfall Way (Grafton Road) in the west, while surrounding lands to the north, east and south are in use for agricultural purposes. The development footprint is wholly zoned as RU1 - Primary Production under the *Armidale Regional Local Environmental Plan 2012* (LEP) (**Figure 3**) and is used for extensive agricultural activities.

The development footprint forms part of an established agricultural holding in the Ebor area, that has primarily been used for cattle grazing purposes for more than 70 years. This has included the breeding and grazing of Wagyu and Angus cattle, comprising, among other things, the production of F1 Wagyu cattle through controlled cross-breeding practices. Cattle produced at the site are raised on pasture prior to being transferred off-site for finishing at accredited feedlot facilities.

The agricultural enterprise has been operating within domestic and export markets since approximately 2019. The ongoing use of the land for grazing has not involved intensive agriculture or permanent built infrastructure beyond that typically associated with broad acre rural production. The land is located within a high-rainfall environment and has historically supported cattle grazing consistent with the agricultural character of the locality.

The site is generally cleared of vegetation due to historic agricultural activities, with remaining vegetation comprising a mixture of exotic grassland and native vegetation. There is planted vegetation located around the associated dwelling to the south-west of the project area.

As discussed in **Section 6.11**, mapped environmental constraints applying to the land include bushfire prone land vegetation categories 1 and 3.

The project area does not contain any mapped items of heritage significance and is not mapped as containing sensitive biodiversity. The site is not mapped as a flood planning area via the LEP and the Flood Impact Assessment (FIA) prepared by Premise confirms that the size is generally unconstrained in the majority of flood events.

Waterways in the area includes Dirty Creek (Strahler order 2) and a swamp south of the site. Pantons Creek (Strahler order 3) and Snipe Swamp to the west of the site, separated by Waterfall Way. Pantons Gully (Strahler order 2 and 3) located north of the site and Majors Creek (Strahler order 3) is located east of the site. All creeks are nonperennial, with Strahler order 1 overland flow paths terminating into the site. Mapped environmental constraints applying to the land are depicted in **Figure 4**.

Electrical connections traversing the site includes Transgrid 132kV overhead transmission line running south-west to north-east, approximately 350 m east of the proposed BESS infrastructure, together with Essential Energy 11kV overhead transmission line to the dwelling located on Lot 2.

A new vehicular access point is proposed to Waterfall Way (Grafton Road) traversing Lot 7005 DP1117635 and Lot 7024 DP1117640 travelling stock reserves.

An existing vehicular access to Waterfall Way (Grafton Road) will be retained as private access for the associated dwelling, independent of the proposed project access point.

The project area is an undulating rural locality ranging in height from 1310 m AHD at Waterfall Way, peaking in height toward to the south-east of the site 1400 m AHD (**Figure 5**). The development site of the BESS ranges in height from 1,333 to 1,342 m AHD.

2.3.2 THE LOCALITY

The site is located approximately 3 km north-east of Ebor and approximately 70 km north-east of the CBD of Armidale in the Northern Tablelands of NSW. The site is located within the Armidale Regional LGA but is not located within the New England Renewable Energy Zone (REZ) (**Figure 1**).

Armidale LGA had a total population of 29,124 people (ABS, 2021). It is a regional centre and includes residential properties, schools, TAFE, a university, museums, sporting grounds, health services, and several business and retail properties as well as the Armidale Airport and train station. The suburb and locality of Ebor

had a total population of 149, located midway between Armidale and Coffs Coast with a range of hospitality venues and accommodation types available.

Armidale is a major agricultural centre in the New England Region and is approximately halfway between Brisbane and Sydney. The University of New England (UNE) and the NSW DPI Armidale Livestock Industries Centre are located northwest of Armidale CBD, with a focus on rural research and education.

Several nature reserves surround the site, including Guy Fawkes River Nature Reserve includes Ebor Falls attraction (4 km west of the site), Cathedral Rock National Park (8 km south-west of the site), and New England National Park (6 km south-east of the site). The New England National Park is one of eight parts of the Gondwana Rainforests of UNESCO Australia World Heritage places and includes prominent Point Lookout in New England National Park. The parks contain several attractions including falls, walking tracks, views of dry eucalypt forests and opportunities for birdwatching opportunities.

The closest SSD projects to the site include withdrawn Doughboy Wind Farm (SSD-64152463) ~21 km north-west, Oven Mountain Pumped Hydro Energy Storage (SSI-12422997) ~40 km south and Hillgrove Mine (DA98/35-Mod-5) ~40 km south-west, among others.

There are eight (8) residential receivers, seven (7) are non-associated residential receivers located within 2 km of the site. The closest zoned residential land is located approximately 3 km south-west of the project area.

Receiver locations are depicted in **Figure 6**.

State Context

Sources: © State of NSW, Department of Customer Service, Spatial Services 2025
State of NSW, Department of Climate Change Energy the Environment and Water 2025, ESRI 2025

File: P003134_02_SCOPING.aprx Prepared By: adam.davis Date: 4/05/2025

Legend

- Development Site
- Major Road
- Railway
- Major Projects
- Renewable Energy Zones

Renewable Energy Projects

- In planning

Electricity Transmission Line

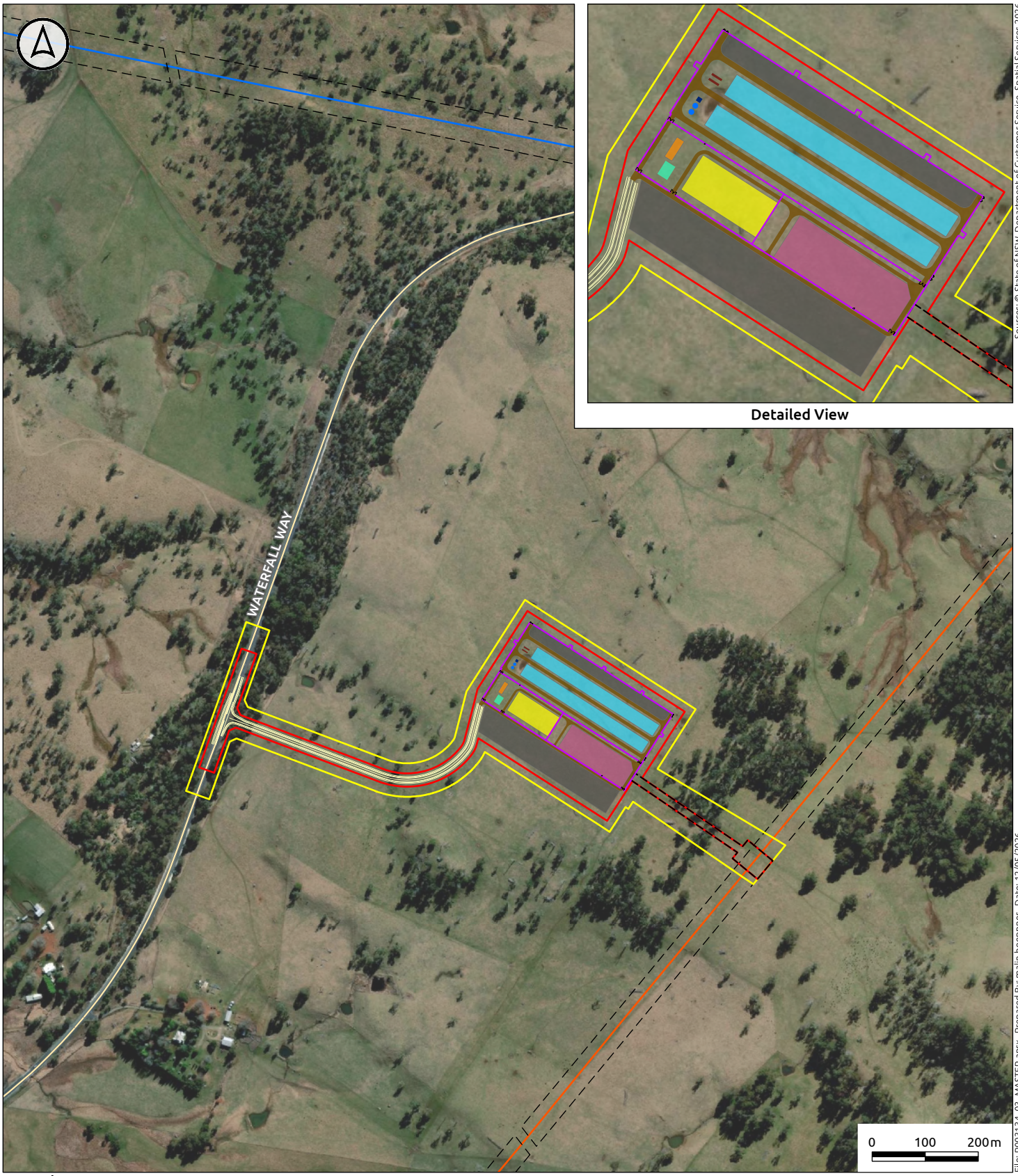
- 33 kV
- 66 kV
- 132 kV
- 330 kV

Premise

BRIDGE ENERGY

Ebor BESS

Figure 1
Regional Context



Sources: © State of NSW, Department of Customer Service, Spatial Services 2026
ESRI 2026

File: P0031134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 12/05/2026

Legend

- Project Area
- Development Footprint
- Major Road

Existing Electricity Transmission Line

- 132 kV
- 330 kV
- Existing Easement

- BESS Area
- Substation
- Switch Room
- Switchyard
- Temporary Laydown Area
- Internal Road
- Cable Easement
- Water Tank
- Water Pump

- Access Road
- Security Fence
- Gate

Buildings

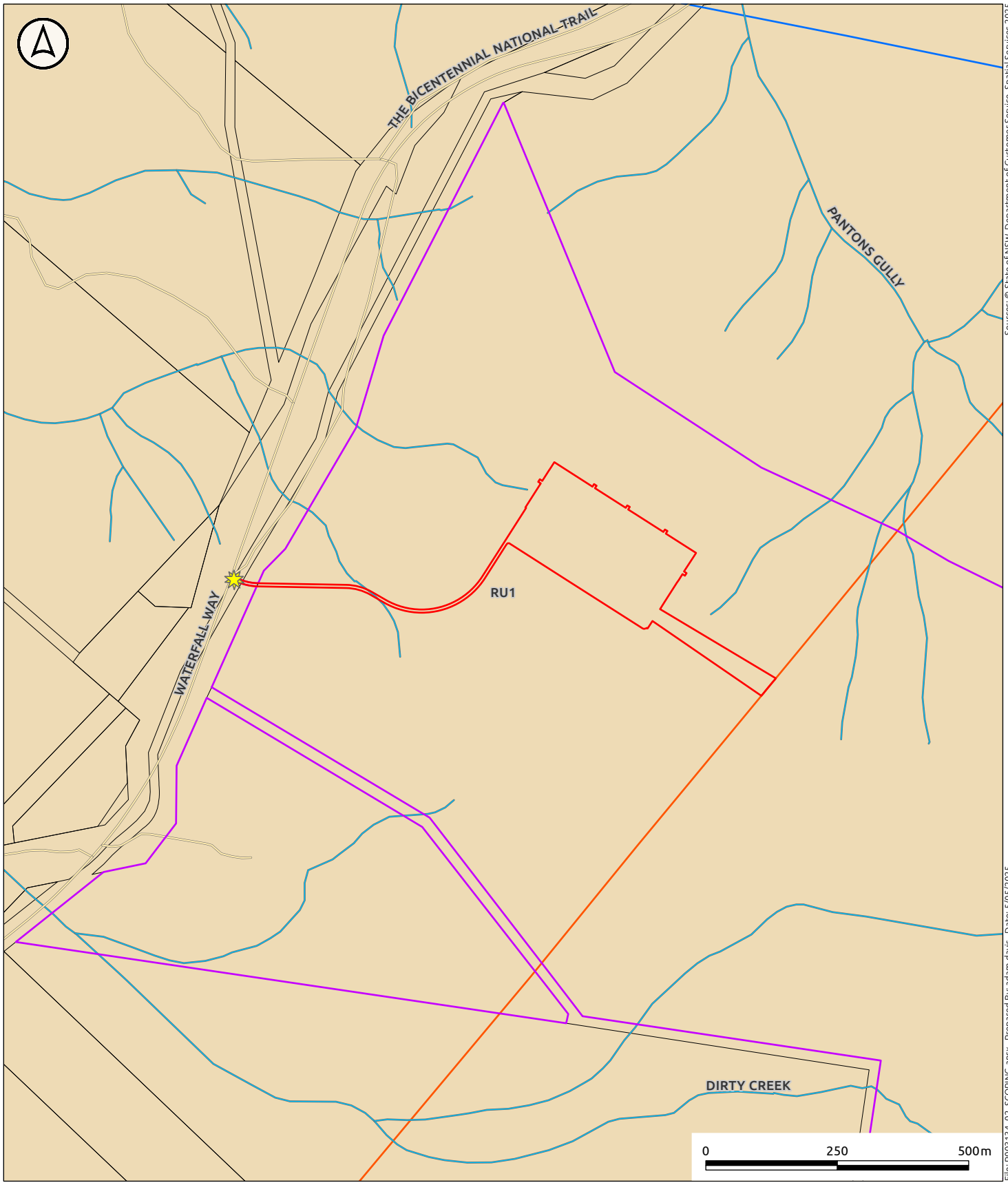
- O&M Room
- Storage Sheds

Premise

BRIDGE ENERGY

Ebor BESS

Figure 2
Development Layout



Sources: © State of NSW, Department of Customer Service, Spatial Services 2025
State of NSW, Department of Planning Housing and Infrastructure 2025

File: P003134_02_SCOPING.aprx Prepared By: adam.davis Date: 5/05/2025

Legend

- Site Access
- Project Area
- Development Site
- Lot
- Road
- Watercourse

Electricity Transmission Line

- 132 kV
- 330 kV

Land Zoning (LZN)

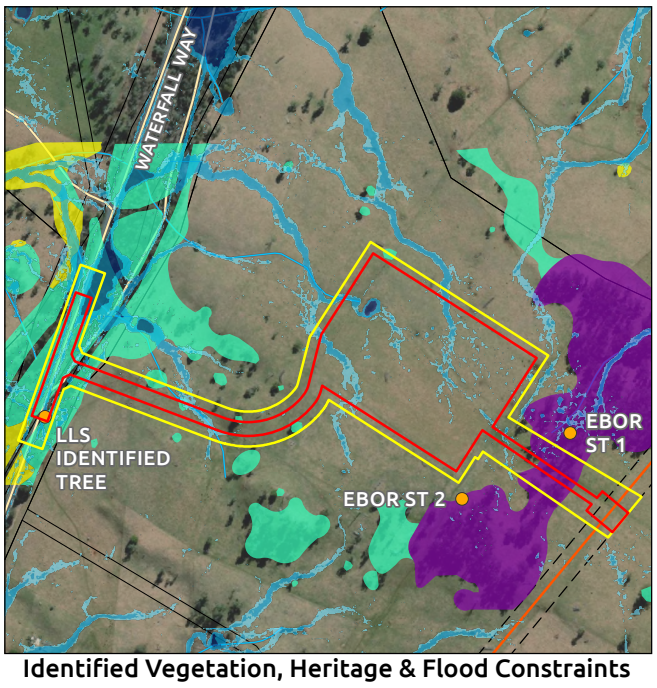
- RU1

Premise

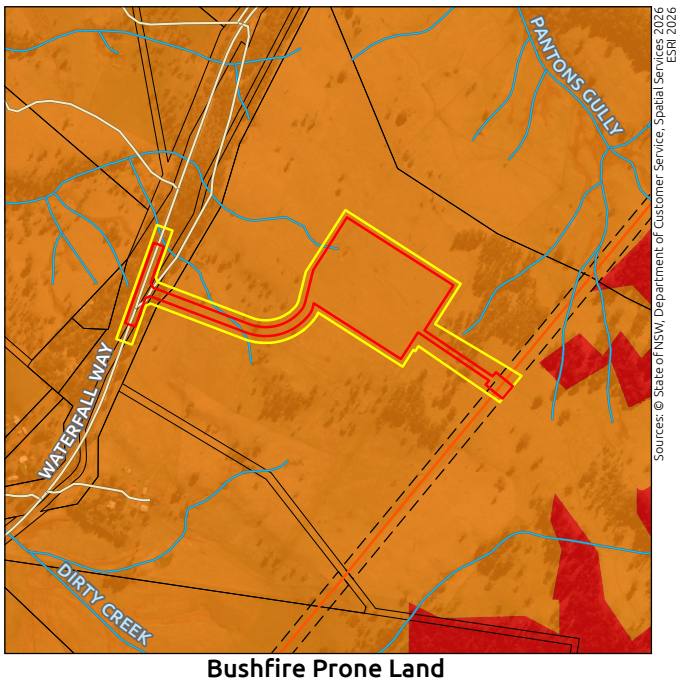
BRIDGE ENERGY

Ebor BESS

Figure 3
Land Zoning (LZN)



Identified Vegetation, Heritage & Flood Constraints



Bushfire Prone Land

Sources: © State of NSW, Department of Customer Service, Spatial Services 2026
ESRI 2026

Legend

- Project Area
- Development Footprint
- Lot
- Road
- Watercourse

Electricity Transmission Line

- 132 kV
- 330 kV
- Easement
- State Government Land Parcel
- Crown Enclosure Permit
- Crown Reserves
- Crown Land

Groundwater Bores

- Unknown
- Water Supply
- Drinking Water Catchment

Biophysical Strategic Agricultural Land

- Biophysical Strategic Agricultural Land

NVR Sensitive Vulnverable Regulated Land

- Vulnerable Regulated Land

Biodiversity Values

- Biodiverse riparian land

Bushfire Prone Land

- Vegetation Category 1
- Vegetation Category 3

Plant Community Types (Water Technology)

- PCT 3288 Northern Escarpment Messmate Moist Grassy Foresat
- PCT 3379 Barrington-Point Lookout Montane Grassy Forest
- PCT 3501 Eastern New England Ranges Blackbutt Forest

- Newly Recorded Aboriginal Heritage Sites

Verified Receivers

- Associated Residential Receiver
- Non Associated Residential Receiver

1% AEP Flood Depth (m)

- < 0.05
- 0.05 - 0.1
- 0.1 - 1
- >1

Premise

Figure 4
Site Constraints

File: P0031134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 2/04/2026

2.4 Analysis of feasible alternatives to the project

This section provides an analysis of feasible alternatives to the project, having regard to the objectives of the development, including the consequences of not carrying out the development.

Table 1 – Development Options

Alternatives		Description
Option 1	Base Case, Do Nothing	Option 1 would involve not installing and operating a BESS at the site or elsewhere.
Option 2	Alternative Site	Option 2 would involve installing and operating a BESS at an alternative site.
Option 3	BESS Technology and Provider Alternatives	Option 3 would involve using alternative technology at the site.
Option 4	BESS at 8511 Waterfall Way, Ebor	Option 4 would involve the installation and operation of a BESS at the site.

Of the above, Option 4 is the preferred option, and this is discussed in further detail in the following sections.

2.4.1 OPTION 1

Option 4 is preferred over Option 1 on the grounds that Option 4 is:

- Inconsistent with the strategic context set by State and local policy, including:
  - Goal 22 of the NSW 2021 Plan (NSW Government 2011) which seeks to "promote energy security through a more diverse energy mix, reduce coal dependence, increase energy efficiency and move to lower emission energy sources";
  - Goal 1 of the *NSW REAP* (NSW Government 2013) which seeks to attract renewable energy investment;
  - Objectives of the Energy Security Safeguard legislation to improve the affordability, reliability and sustainability of energy by addressing the shortfall in firm capacity during times of peak demand;

2.4.2 OPTION 2

Option 4 is preferred over Option 2 as Option 2 would result in increased costs and environmental impacts associated with the acquisition of a suitable property. It would also entail the construction of increased lengths of connecting infrastructure (likely to include earthworks and vegetation removal). By comparison to the site of the proposed development, the length of connecting infrastructure is expected to be minimal due to the proximity to the existing network infrastructure.

By locating the BESS project adjacent to existing transmission network infrastructure, the project is also sympathetic to the existing power infrastructure setting and the current use of the land.

2.4.3 OPTION 3

Option 4 is preferred over Option 3 as:

- Option 4 provides the most reliable way, using current technology, to regulate electricity supply in a network which is expected to become increasingly variable due to the transition from traditional to more sustainable, renewable sources in the region; and

- Option 3 may not be suitable to the site due to its limited area or other reasons, requiring the seeking out and acquisition of an alternative site and construction of connecting infrastructure.

2.5 Existing agreements

Consistent with the NSW Renewable Energy Benefit Sharing Guideline (2024), the proposed development qualifies as a stand-alone battery energy storage system and is expected to deliver community benefit-sharing outcomes over its operational life.

Based on the benchmark contribution of $850 per megawatt per annum (in 2023 dollars and adjusted annually for CPI), the proposed 100 MW BESS would generate an indicative annual contribution of approximately $90,300, equating to approximately $2.26 million over a 25-year operational life (nominal, pre-indexation) (**Section 6.13.3**).

In this context, a Planning Agreement (PA) has been progressed with Armidale Regional Council (ARC). At its Ordinary Meeting of 18 February 2026 (Minute 16/26), Council resolved to accept the general terms of the Planning Agreement, including an annual contribution consistent with the NSW guideline and one-off community infrastructure contributions comprising an electric vehicle charging station in Ebor, and upgrades to the Ebor Town Hall and Sportsground announcer box.

In addition to the proposed PA, the Applicant has committed to supporting local community initiatives, including sponsorship of local events. Ongoing engagement with ARC and the local community will continue to refine and deliver benefit-sharing outcomes over the life of the project.

Any private agreements with landowners will be managed separately and are not considered part of community benefit sharing, consistent with the NSW Private Agreement Guideline (2024).

3. PROJECT DESCRIPTION

3.1 Project Overview

The Ebor BESS project comprises a BESS with a delivery capacity of approximately 100 MW and an energy storage capacity of 870 MWh (equating to 8+ hours of storage at the point of discharge). The Ebor BESS would incorporate on-site energy storage containers, medium voltage power station (MVPS) containers, and a connection station including control rooms and switch rooms.

The BESS will connect to the nearby 132 kV Transgrid overhead electricity transmission line (ETL) located in the east of the project area via a proposed approximately 350 metre (m) underground ETL located within a 15-metre easement. The project area is to be approximately 17.55 ha, of which the development footprint occupies an area of 11.24 ha.

The Ebor BESS will comprise of the following key components:

- Enclosed lithium-ion batteries;
- Power conversion systems including associated transformers;
- Underground power and fibre optic cabling interconnecting the equipment;
- Grid connection equipment including switchgear, protection and control equipment, metering, reactive power equipment, filtering equipment, auxiliary transformers and enclosures/buildings for housing equipment;
- An underground transmission line of up to approximately 350 m length to connect the BESS to the 132 kV transmission line located to the east;
- Earthing and lightning protection systems;
- Site office, storage area/enclosure, internal access tracks, on-site parking, security fencing, CCTV, and temporary construction laydown area;
- Stormwater detention basin designed to mitigate flows in a 0.5% AEP event;
- Construction of site access from Waterfall Way crossing the existing travelling stock route being Lot 7005 DP1117635 and Lot 7024 DP1117640; and
- Subdivision of land to create two lots; a lot to host the project switching station (and potentially also the substation) of approximately 1.06-1.96 ha with a residue lot of approximately 251 ha.

Analysis completed to inform this EIS have confirmed that acoustic barriers and vegetation buffers are not required for the project.

The primary components associated with the installation of the BESS are as follows:

- Site investigations, vegetation clearing, levelling, access way construction, drainage system installation and installation of foundations/supports to install equipment on;
- Transport to site and installation of equipment;
- Testing and commissioning of the equipment;
- Operation and maintenance.

Key features of the project are summarised in **Table 2** and shown in **Figure 5**.

As the proposed development comprises a BESS with a capacity of greater than 30 MW, the development represents designated development by reference to Section 7 of Schedule 3 of the EP&A Regulations. However, Section 4.10(2) of the EP&A Act provides that state significant development is not designated development.

The proposed development has been refined to ensure potential impacts are mitigated. Refinements to the proposed development include:

- Locating the BESS area, substation, switching yard and ETL on cleared and highly disturbed cattle grazing land that minimises impacts to significant vegetation;
- Installation of the site access in a location that seeks to avoid significant impacts to vegetation and habitat;
- Situated in a location that will result in almost no visual or noise impact to the community; and
- Adequate clearance to adjacent extent vegetation, including hollow bearing trees, to ensure direct and indirect impacts are minimised; and
- Installation of an underground transmission cable from shared transmission network to the site to avoid the removal of Greater Glider (endangered species) habitat.

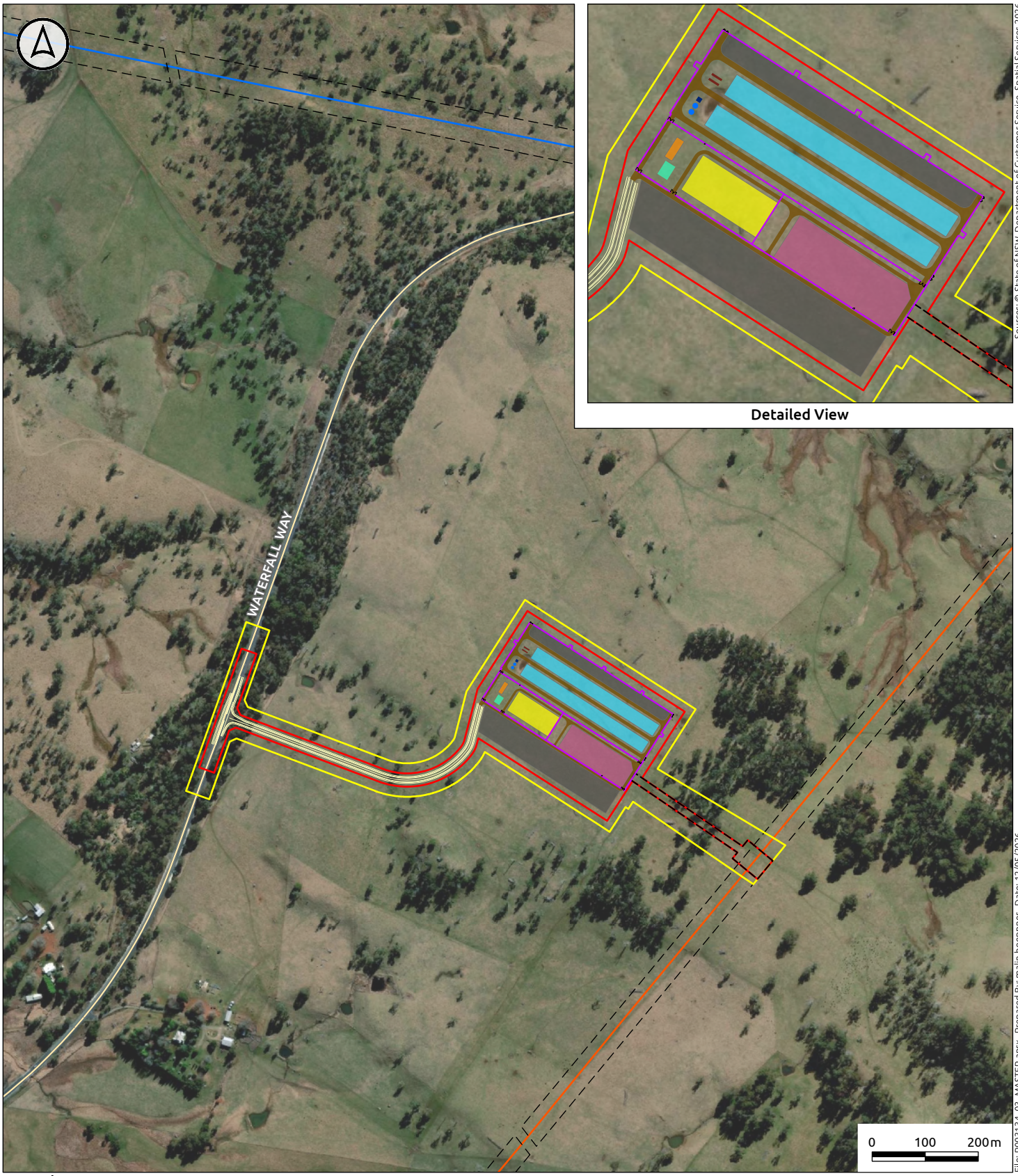
The Ebor BESS is supported by the NSW Government Long Term Energy Service Agreement (LTESA). Once operational, and in order to satisfy LTESA requirements, the system will be augmented through the delivery and installation of additional battery units at approximately years 3 and 9, subject to the performance of the system. The purpose of these additional units is to ensure that the battery energy storage capacity is maintained at a minimum of 8 hours duration for at least 14 years. The configuration of the battery arrangement on site will be designed and constructed to accommodate these additional batteries and all assessments completed via this EIS have been prepared on the basis of the full and final design.

Table 2 - Project summary

Project Element	Summary of the Project
Development footprint	> The indicative BESS, site access and driveway and ancillary infrastructure will occupy an area of approximately 11.24 ha. > The development footprint is the area within which all physical aspects of the project will be contained and is located within the broader project area.
Project area	> Part Lot 2 DP 749654; > Part Lot 7024 DP1117640; > Part Lot 7005 DP1117635; and > Part Waterfall Way road reserve. The project area consists of all of the land potentially affected by the development; this area is approximately 17.55 ha.
Maximum energy discharge	Up to 100 MW
Energy storage output capacity	800 MWh
Effective energy storage capacity at the beginning of service life	870 MWh (equating to an 8+ hour discharge duration at the point of connection)
Project lifespan	Up to 25 years, with the possibility of upgrades to extend the operational life.

Project Element	Summary of the Project
Subdivision	Lot A/B (to host the switching station and potentially the substation): 1.02-1.96 ha Residue lot of approximately 251 ha
Infrastructure	> An up to 100 MW, 870 MWh (8+ hour duration) battery energy storage system and ancillary infrastructure; • Main battery containers (approximately 12.19m long x 3.1m high x 2.44m wide). • Augmentation Batteries. • SMA Power Conversion System (PCS) units; • Two spare parts enclosure containers; • New substation with switch room and control room; • 16 x 20m high lightning masts. > Underground cabling connecting BESS and MVPS; > A 132kV substation; > An underground transmission line of up to approximately 350 metres long connecting the BESS substation to the 132kV overhead transmission line; > Temporary construction compound including material laydown areas, site offices, vehicle parking, and amenities; > Construction of a stormwater detention basin designed to mitigate flows in a 0.5% AEP event; > Construction of a property access from Waterfall Way and internal driveway to connect to the BESS infrastructure; > Chain-link/barbed-wire security fence up to 2.1 metres in height.
Site Access	> A new access from Waterfall Way crossing Lot 7024 DP1117640 and Lot 7005 DP1117635 (travelling stock routes managed by Local Land Services).
Access route	Vehicles would predominantly access the site from the west via Waterfall Way, utilising the new site access. It is anticipated that project infrastructure would be delivered from the Port of Brisbane for the BESS components, and either the Port of Brisbane or Glen Waverly, Victoria for the high voltage transformer. These components would then be transported to the site via roads approved for heavy vehicle use before accessing the site via the new site access (refer **Appendix N**).
Construction	Construction and commissioning are expected to commence in Q2 2027 and occur over an 18-month period, including a peak period of 9 months and a preconstruction phase of approximately 4 months, during which road upgrades would occur
Operations and maintenance	The project would be operated remotely with occasional maintenance activities generally be undertaken by up to five (5) personnel.
Decommissioning and rehabilitation	> The land where the BESS and ancillary infrastructure would be located would be progressively rehabilitated during the decommissioning period, including removal of the temporary construction facilities. Temporary construction facilities include temporary buildings installed on site to provide for workers undertaking the decommissioning work.

Project Element	Summary of the Project
	> At the end of operational life, components above ground and below ground (depth of 500mm, subject to agreement with landowner) would be removed and land rehabilitated to pre-development conditions.
Workforce	Up to 60 construction jobs and five (5) operational jobs
Hours of Operation	24 hours, 7 days a week



Sources: © State of NSW, Department of Customer Service, Spatial Services 2026
ESRI 2026

File: P0031134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 12/05/2026

Legend

- Project Area
- Development Footprint
- Major Road

Existing Electricity Transmission Line

- 132 kV
- 330 kV
- Existing Easement

- BESS Area
- Substation
- Switch Room
- Switchyard
- Temporary Laydown Area
- Internal Road
- Cable Easement
- Water Tank
- Water Pump

- Access Road
- Security Fence
- Gate

Buildings

- O&M Room
- Storage Sheds

Premise

BRIDGE ENERGY

Ebor BESS

Figure 5
Development Layout

Premise

BRIDGE ENERGY

Ebor BESS

Figure 6
Sensitive Receivers

Legend

- Project Area
- Development Footprint
- Lot
- Major Road
- Existing Easement

Existing Electricity Transmission Line

- 132 kV
- 330 kV

Receivers

- Associated
- Non Associated

0 0.5 1km

Sources: ©

File: P003134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 23/03/2026

3.2 Uses and Activities

The project comprises the development of electricity generating works, meaning:

a building or place used for the purpose of making or generating electricity, or electricity storage.

The Ebor BESS will operate to manage and store electricity generated by the Transgrid network. This will positively contribute to the system security needs of the NEM.

Upon the commencement of operation, the only time personnel will be required on the site is for maintenance works. Personnel will access the site via the site access from Waterfall Way (Grafton Road) in standard sized vehicles and occasionally a heavy vehicle may need to access the site for maintenance.

Specific project elements are discussed in the following sections.

3.2.1 BATTERIES

The proposed BESS contains enclosed lithium-ion type batteries which will be manufactured offsite and delivered to the site for installation. The number and exact layout of battery modules would be confirmed during detailed design. However, the location of this equipment would be limited to the areas shown on **Figure 5** and the siting of this equipment has formed the basis of the technical assessments that support this EIS. Battery modules are expected to be approximately 12.19m long x 3.1m high x 2.44m wide.

For the purposes of the assessment of the BESS, a conservative approach was taken, whereby the maximum area and quantities of this infrastructure was considered, subject to this infrastructure being located wholly within the identified areas.

3.2.2 UNDERGROUND CABLING

Underground cabling and fibre optic cabling interconnecting equipment would be designed in accordance with the relevant Australian and international standards and manufacturer's specifications and installed in trenches. The cabling would be installed surrounded by thermally controlled bedding mix (such as sand, cement or similar) and backfilled with fill obtained on site.

3.2.3 TRANSMISSION LINE

The electrical connection from the BESS to the nearby Transgrid 132 kV ETL (Line 966) would be via an approximately 350 m underground ETL traversing the east of the project area.

The approximate location of the sub-transmission line and structures has been identified but would be subject to detailed design considerations in consultation with Transgrid.

Conservatism has been applied in assessing the potential corridor to allow for refinement during the detailed design stage.

3.2.4 INVERTERS, TRANSFORMERS AND SWITCHGEAR

Inverter stations would be installed adjacent to the batteries. Each would contain an inverter, switchgear and a step up transformer. The inverter stations would resemble 20 foot containers.

3.2.5 ACCESS AND INTERNAL TRACKS

Within the site, access tracks are limited to a gravel, all weather connection from the proposed property entrance to the site compound/operations and maintenance buildings.

3.2.6 ANCILLARY TEMPORARY FACILITIES AND CONSTRUCTION COMPOUND

Ancillary facilities include:

- Material laydown areas, storage areas/enclosures;
- Site office;
- Internal access tracks;
- Car parking areas for construction workers' transportation; and
- Parking for staff and visitors.

3.2.7 SECURITY

The development footprint will be secured by fauna friendly security fencing surrounding the perimeter, with a height of up to 1.8 meter and access via security access gates. A CCTV system will also be installed throughout the site.

3.2.8 SUBDIVISION

The project includes subdivision of the existing lot to create a dedicated parcel for the proposed switching station (and potentially the substation) forming part of the project, as identified in **Figure 7**.

The project would be to create a lot to host the switching station (and potentially the substation) for dedication to Transgrid. This lot would be approximately 1.02-1.96 ha in size depending on the final requirements of Transgrid, with a residue lot of approximately 251 ha.

Access to the switching station lot would be via a right of carriageway to be created in favour of the lot over the proposed access driveway, providing legal access to Waterfall Way.

3.3 Project Phases

3.3.1 PRE CONSTRUCTION PHASE

The pre-construction works phase incorporates two (2) distinct elements, being:

- pre-construction minor works; and
- road upgrades (to provide the site access point).

Pre-construction minor works consists of the following activities:

- overhead line safety marking;
- building and road dilapidation surveys;
- geotechnical drilling;
- establishing temporary site office (in locations meeting the criteria identified in the conditions of this consent);
- installation of environmental impact mitigation measures, fencing and enabling works; and

> construction of minor access roads and minor adjustments to services/utilities, etc.

Pre-construction minor works are expected to occur over a period of 1-2 months prior to road upgrades commencing.

Road upgrades would be subject to gaining a Works Authorisation Deed (WAD) from TfNSW and would include the development of the proposed BAR/BAL intersection to provide safe access to the development footprint.

The road upgrades are expected to take 3-4 months.

It is likely that the two elements of pre-construction will overlap.

The total preconstruction phase is expected to take 4 months.

3.3.2 CONSTRUCTION PHASE

The construction period is estimated to be 18 months and is expected to commence Q2 2027. Duration of peak construction period is approximately 9 months.

Construction or upgrading activities would occur during standard construction hours (7 am to 6 pm Monday to Friday, 8 am to 1 pm Saturdays; and at no time on Sundays and NSW public holidays.)

A security fence will be installed on the development footprint boundary and access tracks will be constructed. Construction will require the use of water trucks, graders, flatbed trucks, skid steers, front end loaders, roller compactors, trenchers, backhoes, gravel trucks and aerial lifts.

Batteries required for the development would be manufactured offsite and delivered for installation following completion of concrete footing installation. Deliveries of other equipment will be made via flatbed trucks on the approved route and via the approved site entrance. Heavy vehicle deliveries of batteries would use the route from Port of Brisbane. The transport of the transformer would use either the assessed route from the Port of Brisban or Glen Waverly, Victoria. It is noted that other approved routes for B-doubles are also available and may be used by Project vehicles delivering other infrastructure or equipment.

Seven key construction stages (stages 3, 4, 5, 6 overlap during the 9 month peak construction period) for BESS construction are identified as follows:

1. Establishment, drainage, roads & fencing.
2. Footing installation.
3. Delivery and installation of cabling.
4. Concrete footings or steel platform installation.
5. MVPS & BESS delivery & installation, including electrical installation.
6. Control room, transformer & switchgear delivery & installation.
7. Commissioning & demobilisation.

The primary components associated with the installation of the BESS are as follows:

> Off-site manufacture of the BESS equipment;
> Vegetation clearing to provide a constructable site;
> Installation of security fencing and gates to secure the BESS and ancillary infrastructure;
> Levelling the land as needed;

- Installation of concrete footings and/or steel platforms on which to install the BESS, MVPS containers and switching station;
- Delivery and installation of BESS;
- Underground cabling and construction of earthing system;
- Auxiliary power protection, indication and control systems;
- Lighting inside BESS and MVPS containers to provide illumination for operation and/or maintenance, when needed, at night;
- Control rooms and connection station;
- Ancillary high voltage equipment, such as circuit breakers, switching equipment, filters, transformers, and other electrical protection equipment;
- Connection of the BESS to existing transmission network; and
- Testing and commissioning.

The project is expected to generate up to 60 Full Time Equivalent (FTE) jobs during peak construction.

3.3.3 OPERATIONAL PHASE

It is anticipated that the BESS would be operational for a period of approximately 25 years, operating 24 hours and day, seven (7) days a week.

Once operational the Ebor BESS will be operated primarily remotely, with staff attending site to undertake routine work including:

- Monitoring, testing and maintenance of onsite equipment;
- Receipt of goods;
- Augmentation of battery modules at approximately years 3 and 9 to ensure energy storage capacity is maintained at the approved level for a minimum of 14 years, consistent with the requirements of the LTESA funding;
- Removal of waste; and
- Other general site maintenance (e.g. vegetation management).

The above activities are expected to generate up to five (5) FTE jobs during operation, associated with operation, maintenance, and vegetation management.

The remainder of the project area will continue to be used for grazing. This would assist to control fuel loads surrounding the development and maximise economic output from the project area. Importantly, the BESS will generate sufficient income to allow the property to stay within the family and be passed down to the next generation.

3.3.4 RE-POWERING AND DECOMMISSIONING PHASE

It is anticipated that the Ebor BESS would be operational for an initial period of approximately 25 years, after which it is likely to be re-powered with new inverters and battery cells. The grid connection and associated infrastructure are valuable assets and as coal-fired generators continue to retire, long duration battery storage is expected to continue to be an important part of the electricity system. Re-powering to extend the life of the project will be subject to securing necessary approvals and agreement with the landowners.

At the end of the project's life, the assets will be decommissioned. The switching station may remain on site after decommissioning subject to a decision by the electricity authority. Upon decommissioning, the following indicative steps would occur:

- BESS and ancillary infrastructure would be unbolted from footings and removed by crane onto transporters. All site infrastructure would be taken away for resale or to an appropriate recycling or waste facility;
- Underground services would be cut back to below ground level to a depth of 500 mm and capped, with the agreement of landowners; and
- The land on which the BESS and ancillary infrastructure were located on would then be landscaped to a safe, clean, and stable state enabling it to return to use for agricultural or other permissible purposes.

4. STATUTORY CONTEXT

In accordance with Section 3.5 of the *State Significant Development Guidelines – Preparing an Environmental Impact Statement* (DPHI, 2026), this chapter identifies the statutory requirements relevant to the assessment and determination of the proposed development.

Table 3 and **Table 4** summarise the applicable provisions of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and *Environmental Planning and Assessment Regulation 2021* (EP&A Reg), relevant State and Commonwealth legislation, environmental planning instruments, and any other approvals or consents required for the project.

Table 3 - Mandatory considerations table

Category	Assessment
Power to grant approval	Section 4.5 of the EP&A Act provides that the consent authority is the Independent Planning Commission or the Minister based on the development type. Section 4.36(2) of the EP&A Act provides that a State Environmental Planning Policy may declare any development, or any class or description of development, to be State Significant Development. The proposed development is for the purposes of *electricity generating works* that has an estimated development cost of more than $30 million and is therefore declared to be State Significant in accordance with Section 20 of Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021* (Systems SEPP). On this basis the consent authority for the proposed development is likely to be the Minister. However, it is noted that if any of the following occurs the consent authority with become the Independent Planning Commission in accordance with Section 2.7(1) of the Systems SEPP: > The council of the area in which the development is to be carried out (Armidale Regional Council) has duly made a submission by way of objection under the mandatory requirements for community participation in Schedule 1 of the EP&A Act; > At least 50 unique submissions (other than from a council) have duly been made by way of objection under the mandatory requirements for community participation in Schedule 1 to the Act; and > The development application is made by a person who has disclosed a reportable political donation under section 10.4 to the Act in connection with the development application.
Permissibility	The development site is zoned RU1 Primary production, in which *Electricity generating works* are prohibited pursuant to the LEP. Notwithstanding this, the development is permitted with consent pursuant to: > Section 2.36(1)(b) of the of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (Infrastructure SEPP) as *electricity generating works* are permitted with consent within prescribed rural zones. Under Section 2.35 of the Infrastructure SEPP, prescribed rural zones include the RU1 Primary Production zone. > The proposed development satisfies Section 2.6(1)(b) of the Systems SEPP on the grounds that it is for the purposes of electricity generating works which have an estimated cost of development of more than $30 million in accordance with Section 20, Schedule 1 of the Systems SEPP.

Category	Assessment
Other approvals	An approval under section 138 of the *Roads Act 1993* will be required due to site access work proposed within the road corridor. Commonwealth approvals may be required for the following reasons: > A review of the National Native Title Tribunal's Native Title Register did not identify any Native Title claims or applications, or Indigenous Land Use Agreements applying to the site under the Commonwealth Native Title Act 1993 (the Native Title Act). Commonwealth approval will not be required under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on the basis that no significant impacts to federally listed species are predicted. Self-referral has not occurred.
Pre-condition to exercising the power to grant approval	Pre-conditions to approval include consideration of the following: > Consideration as to whether the site is suitable in its contaminated state - or will be suitable, after remediation - for the purpose for which the development is proposed to be carried out. > Consideration as to whether the project represents potentially hazardous or offensive development. > Consideration of impacts associated with development with a frontage to a classified road. > Consideration of impacts associated with earthworks.
Mandatory matters for consideration	Pursuant to Section 4.15 of the EP&A Act, the following mandatory matters for consideration apply: > Relevant environmental planning instruments, including: • *State Environmental Planning Policy (Resilience and Hazards) 2021* (the Hazards SEPP): > Chapter 3 Hazardous and offensive development; and > Chapter 4 Remediation of land. • *State Environmental Planning Policy (Transport and Infrastructure) 2021* (the Infrastructure SEPP): > Chapter 2 Infrastructure. • *State Environmental Planning Policy (Planning Systems) 2021* (the Systems SEPP): > Chapter 2 State and regional development. • *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (the Biodiversity SEPP): > Chapter 3 Koala habitat protection 2020 • *Armidale Regional Local Environmental Plan 2012* (LEP). > The relevant Development Control Plan (DCP) (*Armidale Regional Council Development Control Plan 2024*). It should be noted that the application of a DCP is excluded from SSD under Section 2.10 of the Systems SEPP. > The likely impacts of the development including environmental impacts on natural and built environments and social and economic impacts in the locality. > The suitability of the site for the development. > The public interest.

Table 4 – Pre-conditions table

Statutory reference	Pre-condition	Assessment
Hazards SEPP Chapter 3 Hazardous and offensive development	Section 3.7 of the Hazards SEPP requires consideration of relevant circulars and guidelines in consideration of whether a proposed development represents potentially hazardous or offensive development. Where a conclusion is reached that a project is either, or both, a potentially hazardous or offensive development, must prepare a PHA in relation to the project.	A PHA has been provided. Refer to **Section 6.10** and **Appendix S**.
Hazards SEPP Chapter 4 Remediation of land	Section 4.6 of the Hazards SEPP requires a consent authority must be satisfied that the land is suitable in its contaminated state - or will be suitable, after remediation - for the purpose for which the development is proposed to be carried out.	A Preliminary Site Investigation (**Section 6.5** and **Appendix K**) concluded that there is no evidence of potentially land contaminating activities having occurred on the site other than for agricultural purposes. Therefore, there is a negligible risk of contamination on the site, and no further investigations were recommended.
Infrastructure SEPP Chapter 2 Infrastructure	Section 2.119 - Development with frontage to a classified road	Waterfall Way (Grafton Road) is a classified road. An assessment of traffic impacts is provided in **Section 6.8** and **Appendix N**, **Appendix O** and **Appendix P**. The DA will be referred to TfNSW for comment and DPHI must take consideration of comments received.
Systems SEPP Chapter 2 State and regional development	Section 2.6 of the Systems SEPP declares State significant development for the purposes of the Act to be: > the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and > the development is specified in Schedule 1 or 2.	The proposed development is SSD as the proposal is for the purpose of electricity generating works which is not permissible without development consent under Part 4 of the Act, and pursuant to Section 20 of Schedule 1 has an estimated development cost ('EDC') of more than $30 million.
Biodiversity SEPP Chapter 3 Koala habitat protection 2020	The SEPP requires consideration of core koala habitat.	While the project is located within the Northern Tablelands koala management area, the BDAR provided in **Appendix H** confirms that the site does not comprise core koala habitat.
Armidale Regional Local	The LEP sets up the environmental planning provisions applicable to the	The project is wholly located within the RU1 Primary Production zone, which prohibits electricity generating works.

Statutory reference	Pre-condition	Assessment
Environmental Plan 2012	Armidale LGA and is administered by the Armidale Regional Council.	Notwithstanding this, the project is not inconsistent with the objectives of the zone, and is particularly consistent with the following objectives: > To minimise the fragmentation and alienation of resource lands. > To minimise conflict between land uses within this zone and land uses within adjoining zones. > To allow for non-agricultural land uses that will not restrict the use of other land in the locality for agricultural purposes. As discussed in refer **Section 6.4**. > The LSAR (**Appendix K**) concludes that the site as low agricultural suitability, and that removing 11.24 ha from agricultural production will not significantly impact on agricultural production. > The Land Use Conflict Risk Assessment (**Appendix J**) considers the impacts of the project on adjoining land uses.
	Section 6.1 of the LEP requires consideration of a range of factors prior to the grant of consent for earthworks.	Earthworks are required to provide a level development footprint to accommodate the proposed battery arrangement and install ancillary elements. Relevant heads of consideration are discussed in **Section 6.4**.
	Section 6.6 of the LEP requires that all essential services required for the development are available or that adequate arrangements have been made to make them available when required.	The proposed development will have suitable access to essential services as required and relevant.

4.1 Environmental Planning and Assessment Act 1979

4.1.1 OBJECTS OF THE EP&A ACT

In New South Wales (NSW), the relevant planning legislation is the EP&A Act. The EP&A Act instituted a system of environmental planning and assessment in NSW and is administered by the DPHI. The objects of the EP&A Act are:

(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,

(b) to promote the supply, delivery and maintenance of housing, including affordable housing,

(c) to promote productivity through the development and management of the State and its resources,

(d) to protect the environment, including the conservation of threatened species of native animals and plants and ecological communities and their habitats,

(e) to promote resilience to climate change and natural disasters through adaptation, mitigation, preparedness and prevention,

(f) to promote the sustainable management of built and cultural heritage, including Aboriginal cultural heritage,

(g) to promote good design, amenity and the proper construction and maintenance of built environments, including the protection of the health and safety of the occupants of buildings,

(h) to provide opportunities for participation in environmental planning and assessment,

(i) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,

(j) to promote a proportionate and risk-based approach to environmental planning and assessment,

(k) to promote the orderly and economic use and development of land.

Having regard to the objects of the EP&A Act, the proposed development has been assessed against the strategic and statutory planning framework, the suitability of the site and the recommendations of the technical assessments prepared for the project.

The project will provide 100 MW / 870 MWh of battery energy storage infrastructure to support grid reliability, energy security and the integration of renewable energy within NSW. The project area is located adjacent to existing high-voltage electrical transmission infrastructure within a rural landscape, reducing the requirement for extensive new electrical network infrastructure and enabling efficient connection to the existing electricity grid. The site has been selected having regard to compatibility with surrounding land uses, separation from sensitive receivers and access to existing infrastructure.

The supporting technical assessments demonstrate that impacts associated with the project are generally localised, temporary during construction and capable of being appropriately managed through the implementation of mitigation measures and environmental management plans.

The project also incorporates community benefit-sharing measures, including a Planning Agreement with ARC and additional local community initiatives. The SIA identifies positive regional economic benefits associated with employment, local procurement and investment, while social impacts are generally temporary and manageable.

The proposed development is considered consistent with the objects of the EP&A Act, including promoting the social and economic welfare of the community, protecting the environment, promoting resilience to climate

change, facilitating ecologically sustainable development and providing opportunities for community participation through consultation undertaken during preparation of the EIS and ongoing project engagement.

Overall, the technical assessments demonstrate that the project is suitable for the site, impacts can be appropriately mitigated and the development will provide strategic and public benefits through its contribution to energy reliability and storage infrastructure within NSW. Accordingly, the merits of the project support approval, subject to appropriate conditions of consent.

4.2 Other environmental planning instruments

4.2.1 ARMIDALE REGIONAL LOCAL ENVIRONMENTAL PLAN 2012

Section 1.2 sets out the aims of the Armidale Regional LEP. The aims are:

(1) This Plan aims to make local environmental planning provisions for land in the Armidale Region in accordance with the relevant standard environmental planning instrument under section 3.20 of the Act.

(2) The particular aims of this Plan are as follows—

(aa) to protect and promote the use and development of land for arts and cultural activity, including music and other performance arts,

(a) to encourage the orderly management, development and conservation of resources by protecting, enhancing and conserving—

(i) land of significance for agricultural production, and

(ii) timber, minerals, soils, water and other natural resources, and

(iii) areas of high scenic or recreational value, and

(iv) native plants and animals, including threatened species, populations and ecological communities, and their habitats, and

(v) places and buildings of heritage significance,

(b) to provide a choice of living opportunities and types of settlements,

(c) to facilitate development for a range of business enterprises and employment opportunities,

(d) to ensure that development is sensitive to both the economic and social needs of the community, including the provision of community facilities and land for public purposes,

(e) to ensure that development has regard to the principles of ecologically sustainable development and to areas subject to environmental hazards and development constraints,

(f) to provide for flexibility in applying certain development standards, where compliance with such standards may be unreasonable or unnecessary in the circumstances of a particular development, and there is sufficient justification for varying the standards on environmental planning grounds.

The project is not antipathetic to the aims of the LEP and is particularly aligned with the aims 2(a), (c), (d), and (e) on the basis that:

- As assessed in the LSAR at **Appendix K**, the use of the site for *electricity generating works* is not anticipated to detrimentally impact the opportunity for the land to return to agricultural use if the project is decommissioned. The project will preserve the agricultural values of the land to enable future opportunities for all forms of primary production.
- The project will generate both construction and operational jobs, contributing to the ongoing economic grown and development of the Ebor and Armidale area, as well as the state and country.
- As outlined in **Section 7**, the project is aligned with the principles of ecologically sustainable development (ESD).

By reference to the assessment within this EIS, the project is not antipathetic to the aims and objectives of the LEP or the RU1 zone specifically and provides adequate consideration of relevant pre-conditions to approval to demonstrate that the development can be achieved without resulting in significant or detrimental impacts to the locality or region. Taken in the round, the assessment provided in **Section 6** confirms that the range of impacts are acceptable, and any residual impacts are adequately managed via recommended mitigation measures consolidated in **Appendix F**.

4.2.1.1 Subdivision

The project includes subdivision of the existing lot to create a dedicated parcel for the proposed switching station (and potentially the substation) forming part of the project, as identified in **Figure 7**. The subdivision is proposed to:

- Establish a distinct legal lot containing the switching station (and potentially the substation) to be dedicated to Transgrid;
- Enable tenure and operational management consistent as required by Transgrid; and
- Facilitate future easement for vehicular access and maintenance arrangements without impeding the operation of the adjoining BESS facility.

The subdivision will not alter the approved development footprint, introduce additional built form, or result in any change to environmental impacts previously assessed.

Under the *Armidale Regional Local Environmental Plan 2012* (ARLEP), the development site is zoned RU1 - Primary Production. Subdivision of land within the RU1 zone is permitted with consent under Clause 2.6, subject to compliance with Clause 4.1 – Minimum Subdivision Lot Size, and the objectives of the RU1 zone.

The objectives of the RU1 zone include:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base;
- To encourage diversity in primary industry enterprises and systems appropriate for the area;
- To minimise the fragmentation and alienation of resource lands;
- To minimise conflict between land uses within this zone and land uses within adjoining zones; and
- To allow for non-agricultural land uses that will not restrict the use of other land in the locality for agricultural purposes.

The proposed subdivision is consistent with these objectives, as:

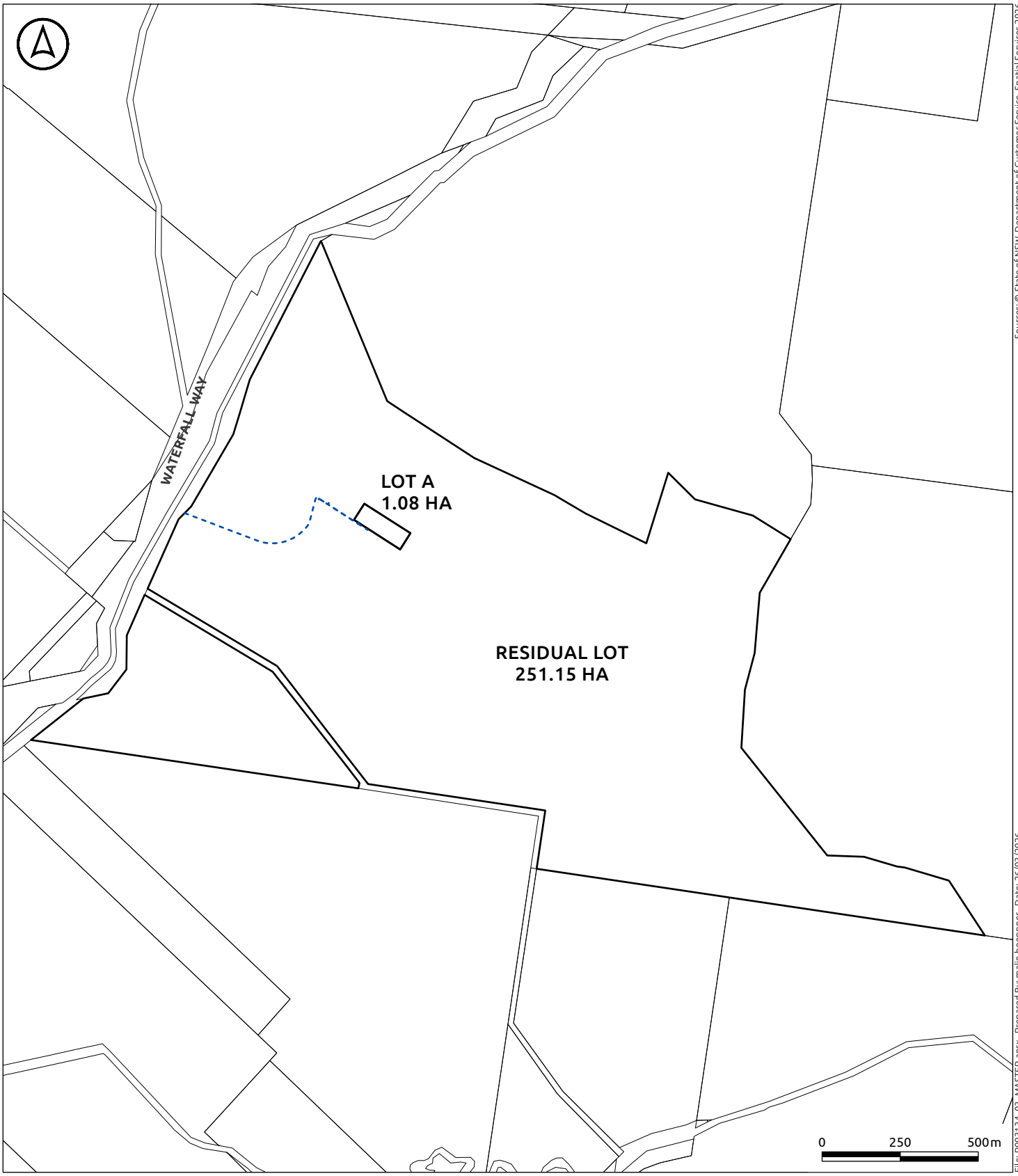
- The proposed substation lot represents a minor, functional subdivision associated with electricity infrastructure and will not further fragment rural land;
- The residual land outside the development site will remain available for agricultural purposes;
- The proposed subdivision will not increase conflict between land uses within this zone; and
- The subdivision facilitates long-term energy infrastructure that supports the rural economy and broader regional energy network through grid firming.

It is acknowledged that the proposed subdivision to create a lot of approximately 1.06-1.96 ha, noting the lot size is to be finalised, subject to further discussions with Transgrid as part of the grid connection negotiations. It is acknowledged that the proposed lot of approximately 1.06-1.96 ha is not consistent with Clause 4.1 (Minimum Subdivision Lot Size) of the ARLEP, which requires a minimum lot size of 100 ha in the RU1 zone. However, as the subdivision forms part of this SSD project, it is assessed under Part 4, Division 4.7 of the EP&A Act.

In accordance with Sections 4.38(3) of the EP&A Act, the Minister (or delegate) may grant consent for a project despite the development being partly prohibited by an environmental planning instrument.

The inclusion of the subdivision of land is at the request of Transgrid to facilitate their tenure of the switching station area (and potentially substation) and operational arrangements for the grid connection infrastructure. The proposed subdivision will not result in additional environmental impacts or rural land fragmentation inconsistent with the objectives of the RU1 zone. The subdivision does not result in any additional opportunities for the development of dwellings and reflects the proposed built form of the facility. The creation of freehold lots for the purposes of hosting electrical infrastructure is common in projects of this nature.

The lot that will host the switching station infrastructure has an area of 1.06-1.96 ha, the residual lot is approximately 251 ha. The switching station will be accessed via a right of carriageway over the proposed vehicular access track.



Sources: © State of NSW, Department of Customer Service, Spatial Services 2026
ESRI 2026

File: P003134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 26/03/2026

Legend

- Subdivision
- Cadastre
- Right of Way

Premise

BRIDGE ENERGY

Ebor BESS

Subdivision Option A

Sources: © State of NSW, Department of Customer Service, Spatial Services 2026
ESRI 2026

File: P003134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 26/03/2026

Legend

- Subdivision
- Cadastre
- Right of Way

Premise

BRIDGE ENERGY

Ebor BESS

Subdivision Option B

5. COMMUNITY ENGAGEMENT

Engagement to inform the Project was undertaken in accordance with the *State Significant Development Guidelines – Preparing an Environmental Impact Statement, Appendix B to the state significant development guidelines* (DPHI, 2026).

This section summarises the engagement activities undertaken as well as outlining:

- the sentiment, issues and views raised by community and other stakeholders;
- how community and other stakeholder views have informed and shaped the Project's design; and
- plans for future engagement.

5.1 Secretary's Environmental Assessment Requirements

The Secretary's Environmental Assessment Requirements (SEARs) for the preparation of the EIS were provided for the project on 27 June 2025. SEARs relevant to community and stakeholder engagement are outlined in **Table 5**.

Table 5 - Response to SEARs

SEARs item	Project response
During the preparation of the EIS, you should consult with the relevant local, State or Commonwealth Government authorities, infrastructure and service providers, community groups, affected landowners and any exploration licence and/or mineral title holders. In particular, you must undertake detailed consultation with affected landowners surrounding the development, the owners of all exploration licences across the proposed development site, the operator of any pipelines on or adjacent to the site, any native claimants over the site, and all relevant government agencies, including the relevant local Council.	Refer to **Section 5.3** for information on how stakeholders were identified and the list of relevant stakeholders consulted during the development of the EIS. Key stakeholders, including affected landowners, government agencies, and the local council, are detailed **Section 5.2** for detailed consultation.
The EIS must: - detail how engagement undertaken was consistent with the Undertaking Engagement Guidelines for State Significant Projects (DPHI, 2024); and	**Section 5** **Appendix U**
- describe the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, an explanation should be provided.	**Section 5.2**

5.2 Community and engagement stakeholder plan

A Community and Stakeholder Engagement Plan (CSEP) was prepared in accordance with the *Undertaking Engagement Guidelines for State Significant Projects (Engagement Guidelines)* (DPHI, 2024) to identify specific stakeholders who will be affected by the Project, and sets out the procedures and processes required to support the Project's successful delivery.

The CSEP outlines the Project's:

- engagement approach and objectives;
- communication and engagement tools and activities;
- engagement roles and responsibilities of those involved in the Project;
- project negotiables and key messages;
- stakeholder mapping;
- monitoring and evaluation framework;
- risks and mitigations; and
- processes for media enquiries, complaints and grievances.

The CSEP is a live document, and the Applicant has regularly updated the document throughout the life of the Project and is provided in **Appendix V**.

5.3 Stakeholders

This Project defines a stakeholder as any person or group of persons who have or feel they have an interest or can affect/be affected by an issue or decision.

Key stakeholders included in the engagement process:

- Department of Planning, Housing and Infrastructure (DPHI);
- Armidale Regional Council – Councillors and staff;
- landowners, including associated, non-associated and township residents;
- business – representative bodies and networks, potential suppliers and individuals;
- First Nations and Traditional Owners;
- schools and education providers;
- community and special interest groups; and
- media – traditional and digital.

Project mapping identified seven non-associated sensitive receivers within 2 km of the development footprint.

Specific engagement to inform the SIA was also undertaken with select stakeholders to identify social impacts, refer **Section 6.12**.

5.4 Engagement tools and activities

The approach to engagement and choice of engagement methods has been commensurate to the Project's potential impacts, both real and perceived. Engagement was tailored to meet stakeholder needs, while addressing any potential barriers.

A list of engagement tools and their application is outlined in **Table 6**.

Table 6 - List of tools and their application

Tools	Description	Quantity
Business procurement register	An online form on the Project website was set up in March 2025 to collect information and register businesses that expressed an interest in the local procurement panel for construction and operation phases.	13 businesses and/or consultants have been added to the register.
Doorknock	Door knocking was undertaken with directly and indirectly impacted properties to introduce the Project and offer a meeting or discussion.	14 households door knocked in May 2025.
Drop-in sessions	In-person, informal drop-in sessions were held to build awareness, inform and educate the community about the Project. These sessions provided an opportunity for all stakeholders to meet with the Project team and raise any concerns or questions about the Project and provide feedback.	> May 2025 – 5-10 attendees; > October 2025 – 10-15 attendees; and > March 2026 – 3 attendees.
Email inbox	A dedicated Project enquiry email address hello@eborbess.com.au was set up in March 2025. Bridge Energy staff managed the Project inbox and monitored it regularly during business hours.	17 emails received
Interviews	In-person, phone or virtual interviews were held with key stakeholders as part of the SIA during preparation of the EIS.	11 interviews
Media	An advertisement was published in the Armidale Express newspaper on the 29 November 2025 to call for expressions of interest from Aboriginal parties who wished to participate in the Aboriginal cultural heritage assessment. In accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), Premise also contacted relevant Agency stakeholders requesting details of Aboriginal people who may hold cultural knowledge within the Armidale LGA and Ebor locality. A Project update was published in the Dorrigo Plateau News on 17 December 2025. A further project update is scheduled for publication in the Dorrigo Plateau News on 8 April 2026.	> 1 advertisements > 7 organisations contacted > 1 update published and 1 update scheduled.
Meetings	Meetings were held in-person or via videoconferencing with local Councils, landowners and other key stakeholders to discuss the Project.	> 10 meetings during scoping phase; and > 12 meetings during EIS phase.
Newsletter	Project newsletters were prepared and distributed via MailChimp to a mailing list. Subscribers could opt out at any time. The newsletter included Project status updates, information about upcoming site investigations, infographics and explanatory	December 2025 March 2026

Tools	Description	Quantity
	information about the planning process and EIS, engagement opportunities and contact information.	
Online enquiry form	An online form was hosted on the Project website to collect feedback, questions and ideas from community and stakeholders. Forms received included requests for project updates and registration of business details for future employment and business opportunities.	18 online forms received between May 2025 and March 2026.
Phone line	The dedicated phone line 02 4422 0827 was set up in March 2025 for the Project team to receive calls. Calls outside of business hours were directed to voicemail and an automated email was forwarded to the Project team for response.	7 calls between May 2025 and March 2026.
Printed communication materials	Including Project factsheets, distributed to key locations and made available at engagement events and in digital formats on all online engagement platforms. A Project fact sheet was developed to provide an overview of the Project. This fact sheet was delivered to neighbours during doorknocking and made available during community drop-in sessions. An updated version of the fact sheet was produced for the March 2026 drop-in session.	2 fact sheets.
Site investigations	Various technical specialists attended the project site to complete in-person assessments, surveys or data logging. This included noise, biodiversity, bushfire, landscape and visual impact, land, soils and agriculture, and Aboriginal cultural heritage.	35 in-person site investigations/ attendances.
Stakeholder register	A stakeholder register was created and maintained in a secure Sharepoint folder with shared access across the Project team. All interactions were recorded in the register and tracked.	91 stakeholder interactions recorded between May 2025 and March 2026.
Website	A project website www.eborbess.com.au was set up in March 2025. The Project website provided a central hub of project information and interactive opportunities. Written materials and printed Project communication directed people to the website.	1,274 page views; and 697 unique visitors.

5.5 Engagement during scoping

Key matters raised during the scoping phase included:

- Project location;
- safety – fires and leaks;
- construction and traffic impacts;
- community benefits;
- land devaluation;
- transmission connection; and
- visual amenity.

Table 7 provides an overview of engagement and key matters discussed during the scoping phase.

Table 7 - Engagement overview during the scoping phase

Stakeholder	Engagement	Key matters discussed
Associated landholder	> Meetings > Phone calls > Emails > Commenced in January 2025	> Project updates > Coordinate site visits
Armidale Regional Council	Project briefing 27 March 2025	> Consideration of workers accommodation > Opportunities for local suppliers and businesses during construction > Opportunities to increase manufacturing in the local area > Discussion regarding the establishment of a community benefit fund to support initiatives in Ebor and the broader Armidale LGA > Discuss community benefit framework and expectations for planning agreement
University of New England	Project briefing 28 March 2025	> Project overview
Transgrid	Project meeting 2 April 2025	> Project overview > Confirmation of available capacity and acceptance of connection enquiry
EnergyCo (New England Renewable Energy Zone team)	Project briefing 2 April 2025	> Agreement to maintain ongoing communication and share information as project progresses, particularly in relation to workforce accommodation.
DPHI	Pre-scoping meeting 14 April 2025	> Consideration of major environmental constraints > Consideration for access and licensing obtained from Crown Lands for the travelling stock route > The need for adequate community engagement, particularly receivers within 2km of the Project area > Consideration of temporary workers' accommodation
Dorrigo Plateau Local Aboriginal Land Council	Project briefing May 2025	> Project overview
Local Land Services	Site investigation 22 May 2025	> Project briefing > Site walk-over inspection of proposed site access area along Waterfall Way and Travelling Stock Route with an Aboriginal Ranger from LLS

Stakeholder	Engagement	Key matters discussed
Community	> Doorknocking > Fact sheets > Phone calls > Project website launch and updates > Project newsletter, advertised locally and online > Community drop-in sessions in May 2025	Project overview, including development of fact sheets

5.6 Community engagement during the preparation of the EIS

Key matters raised by community during the preparation of the EIS included:

> Project overview and updates;
> cultural impacts;
> community benefits;
> noise;
> traffic; and
> visual impact.

Table 8 provides an overview of stakeholder engagement and key matters raised.

Table 8 - Summary of community engagement and key matters raised

Stakeholder	Engagement	Key matters discussed
Associated landholder	> Meetings > Phone calls > Emails > Site visits	> Project updates > Coordinate site visits
Community	> Doorknocking > Fact sheets > Phone calls > Project website launch and updates > Project newsletters, advertised locally and online December 2025 and March 2026 > Community drop-in sessions in October 2025 and March 2026 > Meetings with key community members March 2026	> Project overview, including development of fact sheets > Community benefits > Noise > Site inspections > Traffic > Visual impacts
First Nations	> Invitation to attend drop-in sessions October 2025	> Cultural impacts > Project updates

Stakeholder	Engagement	Key matters discussed
	> Call for Expressions of interest to participate in ACHAR 27 November 2025 > Notification letters and emails November 2025 > Invitation to participate in an SIA interview > November 2025 > ACHAR site visit 25 February 2026	
University of New England	> Meeting August 2025 > Meeting 29 October 2025	> Project overview > Sponsorship of two First Nations scholarships > Workforce accommodation
TAFE NSW Armidale	> Meeting July 2025	> Project overview > Skills and employment opportunities > Sponsorship for 10 TAFE NSW qualifications
Dorrigo High School	> Educational session 3 March 2026	> Project update > Overview of the renewable energy sector and transition, and an overview or battery technology and potential benefits
Local businesses	> Email 28 September 2025 > SIA interview – Regional Development Australia 13 November 2025 > Invitation to participate in SIA interviews November 2025 > Website submissions > Phone calls > Emails	> Project overview and updates > Skills and employment opportunities > Requests for information about how local businesses could be involved

5.7 Regulator engagement during preparation of the EIS

Key matters raised during regulatory engagement during the preparation of the EIS included:

> Project overview and updates;
> access to services;
> biosecurity;
> community engagement;
> cumulative impacts;
> landowner consent;

- site access and access tracks;
- skills and local employment;
- traffic and transport;
- water supply during construction workforce accommodation; and
- planning agreement terms.

Table 9 provides a summary of regulatory engagement and key matters discussed during the preparation of the EIS.

Table 9 - Summary of regulatory engagement and key matters

Stakeholder	Engagement	Key matters discussed
Armidale Regional Council	> Meeting 29 October 2025 > SIA interview 19 December 2025 > Letter granting provision of water for construction of the Project March 2026 > Letter granting landowner consent 26 March 2026 > Emails > Phone calls	> Project update > Access to services > Community engagement > Cumulative impacts > Landowner consent > Skills and local employment > Traffic and transport > Water supply during construction workforce accommodation > Planning agreement terms
DPHI environmental assessment team	> Email 25 February 2026 > Email 4 March 2026 > Meeting and email 18 March 2026	> Project updates and expected lodgement timing
Local Land Services	> Letter of Authority 6 February 2026	> Biosecurity > Site access and access tracks

The outcome of this engagement resulted in confirmation from Council of water availability for the construction phase of the project – refer **Appendix E**.

During preparation of the EIS, the Applicant made a number of attempts to consult with TfNSW in relation to the project; however, TfNSW has not engaged on the project to date.

Copies of consultation with regulators is provided in **Appendix E**, mitigation measures recommended have been incorporated into **Appendix F**.

5.8 Engagement outcomes

5.8.1 SUMMARY OF COMMUNITY AND STAKEHOLDER KEY ISSUES

There was positivity about the possibility of funding local initiatives in the Ebor community through community benefit sharing.

The key issues raised during community and stakeholder engagement to inform the Project included:

- access to services;
- accommodation;
- community benefits;
- hazards and risk – including bush fire risk, chemical leaks;
- skills and local employment; and
- visual and noise amenity.

A summary of how these issues have been addressed and the relevant section in the EIS is provided in **Table 10**.

Table 10 - Summary of community and stakeholder engagement outcomes

Issue raised	Detail	How it has been addressed	Section in this EIS
Access to services	Residents raised concerns about how workforce accommodation may impact access to local services including GP and other medical services.	The SIA has assessed the impact on access to local services. Findings indicate there will be some impact to accessing local services, however, this will be short-term. Additional mitigation measures will be implemented as part of the Project's construction environmental management plan.	**Section 6.12**
Accommodation	There was some discussion about workforce accommodation with suggestions including using accommodation at the local pub or UNE. The applicant discussed accommodation options with UNE.	An SIA has been completed and assessed the impact on impacts to housing and accommodation. The Applicant has an in-principle agreement with UNE to provide on-campus accommodation for construction.	**Section 6.12** and **Appendix E**
Community benefits	Positive feedback from the community about funding for local projects including installation of an electric vehicle charger, and upgrades to the Town Hall and Ebor Sportsground announcer box.	The proposed planning agreement was approved at the ARC Council meeting in February 2026. This agreement outlines the community benefits for Ebor and the wider community.	**Section 6.12**
Hazards and risk	Some concerns raised about potential bushfire and hazard risks associated with a BESS.	The BFAR was completed and found that with recommendations implemented the Project satisfies relevant bushfire criteria. The PHA also found that that any impacts outside of the Project criteria are within an acceptable criteria.	**Section 6.11** and **6.10**

Issue raised	Detail	How it has been addressed	Section in this EIS
Noise	Enquiries received about the noise impacts of the BESS and whether the BESS will be heard in town.	A NVIA assessment was completed. Modelling has predicted no exceedances above criteria for receivers at during operational phase.	**Section 6.7**
Skills and local employment	Local businesses registered details for project updates and involvement in future employment and skills building opportunities. Discussions with UNE and TAFE NSW about supporting scholarships. There is a perception that the project will benefit local businesses and tradespeople.	A SIA has been completed and assessed the impact on skills and local employment. As an LTESA, the Project has number of local supply chain commitments and employment and workforce commitments to mitigate any impacts.	**Section 6.12**
Visual amenity	Some non-associated landholders raised concerns about the visual impact to their property and when accessing town via Waterfall Way.	A visual impact assessment was completed and found the Project would result in low landscape character impact. It was identified that two viewpoints would experience low visual impacts.	**Section 6.6**

5.8.2 SUMMARY OF REGULATOR KEY ISSUES

In the EIS finalisation phase, Premise consulted with key regulators to provide feedback on the outcomes of assessment, residual impacts and expected recommended mitigation measures. Largely the response from regulators was acknowledgement of the effort to engage and confirmation that matters would be looked at in detail following formal lodgement of the EIS.

Key matters raised during regulatory engagement included:

- access to services;
- accommodation;
- biosecurity;
- community engagement;
- cumulative impacts;
- skills and local employment;
- traffic and transport; and
- water supply.

A summary of key issues raised during regulator engagement and the relevant section in the EIS is provided in **Table 11**.

Table 11 - Summary of regulator engagement outcomes

Issue raised	Detail	How it has been addressed	Section in this EIS
Accommodation	There was some discussion about workforce accommodation with suggestions including using accommodation at the local pub or UNE. The applicant discussed accommodation options with UNE.	An SIA has been completed and assessed the impact on impacts to housing and accommodation. The Applicant has an in-principle agreement with UNE to provide on-campus accommodation for construction.	**Section 6.12**
Access to services	Concerns raised that the workforce may impact access to local services including GP and health services.	The SIA has assessed the impact on access to local services. Findings indicate there will be some impact to accessing local services, however, this will be short-term. Additional mitigation measures will be implemented as part of the Project's construction environmental management plan.	**Section 6.12**
Biosecurity	DPI Agriculture raised the need for a considered approach to biosecurity.	A commitment has been included in the EIS to ensure that a biosecurity management plan would be prepared prior to construction to ensure that appropriate mitigation measures are provided.	**Section 6.4**
Community engagement	Suggestion that community engagement will be key to minimising negative impact in the community. It was suggested that ARC and developers should work together to ensure locals have awareness of projects. Positive feedback regarding the local focus of community benefits.	The Project has developed a CSEP which will be updated regularly throughout construction and operation phases.	**Section 5**
Cumulative impacts	Concerns were raised about the impact of cumulative projects and the proximity to the NEREZ.	The SIA completed an assessment of potential cumulative impacts during construction and operation. Consultation with other project proponents is suggested to minimise cumulative impacts where possible.	**Section 6.12** **Section 6.16**

Issue raised	Detail	How it has been addressed	Section in this EIS
Skills and local employment	Stakeholder suggested need and opportunities to engage First Nations and Yazidi communities in skill building and employment opportunities.	A SIA has been completed and assessed the impact on skills and local employment. As an LTESA, the Project has number of local supply chain commitments and employment and workforce commitments to mitigate any impacts.	**Section 6.12**
Traffic and transport	Concerns were raised about the impact of OSOM vehicle movements on road network and capacity of highway to minimise impact.	The TIA was completed and found that the road network would be able to accommodate construction traffic associated with the Project.	**Section 6.8**
Water supply	Council and non-associated landholders raised concerns about availability of water supply during construction.	The WIA was completed and states that ARC have confirmed the supply of construction water to the Project. Potable water will be provided through temporary amenities.	**Section 6.9.2** **Appendix E**

5.9 Future engagement

5.9.1 PUBLIC EXHIBITION OF THE EIS

DPHI is responsible for the public exhibition of the EIS. The EIS and all of the appending documents will be made available on the Major Projects Portal for at least 28 days.

Submissions during public exhibition must be made in writing and submitted through the Portal or by mail and be received by the closing date.

While not responsible for the public exhibition, the Applicant will support the exhibition through promotion and ensuring the Project's stakeholders are made aware of it.

The range of activities that the Applicant will promote during the exhibition period and how people can make a submission are outlined in **Table 12**.

Table 12 - Engagement activities to support exhibition of the EIS

Activity	Purpose	Stakeholder groups
DPHI launches public exhibition via Major Projects Portal	To provide an opportunity for community and agency feedback on the EIS	All
Summary of Findings document made available	To provide a plain English summary of the EIS chapters including impacts and mitigations measures and how to make a submission	General community

Activity	Purpose	Stakeholder groups
Letterbox drop	To notify landowners and nearby community about exhibition period, provide copies of Summary of Findings and USBs	> Landowners and neighbours > Local businesses
Briefing letters	To notify stakeholders about exhibition period and offer a briefing, provide copies of the Summary of Findings and USBs	> Armidale Regional Council > State MP > Federal MP
Webinars	To provide an opportunity for technical specialists to present EIS findings and mitigation measures, and an opportunity for moderated questions	> Landowners > Residents
Community drop-in session	To provide an opportunity for community to view documents, ask questions and speak to Project team, provide copies of Summary of Findings and USBs	> General community > Landowners
USBs with documents	To be handed out at in-person events, left at MP and council offices	As required
Update Project website	To provide an update about the exhibition period, upload summary of findings doc and details on how to make a submission with links to the Major Projects Portal	All
Issue Project newsletter	To provide an update about the exhibition period and how to make a submission with links to the Major Projects Portal.	Mailing list

5.9.2 POST-APPROVALS AND CONSTRUCTION

If the SSD application is approved, engagement during post-approvals and construction would be undertaken in accordance with the conditions of consent and the Engagement Guidelines (DPHI, 2024).

The CSEP will be updated to incorporate any relevant conditions of consent or needs of stakeholders.

Engagement during this period will:

- keep the community, council and relevant government agencies informed with up-to-date information on the project;
- explain how community enquiries and complaints will be considered and documented;
- provide construction information in plain English so that potential impacts can be readily understood;
- be clear about the level of influence the community will have;
- give the community the opportunity to be involved in employment and procurement; and
- consider the issues raised by the community, council and relevant government agencies during construction and refine processes, notifications and management plans, if required.

To achieve this, the Applicant commits to undertaking the following activities during post-approvals and construction:

- in-person or virtual meetings with associated and non-associated landowners, ARC, businesses, community groups, education providers and UNE;
- meetings, calls and emails with associated and non-associated landowners who may be impacted;
- notifications to sensitive receivers and others who may be impacted by construction activities;
- briefings to state and federal members of Parliament;
- maintaining the Project website with updated content and fact sheets;
- responding to the Project phone line and email inbox; and
- management of Project complaints.

Further engagement will be undertaken with the University of New England to finalise the Heads of Agreement for housing the Project's construction workforce.

5.9.3 MONITORING AND REVIEW

Engagement will be monitored and evaluated in accordance with the measures outlined in the CSEP. The CSEP will be regularly reviews during post-approvals and construction to ensure engagement objectives are being met.

6. ASSESSMENT OF IMPACTS

This section provides a detailed summary of the findings of the assessment of the potential impacts of the project. The scale and nature of the impacts of the project on each matter has informed the following table which ranks the matters based on the potential impacts generated by the project; from significant impacts ('high impact matters') through to those with minimal impacts ('low impact matters').

Table 13 - Impact Assessment Level

High Impact	Medium Impact	Low Impact
Transport, traffic and access	Noise	Aboriginal heritage
Biodiversity	Bushfire	Historic Heritage
	Land	Visual
	Hazards	Contamination
	Social	Waste
	Water	Economic
		Cumulative

6.1 Biodiversity

Table 14 – Biodiversity SEARs

Relevant SEARs	Where addressed
Biodiversity	
> an assessment of the biodiversity values and the likely biodiversity impacts of the project in accordance with Section 7.9 of the *Biodiversity Conservation Act 2016* (NSW) (BC Act), having regard to the *Biodiversity Assessment Method* (BAM) 2020 and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must: • be prepared using the approved BDAR template; • document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the BAM; • assess the impacts associated with all ancillary infrastructure, including the transport route road upgrades; • include an assessment for serious and irreversible impacts (SAII) in accordance with Section 9.1 of the BAM; • include a strategy to offset any residual impacts of the development in accordance with the BC Act; and • be finalised by an accredited assessor as BAM-compliant within 14 days of submission; unless Conservation Programs, Heritage and Regulation Group (CPHR) and the Department of Planning, Housing and Infrastructure (DPHI) determine the proposed development is not likely to have any significant impacts on biodiversity values;	A BDAR has been prepared with this application. The findings of the BDAR are summarised in **Section 6.1**, and appended in full at **Appendix H**.

Relevant SEARs	Where addressed
> an assessment of the likely impacts on listed aquatic threatened species, populations or ecological communities, scheduled under the *Fisheries Management Act 1994*, and a description of the measures to minimise and rehabilitate impacts;	**Section 6.1.4**
> a cumulative impact assessment of biodiversity values in the region from nearby developments; and	**Section 6.16**
> if an offset is required, details of the measures proposed to address the offset obligations.	**Section 6.1.4.2**

6.1.1 INTRODUCTION

A Biodiversity Development Assessment Report (BDAR) has been prepared by Water Technology Pty Ltd (WT) and is provided in **Appendix H**. The assessment has been undertaken in accordance with the *NSW Biodiversity Assessment Method* (BAM) (DPIE 2020a) under the NSW *Biodiversity Conservation Act 2016* (BC Act) and the *Biodiversity Conservation Regulation 2017* (BC Regulation). The BDAR has been prepared to quantify the impacts of the proposed development upon biodiversity values based upon the methods of the BAM.

The BDAR includes the following:

> Stage 1 – A biodiversity assessment, including mapping plant community types (PCTs), including Endangered Ecological Communities (EECs), and an assessment of the potential occurrence of threatened species, and assessment of potential candidate threatened species returned by the BAM Calculator (BAM-C).
> Stage 2 – An impact assessment, including identification of potential impacts of the proposed development, avoidance and mitigation measures, and biodiversity offset requirements.

A summary of the BDAR is provided in the following sections and includes a summary of the recommended mitigation measures.

6.1.2 EXISTING ENVIRONMENT

The BDAR study area and BDAR assessment area are located within the New England Tablelands Interim Biogeographical Regionalisation of Australia (IBRA) bioregion, and within the Ebor Basalt Sub Region. The project area and surrounding lands have been subject to clearing activities for agricultural land use with some remnant vegetation still existing in pockets. There are no areas of outstanding biodiversity value mapped within the study area.

The study area is located in the Ebor Tops Basalt Mitchell Landscape Region, however no additional landscape features have been identified and the study area is not impacted by any soil hazard features.

The BDAR assessment area, being a 1500m buffer around the study area, has an area of approximately 1,207 ha, of which approximately 536 ha is native vegetation (47.6%).

To characterise the vegetation environment, WT completed site surveys, including completing BAM transects, in October and November 2025 and January 2026, together with targeted searches between October 2025 and January 2026.

Flora surveys identified that the majority of the approximately 34 ha study area (23.60 ha) features non-native vegetation, with the remainder (10.36 ha) featuring two native vegetation communities, being:

- Plant Community Types (PCT) 3288, Northern Escarpment Messmate Moist Grassy Forest; and
- PCT 3379, Barrington-Point Lookout Montane Grassy Forest.

PCT 3379 is found in the west of the site in the Travelling Stock Routes (TSRs) adjacent to Waterfall Way, while PCT 3288 is found in the east of the site adjacent to the ETL connection point.

Per the BDAR, the affected area of PCT 3379 in the project study area has a vegetation integrity score (VIS) of 38.5 and the affected area of PCT 3288 has a VIS of 16.5.

Neither of these PCTs are associated with any Threatened Ecological Communities (TECs) under the BC Act or the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Fauna species predicted to occur within the study area were narrowed down to nine (9) species, outlined in **Table 15**.

Table 15 - Candidate fauna species on the study area

Common Name	Scientific Name	Listing Status BCAct / EPBC Act	Method used to determine presence	Present	Further assessment required
Eastern Pygmy Possum	*Cercarteus nanus*	Vulnerable/ Not Listed	Camera/spotlight/stag watch Nov-Jan and March	No	No
Little Eagle	*Hieraaetus morphnoides*		Expert report*	No	No
Southern Myotis	*Myotis macropus*		Anabat/Songmeter Dec	No	No
Barking Owl	*Ninox connivens*		Audiomoths/Spotlighting/stag watch/ pellet determination Dec/Jan/Mar	No	No
Powerful Owl	*Ninox strenua*		Audiomoths/Spotlighting/stag watch/pellet determination Dec/Jan/Mar	No	No
Squirrel Glider	*Petaurus norfolcensis*		Audiomoths/Spotlighting/stag watch/ scat determination Dec/Jan/Mar	No	No
Brush-tailed Phascogale	*Phascogale tapoatafa*		Spotlighting/stag watch/scat determination Dec/Jan/Mar	No	No
Koala	*Phascolarctos cinereus*		Scat assessment, night surveys, spotlight and audiomoths Dec/Jan/Mar	No	No
Masked Owl	*Tyto novaehollandiae*		Audiomoths/Spotlighting/stag watch/pellet determination Dec/Jan/Mar	No	No

Targeted searches for these nine (9) species confirmed that they do not occur on site and will not be impacted by the project. Despite this, due to the potential for impacts to Greater Glider habitat associated with construction of the property access, two species credits apply.

In addition to the above, two threatened species have been recorded within close proximity to the site. These include:

- Spotted-tailed Quoll (*Dasyurus maculatus*) listed Vulnerable under the NSW BC Act and Endangered under the EPBC Act; and
- Southern Greater Glider (*Petauroides volans*) listed Endangered under the NSW BC Act and EPBC Act (recorded in the past 20 years)

The Greater Glider (*Petauroides volans*) was recorded within the study area during targeted field surveys and was therefore included as a confirmed threatened entity. Through project design, direct impacts to the Greater Glider have been avoided, however there are the potential for residual indirect impacts to the species at a species-level, and therefore two Greater Glider credits are to be retired by the project.

6.1.3 KOALA HABITAT

The study area is mapped as core koala habitat (as defined by the Armidale Strategy), however is not mapped as a koala corridor and does not contain core koala habitat as defined by the *State Environmental Planning Policy (Biodiversity and Conservation) 2021* – Chapter 3 Koala Habitat Protection 2020 (Koala SEPP 2020).

WT completed targeted searches for Koala including scat assessment, night surveys, spotlight and audiomoths in December/January/March. No koalas were detected within the study area for the BDAR and therefore impacts to Koala are not predicted.

6.1.4 ASSESSMENT OF IMPACTS

6.1.4.1 Direct impacts

Direct impacts to PCT 3288 are minimal due to adoption of underground trenching methods, with impacts to this PCT limited to approximately 300m^2. Due to the small area, no offsetting is required to address these impacts.

Impacts to PCT 3379 will occur as a consequence of the development of the site access, with total impacts limited to up to 1,679 m^2, or less than 0.5% of the study area. The impacted area required two ecosystem credits to be retired by the project.

As noted above, residual species-level impacts to the Greater Glider are predicted and are proposed to be offset by retiring two credits.

Through careful site selection, and project design and refinement, direct impacts have been effectively minimised through maximising the use of land characterised by disturbed non-native vegetation. Where impacts cannot be avoided, primarily in relation to the point of access from Waterfall Way, avoidance and mitigation has ensured that impacts are low and not significant.

6.1.4.2 Biodiversity offsets

Two biodiversity credits are required to be offset for species-level residual impacts to the Greater Glider and two ecosystem credits for PCT 3379. No other credits apply.

6.1.4.3 Indirect impacts

A range of indirect impacts are identified in Table 17 of **Appendix H**, which is reproduced below:

- Reduced viability of adjacent habitat for the Greater Glider due to noise, dust and light spill;
- Transport of weeds and pathogens from the site or off site to adjacent vegetation impacting PCTs 3379 and 3288;
- Increased vehicle movement impacting on the Greater Glider; and
- Reduced viability of adjacent habitat due to edge effects, impacting PCTs 3379 and 3288, and the Greater Glider.

WT consider that indirect impacts on native vegetation and the Greater Glider beyond the development footprint are likely to be low in magnitude, localised, and manageable, and that the residual indirect impacts identified represent a realistic and precautionary assessment

Mitigation measures and offsetting is proposed to minimise these indirect impacts.

6.1.4.4 Prescribed impacts

Relevant prescribed impacts for the project are identified as habitat connectivity and vehicle strikes.

Habitat connectivity within the study area is characterised by linear and patchy native vegetation, including the roadside vegetation that connects on site habitat with surrounding remnant vegetation, and is likely to be used by arboreal mammals and volant fauna. The Greater Glider relies on a connected canopy to move through the landscape and is sensitive to fragmentation. The project has the potential to lead to localised disruption of movements pathways as a result of vegetation removal during construction of project infrastructure. Impacts to habitat connectivity are limited to the area within which the project access is to be developed, where limited vegetation requires removal. Connectivity will be retained, with vegetation retained where practicable. This is expected to be long-term in area where vegetation removal occurs; however, the spatial extent of these impacts is small and restricted to previously disturbed vegetation. Temporary disturbance to connectivity may also occur during construction. These impacts will be short term and reversible. Due to its reliance on hollow-bearing trees, the Greater Glider is susceptible to impact due to needing to move greater distances between trees, including greater reliance on ground movement, and increased exposure to predation. The consequences of connectivity impacts are expected to be minor, as the project avoids widespread canopy removal, retains most connectivity features, and adopts design measures such as undergrounding powerlines to prevent fragmentation. Although one hollow-bearing tree may be removed, sufficient alternative habitat trees and connected canopy remain within the local landscape to support movement and persistence of the species. Residual impacts on habitat connectivity have been accounted for through the requirement for two species credits for the Greater Glider and are not expected to compromise the viability of the local population

Prescribed impacts as a result of vehicle strikes in relation to the Greater Glider are predicted to be of low likelihood and with low estimated vehicle strike rates. The Greater Glider is a slow moving species that may occasionally traverse roadside vegetation. While increased vehicle movement associated with construction and operation presents a potential risk of vehicle strike, the likelihood is low due to limited traffic volumes, retention of canopy connectivity, and implementation of speed management and access controls. Any vehicle strike would result in injury or mortality of an individual; however, given the low likelihood and localised nature of risk, population level consequences are expected to be minor. Residual impacts are accounted for through the requirement for two species credits.

6.1.4.5 Serious and Irreversible Impacts (SAII)

As this is a small area streamlined assessment, candidate species credit species that are not at risk of an SAII and are not incidentally recorded on the subject land do not require further assessment.

PCT 3379, PCT 3288 and the Greater Glider are not SAII entities.

6.1.5 MITIGATION MEASURES

The measures in are proposed in the BDAR to minimise and avoid potential impacts associated with the proposed development.

Mitigation measures have also been recommended to ensure that impacts are mitigated and avoided where possible. A range of mitigation measures to address residual impacts have been identified in the BDAR and these are summarised in **Table 16** and consolidated in **Appendix F**.

Table 16 – Biodiversity mitigation measures

Impact	Mitigation measure	Method/technique	Timing	Frequency	Responsibility	Likely efficacy	MNES (when relevant)
Temporary displacement of fauna during vegetation clearing	Timing of works	Planning the timing of vegetation removal to avoid the breeding seasons of the Greater Glider, and possibly other resident species	Planning and Construction	Intermittent	Bridge Energy / Ecologist	High	N/A
	Pre-clearing surveys	Undertake pre-clearing surveys to determine the presence of resident fauna in vegetation to be removed, particularly the hollow-bearing tree for possible removal	Pre-construction	Once	Ecologist	High	N/A
	Clearing protocols	Implementation of best practice clearing protocols to prevent inadvertent damage or distress to adjacent habitat and threatened species	Construction	Ongoing	Bridge Energy project management / Site manager / Contractors	High	N/A
	Inspection of felled tree/s (if applicable)	Licensed wildlife handler is to inspect the (possible) hollow-bearing tree for presence of fauna. Injured fauna are to be cared for in conjunction with WIRES. Displace fauna are to be relocated with adjacent vegetation in similar condition by a qualified ecologist.	Construction	Infrequent	Ecologist / Licensed wildlife handler	High	N/A
	Relocate habitat feature (if applicable)	Relocate habitat feature (surface rocks, fallen logs or felled tree) to adjacent retained vegetation as habitat enhancement.	Construction	Infrequent	Bridge Energy	High	N/A

Impact	Mitigation measure	Method/technique	Timing	Frequency	Responsibility	Likely efficacy	MNES (when relevant)
Inadvertent impacts on adjacent habitat or vegetation	Pre-clearing protocols	Prior to commencing vegetation clearing, daily site briefings are to occur to identify the development footprint boundary, the presence of any adjacent remnant vegetation to be retained and methods to relocate habitat features into adjacent habitat.	Construction	Intermittent	Bridge Energy / Contractors	High	N/A
	Temporary fencing and signage	Clearly demark adjacent vegetation and waterbodies to be retained. These areas are to be identified in daily site briefings prior to commencing clearing.	Construction	Ongoing	Bridge Energy / Site Manager	High	N/A
	Minimise disturbance from clearing activities	Use appropriately size machinery, avoid unnecessary ground disturbance and restrict works to approved footprint	Construction	Ongoing	Bridge Energy / Site Manager	High	N/A
Reduced viability of adjacent habitat due to noise, dust, and light spill	Adjust construction hours	Construction activities are to occur generally during daylight hours, minimising light spill and noise disturbance for nocturnal fauna.	Construction	Intermittent	Bridge Energy / Site Manager	Moderate – High	N/A
	Implement Construction Environmental Management Plan (CEMP)	Apply and monitor environmental controls for noise, dust and lighting in accordance with the CEMP.	Construction	Ongoing	Bridge Energy / Sit Manage/ Contractor	Moderate – High	N/A

Impact	Mitigation measure	Method/technique	Timing	Frequency	Responsibility	Likely efficacy	MNES (when relevant)
Transport weeds and pathogens	Hygiene and weed management protocols	Implementation of hygiene protocols (regularly washing vehicles and equipment). High threat weed (HTW) recorded on the study area are outlined in **Appendix H**.	Construction and Operation	Ongoing	Bridge Energy / Contractors	High	N/A
Habitat Connectivity (prescribed impact)	Retain connectivity features where practicable	Retain vegetated road reserve and avoid additional canopy removal beyond approved footprint	Planning and Construction	Infrequent	Bridge Energy	High	N/A
Vehicle strike (prescribed impact)	Vehicle speeds	Restrict vehicle speeds, limit traffic to designated access routes	Construction and Operation	Ongoing	Bridge Energy / Site Manager	High	N/A
	Road signage	Road signage would be place along roads alerting drivers to wildlife traversing the area	Planning	Infrequent	Bridge Energy / Site Manager	High	N/A
	Education	Identify during toolbox meetings relevant breeding, nesting or migratory periods for threatened fauna	Construction and Operation	Seasonally	Bridge Energy / Site Manager / Ecologist	High	N/A

6.2 Aboriginal Heritage

Table 17 – Heritage SEARs

Relevant SEARs	Where addressed
Heritage	
> an Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010), identifying, describing, and assessing any impacts to any Aboriginal cultural heritage sites or values associated with the site (including impacts from any proposed earth works, construction works and road upgrades), including results of archaeological test excavations (where required), undertaken in accordance with the relevant standards and requirements; > evidence of adequate consultation with Aboriginal communities in determining and assessing impacts, identifying and selecting options for avoidance of Aboriginal cultural heritage and identifying appropriate mitigation measures (including the final proposed measures), having regard to the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010); and	An ACHAR has been prepared with this application. The findings of the ACHAR are summarised in **Section 6.2**, and appended in full at **Appendix I**.
> assess the impact to historic heritage having regard to the *Guidelines for Preparing a Statement of Heritage Impact*.	**Section 6.3**

6.2.1 INTRODUCTION

An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared by Premise and is provided in **Appendix I**. The objectives of the ACHAR were to:

- Assess the Aboriginal cultural heritage values of the site and development footprint, including archaeological and community cultural values, and the significance of identified values;
- Identify Aboriginal cultural heritage values that may be impacted by the proposed work and implement measures to avoid significant impacts to these elements;
- Ensure appropriate Aboriginal community consultation in undertaken through the assessment process;
- Provide recommendations for mitigation and management measures of identified Aboriginal heritage values if required, should the proposed works proceed;
- Provide a description of the scope of the proposed works and the extent of the development footprint;
- Provide a description of the Aboriginal community involvement and Aboriginal consultation;
- Provide a significance assessment of the development footprint including cultural and archaeological values;
- Provide a description of the statutory requirements for the protection of Aboriginal heritage;
- Provide an impact assessment for recorded Aboriginal sites and areas of archaeological potential; and
- Provide measures to avoid, minimise, and if necessary, offset the predicted impacts on Aboriginal heritage values.

This assessment was undertaken in accordance with the following requirements and guidelines:

- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010) (Consultation Requirements);
- *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (Code of Practice; (Department of Environment, Climate Change & Water [DECCW] 2010);
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment & Heritage [OEH] 2011) (The ACHAR Guide); and
- The Burra Charter (ICOMOS 2013).

An archaeological survey was undertaken on 25 February 2026 by Premise Archaeologist (Latisha Ryall) accompanied by two (2) Registered Aboriginal Party (RAP) representatives. The archaeological survey area assessed as part of this draft ACHA is approximately 17.54 ha.

6.2.2 EXISTING ENVIRONMENT

The project area is located within the New England Tablelands and is characterised by an elevated basalt plateau landscape. The landform comprises gently undulating to locally dissected terrain, with slopes generally falling toward nearby drainage features, including Dirty Creek and Pantons Gully. Soils are derived from basalt and are typically deep, well-structured red to brown clay loams (Ferrosols), with areas of heavier clay in lower-lying locations and occasional surface expression of stony basalt fragments on slopes and ridgelines.

Vegetation within the project area reflects a partially modified rural landscape, with extensive historical clearing associated with agricultural use and road infrastructure. The site comprises predominantly cleared pasture with exotic groundcover, interspersed with small patches of remnant native vegetation, particularly along drainage lines and road verges. Remnant vegetation in the locality is consistent with New England Tablelands grassy woodland and wet sclerophyll forest communities, typically dominated by Eucalyptus species, forming part of broader vegetation corridors associated with nearby watercourses.

Hydrologically, minor first-order drainage lines and shallow gullies that are ephemeral in nature and convey surface water only during rainfall events within the project area. A more permanent watercourse, Dirty Creek, is located approximately 800 m to the south and represents a higher order drainage feature within the Bellinger River catchment.

The project area has been subject to long-term disturbance associated with agricultural activities including vegetation clearance, fencing, track formation and water management. Aerial imagery and field observations indicate that the majority of the site has been cleared and modified, with disturbance including ground levelling, track formation, fencing, infrastructure installation and ongoing land management practices. Existing infrastructure includes access tracks, boundary fencing, transmission infrastructure and services within the road corridor, as well as areas of introduced fill associated with road works.

From an Aboriginal cultural heritage perspective, the environmental context of the project area is characterised by a modified basalt plateau landscape with generally low archaeological visibility and integrity across much of the site due to historical disturbance. However, elements of the broader landscape, including drainage lines, remnant vegetation patches and proximity to more reliable water sources such as Dirty Creek, form part of a wider cultural landscape that may have supported Aboriginal movement, resource use and short-term activity.

6.2.3 ASSESSMENT IMPACTS

An Aboriginal cultural heritage survey was undertaken in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, with the aim of assessing representative landforms within the development footprint and identifying the likelihood of archaeological

potential. The survey methodology was prepared for the Project and provided to Registered Aboriginal Parties (RAPs) on 19 January 2026.

The survey was designed to:

- assess an adequate sample of the development footprint;
- identify Aboriginal archaeological and cultural heritage values;
- inform the likelihood of archaeological potential; and
- guide the development of appropriate management measures.

The survey was undertaken along informal east–west transects across the project area, extending from the proposed transmission connection in the east through the BESS footprint and access track to Waterfall Way. Survey coverage included areas of increased landform sensitivity, including remnant vegetation patches, drainage features, and areas of localised ground exposure. Surveyors were spaced at a maximum of 10 m intervals, with observations recorded in consultation with Aboriginal representatives.

The survey identified three survey units and four associated landforms within the project area. Landforms are characterised by gently undulating rises, lower slopes and minor crests that have been subject to extensive historical disturbance, including vegetation clearance, grazing, ploughing and infrastructure development. Ground surface visibility across the project area was generally low due to dense pasture cover, limiting survey efficacy and the ability to identify surface artefacts.

No previously recorded Aboriginal sites listed on the Aboriginal Heritage Information Management System (AHIMS) database are located within the project area. No Aboriginal objects or archaeological deposits were identified within the development footprint during the survey. No stone artefacts or culturally modified stone materials were observed.

Two Aboriginal sites (scarred trees, Ebor ST-1 and Ebor ST-2) were identified within remnant woodland areas to the east of the project area; however, both sites are located outside of the proposed development footprint and would not be directly impacted by the proposed works.

Ephemeral drainage lines within the project area were assessed and determined to have low archaeological sensitivity due to their first-order nature, limited water retention and absence of associated artefactual material. Areas of increased archaeological sensitivity, including remnant woodland patches and more intact landforms, were identified outside the project area.

Based on the survey findings, the project area is assessed as having low archaeological potential. The combination of landform characteristics, absence of identified Aboriginal objects, and extent of historical disturbance indicates that the likelihood of encountering intact subsurface archaeological deposits within the development footprint is low.

Accordingly, the proposed development is not expected to result in direct impacts to Aboriginal objects or sites. Potential impacts are therefore limited to areas of low archaeological sensitivity that have been subject to prior disturbance. With the implementation of standard unexpected finds procedures and ongoing consultation with Aboriginal stakeholders, residual impacts to Aboriginal cultural heritage are considered to be low and acceptable.

RAP consultation is ongoing, with all comments to be included with the final ACHAR upon formal lodgement with the Department.

6.2.3.1 Crown Land

The proposed development involves traversing the following Crown land lots:

- Part Lot 7024 DP1117640; and
- Part Lot 7005 DP1117635.

Access through Lots 7003 and 7009 will be required for construction of the site access. Further, both Lots are identified as travelling stock reserves (TSRs) which is associated with Crown Reserve 30780, and is subject to an undetermined Aboriginal Land Claim (40179) under the *Aboriginal Land Rights Act 1983* (ALR Act) to be managed through the NSWLALC for project consent.

6.2.4 MITIGATION MEASURES

The following measures should be implemented to minimise impacts to Aboriginal heritage:

- Management recommendations for protection of identified sites AHIMS Ebor ST-1 and Ebor ST-2 located immediately north and south of the development footprint must be implemented;
- An unexpected finds/chance finds protocol should be developed as part of the Ebor BESS CEMP and in consultation with RAPs;
- If unanticipated Aboriginal objects are uncovered during works, all work in the vicinity should cease immediately. A qualified archaeologist should be contacted to assess the find and Heritage NSW and Dorrigo Plateau LALC and RAP's for the project must be notified; and
- All impacts must remain within the assessed development footprint or further archaeological investigation may be required.

6.3 Historic heritage

Table 18 – Heritage SEARs

Relevant SEARs	Where addressed
Heritage	
> an Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010), identifying, describing, and assessing any impacts to any Aboriginal cultural heritage sites or values associated with the site (including impacts from any proposed earth works, construction works and road upgrades), including results of archaeological test excavations (where required), undertaken in accordance with the relevant standards and requirements; > evidence of adequate consultation with Aboriginal communities in determining and assessing impacts, identifying and selecting options for avoidance of Aboriginal cultural heritage and identifying appropriate mitigation measures (including the final proposed measures), having regard to the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010); and	An ACHAR has been prepared with this application. The findings of the ACHAR are summarised in **Section 6.2**, and appended in full at **Appendix I**.
> assess the impact to historic heritage having regard to the *Guidelines for Preparing a Statement of Heritage Impact*.	**Section 6.3**

6.3.1 INTRODUCTION

The below assessment has been undertaken with consideration of the NSW Department of Planning and Environment (NSW DPE) *Guidelines for Preparing a Statement of Heritage Impact. 2023* guidelines for assessing places and objects against the Heritage Council of NSW criteria. Given the absence of heritage items within the project area and the distance to heritage items in the local area, the proposed development is unlikely to result in direct or indirect impacts to European heritage.

6.3.2 EXISTING ENVIRONMENT

The New England region has been settled and developed by European settlers since the 1830s and featured large pastoral properties used for stock grazing and cropping. Development within the Ebor area is more limited due to terrain, however high rainfall means the land is well suited for raising cattle, with dairy farming particularly common in the nearby Dorrigo region.

Historical imagery available for the project area reflects that the site has been used for grazing since at least 1966. As outlined in the Premise Land and Soil Assessment Report (2026) supporting this EIS, the proposed BESS site was purchased by the Braund family in 1950 as part of Cloverlea Farm. Cloverlea Farm has operated primarily as a grazing property for cattle and sheep since the 1950's. Portions of the property were used for cropping, including potatoes in approximately the 1980's and stockpiled rock present onsite is understood to have been removed from the soil during this period.

Cloverlea Farm ownership was transferred in 2000 and has been used primarily for grazing cattle since that time. The property is currently used to rear wagyu and black angus cattle prior to finishing at local feedlots.

The project area is not located within a sensitive historical setting.

A search of the statutory and non-statutory databases was undertaken on 23 March 2026 and included:

- World, National and Commonwealth heritage register
- State Heritage Inventory database (items of State and local significance)
- *Armidale Regional Local Environmental Plan 2012* (LEP), Schedule 5
- Non statutory registers – Register of the National Estate and National Trust Register

The results of the search indicate that there are no items of World, National or Commonwealth heritage significance within the project area or immediate surrounds. There are no items of local or state heritage significance within the project area or immediate surrounds.

The closest listed items are the state heritage listed Gondwana Rainforests of Australia, approximately 5.5 kms to the west, and the locally listed house "Kotupna", approximately 6 km to the south.

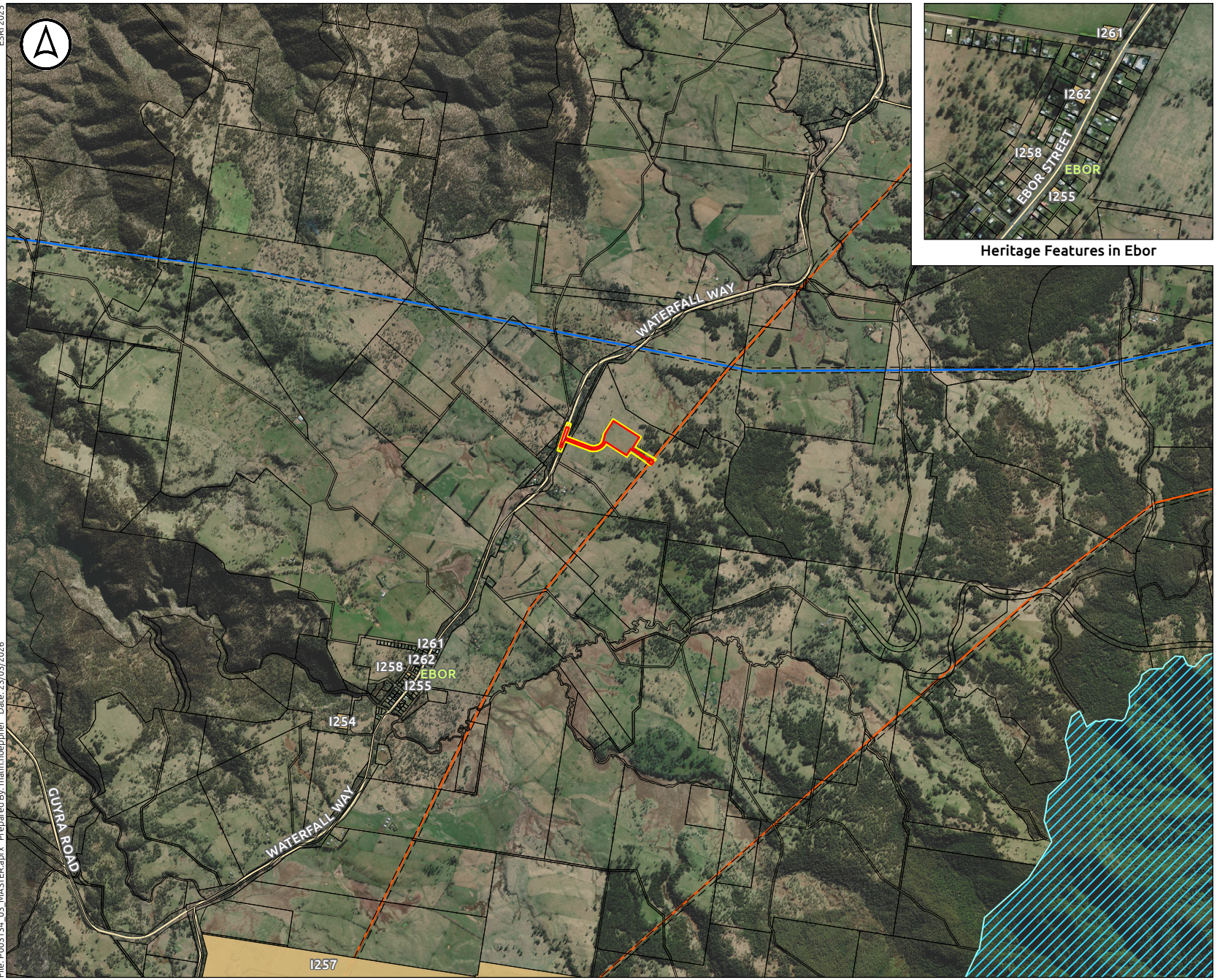
No items of historic heritage significance were identified during the heritage survey undertaken in February 2026.

Overall, the European heritage context of the project area is associated with early farming practices and the surrounding natural landscapes of the national parks which hold both pre and post contact associations from a historical perspective.

Given the absence of heritage items within the project area and the distance to heritage items in the local area, the proposed development is unlikely to result in direct or indirect impacts to European heritage.

Further assessment of historic heritage is not required as part of the EIS.

The European heritage context of the project area is shown on **Figure 9**.



Heritage Features in Ebor

Premise

BRIDGE ENERGY

Ebor BESS

Figure 9
Historic Heritage

Legend

- Project Area
- Development Footprint
- Lot
- Major Road
- Existing Easement

Existing Electricity Transmission Line

- 132 kV
- 330 kV
- State Heritage Register Curtilage

EPI Heritage

- Item - General

0 0.5 1 km

Sources: © State of NSW, Department of Customer Service, Spatial Services 2025
ESRI 2025

File: P003134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 23/03/2026

6.3.3 ASSESSMENT IMPACTS

Heritage significance is graded using the seven (7) criteria listed under the NSW DPE *Assessing heritage significance 2023* guidelines:

- Historical significance;
- Historical association;
- Aesthetic/creative/technical achievement;
- Social, cultural and spiritual;
- Research potential;
- Rare; and
- Representative.

The site is not a heritage listed item nor does it fall within any of the above listed criterion. Overall, the proposed development will not result in adverse physical or visual impacts to a heritage item or conservation area. The addition of vegetative screening around the BESS will further mitigate potential impacts to the aesthetic and visual significance of the surrounding context.

6.3.4 MITIGATION MEASURES

Although no historic heritage items have been identified in Ebor BESS site through this assessment, there is potential for unknown archaeological remains to be discovered and encountered during the construction of the BESS. While the potential to discover items of heritage significance is considered low, a precautionary principle applies. Appropriate mitigation measures would be implemented during the construction phase of the project to minimise the potential for adverse impacts in the form of an unexpected finds protocol.

6.4 Land

Table 19 – Land SEARs

Relevant SEARs	Where addressed
Land	
> a detailed justification of the suitability of the site and that the site can accommodate the proposed development having regard to its potential environmental impacts, land contamination, permissibility, strategic context and existing site constraints; > an assessment of the potential impacts of the development on existing land uses on the site and adjacent land, including: • agricultural land, flood prone land, nearby drinking water catchments, Crown lands, mining, quarries, mineral or petroleum rights (if relevant); • a soil survey to determine the soil characteristics and consider the potential for salinity, acid sulfate soils, and erosion to occur; • a cumulative impact assessment of nearby developments; and > an assessment of the compatibility of the development with existing land uses, during construction, operation and after decommissioning, including: • consideration of the zoning provisions applying to the land, including subdivision (if required);	A Land, Soil and Agriculture Report (LSAR) has been prepared with this application. The findings of the LSAR are summarised in **Section 6.4** and **6.5**, and appended in full at **Appendix K**.

Relevant SEARs	Where addressed
• completion of a Land Use Conflict Risk Assessment (LUCRA) in accordance with the Department of Industries Land Use Conflict Risk Assessment Guide (if required); • an assessment of impact on agricultural resources and agricultural production on the site and region; and > a preliminary investigation into potential contamination across the site, in accordance with the *State Environmental Planning* Policy *(Resilience and Hazards) 2021* (Hazards SEPP) (as required).	

6.4.1 INTRODUCTION

A Land Use Conflict Risk Assessment (LUCRA) and Land, Soil and Agriculture Report (LSAR) have been prepared by Premise and are provided in **Appendix J** and **Appendix K** respectively.

The LUCRA and LSAR have been prepared to determine the suitability of the project area and potential impacts of the development on land resources, including soils, agricultural land, contamination, and land use compatibility.

6.4.2 EXISTING ENVIRONMENT

6.4.2.1 Site Context, Zoning and Permissibility

The project area is zoned RU1 Primary Production and is currently used for grazing of cattle as identified in **Section 6.3.2**. The locality is similarly characterised by rural land uses, including grazing, existing native vegetation and sporadic rural infrastructure.

The proposed development represents a permissible non-agricultural land use within the RU1 zone that does not preclude the continued use of surrounding land within the landholding for ongoing agricultural purposes.

6.4.2.2 Landform

The project area comprises gently undulating land ranging in height from 1,333 m AHD to 1,342 m AHD with low gradient across the BESS area of approximately 2.6%. The low gradient is suitable for construction and limits constraints associated with slope instability or mass movement. Hydrological features are limited to ephemeral drainage lines and farm dams within the project area, with no permanent watercourses within the development footprint. An existing dam within the project area would be decommissioned.

No significant natural hazards have been identified, including:

> landslide risk;
> mine subsidence; or
> naturally occurring asbestos.

Flood risk is specifically addressed in **Section 6.9.1**. The development does not introduce land use changes that would alter flood behaviour or function.

6.4.2.3 Soils, Salinity and Land Capability

Soils within the project area are derived from basalt and are classified as Ferrosols under the Australian Soil Classification System (Isbell, 2002). While the *Land and Soil Capability Assessment Scheme* (OEH, 2012)

identifies the land as Land and Soil Capability (LSC) Class 3 (high capability land), site-specific soil survey and laboratory analysis indicate that acidification hazard and low pH of the natural surface soils introduce moderate limitations, resulting in a revised classification of LSC Class 4 (moderate capability land).

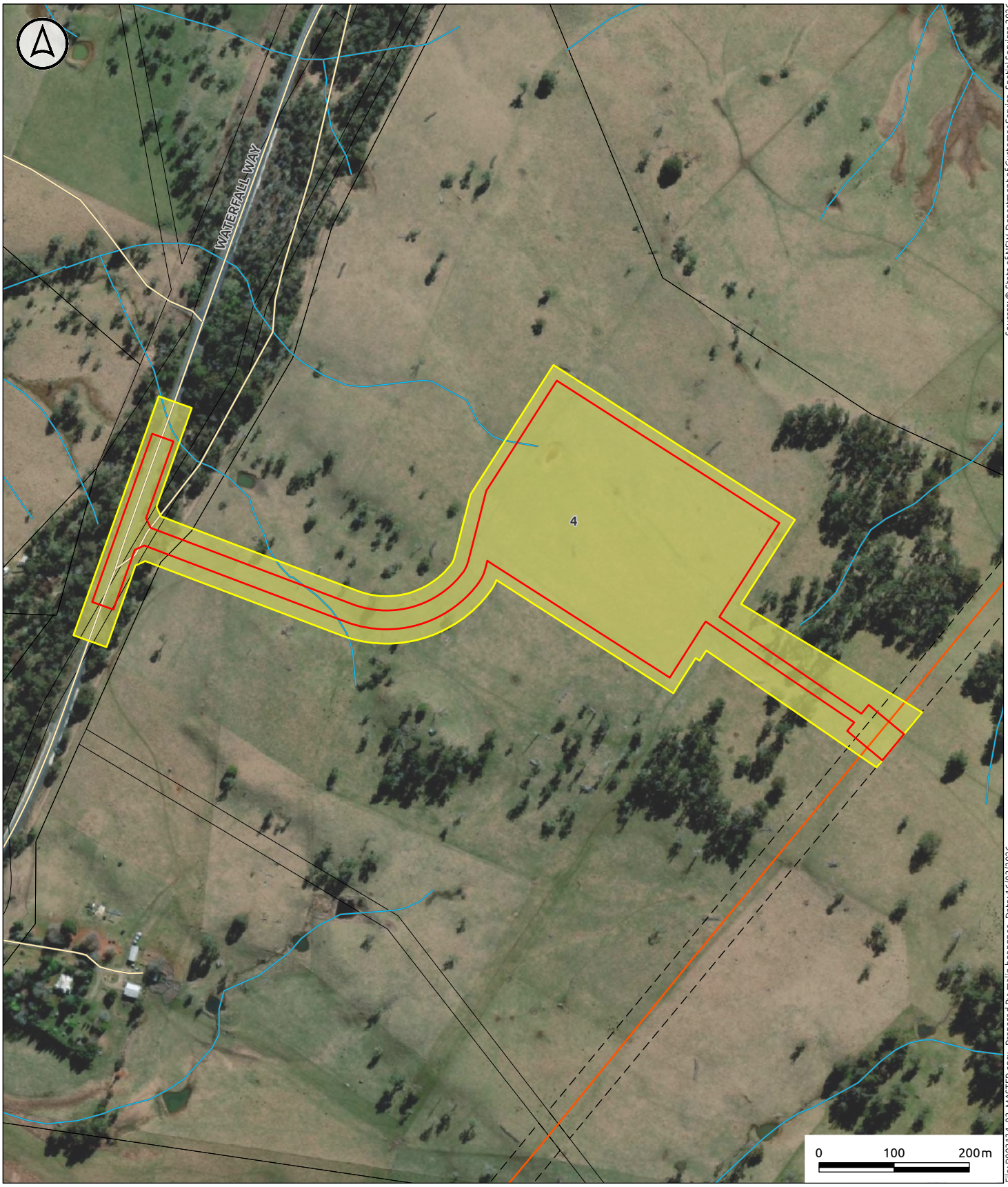
Soil investigations confirm that:

- the primary limitation to agricultural productivity is soil acidification risk, with strongly acidic subsoils and low pH surface soils;
- slight salinity is present within some topsoil layers, although overall salinity risk is low (non-saline to slightly saline soils);
- acid sulfate soils are not mapped within or in proximity to the project area; and
- erosion risk is present but manageable, with the site assessed in accordance with the Revised Universal Soil Loss Equation (RUSLE) methodology under Managing Urban Stormwater: Soils and Construction (Landcom, 2004).

The soil profile is sensitive to disturbance, particularly with respect to the potential mixing of topsoil and subsoil, which may exacerbate salinity and acidity constraints. Accordingly, appropriate soil management practices are required during construction and decommissioning to maintain soil integrity.

The development footprint occupies approximately 11.24 ha of land currently used for rotational cattle grazing. The scale of disturbance is limited relative to the broader agricultural landholding, and the identified soil constraints are typical of the locality.

On this basis, soil characteristics and land capability do not preclude the proposed development, subject to the implementation of appropriate management measures to minimise disturbance and maintain soil function.



Sources: © State of NSW, Department of Customer Service, Spatial Services 2026
State of NSW, Department of Climate Change Energy the Environment and Water 2026

File: P0031134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 16/03/2026

Legend

- Project Area
- Development Footprint
- Lot
- Road
- Watercourse

Electricity Transmission Line

- 132 kV
- Easement

Land and Soil Capability

- 4 - Moderate capability land

Premise

BRIDGE ENERGY

Ebor BESS

Figure 10
Verified Land and Soil Capability

6.4.3 ASSESSMENT IMPACTS

6.4.3.1 Land Use and Agriculture

The development will result in a localised change in land use within the development footprint from grazing to electricity generating works. Impacts include:

- temporary disturbance during construction;
- permanent occupation of a small area of grazing land; and
- negligible reduction in agricultural productivity at a regional scale.

Agricultural use will continue within the project area, and land is capable of being returned to agricultural use following decommissioning.

6.4.3.2 Flood prone land

The site is not mapped as flood prone land however a surface water assessment has been undertaken (Refer to **Section 6.9** and **Appendix R**). The assessment concluded that the likelihood of impacts of the proposed development on the flood behaviour at the site is negligible to very low. The assessment also noted that the proposed development complies with all relevant flood planning controls outlined in the Armidale LEP and with the issues identified in the *Flood Risk Management Guideline LU01*.

6.4.3.3 Crown Land

The proposed development involves traversing the following Crown land lots:

- Part Lot 7024 DP1117640; and
- Part Lot 7005 DP1117635.

Access through Lots 7024 and 7005 will be required for construction of the site access. Further, both Lots are identified as travelling stock reserves (TSRs) which is associated with Crown Reserve 30780, and is subject to an undetermined Aboriginal Land Claim (40179) under the *Aboriginal Land Rights Act 1983* (ALR Act). This triggers ongoing engagement with the Dorrigo LALC to ensure an agreement is in place.

6.4.3.4 Soil and Erosion Impacts

Construction activities will disturb soils within the development footprint, increasing erosion risk and potential for soil structure degradation.

Operational impacts are minimal, with stabilised surfaces and limited disturbance.

Decommissioning impacts will be comparable to construction and are temporary.

Erosion modelling indicates that risks are manageable with implementation of proposed mitigation measures identified in **Section 6.4.4**.

6.4.3.5 Cumulative Impacts

A review of surrounding development indicates limited nearby major projects, with no significant cumulative land impacts anticipated.

The development will not:

- fragment agricultural land;

- constrain surrounding land uses; or
- result in cumulative degradation of land resources.

6.4.3.6 Land Use Compatibility (LUCRA)

A LUCRA has been prepared in accordance with the DPI Guide and concludes that:

- potential land use conflicts are low; and
- appropriate mitigation measures can effectively manage any residual risks.

The development is compatible with existing and surrounding rural land uses during construction, operation and post-decommissioning.

6.4.4 MITIGATION MEASURES

Ref no.	Potential impact	Commitment	Timing	Responsibility
S1	Erosion and Sedimentation	A Soil and Water Management Plan (SWMP) is to be prepared in accordance with *Managing Urban Stormwater – Soils and Construction Volume 1* (Landcom, 2004). The SWMP will be prepared as part of a Construction and Operation Environmental Management Plan (COEMP) to manage potential risks to soils, surface and ground water. The construction SWMP is to be prepared with reference to relevant development controls within the DCP. Recommended measures for the construction SWMP include but are not limited to: > Measures to minimise and manage the potential for erosion and sediment transport within and from the project area. > Measures to manage accidental spills and waste storage. > Measures to manage stormwater and the potential for contaminated runoff from the development site. > Measures to ensure that excavation activities and any stockpiling are managed to minimise the potential for downstream contamination. > Measures to ensure that areas of exposed soil and the time in which they are exposed are minimised as far as practical.	Prior to construction During construction	Applicant
S2	Soil disturbance and sedimentation associated with vegetation clearing, excavation, stockpiling activities	The construction of the development shall be managed in compliance with measures specified within the construction SWMP to ensure impacts to water quality are appropriately managed.	Prior to construction During construction	Principal Contractor
S3	Wastes, Spill and Emergency Management	**Construction** The construction SWMP shall include procedures to reduce and manage the risk of emergency events and the potential for wastes and spills to contaminate soils. Recommended measures to manage the potential for contaminated discharge include:	During construction	Principal Contractor

Ref no.	Potential impact	Commitment	Timing	Responsibility
		> The storage of all fuel chemicals and liquids in sealed bunded areas on level ground away from stormwater drainage lines and waterways. > Ensuring refuelling and maintenance activities are restricted to designated areas with appropriate bunding and spill capture controls. > Implementing controls as part of the construction SWMP that provide procedures to respond to emergencies and spills. > Ensuring visual inspections of drainage lines and disturbed areas are undertaken during construction to assess any potential soil or surface water issues. > The installation and maintenance of stormwater control measures including drainage networks that segregate stormwater runoff according to its contamination.		
		Operation During operation procedures shall be developed to reduce the potential contamination of soils, surface and ground water, resulting from wastes, spills and/or emergency incidents. Suggested measures to control the potential for contamination during operation include: > The appropriate storage of equipment and hazardous substances during operation. > Ensuring that plant and stormwater control measures are maintained to prevent contamination of soil. > Preparation of appropriate procedures to response to emergency incidents, spills and leaks from the development site, including operational equipment and maintenance activities.	Operation	Applicant
		Decommissioning A decommissioning plan shall be developed which minimises the impacts to soils, surface and ground water, resulting from erosion, wastes, spills and/or emergency incidents. Suggested measures to control the potential for contamination during decommissioning including:	Decommissioning	Applicant

Ref no.	Potential impact	Commitment	Timing	Responsibility
		> A soil sampling plan to be undertaken prior to decommissioning to assess any risk of contamination. > Remediation plan (if required) to ensure that the land can be returned to an agricultural capacity following decommissioning. > Preparation of procedures to minimise risk of contamination and soil erosion during decommissioning.		
S4	Soil mixing / topsoil loss	As part of the COEMP for the Project, soil management measures should include: > Assessment of topsoil depth prior to stripping to minimise mixing of topsoil and subsoil. > Topsoil and subsoil should be stripped and stockpiled separately for rehabilitation works following excavation. > Avoid stripping and stockpiling soil following heavy rain periods > Avoid compaction of topsoil during stripping and stockpiling operations. > If required, amelioration of topsoil and/or subsoil during stripping in accordance with a soil scientist's recommendations. > Prevent erosion of stockpiles using soil stabilising biopolymers, cover crops or other forms of stabilisation. > Test stockpiled soils to determine amelioration requirements prior to reinstatement.	Prior to Construction During Construction During Decommissioning	Applicant
S5	Soil compaction	As part of the COEMP for the project, soil compaction management measures should include: > Development of controlled traffic practices for plant machinery movements. > Avoid excavation and plant machinery movements on wet soils following heavy rain periods. > Prevent long term storage of plant machinery on clay or wet soils.	Prior to Construction During Construction During Decommissioning	Applicant

Ref no.	Potential impact	Commitment	Timing	Responsibility
		> Avoid long term exposure of subsoils which are more susceptible to compaction. > Progressively stabilise and rehabilitate soil as soon as practically possible after excavation. > Ensure soil is replaced in correct subsoil/topsoil orders. > Ensure vegetative cover is re-established after soil rehabilitation.		
S6	Failure to return site to pre-existing condition	A Decommissioning and Rehabilitation Plan (DRP) will be prepared within 3 years of the commencement of operation. The DRP will contain measures to ensure: > The site is decommissioned to a minimum depth of 500mm and all infrastructure including above and below ground is decommissioned and removed. > The land is restored to pre-existing productive agricultural capability and is safe, stable and non-polluting.	Operation	Applicant
A1	Biosecurity risk	A Biosecurity Management Plan (BMP) will be prepared as part of the CEOMP in accordance with DPI's *Biosecurity Risk Management in Land Use Planning and Development Guide.* Biosecurity measures should include: > Implement a "*Come Clean, Go Clean*" policy (DPI NSW, 2024) for vehicles and machinery entering the site. Mud and plant material must be removed from vehicles and machinery prior to entering and leaving the site. > Prevent the spread of plant and soil material on to and off site by checking clothes and boots prior to entering and leaving the site. > Implement a weed management plan which involves regular monitoring, spraying and removal of weeds.	Prior to construction	Applicant

6.4.5 RESIDUAL IMPACTS

Following implementation of mitigation measures, residual impacts to land are expected to be:

- localised to the development footprint;
- temporary during construction and decommissioning; and
- reversible, with the capacity for agricultural use to resume post-decommissioning.

The development will not result in:

- significant loss of agricultural land;
- degradation of soil resources; or
- unacceptable land use conflict.

Accordingly, residual land impacts are considered low and acceptable, and the development is consistent with the SEARs requirements relating to land.

6.5 Contamination

Table 20 – Land SEARs

Relevant SEARs	Where addressed
Land	
> a detailed justification of the suitability of the site and that the site can accommodate the proposed development having regard to its potential environmental impacts, land contamination, permissibility, strategic context and existing site constraints; > an assessment of the potential impacts of the development on existing land uses on the site and adjacent land, including: • agricultural land, flood prone land, nearby drinking water catchments, Crown lands, mining, quarries, mineral or petroleum rights (if relevant); • a soil survey to determine the soil characteristics and consider the potential for salinity, acid sulfate soils, and erosion to occur; • a cumulative impact assessment of nearby developments; and > an assessment of the compatibility of the development with existing land uses, during construction, operation and after decommissioning, including: • consideration of the zoning provisions applying to the land, including subdivision (if required); • completion of a Land Use Conflict Risk Assessment (LUCRA) in accordance with the Department of Industries Land Use Conflict Risk Assessment Guide (if required); • an assessment of impact on agricultural resources and agricultural production on the site and region; and > a preliminary investigation into potential contamination across the site, in accordance with the *State Environmental Planning* Policy *(Resilience and Hazards) 2021* (Hazards SEPP) (as required).	A Land, Soil and Agriculture Report (LSAR), including a preliminary site investigation (PSI), has been prepared with this application. The findings of the LSAR are summarised in **Section 6.4** and **6.5**, and appended in full at **Appendix K**. The LUCRA is summarise in **Section 6.5.3.5** and appended in full at **Appendix J**.

6.5.1 INTRODUCTION

A Preliminary Site Investigation (PSI) has been prepared by Premise which forms part of the Land, Soil and Agriculture Report (LSAR) (**Appendix K**) to assess the potential for land contamination within the project area and the suitability of the site for the proposed development.

6.5.2 EXISTING ENVIRONMENT

6.5.2.1 Permissibility

The project area is zoned RU1 Primary Production under the LEP. While the LEP prohibits *electricity generating works*, Section 2.36(1)(b) of the of the Infrastructure SEPP as *electricity generating works* are permitted with consent within prescribed rural zones. Pursuant to Section 2.35 of the Infrastructure SEPP, the RU1 Primary Production zone is identified as a prescribed rural zone. Accordingly, the proposed development is permissible with consent.

To the extent of any inconsistency, the provisions of the Infrastructure SEPP prevail over the LEP.

6.5.2.2 Site History

The project area has historically been used for agricultural purposes, primarily grazing. Agricultural land use represents the primary potential source of contamination, typically associated with the use of herbicides, pesticides, fertilisers and fuel storage.

During the site inspection, no evidence of industrial or high-risk contaminating activities was identified within the project area during the PSI.

6.5.2.3 Conceptual site model

A Conceptual Site Model (CSM) was developed to assess the relationship between potential contamination sources, pathways and receptors, identifying that:

- primary source of potential contamination is agricultural land use;
- potential contaminants of potential concern include herbicides, pesticides and heavy metals;
- receiving environment includes on-site soils; and
- potential receptors of contaminates are site personnel, future users, ecological receptors and off-site receptors.

The CSM indicates that all identified source–pathway–receptor linkages are incomplete, resulting in a low risk to human health and ecological receptors.

6.5.2.4 Site conditions

Site investigations and laboratory analysis indicate that:

- concentrations of contaminants are below adopted human health and ecological investigation criteria;
- no contaminants of concern were identified at levels that would pose a risk under a commercial or industrial land use scenario; and
- no evidence of contamination-related stress to vegetation or ecological receptors was observed.

Accordingly, the site is not considered to be contaminated and is suitable for the proposed development in its current state.

6.5.3 ASSESSMENT IMPACTS

6.5.3.1 Agricultural Land

The development footprint occupies a limited portion of land currently used for rotational grazing. The PSI confirms that contamination risks associated with historical agricultural use are low and do not constrain continued agricultural use of surrounding land.

The proposed development does not introduce contamination pathways that would affect soil quality, agricultural productivity or livestock health within the project area or surrounding land. Agricultural activities will continue within the broader project area, and the development footprint represents a minor proportion of the overall landholding.

Accordingly, no adverse contamination impacts to agricultural productivity or soil function are anticipated.

6.5.3.2 Mining, quarries, mineral and petroleum rights

The development site and locality are not located within or near a mine subsidence district (NSW ePlanning Spatial Viewer, 2026). A review of Minview identifies that no exploration or mining titles or applications currently apply to the site or the immediate locality.

6.5.3.3 Contamination

6.5.3.3.1 Existing Contamination

The PSI confirms that the project area is not contaminated to a level that would pose a risk to human health or the environment. No complete source–pathway–receptor linkages have been identified, and contaminant concentrations are below relevant assessment criteria.

6.5.3.3.2 Construction Impacts

Potential contamination risks during construction are limited to:

- accidental spills or leaks of fuels, oils or chemicals; and
- disturbance of soils during earthworks.

These risks are typical of construction activities and are localised and temporary in nature. Given the absence of existing contamination and incomplete exposure pathways, risks to receptors are considered low.

6.5.3.3.2.1 Vegetation Clearing

Vegetation removal during construction will expose underlying soils to weathering processes, increasing the potential for:

- erosion and sediment transport;
- reduced soil stability; and
- localised degradation of soil structure.

Given the scale of clearing required within the development footprint, the likelihood of erosion is moderate; however, impacts are expected to be localised and manageable with appropriate controls.

6.5.3.3.2.2 Earthworks, Excavation and Trenching

Earthworks and excavation activities, including trenching for infrastructure, will disturb soil profiles and increase susceptibility to erosion. Specific risks include:

- exposure of subsoils that may be saline, sodic or dispersive, which can reduce soil stability and fertility;
- increased erosion potential due to disturbance and loss of protective groundcover; and
- the potential disturbance of any previously unidentified contaminants within the soil profile.

While the likelihood of encountering contamination is low, the consequence may be higher if present and unmanaged. Overall, earthworks-related impacts are considered moderate and typical of construction activities.

6.5.3.3.2.3 Soil and Stockpiling

The stripping, stockpiling and reuse of soils during construction present a risk of:

- mixing topsoil and subsoils;
- degradation of soil quality and structure; and
- increased erosion hazard, particularly where sodic subsoils are present.

If not appropriately managed, these impacts may result in longer-term reductions in soil capability. The likelihood of such impacts is moderate but can be effectively mitigated through appropriate soil management practices.

6.5.3.3.2.4 Soil Compaction

The use of heavy machinery during construction has the potential to cause soil compaction, particularly in frequently trafficked areas. Compaction may:

- reduce infiltration capacity;
- increase runoff and erosion risk; and
- adversely affect long-term soil function and land capability.

Given the intensity of construction activities, the likelihood of compaction is moderate; however, impacts are generally confined to the development footprint.

6.5.3.3.2.5 Biosecurity

Construction activities involving earthworks and movement of vehicles, machinery and personnel may introduce or spread weeds, pests and diseases. Biosecurity risks may arise from:

- soil and organic material attached to equipment, vehicles and footwear; and
- disturbance of existing vegetation and soil.

If unmitigated, these risks may result in longer-term impacts to agricultural productivity and surrounding land uses. The likelihood of introduction or spread is moderate, with a potentially high consequence if not managed appropriately.

6.5.3.3.2.6 Waste Generation and Spills

Construction activities will generate waste and involve the handling of fuels, oils and other substances. Potential impacts include:

- pollution of soils and groundwater from inappropriate storage or disposal of waste, including putrescible materials; and
- localised contamination from accidental spills or leaks of fuels, oils, chemicals or contaminated stormwater.

While the likelihood of contamination events is low, the potential consequence may be moderate to high if uncontrolled. These risks are typical of construction activities and are readily managed through standard environmental controls.

Construction impacts to land and soil are expected to be temporary, localised and manageable, with the highest risk associated with soil disturbance, erosion, biosecurity and potential contamination events. With the implementation of standard construction environmental management measures, impacts to soil function, land capability and surrounding use of agricultural land are not expected to be significant.

6.5.3.3.3 Operational Impacts

Operational impacts to land and soil are expected to be limited and localised, reflecting the largely passive and low-intensity nature of the proposed development. Potential impacts during operation are primarily associated with site access, general maintenance activities and the presence of hardstand infrastructure. Soil compaction may occur as a result of ongoing vehicle movements, maintenance activities and the operation of machinery within the development footprint. If unmanaged, compaction has the potential to:

- reduce soil permeability;
- increase surface runoff; and
- contribute to longer-term degradation of soil structure and land capability.

Given the infrequent nature of operational traffic, the likelihood of widespread compaction is low; however, localised impacts may occur in areas subject to repeated vehicle access.

6.5.3.3.3.1 Biosecurity

Vehicle, equipment and personnel movements during operation have the potential to introduce or spread weeds, pests and plant diseases within the project area and surrounding agricultural land. Biosecurity risks may arise from:

- organic material or soil attached to machinery, vehicles and footwear; and
- the transfer of propagules between sites.

If unmitigated, the spread of invasive species has the potential to result in long-term impacts to agricultural productivity and surrounding land uses. Accordingly, this represents a moderate likelihood impact with a potentially higher consequence if not appropriately mitigated.

6.5.3.3.3.2 Erosion and Sedimentation

Localised erosion and sedimentation may occur during operation, particularly:

- around the BESS hardstand areas where groundcover is not established;
- along access tracks; and
- where construction-phase controls are not effectively maintained.

Reduced soil permeability adjacent to hardstand areas may increase runoff during rainfall events, potentially contributing to localised erosion if vegetation is not established or maintained. While the likelihood of significant erosion is low, the potential for ongoing minor soil loss exists where controls are not maintained.

6.5.3.3.3.3 Salinity

Changes in land use may influence soil water dynamics, particularly where vegetation cover is removed, reduced or not actively managed. Increased infiltration to underlying saline subsoils may, in some

circumstances, contribute to localised salinity impacts. However, given the scale of disturbance and continuation of surrounding agricultural activities, the likelihood of such impacts is low.

6.5.3.3.3.4 Spills

There is a low likelihood of contamination during operation associated with:

- storage and handling of fuels, oils and chemicals;
- maintenance activities; and
- accidental spills or leaks from plant or equipment.

While the likelihood of such events is low, the consequence may be moderate to high if uncontrolled. These risks are typical of infrastructure developments and are readily managed through standard environmental management measures.

Overall, operational impacts to land and soil are expected to be low, localised and manageable, with the majority of risks associated with the routine maintenance activities and site access. No significant or widespread impacts to land capability, its soil function or surrounding agricultural land uses are anticipated.

6.5.3.3.4 Decommissioning Impacts

Decommissioning activities may involve similar risks to construction; however, these are temporary and manageable. The removal of infrastructure, to a depth of 500mm in consultation with the landowners, will not result in long-term contamination risks, and the site can be returned to a condition suitable for agricultural use.

6.5.3.4 Cumulative Impacts

The PSI and LUCRA indicate that the project area and surrounding locality are characterised by low-intensity rural land uses with no significant contamination sources.

The proposed development does not introduce new contamination pathways or risks that would contribute cumulatively with other developments. Given the absence of existing contamination and the low-risk nature of the proposed use, cumulative contamination impacts are not anticipated.

6.5.3.5 LUCRA conclusions

A Land Use Conflict Risk Assessment (LUCRA) (**Appendix J**) has been undertaken in accordance the *Department of Industry's Land Use Conflict Risk Assessment Guide* (DPI, 2021).

The LUCRA identified a number of potential land use conflicts associated with the construction and operation of the development. The initial risk assessment, which considers potential conflicts in the absence of mitigation, identified 11 risks with a risk ranking greater than 10, classified as high risk.

Following the implementation of the recommended risk reduction and management strategies, all identified high-risks have been reduced to a risk ranking of 9 or less, consistent with the LUCRA objective of achieving a risk ranking of 10 or below.

With the implementation of mitigation measures has reduced the overall average risk ranking from 12.12 (high risk) to 6.85 (low risk), demonstrating that potential land use conflicts have been effectively mitigated.

On this basis, the proposed development is considered compatible with existing and surrounding land uses, with residual land use conflict risks assessed as low and acceptable.

6.5.4 MITIGATION MEASURES

The following mitigation measures are recommended with respect to contamination:

- Any land disturbance incorporating material containing demolition waste should include assessment for the presence of contaminants (including asbestos) and managed accordingly.
- Avoiding skin contact with soil that is discoloured, malodourous, containing foreign matter and/or generally inconsistent with virgin soil.
- No entry permitted into confined spaces and excavations; and
- Controls are to be in place to contain soil and soil impacts (e.g. dust, sediment, etc) to within the area of the site.

6.6 Visual

Table 21 – Visual SEARs

Relevant SEARs	Where addressed
Visual	
> a detailed assessment of the likely visual impacts of all components of the project on surrounding residences (including approved developments, lodged development applications and dwelling entitlements), and key locations, scenic of significant vistas and road corridors in the public domain; and > details of measures to mitigate and/or manage potential impacts (including a draft landscaping plan for on-site perimeter planting, with evidence it has been developed in consultation with affected landowners).	A Visual Impact Assessment (VIA) has been prepared with this application. The findings of the VIA are summarised in **Section 6.6**, and appended in full at **Appendix L**.

6.6.1 INTRODUCTION

A Visual Impact Assessment (VIA) has been prepared by Premise and is provided in **Appendix L**.

The assessment has been undertaken with reference to the *NSW DPHI Large-Scale Solar Energy Guideline Technical Supplement for Landscape Character and Visual Impact Assessment (2024)*, proportionately adapted to reflect the smaller scale and nature of the proposed BESS.

6.6.2 EXISTING ENVIRONMENT

The visual catchment is defined by the extent of land from which the development footprint may be visible, based on GIS-derived viewshed modelling and on-site verification through site inspections. The assessment identifies that potential visibility to the project is generally limited to surrounding cleared agricultural land within approximately 2 km of the development footprint, with views constrained by existing landforms and vegetation.

The VIA identifies one public viewpoint (Waterfall Way) and one private receiver with potential visibility of the project. All other surrounding dwellings are not expected to experience visual impacts due to screening by existing landforms and vegetation. The identified viewpoints are characterised by low scenic quality and low to very low visual sensitivity, particularly for road users within a highly modified rural landscape.

The surrounding area is characterised by two landscape character zones (LCZs):

- Agricultural Landscape (LCZ1): Dominant across the area, comprising cleared grazing land with associated rural dwellings, farm infrastructure and existing electricity transmission infrastructure. This landscape is highly modified and exhibits low scenic quality.
- Woodland Vegetation (LCZ2 and LCZ3): Located in the eastern portion of the study area, comprising remnant woodland vegetation with moderate scenic quality and lower levels of disturbance.

Overall, the landscape is dominated by undulating terrain, with dispersed rural development with existing Transgrid electrical infrastructure to the east of the project area. The VIA concludes that the impact to the combined landscape character zones would be low. This is a result of low/moderate landscape character sensitivity and magnitude of change found in all landscape character zones.

6.6.3 ASSESSMENT IMPACTS

6.6.3.1 Landscape Character Impacts

The VIA concludes that the proposed development will result in a low landscape character impact across both LCZ1 and LCZ2. This outcome reflects the low scenic quality and modified nature of the agricultural landscape, the limited extent of change introduced by the development, and the fact that the infrastructure will represent a minor element within the broader landscape. The development does not result in the loss of key landscape elements nor does it alter the defining characteristics of the landscape. Accordingly, landscape character impacts are considered low and acceptable.

6.6.3.2 Impacts on Public Viewpoints (Waterfall Way)

The VIA assessed the potential visual impact from Waterfall Way (Viewpoint 1), being the primary public viewpoint. The assessment determined that the development would be located approximately 1.1 km from the viewpoint and would result in a moderate magnitude due to partial visibility of infrastructure. However, the visual sensitivity of this viewpoint is considered very low, reflecting its function as a State road corridor and the presence of existing infrastructure.

Accordingly, the overall visual impact to public viewpoints is assessed as low. The development would not be visually dominant within the viewpoint within the context of an already modified rural landscape.

6.6.3.3 Impacts on Private Receivers (Residential Receivers)

The VIA identified one private receiver (Receiver 2), located approximately 630 m west of the project, as having potential visibility. The assessment determines that the project would result in a low magnitude of change, due to the partial and distant nature of available views. The visual sensitivity of this receiver is considered moderate, reflecting its residential use; however, the limited extent of visibility and the intervening landscape reduces the overall visual impact of the project.

Accordingly, the overall visual impact to this receiver is assessed as very low. The project would not be visually dominant and would result in only a slight change to the existing view, remaining consistent with the character of the rural landscape.

All other surrounding private receivers within the 2 km catchment are not expected to experience visual impacts due to the existing landform surrounding the project and screening from existing vegetation.

6.6.3.4 Cumulative

The VIA confirms that there are no existing or approved developments within proximity to the project that would result in cumulative visual impacts.

6.6.4 MITIGATION MEASURES

Given the limited extent, low magnitude and localised nature of visual impacts, the VIA concludes that specific mitigation measures are not required to achieve acceptable visual outcomes. Accordingly, the project is considered to achieve acceptable visual outcomes in its current form, with residual visual impacts assessed as low and acceptable.

6.7 Noise and vibration

Table 22 – Noise SEARs

Relevant SEARs	Where addressed
Noise	
> an assessment of the construction noise impacts (including impacts from proposed road upgrades) of the development in accordance with the *Interim Construction Noise Guideline* (ICNG), operational noise impacts in accordance with the *NSW Noise Policy for Industry* (2017), assess traffic noise having regard to the *NSW Road Noise Policy* (DECCW, 2011) and cumulative noise impacts (considering other developments in the area), including (where appropriate): • identification of impacts associated with construction, site emission and traffic generation at noise affected sensitive receivers, including the provision of operational noise contours; • details of noise monitoring survey, background noise levels and amenity noise levels at the most-affected residential receivers; • details of likely daily charging/discharging load profile, manufacturer specifications for plant and equipment and noise source inventory (including intensity, quantity, location, directivity and frequency information); • an assessment of 'worst case' noise emission scenarios during periods of discharging and charging; • consideration of annoying characteristics of noise and prevailing meteorological conditions in the study area; and • details and analysis of the effectiveness of proposed management and mitigation measures to adequately manage identified impacts, including a clear identification of residual noise and vibration impacts following application of these mitigation measures and details of any proposed compliance monitoring programs.	A Noise and Vibration Impact Assessment (NVIA) has been prepared with this application. The findings of the NVIA are summarised in **Section 6.7**, and appended in full at **Appendix M**.

6.7.1 INTRODUCTION

A Noise and Vibration Impact Assessment (NVIA) has been prepared by Assured Environmental and is provided in **Appendix M**.

The NVIA assesses potential noise and vibration impacts associated with the construction, operation and traffic generation of the proposed development. The assessment has been undertaken in accordance with relevant NSW guidelines, including:

> *Interim Construction Noise Guideline* (ICNG) (EPA, 2009);
> *Road Noise Policy* (DECCW, 2011);
> *Assessing Vibration: A Technical Guideline* (DEC, 2006); and

- *Noise Policy for Industry* (NPfI) (EPA, 2017).

The assessment includes:

- measurement of background noise levels at representative sensitive receivers;
- establishment of construction and operational noise criteria;
- modelling of noise emissions from plant, equipment and site activities;
- assessment of worst-case operational scenarios, including charging and discharging cycles; and
- evaluation of cumulative noise impacts with other developments in the locality.

6.7.2 EXISTING ENVIRONMENT

The project is located within a predominantly rural environment characterised by low ambient noise levels typical of agricultural areas, approximately 1400 m AHD at the highest point (approximately 1.7 km south-east of the development site), generally descending to the west.

Sensitive receivers within the locality primarily comprise rural dwellings located at varying distances from the site. Existing noise sources in the area include:

- local road traffic movements along surrounding rural roads;
- agricultural activities; and
- natural environmental noise sources such as wind and fauna.

Background noise monitoring was not undertaken as part of the NVIA given the existing rural locality. Instead, representative background noise levels were adopted for the assessment based on typical values for rural environments. The existing acoustic environment is characterised by low ambient noise levels typical of a rural setting, with prevailing noise sources including local road traffic, agricultural activities and natural environmental sounds.

Within the vicinity of the project, eight sensitive receivers have been identified as:

Table 23 - Noise sensitive receivers

Sensitive receiver	Type	Type	Proximity to the project
R1	Residential	Associated	~556 m
R2	Residential	Not associated	~168 m
R3	Residential	Not associated	~562 m
R4	Residential	Not associated	~1,321 m
R5	Residential	Not associated	~1,463 m
R6	Residential	Not associated	~1,691 m
R7	Residential	Not associated	~1,653 m
R8	Residential	Not associated	~1,840 m

Premise

BRIDGE ENERGY

Ebor BESS

Figure 11
Sensitive Receivers

Legend

- Project Area
- Development Footprint
- Lot
- Major Road
- Existing Easement

Existing Electricity Transmission Line

- 132 kV
- 330 kV

Receivers

- Associated
- Non Associated

0 0.5 1 km

Sources: © State of NSW, Department of Customer Service, Spatial Services 2025
ESRI 2025

File: P003134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 23/03/2026

6.7.3 ASSESSMENT IMPACTS

6.7.3.1 Construction

Construction noise impacts have been assessed in accordance with the *Interim Construction Noise Guideline* (ICNG). Construction activities are proposed to occur within the recommended standard construction hours; therefore, being:

- 7 am to 6 pm Monday to Friday;
- 8 am to 1 pm Saturday; and
- at no times on Sundays or public holidays.

The ICNG criteria for works outside standard hours are not applicable to this assessment.

In accordance with the ICNG, construction noise levels have been assessed at the most noise-exposed point on the property boundary of each sensitive receiver at a height of 1.5 m above ground level. Where the property boundary is located more than 30 m from the dwelling, assessment has been undertaken at the most affected point within 30 m of the sensitive receiver.

Construction noise criteria have been derived based on a conservative daytime Rating Background Level (RBL) of 35 dB(A), consistent with the NPfI. This results in

- Noise Affected management level of 45 dB(A) (RBL + 10 dB); and
- Highly Noise Affected level of 75 dB(A).

The predicted noise levels from construction activities, including plant, equipment, vehicle movements and site establishment works, indicate that the Noise Affected management level is likely to be exceeded at all sensitive receivers during the construction phase. However, noise levels are generally predicted to comply with the Highly Noise Affected criterion, with exceedances only predicted at one sensitive receiver (R2). It is anticipated the exceedance is due to the receivers proximity to the projects site access at Waterfall Way and will relate to the construction of the new vehicular access point, which is anticipated to be localised and limited to a short construction duration.

Construction noise impacts would be temporary and intermittent. Exceedances are attributed to the worst-case modelling assumptions adopted in the assessment, including the concurrent operation of plant and equipment at the closest point to sensitive receivers. In practice, construction activities would be staged and mobile in nature, reducing the likelihood and duration of peak noise levels at any one receiver.

With the implementation of feasible and reasonable mitigation measures, including standard construction management practices and community consultation in accordance with the ICNG, construction noise impacts are considered to be manageable.

6.7.3.2 Road Noise

Traffic noise impacts associated with the development have been assessed with reference to the *NSW Road Noise Policy* (2011). Traffic generation associated with the development would primarily occur during the construction phase, with a limited number of operational vehicle movements thereafter.

The NVIA concludes that:

- construction traffic would result in a temporary increase in traffic volumes on surrounding roads;
- operational traffic would be minimal due to the largely unmanned nature of the facility; and

- increases in traffic noise levels at sensitive receivers would be negligible and within applicable criteria.

Based on the predicted traffic volumes during peak construction, the increase in road traffic noise levels at surrounding sensitive receivers is expected to be negligible when assessed cumulatively with existing traffic on the road network and is compliant with the applicable criteria under the *Road Noise Policy*.

Accordingly, traffic-related noise impacts are considered negligible to low and would not result in a significant change to the existing acoustic environment.

6.7.3.3 Operation

The NVIA assesses operational noise in accordance with the *NSW Noise Policy for Industry* (2017), including:

- project-specific noise criteria based in relation to background noise levels;
- modelling of noise emissions from all plant and equipment;
- assessment of worst-case scenarios during charging and discharging cycles; and
- consideration of meteorological conditions and potential noise characteristics.

Operational noise sources include:

- battery energy storage system (BESS) units;
- inverters and transformers; and
- associated electrical infrastructure.

The assessment demonstrates that:

- predicted operational noise levels comply with applicable noise criteria at all identified sensitive receivers;
- no exceedances of the Noise Policy for Industry criteria are predicted under worst-case operating conditions; and
- no adverse cumulative noise impacts are anticipated when considered in combination with other developments in the locality.

Vibration impacts associated with the operational phase of the project are expected to be minimal due to the negligible vibration generated from the on-site equipment, therefore were not assessed.

Operational noise is therefore expected to be low and consistent with the existing rural acoustic environment.

6.7.4 MITIGATION MEASURES

Mitigation measures identified in the NVIA to manage construction and operational noise impacts include:

- Implement community consultation or notification measures;
- Ensure workers and contractors are aware of noise management requirements in approvals consents or licenses, site inductions and "toolbox talks" providing a summary of relevant project requirements for reference;
- Inform truck drivers of designated vehicle routes, parking locations and acceptable delivery hours or other relevant practices, such as minimising use of engine brakes and avoiding engine idling;
- Using broad band reversing alarms on all mobile plant and equipment where possible;
- Examine different types of machines that perform the same function and compare the noise level data to select the least noisy machine;
- Operating plant in a quiet and efficient manner;

- Reduce throttle setting and turn off equipment when not being used;
- Regularly inspect and maintain equipment to ensure it is in good working order including checking the condition of mufflers;
- Avoid unnecessary dropping of materials from a height and metal to metal contact on equipment; and
- It is recommended that during any work generating high noise levels that have impulsive, intermittent, low frequency or tonal characteristics, consultation with sensitive receivers occurs regularly.

With implementation of the mitigation measures outlined in **Appendix F**, residual noise and vibration impacts are expected to be temporary and manageable during construction, with appropriate controls and community consultation. Compliant with relevant criteria during operation, with no significant or unacceptable impacts at sensitive receivers. Accordingly, residual noise impacts are considered low and acceptable.

6.8 Traffic, access and transport

Table 24 – Transport SEARs

Relevant SEARs	Where addressed
Transport	
> an assessment of the peak and average traffic generation, including light vehicles (including shuttle buses), heavy vehicles, heavy vehicles requiring escort, high risk heavy vehicles requiring escort (noting Table 1 in TfNSW Fact Sheet - *Transport Management Plans for Over Size and/or Overmass Movements in NSW)* and construction worker transportation; > an assessment of the likely transport impacts to the site access route(s) from the above listed vehicles including the site access point(s) and any Crown land, particularly in relation to the capacity and condition of the roads, road safety and intersection performance; > a concept Level Route Analysis required for heavy vehicles requiring escort and high risk heavy vehicles requiring escort; a cumulative impact assessment of traffic from nearby developments (including mining operations); and > provide details of measures to mitigate and / or manage potential impacts (developed in consultation with the relevant road authorities) including: • a schedule of all required road upgrades (including resulting from heavy vehicle and over mass / over dimensional traffic haulage routes), • strategic concept designs of proposed road upgrades (including the site access point); and • road maintenance contributions, and any other traffic control measures.	A Noise and Vibration Impact Assessment (NVIA) has been prepared with this application. The findings of the NVIA are summarised in **Section 6.8**, and appended in full at **Appendix N** and **Appendix O.**

6.8.1 INTRODUCTION

6.8.1.1 Traffic

A Transport Impact Assessment (TIA) has been prepared by Premise and is provided in **Appendix N**, and route assessments for high risk over-size and overmass movements have been completed by Ares Group (from Port of Brisbane) (**Appendix O**) and Amber Organisation (from Glen Waverly, Victoria) (**Appendix P**).

The assessment responds to the SEARs and details the extent of predicted road impacts as a result of project traffic, including consideration of cumulative impacts from other projects in the region.

A summary of the TIA is provided in the following sections, including recommended mitigation measures

6.8.2 EXISTING ENVIRONMENT

The project area is located approximately 3 kms northeast of Ebor and 70 km east of Armidale, in the New England region of NSW. The project area is not located within the New England REZ but is located to the east of the REZ. As a consequence of this proximity, there are a number of existing, proposed and approved (but not yet constructed) renewable energy projects, including batteries, solar farms, wind farms and pumped hydro projects, within the regional locality. Many of these projects will use similar routes to bring equipment to the project area.

The project area has a frontage to Waterfall Way and a new project access will be required from Waterfall Way to gain access to the development footprint. An approval is required under Section 138 of the *Roads Act 1993*.

East of Armidale, Waterfall Way is also known as Grafton Road, and through Armidale, MR 76 is known as Barney Street, Dangar Street, Kentucky Street and Uralla Road. In the vicinity of the development, Waterfall Way is a two-lane, two-way rural road with a posted speed limit of 100 km/h.

Premise completed the TIA by reference to road volume data provided by ARC. The results indicate low daily traffic volumes of around 1323 vehicles per day (vpd) on Waterfall Way in the vicinity of the project, with heavy vehicle traffic making up approximately 15.8% of total traffic.

A review of crash data for the locality indicates a generally safe operating environment, consistent with low-volume rural roads. However, one incident was recorded on the local road network.

The data confirms there was one (1) crash resulting in moderate injury recorded on Waterfall Way in 2024 located approximately 1.5km from the proposed access way. The driver left the carriageway and crashed (RUM 72). While this appears to be an isolated event rather than indicative of a systemic safety problem, the severity of the incident underscores the importance of maintaining and enhancing safety standards in the area.

Waterfall Way is an approved route for General Mass Limit (GML), Concessional Mass Limit (CML) and Higher Mass Limit (HML) 25/26m B-doubles. Waterfall Way east of Armidale and west of Dorrigo is on the class 1 OSOM exempt route.

6.8.3 ASSESSMENT IMPACTS

The development has four (4) distinct stages:

- Pre-construction stage – over a period of 4 months, commencing in mid-2027, and including, but not limited to early works and road upgrades (site access).
- Construction stage – over a period of 14 months commencing in mid to late 2027 with peak construction activity occurring over a period of approximately 9 months.
- Operational stage – operation of the BESS would commence in early 2028 and will continue over the course of 25 years with the possibility of future upgrades extending the operational life.
- Decommissioning stage – at the cessation of the operational stage of the BESS, all infrastructure will be removed, and the site will be rehabilitated back to its original state.

6.8.3.1 Traffic generation

During the four stages of the project, traffic generation is most significant during the construction (stage 2) and decommissioning (stage 4) stages, with decommissioning expected to be to a similar scale or less than stage 2. The impact assessment of stage 2 can be reasonably assumed to provide a realistic assessment of likely impacts in stage 4.

The construction of the project (stages 1 and 2) would occur over an approximately 18 month period (4 months stage 1, 14 months stage 2) and during this period the project is expected to attract peak hourly and daily movements as follows:

- Stage 1: Pre-construction stage:
  - 30 light vehicle trips (15 movements) per day, with approximately 15 light vehicle trips in the AM and PM peak hours;
  - 40 heavy vehicles (20 movements) per day, with approximately 10 heavy vehicle trips in the AM and PM peak hours; and
  - No OSOM trips/movements in this stage.
- Stage 2: Construction works stage
  - 80 light vehicle trips (40 movements) per day, with approximately 40 light vehicle trips in the AM and PM peak hours;
  - Two (2) construction worker bus trips (1 movement) per day;
  - 100 heavy vehicles (50 movements) per day, with approximately 13 heavy vehicle trips in the AM and PM peak hours; and
  - One (1) high risk over-dimensional heavy vehicle movement (2 trips) during this stage.

Heavy vehicles during stages 1 and 2 would consist of the following:

- High risk over-dimensional transporting the project transformer – 1 only;
- 12.5m to 20m heavy rigid/six axle and b-doubles – 45 movements per day; and
- Low loaders – up to 5 movements per day.

During stages 1 and 2 the peak generation is expected to be 182 heavy and light vehicle trips (91 movements) per day, with 54 trips in the AM and PM peak hours (27 movements).

6.8.3.2 Traffic distribution

The TIA assumes that the transformer will be transported from either the Port of Brisbane or from Victoria, and route assessments for these two routes have been provided as **Appendix O** and **Appendix P**. It is noted that not both routes would be used and the chosen route will depend on whether the transformer is procured from an international supplier or a supplier based in Victoria.

Both of these routes would involve heavy vehicles arriving to Armidale via the New England Highway and then following a route along the Uralla Road, Kentucky Street, Dangar Street, Barney Street and then follow Waterfall Way to the site access.

Construction personnel would be sourced from the New England region as the first preference, with any out of area workers to be housed at local accommodation in Armidale, with an agreement in principle reached to house workers at the University of New England (UNE) student accommodation.

6.8.3.3 Traffic assessment

The TIA has assessed the impact of anticipated project traffic movements to and from the project area, considering peak hour flows, nearby intersections and likely distribution patterns. Estimated traffic distribution percentages are outlined in the table below for reference.

Table 20 outlines the anticipated traffic distribution based on the above description.

Table 25 - Trip distribution routes

Route	Percentage
To the southwest towards Armidale along Waterfall Way	95% [173 VPD; AM 51 VPH; PM 51 VPH]
To the northeast along Waterfall Way	5% [9 VPD; AM 3 VPH; PM 3 VPH]

Figure 12 - Daily traffic distribution

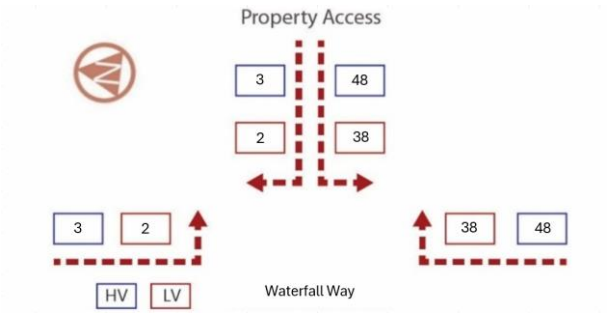


Figure 13 - AM peak traffic distribution

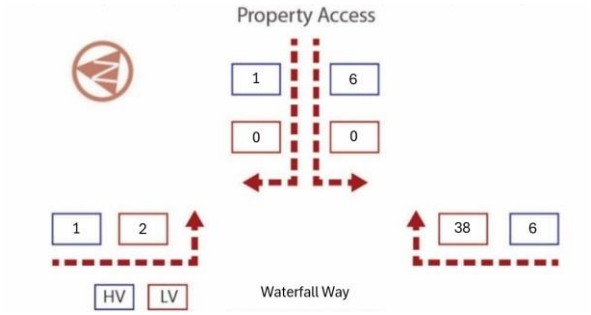
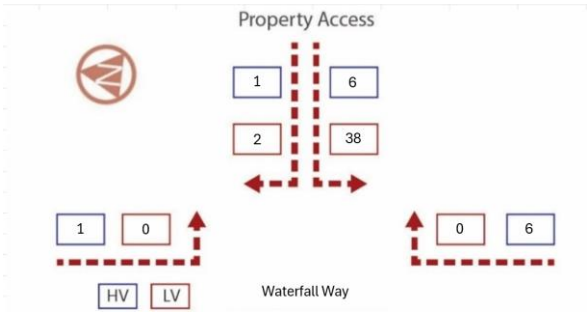


Figure 14 - PM peak traffic distribution



The TIA also considers the cumulative impact of the construction and operation of nearby projects and concludes that these projects are likely to have a nil to minimal impact on traffic when considered cumulatively with the Ebor BESS project.

6.8.3.4 Sight distances

An assessment of safe stopping distances, safe intersection sight distances and approach sight distance has been completed in the TIA.

Local sight distance requirements have been determined and are outlined in **Table 26.**

Table 26 - Local sight distance requirements

Road Name	Speed Limit (Design Speed)	Reaction Time (s)	Coefficient of Deceleration	SISD (m)	SSD/ASD (m)
Waterfall Way North Approach	100km/h (110km/h)	2.5	0.36	294.08	202.41
			0.29	322.72	231.06
Waterfall Way South Approach	100km/h (110km/h)	2.5	0.36	313.29	221.63
			0.29	352.70	261.03

The available aerial imagery confirms that the existing geometry of Waterfall Way provides adequate Safe Intersection Sight Distance (SISD). Furthermore, preliminary design of the proposed access point and associated terrain analysis confirm that appropriate SISD is achievable. These are summarised in **Table 27**.

Table 27 - Local sight distance

Road Name	SISD (m)	SSD/ASD (m)
Waterfall Way North Approach	>400m	>300m
Waterfall Way South Approach	>400m	>300m

6.8.3.5 Site access

Through analysis of warrants for predicted traffic numbers and vehicle types, it has been determined that the site access would need to be constructed to a basic access right (BAR)/basic access left (BAL) configuration. A strategic design for this has been prepared and is provided in Appendix B of the TIA (**Appendix N**). A copy of this strategic design was provided to TfNSW in the pre-EIS consultation phase, however at the time of writing, a response has not been received.

Swept path analysis confirms that the proposed access treatment can accommodate the design high risk OSOM vehicle.

6.8.3.6 Route assessments

As outlined, two route assessments have been prepared to provide flexibility to enable either international or Australian procurement of the project transformer.

It is noted that, with a large amount of similar scale projects occurring in the New England REZ, it is likely that some of the identified pinch points discussed in these assessments may be upgraded or adjusted as a consequence of other projects prior to the commencement of construction of the Ebor BESS project in which case pinch point upgrade recommendations would no longer apply. This would be addressed in the project traffic management plan. Of significant relevance are the proposed upgrades to be completed by TfNSW on the Port to REZ route, as confirmed by their correspondence of 18 December 2024 (Appendix B of the TIA: **Appendix N**).

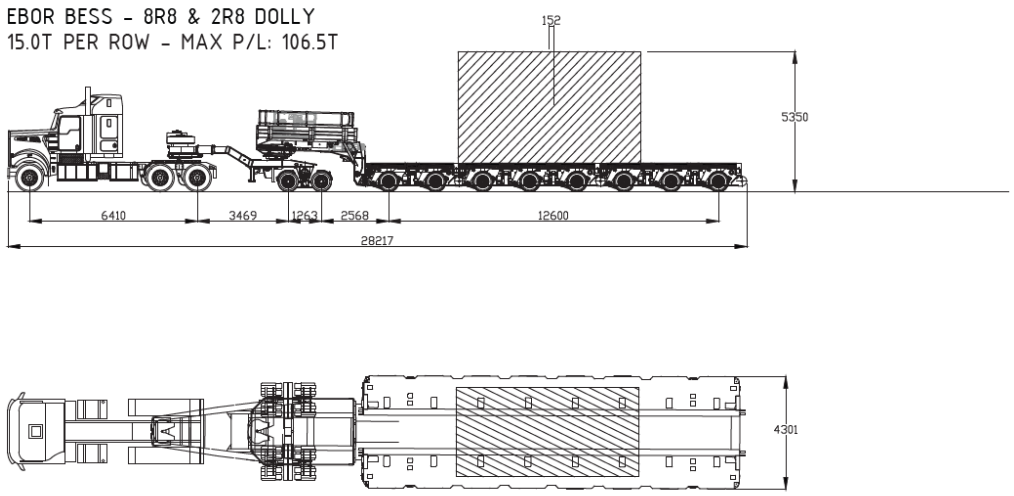
Ares Group have completed an assessment from the Port of Brisbane (to account for internal procurement and shipping), provided in **Appendix O** while Amber Organisation have prepared a route assessment from Glen Waverly, Victoria, provided in **Appendix P**.

The design vehicle for both assessments is:

- Vehicle: 8-axle platform trailer with a 2-axle dolly;

- Overall Combination Length: 28.2 metres;
- Overall Width: 4.53 metres;
- Overall Height: Up to 5.35 metres; and
- Escort Requirement: 1 x oversize pilot vehicle.

Figure 15 - Escorted OSOM vehicle transporting transformer (source: OSOM route assessments)



The Ares assessment identifies eleven potential pinch points from the Port of Brisbane of which two require specific interventions, being:

- Port of Brisbane (Pinch Point 1): removal of 3 temporary bollards at the northern end of the roundabout.
- Cunningham Highway, Cunningham's Gap (Pinch Point 3 and 4): A block truck will be needed to assist the vehicle through this section and travel speeds reduced to 40km/h.

The Amber assessment identifies 49 potential pinch points from Victoria, of which 7 require specific interventions, being:

- Wybong Road/Kayuga Road (Muswellbrook, NSW) - Temporary hardstand to be provided on the west side of the Wybong Street / Kayuga Road intersection if not upgraded prior to construction by Port to REZ Project.
- Kayuga Road/Stair Street (Kayuga, NSW) - Temporary hardstand to be provided on the north side of the Kayuga Road / Stair Street intersection if not upgraded prior to construction by Port to REZ Project.
- O'Brians Lane/Nundle Road (Nemingha, NSW) - Temporary removal of two refuge islands and two road signs if not upgraded prior to construction by Port to REZ Project or by another project.
- Kentucky Street Pedestrian Crossing (Armidale, NSW) - Two refugee islands and two road signs to be removed if not upgraded prior to construction by another project.
- Kentucky Street/O'Connor Road (Armidale, NSW) - Two refugee islands and one road sign to be removed if not upgraded prior to construction by another project.
- Danger Street/Barney Street (Armidale, NSW) - Two refugee islands and two road signs to be removed if not upgraded prior to construction by another project.
- Barney St/Canambe St/Waterfall Way (Armidale, NSW) – Refuge islands, a partial roundabout island and two road signs to be removed if not upgraded prior to construction by another project.

In addition to the above, both assessments note the need for the site access design and construction to ensure that it can accommodate the OSOM design vehicle. This is discussed in **Section 6.8.3.5**.

Bridge assessments by UGL and TfNSW have been requested and will be provided under separate cover. It is noted that, like many other renewable projects entering the New England REZ, both routes would cross the Kentucky Street bridge owned by UGL, which has been the subject of bridge assessments confirming that passage across this bridge of vehicles with axle weights not exceeding 15 tonnes is approvable.

From the route assessments provided, there is confidence that either route would be acceptable subject to minor works along the routes as required. These minor works would be the subject of relevant road approvals at the time of construction, once the final route is adopted. Conditions of consent would be expected in this regard.

6.8.4 MITIGATION MEASURES

Overall, it is considered that the assessment demonstrates the project can be accommodated by the traffic network with minimal impact, subject to completion of necessary upgrades as outlined and the implementation of a project traffic management plan.

The following specific mitigations measures are recommended:

- The project access would be constructed to a BAR and BAL treatment on Waterfall Way in accordance with Austroads guidelines;
- Required permits would be obtained for OSOM vehicle movements, and modifications to accommodate the largest OSOM vehicle movement would be implemented, the details of which would be confirmed as the size and load requirements are refined (desktop review by ARES [2024] has identified possible changes to roadside signage, traffic signals at one location and vegetation clearing); and
- A WAD would be obtained for the upgrading works at the intersection of Waterfall Way with the Project site access, including preparation of a CTMP and work to be undertaken in accordance with relevant traffic control requirements.

It is recommended that a TMP and Driver Code of Conduct be developed and implemented to govern traffic movements during the Project construction stage. These would form part of the contractual arrangements with suppliers to the Project, and would be prepared in consultation with Council and/or TfNSW prior to commencement of construction of the Project, to address such matters as:

- compliance with access routes and travel restrictions that may be applicable;
- compliance with road rules, laws and regulations, including those relating to OSOM vehicles and dangerous goods transport;
- maintaining safe following distances between vehicles, and increasing separation in poor visibility (e.g. fog or rain);
- reporting of any unsafe driving practices or incidents;
- driver behavioural expectations within the site (e.g. radio communication, speed limits, and use of flashing lights on moving vehicles); and
- driver behaviour expectations at any specific locations or conditions, including at the Dangar Street bridge in Armidale, when warning signs advise that stock are present on or near the road, and in the vicinity of any school bus during bus operating hours.

6.9 Water

Table 28 – Water and Soil SEARs

Relevant SEARs	Where addressed
Water and Soils	
> an assessment of the likely impacts of the development (including flooding and flood modelling) on surrounding watercourses (including their Strahler Stream Order), groundwater resources and surface water movements, and measures proposed to monitor, reduce and mitigate these impacts including water management; > a site water balance for the development; > details of water requirements and supply arrangements for construction and operation (including consultation with suppliers); > a description of the erosion and sediment control measures that would be implemented to mitigate any impacts in accordance with *Managing Urban Stormwater: Soils & Construction* (Landcom, 2004) and *Managing Urban Stormwater: Soils and construction – Volume 2A manual* (Landcom, 2008); > assessment of the impacts of the development on hydrology and groundwater (if extraction or interference is proposed), including any changes to overland flows and groundwater levels on-site or off-site, and detail design solutions and operational procedures to manage impacts; > where the project involves works within 40 metres of any river, lake or wetlands (collectively waterfront land), identify likely impacts to the waterfront land, and how the activities are to be designed and implemented in accordance with the *DPI Guidelines for Controlled Activities on Waterfront Land* (2018) and (if necessary) *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (DPI 2003), and *Policy & Guidelines for Fish Habitat Conservation & Management* (DPE, 2013); and > identification of any flood risk on site having regard to adopted flood studies, the potential effects of climate change and any relevant provisions of the NSW Flood Risk Management Manual; • where the development could alter flood behaviour, affect flood risk to the existing community or expose its users to flood risk, provide a flood impact and risk assessment (FIRA) prepared in accordance with the *Flood Impact and Risk Assessment – Flood Risk Management Guide LU01*; • detailed design solutions and operational procedures to mitigate flood risk where required.	A Water Impact Assessment (WIA) and Flood Impact Assessment (FIA) have been prepared and are provided with this application. The findings of the FIA are summarised in **Section 6.9.1.** Findings of the WIA are summarised in **Section 6.9.2.** The WIA is appended at **Appendix Q** and FIA is provided at **Appendix R**.

6.9.1 FLOOD IMPACT ASSESSMENT

6.9.1.1 Introduction

A Flood Impact Assessment (FIA) has been prepared by Premise and is provided in **Appendix Q**.

The assessment has been undertaken in accordance with the *Flood Impact and Risk Assessment: Flood Risk Management Guideline LU01* (DPE, 2023) and *Australian Rainfall and Runoff 2019* (Ball et al., 2019).

The site is influenced by multiple local catchments associated with Dirty Creek, Pantons Creek, Pantons Gully and Majors Creek, resulting in several interacting overland flow paths across the project area (**Figure 16**). To assess existing and post-development flood behaviour, hydrologic modelling was undertaken using DRAINS and two-dimensional hydraulic modelling was undertaken using TUFLOW for the 5%, 1%, 0.5%, 0.2% AEP and PMF events, including climate change scenarios under RCP 4.5 and RCP 8.5.

The FIA assesses the likely changes to flood depth, flood level, flood velocity and flood hazard arising from the proposed development footprint, including the BESS platform, associated infrastructure and the new site access from Waterfall Way.

6.9.1.2 Existing environment

The project area does not sit within a single catchment, but rather within an area affected by several local drainage systems and overland flow paths. Under existing conditions, flood behaviour is primarily controlled by topography, natural drainage lines and low-lying storage areas.

The FIA indicates that under smaller storm events flooding is generally shallow and channelised, with inundation largely confined to drainage lines, depressions and farm dams. As event magnitude increases, floodwaters spread laterally across the floodplain, with greater hydraulic connectivity between catchments and increasing interaction with the development footprint. Under the larger design events, particularly the 0.2% AEP and PMF events, the site experiences widespread inundation.

Notwithstanding this, the majority of the site is characterised by low to moderate flood depths and velocities, with flood hazard generally remaining low. Higher hazard areas are largely confined to existing drainage lines, creek crossings and localised depressions. Existing flow conveyance is therefore concentrated within natural flow paths rather than across the broader site.

6.9.1.3 Assessment impacts

The FIA demonstrates that the proposed development will result in only minor and localised changes to flood behaviour and that the broader flood environment will remain generally consistent with existing conditions. Post-development modelling demonstrates that natural flow paths are generally maintained, with only minor redistribution of flow around the raised development footprint and vehicular access road.

Flood level increases are minor and localised, generally in the order of 0.01 m to 0.2 m, and are largely confined to areas immediately upstream of infrastructure and along sections of the access road where overland flow paths intersect the proposed works. Surrounding land and downstream areas are predicted to experience negligible change in flood behaviour, indicating that the development would not result in material off-site flooding impacts.

Flood velocities remain broadly consistent with existing conditions. Any increases are generally negligible to minor, typically less than 0.2-0.4 m/s, and are confined to localised areas where flows are redirected around infrastructure or with the vehicular access road. No new high-velocity flow corridors are predicted, and the assessment does not indicate any material increase in erosion risk or downstream hydraulic instability.

Flood hazard across the site also remains predominantly low post-development, with higher hazard continuing to be associated with existing drainage lines rather than the developed areas. The vehicular access road is identified as the principal hydraulically sensitive component of the proposal, as it intersects multiple flow paths and may experience localised moderate to high hazard under larger 5% to PMF events.

The development footprint remains largely protected from inundation for events up to the 5% to 0.5% AEP events, with only marginal inundation under larger events. However, for extreme events such as the PMF, there is a potential for inundation at the access road where the drainage line crosses, which may hinder evacuation. Accordingly, a detailed culvert design should be undertaken during the design phase, and its performance under PMF conditions should be assessed.

Climate change modelling indicates that increases in flood levels and velocities under Both Representative Concentration Pathways (RCP) 4.5 and RCP 8.5 scenarios are minor, localised and consistent with increased event magnitude rather than being attributable to the proposed development. On this basis, the proposal is considered to be robust under future climate conditions, with impacts considered acceptable and within typical engineering tolerances for floodplain development.

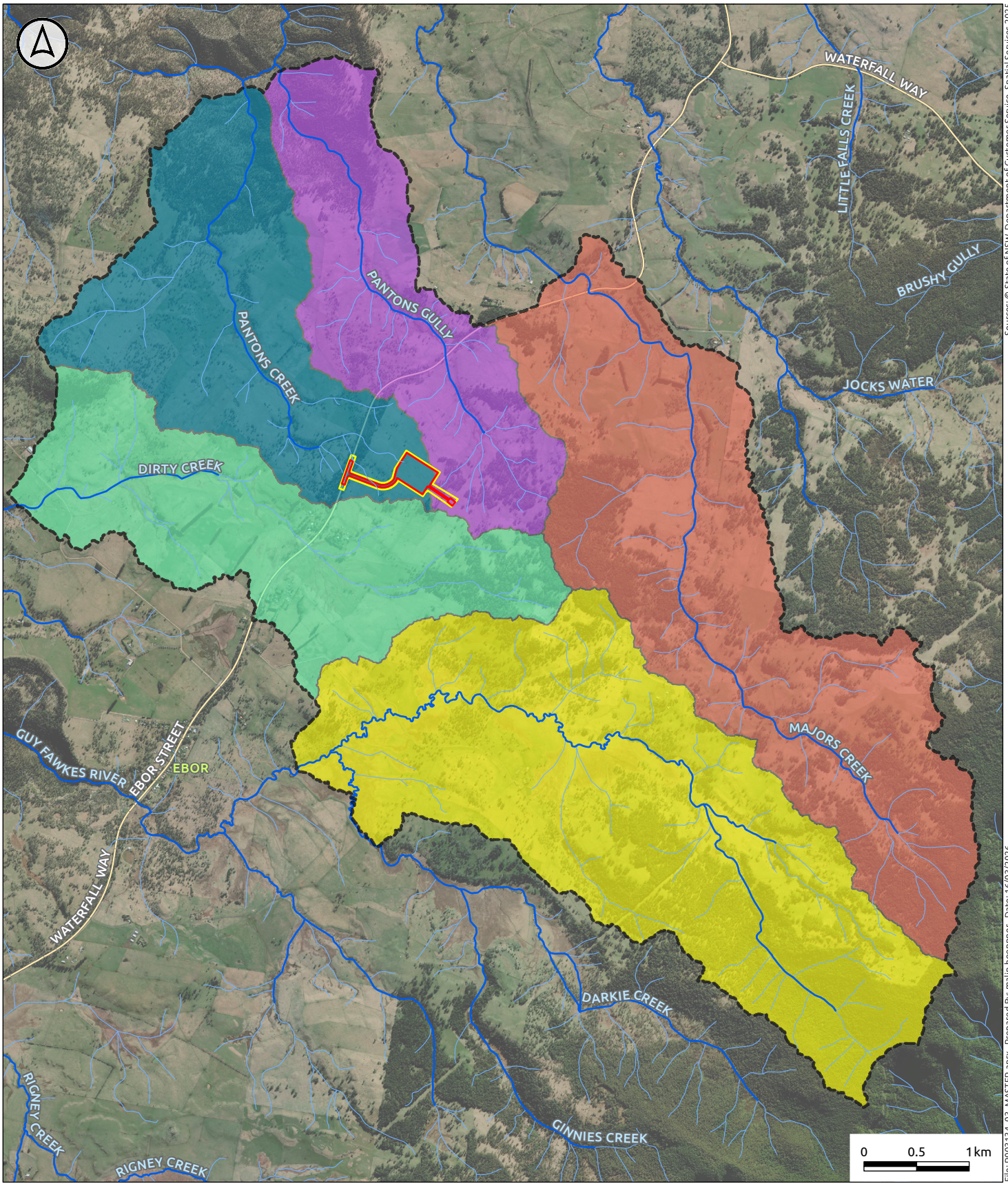
Overall, the FIA concludes that the proposed development maintains existing flood conveyance and flood storage functions, does not materially alter regional flood behaviour and is hydraulically suitable subject to implementation of the modelled design mitigation measures.

6.9.1.4 Mitigation measures

Flood impacts are to be managed through the detailed design phase consistent with the assumptions adopted in the FIA, in particular:

- Final development levels, site grading and finished surface levels are to be constructed generally in accordance with the modelled design;
- A series of appropriately sized culverts is to be provided along the access road where it intersects existing drainage lines and overland flow paths in order to maintain flow continuity, reduce localised afflux and avoid concentration of flows.
- Detailed design is also to ensure that the raised BESS platform and associated infrastructure are located above the relevant design flood levels, where required, to minimise exposure to inundation while preserving existing conveyance pathways.
- Any localised increases in flood levels identified immediately upstream of infrastructure and along the access road are to be reviewed and, where necessary, refined during detailed design. Any future change to site levels, road alignment or infrastructure layout should also be subject to additional modelling to confirm consistency with the adopted flood modelling assumptions.
- During construction, temporary works and stockpiling should be managed to ensure existing flow paths are not obstructed and drainage connectivity across the site is maintained.
- Once the stormwater detention basin design is finalised, it is recommended that detailed flood modelling be undertaken to assess the basin's performance and its effectiveness in mitigating changes in flood behaviour.

With the implementation the above mitigation measures, the proposed development is considered acceptable from a flood risk and flood impact perspective. A consolidated set of proposed mitigation measures is provided in **Appendix F**.



Sources: © State of NSW, Department of Customer Service, Spatial Services 2025
ESRI 2025

File: P0031134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 16/03/2026

Legend

- Project Area
- Development Footprint
- Road

Watercourse

- Strahler <3
- Strahler >=3

- Catchment

Sub Catchments

- Dirty Creek
- Guy Fawkes River
- Majors Creek
- Pantons Creek
- Pantons Gully

Premise

BRIDGE ENERGY

Ebor BESS

Catchment Map

6.9.2 WATER IMPACT ASSESSMENT

6.9.2.1 Introduction

A Water Impact Assessment (WIA) has been prepared by Premise and is provided in **Appendix Q**.

6.9.2.2 Existing environment

The development footprint is relatively flat. The surrounding locality is predominantly characterised by flat agricultural land with undulating topography adjacent to watercourses and irrigation channels.

The development footprint comprises gently undulating land ranging in height from 1,333 m AHD to 1,342 m AHD with low gradient across the BESS area of approximately 2.6%.

The local drainage systems and streams mapped within and surrounding the development footprint are not well defined due to generally flat topography. Drainage and flow regimes are considered to be predominantly influenced by natural depressions and the nature of surrounding land uses, including the capture of runoff into local farm dams during flow events.

A review of the *Water Management (General) Regulation 2018* (NSW) hydroline spatial data (NSW Government, 2026h) has been undertaken to determine Strahler stream orders applying to watercourses in proximity to the development and to inform the application of waterfront land.

Two (2) streams are mapped within the extent development footprint including:

- A 1st order strahler stream which extends in a general southeast to northwest alignment, draining northwest and transecting the proposed access arrangement and Waterfall Way before reaching a confluence and forming a 2nd order stream approximately 200 m northwest of the development footprint.
- A 1st order stream which extends in a general east to west alignment, draining west and transecting the eastern extent of the proposed BESS and Waterfall Way before reaching a confluence and forming a 2nd order stream approximately 200 m northwest of the development footprint.

A map of watercourses, including Strahler stream orders is provided in Figure 17.

While hydrolines are mapped within and surrounding the development footprint, the proposed development is not considered to be situated on waterfront land for the purposes of the WM Act on the basis that these streams do not feature a defined bed or bank, and therefore do not satisfy the waterway definition per the DCCEEW Controlled Activities Guidelines.

A review of available riparian land, waterway maps and wetland maps provided via the LEP and SEED Portal has been undertaken to determine surface water environments applying to the development footprint. For the avoidance of doubt:

- The development footprint does not contain any land mapped as riparian land or waterways.
- The development footprint does not contain any land mapped as wetlands.

A review of the Fisheries NSW Spatial Data Portal (DPIRD, 2026) was undertaken to identify Key Fish Habitat (KFH) with the potential to be impacted by the development. The development footprint does not contain any land mapped as KFH. The closest KFH is situated approximately 580 m northwest of the development footprint along a portion of Panton's Gully comprising a 2nd order strahler stream.

A review of spatial mapping datasets provided via the eSpade website (DPIE, 2026) and SEED portal (NSW Government, 2026i) has identified the following with respect to the hydrogeological setting of the development footprint:

> The development footprint is mapped with a Hydrologic Soil Group (HSC) of 'B – Moderate infiltration' which is provided with the following description:
    - "soils having moderate infiltration rates when thoroughly wetted and consisting chiefly of moderately deep to deep, moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission."
> The current extent of mapping for Hydrogeological Landscape (HGL) boundaries, accessible via the eSpade website, does not identify a specific HGL unit for the location of the development footprint. Derivative maps, however, identify the following:
    - A moderate overall salinity hazard;
    - A moderate salinity hazard;
    - A moderate salt export; and
    - A moderate instream electrical conductivity.

Groundwater information (bore identification, purpose, use, geology, levels, yields and salinity) provided via the WaterNSW Realtime Data Web Portal (WaterNSW, 2026b) and the Bureau of Meteorology (BoM) Australian Groundwater Explorer tool (BoM, 2026b) has been collated to understand surrounding groundwater users and conditions.

A review of available groundwater mapping on 18 March 2026 did not identify any bores within the extent of the development footprint. The closest bore, GW303629, is situated approximately 500 m south of the development footprint at its closest point – refer Figure 17**.**

A review of driller logs accessible via the WaterNSW real-time water data website (WaterNSW, 2026b) and Groundwater levels available via the Australian Groundwater Explorer website (BoM, 2026b) was conducted on 18 March 2025 to identify groundwater levels and quality measurements in the vicinity of the development footprint.

No historical groundwater level monitoring charts were identified for bores situated in the vicinity of the development footprint. The closest bore identified with historical water level monitoring data, GW041018, is situated approximately 60 km southeast of the development site, near Bowraville.

Recorded standing water level depths within approximately 3 km of the development footprint, range from 0.5 m at bore GW304012 to approximately 42.0 m at bore GW306792. The shallowest recorded depth of 0.5 m at GW304012, is located approximately 2.2 km west of the development and, in comparison to the depths of other bores in closer proximity, including the next shallowest depth recorded at 9.0 m (GW502753) approximately 1700 m southwest, is not considered representative of local groundwater conditions at the development footprint.

The closest groundwater bore, GW303629, is located approximately 500 m south of the development footprint and records a standing water level of approximately 12.0 m. On this basis, the depth to groundwater across the development footprint is estimated to be approximately 12.0 m.

The development footprint does not contain any land identified via groundwater vulnerability mapping under the LEP (ARC, 2026).

Groundwater Dependent Ecosystem's (GDEs) as defined by NSW Government (2026n) refer to:

'ecosystems that need access to groundwater to meet all or some of their water requirements to maintain their communities of plants and animals, ecological processes and ecosystem services.''

A review of GDE mapping available via the BoM website and SEED portal was undertaken on 19 March 2026 to determine potential risks to GDE's resulting from the proposed development:

- No Aquatic GDEs impact the development footprint. The closest aquatic GDE mapped via the BoM GDE Atlas is situated approximately 2.2 km east of the development footprint along the alignment of Majors Creek, mapped as forming part of Blicks River. and is attributed as a low potential GDE, wetland ecosystem supplied by Floodplain water body.
- The development is mapped via the BoM GDE Atlas as containing two (2) low potential Terrestrial GDEs including:
  - Manna Gum; and
  - Peppermint-Mountain/Marina Gum
- No Subterranean GDEs impacting the development footprint. No subterranean GDEs have been analysed within the state of NSW.

Sources: © State of NSW, Department of Customer Service, Spatial Services 2026
State of NSW, Department of Climate Change Energy the Environment and Water 2026

File: P0031134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 31/03/2026

Legend

- Project Area
- Development Footprint
- Road
- Watercourse (Strahler Order)

Electricity Transmission Line

- 132 kV
- 330 kV

Groundwater Bores

- Stock and Domestic
- Unknown
- Water Supply

Premise

BRIDGE ENERGY

Ebor BESS

Figure 17
Watercourses and Groundwater Bores

6.9.2.3 Assessment impacts

6.9.2.3.1 Surface water

Some minor disturbance to existing drainage patterns, including unnamed ephemeral streams transecting surrounding agricultural land, may result from the construction and operation of the development. Project infrastructure (i.e., roads, BESS units) and associated mitigation measures to minimise the potential for water impacts (i.e., bunding and roadside drainage) have the potential to produce minor changes to existing drainage, including the redirection of overland flow. With the exception of minor changes to existing localised drainage, no significant impacts to existing flow regimes or stream ordering are anticipated to result from the proposed development.

Construction activities including clearing, earthworks, compaction of soils and the installation of impervious surfaces, have the potential to lead to temporary increases in runoff leaving the development footprint and impacting surrounding properties and receivers.

Potential increases to runoff, however, are considered capable of being managed through the implementation of standard stormwater, erosion and sediment control measures, implemented in accordance with relevant guidelines and standards. This is expected to include the preparation of soil and water management plan (SWMP) and Erosion and Sediment Control Plan (ESCP) as part of a Construction Environmental Management Plan (CEMP) to address risks to surface water and groundwater.

During operation, the potential for significant impacts to surface water flow regimes, including hydrological changes due to increased runoff from site infrastructure, are considered negligible and capable of being managed through stormwater and erosion measures incorporated into the detailed design of the development.

No natural defined watercourses are located in proximity to the development. The surrounding local surface water environment is characterised by intermittent flows through poorly defined, ephemeral drainage features and a network of farm dams for collecting runoff from rainfall events, reflecting the relatively flat topography of the area.

The development footprint does not contain any land mapped with a sensitive surface water environment including riparian land, key fish habitat or wetlands. Significant impacts to sensitive surface water environments resulting from the development are considered unlikely due to the nature of works proposed and the separation distance provided between the development and mapped sensitive surface water environments.

6.9.2.3.2 Water Quality

Given the separation distance of the development footprint to surrounding watercourses, the limitations on water use arrangements and the implementation of mitigation measures, the development is not anticipated to significantly impact on existing water quality.

6.9.2.3.3 Groundwater

As detailed earlier, there are several bores in proximity to the development with historical measurements of groundwater levels.

The latest recorded data available indicates a standing water level of approximately 12.0 m for the closest groundwater bore situated approximately 500 m south of the development footprint.

While exact details of the final layout and foundations for project infrastructure are to be finalised during detailed design, it is expected that that construction works will require excavation and trenching activities. The

proposed works are not expected to exceed the average depth to water recorded across surrounding groundwater bores.

Aquifer interference activities as defined by the WM Act refer to activities involving any of the following:

- The penetration of an aquifer
- The interference with water in an aquifer
- The obstruction of the flow of water in an aquifer
- The taking of water from an aquifer in the course of carrying out mining, or any other activity prescribed by the regulations,
- The disposal of water taken from an aquifer as referred to in paragraph (d).

With respect to the above definitions and the estimated depth to groundwater of 12.0 m, the proposed development is not anticipated to result in an aquifer interference activity.

No ongoing monitoring of groundwater is anticipated as a requirement for the operation of the development. The implementation of groundwater monitoring bores, however, should be considered in consultation with regulators to respond to the release of any contaminated water or following an emergency event (i.e., flooding, fire). Groundwater bores established to respond to such events should be installed downgradient of the fuel storage, oil bund and the downgradient site boundary as well as upgradient to provide a 'clean' control site for evaluating potential impacts.

Water supply requirements for construction would be finalised during the detailed design stage and are subject to variations in construction methods, staging, quantities, measurements and the attainment of a construction contract for the proposed development. Preliminary estimates, however, have anticipated that approximately 3 ML will be required to facilitate the construction of the development.

No extraction of groundwater or dewatering is currently proposed or anticipated as a requirement to facilitate the construction or operation of the development. Consultation has been undertaken with Armidale Regional Council (ARC) regarding construction phase water supply required (3 ML) for the proposed development. Council has confirmed capacity within their existing network to accommodate the anticipated construction water demand; evidence of this consultation provided in **Appendix E**. Operational water demand is expected to be significantly lower and limited to periodic maintenance activities. The Applicant will continue consulting with ARC regarding ongoing water supply for the operational phase.

The proposed development is not expected to result in significant impacts to groundwater quantity and quality.

Considering the nature of the proposed works, the estimated depth to groundwater and the implementation of appropriate mitigation measures, no significant impacts to GDEs are anticipated.

6.9.2.4 Mitigation measures

The following mitigation measures would be implemented in relation to surface water, flooding water quality and groundwater:

- Water supply arrangements are subject to variations in construction methods, staging, quantities, measurements and the attainment of a construction contract for the proposed development.
- A detailed site water balance will be prepared prior to construction to confirm water requirements and supply arrangements for the proposed development.

- To minimise the potential for impacts to existing groundwater, it is recommended, that several shallow bores and/or geotechnical drillholes be drilled across the development site prior to construction to verify existing lithology, depth to water and to attain baseline groundwater quality.
- Subject to confirmation of groundwater depths via an on-site investigation during detailed design and the selection of an appropriate construction method (concrete footings or steel piling footings), no groundwater dewatering is anticipated as a requirement to facilitate construction of the development.
- Excavations should be limited to depths above the observed groundwater levels. Where deeper excavation is required, the groundwater assessment will be reviewed.
- The progression of detailed design for the project should include:
  - Ongoing consultation with Council and other relevant stakeholders to ensure appropriate measures are implemented to minimise localised water impacts, including risks to surrounding land and irrigation networks.
  - The design of controls to minimise the potential for water impacts (i.e., bunding of areas presenting contamination risks); and
  - The design of proposed infrastructure including the proposed method for underboring activities developed in ongoing consultation with Murray Irrigation Pty Ltd.
- Prepare a Soil and Water Management Plan (SWMP) prior to construction to detail potential risks and appropriate measures designed in accordance with Managing Urban Stormwater – Soils and Construction Volume 1 (Landcom, 2004).

  The SWMP will be prepared as part of a Construction Environmental Management Plan (CEMP) to manage potential risks to soils, surface and ground water. Recommended measures for the construction SWMP include but are not limited to:
  - Measures to minimise and manage the potential for erosion and sediment transport within and from the Project area.
  - Measures to manage accidental spills and waste storage.
  - Measures to manage stormwater and the potential for contaminated runoff from the Project site.
  - Measures to ensure that excavation activities and any stockpiling are managed to minimise the potential for downstream contamination.
  - Measures to ensure that areas of exposed soil and the time in which they are exposed are minimised as far as practical
- Stockpiling of any excavated material shall be managed in accordance with the SWMP to minimise the mobilisation and transport of dust, sediment and leachate into downstream environments. Recommended measures to manage stockpiling include but are not limited to:
  - Ensuring stockpiles are located away from drainage lines, waterways, and areas susceptible to erosion.
  - Minimising the number, size and duration of stockpiles used.
  - Ensuring stockpiles are stabilised and implementing dust suppression methods as required.
  - Ongoing review and inspection of the use of heavy vehicles and/or machinery, including transport tracks used, for erosion risk.
  - Ensuring that vehicles transporting waste and/or excavated material are appropriately covered to reduce the potential for dust.

- The SWMP shall include procedures to reduce and manage the risk of emergency events and the potential for wastes and spills to contaminate soils, surface and ground water. Recommended measures to manage the potential for contaminated discharge include:
  - The storage of all fuel chemicals and liquids in sealed bunded areas on level ground away from stormwater drainage lines and waterways.
  - Ensuring refuelling and maintenance activities are restricted to designated areas with appropriate bunding and spill capture controls.
  - Implementing controls as part of the construction SWMP that provide procedures to respond to emergencies and spills (e.g., Groundwater monitoring bore installation, regulator notification and provision of spill kits).
  - Ensuring visual inspections of drainage lines and disturbed areas are undertaken during construction to assess any potential soil or surface water issues.
  - The installation and maintenance of stormwater control measures including drainage networks and bunding that segregate stormwater runoff according to its potential for contamination.
- During operation procedures shall be developed to reduce the potential water impacts including the contamination of soils, surface and ground water, resulting from wastes, spills and/or emergency incidents. Suggested measures to control the potential for water impacts and contamination during operation include:
  - The appropriate storage of equipment and hazardous substances during operation.
  - Ensuring that plant and stormwater control measures are maintained to prevent contamination of soil.
  - Preparation of appropriate procedures to response to emergency incidents (i.e., floods, fires), spills and leaks from the development footprint, including operational equipment and maintenance activities (e.g., Groundwater monitoring bore installation, regulator notification and provision of spill kits).
- The development layout, platform levels, and site grading should be constructed in accordance with the modelled design assumptions.
- The access road crossings should incorporate appropriately sized culverts to:
  - Maintain flow continuity
  - Minimise localised afflux
  - Reduce concentration of flow
- Minor localised increases in flood levels upstream of infrastructure and along the access road should be reviewed and refined during detailed design, where required.
- The BESS platform and associated infrastructure should be designed above the flood levels to minimise exposure to flooding and preserve flood conveyance pathways.
- Any future modifications to site layout or levels should be assessed to confirm consistency with the adopted flood modelling assumptions.
- During construction, temporary works should ensure that existing flow paths are not obstructed, and drainage connectivity is maintained.

6.10 Hazards

Table 29 – Hazards SEARs

Relevant SEARs	Where addressed
Hazards	
> Health - an assessment of potential hazards and risks including but not limited to fires, spontaneous ignition, electromagnetic fields or the proposed grid connection infrastructure against the *International Commission on Non-Ionizing Radiation Protection* (ICNIRP) *Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields*; > Bushfire – a bush fire hazard assessment completed by a suitably qualified consultant and identify potential hazards and risks associated with bushfires / use of bushfire prone land including the risks that a BESS would cause a bush fire and demonstrate compliance with *Planning for Bush Fire Protection 2019*; > Dangerous Goods - a preliminary risk screening completed in accordance with the *State Environmental Planning Policy (Resilience and Hazards) 2021*; and > Battery Energy Storage System - a Preliminary Hazard Analysis (PHA) prepared in accordance with *Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis* (DoP, 2011) and *Multi-Level Risk Assessment* (DoP, 2011). The PHA must assess the risks and demonstrate compliance with the Department's Hazardous Industry Advisory Paper No. 4, 'Risk Criteria for Land Use Safety Planning (DoP, 2011) for all proposed energy storage technologies. The PHA must also include the following for all proposed energy storage solutions: • a description of the battery energy technology proposed; • clear identification of layout, storage and handling quantities, types of chemicals, flow rates (if applicable); • hazard identification including and not limited to hazards that may be unique for the chosen chemistry or operating parameters (such as elevated temperature); • demonstration of the area allocated for BESS is adequate with consideration of the separation distances to on-site or off-site receptors, and the separation distances between batteries are sufficient to minimise propagation; • Consideration of the effects of bushfire on batteries; • Except for lithium-ion BESS, a consequences analysis for fire scenarios based on a first principles approach; • Except for lithium-ion batteries, consultation outcomes with Fire and Rescue New South Wales (FRNSW) to verify the applicability of the current battery guidelines and provide details if additional fire considerations are required for specific battery technology.	A Preliminary Hazards Analysis (PHA) and Bush Fire Assessment Report (BFAR) have been prepared and are provided with this application. The findings of the PHA are summarised in **Section 6.10.** Findings of the BFAR are summarised in **Section 6.11.** The PHA is appended at **Appendix S** and BFAR is provided at **Appendix T**.

6.10.1 INTRODUCTION

A Preliminary Hazard Analysis (PHA) has been prepared by Riskcon Engineering and is attached in **Appendix S**. The PHA has been prepared in accordance with the Hazard Industry Planning Advisory Paper No. 4 - Risk Criteria for Land Use and Safety Planning, Hazard Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DOP, 2011), Multi-Level Risk Assessment (DOP, 2011) and to demonstrate compliance of the site with the relevant codes, standards and regulations (i.e. *State Environmental Planning Policy (Resilience and Hazards) 2021*, *Work Health and Safety Regulation 2017*).

The PHA provides:

- A summary of the assessment methodology within the site and project context;
- Hazard identification and assessed potential offsite impacts;
- Detailed consequence and frequency analysis for identified incidents with offsite impact;
- Risk assessment and mitigation measures; and
- Conclusions and recommendations.

The following sections provide a summary of the PHA and recommended mitigation measures.

6.10.2 EXISTING ENVIRONMENT

The site has historically been agricultural cropped land, which, within the context of hazard analysis, presents minimal risk due to its inherent characteristics.

The land is primarily used for rotational grazing, with limited exposure to potentially hazardous activities or substances. Hazards, such as chemical runoff or soil erosion are low, and are typically mitigated through standard agricultural practices and are not considered to be contributing factor to the hazards analysis.

6.10.3 ASSESSMENT IMPACTS

The PHA utilises the Multi-Level Risk Assessment (DOP, 2011) approach from the NSW Department of Planning, Housing and Infrastructure to determine the required level of risk assessment, considering the project's location, the quantity and nature of Dangerous Goods (DGs), the technical and safety management controls. The guidelines aim to assist industry, consultants and consent authorities in conducting and evaluating appropriate risk assessments for the project.

The Multi-Level Risk Assessment outlines three levels of risk assessment applicable to a PHA:

- Qualitative: No significant off-site consequences and societal risk is negligible;
- Partially Quantitative: Off-site consequences with a low frequency of occurrence; or
- Quantitative: When the thresholds of levels 1 and 2 are exceeded.

Based on the type of DGs to be used and handled at the proposed project, a Level 1 Assessment (qualitative) was selected for the site. This approach provides a qualitative assessment of those DGs of lesser quantities and hazard and a quantitative approach for the more hazardous materials to be used on-site.

The PHA considered a number of risks that did not present potential off-site impacts and for that reason did not warrant further assessment. Risks identified as having residual risks were carried forward and required further assessment. Both are discussed in the following sections.

6.10.3.1 Li-ion battery fault, thermal runaway and fire

Despite improvement in battery technology there are several degradation mechanisms which can result in thermal runaway that are primarily a result of high discharge, overcharging, or water ingress into the battery which results in a host of by-products being formed within the battery during charge and discharge cycles.

As a result, Li-ion batteries are equipped with several safety features to prevent the batteries from overcharging or discharging at voltages which result in battery degradation, leading to shorting of the battery and thermal runaway.

The PHA includes a review of the Lithium Iron Phosphate (LiFePO4, or LFP) batteries proposed for the project, which are considered to be one of the safest battery chemistries within the industry. Having a thermal rise of 1.50°C/min., compared to a rise of 200-400°C/min in other lithium-ion chemistries. The gradual temperature rise of LFP does not result in a fire and incident propagation to other batteries.

In the event of ignition, LFP batteries release carbon dioxide, reducing oxygen concentration and suppressing combustion. Fires would be further mitigated by a fire suppression system built into each container, preventing escalation to other BESS units or the outside environment. Additional safety measures, such as physical separation of units during construction, battery monitoring and heat detection, can be implemented as needed.

The PHA concludes that LFP technology is not typically associated with sustained combustion or fire propagation during thermal runaway and any fire within one container would not transfer to others due to safety design features and is not carried forward for further analysis.

6.10.3.2 Thermal runaway

The project will utilise lithium iron phosphate (LFP) battery technology, which is characterised by high thermal stability and a reduced likelihood of thermal runaway compared to other lithium-ion chemistries. The selected battery units will be required to comply with the UL9540A test standard, which assesses fire development and propagation at the cell, module and system levels.

Testing of comparable LFP systems demonstrates that thermal runaway is typically contained within individual cells or modules and does not propagate to adjacent modules. In the event of fire arising from equipment fault or failure, impacts are expected to be contained within the individual BESS container, which is constructed of non-combustible materials and has integrated fire detection and suppression systems.

The proposed layout provides a minimum separation distance of 3 m side to side between units, which is consistent with industry testing outcomes and expected to prevent fire propagation between containers.

UL9540A test reports for the selected system will be obtained prior to construction and made available to the Department upon request.

Having regard to the inherent properties of LFP technology, anticipated UL9540A-compliant design and separation distances, the likelihood of fire propagation between BESS units is considered low. Accordingly, the residual risk is assessed as low and acceptable.

6.10.3.3 Victoria Big Battery Fire Review

A review of the Victorian Big Battery (VBB) fire incident (July 2021) has been undertaken to assess the relevance of comparable risks to the proposed development. The VBB incident involved fire propagation between battery units; however, the independent investigation concluded that the back-to-back configuration of containers was not the primary cause of propagation. Rather, fire spread occurred due to strong wind conditions directing flames into an unprotected plastic ventilation opening, which subsequently ignited internal components.

In response to these findings, the proposed development has incorporated design measures to address the identified failure mechanisms. Specifically, ventilation openings are to be constructed of non-combustible materials, including metal vent covers with protective mesh shielding, and are designed such that battery modules or other combustible components are not located directly beneath ventilation openings. These measures are consistent with contemporary industry practice and directly respond to the key lessons learned from the VBB incident.

Having regard to the proposed design, including separation distances between units and the incorporation of non-combustible materials, the likelihood of fire propagation between battery units is considered low. The potential hazard associated with a VBB-type event is therefore significantly reduced, and such an incident is not considered a credible risk scenario for the proposed development.

Accordingly, the residual risk of fire propagation between BESS units given the available area and the separation distance assessment, as informed by the VBB incident, is assessed as low and acceptable.

6.10.3.4 Li-ion battery fire and toxic gas dispersion

In the event of a BESS fire, toxic combustion by-products, including gases, may be formed, such as:

- Carbon dioxide;
- Carbon monoxide; and
- Fluorine gases.

These gases are discussed in further detail below.

6.10.3.4.1 Carbon Dioxide

Lithium-ion batteries primarily consist of metal structures, but during a fire, ancillary materials such as wiring, plastics and anodes may also burn, releasing carbon dioxide.

Toxicological impacts indicate that high concentrations would be needed to cause injury or fatality. Based on the analysis of sensitive areas and similar BESS incidents, such as the VBB, the formation of carbon dioxide in a fire is unlikely to cause significant downwind impacts. The released carbon dioxide would not produce a plume dense enough to displace sufficient oxygen and result in harm. Consequently, this hazard was not carried forward for further analysis.

6.10.3.4.2 Carbon Monoxide

Carbon monoxide (CO) is an odorless, colourless gas that is slightly denser than air and occurs naturally at concentrations around 80 ppb. CO is toxic as it binds irreversibly with haemoglobin, impairing oxygen and carbon dioxide exchange. At concentrations of approximately 600 ppm (0.06%), this can lead to seizures, coma or death. CO is produced during incomplete combustion if there is insufficient oxygen present.

While a fire in the BESS units could produce CO if combustion is incomplete, the relatively low combustible load compared to the available oxygen in the surrounding atmosphere makes the formation of significant quantities of CO unlikely. Therefore, the potential for substantial downwind impacts was not considered credible and further analysis of this hazard was not carried forward for further analysis.

6.10.3.4.3 Fluorine gases

Li-ion batteries typically use lithium hexafluorophosphate (LiPF6) or similar lithium salts containing fluorine as the electrolyte. During thermal runaway, the electrolyte expands and is vented, potentially releasing gases such as hydrogen fluoride (HF), phosphorous pentafluoride (PF5) and phosphoryl fluoride (POF3) when exposed to fire.

Of the fluorine gases produced, PF5 is short-lived and POF3 is a reactive intermediate, with the primary concern being HF.

HF is highly corrosive, dissolves in moisture and can cause chemical burns and disrupt nerve signalling by binding with calcium in tissues. The immediately dangerous to life or health (IDLH) concentration for HF is 30 ppm, with a 10-minute lethal concentration of 170 ppm.

However, for a toxic gas dispersion, a battery container fire is necessary as the initiating event. Given that the risk of fire in the battery units is considered negligible due to the stability of the battery chemistries proposed.

Therefore, a toxic gas dispersion impacting sensitive receptors was deemed unlikely and the hazard was not carried forward for further analysis.

6.10.3.5 Electrical equipment failure and fire

In the event of a fire, it may propagate to adjacent combustible materials, such as wiring.

Electrical equipment fires typically begin with smouldering, leading to slow fire development before full ignition occurs. The equipment used in the project is standard across multiple industries globally and thus, not a unique fire scenario. Based on fire development in similar settings, the fire is expected to grow slowly, making significant offsite impacts or incident propagation unlikely.

Therefore, this hazard was not carried forward for further analysis.

6.10.3.6 Transformer internal arcing, oil spill, ignition and bund fire

Transformers associated with the proposed development contain insulating oil, which presents a potential hazard in the event of internal arcing or equipment failure. In such a scenario, high-energy arcing may vaporise transformer oil and generate flammable gases, resulting in rapid pressurisation of the transformer reservoir. If this pressure were to exceed the structural capacity of the reservoir and associated pressure relief systems, rupture could occur, allowing oil to be released into the bunded area. The introduction of oxygen into the reservoir at that point may result in ignition of the heated gases, with the potential for subsequent ignition of oil contained within the bund.

While this represents a credible failure mechanism, the likelihood of such an event is low given the routine nature of transformer technology, the incorporation of protection systems, and the generally low failure rate of these units in service. In addition, the proposed layout provides sufficient separation distance between transformers, site boundaries and adjacent infrastructure such that, were such an incident to occur, propagation beyond the affected unit would be unlikely.

Accordingly, the risk of transformer internal arcing, oil spill, ignition and bund fire resulting in off-site impacts or escalation to other plant is considered low. On this basis, the hazard is not considered to warrant further detailed consequence analysis.

6.10.3.7 Transformer Electrical Surge Protection Failure and Explosion

Transformers generate significant heat during operation and rely on insulating oil to protect internal components. In the event of an extreme electrical surge, such as from a lightning strike, and a concurrent failure of surge protection measures, transformer oil may decompose and vaporise, generating flammable gases including hydrogen and methane. If pressure within the transformer subsequently exceeds the structural capacity of the unit, rupture may occur, allowing oxygen to enter and create conditions conducive to ignition and explosion. Such an event could result in overpressure, sparks, fire and failure of the transformer.

While this represents a credible hazard mechanism, the likelihood of occurrence is low. Transformers are common and well-established items of electrical infrastructure, typically equipped with protective systems designed to manage abnormal electrical conditions. Although such systems may not prevent all failure scenarios, the overall rate of catastrophic transformer failure is low.

Accordingly, while a transformer explosion has the potential to result in localised impacts, the probability of occurrence is considered low, and the hazard is not considered sufficiently likely to warrant further detailed analysis.

6.10.3.8 Release of Diesel, Ignition and Pool Fire

Diesel fuel will be used during construction and, to a lesser extent, during operation for site vehicles and maintenance equipment. Diesel storage is anticipated to occur within portable, double-skinned (integrally bunded) tanks compliant with AS 1940–2017, which significantly reduces the likelihood of leakage due to the requirement for simultaneous failure of both inner and outer containment systems.

In the event of a substantial release, diesel presents a relatively low ignition risk compared to more volatile fuels, as it does not readily emit flammable vapours under ambient conditions. Ignition would require a sustained and sufficiently energetic ignition source to generate vapours capable of combustion. Should ignition occur, any resulting pool fire would be limited to the extent of the spill and would be localised within the site.

Accordingly, the likelihood of diesel release, ignition and resulting pool fire is considered low, and the potential consequences are limited and contained. On this basis, off-site impacts are not considered credible, and this hazard does not warrant further detailed analysis.

6.10.3.9 Electromagnetic field impacts (EMF)

Electric and Magnetic Fields (EMFs) occur naturally, such as during lightning storms and are also man-made, typically generated wherever electricity is used.

Extremely low frequency (ELF) EMFs, ranging from 0 to 3,000 Hz, are associated with electrically charged particles, primarily from artificial sources such as the generation, distribution and use of electricity at the frequency of 50 Hz in Australia. BESS operational equipment including transformers and inverters, have the potential to produce ELF EMFs in the 30 to 300 Hz range.

Currently there are no specific Australian standards that govern ELF EMF exposure limits, but the International Commission on Non-Ionizing Radiation Protection (ICNIRP) recommends limiting exposure to 2,000 milligauss (mG) for the public over a 24-hour period.

EMF levels decrease rapidly with distance from the source. A review of the site indicates that the closest residence is over 500 meters from the EMF generating sources at the BESS, therefore, the risk of exceeding ICNIRP exposure guidelines is considered negligible.

Therefore, this hazard has not been carried forward for further analysis.

6.10.3.10 Impact of external fire (bush fire)

There is potential for an external fire event, such as bushfire, to affect the proposed development. A Bushfire Risk Assessment is being prepared to quantify this risk and identify appropriate mitigation measures; however, a preliminary review indicates that the BESS compound is located outside mapped bushfire prone land and associated impact buffers. As such, the potential for direct radiant heat exposure from bushfire is considered low.

While ember attack remains a credible mechanism, particularly under prevailing wind conditions, the proposed development will implement vegetation management practices to minimise fuel loads within the development footprint. In the event of ember ignition, any resultant fire is expected to be limited to low-intensity grass fires, which are typically short duration and unlikely to generate sustained radiant heat capable of impacting BESS infrastructure or causing propagation between units.

The development incorporates firefighting infrastructure, including on-site water storage compatible with fire authority requirements, to support fire response and asset protection zones for defendable space as identified **Section 6.11**.

Accordingly, the likelihood of an external fire resulting in escalation or significant impact to the BESS facility is considered low to negligible. On this basis, the hazard is not considered a credible risk scenario requiring further detailed analysis.

6.10.4 CAPTURE OF FIREFIGHTING WATER

Stormwater management will incorporate first flush retention, appropriate sediment controls and diversion drains. The stormwater management incorporates a stormwater detention basin, which will be sized to mitigate flows in a 0.5% Annual Exceedance Probability (AEP) event. The pad/method of concreting shall be designed to build the Project up above the flood level.

The standard design will have a water detention basin designed to capture fire water/stormwater, with a capacity exceeding the required fire water demand. The basin is fitted with a valve that remains closed during normal operations (but is opened when required to release stormwater).

In the event of a fire, any contaminated firewater is captured. This firewater can then be tested and treated offsite if required (Firewater runoff to be tested by an appropriate testing facility for contaminants. If water is contaminated, it shall be pumped out via tankers and transported to an approved disposal/treatment facility) OR released downstream if clean (downstream means released into the existing downstream water course/flow path).

6.10.4.1 Gas pipelines

The PHA confirms that there is no gas pipelines located within or in proximity to the site. Accordingly, there are no hazards associated with gas pipeline infrastructure relevant to the proposed development.

6.10.4.2 Available Space and Separation Distances

The proposed BESS layout has been assessed with regard to spatial configuration and separation distances between units. The project design provides a face to face separation distance of approximately 3.35 m (exceeding the minimum separation distance of 3 m), which is considered sufficient to prevent fire propagation between units based on large-scale fire testing of comparable LFP BESS systems.

Reduced separations of approximately 0.15 m are proposed for end to end and back to back configurations; however, this arrangement is considered appropriate as potential fire exposure is expected to be directed outward from container faces, with containment provided by the steel enclosure on non-exposed sides.

Accordingly, the available space within the BESS compound is sufficient to accommodate the proposed infrastructure while maintaining appropriate separation distances to limit the risk of incident propagation. The likelihood of propagation between units due to spatial constraints is considered low, and this hazard does not warrant further detailed analysis.

6.10.5 MITIGATION MEASURES

The following mitigation measures will be implemented:

- Ensure separation between BESS units remains at least 3 m face to face;
- The BESS containerised units shall be provided with the fire protection system specified by the BESS manufacturer;
- The vents shall not be located above battery packs within the BESS container;
- The vent covers of the BESS shall be constructed of non-combustible material;
- The units shall pass UL9540A testing; and
- Prior to commissioning, the UL9540A test data for the selected battery units shall be made available to the DPHI

6.10.6 ASSESSMENT CONCLUSION

The PHA is a comprehensive hazard identification and qualitative risk assessment has been undertaken for the project to identify potential hazard scenarios associated with the operation and storage of materials. Credible incident scenarios with the potential to result in off-site impacts were identified and assessed, with those not capable of generating off-site consequences excluded from further consideration.

The assessment concludes that no credible hazard scenarios are expected to result in off-site impacts.

Accordingly, risks at the site boundary are not anticipated to exceed relevant acceptable risk criteria. On this basis, the proposed development is appropriately classified as potentially hazardous and is considered permissible within the applicable land use zoning.

The applicant commits to the implementation of the proposed mitigation measures in **Section 6.10.5**, the residual risk associated with hazards are considered low and acceptable.

6.11 Bush Fire

Table 30 – Hazard SEARs

Relevant SEARs	Where addressed
Hazards	
- Health - an assessment of potential hazards and risks including but not limited to fires, spontaneous ignition, electromagnetic fields or the proposed grid connection infrastructure against the *International Commission on Non-Ionizing Radiation Protection* (ICNIRP) *Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields*; - Bushfire – a bush fire hazard assessment completed by a suitably qualified consultant and identify potential hazards and risks associated with bushfires / use of bushfire prone land including the risks that a BESS would cause a bush fire and demonstrate compliance with *Planning for Bush Fire Protection 2019*; - Dangerous Goods - a preliminary risk screening completed in accordance with the *State Environmental Planning Policy (Resilience and Hazards) 2021*; and - Battery Energy Storage System - a Preliminary Hazard Analysis (PHA) prepared in accordance with *Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis* (DoP, 2011) and *Multi-Level Risk Assessment* (DoP, 2011). The	A Preliminary Hazards Analysis (PHA) and Bush Fire Assessment Report (BFAR) have been prepared and are provided with this application. The findings of the PHA are summarised in **Section 6.10.** Findings of the BFAR are

Relevant SEARs	Where addressed
PHA must assess the risks and demonstrate compliance with the Department's Hazardous Industry Advisory Paper No. 4, 'Risk Criteria for Land Use Safety Planning (DoP, 2011) for all proposed energy storage technologies. The PHA must also include the following for all proposed energy storage solutions: • a description of the battery energy technology proposed; • clear identification of layout, storage and handling quantities, types of chemicals, flow rates (if applicable); • hazard identification including and not limited to hazards that may be unique for the chosen chemistry or operating parameters (such as elevated temperature); • demonstration of the area allocated for BESS is adequate with consideration of the separation distances to on-site or off-site receptors, and the separation distances between batteries are sufficient to minimise propagation; • Consideration of the effects of bushfire on batteries; • Except for lithium-ion BESS, a consequences analysis for fire scenarios based on a first principles approach; • Except for lithium-ion batteries, consultation outcomes with Fire and Rescue New South Wales (FRNSW) to verify the applicability of the current battery guidelines and provide details if additional fire considerations are required for specific battery technology.	summarised in **Section 6.11.** The PHA is appended at **Appendix S** and BFAR is provided at **Appendix T**.

6.11.1 INTRODUCTION

A Bush Fire Assessment Report (BFAR) has been prepared by Bush Fire Consulting Services Pty Ltd (BFCS) and is provided in **Appendix T**.

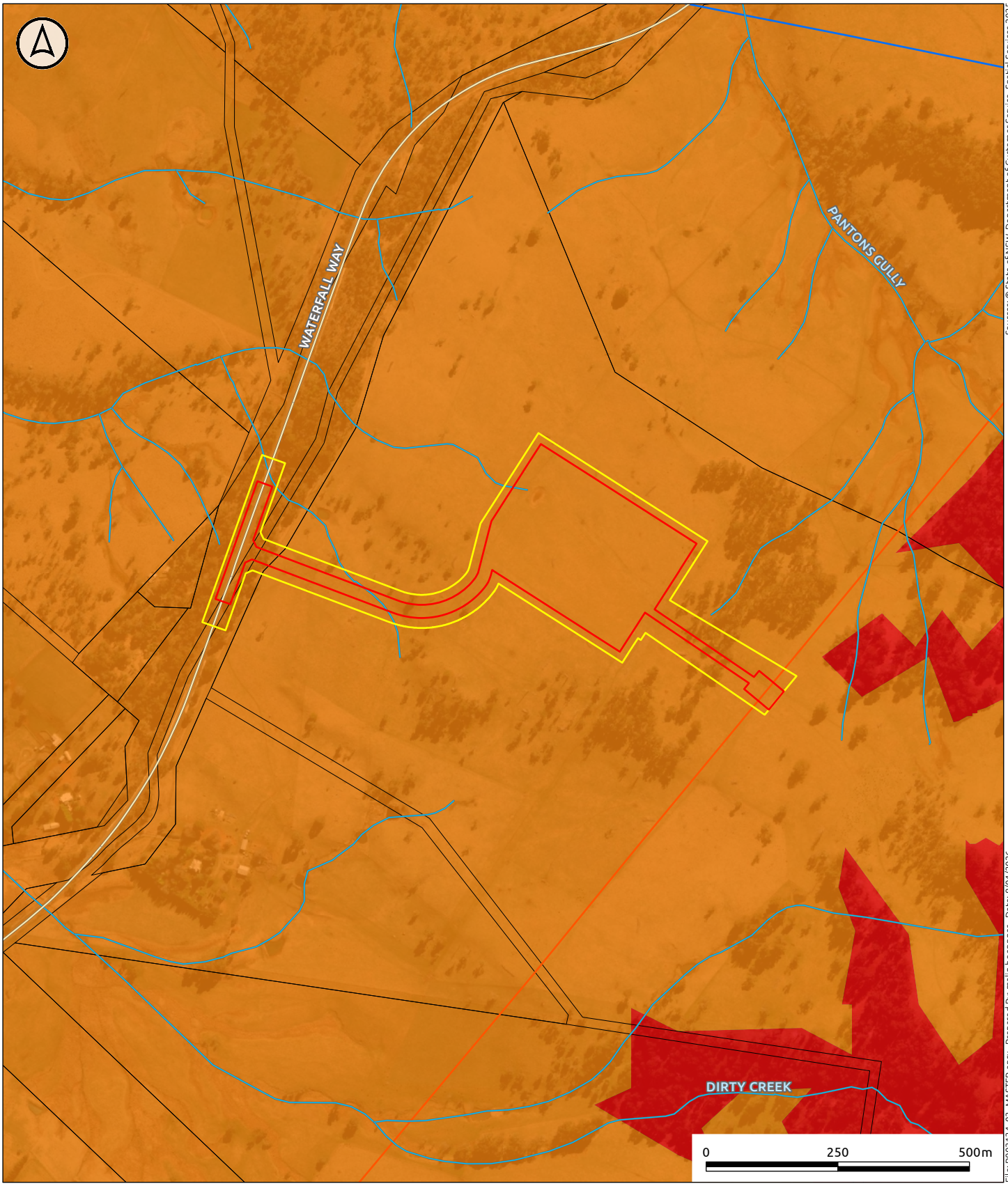
6.11.2 EXISTING ENVIRONMENT

The development footprint for the project is located within an area of farmland with the host land featuring a single dwelling and associated agricultural buildings. The project area has been in use for farming purposes for many years and the BESS development footprint is clear of significant vegetation. The development footprint avoids land mapped as having biodiversity values and, by reference to the site visit completed by BCFS, the primary bushland vegetation having the potential to affect the development is representative of grassland to the northeast, southwest and northwest, with grassy woodland to the southeast.

Effective slope within the development footprint at a distance of 100 metres, relative to the location of the hazard, is:

- North – downslope > 0- 5°
- Northeast – upslope or flat (0°)
- Southeast – upslope or flat (0°)
- South – upslope or flat (0°)
- Southwest – downslope > 0-5°.

The project area is located in the New England Region, which has a Fire Danger Index (FDI) of 80.



Sources: © State of NSW, Department of Customer Service, Spatial Services 2025
State of NSW, Department of Planning Housing and Infrastructure 2025; ESRI 2025

File: P003134_03_MASTER.aprx Prepared By: malin.hoeppner Date: 8/04/2026

Legend

- Project Area
- Development Footprint
- Lot
- Major Road
- Watercourse

Electricity Transmission Line

- 132 kV
- 330 kV

Bushfire Prone Land

- Vegetation Category 1
- Vegetation Category 3

Premise

BRIDGE ENERGY

Ebor BESS

Figure 18
Bush Fire Prone Land

6.11.3 ASSESSMENT IMPACTS

For developments of this nature, it is relevant to consider the project against the objectives of the Rural Fire Service guideline *Planning for Bushfire Protection 2019* (PBP), particularly those in chapters 1 and 8. These are discussed in Section 8 of **Appendix T**. On the basis of the analysis provided, the development is capable of satisfying the objectives of PBP, subject to final design. Relevant objectives have been adopted as mitigation measures in **Section 6.11.4**.

Key assessed impacts with respect to bushfire danger relate to the construction standards required for buildings and the extent of necessary Asset Protection Zones (APZ), by reference to the site characteristics outlined in **Section 6.11.2**. Construction standards relate to the requirements of the National Construction Code and are applicable by reference to Australian Standard 3959_2009. As the proposed project building is a class of building to which AS3959 does not apply, there are no construction standards that apply.

An APZ features an inner protection area, which should:

- provide a tree canopy of less than 15% and have minimal fine fuel at ground level;
- ensure grass is mowed on a frequent basis,
- feature trees and shrubs retained as clumps or islands that do not take up more than 20% of the area;
- feature trees and shrubs located far enough from buildings so that they will not ignite the building;
- feature garden beds so that flammable shrubs are not located under trees;
- are to be separated from exposed windows and doors by a distance of a least twice the height of the vegetation;
- minimise the use of plant species that keep dead material or drop large quantities of ground fuel;
- tree canopies are not located within 2 metres of the building;
- trees are separated by 2-5 metres and do not provide continuous canopy from the hazard to the building; and
- lower limbs of trees are removed up to a height of 2 metres above the ground.

These APZ-IPA characteristics are capable of being satisfied noting that the proposed BESS is within an existing paddock and well separated from any trees (greater than 40 metres). These measures are reflected as a project mitigation measure.

By reference to the site characteristics, **Table 31** provides the recommended APZ for the development footprint by reference to the FDI80 area.

Table 31 - APZ requirements (FDI 80 areas)

Aspect	Vegetation classification	Slope under classified vegetation	APZ required
North	Grassland	Downslope >0-5°	11m
Northeast	Grassland	All upslopes and flat land (0°)	10m
Southeast	Grassland	All upslopes and flat land (0°)	11m
South	Grassland	All upslopes and flat land (0°)	10m
Southwest	Grassland	All upslopes and flat land (0°)	10m
Northwest	Grassland	Downslope >0-5°	11m

For ease of implementation, the bushfire assessment recommends implementing an 11m APZ in all directions. Vegetation removal is not required other than mowing the grass.

6.11.4 MITIGATION MEASURES

A range of mitigation measures are recommended by the bushfire assessment, and will be implemented by the project, as outlined below.

- Asset Protection Zones
  - At the commencement of the development, and in perpetuity, the curtilage surrounding the development shall be managed as an IPA APZ for a distance of 11 m in all directions, as outlined in PBP 2019 Appendix 4.
  - Trees
    - canopy cover should be less than 15% (at maturity)
    - trees (at maturity) should not touch or overhang the building
    - lower limbs should be removed up to a height of 2 m above ground
    - canopies should be separated by 2 to 5 m
    - preference should be given to smooth barked and evergreen trees
  - Shrubs
    - create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings
    - shrubs should not be located under trees
    - shrubs should not form more than 10% ground cover
    - clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation
  - Grass
    - should be kept mown (as a guide grass should be kept to no more than 100 mm in height)
    - leaves and vegetation debris should be removed.
- Water Supply
  - A minimum 20,000 Litre fire-fighting water supply is to be provided and there is to be suitable access for a Category 1 fire appliances within 4 m of the static water supply, provided with
    - i) a connection for firefighting purposes is to be located within the IPA or non-hazard side and away from the structure
    - ii) a 65 mm Storz outlet with a ball valve is to be fitted to the outlet
    - iii) ball valve and pipes are adequate for water flow and are metal
    - iv) supply pipes from tank to ball valve have the same bore size to ensure flow volume
    - v) underground tanks have an access hole of 200 mm to allow tankers to refill direct from the tank
    - vi) a hardened ground surface for truck access is supplied within 4 m
    - vii) above ground tanks are manufactured from concrete or metal
    - viii) raised tanks have their stands constructed from non-combustible material or bush fire resisting timber (see Appendix F of AS 3959)

- ix) unobstructed access can be provided at all times
- x) underground tanks are clearly marked
- xi) tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters
- xii) all exposed water pipes external to the building are metal, including any fittings
- xiii) where pumps are provided, they are a minimum 5 hp or 3 kW petrol or diesel powered pump, and are shielded against bush fire attack
- xiv) any hose and reel for firefighting connected to the pump shall be 19 mm internal diameter
- xv) any hose reel connections are constructed in accordance with AS/NZS 1221:1997, and installed in accordance with the relevant clauses of AS 2441:2005.
- xiv) any hose and reel for firefighting connected to the pump shall be 19 mm internal diameter
- xv) any hose reel connections are constructed in accordance with AS/NZS 1221:1997, and installed in accordance with the relevant clauses of AS 2441:2005.

- Access:
  - property access roads are two-wheel drive, all-weather roads
  - The capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes), bridges and causeways are to clearly indicate load rating
  - There is suitable access for a Category 1 fire appliance to within 4 m of the static water supply
  - There is a minimum 4 m carriageway width
  - Rural property roads have passing bays every 200 m that are 20 m long by 2 m wide, making a minimum trafficable width of 6 m at the passing bay
  - There is a minimum vertical clearance of 4 m to any overhanging obstructions, including tree branches
  - Curves have a minimum inner radius of 6 m and are minimal in number to allow for rapid access and egress
  - The minimum distance between inner and outer curves is 6 m
  - The crossfall is not more than 10 degrees
  - Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads
  - Traffic management devices are constructed to not prohibit access by emergency services vehicles
- Electricity Services
  - Where practicable, electrical transmission lines are underground, and where overhead, electrical transmission lines are proposed as follows:
  - i) lines are installed with short pole spacing (30 m), unless crossing gullies, gorges or riparian areas; and
  - ii) no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.
- Gas Services

- Where applicable, reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 The storage and handling of LP Gas and the requirements of relevant authorities, and metal piping is used.
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10 m and shielded on the hazard side, connections to and from gas cylinders are metal.
- Polymer-sheathed flexible gas supply lines are not used, and above-ground gas service pipes are metal, including and up to any outlets.

> Fences and gates

- All new fences and gates within the development area and APZ are constructed of either non-combustible material.

> Emergency and Evacuation Planning

- The need to formulate an emergency evacuation plan is suggested. To do so, occupants can complete a Bush Fire Safety Plan on the NSW RFS Website: <http://www.rfs.nsw.gov.au/> under publications / bushfire safety.

6.12 Social

Table 32 – Social SEARs

Relevant SEARs	Where addressed
Social	
> an assessment of the social impacts or benefits of the project for the region and the State as a whole in accordance with the Social Impact Assessment Guideline (DPE, 2023), including consideration of any increase in demand for community infrastructure services, and consideration of construction workforce accommodation.	A Social Impact Assessment (SIA) has been prepared and are provided with this application. The findings of the SIA are summarised in **Section 6.12.** The SIA is appended at **Appendix U.**

6.12.1 INTRODUCTION

A Social Impact Assessment (SIA) has been prepared by Onward and is provided in **Appendix U**.

The assessment has been prepared in accordance with the Social Impact Assessment Guideline (DPE, 2025). The SIA outlines the following:

> A summary of the social locality and study area
> A social baseline of the social locality
> Outcomes of stakeholder engagement
> Impact and benefit evaluation
> A social impact response including recommended measures and discussion of a social impact management framework
> A summary of residual impact significance ratings.

A summary of the SIA is provided in the following sections, as well as a summary of residual impacts following the implementation of recommended mitigation measures.

6.12.2 EXISTING ENVIRONMENT

The SIA confirms the social locality as, the local area, Ebor, the LGA, Armidale Regional and the Rest of NSW. The assist with determining the relevant factors to determine the social locality, the SIA adopts Australian Statistical Geography Standard (ASGS) defined geographies to establish the study area (ABS, 2021), including suburbs and localities (SAL), local government areas (LGA), and Greater Capital City Statistical Areas (GCCSA). **Table 33** provides a summary of the social locality.

Table 33 - Social study area

Study area	Locality & ASGS code	2021 population	Likely Project interests
Local area	Ebor SAL11375	149	The Project is located in Ebor, approximately 3 km north of the township. There are 8 sensitive receivers within 2 km of the development footprint. Residents may experience amenity impacts relating to visual, dust, traffic, noise and vibration. Other interests are expected to include bushfire, land use change, health impacts, water, and facility maintenance.
Armidale LGA	Armidale Regional LGA10180	29,124	The Project is located 70 km east of the city of Armidale. The Armidale Regional LGA may experience workforce impacts, including demand for housing and services and experience benefits such as demand for labour, services and supplies.
Regional NSW	Rest of NSW 1RNSW	2,829,637	Baseline for comparison

The key findings of the social baseline are summarised below:

- Ebor is a small village near the Project area, known for its landscape setting, visitor economy and proximity to Ebor Falls and Guy Fawkes River National Park.
- Ebor has limited local services, with most higher-order services accessed in Armidale city.
- Housing and accommodation in Ebor are limited, and rental vacancy rates are declining in Armidale and surrounding areas.
- Armidale city is the main regional service centre for surrounding villages, providing health, education, retail, accommodation, emergency and community services, including UNE.
- Armidale LGA has relatively low unemployment and workforce participation broadly in line with the Regional NSW average, indicating limited spare labour capacity.
- At the LGA level, baseline indicators do not suggest a strong overall concentration of potentially vulnerable or high-risk groups, although some indicators show relatively higher representation of Aboriginal and Torres Strait Islander residents, CALD residents, people with low English proficiency, and children.

6.12.3 ASSESSMENT IMPACTS

Through engagement and targeted interviews, the SIA identified the key impacts (both positive and negative). Key feedback through engagement included:

- Ebor is picturesque and well-known for its recreational lifestyle; however, nearby landowners did not expect the Project to have great visual impacts.
- Stakeholders acknowledged there may be some increased risk of fire or hazards but were not concerned about the local capacity to respond to any issues.
- Most residents need to travel to Armidale, Dorrigo or Coffs Harbour to access community, retail and health services.
- Renewable projects present an opportunity for skills, employment, contracts and local expenditure.
- Stakeholders re-enforced the limited availability of housing and accommodation within the region.

Through analysis of the information gathered, eleven social impacts and benefits were identified under the following key themes:

- housing and social infrastructure
- amenity and other localised changes
- economic activity and capacity building
- Aboriginal cultural values

Key measures to address these impacts include:

- measures set out by other technical studies for the EIS that contribute to minimising social impacts
- Project initiatives that contribute to community development, and business and employment opportunities
- social-impact specific responses that manage or enhance potential social impacts, where coverage is not provided by other Project measures

Key identified impacts, together with recommended management and enhancement measures are summarised in **Table 34**. Through the adoption of recommended mitigation and enhancement measures, a residual rating for each impact has been identified.

Table 34 - Summary of assessed social impacts

Social Impact	Phase	Initial rating	Management and enhancement measures	Residual rating
Housing and social infrastructure				
Reduced access to housing and accommodation due to additional demand from non-resident workforce	C	Medium (Possible, Moderate) Negative	> Implement UNE accommodation arrangements > Consultation with other project proponents to address cumulative impacts > Targeted Armidale LGA-based employment and procurement initiatives	Low (Unlikely, Moderate) Negative

Social Impact	Phase	Initial rating	Management and enhancement measures	Residual rating
Reduced access to health services due to non-resident workforce demand	C	Medium (Possible, Moderate) Negative	> Consultation with other project proponents to address cumulative impacts > Worker health management protocols > Targeted Armidale LGA-based employment and procurement initiatives	Low (Unlikely, Moderate) Negative
Amenity and other localised changes				
Changes to visual landscape impacting amenity and sense of place	O	Low (Possible, Minor) Negative	> Continued implementation of existing complaints procedure and CSEP > Notifications to residents and nearby sensitive receivers > Management measures set out by the VIA	Low (Unlikely, Minor) Negative
Noise and vibration impacting amenity and sleep	C	Medium (Possible, Moderate) Negative	> Continued implementation of existing complaints procedure and CSEP > Notifications to residents and nearby sensitive receivers > Management measures set out by the NIA	Low (Unlikely, Moderate) Negative
	O	Low (Unlikely, Moderate) Negative	> Continued implementation of existing complaints procedure and CSEP > Management measures set out by the NIA	Low (Very unlikely, Moderate) Negative
Concern or stress generated from perceptions of risks associated with fire	PC, C, O	Low (Possible, Minor) Negative	> Continued implementation of existing complaints procedure and CSEP > Consultation with local fire services > Fire safety communication > Management measures set out by the BAR and PHA	Low (Possible, Minimal) Negative
Additional construction vehicle movements, contributing to reduced sense of public safety or travel delays	C	Medium (Possible, Moderate) Negative	> Continued implementation of existing complaints procedure and CSEP > Notifications sent to residents and nearby sensitive receivers > Consultation with other project proponents and ARC to address cumulative impacts > Management measures set out by the TIA > Worker code of conduct	Low (Unlikely, Moderate) Negative

Social Impact	Phase	Initial rating	Management and enhancement measures	Residual rating
Reduced access to water during construction	C	Low (Possible, Minor) Negative	> Continued implementation of existing complaints procedure and CSEP > Management measurement measures set out by the WIA > Consultation with ARC to address cumulative impacts	Low (Unlikely, Minor) Negative
Economic activity and capacity building				
Contribution to local economy due to demand for supplies and services	C	Medium (Likely, Minor) Positive	> Targeted Armidale LGA-based employment and procurement initiatives > Local (NSW-based) supply chain commitments > First Nations participation	High (Likely, Moderate) Positive
Workforce requirements creating employment opportunities	C	Medium (Likely, Minor) Positive	> Targeted Armidale LGA-based employment and procurement initiatives > Employment and workforce commitments > First Nations participation	High (Likely, Moderate) Positive
Contribution to community development initiatives via VPA and funding local community projects	C, O	Medium (Almost Certain, Minor) Positive	> Continued implementation of existing complaints procedure and CSEP	High (Almost Certain, Moderate) Positive
Aboriginal cultural values				
Impacts to Aboriginal cultural heritage through unintended disturbance to unidentified objects or sites of significance	C	Low (Unlikely, Moderate) Negative	> Management measures set out by the ACHAR > Continued implementation of the CSEP to engage with Traditional Owners and Aboriginal community members	Low (Unlikely, Minor) Negative

Assuming management and enhancement measures are in place, the assessment found three impacts with a high residual significance rating, which were:

> contribution to local economy due to demand for supplies and services

> workforce requirements creating employment opportunities

> contribution to community development via a planning agreement and funding community projects

The remaining social impacts had a residual rating of low.

6.12.4 MITIGATION MEASURES

The recommended mitigation measures from the SIA are summarised below:

- Implement UNE accommodation arrangements;
- Consultation with other project proponents to address cumulative impacts;
- Targeted Armidale LGA-based employment and procurement initiatives;
- Worker health management protocols;
- Continued implementation of existing complaints procedure and CSEP;
- Notifications to residents and nearby sensitive receivers;
- Management measures set out by the VIA;
- Management measures set out by the NIA;
- Consultation with local fire services;
- Fire safety communication;
- Management measures set out by the BAR and PHA;
- Consultation with other project proponents and ARC to address cumulative impacts;
- Management measures set out by the TIA;
- Worker code of conduct;
- Management measurement measures set out by the WIA;
- Targeted Armidale LGA-based employment and procurement initiatives;
- Local (NSW-based) supply chain commitments;
- First Nations participation;
- Employment and workforce commitments;
- First Nations participation;
- Management measures set out by the ACHAR; and
- Continued implementation of the CSEP to engage with Traditional Owners and Aboriginal community members.

6.13 Economic

Table 35 - Economic and Benefit-Sharing SEARs

Relevant SEARs	Where addressed
Economic and Benefit-Sharing	
- an assessment of the economic impacts or benefits of the project for the region and the State as a whole and provide details of any proposed voluntary benefit sharing, having regard for the *Benefit-Sharing Guideline 2024* and *Private Agreement Guideline 2024*.	A Social Impact Assessment (SIA) has been prepared and are provided with this application. The findings of the SIA are summarised in **Section 6.13**. The SIA is appended at **Appendix U.**

6.13.1 CONSTRUCTION

Key economic impacts during the construction phase of the project would include:

- increased employment opportunities;
- investment in the local and regional economy; and
- potential short-term pressure on local services, particularly accommodation.

During peak construction, the project is expected to generate up to 60 direct construction jobs, providing short-term employment opportunities across civil works, electrical installation, transport and associated services. This employment generation would result in a positive contribution to the local and regional economy through increased expenditure on goods and services.

Given the relatively small local labour force at Ebor, it is anticipated that the construction workforce would be drawn from a combination of local, regional and broader NSW labour markets. Where practicable, the Applicant will seek to maximise the use of local and regional workers and contractors, noting that some specialist roles may require the engagement of personnel from outside the immediate area.

The construction workforce is expected to support local businesses, including accommodation providers, hospitality, fuel suppliers and service industries. However, similar to other large infrastructure projects in the region, the influx of workers may result in temporary pressure on accommodation availability during peak construction periods. These impacts are expected to be short-term and manageable and would be addressed through workforce planning and liaison with local accommodation providers.

The project also presents opportunities to support local training and service organisations during construction. These opportunities would be explored through the preparation and implementation of an Industry Participation Plan (IPP), which would outline strategies to maximise local procurement, employment and skills development.

Any short-term loss of agricultural productivity during construction would be limited in extent and duration, having regard to the overall size of the landholding and the temporary nature of construction activities. Agricultural use of the land would continue where practicable and would be reinstated following construction, consistent with the findings of the LSAR.

6.13.2 OPERATIONS

During operation, the project is expected to support approximately 5 ongoing full-time equivalent positions, primarily associated with maintenance, monitoring and site management activities. These roles would be maintained over the anticipated 25 year operational life of the facility and would provide stable, long-term employment opportunities within a rural setting.

While modest in number, these ongoing positions contribute to economic diversification in the local area and provide opportunities for skills development and long-term engagement of regional workers. In addition, indirect economic benefits would continue to arise through expenditure on specialist maintenance services, compliance activities, land management and local suppliers over the life of the project.

The proposed development would also provide an ongoing revenue stream from energy infrastructure without materially affecting the long-term agricultural viability of the site. The loss of agricultural land associated with the project footprint is limited and is not expected to result in a significant reduction in agricultural production or to adversely affect the regional or State economy.

6.13.3 BENEFIT SHARING AND AGREEMENTS

Consistent with the NSW Renewable Energy Benefit Sharing Guideline (2024), the proposed development qualifies as a stand-alone battery energy storage system and is expected to deliver community benefit-sharing outcomes over its operational life.

For energy storage developments, the Guideline identifies a benchmark contribution of $850 per megawatt per annum (from 2023, indexed to CPI). For the proposed 100 MW / 870 MWh BESS, this equates to an indicative community benefit of approximately:

- $90,300 per annum, indexed to CPI; and
- approximately $2.26 million over a 25 year operational life (nominal, pre-indexation).

A planning agreement (PA) has been progressed with ARC, at its Ordinary Meeting of 18 February 2026 (Minute 16/26), Council resolved to accept the general terms of the proposed PA.

In addition to the PA offer, Bridge Energy have made a number of additional commitments to the local community to deliver shared benefit as a consequence of the project, including:

- installation of an EV charger in Ebor village, with a stated delivery date of 1 June 2028 and a value of $150,000 for one year
- amenity upgrades to the Ebor Town Hall, also identified for 1 June 2028, with a stated value of $25,000 for one year
- upgrades to the Ebor Sportsground announcer box, identified for 1 June 2028 and valued at $25,000 for one year
- sponsorship of the annual Ebor Campdrafting Event 2026, with a stated date of 31 December 2026 and a value of $5,000 for one year

The Applicant will continue to engage with ARC and the local community around benefit-sharing outcomes.

Any private agreements with landowners or neighbours required to facilitate the project would be negotiated separately and are not considered part of community benefit sharing, consistent with the *NSW Private Agreement Guideline* (2024). At the time of writing, no neighbour agreements have been offered or entered into.

6.13.4 MITIGATION MEASURES

Ongoing consultation with Council, local stakeholders and the community is recommended to ensure that the economic benefits of the project are maximised, and any residual impacts are appropriately managed.

The following mitigation measures are proposed:

- preparation and implementation of an Industry Participation Plan (IPP) to maximise the use of local and regional contractors, suppliers and workforce where practicable;
- engagement with local employment agencies and training organisations to identify opportunities for skills development, training and apprenticeships where feasible;
- continued engagement with Council regarding the development, governance and delivery of community benefit-sharing arrangements; and
- continue to engage with the community around committed local projects and other opportunities that may exist.

With these measures in place, the economic impacts of the project are expected to be predominantly positive at the local, regional and State level, with any adverse effects being temporary, localised and manageable.

6.14 Waste

Table 36 - Waste SEARs

Relevant SEARs	Where addressed
Waste	
> identify, quantify and classify the likely waste stream to be generated during construction, operation, and decommissioning, and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste (in consultation with waste facilities, including Council).	A Waste Management Plan (WMP) has been prepared and are provided with this application. The findings of the WMP are summarised in **Section 6.14**. The WMP is appended at **Appendix W**.

6.14.1 INTRODUCTION

A Waste Management Plan (WMP) has been prepared by Premise and is provided in **Appendix W**.

The WMP has been developed in accordance with the Planning Secretary's Environmental Assessment Requirements (SEARs) and relevant legislative requirements, including the *Protection of the Environment Operations Act 1997*, *Waste Avoidance and Resource Recovery Act 2001*, and *NSW EPA Waste Classification Guidelines*.

The WMP:

- Identifies the likely waste streams to be generated across all phases of the development;
- Provides indicative waste quantities based on benchmark data for comparable BESS projects;
- Classifies waste in accordance with NSW EPA requirements; and
- Establishes procedures for the handling, storage, reuse, recycling and disposal of waste.

Waste generation is expected to be greatest during construction and decommissioning phases, with operational waste generation limited due to the largely automated nature of the facility.

6.14.2 EXISTING ENVIRONMENT

The proposed development is located in a rural setting within the Armidale Regional Local Government Area, approximately 3 km north of Ebor.

Waste management infrastructure within the locality includes:

- Armidale Regional Landfill, located approximately 60 km from the site, which is a recently established facility with EPA licence constraints on accepted waste streams;
- Armidale Solid Waste Landfill Facility, located approximately 68 km from the site, which accepts a broader range of waste types; and
- Ebor Waste Transfer Facility, located adjacent to the site, which accepts limited waste streams (primarily domestic-scale waste and recyclables) and is not suitable for large-scale or commercial waste disposal.

The availability of waste facilities within the region is subject to:

- EPA licensing restrictions;
- Waste classification requirements; and
- Operational capacity of individual facilities.

The site is currently undeveloped for industrial purposes and is not known to be affected by existing waste constraints. Waste generation within the locality is typically associated with:

- Rural and agricultural land uses; and
- Domestic waste streams from nearby settlements.

The surrounding environment is not subject to significant existing waste-related pressures. However, regional waste infrastructure is constrained by:

- Limited facilities capable of accepting certain waste classifications; and
- Increasing demand associated with renewable energy development within the broader New England Renewable Energy Zone (REZ).

The receiving environment has the potential to be sensitive to waste-related impacts if not appropriately managed, particularly in relation to:

- Land contamination;
- Water quality impacts;
- Visual amenity; and
- Localised nuisance (e.g. litter or odour).

Accordingly, appropriate waste management practices are required to ensure that waste generated by the development does not adversely affect the surrounding environment or existing waste infrastructure.

6.14.3 ASSESSMENT OF IMPACTS

6.14.3.1 Construction

Waste generation during construction would be the most intensive phase of the project, associated with site establishment, earthworks, installation of infrastructure and workforce activities. Key waste streams identified include:

- Liquid waste (sewerage): 905 tonnes
- General waste: 4 tonnes
- Garden/food organics: 10 tonnes
- Construction and demolition (C&D) waste (soil and concrete): 1,620 tonnes
- Dangerous goods: 3 tonnes

These waste streams are predominantly classified as general solid (non-putrescible), with smaller quantities of liquid waste and potentially hazardous materials requiring classification in accordance with the NSW EPA Waste Classification Guidelines.

Potential impacts associated with construction waste include:

- Improper storage or handling resulting in land contamination or pollution;
- Increased demand on local waste facilities;

- Amenity impacts (visual, odour, litter) if not appropriately managed; and
- Risks associated with handling regulated or hazardous wastes.

However, the Waste Management Plan demonstrates that:

- Waste streams have been identified, quantified and classified in accordance with NSW EPA requirements, enabling a clear understanding of the scale and nature of waste impacts;
- Waste volumes are consistent with comparable BESS developments; and
- Waste generation is temporary and confined to the construction period of approximately 18 months.

Waste generated through the construction phase would be managed in accordance with the WMP, with avoidance and minimisation of waste being the first management tier, following by on site reuse/recycling where possible (i.e., mulch from vegetation clearing). As a last resort, waste would be removed from the site and either recycled or disposed of at an appropriate waste disposal facility.

Where battery units or associated components are found to be defective, damaged or surplus to requirements during construction, these would not be treated as waste on-site. Instead, such components would be returned to the manufacturer or supplier for replacement, refurbishment or repurposing, in accordance with supplier agreements. This approach is consistent with the waste management hierarchy, prioritising avoidance and reuse over disposal, and reduces the generation of hazardous waste requiring off-site treatment or disposal.

Effluent disposal would be limited to provision of short-term services to service the construction workforce. Temporary ablution facilities would be provided and emptied by suitably qualified contractors. These would be removed at the completion of the construction period.

On this basis, and subject to implementation of the WMP, construction-related waste impacts are considered to be temporary, localised and manageable.

6.14.3.2 Operation

Operational waste generation is expected to be minimal due to the largely autonomous nature of the BESS, with limited personnel onsite.

Estimated waste generation includes approximately:

- 3.2 tonnes per annum of general and liquid waste (primarily sewage and minor maintenance waste), equating to 80 tonnes over the 25 year operational life.

Additional waste may arise from:

- Maintenance activities (e.g. oils, consumables);
- Replacement of minor components; and
- Unplanned asset failures (variable and event-based).

Noting the life of the project is up to 25 years, it is possible that batteries may require replacement during the life of the project.

Batteries are classed as hazardous waste and their transport for disposal or recycling is regulated under the Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission 2020, Ed. 7.7). The operator will be required to ensure that all transport requirements are met for the off-site transport of batteries at their end of life. This would be managed by the operator at the time in line with the applicable hazardous materials requirements in effect at that time.

As the development of solar farms and large-scale batteries and uptake of electric vehicles increases in Australia in response to the shifting methods of energy generation and management, there is the likely potential for increase in batteries requiring recycling or disposal. This will increase opportunities for onshore recycling operations and avoid the need for export of these materials, a shift that is now increasingly evident in the domestic market, such as the proposed Wagga Wagga Lithium-Ion-Battery Recycling Facility.

6.14.3.3 Decommissioning

Decommissioning is anticipated to generate waste volumes broadly comparable to construction, estimated at:

- Liquid waste (sewerage): 905 tonnes;
- General waste: 4 tonnes;
- Garden/food organics: 10 tonnes;
- C&D waste (soil and concrete): 1,620 tonnes; and
- Dangerous goods: 3 tonnes.

Additional waste streams will include:

- Batteries, inverters and transformers;
- Electrical and electronic waste (e-waste); and
- Structural materials (steel, concrete, cabling).

Potential impacts include:

- Management of large volumes of demolition materials;
- Handling and disposal of battery and electrical components;
- Increased transport movements for waste removal.

However, the WMP demonstrates that:

- Decommissioning waste streams are identified and classified, including complex e-waste;
- Significant recycling opportunities exist, particularly for metals, concrete and battery components (up to 95% recyclability);
- Waste will be removed off-site to appropriately licensed facilities, with emerging recycling infrastructure anticipated over the project lifespan.

Waste generating during the decommissioning phase would be managed in a manner consistent with the construction phase, including waste avoidance, minimisation, reuse and finally disposal.

It is noted that Armidale Regional Council have provided waste-related comments on other nearby REZ projects, flagging that Armidale Regional Landfill is limited by its EPA licence to the following waste categories:

- Certified virgin excavated natural material (VENM); and
- Paper and cardboard and comingled recycling.

Accordingly, waste generated by the Project will only be transferred to facilities that are licensed to accept the relevant waste classification. Where practicable, local facilities will be utilised to minimise transportation distances and facilitate the regular removal of waste from the site.

Prior to decommissioning, a site-specific decommissioning plan would be prepared, with a clear understanding of the type of materials to be disposed of and quantities. In relation to waste batteries that have reached end

of life, it is reasonable to expect that there will be suitable battery recycling facilities to receive them, such as the proposed Wagga Wagga Lithium-Ion-Battery Recycling Facility (or similar).

6.14.4 MITIGATION MEASURES

A range of mitigation and management measures are proposed to minimise waste generation and ensure that all waste is appropriately managed in accordance with legislative requirements and best practice, and are summarised as:

- Waste Avoidance and Minimisation:
  - Implement procurement and supply chain practices to reduce packaging and material waste;
  - Encourage suppliers to utilise reusable packaging and take-back schemes for materials and components;
  - Optimise material quantities during design and construction to minimise surplus waste; and
  - Prioritise prefabricated components where practicable to reduce on-site waste generation.
- Waste Segregation and Recycling:
  - Segregate waste streams on-site into dedicated bins or stockpile areas to maximise recycling and reuse opportunities;
  - Separate recyclable materials including metals, concrete, timber, plastics, cardboard and glass;
  - Reuse suitable materials on-site where practicable, including:
    - Excavated soils for backfilling and rehabilitation;
    - Crushed concrete for fill or reuse applications;
  - Engage licensed recycling contractors to collect and process recyclable materials.
- Waste Handling and Storage:
  - Store all waste in designated, clearly labelled and appropriately located areas;
  - Use covered bins and skips to prevent litter, contamination and amenity impacts;
  - Store liquid wastes in bunded areas with appropriate containment capacity;
  - Ensure waste storage areas are maintained in a clean and orderly condition at all times.
- Waste Classification and Compliance:
  - Classify all waste in accordance with the *NSW EPA Waste Classification Guidelines*;
  - Ensure all waste is transported and disposed of in accordance with the *Protection of the Environment Operations Act 1997*; and
  - Ensure only licensed contractors transport waste and that waste is delivered to facilities lawfully permitted to accept the relevant waste class.
- Waste Disposal and Resource Recovery:
  - Dispose of waste at appropriately licensed waste management facilities based on waste classification;
  - Prioritise local facilities where suitable and permitted, to minimise transport distances; and
  - Ensure that waste not suitable for reuse or recycling is disposed of in accordance with regulatory requirements.
- Specialised Waste Streams (BESS Components):
  - Return defective or surplus batteries to manufacturers during construction where feasible;

- Remove batteries, inverters and transformers off-site at end of life for:
  - Recycling;
  - Refurbishment; or
  - Safe disposal at licensed facilities;
- Monitor emerging recycling infrastructure to maximise resource recovery opportunities at the time of decommissioning.

> Waste Tracking and Monitoring:

- Maintain a waste tracking register documenting:
  - Waste type and classification;
  - Quantities generated;
  - Transport contractor details; and
  - Receiving facility;
- Retain records (e.g. weighbridge dockets, receipts) to ensure traceability and compliance;
- Regularly review waste management practices and update the WMP as required.

> Consultation and Adaptive Management:

- Consult with Council and waste service providers prior to construction to confirm disposal pathways;
- Review and update the WMP prior to construction and decommissioning to reflect detailed design and confirmed waste streams;
- Continuously review availability of waste facilities and adapt management practices accordingly.

Residual waste-related impacts are expected to be low and acceptable following the implementation of the WMP, with all management measures consolidated in **Appendix F**.

6.15 Construction Impacts

Construction impacts would be short-lived and manageable. The following standard construction management measures would be implemented to ensure impacts to the locality are minimised:

> Standard construction hours (7 am to 6 pm Monday to Friday and 8 am to 1 pm Saturday and at no times on Sundays or public holidays) would be implemented;

> Avoiding dust generating activities during windy and dry conditions; and

> Maintaining all equipment in good working condition such that the construction contractor and site manager ensure the prevention of the release of smoke by construction equipment, which would be in contravention of Section 124 of the *Protection of the Environment Operations Act 1997* and Clause 16 of the *Protection of the Environment Operations (Clean Air) Regulation 2010*.

Accordingly, construction-related impacts are considered to be temporary, localised and of low significance, subject to the implementation of standard construction management measures and compliance with relevant legislative requirements.

6.16 Cumulative Impacts

6.16.1 INTRODUCTION

A review of the potential for cumulative impacts has been prepared by Premise. Cumulative impacts have been identified and assessed in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPHI, 2026).

6.16.2 EXISTING ENVIRONMENT

To identify projects within the region with the potential to contribute to cumulative impacts, a review of the Department of Planning, Housing and Infrastructure (DPHI) Major Projects Portal was undertaken for State Significant Developments, together with a review of the NSW Planning Portal (Planning Panels) for Regionally Significant Development (Northern Regional Planning Panel) and the Armidale Regional Council's development application tracker for local development as undertaken on 31 March 2026.

A review of the NSW Planning Portal (Northern Regional Planning Panel) identified the following applications under assessment within Armidale LGA and adjoining LGAs:

- Armidale LGA: Puddledock Quarry (PPSNTH-471), approximately 61 km west of Ebor BESS, and approximately 13 km north of Armidale CBD.
- Clarence Valley LGA:
  - Gulmarrad Manufatured Home Estate (PPSNTH-473), approximately 93 km north-east of Ebor BESS; and
  - Clarence Valley Conservatorium (PPSNTH-480), approximately 129 km east of Ebor BESS.
- Bellingen LGA: No applications under assessment.
- Nambucca LGA: No applications under assessment.
- Kempsey LGA:
  - Medical Centre, Supermarket and Commercial Premises, Subdivision of Land (PPSNTH-455), approximately 91 km south-east of Ebor BESS; and
  - Rock retaining walls (Coastal Protection Wall) (PPSNTH-435), approximately 85 km south-east of Ebor BESS.

Given the scale, localised nature and separation distances of these regionally significant developments from Ebor BESS, they are not considered likely to interact with the proposed development in a manner that would result in cumulative impacts.

A review of Armidale Councils DA tracker identified one DA under assessment (DA-39-2026) for alterations and additions to an existing dwelling. Likewise, given the proposed developments scale and localised nature, it is unlikely to result in cumulative impacts and has not been carried forward for further assessment.

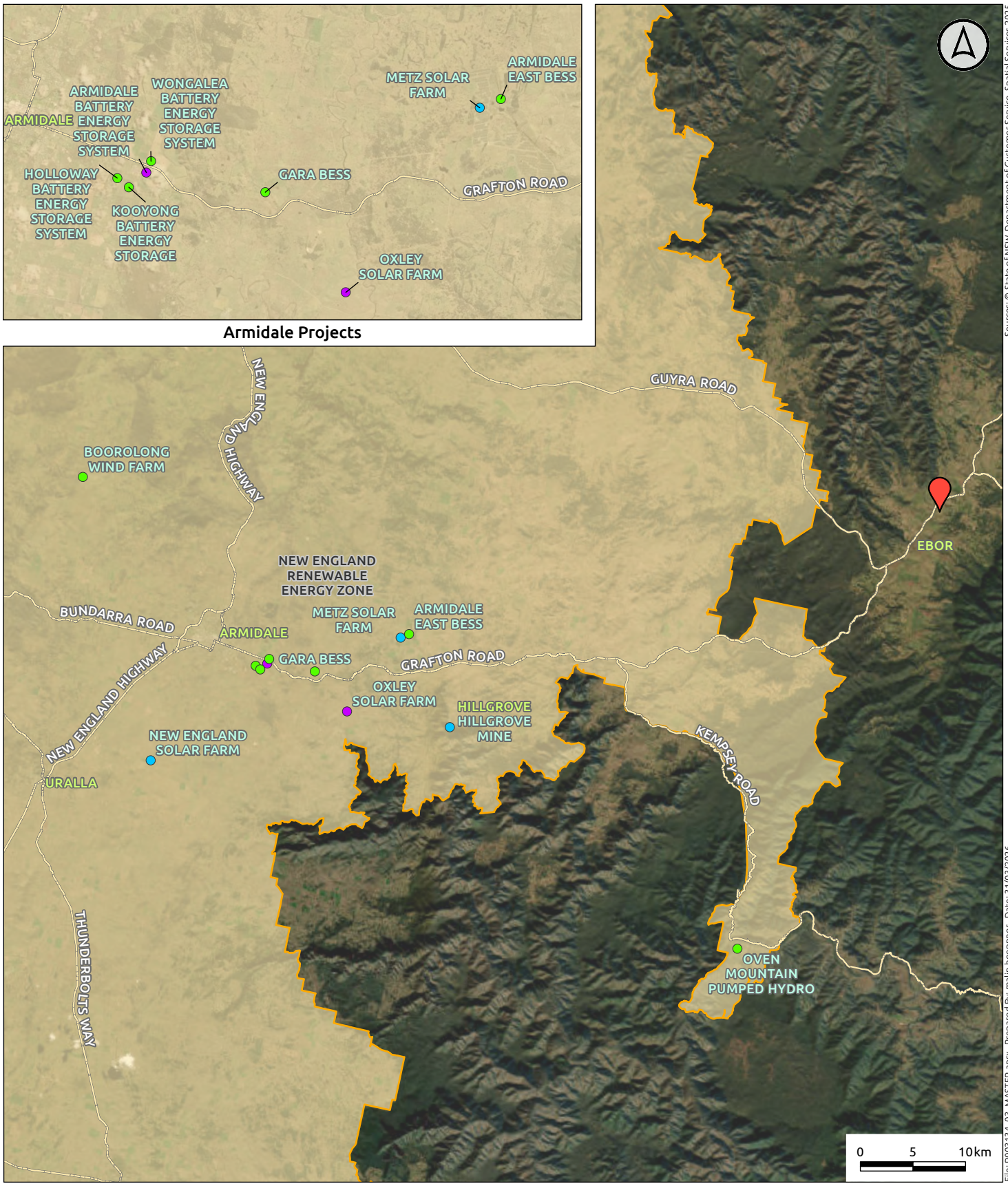
A number of state significant projects with the potential to occur simultaneously have been identified, outlined in **Table 37**.

Table 37 - Relevant projects

Project description	Status	Scale	Link to application	Distance and direction from the site	Potential cumulative impacts
Oven Mountain Pumped Hydro Energy Storage (SSI-12422997)	Project: to be constructed DA status: Under assessment Construction: commence 2028, 4-5 years	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/oven-mountain-pumped-hydro-energy-storage	40 km south	> Social > Traffic > Biodiversity
Hillgrove Mine (DA98/35-Mod-5)	Project: operational DA Status: Response to Submissions Note: this modification application is an extension to mine life to 2030 and increased processing rate. Construction: 2025, 10 months	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/mod-5-extension-mine-life	40 km south-west	> Social > Traffic > Biodiversity
Metz Solar Farm (SSD-7931)	Project: operational DA Status: Determined	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/metz-solar-farm	50 km west	> Traffic
Armidale East BESS (SSD-65058714)	Project: to be constructed DA status: Preparing EIS Construction: 2027, 18 months Operations: Q3 2028, 40 years	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/armidale-east-battery-energy-storage-system	55 km west	Yet to be quantified
Oxley Solar Farm (SSD-10346)	Project: to be constructed DA status: Determined Construction: date unknown, 12-18 months Operations: unknown, 30 years	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/oxley-solar-farm	55 km south-west	> Traffic

Project description	Status	Scale	Link to application	Distance and direction from the site	Potential cumulative impacts
Gara BESS (SSD-71680710)	Project: to be constructed DA Status: Assessment Construction: commence early 2027, 14 months Operations: 23 years	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/gara-battery-energy-storage-system	70 km west	> Social > Traffic > Biodiversity
Wongalea BESS (SSD-85522708)	Project: to be constructed DA Status: Preparing EIS Construction: early-mid 2027, 24-28 months Operations: 20 years, 2029	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/wongalea-battery-energy-storage-system	75 km south-west	> Yet to be quantified
Armidale BESS (SSD-23515853)	Project: to be constructed DA Status: Determined Construction: Dec 2026, 24 months Operations: Late 2027 / early 2028, 20 years	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/armidale-battery-energy-storage-system	77 km south-west	> Social > Traffic > Biodiversity
Holloway BESS (SSD-94769463)	Project: to be constructed DA Status: Preparing EIS Construction: 2027, 12-18 months Operations: 30 years	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/holloway-battery-energy-storage-system	77 km south-west	Yet to be quantified
Kooyong BESS (SSD-88375208)	Project: to be constructed DA Status: Preparing EIS Construction: FY2029, 12 months Operations: FY2030 Life: min. of 30 years	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/kooyong-battery-energy-storage-system	77 km west	Yet to be quantified
NEREZ Transmission Project	Project: to be constructed DA Status: Preparing EIS Construction: 2027/28 to 2034	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/new-england-rez-transmission-project	85 km (at closest point) west	Yet to be quantified

Project description	Status	Scale	Link to application	Distance and direction from the site	Potential cumulative impacts
(SSI-74175972)					
Boorolong Wind Farm (SSD-90045958)	Project: to be constructed DA Status: Preparing EIS Construction: 2029, 24-36 months Operational from 2032, for 25-30 years	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/boorolong-wind-farm	100 km west	Yet to be quantified
New England Solar Farm SSD- 9255	Project: operational DA Status: Determined	SSD	https://www.planningportal.nsw.gov.au/major-projects/projects/new-england-solar-farm	100 km west	> Traffic



Legend

- Project Area
- Major Road
- Renewable Energy Zones

SSD Projects

- Approved
- In planning
- Operational

Premise

BRIDGE ENERGY

Ebor BESS

Figure 19
Cumulative Impacts

6.16.3 ASSESSMENT IMPACTS

The following sections assess potential cumulative impacts in the context of projects identified in **Table 37**, that have either been approved or are currently under assessment, for which sufficient information is available to enable a robust evaluation of potential cumulative effects. Projects that are already constructed and operational have not been included, as their impacts are established and form part of the existing baseline environment. Projects in earlier stages of development (e.g. preparing an EIS) have not been included, as their design, scale and associated impacts are not yet sufficiently quantified to support a meaningful assessment of cumulative impacts.

6.16.3.1 Biodiversity

A review of the Biodiversity Development Assessment Reports (BDARs) and supporting ecological information for nearby SSD and SSI projects, including Hillgrove Mine, Gara BESS, Armidale BESS and the Oven Mountain Pumped Hydro Project, indicates that biodiversity impacts and associated offset requirements are not shared across projects.

The Oven Mountain Pumped Hydro Project is located within the NSW North Coast (Macleay Hastings) IBRA subregion and includes vegetation communities such as Coastal Valley Grassy Woodlands (PCT 762), which are ecologically distinct from the New England Tablelands environment in which the Ebor BESS is located.

Similarly, the Hillgrove Mine impacts woodland communities within a separate landscape context with higher ecological integrity and different species, while the Gara BESS and Armidale BESS involve localised and site-specific impacts assessed independently under the Biodiversity Assessment Method.

Ebor BESS is located within a highly modified agricultural landscape with limited remnant vegetation, resulting in a distinct and comparatively low biodiversity credit offsets.

Importantly:

- the limited overlap in threatened species credit requirements exists, including credits for Greater Glider; however, this overlap is minor and does not represent a concentrated demand across multiple projects; and
- species credit obligations for each project are small in scale and are secured independently in accordance with the Biodiversity Assessment Method.

While a limited overlap in species credit requirements has been identified, the scale of credit demand associated with Ebor BESS (two species credits) is minor and is not considered to result in any significant cumulative demand on biodiversity credits or associated ecological values.

These impacts and mitigation measures have been further addressed in **Section 6.1**.

6.16.3.2 Land use

A review of land use impacts indicates that each development occupies a discrete footprint within the broader rural landscape and operates independently of surrounding land uses. The Hillgrove Mine, BESS developments and the Oven Mountain Pumped Hydro Project are located in separate areas and do not physically interact with Ebor BESS locality.

Importantly:

- each project is confined to its own development footprint and does not result in fragmentation of surrounding land uses;
- there is no overlap in land required for development between projects;

- agricultural land uses surrounding each project remain largely unaffected; and
- no cumulative loss or sterilisation of land resources is identified.

Accordingly, cumulative land use impacts are not anticipated.

6.16.3.3 Noise

A review of Noise and Vibration Impact Assessments indicate that noise impacts are localised to each development and assessed against applicable criteria at surrounding receivers. Given the separation distances between projects, and that noise emissions from Ebor BESS do emit past the project area, noise emissions will not overlap spatially, given:

- there is no overlap in noise catchments between projects due to separation distances;
- construction noise is temporary and site-specific; and
- operational noise from BESS developments is low and compliant with relevant criteria.

Accordingly, cumulative noise impacts are not anticipated.

6.16.3.4 Traffic

A review of the TIA prepared for Hillgrove Mine, Gara BESS, Armidale BESS and the Oven Mountain Pumped Hydro Project, indicates that traffic generation is primarily associated with construction activities and is distributed across the regional road network.

The Oven Mountain Pumped Hydro Project represents the largest traffic generator, with peak construction involving a substantial workforce and daily vehicle movements concentrated along Kempsey–Armidale Road and associated regional routes. In contrast, the proposed development and other BESS projects generate comparatively low traffic volumes and are accessed via localised road networks.

Importantly:

- traffic generation for all projects is predominantly temporary and associated with construction phases;
- access routes differ between projects and are distributed across separate routes;
- no single intersection or constrained road segment is identified as receiving combined traffic loading from multiple projects; and
- operational traffic for BESS developments is minimal due to the largely unmanned nature of the facilities.

While there is potential for overlap in construction periods, the distribution of traffic across the network and limited to the State road network. The temporary nature of construction activities means that cumulative traffic impacts are not expected to result in unacceptable impacts to road capacity or safety.

6.16.3.5 Flooding

SES response

A review of flood impact assessments indicates that flood impacts are localised and relate to site-specific hydrological conditions. The Oven Mountain Pumped Hydro Project is located within a separate catchment, and other developments are not hydrologically connected to the project area.

Importantly:

- there is no hydrological connectivity between the project area and other developments; and
- no shared floodplain or flow path interactions are identified.

Accordingly, cumulative flooding impacts are not anticipated.

6.16.3.6 Visual

The proposed development and other projects are separated by substantial distances and are not visible within the same visual catchments. Accordingly, cumulative visual impacts are not anticipated.

6.16.3.7 Social and economic

A review of the Social Impact Assessment and available information on Major Projects Portal for Hillgrove Mine, Gara BESS, Armidale BESS and the Oven Mountain Pumped Hydro Project, indicates that cumulative social impacts are primarily associated with construction-phase workforce demands.

The Oven Mountain Pumped Hydro Project represents a larger-scale development with a substantial construction workforce, while BESS developments are characterised by shorter construction periods and minimal operational workforce requirements. The Hillgrove Mine introduces an ongoing operational workforce, differing from the temporary workforce profiles of BESS projects.

Together:

- cumulative social impacts are primarily associated with temporary increases in workforce during overlapping construction periods;
- potential pressures on housing, accommodation and local services are identified as short-term and construction-related are ameliorated through UNE in-principle agreement for construction workers;
- operational workforce requirements for BESS developments are minimal and do not contribute to long-term population increases; and
- economic effects are cumulative and include increased employment, local procurement and regional investment.

While some temporary cumulative pressure on accommodation and services may occur during peak construction periods, these impacts are transient and do not represent ongoing or compounding effects. Cumulative economic impacts are positive at a regional scale.

These impacts and mitigation measures have been further addressed in **Sections 6.12** and **6.13**.

6.16.3.8 Mitigation measures

Mitigation measures in relation to cumulative impacts have been incorporated within the relevant technical assessments for individual impact areas. Given the absence of identified cumulative impact pathways, no additional project-specific mitigation measures are required.

Notwithstanding this, the Applicant will maintain a coordinated approach to project delivery, including:

- maintaining ongoing communication with relevant stakeholders, including nearby renewable energy proponents, infrastructure providers and accommodation suppliers, where appropriate, to support awareness of regional development activity.

The cumulative impact assessment demonstrates that the proposed development would not result in:

- individual impacts occurring in close temporal proximity such that effects are not dissipated (time-crowded effects);
- individual impacts occurring in close spatial proximity resulting in overlap (space-crowded effects);
- incremental or repetitive impacts resulting in gradual environmental degradation (nibbling effects); or
- interacting impacts that combine to produce effects greater than the sum of individual impacts (synergistic effects).

6.16.3.9 Conclusion

The cumulative impact assessment demonstrates that, while multiple SSD projects are proposed or approved within the broader region, there are no pathways through which impacts could result in significant cumulative environmental or social impacts associated with the Ebor BESS, given:

- the spatial separation of projects across distinct environmental, catchment and landscape contexts;
- the localised nature of impacts confined to individual development footprints;
- the temporary and staged nature of construction activities, particularly for BESS developments;
- the absence of overlap in key impact pathways, including biodiversity values, noise catchments, visual impacts and flood behaviour; and
- the implementation of project-specific mitigation, management and offset measures in accordance with relevant statutory requirements.

Where cumulative interactions may occur, particularly in relation to construction-phase workforce demand, these are temporary and mitigated via the in-principle agreement with UNE. The project incorporates defined community benefit-sharing commitments, further reducing potential cumulative pressures and contributing positively to the local community.

Accordingly, cumulative impacts associated with the proposed development are considered to be low and acceptable, and do not preclude the suitability of the site for the proposed development.

7. JUSTIFICATION OF THE PROJECT

7.1 Design of the project

The project design has been carefully designed and informed by the findings of specialist reports completed in relation to the project, to ensure that impacts are avoided and minimised where possible.

The project will be designed to provide grid flexibility services and will support the efficiency of the electrical network by charging from the grid during periods of low demand and discharging back to the grid during periods of higher demand. It would also have the capacity to charge or discharge when power system services are required to maintain the stability of the broader electricity grid.

Power would transition to and from the project via a proposed one 350 m underground ETL that would connect to the existing Transgrid aboveground 132 kV ETL, connecting into the national electricity network. The power conversion systems convert the power into a form that is suitable for storage in the facility's batteries. The BESS strengthens the power network by providing greater flexibility in grid management.

Several feasible alternatives have been considered (refer **Section 2.3**) have been considered, and it was concluded that proceeding with the project with the current design (Option 4) was the preferred pathway. The project area has been carefully selected to identify a site in close proximity to existing electrical infrastructure.

The construction schedule for the project will consider the timing of other major projects in the region to ensure that cumulative impacts are minimised.

Where impacts have been identified or are unavoidable, mitigation measures have been identified to mitigate impacts on the local or regional environment. These mitigation measures have been identified throughout the EIS and consolidated in **Appendix F**.

7.2 Consistency with the project with the strategic context

The NSW Government has recognised that the NSW electricity system needs to change, acknowledging that traditional generators are ageing, and the State's transmission system is congested. Further, electricity prices are putting pressure on households and businesses. This realisation has informed the preparation of Government policies and documents, the provisions of which have filtered to the local scale and informed local plan making.

The project will contribute to the provision of renewable energy in NSW and facilitate private investment in the state's electricity system over the next decade and beyond, a key consideration of the NSW Electricity Strategy. The BESS has an anticipated lifespan in the order of 25 years and will contribute to the NSW Government's three objectives for the electricity system: reliability, affordability and sustainability.

Refer to the detailed discussion at **Section 2.1** of this EIS.

7.3 Compliance with relevant statutory requirements

The project is characterised as SSD as the proposal is for the purpose of electricity generating development works with an EDC of more than $30 million, pursuant to Clause 20 of Schedule 1 of the Systems SEPP.

Pursuant to the LEP, the project area is located on land zoned as RU1 Primary Production via the LEP.

Electricity generating works are permitted with consent in the RU1 land use zone via Section 2.36(1) of the Infrastructure SEPP. The BESS is wholly located within the RU1 zoned land, including the proposed transmission

line connecting to the existing Transgrid (Line 966) 132 kilovolt (kV) transmission line and the proposed vehicular access.

Refer to **Section 4** of this EIS for a detailed discussion.

7.4 Community views

Community consultation was undertaken which identified several concerns from community members including pressure on local accommodation during the construction phase, impacts to currently constrained health and emergency services, construction traffic, perceived visual impacts and fire risk concerns. These concerns were addressed by either providing information to address questions, or through recommended mitigation measures.

For the most part, community members were satisfied that the project is consistent with the modified landscape context and well separated from nearby landowners and the village of Ebor. There was local support for local employment, procurement and economic activity associated with the Project and support for tangible community benefits, including local infrastructure and funding initiatives.

There were also some broader concerns with increasing development within the REZ and potential cumulative impacts, particularly for workforce and infrastructure demand and broader concerns about Federal and State renewable energy policy and regional planning matters beyond the scope of the Project.

The level of engagement was generally considered appropriate, with expectations for continued, transparent communication during construction and operation.

Refer to **Section 5** of this EIS for a detailed discussion.

7.5 Economic, social, environmental and cumulative impacts

The proposed development is likely to have a net positive economic impact derived from creating local employment opportunities during the construction, operation and decommissioning phases, as well as by contributing to electricity supply from renewable sources and stability. Improved electricity supply and stability are expected to contribute towards downward pressure on electricity prices paid by residents of the local area, as well as by users of the broader electricity network.

The unmitigated social impacts assessed in the SIA resulted in an overall impact significance of low to medium significance for both positive and negative impacts. It is expected that the mitigation measures recommended in the SIA will further improve these impacts.

With consideration of the specialist reports relating to the project, the project has been sited and designed to minimise environmental impacts. Where environmental impacts cannot be avoided mitigation measures have been included.

A review of the NSW Major Projects portal and Armidale Regional Council DA tracker has identified several significant projects within the Armidale area. A large portion of these projects relate to renewable energy as a result of the REZ. Whilst there is potential for cumulative impacts as a result of these projects, several mitigation measures have been recommended throughout the detailed assessments to address these matters. Refer to **Section 6.16** for a detailed discussion of cumulative impacts.

7.6 Compliance monitoring and communication

Throughout construction, management measures will be implemented through the adoption of an Environmental Management Strategy (EMS), which will consist of a range of supporting studies, including but not limited to:

- Construction Environmental Management Plan including a Soil and Water Management sub-plan;
- Construction Traffic Management Plan;
- Driver Code of Conduct;
- Construction Noise Management Plan;
- Vegetation Management Plan;
- Biosecurity Management Plan;
- Unexpected finds protocol;
- Bushfire and Emergency Management Operation Plan;
- Industry Participation Plan;
- Community Stakeholder Engagement Plan; and
- Waste Management Plan.

Operation and monitoring of the facility would be governed by an overarching Operational Environmental Management Plan, supported by a range of specific sub-plans, that would clearly identify any residual matters requiring ongoing attention during operation, with particular emphasis on hazards and environmental monitoring, and ongoing noise monitoring to ensure ongoing compliance with adopted criteria.

The site is expected to operate for a period of approximately 25 years, after which it would either be approved for an extended timeframe or be decommissioned. Decommissioning would be in accordance with the measures outlined in a decommissioning management plan.

7.7 Key Uncertainties

Due to the extent of technical studies undertaken to inform the project and the mitigation measures proposed to address impacts of the development, there are no uncertainties with the project. All impacts can be adequately mitigated through the location and design of the BESS and on-going management practices and monitoring.

7.8 Public interest

The public interest may be determined by consideration of relevant national, state and local government goals, as well as community priorities, which are expressed through a range of documentation. Relevant strategic documents are considered in **Section 2**.

It also requires the consideration of the principles of ecologically sustainable development, discussed in **Section 7.9**. It has been consistently held through a range of determinations in the NSW Land and Environment Court that the ESD precautionary intergenerational equity principles include considerations associated with climate change (impact of the development on climate change and impacts of climate change on development).

Mostly recently, the LEC held that the downstream impacts of mining projects, including the burning of fossil fuels for energy production, is a public interest consideration. Namely, in Gloucester Resources Limited v Minister for Planning [2019] NSWLEC 7, Preston J stated at 499:

> *Many courts have held that indirect, downstream GHG (greenhouse gas) emissions are a relevant consideration to take into account in determining applications for activities involving fossil fuel extraction or combustion or electricity generated by fossil fuel combustion.*

In summing up, Preston noted that the impacts associated with climate change, among others, were sufficient to justify refusal of the project.

It follows that a project that seeks to provide for improved grid stability and support and encourage the uptake of renewable forms of energy is in the public interest as it reduces the reliance on forms of electricity generation that rely on the consumption and burning of fossil fuels and that negatively contribute to the impacts of climate change as a result. Adoption of forms of development that counter the need for these high impact uses is therefore positive in the context of the ESD principles and is in the public interest.

The proposed development is in the public interest on the basis that it:

- Offers an opportunity for productive and sustainable economic activity within the area;
- Presents an excellent opportunity to the local region to provide local employment opportunities;
- Has been designed with appropriate consideration to social, environmental and sustainability interests of the community;
- Aims to minimises impacts to natural resources through minimising the land required to support energy supply; and
- Assists to reduce reliance on traditional, fossil fuel burning forms of electricity generation, thereby assisting in curbing the long-term impacts of climate change.

7.9 Ecologically sustainable development

The *National Strategy for Ecological Sustainable Development* (NSESD) (Department of Environment and Heritage 1992) defines Ecologically Sustainable Development (ESD) as:

> *using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased*

The concept of ESD gives formal recognition to environmental and social considerations in decision-making to ensure the current and future generations can enjoy an environment that functions as well as or better than the environment they inherit.

The core objectives of the NSESD are to:

- To enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;
- To provide for equity within and between generations; and
- To protect biological diversity and maintain essential ecological processes and life-support systems.

In NSW, ESD is embedded within the environmental planning framework, including the *Environmental Planning and* (EP&A Regs). In accordance with Section 193 of the EP&A Regs:

- the precautionary principle;
- inter-generational equity;
- conservation of biological diversity and ecological integrity; and
- improved valuation, pricing and incentive mechanisms.

These principles are considered in the following sections of this EIS.

7.9.1 PRECAUTIONARY PRINCIPLE

The precautionary principle states where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a justification for not implementing mitigation measures or strategies to avoid potential impact. This has been held in various decisions in the NSW Land and Environment Court to include considerations associated with climate change (impact of the development on climate change and impacts of climate change on development).

The potential impact from the proposal has been identified in the environmental assessment section of this EIS and all mitigation measures are consolidated in **Appendix F.**

The proposal supports improvements to grid efficiency, including the uptake of renewable forms of renewable energy. This assists in reducing the long-term impacts of climate change and is therefore in the public interest. The potential outcome of climate change, being higher temperatures and greater periods of sunlight, also suggests that increasing reliance of renewable forms of energy generation is sustainable.

7.9.2 INTER-GENERATIONAL EQUITY

The second principle of ESD is intergenerational equity, such that the present generation should ensure the health, diversity and productivity of the environment are equal to or better for future generations.

All work would be carried out in accordance with the environmental safeguards consolidated in **Appendix F** to mitigate potential impact associated with noise and vibration, traffic and transport, drainage and water quality, Aboriginal heritage, soils, and waste.

The proposal supports the development of sustainable forms of renewable energy, and in doing so reduces reliance on traditional forms of electricity generation, including the burning of fossil fuels. This assists in reducing the impacts of climate change and therefore assists in ensuring the health of future generations is protected; the development is therefore in the public interest.

7.9.3 CONSERVATION OF BIOLOGICAL DIVERSITY AND ECOLOGICAL INTEGRITY

The third principle of the ESD is conservation of biological diversity and ecological integrity such that ecosystems, species and genetic diversity within species are maintained.

The proposed development has been the subject of a comprehensive assessment in accordance with the provisions of the *Biodiversity Conservation Act 2016* by reference to **Appendix H**.

The mitigating measures for protecting biodiversity at the site are provided in **Section 6.1.5**, and consolidated in **Appendix F**.

7.9.4 IMPROVED VALUATION, PRICING AND INCENTIVE MECHANISMS

The final principle of ESD is improved valuation and pricing of environmental resources which establishes the need to determine economic values for services provided by the natural environment such as the atmosphere's ability to receive gaseous emissions, cultural values and visual amenity. The principle is designed to improve methods of carrying out valuation of environmental costs and benefits and use this information when making decisions.

The development of policy to guide pricing and incentive mechanisms in delivering ecologically sustainable development is the responsibility of governments and regulatory stakeholders.

7.10 Site suitability

As outlined throughout this EIS, the site is suitable for the proposed purpose on the basis that:

- The site is within an agricultural area with limited residential receivers;
- The site is not unduly constrained such that the development would result in significant impacts to the receiving environment;
- The site is proximal to existing electrical infrastructure (substation and transmission lines) to meet the objectives of the project and substantial upgrades are not required; and
- The project has been refined (as discussed in **Section 3**) to ensure the design and delivery of the project would not lead to unreasonable impacts.

7.11 CONCLUSION

This EIS has been prepared in accordance with the relevant provisions Part 4, Division 4.7 and Subdivision 3 of the EP&A Act and Part 8, Division 5 of the EP&A Regs. The development represents designated development by reference to Section 7, Part 2, Schedule 3 of the EP&A Regs and the EIS is provided as required to support the development application.

This EIS has been prepared in accordance with the SEARs SSD-85362210 issued on the 27 June 2025.

An assessment of potential environmental impacts has identified a number of minor adverse impacts to the environment that would require the implementation of appropriate controls to ensure compliance in accordance with relevant legislation, standards and guidelines. Measures are proposed during both construction and operation to ensure impacts are appropriately managed. These measures would ensure compliance with relevant legislation and any conditions of approval.

8. REFERENCES

Department of Planning and Housing and Infrastructure. (2026). State significant infrastructure guidelines – preparing an environmental impact statement: Appendix B to the state significant infrastructure guidelines. Available at: https://www.planning.nsw.gov.au/sites/default/files/2023-03/ssd-guidelines-preparing-an-environmental-impact-statement.pdf

Armidale Regional Council (ARC), (2012). Armidale Regional Local Environmental Plan. Available at: https://legislation.nsw.gov.au/view/html/inforce/current/epi-2012-0589

New South Wales Government. (1979). Environmental Planning and Assessment Act 1979. Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-1979-203

New South Wales Government. (2021). Environmental Planning and Assessment Regulation 2021. Available at: https://legislation.nsw.gov.au/view/html/inforce/current/sl-2021-0759

New South Wales Government. (2021). State Environmental Planning Policy (Transport and Infrastructure) 2021. Available at: https://legislation.nsw.gov.au/view/html/inforce/current/epi-2021-0732

New South Wales Government. (2021). State Environmental Planning Policy (Biodiversity and Conservation) 2021. Available at: https://legislation.nsw.gov.au/view/html/inforce/current/epi-2021-0722

New South Wales Government. (2021). State Environmental Planning Policy (Resilience and Hazards) 2021. Available at: https://legislation.nsw.gov.au/view/html/inforce/current/epi-2021-0730

New South Wales Government. (2021). State Environmental Planning Policy (Planning Systems) 2021. Available at: https://legislation.nsw.gov.au/view/html/inforce/current/epi-2021-0724Armidale Regional Council (ARC), 2024. Advancing our region: Toward 50,000 Local Strategic Planning Statement. Available at: https://www.armidale.nsw.gov.au/files/assets/public/v/1/development/documents/armidale-regional-council-local-strategic-planning-statement-lsps.pdf

Department of Planning and Environment. (2022). Cumulative impact assessment guidelines for State significant projects. NSW Government. Available at: https://www.planning.nsw.gov.au/sites/default/files/2023-03/cumulative-impact-assessment-guidelines-for-ssp.pdf

Premise, 2026. Water Impact Assessment, Ebor Battery Energy Storage System

Premise, 2026. Flood Impact Assessment, Ebor Battery Energy Storage System

Premise, 2026. Land Use Conflict Risk Assessment, Ebor Battery Energy Storage System

Assured Environmental, 2026. Noise and Vibration Impact Assessment, Ebor BESS

Riskcon Engineering, 2026. Preliminary Hazards Analysis, Ebor BESS

Premise, 2026. Transport Impact Assessment, Ebor Battery Energy Storage System

Premise, 2026. Land, Soil and Agriculture Report, Ebor Battery Energy Storage System

Premise, 2026. Waste Management Plan, Ebor Battery Energy Storage System

Premise, 2026. Visual Impact Assessment, Ebor Battery Energy Storage System

Amber, 2026. Ebor BESS OSOM Route Assessment

ARES, 2026. Ebor BESS OSOM Route Study

Bushfire Consulting Services Pty Ltd, 2026. Bush Fire Assessment Report in relation to the proposed Battery Energy Storage System

New South Wales Rural Fire Service. (2019). Planning for bush fire protection 2019.

https://www.rfs.nsw.gov.au/__data/assets/pdf_file/0005/174272/Planning-for-Bush-Fire-Protection-2019.pdf

Transport for New South Wales. (2025). Transport management plan fact sheet.

https://www.transport.nsw.gov.au/system/files/media/documents/2025/transport-management-plan-fact-sheet.pdf

Department of Climate Change, Energy, the Environment and Water. (2023). Flood impact and risk assessment: Flood risk management guideline LU01. NSW Government. Available at: https://www.environment.nsw.gov.au/sites/default/files/flood-risk-management-impact-risk-assessment-230234.pdf

Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors), 2019, Australian Rainfall and Runoff: A Guide to Flood Estimation, Commonwealth of Australia. Available at: https://www.arr-software.org/pdfs/ARR_190514_Book1_V4.1.pdf

Biscoe, J. P. (1992). Ecologically sustainable development in New South Wales: Appendices. Land and Environment Court of New South Wales. Available at: https://lec.nsw.gov.au/documents/speeches-and-papers/biscoe_esdnsw_appendices.pdf

Department of Planning, Housing and Infrastructure (DPHI), 2025. Planning Secretary's Environmental Assessment Requirements (SEARs). Available at: https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-85362210%2120250627T104251.441%20GMT

ASRIS, 2011. ASRIS - Australian Soil Resource Information System. Available at: https://ansis.net/

Australian ICOMOS, 2013. The Burra Charter. The Australia ICOMOS Charter for Places of Cultural Significance. Available at: https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf

Clean Energy Council (CEC), 2021. Best Practice Charter for Renewable Energy Developments. Available at: https://www.cleanenergycouncil.org.au/advocacy-initiatives/community-engagement/best-practice-charter

Department of Environment and Climate Change (DECC), 2009. Interim Construction Noise Guideline. Available at: https://www.epa.nsw.gov.au/sites/default/files/2011236nswroadnoisepolicy.pdf

Department of Environment, Climate Change and Water (DECCW), 2011. Road Noise Policy. Sydney. Available at: https://www.epa.nsw.gov.au/sites/default/files/2011236nswroadnoisepolicy.pdf

New South Wales Environment Protection Authority. (2017). Noise policy for industry. Available at: https://www.epa.nsw.gov.au/sites/default/files/17p0524-noise-policy-for-industry.pdf

New South Wales Department of Environment and Conservation. (2006). Assessing vibration: A technical guideline. Available at: https://www.epa.nsw.gov.au/sites/default/files/vibrationguide0643.pdf

DECCW, 2010. Aboriginal Cultural Heritage Consultation Requirements for Proponents. Available at: https://www.environment.nsw.gov.au/sites/default/files/aboriginal-cultural-heritage-consultation-requirements-for-proponents-2010-090781.pdf

New South Wales Department of Environment, Climate Change and Water. (2010). Code of practice for archaeological investigation of Aboriginal objects in New South Wales. Available at: https://www.environment.nsw.gov.au/publications/code-practice-archaeological-investigation-aboriginal-objects-nsw

New South Wales Office of Environment and Heritage. (2011). Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW. Available at: http://environment.nsw.gov.au/publications/guide-investigating-assessing-and-reporting-aboriginal-cultural-heritage-new-south-wales

Department of Planning and Environment (DPE), 2022. New England North West Regional Plan 2041. Available at: https://www.planning.nsw.gov.au/sites/default/files/2023-03/new-england-north-west-regional-plan-2041.pdf

Department of Primary Industries (DPI), 2011. Land Use Conflict Risk Assessment Guide. Available at: https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0018/412551/Land-use-conflict-risk-assessment-LUCRA-guide.pdf

Department of Planning, Industry and Environment (DPIE) 2011. Multi-Level Risk Assessment, Sydney. Available at: https://www.planning.nsw.gov.au/sites/default/files/2023-03/assessment-guideline-multi-level-risk-assessment.pdf

Department of Planning, Industry and Environment (DPIEa) 2022. Cumulative Impact Assessment Guidelines. Available at: https://www.planning.nsw.gov.au/sites/default/files/2023-03/cumulative-impact-assessment-guidelines-for-ssp.pdf

Department of Planning, Industry and Environment (DPIEb) 2023. Social Impact Assessment Guidelines for State Significant Projects. Available at: https://www.planningportal.nsw.gov.au/sites/default/files/documents/2023/GD1944%20SIA%20Guideline_NEW%20VI_14_02_23.pdf

Department of Planning, Industry and Environment (DPIEc) 2024. Undertaking engagement guidelines for State Significant Projects. Available at https://www.planning.nsw.gov.au/sites/default/files/2023-03/undertaking-engagement-guidelines-for-ssp.pdf

Department of Planning, Industry and Environment (DPIEd) 2024. State Significant Development Guidelines. Available at: https://www.planning.nsw.gov.au/sites/default/files/2023-03/state-significant-development-guidelines.pdf

Department of Premier and Cabinet (DPC), 2011. NSW 2021 Plan. Available at: https://www.ipc.nsw.gov.au/sites/default/files/file_manager/NSW2021_WEBVERSION.pdf

Environment Protection Authority (EPA), 2017. Noise Policy for Industry. Sydney. Available at: https://www.epa.nsw.gov.au/sites/default/files/17p0524-noise-policy-for-industry.pdf

Environment Protection Authority (EPA), 2014. Waste Classification Guidelines Part 1 Classifying Waste. Available at: https://www.epa.nsw.gov.au/sites/default/files/140796-classify-waste.pdf

International Commission on Non-ionizing Radiation Protection (ICNIRP), 1998. Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz). Available at: https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf

Landcom, 2004. Managing Urban Stormwater: Soils and Construction – Volume 1. Landcom, New South Wales Government, ISBN 0-9752030-3-7. Available at: https://www.environment.nsw.gov.au/sites/default/files/managing-urban-stormwater-soils-construction-volume-1-fourth-edition.pdf

National Committee on Soil and Terrain (NCST), 2009. Australian Soil and Land Survey Field Handbook, 3rd edition. CSIRO publishing, AustraliaNSW Department of Planning, 2011a. HIPAP 4: Risk Criteria for Land Use Safety Planning. Available at: https://www.planning.nsw.gov.au/sites/default/files/2023-03/hazardous-industry-planning-advisory-paper-no-4-risk-criteria-for-land-use-safety-planning.pdf

NSW Department of Planning, 2011b. HIPAP 6: Hazard Analysis. Available at: https://www.planning.nsw.gov.au/sites/default/files/2023-03/hazardous-industry-planning-advisory-paper-no-6-hazard-analysis.pdf

Office of Environment and Heritage (OEH), 2012. The land and soil capability assessment scheme: second approximation – A general rural land evaluation system for NSW. Available at: https://nswdpe.intersearch.com.au/nswdpejspui/bitstream/1/14012/1/land-soil-capability-assessment-scheme-120394.pdf

Environment, Energy and Science Department of Planning, Industry and Environment, 2020. Biodiversity Assessment Method. Available at: https://www.environment.nsw.gov.au/sites/default/files/biodiversity-assessment-method-2020-200438.pdf

New South Wales Department of Planning, Housing and Infrastructure. (2024). Renewable energy benefit sharing guideline. Available at: https://www.planning.nsw.gov.au/sites/default/files/2024-11/benefit-sharing-guideline.pdf

New South Wales Department of Planning, Housing and Infrastructure. (2024). Renewable energy private agreement guideline. Available at: https://www.planning.nsw.gov.au/sites/default/files/2024-11/private-agreement-guideline.pdf

New South Wales Department of Planning, Housing and Infrastructure. (2024). Large-scale solar energy guideline: Visual impact assessment technical supplement. Available at: https://www.planning.nsw.gov.au/sites/default/files/2024-11/large-scale-solar-energy-guideline-visual-technical-supplement.pdf

New South Wales Department of Primary Industries. (2018). Guidelines for controlled activities on waterfront land. Available at: https://publications.water.nsw.gov.au/watergroupjspui/retrieve/5a1126fe-b8ad-43d0-8736-19604315b415/Controlled_activities_-_Guidelines_for_instream_works_on_waterfront_land.pdf

New South Wales Department of Primary Industries. (2003). Why do fish need to cross the road? Fish passage requirements for waterway crossings. Available at:

https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0004/633505/Why-do-fish-need-to-cross-the-road_booklet.pdf

New South Wales Department of Primary Industries. (2013). Policy and guidelines for fish habitat conservation and management (update 2013). Available at:

https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0005/634694/Policy-and-guidelines-for-fish-habitat.pdf

Austroads. (2023). Guide to road design (AGRD04): Intersections and crossings – General. Available at:

https://austroads.gov.au/publications/road-design/agrd04

Department of Climate Change, Energy, the Environment and Water (NSW). (2025). Controlled activity approvals – guidelines for controlled activity approvals. NSW Government. Available at: https://www.water.dcceew.nsw.gov.au/our-work/licensing-and-approvals/controlled-activity-approvals#guidelines-for-controlled-activity-approvals

Aboriginal Land Rights Act 1983 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-1983-042

Biodiversity Conservation Act 2016 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-2016-063

Contaminated Land Management Act 1997 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-1997-140

Electricity Infrastructure Investment Act 2020 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-2020-044

Environment Protection and Biodiversity Conservation Act 1999 (Cth). Available at: https://www.legislation.gov.au/C2004A00485Heritage Act 1977 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-1977-136

Local Land Services Act 2013 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-2013-051

National Parks and Wildlife Act 1974 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-1974-080

Native Title Act 1993 (Cth). Available at: https://www.legislation.gov.au/C2004A04665Protection of the Environment Operations Act 1997 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-1997-156

Roads Act 1993 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-1993-033

Water Management Act 2000 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-2000-092

Crown Lands Act 1989 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/repealed/act-1989-006

Real Property Act 1900 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-1900-025

Waste Avoidance and Resource Recovery Act 2001 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-2001-058

Protection of the Environment Operations Act 1997 (NSW). Available at: https://legislation.nsw.gov.au/view/html/inforce/current/act-1997-156

APPENDIX A

SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

APPENDIX B
SEARS CHECKLIST

Table 38 - SEARs requirements SSD-85362210

Details		Section of EIS where addressed
General requirements	The Environmental Impact Statement (EIS) for the development must comply with the requirements in Part 8 of the *Environmental Planning and Assessment Regulation 2021* (the EP&A Regulation) and must have regard to the Department's: > *State Significant Development Guidelines* (SSD Guidelines); and > *Renewable Energy Planning Framework*.	**Sections 2** and **4**
	In particular, the EIS must include: > a stand-alone executive summary;	**Executive Summary**
	> a full description of the development, including: • details of construction, operation and decommissioning, including any staging of the development;	**Section 3**
	• a description of the physical elements of the development including the form, maximum height and materials (including ancillary infrastructure);	**Appendix L**
	• a high quality site plan at an adequate scale showing all infrastructure and facilities (including any infrastructure, and accommodation camps, that would be required for the development, but the subject of a separate approvals process);	**Appendix C**
	• the Project area (as per Table 1 of the SSD guidelines – preparing an environmental impact statement) and Development Footprint (disturbance area including but not limited to areas for infrastructure, road works, access tracks, defendable space, fencing and temporary laydown);	**Section 3**
	• a high quality detailed constraints map identifying the key environmental and other land use constraints that have informed the final design of the development; and	**Section 2.3**
	• confirmation if the project is designated development in accordance with the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the EP&A Regulation;	**Section 4**
	> consistency in information presented in the EIS and all technical reports, including distances, development footprint, project design and infrastructure proposed, construction timeframes and receiver numbers;	**This EIS**

Details		Section of EIS where addressed
	> a strategic justification of the development focusing on site selection and the suitability of the proposed site with respect to potential land use conflicts with existing and future surrounding land uses (including existing land use, other proposed or approved energy facilities, major projects, rural/residential development, Crown lands within and adjacent to the project site and subdivision potential);	**Section 2**
	> a risk assessment of the potential impacts of the development, identifying the key issues for further assessment;	**Section 6**
	> an assessment of the likely impacts of the development on the environment, and any other significant issues identified in the above risk assessment, focusing on the specific issues identified below, including: • a description of the existing environment likely to be affected by the development using sufficient baseline data;	**Section 6**
	• an assessment of the likely impacts of all stages of the development (which is commensurate with the level of impact), including any cumulative impacts of the site and existing, approved or proposed developments in the region and impacts on the site and any road upgrades, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice including the *Cumulative Impact Assessment Guideline* (DPIE, 2022);	**Section 6.16**
	• a description and assessment if staging of the project is proposed including any site mobilisation or pre-construction works;	**Section 3.3**
	• a description of the measures that would be implemented to avoid, mitigate and/or offset the impacts of the development; and	**Section 6** **Appendix F**
	• a description of the measures that would be implemented to monitor and report on the environmental performance of the development;	**Section 6** **Appendix F**
	> a model for community benefit-sharing, prepared in accordance with the Benefit-Sharing Guideline, including the terms of any proposed voluntary planning agreement with the relevant local council;	**Section 6.13**
	> a consolidated summary table of all the proposed environmental mitigation, management and monitoring measures, identifying all the commitments in the EIS; and	**Appendix F**
	> a detailed evaluation of the merits of the project as a whole, having regard to:	**Sections 4** and **7.9**

Details		Section of EIS where addressed
	• the requirements in Section 4.15 of the EP&A Act, including the objects of the Act and how the principles of ecologically sustainable development have been incorporated in the design, construction and ongoing operations of the development;	
	• the suitability of the site with respect to potential land use conflicts with existing and future surrounding land uses;	**Section 7.10**
	• feasible alternatives to the development and its key components, including siting and project design alternatives to avoid areas of biodiversity value and high archaeological sensitivity, opportunities for shared infrastructure with proposed developments in the region, and the consequences of not carrying out the development; a detailed consideration of the capability of the project to contribute to the security and reliability of the electricity system in the National Electricity Market, having regard to local system conditions and the Department's guidance on the matter.	**Section 2.4**
	Estimated Development Cost and Employment > Provide the estimated development cost (EDC) of the development prepared in accordance with the relevant planning circular using the Standard Form of EDC Report; and	Provided with the application.
	> Provide an estimate of the retained and new jobs that would be created during the construction and operational phases of the development, including details of the methodology to determine the figures provided.	**Section 3.1**
	The development application must also be accompanied by: > the consent of the owner/s of the land (as required in Section 23(1) of the EP&A Regulation); and	Provided with the application.
	a declaration from a Registered Environmental Assessment Practitioner that the EIS includes the information specified in the Department's Registered Environmental Assessment Practitioner Guidelines.	**Certification**
Key issues	The EIS must address the following specific matters: **Biodiversity** – including: > an assessment of the biodiversity values and the likely biodiversity impacts of the project in accordance with Section 7.9 of the *Biodiversity Conservation Act 2016* (NSW) (BC Act), having regard to the *Biodiversity Assessment Method* (BAM) 2020 and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must: • be prepared using the approved BDAR template;	**Section 6.1**

Details		Section of EIS where addressed
	• document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the BAM; • assess the impacts associated with all ancillary infrastructure, including the transport route road upgrades; • include an assessment for serious and irreversible impacts (SAII) in accordance with Section 9.1 of the BAM; • include a strategy to offset any residual impacts of the development in accordance with the BC Act; and • be finalised by an accredited assessor as BAM-compliant within 14 days of submission; unless Conservation Programs, Heritage and Regulation Group (CPHR) and the Department of Planning, Housing and Infrastructure (DPHI) determine the proposed development is not likely to have any significant impacts on biodiversity values; > an assessment of the likely impacts on listed aquatic threatened species, populations or ecological communities, scheduled under the Fisheries Management Act 1994, and a description of the measures to minimise and rehabilitate impacts; > a cumulative impact assessment of biodiversity values in the region from nearby developments; and > if an offset is required, details of the measures proposed to address the offset obligations.	
	Heritage – including: > an Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011) and the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010), identifying, describing, and assessing any impacts to any Aboriginal cultural heritage sites or values associated with the site (including impacts from any proposed earth works, construction works and road upgrades), including results of archaeological test excavations (where required), undertaken in accordance with the relevant standards and requirements; > evidence of adequate consultation with Aboriginal communities in determining and assessing impacts, identifying and selecting options for avoidance of Aboriginal cultural heritage and identifying appropriate mitigation measures (including the final proposed measures), having regard to the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010); and > assess the impact to historic heritage having regard to the *Guidelines for Preparing a Statement of Heritage Impact*.	**Section 6.2** and **6.3**
	Land – including:	**Section 6.4** and **6.5**

Details		Section of EIS where addressed
	> a detailed justification of the suitability of the site and that the site can accommodate the proposed development having regard to its potential environmental impacts, land contamination, permissibility, strategic context and existing site constraints; > an assessment of the potential impacts of the development on existing land uses on the site and adjacent land, including: • agricultural land, flood prone land, nearby drinking water catchments, Crown lands, mining, quarries, mineral or petroleum rights (if relevant); • a soil survey to determine the soil characteristics and consider the potential for salinity, acid sulfate soils, and erosion to occur; • a cumulative impact assessment of nearby developments; and > an assessment of the compatibility of the development with existing land uses, during construction, operation and after decommissioning, including: • consideration of the zoning provisions applying to the land, including subdivision (if required); • completion of a Land Use Conflict Risk Assessment (LUCRA) in accordance with the Department of Industries Land Use Conflict Risk Assessment Guide (if required); • an assessment of impact on agricultural resources and agricultural production on the site and region; and • a preliminary investigation into potential contamination across the site, in accordance with the *State Environmental Planning Policy (Resilience and Hazards) 2021* (Hazards SEPP) (as required).	
	Visual – including: > a detailed assessment of the likely visual impacts of all components of the project on surrounding residences (including approved developments, lodged development applications and dwelling entitlements), and key locations, scenic of significant vistas and road corridors in the public domain; and > details of measures to mitigate and/or manage potential impacts (including a draft landscaping plan for on-site perimeter planting, with evidence it has been developed in consultation with affected landowners).	**Section 6.6**
	Noise – including: > an assessment of the construction noise impacts (including impacts from proposed road upgrades) of the development in accordance with the Interim Construction Noise Guideline (ICNG), operational noise impacts in accordance with the	**Section 6.7**

Details		Section of EIS where addressed
	NSW Noise Policy for Industry (2017), assess traffic noise having regard to the NSW Road Noise Policy (DECCW, 2011) and cumulative noise impacts (considering other developments in the area), including (where appropriate): • identification of impacts associated with construction, site emission and traffic generation at noise affected sensitive receivers, including the provision of operational noise contours; • details of noise monitoring survey, background noise levels and amenity noise levels at the most-affected residential receivers; - details of likely daily charging/discharging load profile, manufacturer specifications for plant and equipment and noise source inventory (including intensity, quantity, location, directivity and frequency information); • an assessment of 'worst case' noise emission scenarios during periods of discharging and charging; • consideration of annoying characteristics of noise and prevailing meteorological conditions in the study area; and • details and analysis of the effectiveness of proposed management and mitigation measures to adequately manage identified impacts, including a clear identification of residual noise and vibration impacts following application of these mitigation measures and details of any proposed compliance monitoring programs.	
	Transport – including: > an assessment of the peak and average traffic generation, including light vehicles (including shuttle buses), heavy vehicles, heavy vehicles requiring escort, high risk heavy vehicles requiring escort (noting Table 1 in TfNSW Fact Sheet - Transport Management Plans for Over Size and/or Overmass Movements in NSW) and construction worker transportation; > an assessment of the likely transport impacts to the site access route(s) from the above listed vehicles including the site access point(s) and any Crown land, particularly in relation to the capacity and condition of the roads, road safety and intersection performance; > a concept Level Route Analysis required for heavy vehicles requiring escort and high risk heavy vehicles requiring escort; a cumulative impact assessment of traffic from nearby developments (including mining operations); and > provide details of measures to mitigate and / or manage potential impacts (developed in consultation with the relevant road authorities) including: • a schedule of all required road upgrades (including resulting from heavy vehicle and over mass / over dimensional traffic haulage routes), • strategic concept designs of proposed road upgrades (including the site access point); and • road maintenance contributions, and any other traffic control measures.	**Section 6.8**

Details		Section of EIS where addressed
	Water and Soils – including: > an assessment of the likely impacts of the development (including flooding and flood modelling) on surrounding watercourses (including their Strahler Stream Order), groundwater resources and surface water movements, and measures proposed to monitor, reduce and mitigate these impacts including water management; > a site water balance for the development; > details of water requirements and supply arrangements for construction and operation (including consultation with suppliers); > a description of the erosion and sediment control measures that would be implemented to mitigate any impacts in accordance with *Managing Urban Stormwater: Soils & Construction* (Landcom, 2004) and *Managing Urban Stormwater: Soils and construction – Volume 2A manual* (Landcom, 2008); > assessment of the impacts of the development on hydrology and groundwater (if extraction or interference is proposed), including any changes to overland flows and groundwater levels on-site or off-site, and detail design solutions and operational procedures to manage impacts; > where the project involves works within 40 metres of any river, lake or wetlands (collectively waterfront land), identify likely impacts to the waterfront land, and how the activities are to be designed and implemented in accordance with the *DPI Guidelines for Controlled Activities on Waterfront Land* (2018) and (if necessary) *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (DPI 2003), and *Policy & Guidelines for Fish Habitat Conservation & Management* (DPE, 2013); and > identification of any flood risk on site having regard to adopted flood studies, the potential effects of climate change and any relevant provisions of the NSW Flood Risk Management Manual; • where the development could alter flood behaviour, affect flood risk to the existing community or expose its users to flood risk, provide a flood impact and risk assessment (FIRA) prepared in accordance with the *Flood Impact and Risk Assessment – Flood Risk Management Guide LU01*; • detailed design solutions and operational procedures to mitigate flood risk where required.	**Section 6.9**
	Hazards – including: > Health - an assessment of potential hazards and risks including but not limited to fires, spontaneous ignition, electromagnetic fields or the proposed grid connection infrastructure against the *International Commission on Non-*	**Section 6.10** and **6.11** **Appendix S**

Details		Section of EIS where addressed
	Ionizing Radiation Protection (ICNIRP) *Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields*; > Bushfire – a bush fire hazard assessment completed by a suitably qualified consultant and identify potential hazards and risks associated with bushfires / use of bushfire prone land including the risks that a BESS would cause a bush fire and demonstrate compliance with *Planning for Bush Fire Protection 2019*; > Dangerous Goods - a preliminary risk screening completed in accordance with the State Environmental Planning Policy (Resilience and Hazards) 2021; and > Battery Energy Storage System - a Preliminary Hazard Analysis (PHA) prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011). The PHA must assess the risks and demonstrate compliance with the Department's Hazardous Industry Advisory Paper No. 4, 'Risk Criteria for Land Use Safety Planning (DoP, 2011) for all proposed energy storage technologies. The PHA must also include the following for all proposed energy storage solutions: • a description of the battery energy technology proposed; • clear identification of layout, storage and handling quantities, types of chemicals, flow rates (if applicable); • hazard identification including and not limited to hazards that may be unique for the chosen chemistry or operating parameters (such as elevated temperature); • demonstration of the area allocated for BESS is adequate with consideration of the separation distances to on-site or off-site receptors, and the separation distances between batteries are sufficient to minimise propagation; • Consideration of the effects of bushfire on batteries; • Except for lithium-ion BESS, a consequences analysis for fire scenarios based on a first principles approach; • Except for lithium-ion batteries, consultation outcomes with Fire and Rescue New South Wales (FRNSW) to verify the applicability of the current battery guidelines and provide details if additional fire considerations are required for specific battery technology.	
	Social – including: > an assessment of the social impacts or benefits of the project for the region and the State as a whole in accordance with the Social Impact Assessment Guideline (DPE, 2023), including consideration of any increase in demand for community infrastructure services, and consideration of construction workforce accommodation.	**Section 6.12**

Details		Section of EIS where addressed
	Economic and Benefit-Sharing – including: > an assessment of the economic impacts or benefits of the project for the region and the State as a whole and provide details of any proposed voluntary benefit sharing, having regard for the *Benefit-Sharing Guideline 2024* and *Private Agreement Guideline 2024*.	**Section 6.13**
	Waste – including: > identify, quantify and classify the likely waste stream to be generated during construction, operation, and decommissioning, and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste (in consultation with waste facilities, including Council).	**Section 6.14**
Plans and Documents	The EIS must include all relevant plans, diagrams and relevant documentation required in accordance with the SSD Guidelines and under Part 3 of the EP&A Regulation. Provide these as part of the EIS rather than as separate documents. In addition, the EIS must include high quality files of maps and figures of the subject site and proposal.	**Appendix C**
Legislation, Policies & Guidelines	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. A list of some of the legislation, policies and guidelines that may be relevant to the assessment of the project can be found at: > https://www.planning.nsw.gov.au/Policy-and-Legislation/Planning-reforms/Rapid-Assessment-Framework/Improving-assessment-guidance; > https://www.planningportal.nsw.gov.au/major-projects/assessment/policies--and-guidelines; and > http://www.environment.gov.au/epbc/publications#assessments.	**Section 4**
Consultation	During the preparation of the EIS, you should consult with the relevant local, State or Commonwealth Government authorities, infrastructure and service providers, community groups, affected landowners and any exploration licence and/or mineral title holders. In particular, you must undertake detailed consultation with affected landowners surrounding the development, the owners of all exploration licences across the proposed development site, the operator of any pipelines on or adjacent to the site, any native claimants over the site, and all relevant government agencies, including the relevant local Council. The EIS must:	**Section 5**

Details		Section of EIS where addressed
	> detail how engagement undertaken was consistent with the *Undertaking Engagement Guidelines for State Significant Projects* (DPHI, 2024); and > describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, an explanation should be provided.	

APPENDIX C
DETAILED MAPS AND PLANS

APPENDIX D

STATUTORY COMPLIANCE TABLE

Table 39 - Commonwealth legislation

Statutory Reference	Pre-Condition	Relevance	Section in EIS
Environment Protection and Biodiversity Conservation Act 1999	Direct or indirect impacts to a Matter of National Environmental Significance (MNES).	The study area is unlikely to be important habitat for EPBC Act listed species, therefore the BDAR states that an EPBC referral to the Commonwealth minister for the environment is not recommended.	**Section 6.1**
Native Title Act 1993	Objective of the Act is to recognise and protect Native Title.	No sites listed on the Native Title register are impacted by the project.	**Section 6.2**

Table 40 - NSW Legislation

Statutory Reference	Section/Clause	Pre-condition	Relevance	Section in EIS
Aboriginal Land Rights Act 1983	Section 36	The NSW Aboriginal Land Council may make a claim for land on its own behalf or on behalf of one or more Local Aboriginal Land Council.	An undetermined Aboriginal Lands Claim over the travelling stock reserves forming part of the projects vehicular access. An agreement will be reached with the relevant LALC if required. Negotiations are ongoing in this regard and consultation with Registered Aboriginal Parties concludes on 07 April 2026.	**Section 6.2**
Biodiversity Conservation Act 2016	Section 7.9	Any SSD or SSI application is required to be accompanied by a BDAR unless the Planning and Environment Agency Heads determine that the proposed development is not likely to have any significant impact on biodiversity values.	The project is SSD and has not been assessed by the Planning and Environment Agency Heads, therefore a BDAR is required.	**Section 6.1** and **Appendix H**
Contaminated Land Management Act 1997	Section 11	The EPA may declare any land it believes to significantly contaminated as significantly contaminated land.	An investigation of potential contamination has determined that the site is suitable for the proposed purpose without the need for remediation.	**Section 6.5**
Electricity Infrastructure Investment Act 2020	Section 19	The Minister may declare a renewable energy zone (REZ) by reference to a specified geographical area	The site is not located within a REZ.	**N/A**

Statutory Reference	Section/Clause	Pre-condition	Relevance	Section in EIS
		of the State and a specified generation, storage or network infrastructure (including planned or existing infrastructure).		
Environmental Planning and Assessment Act 1979	Section 1.3	The objects of this Act are as follows— (a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources, (b) to promote the supply, delivery and maintenance of housing, including affordable housing, (c) to promote productivity through the development and management of the State and its resources, (d) to protect the environment, including the conservation of threatened species of native animals and plants and ecological communities and their habitats, (e) to promote resilience to climate change and natural disasters through adaptation, mitigation, preparedness and prevention, (f) to promote the sustainable management of built and cultural heritage, including Aboriginal cultural heritage, (g) to promote good design, amenity and the proper construction and maintenance of built environments, including the protection of the health and safety of the occupants of buildings,	The proposed development is consistent with each of the Objects of the Act, with the exception of (b) which relates to the supply, delivery and maintenance of housing which is not relevant to this proposal.	**Section 4.1.1**

Statutory Reference	Section/Clause	Pre-condition	Relevance	Section in EIS
		(h) to provide opportunities for participation in environmental planning and assessment, (i) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment, (j) to promote a proportionate and risk-based approach to environmental planning and assessment, (k) to promote the orderly and economic use and development of land.		
	Section 4.15(1)	(1) Matters for consideration—general In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application— (a) the provisions of— (i) any environmental planning instrument, and	> *State Environmental Planning Policy (Resilience and Hazards) 2021;* > *State Environmental Planning Policy (Transport and Infrastructure) 2021;* > *State Environmental Planning Policy (Planning Systems) 2021;* > *State Environmental Planning Policy (Biodiversity and Conservation) 2021; and* > *Armidale Regional Local Environmental Plan 2012.*	**Section 4**
		(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed	No draft environmental planning instruments apply.	**Appendix D**

Statutory Reference	Section/Clause	Pre-condition	Relevance	Section in EIS
		instrument has been deferred indefinitely or has not been approved), and		
		(iii) any development control plan, and	Development control plans do not apply to SSD by virtue of Clause 2.10 of the Planning Systems SEPP.	**Section 4**
		(iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and	A planning agreement in relation to benefit sharing and this has been accepted in-principle by ARC.	**Section 6.12**
		(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), that apply to the land to which the development application relates,	Refer next section of this table.	**This table**
		(v) (Repealed)		**N/A**
		(b) the significant likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,	A summary of the likely impacts is included within this report.	**Section 6**
		(c) the suitability of the site for the development,	The site is deemed suitable for the development.	**Section 7.10**
		(d) any submissions made in accordance with this Act or the regulations,	The proponent will be required to prepare a Submissions Report in accordance with Appendix C to the SSD Guidelines following completion of the mandatory public exhibition period.	Noted.
		(e) the public interest.	The development is believed to be of public interest.	**Section 7.9**

Statutory Reference	Section/Clause	Pre-condition	Relevance	Section in EIS
Environmental Planning and Assessment Regulation 2021	Section 23	(1) A development application may be made by— (a) the owner of the land to which the development application relates, or (b) another person, with the written consent of the owner of the land.	Consent from the owner of the site is provided.	Uploaded to Major Projects Portal with EIS
Environmental Planning and Assessment Regulation 2021	Section 192	(1) An environmental impact statement must contain the following— (a) a summary of the environmental impact statement,		**Executive Summary**
		(b) a statement of the objectives of the development, activity or infrastructure,		**Section 1**
		(c) an analysis of feasible alternatives to the carrying out of the development, activity or infrastructure, considering its objectives, including the consequences of not carrying out the development, activity or infrastructure,		**Section 2.4**
		(d) an analysis of the development, activity or infrastructure, including— (i) a full description of the development, activity or infrastructure, and		**Section 3**
		(ii) a general description of the environment likely to be affected by the development, activity or infrastructure and a detailed description of the aspects of the environment that are likely to be significantly affected, and		**Section 6**
		(iii) the likely impact on the environment of the development, activity or infrastructure, and		**Section 6**

Statutory Reference	Section/Clause	Pre-condition	Relevance	Section in EIS
		(iv) a full description of the measures to mitigate adverse effects of the development, activity or infrastructure on the environment, and		**Section 6** and **Appendix F**
		(v) a list of the approvals that must be obtained under another Act or law before the development, activity or infrastructure may lawfully be carried out,		**This table**
		(e) a compilation, in a single section of the environmental impact statement, of the measures referred to in paragraph (d)(iv),		**Appendix F**
		(f) the reasons justifying the carrying out of the development, activity or infrastructure, considering biophysical, economic and social factors, including the principles of ecologically sustainable development set out in section 193.		**Section 7**
Heritage Act 1977	Section 58	Approval in respect of the doing or carrying out of an act, matter or thing referred to in s 57(1).	No interim heritage order/s or listing/s apply to the site under the State Heritage Register. The proponent will develop a Chance Finds Protocol following receipt of development consent in consultation with Heritage NSW.	**Sections 6.2** and **6.3**
Local Land Services Act 2013			Clearing of native vegetation is dealt with within this application.	**Section 6.1**
National Parks and Wildlife Act 1974	Section 90	Grant of Aboriginal heritage impact permit.	The results of the ACHAR indicate that impacts to Aboriginal cultural heritage values are unlikely, and no further investigations are required.	**Section 6.2**

Statutory Reference	Section/Clause	Pre-condition	Relevance	Section in EIS
Protection of the Environment Operations Act 1997	Sections 43(a), 43(b), 43(d), 47, 55 and 122	Various environmental protection licences.	The project is not considered to comprise a scheduled activity under the POEO Act.	This table
Roads Act 1993	Section 138	Various activities within road reserves.	The project will upgrade the existing access from Waterfall Way (Grafton Road). Approval is required under Section 138 of the *Roads Act 1993*.	**Section 6.8**
Water Management Act 2000	Sections 89, 90 and 91	Water use approval, water management work approval or activity approval under Part 3 of Chapter 3.	No dewatering activities are anticipated during construction. If dewatering works are necessary, approval under the *Water Management Act 2000* will be required.	**Section 6.9**

APPENDIX E
CONSULTATION

APPENDIX F
MITIGATION MEASURES

MITIGATION MEASURES

Table 41 provides a summary of proposed mitigation measures recommended through this EIS.

Table 41 - Summary of mitigation measures

Impact	Mitigation measure	
Biodiversity	Timing of works	Planning the timing of vegetation removal to avoid the breeding seasons of the Greater Glider, and possibly other resident species
	Pre-clearing surveys	Undertake pre-clearing surveys to determine the presence of resident fauna in vegetation to be removed, particularly the hollow-bearing tree for possible removal
	Clearing protocols	Implementation of best practice clearing protocols to prevent inadvertent damage or distress to adjacent habitat and threatened species
	Inspection of felled tree/s (if applicable)	Licensed wildlife handler is to inspect the (possible) hollow-bearing tree for presence of fauna. Injured fauna are to be cared for in conjunction with WIRES. Displace fauna are to be relocated with adjacent vegetation in similar condition by a qualified ecologist.
	Relocate habitat feature (if applicable)	Relocate habitat feature (surface rocks, fallen logs or felled tree) to adjacent retained vegetation as habitat enhancement.
	Pre-clearing protocols	Prior to commencing vegetation clearing, daily site briefings are to occur to identify the development footprint boundary, the presence of any adjacent remnant vegetation to be retained and methods to relocate habitat features into adjacent habitat.
	Temporary fencing and signage	Clearly demark adjacent vegetation and waterbodies to be retained. These areas are to be identified in daily site briefings prior to commencing clearing.
	Minimise disturbance from clearing activities	Use appropriately size machinery, avoid unnecessary ground disturbance and restrict works to approved footprint
	Adjust construction hours	Construction activities are to occur generally during daylight hours, minimising light spill and noise disturbance for nocturnal fauna.
	Implement Construction Environmental Management Plan (CEMP)	Apply and monitor environmental controls for noise, dust and lighting in accordance with the CEMP
	Hygiene and weed management protocols	Implementation of hygiene protocols (regularly washing vehicles and equipment). High threat weed (HTW) recorded on the study area are outlined in Appendix H.
	Retain connectivity	Retain vegetated road reserve and avoid additional canopy removal beyond approved footprint

Impact	Mitigation measure	
	features where practicable	
	Vehicle speeds	Restrict vehicle speeds, limit traffic to designated access routes
	Road signage	Road signage would be place along roads alerting drivers to wildlife traversing the area
	Education	Identify during toolbox meetings relevant breeding, nesting or migratory periods for threatened fauna
Biodiversity TSR	> Trees on the TSR within the path of the access track may be removed, but if they are leaning away, they should be retained. > Ground disturbance should be minimized and limited to removing the trees required and construction of the access track. > Old fencing materials (wire and posts) are to be removed from the TSR for disposal. > Trees (alive or dead) with a diameter of more than 900mm (at chest height) are to be left standing. > The Biodiversity Conservation Act, Schedule 2, Parts 1 and 2 lists threatened and critically endangered species. Some of these species rely on hollow trees for habitat. All hollow bearing trees are to be retained. > Trees felled in the process can be left where they fall within the TSR, provided they do not impede the safe operation of the proposed intersection or access track. The felled material should not be windrowed, piled, or burnt. Our research shows there are several protected species located in the proposed work site. Additional care must be taken to ensure no damage is caused to these species or their habitat. Known protected species located in this area include, but are not limited to: > White-throated Needletail — Vulnerable; > Grey-headed Flying-fox — Vulnerable; and > Diuris eborensis – Endangered.	
Aboriginal Heritage	> Management recommendations for protection of identified sites AHIMS Ebor ST-1 and Ebor ST-2 located immediately north and south of the development footprint must be implemented; > An unexpected finds/chance finds protocol should be developed as part of the Ebor BESS CEMP and in consultation with RAPs; > If unanticipated Aboriginal objects are uncovered during works, all work in the vicinity should cease immediately. A qualified archaeologist should be contacted to assess the find and Heritage NSW and Dorrigo Plateau LALC and RAP's for the project must be notified; and > All impacts must remain within the assessed development footprint or further archaeological investigation may be required.	
Aboriginal Heritage TSR	> The Aboriginal Heritage Information Management System (AHIMS) indicated no known or significant records within the project site. There is, however a possible Scar Tree located at 30.37695 S, 152.36814 E. It is requested that a buffer of 30 metres is maintained at all times of this tree to ensure its protection. NTLLS will be carrying out confirmation works in the coming months on this tree to confirm. If	

Impact	Mitigation measure	
	other Significant objects are present outside the project area, and you are required to stop work immediately and contact us if any further evidence (shell middens, stone artefacts, carved trees, rock art) of Aboriginal or European occupation is uncovered during the on- ground works.	
Historic heritage	Although no historic heritage items have been identified in Ebor BESS site through this assessment, there is potential for unknown archaeological remains to be discovered and encountered during the construction of the BESS. While the potential to discover items of heritage significance is considered low, a precautionary principle applies. Appropriate mitigation measures would be implemented during the construction phase of the project to minimise the potential for adverse impacts in the form of an unexpected finds protocol.	
Land	Erosion and Sedimentation	A Soil and Water Management Plan (SWMP) is to be prepared in accordance with Managing Urban Stormwater – Soils and Construction Volume 1 (Landcom, 2004). The SWMP will be prepared as part of a Construction and Operation Environmental Management Plan (COEMP) to manage potential risks to soils, surface and ground water. The construction SWMP is to be prepared with reference to relevant development controls within the DCP. Recommended measures for the construction SWMP include but are not limited to: > Measures to minimise and manage the potential for erosion and sediment transport within and from the project area. > Measures to manage accidental spills and waste storage. > Measures to manage stormwater and the potential for contaminated runoff from the development site. > Measures to ensure that excavation activities and any stockpiling are managed to minimise the potential for downstream contamination. > Measures to ensure that areas of exposed soil and the time in which they are exposed are minimised as far as practical.
	Soil disturbance and sedimentation associated with vegetation clearing, excavation, stockpiling activities	The construction of the development shall be managed in compliance with measures specified within the construction SWMP to ensure impacts to water quality are appropriately managed.
	Wastes, Spill and Emergency Management	**Construction** The construction SWMP shall include procedures to reduce and manage the risk of emergency events and the potential for wastes and spills to contaminate soils. Recommended measures to manage the potential for contaminated discharge include:

Impact	Mitigation measure	
		> The storage of all fuel chemicals and liquids in sealed bunded areas on level ground away from stormwater drainage lines and waterways. > Ensuring refuelling and maintenance activities are restricted to designated areas with appropriate bunding and spill capture controls. > Implementing controls as part of the construction SWMP that provide procedures to respond to emergencies and spills. > Ensuring visual inspections of drainage lines and disturbed areas are undertaken during construction to assess any potential soil or surface water issues. > The installation and maintenance of stormwater control measures including drainage networks that segregate stormwater runoff according to its contamination.
		Operation During operation procedures shall be developed to reduce the potential contamination of soils, surface and ground water, resulting from wastes, spills and/or emergency incidents. Suggested measures to control the potential for contamination during operation include: > The appropriate storage of equipment and hazardous substances during operation. > Ensuring that plant and stormwater control measures are maintained to prevent contamination of soil. > Preparation of appropriate procedures to response to emergency incidents, spills and leaks from the development site, including operational equipment and maintenance activities.
		Decommissioning A decommissioning plan shall be developed which minimises the impacts to soils, surface and ground water, resulting from erosion, wastes, spills and/or emergency incidents. Suggested measures to control the potential for contamination during decommissioning including: > A soil sampling plan to be undertaken prior to decommissioning to assess any risk of contamination. > Remediation plan (if required) to ensure that the land can be returned to an agricultural capacity following decommissioning. > Preparation of procedures to minimise risk of contamination and soil erosion during decommissioning.
	Soil mixing / topsoil loss	As part of the COEMP for the Project, soil management measures should include:

Impact	Mitigation measure	
		> Assessment of topsoil depth prior to stripping to minimise mixing of topsoil and subsoil. > Topsoil and subsoil should be stripped and stockpiled separately for rehabilitation works following excavation. > Avoid stripping and stockpiling soil following heavy rain periods > Avoid compaction of topsoil during stripping and stockpiling operations. > If required, amelioration of topsoil and/or subsoil during stripping in accordance with a soil scientist's recommendations. > Prevent erosion of stockpiles using soil stabilising biopolymers, cover crops or other forms of stabilisation. > Test stockpiled soils to determine amelioration requirements prior to reinstatement.
	Soil compaction	As part of the COEMP for the project, soil compaction management measures should include: > Development of controlled traffic practices for plant machinery movements. > Avoid excavation and plant machinery movements on wet soils following heavy rain periods. > Prevent long term storage of plant machinery on clay or wet soils. > Avoid long term exposure of subsoils which are more susceptible to compaction. > Progressively stabilise and rehabilitate soil as soon as practically possible after excavation. > Ensure soil is replaced in correct subsoil/topsoil orders. > Ensure vegetative cover is re-established after soil rehabilitation.
	Failure to return site to pre-existing condition	A Decommissioning and Rehabilitation Plan (DRP) will be prepared within 3 years of the commencement of operation. The DRP will contain measures to ensure: > The site is decommissioned to a minimum depth of 500mm and all infrastructure including above and below ground is decommissioned and removed. > The land is restored to pre-existing productive agricultural capability and is safe, stable and non-polluting.
	Biosecurity risk	A Biosecurity Management Plan (BMP) will be prepared as part of the CEOMP in accordance with DPI's *Biosecurity Risk Management in Land Use Planning and Development Guide.* Biosecurity measures should include: > Implement a "*Come Clean, Go Clean*" policy (DPI NSW, 2024) for vehicles and machinery entering the site. Mud and plant

Impact	Mitigation measure	
		material must be removed from vehicles and machinery prior to entering and leaving the site. > Prevent the spread of plant and soil material on to and off site by checking clothes and boots prior to entering and leaving the site. > Implement a weed management plan which involves regular monitoring, spraying and removal of weeds.
Contamination	> Any land disturbance incorporating material containing demolition waste should include assessment for the presence of contaminants (including asbestos) and managed accordingly. > Avoiding skin contact with soil that is discoloured, malodourous, containing foreign matter and/or generally inconsistent with virgin soil. > No entry permitted into confined spaces and excavations; and > Controls are to be in place to contain soil and soil impacts (e.g. dust, sediment, etc) to within the area of the site.	
Visual	Not required	
Noise and vibration	> Implement community consultation or notification measures; > Ensure workers and contractors are aware of noise management requirements in approvals consents or licenses, site inductions and "toolbox talks" providing a summary of relevant project requirements for reference; > Inform truck drivers of designated vehicle routes, parking locations and acceptable delivery hours or other relevant practices, such as minimising use of engine brakes and avoiding engine idling; > Using broad band reversing alarms on all mobile plant and equipment where possible; > Examine different types of machines that perform the same function and compare the noise level data to select the least noisy machine; > Operating plant in a quiet and efficient manner; > Reduce throttle setting and turn off equipment when not being used; > Regularly inspect and maintain equipment to ensure it is in good working order including checking the condition of mufflers; > Avoid unnecessary dropping of materials from a height and metal to metal contact on equipment; and > It is recommended that during any work generating high noise levels that have impulsive, intermittent, low frequency or tonal characteristics, consultation with sensitive receivers occurs regularly.	
Traffic, Access and Transport	> The project access would be constructed to a BAR and BAL treatment on Waterfall Way in accordance with Austroads guidelines; > Required permits would be obtained for OSOM vehicle movements, and modifications to accommodate the largest OSOM vehicle movement would be implemented, the details of which would be confirmed as the size and load requirements are refined (desktop review by ARES [2024] has identified possible	

Impact	Mitigation measure
	changes to roadside signage, traffic signals at one location and vegetation clearing); and > A WAD would be obtained for the upgrading works at the intersection of Waterfall Way with the Project site access, including preparation of a CTMP and work to be undertaken in accordance with relevant traffic control requirements. It is recommended that a TMP and Driver Code of Conduct be developed and implemented to govern traffic movements during the Project construction stage. These would form part of the contractual arrangements with suppliers to the Project, and would be prepared in consultation with Council and/or TfNSW prior to commencement of construction of the Project, to address such matters as: > Compliance with access routes and travel restrictions that may be applicable; > Compliance with road rules, laws and regulations, including those relating to OSOM vehicles and dangerous goods transport; > Maintaining safe following distances between vehicles, and increasing separation in poor visibility (e.g. fog or rain); > Reporting of any unsafe driving practices or incidents; > Driver behavioural expectations within the site (e.g. radio communication, speed limits, and use of flashing lights on moving vehicles); and > Driver behaviour expectations at any specific locations or conditions, including at the Dangar Street bridge in Armidale, when warning signs advise that stock are present on or near the road, and in the vicinity of any school bus during bus operating hours.
Water	> Final development levels, site grading and finished surface levels are to be constructed generally in accordance with the modelled design; > A series of appropriately sized culverts is to be provided along the access road where it intersects existing drainage lines and overland flow paths in order to maintain flow continuity, reduce localised afflux and avoid concentration of flows. > Detailed design is also to ensure that the raised BESS platform and associated infrastructure are located above the relevant design flood levels, where required, to minimise exposure to inundation while preserving existing conveyance pathways. > Any localised increases in flood levels identified immediately upstream of infrastructure and along the access road are to be reviewed and, where necessary, refined during detailed design. Any future change to site levels, road alignment or infrastructure layout should also be subject to additional modelling to confirm consistency with the adopted flood modelling assumptions. > During construction, temporary works and stockpiling should be managed to ensure existing flow paths are not obstructed and drainage connectivity across the site is maintained. > Once the stormwater detention basin design is finalised, it is recommended that detailed flood modelling be undertaken to assess the basin's performance and its effectiveness in mitigating changes in flood behaviour. The following mitigation measures would be implemented in relation to surface water, flooding water quality and groundwater:

Impact	Mitigation measure
	> Water supply arrangements are subject to variations in construction methods, staging, quantities, measurements and the attainment of a construction contract for the proposed development. > A detailed site water balance will be prepared prior to construction to confirm water requirements and supply arrangements for the proposed development. > To minimise the potential for impacts to existing groundwater, it is recommended, that several shallow bores and/or geotechnical drillholes be drilled across the development site prior to construction to verify existing lithology, depth to water and to attain baseline groundwater quality. > Subject to confirmation of groundwater depths via an on-site investigation during detailed design and the selection of an appropriate construction method (concrete footings or steel piling footings), no groundwater dewatering is anticipated as a requirement to facilitate construction of the development. > Excavations should be limited to depths above the observed groundwater levels. Where deeper excavation is required, the groundwater assessment will be reviewed. > The progression of detailed design for the project should include: • Ongoing consultation with Council and other relevant stakeholders to ensure appropriate measures are implemented to minimise localised water impacts, including risks to surrounding land and irrigation networks. • The design of controls to minimise the potential for water impacts (i.e., bunding of areas presenting contamination risks); and • The design of proposed infrastructure including the proposed method for underboring activities developed in ongoing consultation with Murray Irrigation Pty Ltd. > Prepare a Soil and Water Management Plan (SWMP) prior to construction to detail potential risks and appropriate measures designed in accordance with Managing Urban Stormwater – Soils and Construction Volume 1 (Landcom, 2004). > The SWMP will be prepared as part of a Construction Environmental Management Plan (CEMP) to manage potential risks to soils, surface and ground water. Recommended measures for the construction SWMP include but are not limited to: • Measures to minimise and manage the potential for erosion and sediment transport within and from the Project area. • Measures to manage accidental spills and waste storage. • Measures to manage stormwater and the potential for contaminated runoff from the Project site. • Measures to ensure that excavation activities and any stockpiling are managed to minimise the potential for downstream contamination. • Measures to ensure that areas of exposed soil and the time in which they are exposed are minimised as far as practical > Stockpiling of any excavated material shall be managed in accordance with the SWMP to minimise the mobilisation and transport of dust, sediment and leachate into downstream environments. Recommended measures to manage stockpiling include but are not limited to:

Impact	Mitigation measure
	• Ensuring stockpiles are located away from drainage lines, waterways, and areas susceptible to erosion. • Minimising the number, size and duration of stockpiles used. • Ensuring stockpiles are stabilised and implementing dust suppression methods as required. • Ongoing review and inspection of the use of heavy vehicles and/or machinery, including transport tracks used, for erosion risk. • Ensuring that vehicles transporting waste and/or excavated material are appropriately covered to reduce the potential for dust. > The SWMP shall include procedures to reduce and manage the risk of emergency events and the potential for wastes and spills to contaminate soils, surface and ground water. Recommended measures to manage the potential for contaminated discharge include: • The storage of all fuel chemicals and liquids in sealed bunded areas on level ground away from stormwater drainage lines and waterways. • Ensuring refuelling and maintenance activities are restricted to designated areas with appropriate bunding and spill capture controls. • Implementing controls as part of the construction SWMP that provide procedures to respond to emergencies and spills (e.g., Groundwater monitoring bore installation, regulator notification and provision of spill kits). • Ensuring visual inspections of drainage lines and disturbed areas are undertaken during construction to assess any potential soil or surface water issues. • The installation and maintenance of stormwater control measures including drainage networks and bunding that segregate stormwater runoff according to its potential for contamination. > During operation procedures shall be developed to reduce the potential water impacts including the contamination of soils, surface and ground water, resulting from wastes, spills and/or emergency incidents. Suggested measures to control the potential for water impacts and contamination during operation include: • The appropriate storage of equipment and hazardous substances during operation. • Ensuring that plant and stormwater control measures are maintained to prevent contamination of soil. • Preparation of appropriate procedures to response to emergency incidents (i.e., floods, fires), spills and leaks from the development footprint, including operational equipment and maintenance activities (e.g., Groundwater monitoring bore installation, regulator notification and provision of spill kits). > The development layout, platform levels, and site grading should be constructed in accordance with the modelled design assumptions. > The access road crossings should incorporate appropriately sized culverts to: • Maintain flow continuity • Minimise localised afflux • Reduce concentration of flow

Impact	Mitigation measure
	> Minor localised increases in flood levels upstream of infrastructure and along the access road should be reviewed and refined during detailed design, where required. > The BESS platform and associated infrastructure should be designed above the flood levels to minimise exposure to flooding and preserve flood conveyance pathways. > Any future modifications to site layout or levels should be assessed to confirm consistency with the adopted flood modelling assumptions. > During construction, temporary works should ensure that existing flow paths are not obstructed, and drainage connectivity is maintained.
Hazards	> Water supply arrangements are subject to variations in construction methods, staging, quantities, measurements and the attainment of a construction contract for the proposed development. > A detailed site water balance will be prepared prior to construction to confirm water requirements and supply arrangements for the proposed development. > To minimise the potential for impacts to existing groundwater, it is recommended, that several shallow bores and/or geotechnical drillholes be drilled across the development site prior to construction to verify existing lithology, depth to water and to attain baseline groundwater quality. > Subject to confirmation of groundwater depths via an on-site investigation during detailed design and the selection of an appropriate construction method (concrete footings or steel piling footings), no groundwater dewatering is anticipated as a requirement to facilitate construction of the development. > Excavations should be limited to depths above the observed groundwater levels. Where deeper excavation is required, the groundwater assessment will be reviewed. > The progression of detailed design for the project should include: • Ongoing consultation with Council and other relevant stakeholders to ensure appropriate measures are implemented to minimise localised water impacts, including risks to surrounding land and irrigation networks. • The design of controls to minimise the potential for water impacts (i.e., bunding of areas presenting contamination risks); and • The design of proposed infrastructure including the proposed method for underboring activities developed in ongoing consultation with Murray Irrigation Pty Ltd. > Prepare a Soil and Water Management Plan (SWMP) prior to construction to detail potential risks and appropriate measures designed in accordance with Managing Urban Stormwater – Soils and Construction Volume 1 (Landcom, 2004). The SWMP will be prepared as part of a Construction Environmental Management Plan (CEMP) to manage potential risks to soils, surface and ground water. Recommended measures for the construction SWMP include but are not limited to: • Measures to minimise and manage the potential for erosion and sediment transport within and from the Project area. • Measures to manage accidental spills and waste storage.

Impact	Mitigation measure
	• Measures to manage stormwater and the potential for contaminated runoff from the Project site. • Measures to ensure that excavation activities and any stockpiling are managed to minimise the potential for downstream contamination. • Measures to ensure that areas of exposed soil and the time in which they are exposed are minimised as far as practical > Stockpiling of any excavated material shall be managed in accordance with the SWMP to minimise the mobilisation and transport of dust, sediment and leachate into downstream environments. Recommended measures to manage stockpiling include but are not limited to: • Ensuring stockpiles are located away from drainage lines, waterways, and areas susceptible to erosion. • Minimising the number, size and duration of stockpiles used. • Ensuring stockpiles are stabilised and implementing dust suppression methods as required. • Ongoing review and inspection of the use of heavy vehicles and/or machinery, including transport tracks used, for erosion risk. • Ensuring that vehicles transporting waste and/or excavated material are appropriately covered to reduce the potential for dust. > The SWMP shall include procedures to reduce and manage the risk of emergency events and the potential for wastes and spills to contaminate soils, surface and ground water. Recommended measures to manage the potential for contaminated discharge include: • The storage of all fuel chemicals and liquids in sealed bunded areas on level ground away from stormwater drainage lines and waterways. • Ensuring refuelling and maintenance activities are restricted to designated areas with appropriate bunding and spill capture controls. • Implementing controls as part of the construction SWMP that provide procedures to respond to emergencies and spills (e.g., Groundwater monitoring bore installation, regulator notification and provision of spill kits). • Ensuring visual inspections of drainage lines and disturbed areas are undertaken during construction to assess any potential soil or surface water issues. • The installation and maintenance of stormwater control measures including drainage networks and bunding that segregate stormwater runoff according to its potential for contamination. > During operation procedures shall be developed to reduce the potential water impacts including the contamination of soils, surface and ground water, resulting from wastes, spills and/or emergency incidents. Suggested measures to control the potential for water impacts and contamination during operation include: • The appropriate storage of equipment and hazardous substances during operation. • Ensuring that plant and stormwater control measures are maintained to prevent contamination of soil.

Impact	Mitigation measure
	• Preparation of appropriate procedures to response to emergency incidents (i.e., floods, fires), spills and leaks from the development footprint, including operational equipment and maintenance activities (e.g., Groundwater monitoring bore installation, regulator notification and provision of spill kits). > The development layout, platform levels, and site grading should be constructed in accordance with the modelled design assumptions. > The access road crossings should incorporate appropriately sized culverts to: • Maintain flow continuity • Minimise localised afflux • Reduce concentration of flow > Minor localised increases in flood levels upstream of infrastructure and along the access road should be reviewed and refined during detailed design, where required. > The BESS platform and associated infrastructure should be designed above the flood levels to minimise exposure to flooding and preserve flood conveyance pathways. > Any future modifications to site layout or levels should be assessed to confirm consistency with the adopted flood modelling assumptions. > During construction, temporary works should ensure that existing flow paths are not obstructed, and drainage connectivity is maintained.
Bush Fire	> Asset Protection Zones • At the commencement of the development, and in perpetuity, the curtilage surrounding the development shall be managed as an IPA APZ for a distance of 11 m in all directions, as outlined in PBP 2019 Appendix 4. • Trees > canopy cover should be less than 15% (at maturity) > trees (at maturity) should not touch or overhang the building > lower limbs should be removed up to a height of 2 m above ground > canopies should be separated by 2 to 5 m > preference should be given to smooth barked and evergreen trees • Shrubs > create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings > shrubs should not be located under trees > shrubs should not form more than 10% ground cover > clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation • Grass > should be kept mown (as a guide grass should be kept to no more than 100 mm in height) > leaves and vegetation debris should be removed. > Water Supply

Impact	Mitigation measure
	• A minimum 20,000 Litre fire-fighting water supply is to be provided and there is to be suitable access for a Category 1 fire appliances within 4 m of the static water supply, provided with > i) a connection for firefighting purposes is to be located within the IPA or non-hazard side and away from the structure > ii) a 65 mm Storz outlet with a ball valve is to be fitted to the outlet > iii) ball valve and pipes are adequate for water flow and are metal > iv) supply pipes from tank to ball valve have the same bore size to ensure flow volume > v) underground tanks have an access hole of 200 mm to allow tankers to refill direct from the tank > vi) a hardened ground surface for truck access is supplied within 4 m > vii) above ground tanks are manufactured from concrete or metal > viii) raised tanks have their stands constructed from non-combustible material or bush fire resisting timber (see Appendix F of AS 3959) > ix) unobstructed access can be provided at all times > x) underground tanks are clearly marked > xi) tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters > xii) all exposed water pipes external to the building are metal, including any fittings > xiii) where pumps are provided, they are a minimum 5 hp or 3 kW petrol or diesel powered pump, and are shielded against bush fire attack > xiv) any hose and reel for firefighting connected to the pump shall be 19 mm internal diameter > xv) any hose reel connections are constructed in accordance with AS/NZS 1221:1997, and installed in accordance with the relevant clauses of AS 2441:2005. > xiv) any hose and reel for firefighting connected to the pump shall be 19 mm internal diameter > xv) any hose reel connections are constructed in accordance with AS/NZS 1221:1997, and installed in accordance with the relevant clauses of AS 2441:2005. > Access: • property access roads are two-wheel drive, all-weather roads • The capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes), bridges and causeways are to clearly indicate load rating • There is suitable access for a Category 1 fire appliance to within 4 m of the static water supply • There is a minimum 4 m carriageway width • Rural property roads have passing bays every 200 m that are 20 m long by 2 m wide, making a minimum trafficable width of 6 m at the passing bay

Impact	Mitigation measure
	• There is a minimum vertical clearance of 4 m to any overhanging obstructions, including tree branches • Curves have a minimum inner radius of 6 m and are minimal in number to allow for rapid access and egress • The minimum distance between inner and outer curves is 6 m • The crossfall is not more than 10 degrees • Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads • Traffic management devices are constructed to not prohibit access by emergency services vehicles > Electricity Services • Where practicable, electrical transmission lines are underground, and where overhead, electrical transmission lines are proposed as follows: • i) lines are installed with short pole spacing (30 m), unless crossing gullies, gorges or riparian areas; and • ii) no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines. > Gas Services • Where applicable, reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 The storage and handling of LP Gas and the requirements of relevant authorities, and metal piping is used. • All fixed gas cylinders are kept clear of all flammable materials to a distance of 10 m and shielded on the hazard side, connections to and from gas cylinders are metal. • Polymer-sheathed flexible gas supply lines are not used, and above-ground gas service pipes are metal, including and up to any outlets. > Fences and gates • All new fences and gates within the development area and APZ are constructed of either non-combustible material. > Emergency and Evacuation Planning • The need to formulate an emergency evacuation plan is suggested. To do so, occupants can complete a Bush Fire Safety Plan on the NSW RFS Website: <http://www.rfs.nsw.gov.au/> under publications / bushfire safety.
Social	> Implement UNE accommodation arrangements; > Consultation with other project proponents to address cumulative impacts; > Targeted Armidale LGA-based employment and procurement initiatives; > Worker health management protocols; > Continued implementation of existing complaints procedure and CSEP; > Notifications to residents and nearby sensitive receivers; > Management measures set out by the VIA; > Management measures set out by the NIA;

Impact	Mitigation measure
	> Consultation with local fire services; > Fire safety communication; > Management measures set out by the BAR and PHA; > Consultation with other project proponents and ARC to address cumulative impacts; > Management measures set out by the TIA; > Worker code of conduct; > Management measurement measures set out by the WIA; > Targeted Armidale LGA-based employment and procurement initiatives; > Local (NSW-based) supply chain commitments; > First Nations participation; > Employment and workforce commitments; > First Nations participation; > Management measures set out by the ACHAR; and > Continued implementation of the CSEP to engage with Traditional Owners and Aboriginal community members.
Consultation TSR	> All contractors engaged are to be shown *Letter of Authority — Travelling Stock Reserve (TSR) Vegetation Management and Access Tracks* (Local Land Services) so they are familiar with the conditions of approval outlined regarding TSRs.
Economic	> Preparation and implementation of an Industry Participation Plan (IPP) to maximise the use of local and regional contractors, suppliers and workforce where practicable; > Engagement with local employment agencies and training organisations to identify opportunities for skills development, training and apprenticeships where feasible; > Continued engagement with Council regarding the development, governance and delivery of community benefit-sharing arrangements; and > Continue to engage with the community around committed local projects and other opportunities that may exist.
Waste	> Waste Avoidance and Minimisation: • Implement procurement and supply chain practices to reduce packaging and material waste; • Encourage suppliers to utilise reusable packaging and take-back schemes for materials and components; • Optimise material quantities during design and construction to minimise surplus waste; and • Prioritise prefabricated components where practicable to reduce on-site waste generation. > Waste Segregation and Recycling:

Impact	Mitigation measure
	• Segregate waste streams on-site into dedicated bins or stockpile areas to maximise recycling and reuse opportunities; • Separate recyclable materials including metals, concrete, timber, plastics, cardboard and glass; • Reuse suitable materials on-site where practicable, including: > Excavated soils for backfilling and rehabilitation; > Crushed concrete for fill or reuse applications; • Engage licensed recycling contractors to collect and process recyclable materials. > Waste Handling and Storage: • Store all waste in designated, clearly labelled and appropriately located areas; • Use covered bins and skips to prevent litter, contamination and amenity impacts; • Store liquid wastes in bunded areas with appropriate containment capacity; • Ensure waste storage areas are maintained in a clean and orderly condition at all times. > Waste Classification and Compliance: • Classify all waste in accordance with the *NSW EPA Waste Classification Guidelines*; • Ensure all waste is transported and disposed of in accordance with the *Protection of the Environment Operations Act 1997*; and • Ensure only licensed contractors transport waste and that waste is delivered to facilities lawfully permitted to accept the relevant waste class. > Waste Disposal and Resource Recovery: • Dispose of waste at appropriately licensed waste management facilities based on waste classification; • Prioritise local facilities where suitable and permitted, to minimise transport distances; and • Ensure that waste not suitable for reuse or recycling is disposed of in accordance with regulatory requirements. > Specialised Waste Streams (BESS Components): • Return defective or surplus batteries to manufacturers during construction where feasible; • Remove batteries, inverters and transformers off-site at end of life for: > Recycling; > Refurbishment; or > Safe disposal at licensed facilities; • Monitor emerging recycling infrastructure to maximise resource recovery opportunities at the time of decommissioning. > Waste Tracking and Monitoring: • Maintain a waste tracking register documenting: > Waste type and classification;

Impact	Mitigation measure
	> Quantities generated; > Transport contractor details; and > Receiving facility; • Retain records (e.g. weighbridge dockets, receipts) to ensure traceability and compliance; • Regularly review waste management practices and update the WMP as required. > Consultation and Adaptive Management: • Consult with Council and waste service providers prior to construction to confirm disposal pathways; • Review and update the WMP prior to construction and decommissioning to reflect detailed design and confirmed waste streams; • Continuously review availability of waste facilities and adapt management practices accordingly.
Construction	> Standard construction hours (7 am to 6 pm Monday to Friday and 8 am to 1 pm Saturday and at no times on Sundays or public holidays) would be implemented; > Avoiding dust generating activities during windy and dry conditions; and > Maintaining all equipment in good working condition such that the construction contractor and site manager ensure the prevention of the release of smoke by construction equipment, which would be in contravention of Section 124 of the *Protection of the Environment Operations Act 1997* and Clause 16 of the *Protection of the Environment Operations (Clean Air) Regulation 2010*.
Cumulative	> Maintain ongoing communication with relevant stakeholders, including nearby renewable energy proponents, infrastructure providers and accommodation suppliers, where appropriate, to support awareness of regional development activity.

APPENDIX G
LAND TITLES

APPENDIX H

BIODIVERSITY DEVELOPMENT ASSESSMENT REPORT

APPENDIX I

ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

APPENDIX J

LAND USE CONFLICT RISK ASSESSMENT

APPENDIX K

LAND, SOIL AND AGRICULTURE REPORT

APPENDIX L

VISUAL IMPACT ASSESSMENT

APPENDIX M

NOISE AND VIBRATION IMPACT ASSESSMENT

APPENDIX N

TRANSPORT IMPACT ASSESSMENT

APPENDIX O

OVERSIZE AND OVERMASS ROUTE STUDY

FROM PORT OF BRISBANE

APPENDIX P

OVERSIZE AND OVERMASS ROUTE STUDY

FROM GLEN WAVERLY, VICTORIA

APPENDIX Q
WATER IMPACT ASSESSMENT

APPENDIX R

FLOOD IMPACT ASSESSMENT

APPENDIX S

PRELIMINARY HAZARD ANALYSIS

APPENDIX T

BUSH FIRE ASSESSMENT REPORT

APPENDIX U

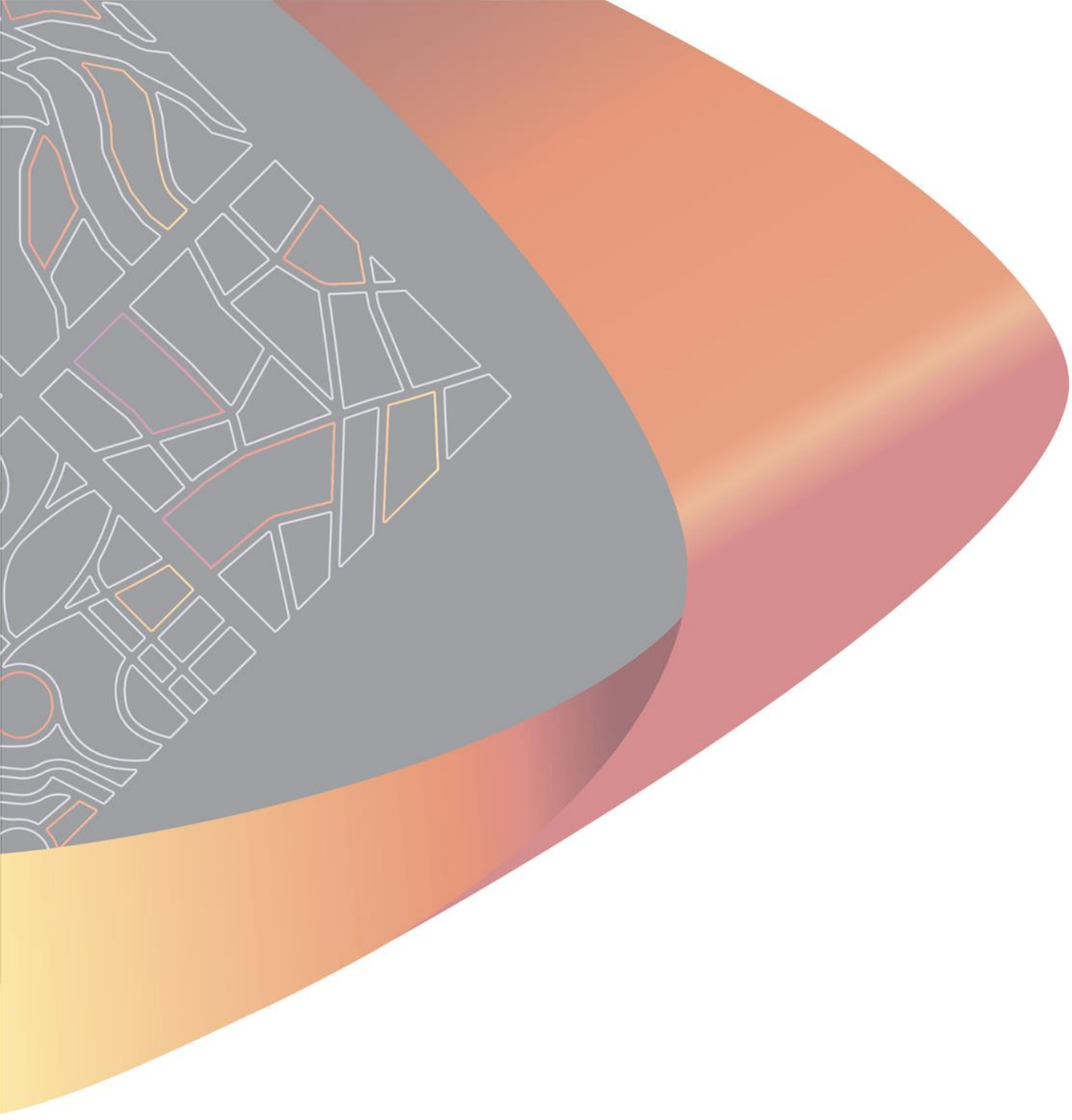
SOCIAL IMPACT ASSESSMENT

APPENDIX V

COMMUNITY AND STAKEHOLDER ENGAGEMENT PLAN

APPENDIX W

WASTE MANAGEMENT PLAN



Premise

PART OF THE Amey GROUP