Uungula Wind Farm (SSD-6687) | Modification 3

SQUADRON ENERGY

OSOM Transport Route - Amendment to Schedule of Road Upgrades

July 2025

Final

30 July 2025

Revision Control

Revision	Date	Issue	Author	Reviewed	Approved	Signature
000	17/01/2025	Final/Issued	S. Kidziak	A Gordijn V Cavanough	C. Somerville	
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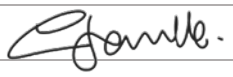
002	17/07/2025	Final/Issued	V. Chaplin	V Cavanough	C Somerville	
003	30/07/2025	Final/Issued	V. Chaplin	C Somerville	C Somerville	

Confidentiality

Disclaimer

Executive Summary

Squadron Energy Pty Ltd (Squadron Energy), on behalf of Uungula Wind Farm Pty Ltd (the Proponent), has prepared this application to modify the Project Development Consent (SSD-6687) (the Development Consent) under section 4.55 (1A) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (the Modification).

This Modification seeks to amend the Schedule of Road Upgrades in Appendix 7 of the Development Consent to include the upgrade details of an additional intersection along the transport route as identified in the Transport Management Plan (TMP) Newcastle Port to Uungula Windfarm (Rex J Andrews 2024). Furthermore, it seeks to amend Condition B30 to align the timing requirements with the specifications in Appendix 7 of the Development Consent.

This Modification also seeks to make a minor administrative amendment to Condition C14 and Appendix 1 Schedule of Land, removing references to Conditions of Approval that were removed under a previous Modification (Mod 1) of the Development Consent and providing the updated list of lot descriptors for the new subdivisions that have been registered to create the lease lots as contemplated in condition A16(b).

This Modification is required to ensure that all upgrades essential for over-dimensional movements associated with the Uungula Wind Farm (UWF), conducted on behalf of the Proponent, are documented within the Development Consent.

The Modification is sought under Section 4.55 (1A) of the EP&A Act because:

- The Project, to which the modification relates, is substantially the same as the Project for which consent was originally granted; and
- The Modification is of minimal environmental impact.

A Biodiversity Assessment, a Heritage Assessment, a Construction Noise and Vibration Impact Assessment and a Traffic Assessment have been carried out and are provided in Appendices A to D to support this Modification.

The assessments conclude that the proposed intersection upgrade will not have significant additional biodiversity, heritage, noise and vibration or traffic impacts.

Consultation has also taken place with the local community and relevant stakeholders and evidence is provided in Appendices E and Fto support this Modification.

The strategic design of the intersection has been prepared in consultation with Transport for NSW (TfNSW) and Work Authorisation Deed (WAD) execution is pending approval of this Modification as noted in recent correspondence with TfNSW provided in Appendix G.

The existing impact mitigation measures prescribed in the Project Environmental Impact Statement (EIS) have been reviewed and no changes to these measures are required as part of this Modification.

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1 Introduction and context

Australia aims to reduce CO_2 emissions by 26–28% below 2005 levels by 2030, while NSW has set a net-zero emissions target by 2050. To support this transition, the NSW Government has established Renewable Energy Zones (REZs), including a pilot REZ in the Central West targeting 3,000 MW of renewable energy investment. The Uungula Wind Farm (the Project) located within this Central-West Orana REZ will generate 414 MW—enough electricity to power more than 220,000 homes and prevent more than 560,000 tonnes of CO_2 emissions annually

The Project is situated within the Dubbo Regional Council Local Government Area (LGA), 14 km east of Wellington. The Project generally consists of the installation/construction, operation, maintenance and decommissioning of up to 93 Wind Turbine Generators (WTGs) up to 250 m in height, an energy storage facility (ESF), Ancillary Infrastructure and Temporary Facilities. The Project will connect to the 330 kV transmission line running approximately east-west within the northern part of the Project Site. **Figure 1** provides the Project location in relation to its regional setting, and **Figure 2** details the Project site layout.

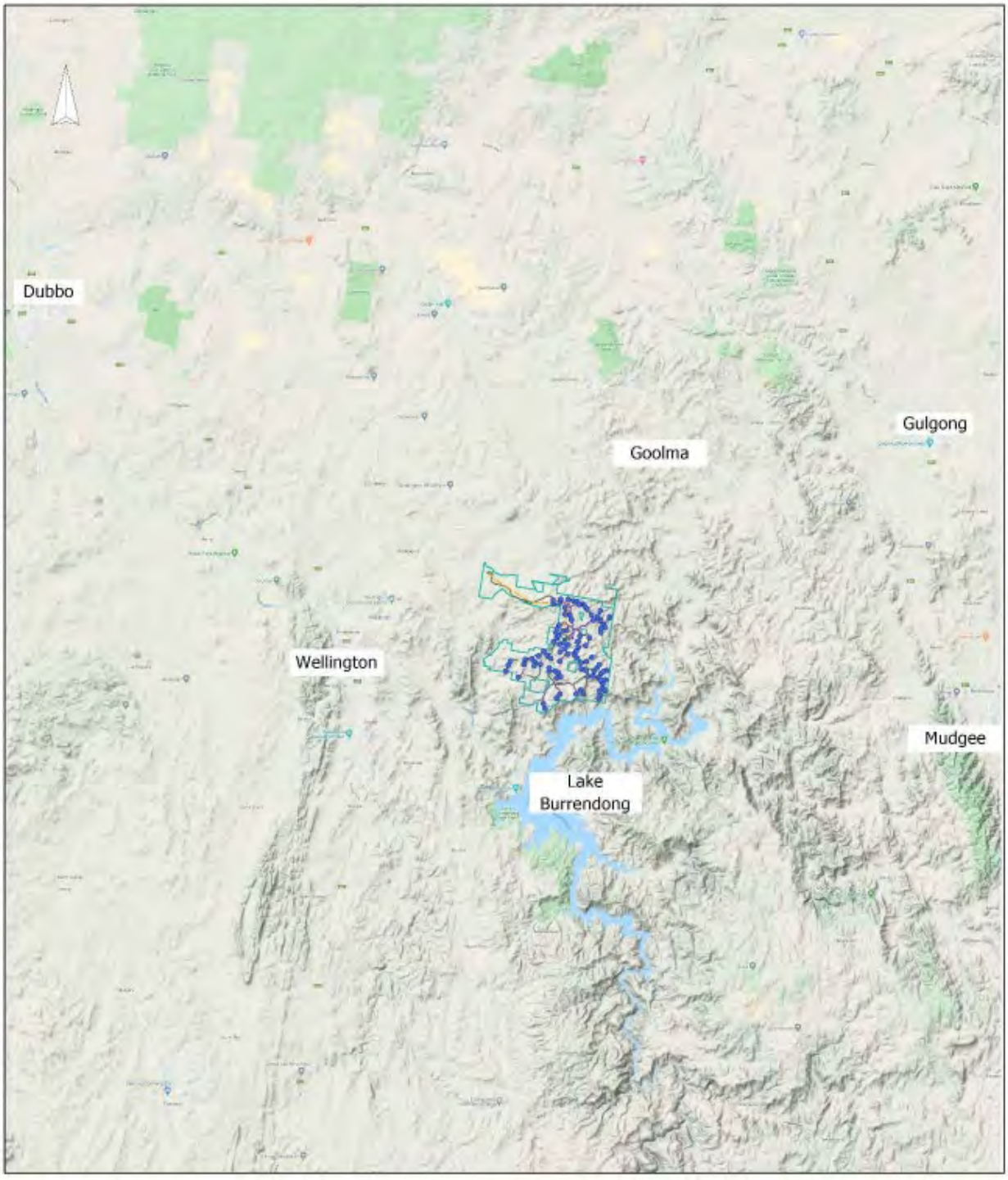
Squadron Energy Pty Ltd, on behalf of Uungula Wind Farm Pty Ltd ABN: 68 143 399 295 (the Proponent), has prepared this application to modify the Project's State Significant Development Consent (SSD-6687) under section 4.55 (1A) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (the Modification).

The Modification seeks to incorporate an additional intersection upgrade into the Schedule of Road Upgrades in Appendix 7 of the Development Consent. This inclusion ensures that the transport route upgrades are appropriately captured within the Development Consent, and all associated impacts are adequately assessed prior to the commencement of works.

It should be noted that there are remaining road upgrade works relied upon for this project. These other upgrade works have not been identified in the Development Consent or included in this Modification but occur along the transport route identified in the *Transport Management Plan: Newcastle Port to Uungula Windfarm* (Rex J Andrews, 2024). These upgrades will be undertaken by EnergyCo as part of the Port to REZ Program, in collaboration with Transport for NSW (TfNSW) under a Memorandum of Understanding.

This Modification application has been prepared in accordance with the NSW *State significant development guidelines – preparing a modification report* (DPIE 2021 - Appendix E to the State Significant Development guidelines). The details of the Modification are described in Section 2. Subsequent sections of this report include the statutory context, environmental impact assessment and mitigation, community engagement and proposed amendments.

To support this Modification, a Biodiversity Assessment, Heritage Assessment, a Noise and Vibration Impact Assessment and a Traffic Assessment have been prepared and are included in Appendix A, B, C and D respectively. The strategic design of the intersection has been prepared in consultation with Transport for NSW (TfNSW) and Work Authorisation Deed (WAD) execution is pending approval of this Modification as noted in recent correspondence with TfNSW as provided in Appendix G. This will enable the design to progress to final Issued For Construction (IFC) in a timely manner following approval of this Modification.



LEGEND

- Wind Turbine Generator (97)
- Project Site
- Wind farm access tracks
- Site Compound
- Substation
- Energy Storage Facility

Proposed Powerlines:

- Underground (medium to low voltage)
- Overhead (medium to low voltage)
- Overhead (high voltage)

SCALE BAR: 0 10 km

COMPANY				
UUNGULA WIND FARM PTY LTD				
TITLE				
Project Location				
DATE	SCALE	DWG NO	REV	VER
17/04/2020	1:420000	UWF-048	A	1
DRAWN BY	CHECKED BY	SHEET	JOB NO	SIZE
J PETERSEN	M FLOWER	1 OF 1	110247	A3

Figure 1 - Project location in regional setting

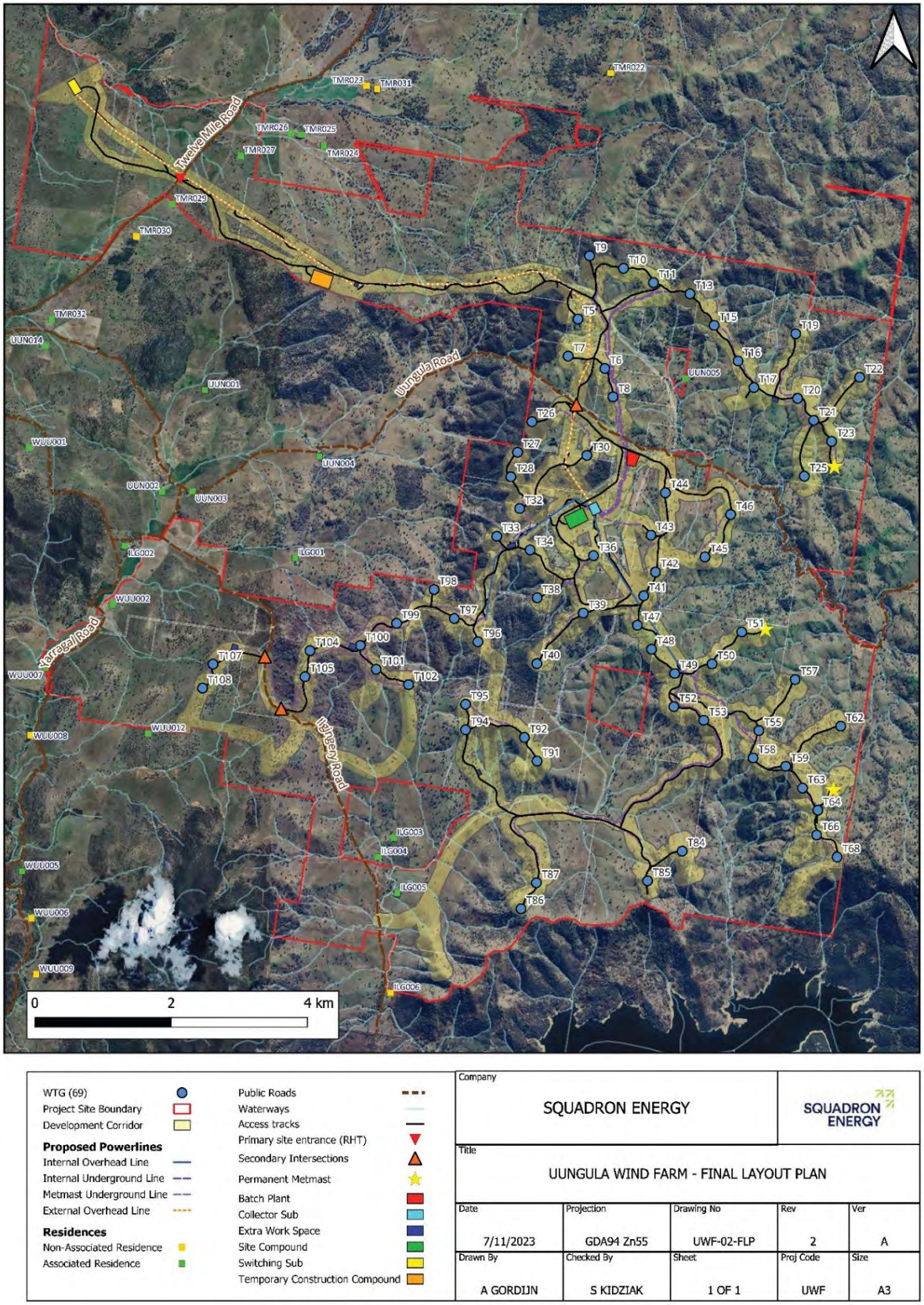


Figure 2 - The Project Final Layout Plan

1.1 Planning context

The following Figures detail the planning context relevant to the proposed intersection upgrade.

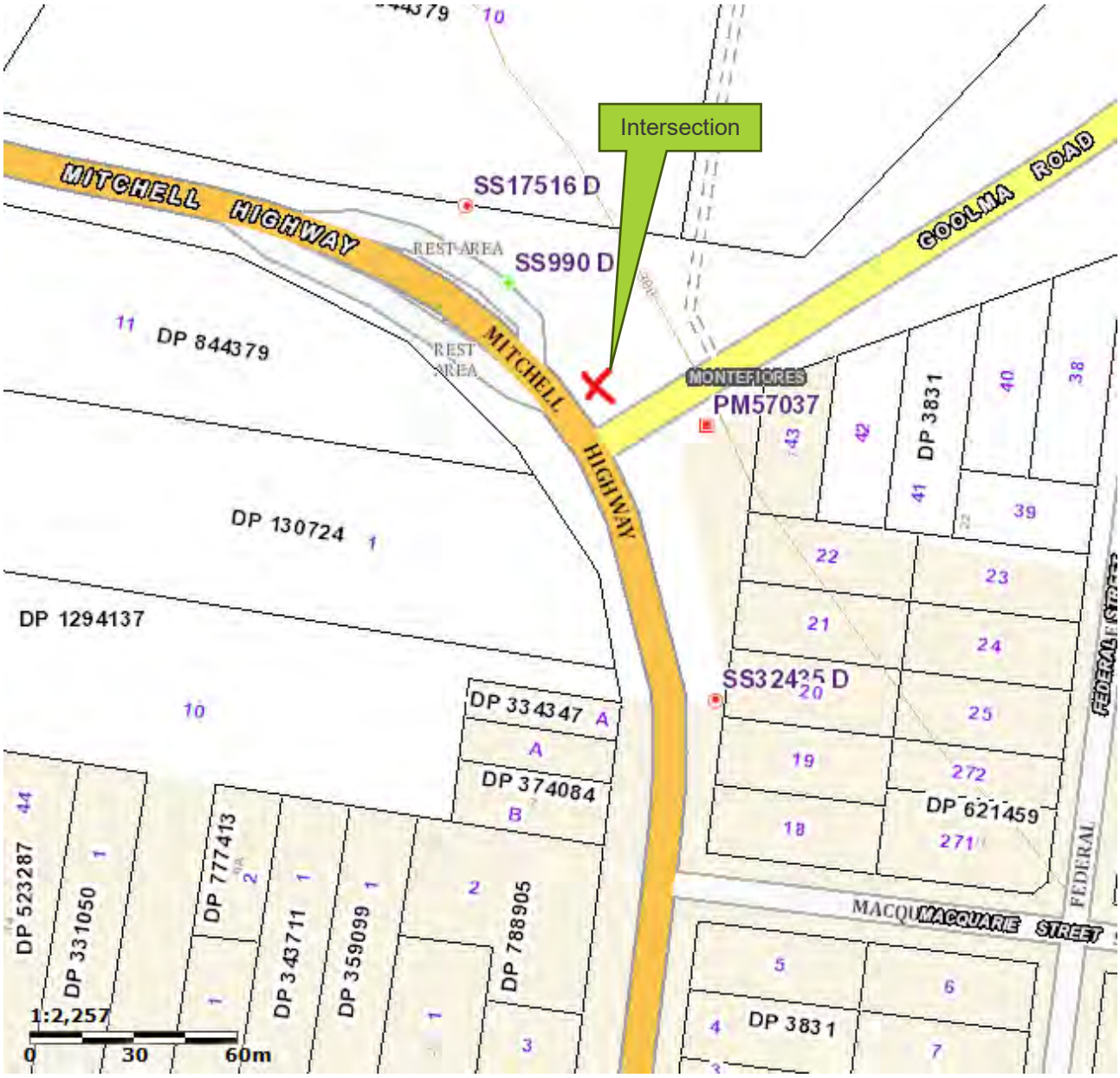


Figure 3 - Location of Mitchell Hwy intersection with Goolma Road, Wellington

The intersection is located on Crown land, south of Lot 10 DP844379, east of Lot 11 DP844379 in Dubbo Regional LGA. (Lat: 32°32'23.55"S, Long: 148°56'32.11"E).

Figure 4 - Dubbo Regional Council LEP overlay over proposed intersection upgrade location

The land under the proposed upgrade site is zoned SP2 – Infrastructure. The location is surrounded by R5 – Large lot residential to the north, R2 – Low Density Residential to the south and E3 Productivity Support to the east.

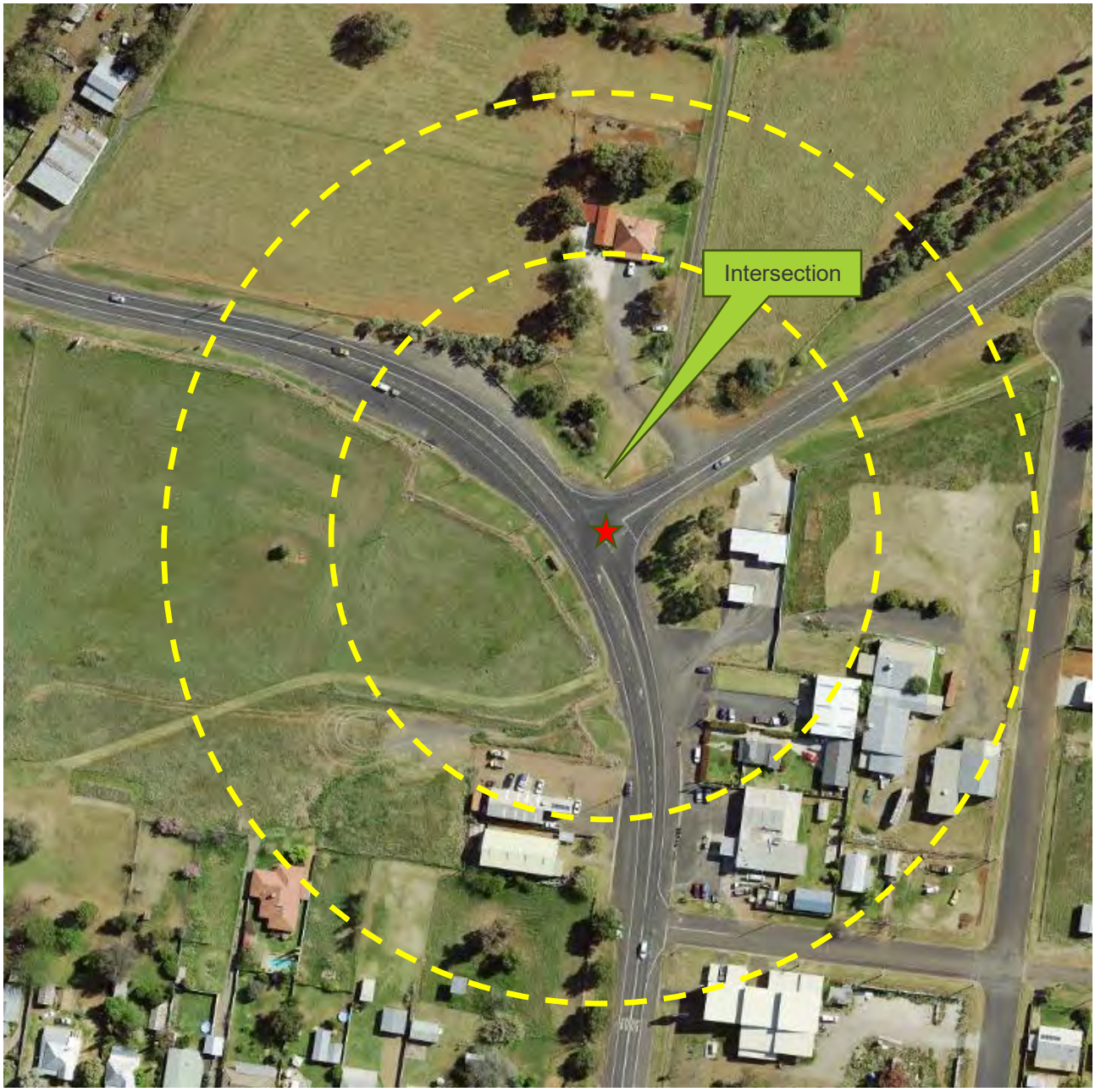


Figure 5 - Nearest residential receptors 100m and 150m distance away from the proposed upgrade works

2 Description of the Modification

2.1 Overview

The purpose of this Modification is to amend the Schedule of Road Upgrades specified in Appendix 7 of the Development Consent to include road upgrades required along the Over Size Over Mass (OSOM) Transport route proposed to be undertaken by the Project, and opportunistically, an administrative change.

At the time the Development Consent was granted, the OSOM transport route identified in the *Indicative OSOM Route Study (Rex J Andrews, May 2020)* were subject to detailed design. Available design required for public road upgrades was provided with the understanding that iterative updates would occur as details became available and documented in the conditioned Traffic Management Plan (TMP).

Condition B27 of the Development Consent authorises the use of this transport route with all over-dimensional traffic associated with the development conditionally required to travel to and from site via Golden Highway, Saxa Road, Mitchell Highway, Goolma Road, Twelve Mile Road and the approved site access point off Twelve Mile Road, identified in the 'Indicative OSOM Route' and 'Project Access Route' figure provided in Appendix 8 of the Development Consent, unless the Planning Secretary agrees otherwise.

Significant time and cost have been invested into planning and negotiating with TfNSW on this matter including regular consultation on the project's TMP to enable these works. While the Environmental Impact Statement (EIS) documented the OSOM route road work upgrades, this Modification seeks specific inclusion in the Development Consent to authorise and enable the required physical works. The project must obtain a WAD for the road works following approval of this Modification and will concurrently update the relevant administrative changes to the current TMP.

Works must be completed by September 2025 to facilitate OSOM traffic and therefore a timely decision on this Modification is respectively requested to enable a WAD execution to complete the physical works.

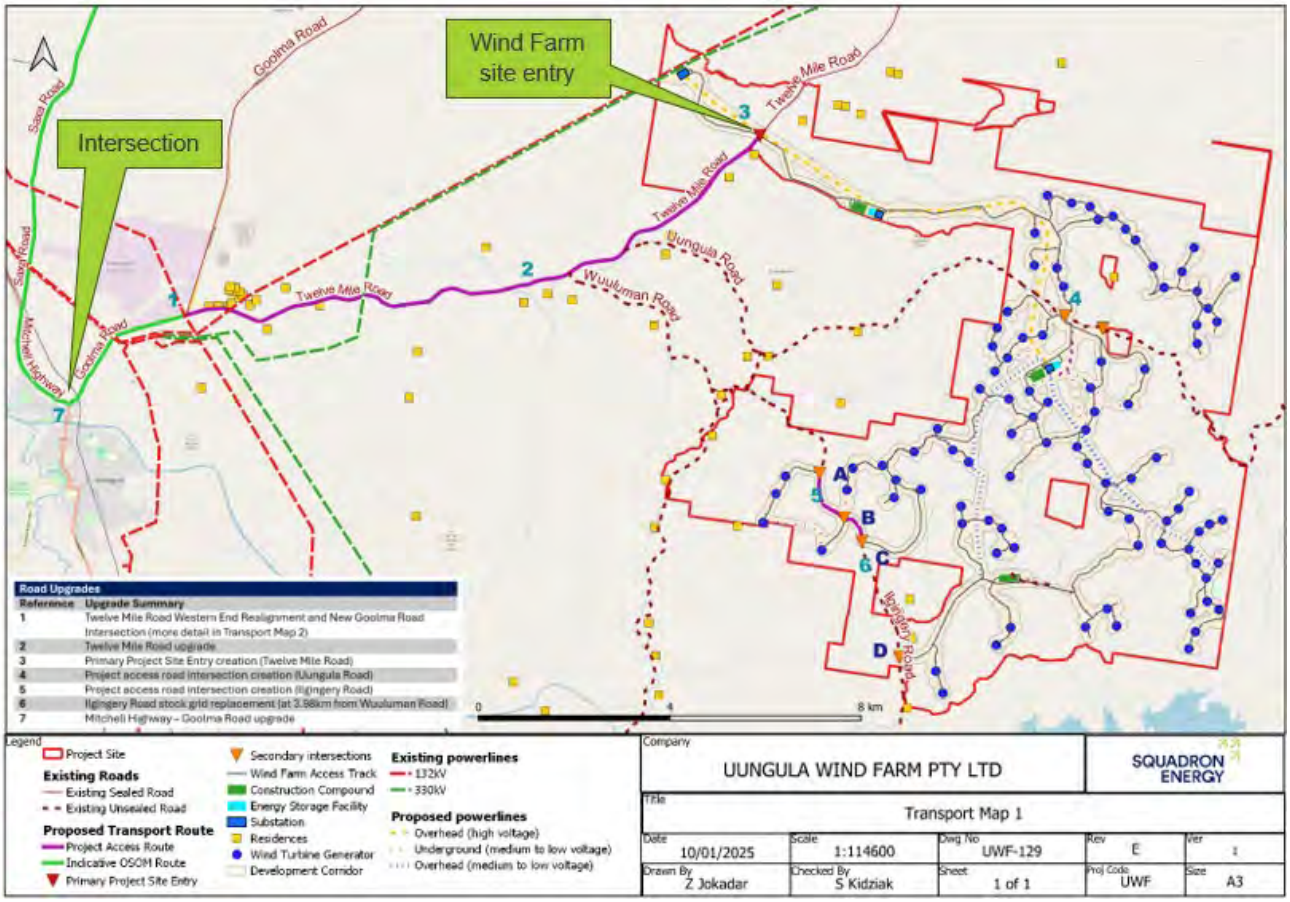


Figure 6 - Location of intersection and road upgrades along the OSOM transport route

2.1.1 OSOM Upgrade

Through consultation with the Department of Planning, Housing and Infrastructure (DPHI) in December 2024, it was clarified that external OSOM road upgrades were not previously assessed for potential environmental impacts in the project's EIS or considered by DPHI. Therefore, it was agreed that these works were not approved as part of the Development Consent under Appendix 7. As such, new environmental assessments have been undertaken with a summary provided in Section 7. The intent of these assessments is to confirm that potential environmental impacts associated with the intersection upgrade works required for the OSOM transport route to be completed by the Proponent, have been appropriately considered in the Development Consent.

The works required at the Mitchell Highway / Goolma Road intersection involve a No parking area to be placed on the right-hand side prior to the intersection, the addition of hardstand on the exit of the corner, and some signs to be made removable. Figure 8 illustrates the Mitchell Highway / Goolma Road intersection design considered for this Modification and works required.

As previously identified, EnergyCo are undertaking the balance of works to facilitate the project's OSOM movements from the Port of Newcastle to the Elong Elong intersection of Golden Highway / Saxa (Coborra) Road.

Figure 6 identifies the road upgrades outlined in Appendix 7 of the Development Consent and includes the proposed additional upgrades in relation to the OSOM transport route to support this Modification.

The changes are consistent with standard road works undertaken by a road authority for safety reasons, and it is expected that this Modification will assess these changes according to the low environmental risk that these present, as demonstrated herein, and based on the understanding that road approvals will govern the works.

2.1.2 Administrative Change

The initial Development Consent (granted 7 May 2021) included Condition C14 of Schedule 2, requiring notification requirements to various landowners. As part of Modification 1 (Mod 1), conditions referenced in subsection (a) of Condition C14—specifically Condition B1, Table 1, and Table 2—were removed. However, Condition C14 itself was not updated to reflect this change.

An administrative amendment is required to remove subsection (a) from Condition C14 while retaining the relevant wording in subsection (b).

Also, as contemplated in Condition A16(b), new subdivisions have been registered to create the lease lots and therefore Appendix 1 Schedule of Land has been updated to reflect the changes.

Given the nature of these administrative changes, this Modification Report does not assess this further.

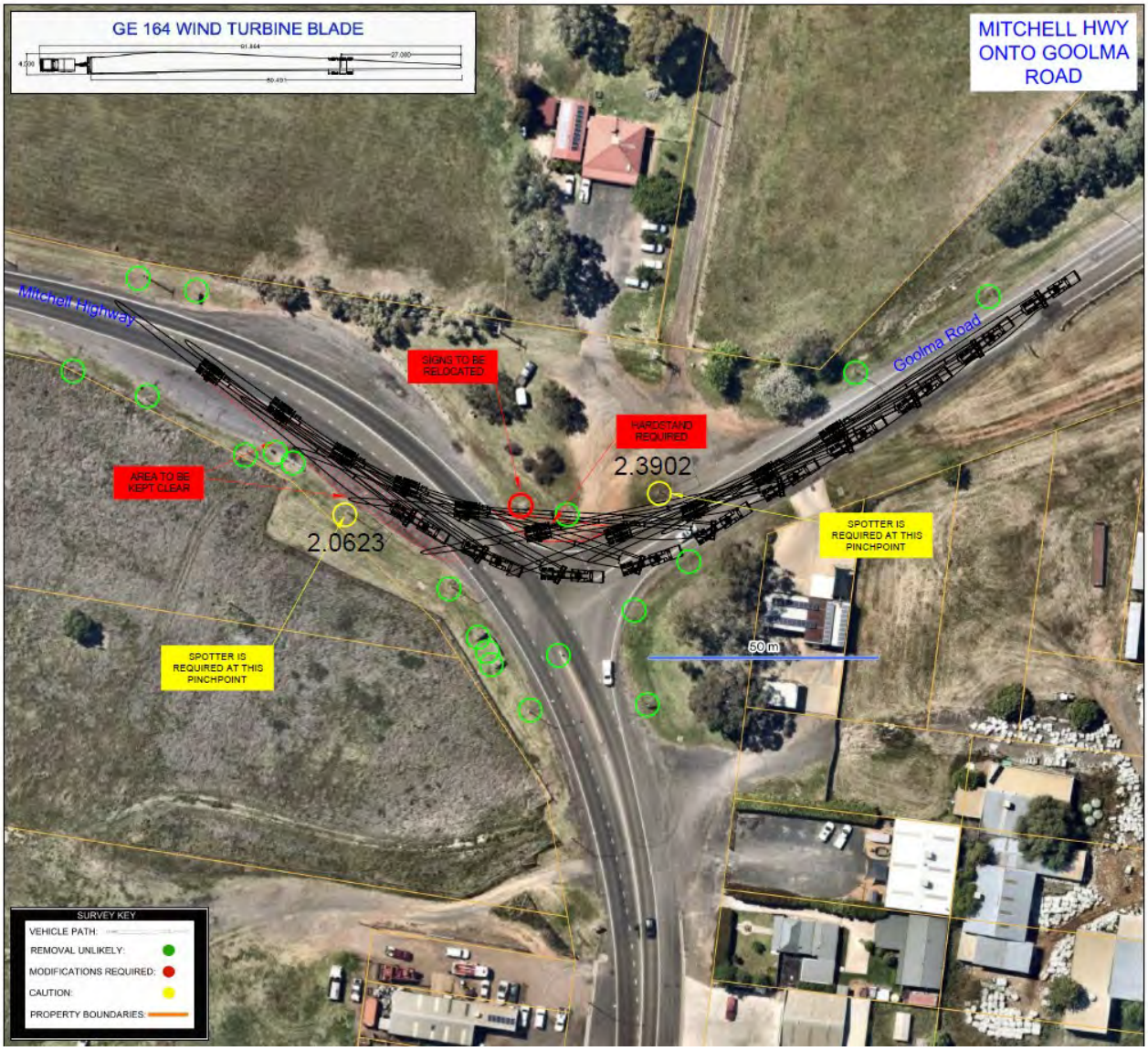


Figure 7 - Turbine blade turning circle overlay over intersection upgrade works

The following drawings show the details of the civil work involved to upgrade the intersection, to accommodate the blade movements.

This strategic design of the intersection has been prepared in consultation with Transport for NSW (TfNSW) and Work Authorisation Deed (WAD) execution is pending approval of this Modification. The early consultation will enable the design to progress to final IFC in a timely manner following approval of this Modification.

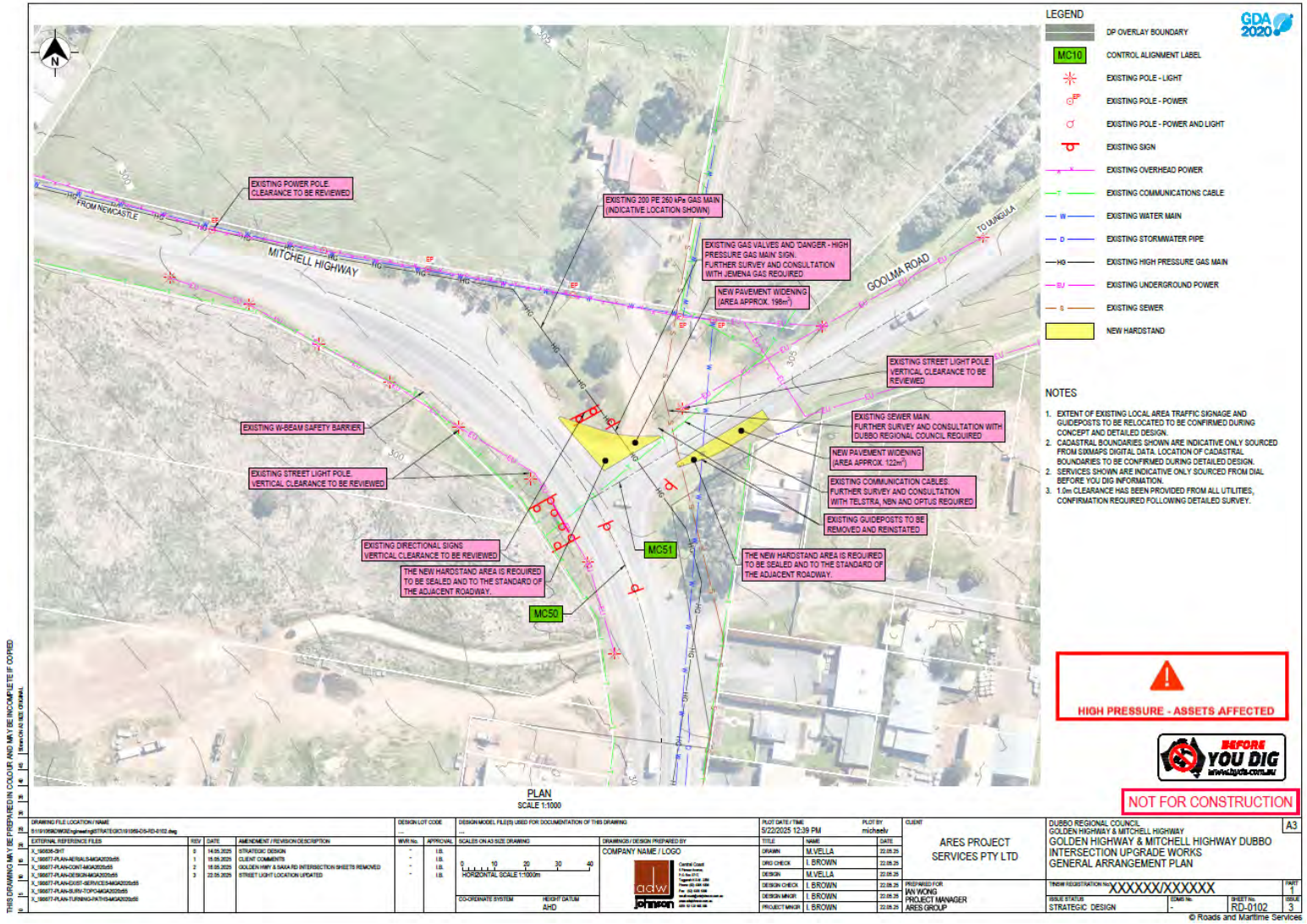


Figure 8 - Civil works extent

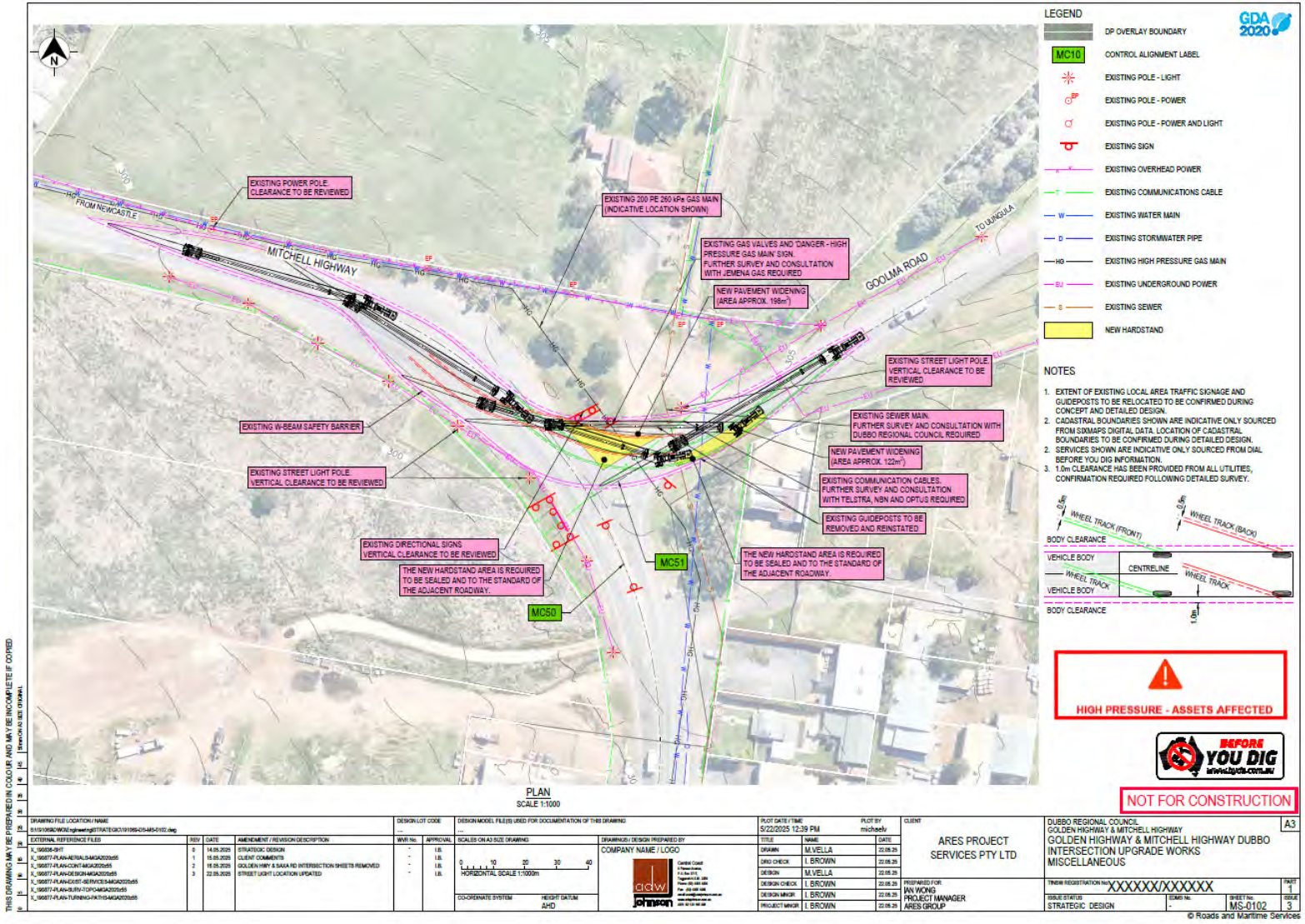


Figure 9 - Blade movement overlay on civil scope

2.2 Intersection upgrade works program

The proposed intersection is critical for the delivery of the wind turbines to the UWF.

It is expected that the upgraded intersection will be ready for use no sooner than **38 weeks** from the date of approval of this Modification up to and is not expected to exceed **48 weeks.**

The upgrade works ahead will involve the following activities:

- WAD Execution – 4 weeks.
- Detailed Design – 12 weeks (considering gas relocation and dealing with Jemena – Optimistic timing).
- Project Verifier – After WAD Execution 4-6 weeks.
- Contractor Engagement (After detailed design at advanced stage of review 6 – 8 weeks.
- TfNSW Review approval 4 – 6 weeks, say after detailed design.
- Work execution – 8 – 12 week after the above dot point.

3 Proposed Changes to the Approval

The text below presents the proposed changes to the Conditions of Approval for the approved Project (SSD-6687). Proposed changes are shown in red underlined text.

This proposed Modification does not preclude compliance with all other Conditions of Approval of SSD-6687.

3.1 Condition B30

Unless the Planning Secretary agrees otherwise, ~~prior to commencing construction~~ the Applicant must implement the road upgrades identified in Appendix 7 in accordance with the relevant timing requirements, to the standard and satisfaction of the relevant roads authority.

If there is a dispute about the road upgrades to be implemented, or the implementation of these upgrades, then either party may refer the matter to the Planning Secretary for resolution.

3.2 Condition C14

Prior to the commencement of construction, the Applicant must notify ~~the owners of:~~

~~a) the land listed in Table 1 and Table 2 of the conditions of this consent of their rights under condition B1 and B2 of Schedule 2; and~~

any non-associated residence within 5 km of any approved wind turbine of their rights under condition B2 of Schedule 2.

3.3 Appendix 1

SCHEDULE OF LAND

Lot	DP
1	DP1141897
2	DP1141897
~~2~~	~~DP586633~~
1	DP1294654
2	DP1294654
3	DP1294654
78	DP750753
83	DP750753
421	DP1206509
~~1~~	~~DP1239686~~
102	DP1294440
3	DP211380
~~4~~	~~DP211380~~
100	DP1294440
101	DP1294440
20	DP750778
110	DP750778
40	DP750753
~~11~~	~~DP622801~~
1	DP1294653
2	DP1294653
~~120~~	~~DP754290~~
3	DP1294653
4	DP1294653
~~175~~	~~DP754290~~
5	DP1294653
6	DP1294653
~~25~~	~~DP750778~~
7	DP1294653
8	DP1294653
~~24~~	~~DP750778~~
9	DP1294653
~~30~~	~~DP750778~~

Lot	DP
~~1~~	~~DP1207626~~
1	DP1294663
2	DP1294663
2	DP233294
2	DP1110777
83	DP750779
134	DP750778
~~422~~	~~DP1206509~~
~~2~~	~~DP1267507~~
2	DP1284753
~~3~~	~~DP1267507~~
3	DP1284755
~~4~~	~~DP1267507~~
4	DP1284756
34	DP750753
121	DP750778
122	DP750778
1	DP1110777
2	DP211380
4	DP1284766
~~1~~	~~DP1207200~~
2	DP1294585
~~2~~	~~DP1207200~~
200	DP1284774
21	DP750778
26	DP750778
27	DP750778
32	DP750778
34	DP750778
36	DP750753
~~66~~	~~DP750778~~
76	DP750778
~~80~~	~~DP750778~~

Lot	DP
81	DP750778
82	DP750778
91	DP750778
~~92~~	~~DP750778~~
200	DP1294657
201	DP1294657
~~123~~	~~DP750778~~
202	DP1294657
203	DP1294657
204	DP1294657
124	DP750778
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~~121~~	~~DP750760~~
~~122~~	~~DP750760~~
~~133~~	~~DP750778~~

3.4 Appendix 7

SCHEDULE OF ROAD UPGRADES

Road/Intersection	*Start Point*	*Chainage*	*Upgrade*	*Timing*
Intersections				
Twelve Mile Road	Goolma Road	00 km	• Permanently remove and close the existing intersection; and • Design and construct a new intersection with a channelised right (CHR) turn lane and an Auxiliary Left (AUL) turn lane treatment, generally in accordance with Figures 2 and 3 in this Appendix	Prior to commencing construction
Roads Authority: Dubbo Regional Council				
Twelve Mile Road	Goolma Road	00 km to 13.76 km	Reconstruct the pavement full length to the horizontal and vertical alignment, generally in accordance with Appendix N of the EIS, in compliance with TfNSW's Roadworks specifications – design and construct (TfNSW, 2020) or its latest version	Prior to commencing construction
Twelve Mile Road	Goolma Road	13.59 km (approx.)	Construct the primary project site access, generally in accordance with Appendix N of the EIS	Prior to commencing construction
Uungula Road	Twelve Mile Road	As noted in the Figure 1 in this Appendix	Construct secondary intersection for safe exit and entry movements, and to provide adequate wind farm component access.	Prior to any use by traffic associated with the construction of the development
Ilgingery Road	Wuuluman Road	As noted in the Figure 1 in this Appendix	Construct secondary intersections for safe exit and entry movements, and to provide adequate wind farm component access.	Prior to any use by traffic associated with the construction of the development
Ilgingery Road	Wuuluman Road	3.89 km	Extend stock grid approach seal to 20 m x 4.5m each side of grid with a two coat flush seal.	Prior to any use by traffic associated with the construction of the development
Transport Route Intersections				
Mitchell Highway	Goolma Road	378.3	No parking area will need to be placed on the right-hand side prior to the intersection. Some hardstand is required on the exit of the corner and some signs need to be made removable.	Prior to commencing the use of Saxa Mitchell Highway / Goolma Road intersection for any over-dimensional or heavy vehicle traffic associated with the delivery of components for the development.

4 Community Consultation

Squadron Energy undertook doorknocks of neighbours on 12th and 13th February 2025 within ~200m of Mitchell Hwy intersection (Figure 10). All open businesses as well as two residents that were home, received verbal briefings. Those not open, received a leaflet placed under their door.

The nearest residences to the intersection are 18 Mitchell Hwy, Wellington and a home at the rear of 8 Montefiores Rd, Montefiores. The resident at the rear of 8 Montefiores Rd, was appreciative that SQE was providing advance notice.

Residents from 2 to 48 Montefiores Rd as well as 1-10 Queen St received a leaflet explaining the works and were provided with contact details in letterboxes.

Community reaction and ongoing engagement

- All businesses and the two residents we spoke to, were comfortable with and accepting of the works. There were no concerns expressed.
- One business and one resident were asked to host noise monitoring equipment and both agreed.
- The resident at the rear of 8 Montefiores Rd, appreciated SQE providing advance notice.
- All interactions were recorded in SQE's Consultation Manager database, with contact details retained for further updates as work proceeds.
- Two weeks prior to works commencing notice will be given via letter box drop. The letter will include a number to call and email if there are any concerns

Figure 10 – 200m radius from intersection works area

Landowners associated with the Project have also been consulted, and consent has been granted for the proposed Modification. Evidence has been provided to the Department separately.

5 Statutory Context

The Project's Development Consent (SSD-6687) was issued on 7 May 2021, for the construction and operation of up to 97 WTGs, an ESF, Ancillary Infrastructure and Temporary Facilities.

A Modification (SSD-6687-MOD 1) was granted 21 April 2022, which reflected the removal of four WTG's and provided for minor alterations to the approved layout and the Project Development Corridor.

An additional Modification (SSD-6687-MOD 2) was granted in December 2022, which included the correction of inadvertent and minor errors or misdescriptions of some figures in the Consent following the grant of Modification 1.

5.1 NSW Environmental Planning and Assessment Act 1974

This Modification is sought under Section 4.55 (1A) of the EP&A Act because:

- The Project, to which the modification relates, is substantially the same as the Project for which consent was originally granted; and
- The Modification is of minimal environmental impact,

5.2 Uungula Wind Farm Environmental Impact Statement (2020)

An EIS was prepared for Uungula Wind Farm Pty Ltd to assess the potential environmental and social impacts of the Project, applying the Mitigation hierarchy that underpins the environmental assessment process. The impact mitigation measures outlined in the EIS have been reviewed in relation to this proposed Modification. As no additional impacts are anticipated, no updates to these measures or secondary consent-based management plans approved are required as part of this Modification.

5.3 Biodiversity Conservation Act 2016

In accordance with Section 7.17 (2C) of the NSW Biodiversity Conservation Act 2016 (BC Act), a further biodiversity development assessment report is not required to be submitted if the authority or person determining an application for modification (or determining the environmental assessment requirements for the application) is satisfied that the modification will not increase the impact on biodiversity values. Based on the findings of the biodiversity assessment (**Appendix A**), it is expected that Section 7.17 (2C) of the BC Act will apply and no further assessment of impacts to biodiversity will be required to support the application for Modification.

5.4 Heritage Act 1977

In accordance with Section 139(4) of the NSW Heritage Act 1977, approval for works under the Act is not required if the proposed modification is determined not to impact State Heritage-listed items or heritage significance. Based on the findings of the heritage assessment (**Appendix B**), it is expected that the proposed modification will not adversely affect any State Heritage-listed items or heritage significance. Consequently, no further assessment or approval under the Heritage Act 1977 is anticipated to be required to support the application for Modification

5.5 NSW Roads Act 1993

The NSW Roads Act 1993 provides for the regulation of activities relating to public roads. The Approved Project required upgrade works to various public local roads to facilitate access to internal access roads for the Project for construction vehicles. Under Section 138 of the Roads Act 1993, it is necessary to obtain approval from the appropriate road authority for proposed upgrade works on public roads.

The Development Consent identifies the road upgrades required for the Project for specific transport routes. However, at the time the development consent was granted, vegetation clearing required to accommodate the OSOM road upgrades had not been included in the EIS, and consequently the Development Consent. The Proposed Modification includes assessment for the OSOM Transport Route and has determined no further impacts will occur for the upgrades proposed; and assesses the vegetation removal which will be required to accommodate the proposed road upgrades. Relevant approvals under Section 138 of the Roads Act 1993 will be sought. Section 4.42 of the EP&A Act operates so that once SSD consent (including any Modification) is granted, consent under Section 138 of the Roads Act cannot be refused and must be granted on terms substantially consistent with the SSD consent.

5.6 Environment Protection and Biodiversity Conservation Act 1999

Approval was granted for the Project on 3 August 2021 under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (EPBC 2013/7026) to construct and operate a wind farm including up to 93 WTGs, an ESF, Ancillary Infrastructure and Temporary Facilities. The proposed Modification will be constructed within the existing EPBC Act Approval and no changes to that approval are required to be sought. The Proponent will continue to comply with the notification requirements in Conditions 16 and 17 of that approval that relate to this application for the Modification.

6 Stakeholder engagement

As part of this modification, consultation was undertaken with relevant stakeholders to ensure compliance with statutory requirements and address any key concerns.

Dubbo Regional Council (DRC), as the relevant Roads Authority for the Goolma Road / Mitchell Highway intersection, was engaged to provide owner's consent for the lodgement of the modification. DRC issued a Land Owner Consent letter, indicating their support for the works required to facilitate the Project's OSOM (Over Size Over Mass) movements. This letter is included in **Appendix E**.

Engagement was also sought with TfNSW as a key stakeholder. TfNSW referred the Roads Authority delegation to DRC for this matter. A copy of the correspondence with TfNSW is provided in **Appendix F.**

As per Section 4, landowners consent has been provided in **Appendix G**.

This consultation process ensured that the Modification aligns with statutory requirements and reflects the input of relevant authorities.

7 Assessment of Impacts

7.1 Overview

This section provides further assessment of the impacts of the proposed modification. Table 1 (below) compares the summary of approved impacts assessed in the EIS to impacts likely to result from the proposed modification to determine the need for further assessment of specific environmental factors.

Where changes are identified, further consideration is provided in the identified section.

Table 1: Environmental impacts associated with the proposed modification

Environmental factor	*Summary of EIS approved impacts (associated with road construction / upgrades)*	*Proposed modification impact*
Biodiversity	The Project will unavoidably impact approximately 639 ha of native vegetation within the Development Corridor based on the current Development Footprint, which includes vegetation communities listed under the BC Act and EPBC Act (note that the Development Footprint used in this BAR includes the area of clearing required for the External Road Upgrades along Twelve Mile Road between Goolma Road in the west and the Primary Project Site Entry). Infrastructure will be micro-sited prior to construction. This will involve detailed ecological survey to ensure disturbance to threatened species habitat, for example, hollow bearing trees, is minimised and habitat is avoided. The BAR identified those threatened species and communities listed under the EPBC Act determined to be known, likely or with the potential to be affected by the Project. Further assessment concluded that no significant impacts will occur to EPBC listed species or communities.	A biodiversity assessment for this modification was undertaken by Eco Logical Australia Pty Ltd as documented in letter reports dated 10/01/2025 and 10/06/2025. Refer to Section 7.2 below for further details. Refer to Appendix A & I
Aboriginal heritage	NSW Archaeology Pty Ltd undertook an Aboriginal Cultural Heritage Assessment (ACHA) for the Project in 2018. An addendum ACHAR was also undertaken by Austral Archaeology in 2019. There were no identified Aboriginal archaeological and cultural constraints identified. The recorded Aboriginal object locales which would be impacted were assessed to be representative of a very low-density distribution of stone artefacts. The archaeological heritage significance of these locales was assessed to be low. Accordingly, unmitigated impact, where this would occur, was considered to be appropriate.	A Preliminary Heritage Assessment was undertaken by Eco Logical Australia Pty Ltd for the Modification area as documented in letter report dated 06/01/2025 and 10/06/2025. Refer to Section 7.3 below for further details. Refer also Appendix B & I
Historical heritage	While several heritage items within the surrounding area were identified, they	A Preliminary Heritage Assessment was undertaken by Eco Logical Australia Pty

Environmental factor	*Summary of EIS approved impacts (associated with road construction / upgrades)*	*Proposed modification impact*
	were considered to be at a distance to the Project Site. Furthermore, no items of local historic significance were identified within the Project Site and Disturbance Footprint.	Ltd for the Modification area as documented in letter report dated 06/01/2025. Refer to Section 7.3 below for further details.
Noise and vibration	Dwellings located between 1,000 m and 2,400 m may be defined as 'noise affected' in accordance with the ICN Guideline, which require the proponent to apply all feasible and reasonable work practices, and to inform the residents of the proposed construction work. The vibration assessment was undertaken in accordance with the Assessing Vibration: A Technical Guideline (DECC, 2006). The main sources of vibration from the Project are likely to be the rock trenching equipment, rock breaking/blasting and roller operation during the road and hard stand construction. To achieve the construction vibration criteria, construction activities are required to be at least 20 m from the nearest residences. At 100 m, vibration for the above listed activities is unlikely to be detectable to humans.	A construction noise and vibration impact assessment has been completed for the proposed modification. Refer to Appendix C Refer to Section 7.4 below for further details.
Traffic and transport	Traffic and transport impacts may create a number of direct and indirect adverse effects, including noise and dust generation, traffic delays, impacts to safety and damage to infrastructure. By nature, road impacts are generally temporal in both space and time.	A traffic assessment for this modification was undertaken by Samsa Consulting as documented in letter report dated 21/02/2025. Refer to Section 7.5 below for further details. Refer also Appendix D
Hazards and risks	Earth moving equipment, power tools (e.g. welders, grinders), mowers and slashers are well known for starting bushfires under conditions of high temperature, low humidity and high wind. Therefore, construction and ongoing maintenance of the wind farm will be a potential source of ignitions from December to March. Considering the sparse vegetation cover within the Development Corridor and other factors discussed above, it is considered unlikely that the construction or decommissioning of the Project would pose a significant bush fire risk.	The proposed modification requires the undertaking of construction and operational activities consistent with those identified and assessed in the EIS. There are no additional hazard / risk impacts associated with the proposed modification and no further consideration of hazards and risks is provided.
Landscape and visual	Due to the large scale and isolated sitting of the Project, associated infrastructure such as transmissions lines, access roads and other ancillary structures are	No impacts to landscape and visual amenity are anticipated from the proposed modification. Impacts described in the EIS are consistent with the proposed

Environmental factor	*Summary of EIS approved impacts (associated with road construction / upgrades)*	*Proposed modification impact*
	likely to contrast with the existing landscape. Generally, access roads have been sited to reduce potential vegetation loss and limit earth work requirements. Due to the existing agricultural land use of the Study Area, farm roads transversing the landscape form a significant part of the existing landscape character. The proposed access roads are likely to be viewed as part of the existing character of the landscape and therefore visual impact would be low.	modification and no further consideration of landscape and visual impacts is provided.
Water and soils	The proposed construction works involve a range of activities that disturb soils and could potentially lead to sediment laden runoff, affecting water quality within local waterways and receiving waters during rainfall and subsequent high flow events. Fuels and lubricants will be used on site during construction activities and pose a potential risk of contamination to soils, surface water and groundwater in the event of a spill. These chemicals may alter soil properties and can impact negatively on soil health and consequently plant growth or if absorbed by plants/animals could potentially enter the food chain with adverse impacts. Contaminants in the soil can be mobilised during rainfall events which may potentially spread contamination through the soil profile, or into surface or groundwater potentially impacting aquatic habitats. The Project would not impact on the quality or quantity of water available at the Project Site. As such, no impact on water quality or quantity for adjacent water users is anticipated.	The proposed modification requires the undertaking of construction and operational activities consistent with those identified and assessed in the EIS. The area of the proposed modification is located on gently undulating land within a modified / disturbed environment. The nearest waterway to the site is the Wambull / Macquarie River located approximately 300m south. The likelihood of potential impacts on soils and water is considered low. With the implementation of the existing mitigation measures and controls, the severity of impacts is expected to be negligible. There are no additional impacts in relation to soil and water associated with the proposed modification and no further consideration of soil and water is provided.
Waste and resources	Resource requirements are typical of a new development site, including the provision of cement, aggregate, sand, asphalt, water and road base material. Cement for foundations will be sourced by the civil construction company selected to construct the Project by the Proponent. Resources would be sourced locally where practicable. Aggregate and sand will also be sourced locally and as close to the Project Site as possible, including reusing material excavated from the foundations and earthworks onsite.	The likelihood of potential impacts on waste and resources is considered low and consistent with the approved project. With the implementation of the existing mitigation measures and controls, the severity of impacts associated with waste and resources is expected to be negligible.

Environmental factor	*Summary of EIS approved impacts (associated with road construction / upgrades)*	*Proposed modification impact*
	Waste streams generated during the construction of the Project would be managed using the waste hierarchy approach of avoidance and re-use before consideration of disposal. Waste generated during the construction would mainly be from works associated with site preparation, demolition, construction of accessways and landscaping. Should waste be found to be unsuitable for reuse or recycling, disposal methods would be selected based on the classification of the waste material in accordance with the Waste Classification Guidelines: Part 1 Classifying Waste (NSW EPA, 2014).	

7.2 Biodiversity Assessment

Eco Logical Australia (ELA) was engaged by Squadron Energy to undertake a biodiversity assessment. A summary of the assessment is provided below, with a completed copy provided as **Appendix A**.

A biodiversity assessment was conducted for the transport route intersection identified in this Modification and proposed change to Condition B30 and Appendix 7 of the Development Consent. The assessment included both a desktop assessment and field surveys of the study areas.

The results of the biodiversity assessment are presented in the sections below.

7.2.1 Vegetation

The field survey of the study area identified that the majority of the vegetation present is degraded and subject to impacts from road use and maintenance including mowing and slashing. During the survey the vegetation was actively being mowed on 8 November 2024. The majority of the vegetation present consisted of exotic grasses and forbs, the dominant species present were *Lolium perenne* (Ryegrass), *Avena fatua* (Wild Oats), *Trifolium sp.* (Clover), *Verbena bonariensis* (Purple Top). In addition, there were isolated native grasses present including *Austrostipa sp* (Speargrass) and *Dichanthium sericeum* (Queensland bluegrass). In addition, there are planted native shrubs and trees present that are not proposed to be impacted including *Callistemon linearis* (Narrow-leaved bottlebrush), *Brachychiton populneus* (Kurrajong) and *Corymbia citriodora* (Lemon-scented gum). There were no nests or hollows providing habitat to fauna observed within the trees or shrubs.

It is unlikely that the vegetation would conform to the NSW state mapping Plant Community Type (PCT) or the Threatened Ecological Communities (TECs).

A photo of the study area at the intersection of Mitchel highway and Goolma Road is provided below in 1 below.

Figure 10 - Biodiversity study area - Cnr Mitchell Hwy and Goolma Rd

7.2.2 Flora

The NSW BioNet Atlas Searches identified five threatened plant species have been previously recorded within the 10 km radius of each study area. None of these potentially present species were identified in the field survey. The degraded nature of the vegetation and active management including mowing would indicate is unlikely that any of these species would occur.

7.2.3 Fauna

NSW BioNet Atlas Searches determined that 13 threatened bird species, four threatened mammal species and one threatened reptile species listed under the BC Act and / or the EPBC Act have been previously recorded within a 10km of the study areas.

The EPBC Protected Matters Search determined that 20 threatened bird species, 5 threatened mammal species, one threatened reptile species, five threatened fish species, and nine migratory bird species listed under the EPBC Act may potentially occur within a 10 km radius of the two study areas.

No threatened fauna species were identified in the field survey and the degraded nature of the sites and lack of habitat indicate it is unlikely that any of these species would occur within the study area.

7.2.4 Biodiversity impact assessment conclusion

The roadside vegetation that will potentially be impacted was surveyed in the field by ELA Ecologists and found to be degraded and impacted by existing road use and maintenance, including mowing and slashing.

Impacts to threatened flora and fauna are unlikely from the proposed OSOM, as the findings of the assessment indicate the vegetation is unlikely to provide habitat for threatened species, with degraded vegetation lacking large tree canopies and density.

7.2.5 Proposed biodiversity mitigation measures

Based on the potential biodiversity impacts of the proposed modification, additional measures to avoid, mitigate and manage impacts are not necessary. The findings of the assessment are consistent with the EIS. The relevant mitigation measures established for the EIS would be implemented as relevant for the proposed modification.

7.3 Heritage Assessment

Eco Logical Australia (ELA) were engaged by Squadron Energy to undertake a preliminary Aboriginal and historical heritage desktop assessment for the Modification. A summary of the assessment is provided below, with a completed copy provided as **Appendix B**.

The aim of the assessment was to identify any historical heritage items and determine the potential for Aboriginal objects to be located within the area of proposed works, and, if so, whether the proposed works have the potential to harm those items and objects, with the provision of any advice about the likelihood for Aboriginal or historical heritage values to be impacted by the proposed works and whether further assessments or approvals are required.

7.3.1 Methodology

ELA completed the following tasks as part of this desktop assessment, with reference to the process set out in the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (CoP; DECCW 2010), as required under Part 6 of the National Parks and Wildlife Act 1974 and the Heritage Act 1977:

- An extensive search of the Aboriginal Heritage Information Management System (AHIMS) database, maintained by Heritage NSW, to establish if there are any previously recorded Aboriginal objects or places within or within 200m of the proposed works;
- A search of all relevant statutory heritage registers, including local planning instruments (LEPs and DCPs), the NSW State Heritage Inventory and the Australian Heritage Database to determine if there are any places of historic or Aboriginal significance within each study area;
- A review of available assessments, aerial imagery and landform features to determine land use;
- Provide mapping of heritage items and curtilage within the vicinity of the proposed works;
- Provide advice about whether any further archaeological investigations or assessments may be required.

7.3.2 Aboriginal heritage assessment findings

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) database was undertaken on 4 September 2024 to identify if any registered Aboriginal sites were present within, or adjacent to, each study area. The search parameters include search areas 5 km surrounding the study areas.

A total of 100 Aboriginal sites have been recorded within the vicinity of the site, with the majority of sites recorded as artefact scatters and isolated finds (81%). No Aboriginal sites have been recorded within or in close proximity to the site.

Searches of the State Heritage Register (SHR) were conducted on 29 October 2024 in order to determine if any places of Aboriginal significance are located within each study area. No Aboriginal archaeological sites or heritage items were recorded on these databases within each study area.

Aboriginal objects are protected under the NPW Act regardless of if they are registered on AHIMS or not. It is an offence to disturb or damage these sites without first having obtained an Aboriginal Heritage Impact Permit (AHIP). Works or activities that could potentially disturb the ground surface include earthworks, access road construction / upgrades, and repetitive vehicular movement.

The proposed works involve road modifications and would include the removal of signage and hard stops within the existing road corridor at the Mitchell Highway – Goolma Road pinch point. No Aboriginal sites have been recorded in close proximity to either of the pinch points and works at the Mitchell Highway – Goolma Road pinch point will largely be undertaken within the existing, disturbed road corridor indicating there is a low likelihood for intact Aboriginal objects or subsurface archaeological deposits to be impacted

7.3.3 Historical heritage assessment findings

Searches of the SHR and the Dubbo Regional Local Environmental Plan (LEP) 2022 were conducted on 5 November 2024 in order to determine if any places of historic significance are located within the study area. One (1) heritage item has been mapped within 15m of the proposed works, namely 'Strathaye', in close proximity to the Mitchell Highway – Goolma Road pinch point – refer to **Appendix B** for further details. Based on the heritage assessment, there is no potential to impact on the heritage significance of the identified item.

7.3.4 Proposed heritage mitigation measures

Based on the potential Aboriginal and non-Aboriginal heritage related impacts of the proposed modification, additional measures to avoid, mitigate and manage impacts are not necessary. The findings of the assessment are consistent with the EIS. The relevant mitigation measures established for the EIS and project management plans would be implemented as relevant for the proposed modification, including the implementation of the approved unexpected finds procedures as required.

7.4 Noise and Vibration Impact Assessment

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Squadron Energy to prepare a Construction Noise and Vibration Impact Assessment (CNVIA) for construction works associated with the intersection upgrades at Mitchell Highway and Goolma Road. A summary of the assessment is provided below, with a completed copy provided as **Appendix C**.

7.4.1 Existing noise environment

Unattended noise monitoring was completed at two locations in the study area during February 2025. The measured noise levels have been used to determine the existing noise environment and to set the criteria used to assess the potential impacts from the project.

The existing noise environment at each noise logging locations (refer to **Appendix C** for logger location details) are as follows:

- L01 – Existing noise environment is dominated by traffic noise from Mitchell Highway and Goolma Road including frequent heavy vehicle pass-by and idling along the road's edge. Other contributing sources include natural ambience, occasional aircraft flyover and operation of the veterinary hospital.
- L02 – Existing noise environment mainly consists of natural ambience including cicadas with occasional vehicle pass-by along Montefiores Street. Traffic noise from Mitchell Highway was faintly audible at the logging location.

7.4.2 Nearest sensitive receivers

The work area is surrounded by a combination of suburban residential, rural residential, and commercial receivers. The Project location, work areas and surrounding receivers are shown in 2 (below).

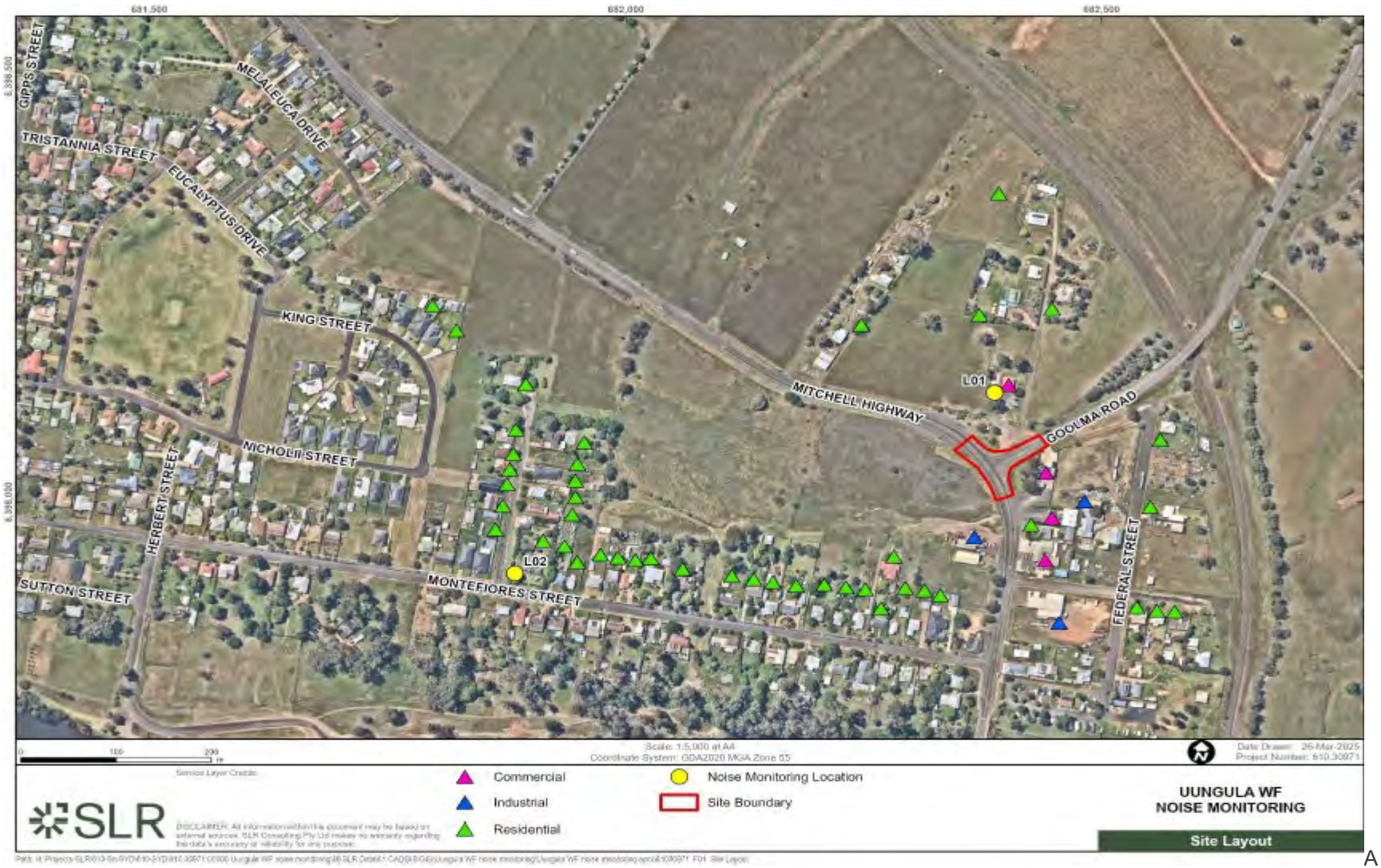

Figure 11 - Site location and surrounding receivers

7.4.3 Noise management level (NML) summary

The NMLs for the project have been derived in accordance with the NSW *Interim Construction Noise Guideline* (ICNG) and are shown in Table 2 (below).

Table 2: Environmental impacts associated with the proposed modification

Receiver Type	NML ($L_{Aeq(15minute)}$ – dBA)				Sleep Disturbance Screening Level (L_{Amax} dBA)
	Standard Construction Hours (RBL+10dB)	Out of Hours[1] (RBL+5dB)			
	Daytime	Daytime	Evening	Night-time	Night-time
Residential	45	40	40	35	52
Commercial	70	70 (when in use)			-
Industrial	75	75 (when in use)			-

Note 1: Daytime out of hours is Sunday and public holidays between 8 am to 6 pm. Evening is 6pm to 10pm Monday – Sunday (including public holidays). Night-time is 10pm to 7am Monday – Saturday and 10pm to 8am Sunday (including public holidays).

Highly Noise Affected

In addition to the NMLs presented above, the ICNG highly noise affected level (>75 dBA) represents the point above which there may be strong community reaction to noise and is applicable to all residential receivers during approved project hours as outlined in the ICNG.

Sleep Disturbance

The assessment has adopted the Noise Policy for Industry (NPfI) method for assessing sleep disturbance. The NPfI notes that a detailed maximum noise level assessment should be undertaken where a project results in night-time noise levels which exceed 52 dBA LAFmax or the prevailing background level plus 15 dB, whichever is the greater.

7.4.4 Construction vibration criteria

The effects of vibration from construction works can be divided into three categories:

- Those in which the occupants of buildings are disturbed (human comfort)
- Those where building contents may be affected (building contents)
- Those where the integrity of the building may be compromised (structural or cosmetic damage).

For relevant vibration criteria, refer to Section 3.2 of **Appendix C** for further details.

7.4.5 Minimum working distances for vibration intensive works

Minimum working distances for typical vibration intensive construction equipment are provided in the Roads and Maritime (now TfNSW) Construction Noise and Vibration Guideline (CNVG). The minimum working distances are for both cosmetic damage (from BS 7385) and human comfort (from the NSW EPA Vibration Guideline). They are based on empirical data which suggests that where works are further from receivers than the quoted minimum distances then impacts are not considered likely.

The minimum working distances are indicative and will vary depending on the particular item of equipment and local geotechnical conditions. The distances apply to cosmetic damage of typical buildings under typical geotechnical conditions.

Refer to Section 3.2.4 of **Appendix C** for further details with regards to minimum working distances for vibration intensive works.

7.4.6 Noise and vibration assessment methodology and predictions

Work scenarios

Representative scenarios were developed to assess the likely impacts from the various construction phases of the project. These scenarios are shown below in Table 3 together with a high-level description of each works activity.

Details of the items of plant that would be used during each scenario, together with corresponding sound power levels are detailed in **Appendix C**.

Table 3: Construction scenario description

Ref.	Equipment	Description
W.001	Site Establishment / Demobilisation	• Site Compound delivery and set up • Establishment of laydown areas
W.002	Compound Operation	• Operation of the site compound • Delivery of materials/equipment
W.003	Road Work - Peak	• Road work including highly noise intensive work
W.004	Road Work - Typical	• Road work excluding highly noise intensive work
W.005	Drainage Work	• Modification and installation of drainage infrastructure
W.006	Signage Work	• Modification and installation of signage infrastructure

Construction noise predictions

The predicted noise impacts for the assessed construction scenarios at the worst-case receivers are shown in Table 5, based on the exceedance of the NMLs, as per the categories in Table 4.

The predictions are representative of the highest noise levels that could potentially be experienced at the surrounding receivers when the works are at the closest point. For most construction activities, it is expected that the construction noise levels would frequently be lower than those predicted, as the noise levels presented are based on all items of equipment in each scenario being used concurrently and occurring at the nearest point of the site to each receiver.

Table 4: Exceedance bands and impact colouring

Exceedance of NML	Subjective Classification	Impact Colouring
No exceedance	Negligible	
1 to 10 dB	Low impact	
11 dB to 20 dB	Moderate impact	
21 dB to 30 dB	High impact	
Highly Noise Affected[1]	Highly Noise Affected	

Note 1: Greater than 75 dBA at residential receivers.

Table 5: Exceedance bands and impact colouring

Receiver	NML (dBA)	Predicted $L_{Aeq(15minute)}$ Construction Noise Levels (dBA)					
		W.001 – Site Establishment / Demob.	W.002 – Compound Operation	W.003 – Road Work - Peak	W.004 – Road Work - Typical	W.005 – Drainage Work	W.006 – Signage Work
18 Mitchell Highway, Montefiores 2820 (Residential)	45	59	61	72	66	64	59
22 Mitchell Hwy, Montefiores Nsw 2820 (Industrial)	75	59	61	72	66	64	59
20 Mitchell Hwy, Montefiores Nsw 2820 (Commercial)	70	59	61	72	66	64	58

Construction vibration

The major potential sources of vibration from the proposed construction activities would likely be during W.003 - 'Road Work - Peak' when vibratory rollers are being used. Based on the modelled results, the nearest sensitive receiver buildings to the south of the site (ie: 7085 Goolma Rd) may potentially be within the cosmetic damage minimum working distance for vibration intensive equipment. Where this does occur, this would only be when vibration intensive equipment is being used at the site boundary, near to adjacent sensitive receiver. Work in other more distant areas of the site would be outside the minimum working distances.

Similarly, based on the modelled results, the nearest surrounding commercial and industrial buildings and the residential building (18 Mitchell Highway) are likely within the human comfort minimum working distance and occupants of these buildings may be able to perceive vibration impacts at times when vibratory rollers are in use nearby (refer to **Appendix C** for further details). Where impacts are perceptible, they would likely only be apparent for relatively short durations when vibration intensive equipment is in use.

7.4.7 Proposed noise and vibration mitigation measures

The work is currently proposed to be done in standard working hours.

Construction noise levels are predicted to exceed the management levels at the nearest residential receivers. The magnitude of exceedance varies depending on the work scenario with W.003 (Road Work – Peak) predicted to result in the highest exceedances. Exceedances to surrounding commercial and industrial receivers are expected to be minimal during all work scenarios.

Vibration intensive equipment has the potential to result in human comfort impacts when operated within the minimum working distances of the nearest receivers. There is also potential for the nearest sensitive receiver buildings (south of the project) to be within the cosmetic damage minimum working distance for vibration intensive equipment. Offset distances from specific vibration intensive plant to the nearest receivers should be confirmed before commencing vibration intensive works during construction.

In addition to the mitigation measures and controls required under the EIS, the mitigation measures in Table 6 will be implemented during the Modification works to control and minimise the noise and vibration impacts on the surrounding receivers as far as practicable.

Table 6: Modification noise and vibration mitigation measures

Ref.	*Requirement*
Project planning	
NV01_MOD3	Use quieter and less vibration emitting construction methods where feasible and reasonable.
NV02_MOD3	Truck routes to site will be limited to major roads.
NV03_MOD3	All residential receivers that fall within the visible noise contours depicted in Figure 2 of the MOD 3 Noise and Vibration Assessment (Refer to **Appendix C**) should be provided a letter drop-off notifying of the construction works and schedule.
Site layout	
NV04_MOD3	Compounds and worksites will be designed to promote one-way traffic and minimise the need for vehicle reversing.
Noise monitoring	
NV05_MOD3	Noise and/or vibration monitoring will be conducted (as appropriate) in response to any complaints received to verify that levels are not substantially above the predicted levels.
Vibration management	
NV06_MOD3	If vibration generating works are required within the minimum cosmetic damage working distances and considered likely to exceed the criteria:

Ref.	*Requirement*
	• Different construction methods with lower source vibration levels will be investigated and implemented, where feasible
	• Attended vibration measurements should be undertaken at the start of the works to determine actual vibration levels at the item. Works will cease if the monitoring indicates vibration levels are likely to, or do, exceed the relevant criteria.
NV07_MOD3	Where works are required within the cosmetic damage minimum working distances (refer Table 8 in Appendix C), building condition surveys and public infrastructure dilapidation surveys will be completed before and after the works to ensure no cosmetic damage has occurred.

7.5 Traffic Assessment

A Traffic assessment was undertaken by Samsa Consulting Pty Ltd for the proposed works covered under the Modification and proposed change to Condition B30 and Appendix 7 of the Development Consent. A summary of the assessment is provided below, with a completed copy provided as **Appendix D**.

7.5.1 Existing environment

The current (estimated) 2025 traffic volumes in vehicles per day (vpd) for Mitchell Highway are approximately 5,300 vpd with a heavy vehicle proportion of 14%. During the higher PM peak period, the maximum traffic in vehicles per hour (vph) is approximately 560 vph with a heavy vehicle proportion of 12%.

For Goolma Road, there is some available traffic data from August 2023 2, which indicates traffic volumes of approximately 3,050 vpd with a 12% heavy vehicle percentage and approximately 280 vph during peak periods.

For the subject Mitchell Highway / Goolma Road intersection, it is likely that the Mitchell Highway traffic above will be a minimum that would travel through the intersection.

7.5.2 Anticipated Construction Traffic Generation

Construction employee traffic (light vehicles) will peak around 6:30 am to 7:30 am and typically end (exit movements) around 5:30 pm to 6:30 pm on weekdays (Monday to Friday) and 7:30 am to 8:30 am (incoming) and 12:30 pm to 13:30 pm (outgoing) on Saturdays. There is also likely to be a reduced light vehicle movement peak around midday back to the temporary office located at the Goolma Road / Twelve Mile Road intersection. Light vehicle traffic generation is expected to be a maximum of up to 30 movements (trips) per day and 10 movements (trips) per hour, based on ten staff operating during peak construction periods.

Heavy vehicles will deliver plant at the beginning of the work activities with the expectation that these will remain on the site accessible for the activity work areas, with delivery of construction material expected during the course of the work. The initial number of plant and equipment is expected to be ten heavy vehicle movements per day at the beginning of the activity periods with a total maximum of up to 20 movements (trips) per day during peak construction periods. It is anticipated that all heavy vehicle movements would occur outside any peak hourly periods and not coincide with the peak light vehicle traffic generation described above. A nominal maximum 4 heavy vehicle trips per hour could be expected to be generated during any hour.

7.5.3 Road Network / Intersection Assessment

Based on the anticipated construction traffic volumes, the level of traffic that could be generated by the proposed construction works is very low in comparison to background (existing) traffic volumes. It is expected that there would be insignificant impact on traffic operations through the intersection because the level of generated construction traffic is well within any variations in daily or hourly traffic that would occur for Mitchell Highway and for Goolma Road, ie. on any given day there would be fluctuations of at least 50

vehicles and during any peak hour there would be fluctuations of at least 14 vehicles, these being the traffic generated during construction.

7.5.4 Road Safety Assessment

The introduction of a relatively modest number of light and heavy vehicles through the Mitchell Highway / Goolma Road intersection is not expected to create any specific road safety issues or generate any noticeable decline in road safety generally, especially since there is significant spare capacity on the subject road network. The construction traffic generated can be suitably managed via traffic management controls and protocols outlined in the approved TMP.

7.5.5 Traffic impact assessment conclusion

The assessment evaluated the impacts of associated traffic of the proposed works and concluded that with appropriate traffic management, the traffic generated by construction activities associated with the intersection upgrade works would not result in any significant adverse impacts with respect to traffic operations, road capacity and road safety at the subject intersection and its approaches. Refer **Appendix D**.

7.5.6 Proposed traffic mitigation measures

Based on the potential traffic related impacts of the proposed modification, additional measures to avoid, mitigate and manage impacts are not necessary. The findings of the assessment are consistent with the EIS. The relevant mitigation measures established for the EIS and in approved plans would be implemented as relevant for the proposed modification.

8 Conclusion

8.1 OSOM Upgrade

This Modification relating to a request for the Department to fully assess OSOM road upgrade works for the Transport Route upgrade will not result in additional environmental impacts by amending Condition B30 and Appendix 7 of the Development Consent. The existing relevant Conditions of Approval for the Project (SSD-6687) will continue to apply to the proposed Modification work scope.

The biodiversity, heritage, noise and vibration and traffic assessments, prepared in support of this application, have determined the proposed works will have negligible environmental impacts but significant economic benefits to enable the project to progress, providing the Modification decision is timely and supports its criticality.

It is concluded that there are no additional environmental impacts compared to those considered under the original Development Consent approval decision and that a streamlined decision to approve this Modification is expected.

8.2 Administrative Change

It is concluded that the changes to Condition C14 and Appendix 1 Schedule of Land are administrative and should be approved.

9 References

Environmental Planning and Assessment Act 1979 (NSW).

Environment Protection and Biodiversity Conservation Act 1999 (Cth).

Heritage Act 1977 (NSW).

NSW Roads Act 1993 (NSW).

NSW Biodiversity Conservation Act 2016 (NSW).

Protection of the Environment Operations Act 1997

Rex J Andrews. (2020). *Indicative OSOM route*.

Rex J Andrews. (2024). *Transport Management Plan Newcastle Port to Uungula Windfarm*.

Uungula Wind Farm Environmental Impact Statement. (2020).

NSW Department of Planning, Industry, and Environment (DPIE). (2021). *NSW State Significant Development Guidelines: Preparing a modification report*.

10 Glossary

Term	*Meaning*
AHIMS	Aboriginal Heritage Information Management System
BC Act	*Biodiversity Conservation Act 2016*
CNVIA	Construction Noise and Vibration Impact Assessment
CNVG	Construction Noise and Vibration Guideline
DPHI	Department of Planning, Housing and Infrastructure
DRC	Dubbo Regional Council
EP&A Act	*Environmental Planning and Assessment Act 1979*
EIS	Environment Impact Assessment
ELA	Eco Logical Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESF	Energy Storage Facility
IFC	Issued for Construction
kV	Kilovolt
LEP	Local Environmental Plan
LGA	Local Government Area
MW	Megawatt
NML	Noise Management Level
NPfI	Noise Policy for Industry
OSOM	Over-Sized and Over-Mass
PCT	Plant Community Type
REZ	Renewable Energy Zone
SHR	State Heritage Register
Squadron Energy	Squadron Energy Pty Ltd
SSD	State Significant Development
The Development Consent	NSW State Significant Development Consent SSD-6687
The Project	Uungula Wind Farm Project
The Proponent	Uungula Wind Farm Pty Ltd.
TEC	Threatened Ecological Community
TfNSW	Transport for NSW
TMP	Traffic Management Plan
UWF	Uungula Wind Farm Pty Ltd
WAD	Work Authorisation Deed
WTGs	Wind Turbine Generators

Appendix A Biodiversity Assessment

Suite 1, Level 1
79 Market Street
Mudgee NSW 2850
t: (02) 6378 2412

10 January 2025

Our ref: 8986

Squadron Energy
Level 1, 25 Bolton Street
Newcastle
NSW 2300

Attention: Sheree Kidziak

Dear Sheree

RE: Biodiversity Assessment – Uungula Windfarm OSOM Transport Route

Eco Logical Australia (ELA) was engaged by Squadron Energy Services Pty Ltd (Squadron Energy) to undertake a biodiversity assessment of the Oversize and Overmass (OSOM) transport route for the proposed Uungula Windfarm, as part of the Transport Management Plan Newcastle Port to Uungula Windfarm (Rex J Andrews 2024). The aim of the assessment is to provide an overview of the biodiversity values at two locations (study areas), the intersections of Saxa Road–Mitchell Highway and Mitchell Highway–Goolma Road.

An assessment of potential impacts to biodiversity values has been completed as part of this assessment. A heritage impact assessment is provided separately.

The assessment included both a desktop assessment and field surveys of the study areas. The results of the assessment are summarised below in Table 1, with supporting photographs provided in Appendix A. The detailed methodology and findings are provided in Appendix B, with supporting information in Appendices C to E.

The roadside vegetation that will potentially be impacted was surveyed in the field by ELA Ecologists and found to be degraded and impacted by existing road use and maintenance, including mowing and slashing.

Impacts to threatened flora and fauna are unlikely from the proposed OSOM, as the findings of the assessment indicate the vegetation is unlikely to provide habitat for threatened species, with degraded vegetation lacking large tree canopies and density.

Should any additional works be required in addition to those proposed in Key Route Study v8 provided to ELA December 2024, additional assessment and field survey may be required.

Regards,

Kieran Stephenson-Banks
Ecologist

Table 1: Biodiversity Assessment

Study Area	Proposed works – Transport Management Plan, Key Route Study Version 7	State Vegetation Type Map	Threatened Ecological Community associations	Water Management (General) Regulation 2018 Hydro Line	Important Habitat (Regent Honeyeater, Swift Parrot, Plains Wanderer or Migratory Shorebirds)	NSW Biodiversity Values Map	NSW BioNet Threatened Biodiversity Data Collection	Protected Matters Search Tool	Key Fish Habitat	Findings of field survey	Impact to biodiversity
Mitchell Highway–Goolma Road	Blades to turn from the incorrect side to the incorrect side. No parking area will need to be placed on the right-hand side prior to the intersection. Some hardstand is required on the exit of the corner and some signs need to be made removable. Traffic control to be undertaken as per the procedure listed below for this pinchpoint.	PCT 0	No TEC associations	No mapped Hydro Line present in the study area	Study area not mapped as important habitat	No areas of high biodiversity value	No threatened species identified in the study area.	Search results provided in Appendix D	Not mapped as Key Fish Habitat	Roadside vegetation present is predominately exotic grasses and forbs, including *Lolium perenne* (Ryegrass), *Avena fatua* (Wild Oats), *Trifolium sp*. (Clover), *Verbena bonariensis* (Purple Top). There are planted native shrubs and trees present that are not proposed to be impacted including *Callistemon linearis* (Narrow-leaved bottlebrush), *Brachychiton populneus* (Kurrajong) and *Corymbia citriodora* (Lemon-scented gum). The vegetation is regularly mowed and was actively being mowed at the time of assessment. Photos provided in Appendix B.	Clearing of poor condition grassland required, no proposed clearing or trimming of native shrubs or trees present. No impact to threatened species or habitat.
Saxa Road–Mitchell Highway	Spotter to guide load through this pinchpoint. Traffic control to be undertaken as per the procedure listed below for this pinchpoint.	PCT 0 and PCT 511	BC Act CE White Box - Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions. EPBC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.	No mapped Hydro Line present in the study area	Study area not mapped as important habitat	No areas of high biodiversity value	No threatened species identified in the study area.	Search results provided in Appendix D	Not mapped as Key Fish Habitat	Roadside vegetation present is predominately exotic grasses and forbs, including *Lolium perenne* (Ryegrass), *Avena fatua* (Wild Oats), *Trifolium sp*. (Clover), *Verbena bonariensis* (Purple Top), with some native grasses present including *Austrostipa sp* (Speargrass) and *Dichanthium sericeum* (Queensland bluegrass). The vegetation is regularly mowed and was actively being mowed at the time of assessment. Photos provided in Appendix B.	No impact.

Appendix A: Field survey photos of study areas Saxa Road – Mitchell Highway and Mitchell Highway-Goolma Road

Figure 1 Field survey of Saxa Road – Mitchell Highway study area

Figure 2 Field survey of Mitchell Highway – Goolma Road study area

Appendix B: Biodiversity Assessment

Methodology as part of biodiversity assessment

As part of the biodiversity assessment the following tasks were completed:

Review of publicly available spatial data:

- State Vegetation Type Map (SVTM)
- *Water Management (General) Regulation 2018* Hydro Line spatial data
- NSW BioNet Atlas threatened species records and Flora Survey Data Collection
- Important Habitat Maps for Regent Honeyeater, Swift Parrot, Plains Wanderer and migratory shorebirds
- NSW Biodiversity Values Map
- Soil Landscapes
- Surface geology.

Review of publicly available databases:

- NSW BioNet Threatened Biodiversity Data Collection (TBDC)
- NSW BioNet Vegetation Classification
- Protected Matters Search Tool (PMST) which identifies any MNES which are known to occur, likely to occur or may occur within the two study areas.

At the two study areas an NSW BioNet Atlas Search and PMST search was completed within a 10km radius.

Field surveys were conducted of the two study areas on 8 November 2024 to determine the vegetation present.

Results of biodiversity assessment

Vegetation

A review of SVTM (DCCEEW 2022) mapping indicates that one plant community type (PCT) is potentially present within or adjacent to the two study areas. PCT 511 was mapped within the Saxa Road – Mitchell Highway intersection. PCT 511 is associated with the NSW *Biodiversity Conservation Act 2016* (BC Act) listed Critically Endangered (CE) *White Box - Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) listed Threatened Ecological Community (TEC), the Critically Endangered Ecological Community (CEEC), *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*

The field survey of the two study areas identified that the majority of the vegetation present is degraded and subject to impacts from road use and maintenance including mowing and slashing. During the survey the vegetation was actively being mowed on 8 November 2024. The majority of the vegetation present consisted of exotic grasses and forbs, the dominant species present were *Lolium perenne* (Ryegrass), *Avena fatua* (Wild Oats), *Trifolium sp.* (Clover), *Verbena bonariensis* (Purple Top). In addition, there were isolated native grasses present including *Austrostipa sp* (Speargrass) and *Dichanthium sericeum* (Queensland bluegrass). At the Mitchell Highway – Goolma Road study area there are planted native shrubs and trees present that are not proposed to be impacted including

Callistemon linearis (Narrow-leaved bottlebrush), *Brachychiton populneus* (Kurrajong) and *Corymbia citriodora* (Lemon-scented gum). There were no nests or hollows providing habitat to fauna observed within the trees or shrubs.

It is unlikely that the vegetation would conform to the NSW state mapping PCT or the TECs.

Flora

The NSW BioNet Atlas Searches identified five threatened plant species have been previously recorded within the 10 km radius of each study area. There have been previously recorded threatened species withing the two study areas.

Results from the NSW BioNet Search is provided in Appendix C.

NSW Protected Matters Searches determined that 10 threatened plant species are known, likely or may occur within the 10km radius of the two study areas.

Results from the PMST is provided in Appendix D.

None of these potentially present species were identified in the field survey. The degraded nature of the vegetation and active management including mowing would indicate is unlikely that any of these species would occur.

Fauna

NSW BioNet Atlas Searches determined that 13 threatened bird species, four threatened mammal species and one threatened reptile species listed under the BC Act and / or the EPBC Act have been previously recorded within a 10km of the study areas.

No threatened species have previously been recorded inside the two study areas, and none were observed during the field survey.

The output of the NSW BioNet Search is provided in Appendix C.

The EPBC Protected Matters Search determined that 20 threatened bird species, 5 threatened mammal species, one threatened reptile species, five threatened fish species, and nine migratory bird species listed under the EPBC Act may potentially occur within a 10 km radius of the two study areas.

Results from the PMST is provided in Appendix D.

Neither of the study areas are mapped as have Key Fish Habitat under the Fisheries Management Act 1994.

No threatened fauna species were identified in the field survey and the degraded nature of the sites and lack of habitat indicate it is unlikely that any of these species would occur within the study areas.

Appendix C: NSW BioNet Search Results

The BioNet Search Results have been provided as pdf files, the table below outlines which pdf relates to which section of the transport route.

Section of Road	BioNet file name
Saxa Road – Mitchell Highway	BioNet Wellington 01.pdf
Mitchell Highway – Goolma Road	BioNet Wellington 02.pdf

Appendix D: Protected Matters Search Tool

The PMST results have been provided as pdf files, the table below outlines which pdf relates to which section of the transport route.

Section of Road	PMST file name
Saxa Road – Mitchell Highway	PMST Wellington 01.pdf
Mitchell Highway – Goolma Road	PMST Wellington 02.pdf

Appendix E: Important Habitat for Regent Honeyeater, Swift Parrot, Plains Wanderer and Migratory Shorebirds

The Important Habitat search results have been provided as png files, the table below outlines which pdf relates to which section of the transport route.

Section of Road	Important Habitat file name
Saxa Road – Mitchell Highway	Wellington Important Habitat Map.png
Mitchell Highway – Goolma Road	Wellington Important Habitat Map.png

Appendix B Heritage Assessment

Level 13
420 George Street
Sydney NSW 2000

6 January 2025

Our ref: 24MUD8986

Squadron Energy
Level 1, 25 Bolton Street
Newcastle NSW 2300

Dear Sheree Kidziak,

RE: Preliminary Heritage Assessment along the Oversize and Overmass Transport Route from Newcastle to Wellington

Eco Logical Australia (ELA) have been engaged by Squadron Energy to undertake a preliminary Aboriginal and historical heritage desktop assessment for an Oversize and Overmass (OSOM) transport route for the proposed Uungula Windfarm, as part of the Transport Management Plan: Newcastle Port to Uungula Windfarm. Two pinch points of the transport route have been identified as areas of caution or requiring potential alterations, highlighted yellow and red in the Key Route Study v8, provided to ELA in December 2024.

The aim of this assessment is to identify any historical heritage items and determine the potential for Aboriginal objects to be located within each area of proposed works, and, if so, whether the proposed works have the potential to harm those items and objects. This desktop assessment will provide initial advice about the likelihood for Aboriginal or historical heritage values to be impacted by the proposed works and determine whether further assessments or approvals are required.

SCOPE OF WORKS

ELA understand that the scope of work for each pinch point (highlighted red and yellow in the key route study v8) includes:

Associated Pinch Point (KM Index)	Section of Road	Proposed works	Ground disturbance works proposed (Y/N)
375.8	Saxa Road onto Mitchell Highway (Wellington)	Spotter to guide load through this pinch point.	N
378.3	Mitchel Highway onto Goolma Road (Wellington)	Blades to turn from the incorrect side to the incorrect side. No parking area will need to be placed on the right-hand side prior to the intersection. Some hardstand is required on the exit of the corner and some signs need to be made removable.	Y

METHODOLOGY

ELA completed the following tasks as part of this desktop assessment, with reference to the process set out in the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (CoP; DECCW 2010), as required under Part 6 of the *National Parks and Wildlife Act 1974* and the *Heritage Act 1977*:

- An extensive search of the Aboriginal Heritage Information Management System (AHIMS) database, maintained by Heritage NSW, to establish if there are any previously recorded Aboriginal objects or places within or within 200m of the proposed works;
- A search of all relevant statutory heritage registers, including local planning instruments (LEPs and DCPs), the NSW State Heritage Inventory and the Australian Heritage Database to determine if there are any places of historic or Aboriginal significance within each study area;
- A review of available assessments, aerial imagery and landform features to determine land use;
- Provide mapping of heritage items and curtilage within the vicinity of the proposed works;
- Provide advice about whether any further archaeological investigations or assessments may be required.

1. Aboriginal Heritage

1.1. Existing Environment

1.1.1. AHIMS Database Search

The AHIMS database maintained by Heritage NSW and regulated under Section 90Q of the *National Parks and Wildlife Act 1974.* The AHIMS database holds information and records regarding the registered Aboriginal archaeological sites (Aboriginal objects, as defined under the Act) and declared Aboriginal places that exist in NSW.

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) database was undertaken on 4 September 2024 to identify if any registered Aboriginal sites were present within, or adjacent to, each study area (Appendix A: AHIMS Database Search Results). The search parameters include search areas 5 km surrounding the study areas. The coordinates and results of each search are documented in Table 1 below:

Table 1: Search parameters and results of each AHIMS database search

Associated Pinch Point (KM Index)	Zone	Eastings	Northings	Number of Aboriginal Sites	Document Figure
375.8; 378.3 (Wellington)	55	678369 - 688369	6394416 - 6403416	100	1

A total of 100 Aboriginal sites have been recorded within the vicinity of the two (2) pinch points, with the majority of sites recorded as artefact scatters and isolated finds (81%).

No Aboriginal sites have been recorded within or in close proximity to any of the pinch points.

1.1.2. Local, State and National heritage registers

Searches of the State Heritage Register (SHR) were conducted on 29 October 2024 in order to determine if any places of Aboriginal significance are located within each study area.

No Aboriginal archaeological sites or heritage items were recorded on these databases within each study area.

1.1.3. Determine if the activity is in an area where landscape features indicate the presence of Aboriginal objects

An archaeologically sensitive landscape is an area that has the potential for archaeological material to be present within it. According to the *Due Diligence Code of Practice* (DECCW 2010a), archaeologically sensitive landscapes can include areas:

- Within 200m of waters; or
- Located within a sand dune system; or
- Located on a ridge top, ridge line, headland; or
- Located within 200m below or above a cliff face; or

- Within 20m of or in a cave, rock shelter, or a cave mouth and is on land that is not disturbed land.

The *Due Diligence Code of Practice* (DECCW 2010a:18) defines disturbed land as areas that have any land that:

> "*Has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable. Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure) and construction of earthworks*."

1.2. Potential Impacts

Aboriginal objects are protected under the NPW Act regardless of if they are registered on AHIMS or not. It is an offence to disturb or damage these sites without first having obtained an Aboriginal Heritage Impact Permit (AHIP). Works or activities that could potentially disturb the ground surface include earthworks, access road construction / upgrades, and repetitive vehicular movement.

The proposed works involve road modifications and would include the removal of signage and hard stops within the existing road corridor at the Mitchell Highway – Goolma Road pinch point. No Aboriginal sites have been recorded in close proximity to either of the pinch points and works at the Mitchell Highway – Goolma Road pinch point will largely be undertaken within the existing, disturbed road corridor indicating there is a low likelihood for intact Aboriginal objects or subsurface archaeological deposits to be impacted (Table 2) (Figure 1).

Table 2: Likelihood of impacts to Aboriginal heritage

Associated Pinch Point (KM Index)	Sensitive Landform	AHIMS Sites in Proximity	Likelihood of Impact	Document Figure
375.8; 378.3 (Wellington)	No - located in a disturbed road corridor	No	Low	1

Figure 1: Registered AHIMS sites within proximity to Wellington (Pinch Point 378.3)

2. Historic Heritage

2.1.1. Local, State and National heritage registers

Searches of the State Heritage Register (SHR) and the Dubbo Regional LEP 2022 were conducted on 5 November 2024 in order to determine if any places of historic significance are located within the study area.

One (1) heritage item has been mapped in close proximity to the Mitchell Highway – Goolma Road pinch point (Pinch Point 378.3). (Figure 2).

Table 3: Heritage items in proximity to study areas

Associated Pinch Point (KM Index)	Heritage Item (Y/N)	Heritage Item Name	Listing	Proximity to heritage curtilage	Document Figure
378.3 (Wellington)	Y	'Strathaye' (I280)	Dubbo Regional LEP 2022	15 m	2

Figure 2: Heritage items within Wellington (378.3)

2.1.2. Potential Impacts

All environmental heritage in NSW is afforded protection under the *Heritage Act 1977*. The Heritage Act regulates the impact of development on places, buildings, works, relics, moveable objects, and precincts that are significant to the heritage of NSW. Under Section 140 of the Heritage Act, a person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a 'relic' being discovered, exposed, moved, damage or destroyed unless the disturbance or excavation is carried out in accordance with a Section 140 permit.

One heritage item has been mapped in close proximity to the study area (Figure 2).

Table 4: Ground disturbance proposed in proximity/within heritage item curtilages

Associated Pinch Point (KM Index)	Heritage Item Name	Ground Disturbance (Y/N)	Potential impact to heritage item (Y/N)
378.3	'Strathaye' (DLEP I280)	Y	N

3. Conclusion

3.1. Aboriginal Heritage

The proposed works include moderate levels of road modifications and would include the removal and installation of signage and hard stops within the existing road corridor. No Aboriginal sites have been recorded in close proximity to either of the pinch points and are located in disturbed road corridors and developed urban contexts. Within the study area, there is a very low likelihood for Aboriginal objects or subsurface archaeological deposits to be impacted. No further assessment will be required, and a standard unexpected finds policy should be implemented.

Recommendations

Based on the findings of this desktop assessment and the requirements of the NPW Act, the following is recommended:

Recommendation 1 - Unexpected finds procedure

Aboriginal objects are protected under the NPW Act regardless of if they are registered on AHIMS or not. If suspected Aboriginal objects, such as stone artefacts are located during future works, works must cease in the affected area and an archaeologist called in to assess the finds. If the finds are found to be Aboriginal objects, Heritage NSW must be notified under section 89A of the NPW Act. Appropriate management and avoidance or approval under a section 90 AHIP should then be sought if Aboriginal objects are to be moved or harmed.

In the extremely unlikely event that human remains are found, works should immediately cease, and the NSW Police should be contacted. If the remains are suspected to be Aboriginal, Heritage NSW may also be contacted at this time to assist in determining appropriate management.

3.2. Historical Heritage

The proposed works will have no foreseeable impacts on heritage items. One (1) heritage item, 'Strathaye' (DLEP I280), is located in close proximity to the study area however no impacts are proposed.

Recommendations

Based on the findings of this desktop assessment and the requirements of the Heritage Act, the following is recommended:

Recommendation 1 – Unexpected finds procedure

An 'unexpected heritage find' can be defined as any unanticipated archaeological discovery, that has not been previously assessed or is not covered by an existing approval under the *Heritage Act 1977* (Heritage Act). These discoveries are categorised as either:

- Historic (non-Aboriginal) heritage items (archaeological remains (I.e., artefacts) or movable objects),
- Human skeletal remains.

Should any unexpected historical archaeology be uncovered during any future excavation works, the following procedure must be adhered to:

- Stop all work in the immediate area of the item and notify the Project Manager.
- Establish a 'no-go zone' around the item. Use high visibility fencing, where practical. Inform all site personnel about the no-go zone.
- No work is to be undertaken within this zone until further investigations are completed.
- Engage a suitably qualified and experienced Archaeologist to assess the finds.
- The Heritage Council must be notified if the finds are of local or state significance. Additional approvals will be required before works can recommence on site.

If the item is assessed as not a 'relic', a 'heritage item' or an 'Aboriginal object' by the Archaeologist, work can proceed with advice provided in writing.

Regards,

Kate Storan
Heritage Consultant

4. References

Australian Heritage Database. Accessed online 24 September 2024, https://www.dcceew.gov.au/parks-heritage/heritage/publications/australian-heritage-database.

The Department of Environment, Climate Change and Water, 2010a. *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*.

The Department of Environment, Climate Change and Water, 2010b. *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.

Dubbo Regional Local Environmental Plan 2022 https://legislation.nsw.gov.au/view/html/inforce/current/epi-2022-0108.

Heritage NSW 2024. State Heritage Inventory. Accessed online 24 September 2024, https://www.heritage.nsw.gov.au/search-for-heritage/state-heritage-inventory/.

New South Wales Heritage Office, 2015. *Assessing Heritage Significance*.

NSW Heritage Office, 2023. *Assessing Heritage Significance*.

NSW Heritage Office, 2023. *Statements of Heritage Impact.*

Appendix A: AHIMS Database Search Results

To be attached separately on the following pages.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : WFTR #1

Client Service ID : 927171

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
36-1-0728	Wellington Nth IF19	GDA	55	683854	6402807	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0174	Wellington Nth AFT2	GDA	55	682736	6401593	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0177	Wellington Nth IF2	GDA	55	682214	6400473	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0180	Wellington Nth IF5	GDA	55	681868	6402277	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0138	Wellington Solar Farm IF8	GDA	55	684144	6400422	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0145	Wellington Solar Farm AS2	GDA	55	683283	6401650	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0149	Wellington Solar Farm AS6	GDA	55	684331	6400473	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0154	Wellington Solar Farm ST1	GDA	55	683726	6401020	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0118	Power Station CMT 2	GDA	55	684191	6398780	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact Gallanggabang Aboriginal Corp	**Recorders**	Doctor.Colin Pardoe					**Permits**		
36-4-0170	Wellington Nth IF8	GDA	55	683009	6402137	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-1-0737	Wellington Nth AFT6	GDA	55	683729	6402849	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0179	Wellington Nth IF4	GDA	55	681829	6401741	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-1-0038	Maryvale Creek	AGD	55	678375	6402718	Open site	Valid	Stone Quarry : -, Artefact : -, Stone Arrangement : -	Quarry	102211
	Contact	**Recorders**	Michael Pearson					**Permits**		
36-1-0041	Maryvale Creek 2	AGD	55	679288	6402684	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	102211
	Contact	**Recorders**	Michael Pearson					**Permits**		

Report generated by AHIMS Web Service on 04/09/2024 for Chloe Verman for the following area at Datum :GDA, Zone : 55, Eastings : 678369.0 - 688369.0, Northings : 6394416.0 - 6403416.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 100

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : WFTR #1

Client Service ID : 927171

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
36-4-0006	Macquarie River 2	AGD	55	682701	6396153	Open site	Valid	Modified Tree (Carved or Scarred) : 28, Ceremonial Ring (Stone or Earth) : -	Bora/Ceremonial,Carved Tree	65,102779
	Contact	**Recorders**	David Bell,R Etheridge						**Permits**	
36-4-0017	Maryvale Creek;Micketymulga Hill;	AGD	55	679254	6401770	Open site	Valid	Artefact : -	Open Camp Site	102211
	Contact	**Recorders**	Mr.Warwick Pearson						**Permits**	
36-4-0020	Maryvale Creek;	AGD	55	678375	6402718	Open site	Valid	Stone Arrangement : -, Stone Quarry : -	Stone Arrangement	102211
	Contact	**Recorders**	G.W. Althofer,Michael Pearson						**Permits**	
36-4-0206	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	**Recorders**	Mr.Bradley Bliss,Wellington Valley Wiradjuri Aboriginal Corporation						**Permits**	
36-4-0203	Wellington Nth SF Additional Area IF1	GDA	55	684764	6399721	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshwick,NGH Heritage - F						**Permits**	
36-4-0135	Wellington Solar Farm IF13	GDA	55	684554	6400033	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw						**Permits**	
36-4-0136	Wellington Solar Farm IF12	GDA	55	684501	6400245	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw						**Permits**	
36-4-0133	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	**Recorders**	Mr.Bradley Bliss,Wellington Valley Wiradjuri Aboriginal Corporation						**Permits**	
36-4-0158	Wellington Solar Farm IF4	GDA	55	683642	6400795	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw						**Permits**	
36-4-0222	Mount Nanima AS2	GDA	55	684119	6397585	Open site	Partially Destroyed	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	OzArk Environmental and Heritage Management - Dubbo,OzArk Environmental an						**Permits**	4879
36-4-0079	Wellington	AGD	55	682000	6397000	Open site	Valid	Burial : -	Burial/s	2641,102779
	Contact	**Recorders**	Ms.Adrienne Howe-Piening						**Permits**	
36-1-0729	Wellington Nth IF18	GDA	55	683689	6402672	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick						**Permits**	
36-4-0173	Wellington Nth AFT1	GDA	55	682573	6401365	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick						**Permits**	
36-4-0175	Wellington Nth AFT3	GDA	55	685303	6401839	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick						**Permits**	
36-4-0216	WE-IF-001 (Goolma Road)	GDA	55	684088	6399493	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Kayandel Archaeological Services,Ms.Natalie Stiles						**Permits**	
36-4-0142	Wellington Solar Farm IF1	GDA	55	682740	6401252	Open site	Valid	Artefact : -		

Report generated by AHIMS Web Service on 04/09/2024 for Chloe Verman for the following area at Datum :GDA, Zone : 55, Eastings : 678369.0 - 688369.0, Northings : 6394416.0 - 6403416.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 100

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : WFTR #1

Client Service ID : 927171

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0146	Wellington Solar Farm AS4	GDA	55	683623	6400932	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0147	Wellington Solar Farm AS3	GDA	55	683565	6400929	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshwick,NGH Heritage - F					**Permits**		
36-4-0153	Wellington Solar Farm AS10	GDA	55	683546	6399549	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0162	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	**Recorders**	Mr.Bradley Bliss,Wellington Valley Wiradjuri Aboriginal Corporation					**Permits**		
36-4-0159	Wellington Solar Farm IF5	GDA	55	683677	6400457	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0210	Wellington Solar IF 17	GDA	55	683991	6400184	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshwick,NGH Heritage - F					**Permits**		
36-4-0227	Mount Nanima IF1	GDA	55	682827	6397844	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	OzArk Environmental and Heritage Management - Dubbo,OzArk Environmental an					**Permits**	4879	
36-4-0117	Power Station CMT 1	GDA	55	684165	6398827	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact Gallanggabang Aboriginal Corp	**Recorders**	Doctor.Colin Pardoe					**Permits**		
36-4-0208	Baalbek-AS1	GDA	55	678802	6400633	Open site	Valid	Artefact : -		104302
	Contact	**Recorders**	OzArk Environmental and Heritage Management - Dubbo,Miss.Philippa Sokol					**Permits**		
36-1-0725	Wellington Nth IF22	GDA	55	683986	6403324	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0176	Wellington Nth IF1	GDA	55	682306	6400402	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0049	Baalbek/WF 2;Wellington;	GDA	55	678912	6400655	Open site	Valid	Artefact : -	Open Camp Site	975,102211
	Contact	**Recorders**	Mr.Allan Lance,OzArk Environmental and Heritage Management - Dubbo,Miss.Phili					**Permits**		
36-4-0021	Baalveck;	AGD	55	679151	6399030	Open site	Valid	Stone Arrangement : -, Aboriginal Ceremony and Dreaming : -	Stone Arrangement	102779
	Contact	**Recorders**	G.W. Althofer,Michael Pearson					**Permits**		
36-4-0148	Wellington Solar Farm AS5	GDA	55	684194	6400396	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0156	Wellington Solar Farm IF3	GDA	55	683394	6400771	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0025	Wellington;WF 1;Baalbek;	AGD	55	679980	6399950	Open site	Valid	Artefact : -	Open Camp Site	975,102779

Report generated by AHIMS Web Service on 04/09/2024 for Chloe Verman for the following area at Datum :GDA, Zone : 55, Eastings : 678369.0 - 688369.0, Northings : 6394416.0 - 6403416.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 100

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	**Recorders**	Mr.Allan Lance					**Permits**		
36-4-0221	Mount Nanima AS1	GDA	55	684262	6396829	Open site	Partially Destroyed	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	OzArk Environmental and Heritage Management - Dubbo,OzArk Environmental an					**Permits**	4879	
36-4-0220	UWFTMR_IF1	GDA	55	685171	6399910	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Austral Archaeology,Mr.Ricardo Servin					**Permits**		
36-1-0733	Wellington Nth IF13	GDA	55	685707	6402979	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-1-0734	Wellington Nth IF14	GDA	55	685837	6403256	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0108	Yarrahapani 1	AGD	55	686370	6398880	Open site	Valid	Artefact : 2		101380,102779
	Contact	**Recorders**	Mr.Neville Baker,Doctor.Jodie Benton,Gallanggabang Aboriginal Corporation					**Permits**		
36-4-0137	Wellington Solar Farm IF11	GDA	55	684439	6400296	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0150	Wellington Solar Farm AS7	GDA	55	684252	6400282	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0128	Blacks Camp Wellington	GDA	55	685616	6395743	Open site	Valid	Artefact : -		103476,104686
	Contact	**Recorders**	Phil Purcell					**Permits**		
36-1-0719	Wellington Nth IF28	GDA	55	682756	6402864	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0168	Wellington Nth IF10	GDA	55	684306	6402371	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0171	Wellington Nth IF6	GDA	55	682629	6401320	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0172	Wellington Nth IF7	GDA	55	682644	6401492	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-1-0739	Wellington Nth AFT8	GDA	55	682672	6403117	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0178	Wellington Nth IF3	GDA	55	681796	6401528	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0081	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			102211,102779
	Contact	**Recorders**	Lloyd Nolan,Mr.Bradley Bliss,Wellington Valley Wiradjuri Aboriginal Corporation					**Permits**		
36-1-0042	Maryvale Creek 1	AGD	55	679288	6402684	Open site	Valid	Modified Tree (Carved or Scarred) : 1	Scarred Tree	102211

Report generated by AHIMS Web Service on 04/09/2024 for Chloe Verman for the following area at Datum :GDA, Zone : 55, Eastings : 678369.0 - 688369.0, Northings : 6394416.0 - 6403416.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 100

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : WFTR #1

Client Service ID : 927171

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	**Recorders**	Michael Pearson					**Permits**		
36-4-0097	STP-1F-1	AGD	55	680780	6396810	Open site	Valid	Artefact : -		102779
	Contact	**Recorders**	Central West Archaeological and Heritage Services Pty Ltd					**Permits**		
36-4-0099	Isolated Artefact CC-IF-01	AGD	55	686314	6401244	Open site	Valid	Artefact : 1		102779
	Contact T Russell	**Recorders**	Lloyd Nolan					**Permits**		
36-4-0139	Wellington Solar Farm IF9	GDA	55	684628	6400510	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0141	Wellington Solar Farm IF7	GDA	55	683989	6400395	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0143	Wellington Solar Farm IF15	GDA	55	683583	6399737	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0218	Wellington Solar IF 18	GDA	55	684051	6400406	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0211	Wellington Solar IF 16	GDA	55	683706	6399911	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshwick,NGH Heritage - F					**Permits**		
36-4-0214	Wellington Solar AS 13	GDA	55	683672	6399764	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshwick,NGH Heritage - F					**Permits**		
36-4-0224	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	**Recorders**	Mr.Bradley Bliss,Wellington Valley Wiradjuri Aboriginal Corporation					**Permits**		
36-4-0225	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	**Recorders**	Mr.Bradley Bliss,Wellington Valley Wiradjuri Aboriginal Corporation					**Permits**		
36-4-0236	Blacks Camp Repatriation	GDA	55	685650	6395693	Open site	Valid	Burial : 3		
	Contact wellington local aboriginal lan	**Recorders**	Mr.John Duggan					**Permits**		
36-4-0090	W/STP-ST-1	AGD	55	680750	6397060	Open site	Valid	Modified Tree (Carved or Scarred) : 1		97979,102779
	Contact	**Recorders**	Jim Kelton					**Permits**		
36-1-0726	Wellington Nth IF21	GDA	55	683943	6403314	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0166	Wellington Nth IF12	GDA	55	685308	6401654	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0167	Wellington Nth IF11	GDA	55	684638	6401740	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-1-0735	Wellington Nth AFT4	GDA	55	685752	6403199	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-1-0736	Wellington Nth AFT5	GDA	55	685825	6403203	Open site	Valid	Artefact : -		

Report generated by AHIMS Web Service on 04/09/2024 for Chloe Verman for the following area at Datum :GDA, Zone : 55, Eastings : 678369.0 - 688369.0, Northings : 6394416.0 - 6403416.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 100

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-1-0738	Wellington Nth AFT7	GDA	55	683012	6403083	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0014	Baalveck;Micketymulga Hill;	AGD	55	679219	6400857	Open site	Valid	Artefact : -, Ceremonial Ring (Stone or Earth) : -	Bora/Ceremonial,Open Camp Site	102211
	Contact	**Recorders**	Michael Pearson					**Permits**		
36-4-0202	Wellington Nth SF Additional Area IF2	GDA	55	685619	6399925	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshwick,NGH Heritage - F					**Permits**		
36-4-0140	Wellington Solar Farm IF10	GDA	55	684774	6400441	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0144	Wellington Solar Farm AS1	GDA	55	683060	6401648	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0152	Wellington Solar Farm AS9	GDA	55	684000	6399939	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0155	Wellington Solar Farm IF2	GDA	55	682805	6400601	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0212	Wellington Solar AS 11	GDA	55	684000	6400229	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshwick,NGH Heritage - F					**Permits**		
36-4-0213	Wellington Solar AS 12	GDA	55	683560	6400035	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshwick,NGH Heritage - F					**Permits**		
36-4-0223	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact	**Recorders**	Wellington Valley Wiradjuri Aboriginal Corporation,Day Bukh Architects					**Permits**		
36-1-0720	Wellington Nth IF27	GDA	55	682775	6403027	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-1-0727	Wellington Nth IF20	GDA	55	683548	6402828	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0169	Wellington Nth IF9	GDA	55	683241	6402013	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0215	Wellington Solar Farm Artefact Burial Site	GDA	55	683612	6401795	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0201	Wellington Nth SF Additional Area IF3	GDA	55	684736	6399572	Open site	Not a Site	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshwick,NGH Heritage - F					**Permits**		
36-4-0151	Wellington Solar Farm AS8	GDA	55	684389	6400526	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0157	Wellington Solar Farm IF6	GDA	55	683359	6401664	Open site	Destroyed	Artefact : -		

Report generated by AHIMS Web Service on 04/09/2024 for Chloe Verman for the following area at Datum :GDA, Zone : 55, Eastings : 678369.0 - 688369.0, Northings : 6394416.0 - 6403416.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 100

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : WFTR #1

Client Service ID : 927171

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	**Recorders**	Mr.Matthew Barber,Mr.Matthew Barber,Mr.Matthew Barber,NGH Heritage - Fyshw					**Permits**		
36-4-0219	Wellington Solar Unexpected Find Reburial 1	GDA	55	683602	6401097	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Mr.Matthew Barber,NGH Heritage - Fyshwick					**Permits**		
36-4-0228	Wellington Bore Pipeline Artefact Reburial	GDA	55	683010	6397632	Closed site	Valid	Artefact : -		
	Contact	**Recorders**	OzArk Environmental and Heritage Management - Dubbo,Mr.Harrison Rochford					**Permits**		
36-4-0226	Mount Nanima AS3	GDA	55	682899	6397643	Open site	Partially Destroyed	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	OzArk Environmental and Heritage Management - Dubbo,OzArk Environmental an					**Permits**	4879	
36-4-0237	12 Mile / Goolma Road	GDA	55	684977	6399894	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Ms.Sophia Grubnic					**Permits**		

**** Site Status**

Valid - The site has been recorded and accepted onto the system as valid

Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

Report generated by AHIMS Web Service on 04/09/2024 for Chloe Verman for the following area at Datum :GDA, Zone : 55, Eastings : 678369.0 - 688369.0, Northings : 6394416.0 - 6403416.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 100

Appendix C Noise and Vibration Impact Assessment

Mitchell and Goolma Highway Intersection Upgrade

Construction Noise and Vibration Impact Assessment

Squadron Energy

Unit 2, 34-36 Bultje St,
Dubbo NSW 2830 Australia

Prepared by:

SLR Consulting Australia

SLR Project No.: 610.30971.00002

Client Reference No.: R05

7 April 2025

Revision: v1.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
v1.0	7 April 2025	Brandon Nguyen Khuong	Steven Luzuriaga	Steven Luzuriaga

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Squadron Energy (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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Tables

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Appendices

Acronyms and Abbreviations

AS	Australian Standard
AV:ATG	Assessing Vibration: a technical guideline (DEC, 2006)
BS	British Standard
dBA	A-weighted decibel (referenced 20 µPa)
DPHI	Department of Planning, Housing and Infrastructure
CNVMP	Construction Noise and Vibration Management Plan
DEC	Department of Environment and Conservation
DECC	Department of Environment and Climate Change (now NSW EPA)
DIN	Deutches Institut für Normung (German Institute for Standardisation)
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	Environment Protection Authority
EPL	Environmental Protection Licence
ER	The Environmental Representative(s) for CSSI approved by the Planning Secretary.
HNA	Highly Noise Affected
Hz	Hertz
ICNG	Interim Construction Noise Guideline (DECC, 2009
ISO	International Standards Organisation
km	Kilometres
km/h	Kilometres per hour
L_{Aeq}	Equivalent continuous noise level, providing a representation of the cumulative level of noise exposure over a defined period.
$L_{Aeq(15hour)}$	The equivalent continuous noise level for the 15-hour daytime period of 7.00 am to 10.00 pm
$L_{Aeq(9hour)}$	The equivalent continuous noise for the 9-hour night-time period of 10.00 pm to 7.00 am
$L_{Aeq(1hour)}$	The equivalent continuous noise for the 1-hour daytime or night-time period that has the potential to result in the greatest noise impact to sensitive receivers.
L_{Amax}	The maximum noise level during the measurement or assessment period. The L_{AFmax} or Fast is averaged over 0.125 of a second and the L_{ASmax} or Slow is averaged over 1-second.
m	Metres
mm	Millimetres
mm/s	Millimetres per second
m/s	Metres per second
NCA	Noise Catchment Area
NML	Noise Management Level

NSW	New South Wales
NPfI	Noise Policy for Industry
OOHW	Out of hours work
PPV	Peak Particle Velocity
RBL	Rating Background Level
TfNSW	Transport for New South Wales
VDV	Vibration Dose Value

1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Squadron Energy Pty Ltd (SQE) to prepare a Construction Noise and Vibration Impact Assessment (CNVIA) for construction works associated with the intersection upgrades at Mitchell Highway and Goolma Road.

This CNVIA addresses the potential noise and vibration impacts associated with the enabling works to widen the intersection at Mitchell Highway and Goolma Road (the project). Construction noise and vibration impacts for the project are assessed for various construction scenarios including site establishment, compound operation, road works, drainage work and signage works.

Specific acoustic terminology is used in this report. An explanation of common acoustic terms is provided in **Appendix A**.

SLR is suitably qualified to produce this CNVIA and SLR staff are members of the Australian Acoustical Society (AAS). SLR is also a member firm of the Association of Australasian Acoustical Consultants (AAAC).

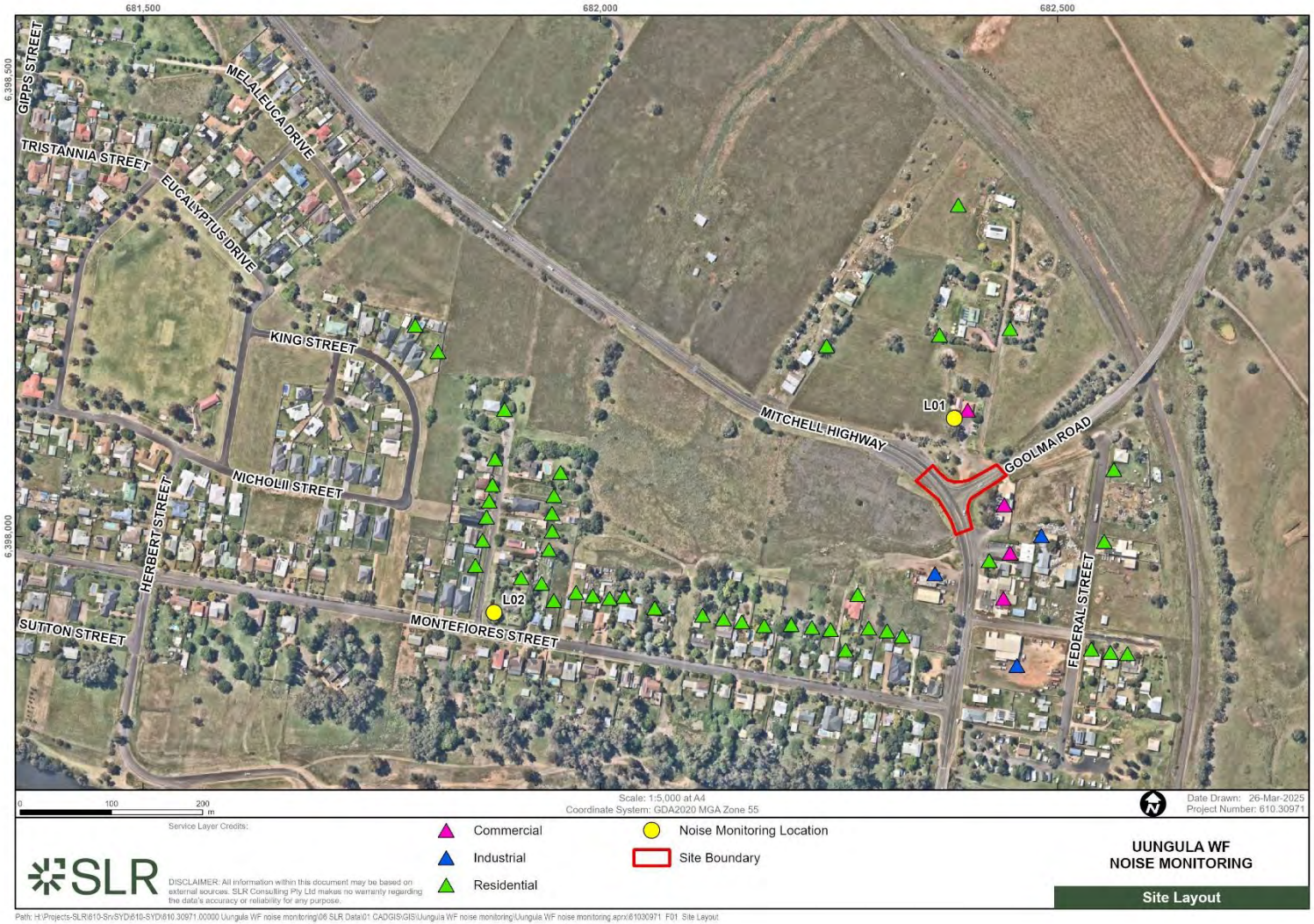
1.1 Project Background

SQE have requested a construction noise and vibration impact assessment for the Mitchell Highway and Goolma Road intersection upgrades in Wellington to enable delivery of oversize and over-mass components as part of the Uungula Wind Farm Project. This assessment has been prepared in response to a Request for Information (RFI) from the Department of Planning, Housing and Infrastructure (DPHI) for a modification submission to include this intersection upgrade in Appendix 7 of the Projects Development Consent SSD 6687.

1.2 Nearest Sensitive Receivers

The work area is surrounded by a combination of suburban residential, rural residential, and commercial receivers. The Project location, work areas and surrounding receivers are shown in **Figure 1**.

Figure 1 Site Location and Surrounding Receivers



1.3 Conditions of Approval

The Conditions of Approval (CoA) from the development consent (SSD 6687) relevant to construction noise and vibration are reproduced **Table 1**.

Table 1: Development Consent Conditions of Approval

ID	Condition	Where Addressed
Hours of Operation		
B6	Road upgrades, construction, demolition, upgrading or decommissioning activities (excluding blasting) may only be undertaken between: a) 7 am to 6 pm Monday to Friday; b) 8 am to 1 pm Saturdays; and c) at no time on Sundays and NSW public holidays: unless the Planning Secretary agrees otherwise.	**Section 4.2**
B7	The following activities may be carried out outside the hours specified in condition B6 above: a) activities that are inaudible at non-associated residences; b) the delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons; or c) emergency work to avoid the loss of life, property or to prevent material harm to the environment.	-
Construction and Decommissioning		
B8	The Applicant must take all reasonable steps to minimise the construction or decommissioning noise of the development, including any associated traffic noise.	**Section 6.0**
B9	The Applicant must ensure that the noise generated by any construction or decommissioning activities is managed in accordance with the requirements outlined in the Interim Construction Noise Guideline (DECC, 2009).	**Section 3.1** **Section 6.0**

2.0 Existing Noise Environment

Unattended noise monitoring was completed at two locations in the study area during February 2025. The measured noise levels have been used to determine the existing noise environment and to set the criteria used to assess the potential impacts from the project.

The monitoring equipment was positioned to measure existing noise levels that are representative of receivers potentially most affected by the project, within constraints such as accessibility, security and landowner permission.

The noise monitoring equipment continuously measured existing noise levels in 15-minute periods during the daytime, evening and night-time. All equipment carried current National Association of Testing Authorities (NATA) or manufacturer calibration certificates and equipment calibration was confirmed before and after each measurement.

The measured data has been processed to exclude noise from extraneous events and periods affected by adverse weather conditions, such as strong wind or rain (measured at Dubbo Airport AWS), to establish representative existing noise levels in each NCA.

The noise monitoring locations are shown in **Figure 1** and the results are summarised in **Table 2**. Details of each monitoring location together with graphs of the measured daily noise levels are provided in **Appendix B**.

Table 2 Summary of Unattended Noise Logging Results

ID	Address	Measured Noise Levels (dBA)					
		Rating Background Noise (RBL)			Average Noise (L_{Aeq})		
		Day[1]	Evening[1]	Night[1]	Day[1]	Evening[1]	Night[1]
L01	Wellington Veterinary Hospital 7086 Mudgee Road, Wellington NSW 2820	42	43 (42)[3]	44 (42)[3]	53	54	51
L02	44 Montefiores St, Montefiores NSW 2820	34 (35)[2]	36 (35)[3]	28 (30)[2]	53	52	44

Note 1: The assessment periods are the daytime which is 7 am to 6 pm Monday to Saturday and 8 am to 6 pm on Sundays and public holidays, the evening which is 6 pm to 10 pm, and the night-time which is 10 pm to 7 am on Monday to Saturday and 10 pm to 8 am on Sunday and public holidays. See the NSW EPA Noise Policy for Industry.

Note 2: The *Noise Policy for Industry* (NPfI) minimum RBL value has been used due to the measured RBL being below the NPfI minimum value.

Note 3: As per guidance from the NPfI, the intrusiveness noise level (derived from the background levels) for the evening should be no greater than the intrusiveness noise level for the day.

The existing noise environment at each noise logging locations are as follows:

- L01 – Existing noise environment is dominated by traffic noise from Mitchell Highway and Goolma Road including frequent heavy vehicle pass-by and idling along the road's edge. Other contributing sources include natural ambience, occasional aircraft flyover and operation of the veterinary hospital.
- L02 – Existing noise environment mainly consists of natural ambience including cicadas with occasional vehicle pass-by along Montefiores Street. Traffic noise from Mitchell Highway was faintly audible at the logging location.

Based on the resultant noise levels at L01, it has been determined that the noise monitoring undertaken at Wellington Veterinary Hospital is likely affected by trucks idling for extended periods of time along Mitchell Highway along the dedicated rest area resulting in a relatively high noise environment in the immediate vicinity and is not representative of the existing acoustic environment at other surrounding sensitive receivers.

Therefore, the noise monitoring results located at L02, situated within a rural suburban residential area, is considered a more accurate and representative noise environment for all residential receivers surrounding the site area and is adopted to derive the construction noise management levels detailed in **Section 3.1.1**.

3.0 Assessment Criteria

3.1 Interim Construction Noise Guideline

The NSW *Interim Construction Noise Guideline* (ICNG) is used to assess and manage impacts from construction noise on residences and other sensitive land uses in NSW.

The ICNG contains procedures for determining project specific Noise Management Levels (NMLs) for sensitive receivers based on the existing background noise in the area. The 'worst-case' noise levels from construction of a project are predicted and then compared to the NMLs in a 15-minute assessment period to determine the likely impact of the project.

The NMLs are not mandatory limits, however, where construction noise levels are predicted or measured to be above the NMLs, feasible and reasonable work practices to minimise noise emissions are to be investigated.

Residential Receivers

The ICNG approach for determining NMLs at residential receivers is shown in **Table 3**.

Table 3: ICNG NMLs for Residential Receivers

Time of Day	NML $L_{Aeq(15minute)}$	How to Apply
Standard Construction Hours Monday to Friday 7:00 am to 6:00 pm Saturday 8:00 am to 1:00 pm No work on Sundays or public holidays	Noise affected RBL[1] + 10 dB	• The noise affected level represents the point above which there may be some community reaction to noise • Where the predicted or measured $L_{Aeq(15minute)}$ is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level • The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details
	Highly Noise Affected 75 dBA	• The Highly Noise Affected (HNA) level represents the point above which there may be strong community reaction to noise • Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restructuring the hours that the very noisy activities can occur, taking into account: o Times identified by the community when they are less sensitive to noise (such as before and after school for works near schools or mid-morning or mid-afternoon for works near residences o If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times
Outside Standard Construction Hours	Noise affected RBL + 5 dB	• A strong justification would typically be required for works outside the recommended standard hours • The proponent should apply all feasible and reasonable work practices to meet the noise affected level • Where all feasible and reasonable practises have been applied and noise is more than 5 dB above the noise affected level, the proponent should negotiate with the community

Note 1: The RBL is the Rating Background Level and the ICNG refers to the calculation procedures in the NSW Industrial Noise Policy (INP). The INP has been superseded by the NSW EPA *Noise Policy for Industry* (NPfI).

'Other Sensitive' Land Uses and Commercial Receivers

The ICNG NMLs for 'other sensitive' non-residential land uses are shown in **Table 4**.

Table 4: NMLs for 'Other Sensitive' Receivers

Land Use	Noise Management Level $L_{Aeq(15minute)}$ (dBA) (Applied when the property is in use)	
	Internal	External
Commercial	-	70
Industrial	-	75

3.1.1 NML Summary

The NMLs for the project have been derived in accordance with the ICNG and are shown in **Table 5**.

Table 5: Project Specific Noise Management Levels (dBA)

Receiver Type	NML ($L_{Aeq(15minute)}$ – dBA)				Sleep Disturbance Screening Level (L_{Amax} dBA)
	Standard Construction Hours (RBL+10dB)	Out of Hours[1] (RBL+5dB)			
	Daytime	Daytime	Evening	Night-time	Night-time
Residential	45	40	40	35	52
Commercial	70	70 (when in use)			-
Industrial	75	75 (when in use)			-

Note 1: Daytime out of hours is Sunday and public holidays between 8 am to 6 pm. Evening is 6pm to 10pm Monday – Sunday (including public holidays). Night-time is 10pm to 7am Monday – Saturday and 10pm to 8am Sunday (including public holidays).

Highly Noise Affected

In addition to the NMLs presented above, the ICNG highly noise affected level (>75 dBA) represents the point above which there may be strong community reaction to noise and is applicable to all residential receivers during approved project hours as outlined in the ICNG.

Sleep Disturbance

This assessment has adopted the NPfI method for assessing sleep disturbance. Although the NPfI sleep disturbance criteria relates to industrial noise, it is also considered relevant for reviewing potential impacts from construction noise as a screening level to identify the need for further assessment.

The NPfI notes that a detailed maximum noise level assessment should be undertaken where a project results in night-time noise levels which exceed 52 dBA L_{AFmax} or the prevailing background level plus 15 dB, whichever is the greater.

3.2 Construction Vibration Criteria

The effects of vibration from construction works can be divided into three categories:

- Those in which the occupants of buildings are disturbed (human comfort)
- Those where building contents may be affected (building contents)
- Those where the integrity of the building may be compromised (structural or cosmetic damage).

3.2.1 Human Comfort Vibration

People can sometimes perceive vibration impacts when vibration generating construction works are located close to occupied buildings.

Vibration from construction works tends to be intermittent in nature and the EPA's *Assessing Vibration: a technical guideline* (2006) provides criteria for intermittent vibration based on the Vibration Dose Value (VDV). The 'preferred' and 'maximum' VDVs for human comfort impacts are shown in **Table 6**.

Table 6 Vibration Dose Values for Intermittent Vibration

Building Type	Assessment Period	Vibration Dose Value[1] ($m/s^{1.75}$)	
		Preferred	Maximum
Critical Working Areas (eg operating theatres or laboratories)	Day or night-time	0.10	0.20
Residential	Daytime	0.20	0.40
	Night-time	0.13	0.26
Offices, schools, educational institutions and places of worship	Day or night-time	0.40	0.80
Workshops	Day or night-time	0.80	1.60

Note 1: The VDV accumulates vibration energy over the daytime and night-time assessment periods and is dependent on the level of vibration as well as the duration.

3.2.2 Effects on Building Contents

People perceive vibration at levels well below those likely to cause damage to building contents. For most receivers, the human comfort vibration criteria are the most stringent and it is generally not necessary to set separate criteria for vibration effects on typical building contents.

Exceptions to this can occur when vibration sensitive equipment, such as electron microscopes, are located in buildings near to construction works. No such items of equipment have been identified in the proposal area.

3.2.3 Structural and Cosmetic Damage Vibration

If vibration from construction works is sufficiently high it can cause damage to structural elements of affected buildings. The levels of vibration required to cause cosmetic damage tend to be at least an order of magnitude (10 times) higher than those at which people can perceive vibration.

Examples of damage that can occur includes cracks or loosening of drywall surfaces, cracks in supporting columns and loosening of joints. Structural damage vibration limits are contained in British Standard BS 7385 and German Standard DIN 4150.

BS 7385

British Standard BS 7385 recommends vibration limits for transient vibration judged to give a minimal risk of vibration induced damage to affected buildings. The limits for residential and industrial buildings are shown in **Table 7**.

Table 7 BS 7385 Transient Vibration Values for Minimal Risk of Damage

Group	Type of Building	Peak Component Particle Velocity in Frequency Range of Predominant Pulse	
		4 Hz to 15 Hz	15 Hz and Above
1	Reinforced or framed structures. Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
2	Unreinforced or light framed structures. Residential or light commercial type buildings	15 mm/s at 4 Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Note 1: Where the dynamic loading caused by continuous vibration may give rise to dynamic magnification due to resonance, especially at the lower frequencies where lower guide values apply, then the guide values may need to be reduced by up to 50%.

3.2.4 Minimum Working Distances for Vibration Intensive Works

Minimum working distances for typical vibration intensive construction equipment are provided in the Roads and Maritime (now Transport for NSW) *Construction Noise and Vibration Guideline* (CNVG) and are shown in **Table 8**. The minimum working distances are for both cosmetic damage (from BS 7385) and human comfort (from the NSW EPA Vibration Guideline). They are based on empirical data which suggests that where works are further from receivers than the quoted minimum distances then impacts are not considered likely.

The minimum working distances are indicative and will vary depending on the particular item of equipment and local geotechnical conditions. The distances apply to cosmetic damage of typical buildings under typical geotechnical conditions.

Table 8 Recommended Minimum Working Distances from Vibration Intensive Equipment

Plant Item	Rating/Description	Minimum Distance	
		Cosmetic Damage	Human Response (NSW EPA Guideline)
		Residential and Light Commercial (BS 7385)	
Vibratory Roller	<50 kN (1–2 tonne)	5 m	15 m to 20 m
	<100 kN (2–4 tonne)	6 m	20 m
	<200 kN (4–6 tonne)	12 m	40 m
	<300 kN (7–13 tonne)	15 m	100 m
	>300 kN (13–18 tonne)	20 m	100 m
	>300 kN (>18 tonne)	25 m	100 m

Plant Item	Rating/Description	Minimum Distance	
		Cosmetic Damage	Human Response (NSW EPA Guideline)
		Residential and Light Commercial (BS 7385)	
Small Hydraulic Hammer	300 kg (5 to 12 t excavator)	2 m	7 m
Medium Hydraulic Hammer	900 kg (12 to 18 t excavator)	7 m	23 m
Large Hydraulic Hammer	1,600 kg (18 to 34 t excavator)	22 m	73 m
Vibratory Pile Driver	Sheet piles	2 m to 20 m	20 m
Piling Rig – Bored	≤ 800 mm	2 m (nominal)	4 m
Jackhammer	Hand held	1 m (nominal)	2 m

3.3 Traffic on Surrounding Roads

The potential impacts from project related traffic on the surrounding public roads are assessed using the NSW EPA *Road Noise Policy* (RNP). An initial screening test is first applied to evaluate if existing road traffic noise levels are expected to increase by more than 2.0 dB. Where this is considered likely, further assessment is required using the RNP criteria shown in **Table 9**.

Table 9 RNP/NCG Criteria for Assessing Traffic on Public Roads

Road Category	Type of Project/Land Use	Assessment Criteria (dB)	
		Daytime (7 am – 10 pm)	Night-time (10 pm – 7 am)
Freeway/ arterial/ sub-arterial roads	Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	$L_{Aeq(15hour)}$ 60 (external)	$L_{Aeq(9hour)}$ 55 (external)
Local roads	Existing residences affected by additional traffic on existing local roads generated by land use developments	$L_{Aeq(1hour)}$ 55 (external)	$L_{Aeq(1hour)}$ 50 (external)

4.0 Assessment Methodology

The potential construction noise levels from the proposal have been predicted to the surrounding receivers using the ISO 9613-2 algorithm in SoundPLAN, implemented in accordance with ISO 17534-3. The noise model includes ground topography, ground type, buildings and representative worst-case noise sources from the proposal.

4.1 Work Scenarios

Representative scenarios have been developed to assess the likely impacts from the various construction phases of the project. These scenarios are shown in **Table 10** together with a high level description of each works activity.

Details of the items of plant that would be used during each scenario, together with corresponding sound power levels are detailed in **Appendix C**.

Table 10: Construction Scenario Descriptions

Ref.	Equipment	Description
W.001	Site Establishment / Demobilisation	• Site Compound delivery and set up • Establishment of laydown areas
W.002	Compound Operation	• Operation of the site compound • Delivery of materials/equipment
W.003	Road Work - Peak	• Road work including highly noise intensive work
W.004	Road Work - Typical	• Road work excluding highly noise intensive work
W.005	Drainage Work	• Modification and installation of drainage infrastructure
W.006	Signage Work	• Modification and installation of signage infrastructure

4.2 Hours of Construction

Construction activities for the proposal would only be undertaken during the following hours:

- 7:00 am to 6:00 pm, Mondays to Fridays
- 8:00 am to 1:00 pm on Saturdays
- At no time on Sundays or Public Holidays.

Work outside of these hours may only be undertaken in the following circumstances (as noted in CoA B6 and B7):

- Works are agreed to in writing by the Planning Secretary
- Activities are inaudible at non-associated residences
- Delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons; or
- Emergency work to avoid the loss of life, property or to prevent material harm to the environment.

It is understood that Out of Hours Work (OOHW) is not required for this project. If OOHW become necessary in the future, an OOHW permit would be required to gain approval from the Planning Secretary in accordance with CoA B6 and B7.

This assessment only considers the construction noise impacts at sensitive receivers during standard construction hours. However, for the purpose of an OOHW permit the predicted noise levels detailed in **Section 5.0** could be used to determine the impacts during OOHW periods by assessing against the OOHW NMLs detailed in **Table 5**.

5.0 Assessment of Impacts

5.1 Construction Noise Predictions

The predicted noise impacts for the assessed construction scenarios at the worst-case receivers are shown in **Table 12**. Detailed predicted construction noise levels are provided in **Appendix D**.

The predictions are representative of the highest noise levels that could potentially be experienced at the surrounding receivers when the works are at the closest point. For most construction activities, it is expected that the construction noise levels would frequently be lower than those predicted, as the noise levels presented are based on all items of equipment in each scenario being used concurrently and occurring at the nearest point of the site to each receiver.

The assessment shows the predicted impacts based on the exceedance of the NMLs, as per the categories in **Table 11**.

The assessment uses 'realistic worst-case' scenarios to determine the impacts from the noisiest 15-minute period that are likely to occur for each work scenario, as required by the ICNG. The impacts represent construction noise levels without mitigation applied.

Table 11: Exceedance Bands and Impact Colouring

Exceedance of NML	Subjective Classification	Impact Colouring
No exceedance	Negligible	
1 to 10 dB	Low impact	
11 dB to 20 dB	Moderate impact	
21 dB to 30 dB	High impact	
Highly Noise Affected[1]	Highly Noise Affected	

Note 1: Greater than 75 dBA at residential receivers.

Table 12: Construction Noise Predictions at the Worst-Case Sensitive Receivers

Receiver	NML (dBA)	Predicted $L_{Aeq(15minute)}$ Construction Noise Levels (dBA)					
		W.001 – Site Establishment / Demob.	W.002 – Compound Operation	W.003 – Road Work - Peak	W.004 – Road Work - Typical	W.005 – Drainage Work	W.006 – Signage Work
18 Mitchell Highway, Montefiores 2820 (Residential)	45	59	61	72	66	64	59
22 Mitchell Hwy, Montefiores Nsw 2820 (Industrial)	75	59	61	72	66	64	59
20 Mitchell Hwy, Montefiores Nsw 2820 (Commercial)	70	59	61	72	66	64	58

The assessment of the worst-case construction noise levels shows:

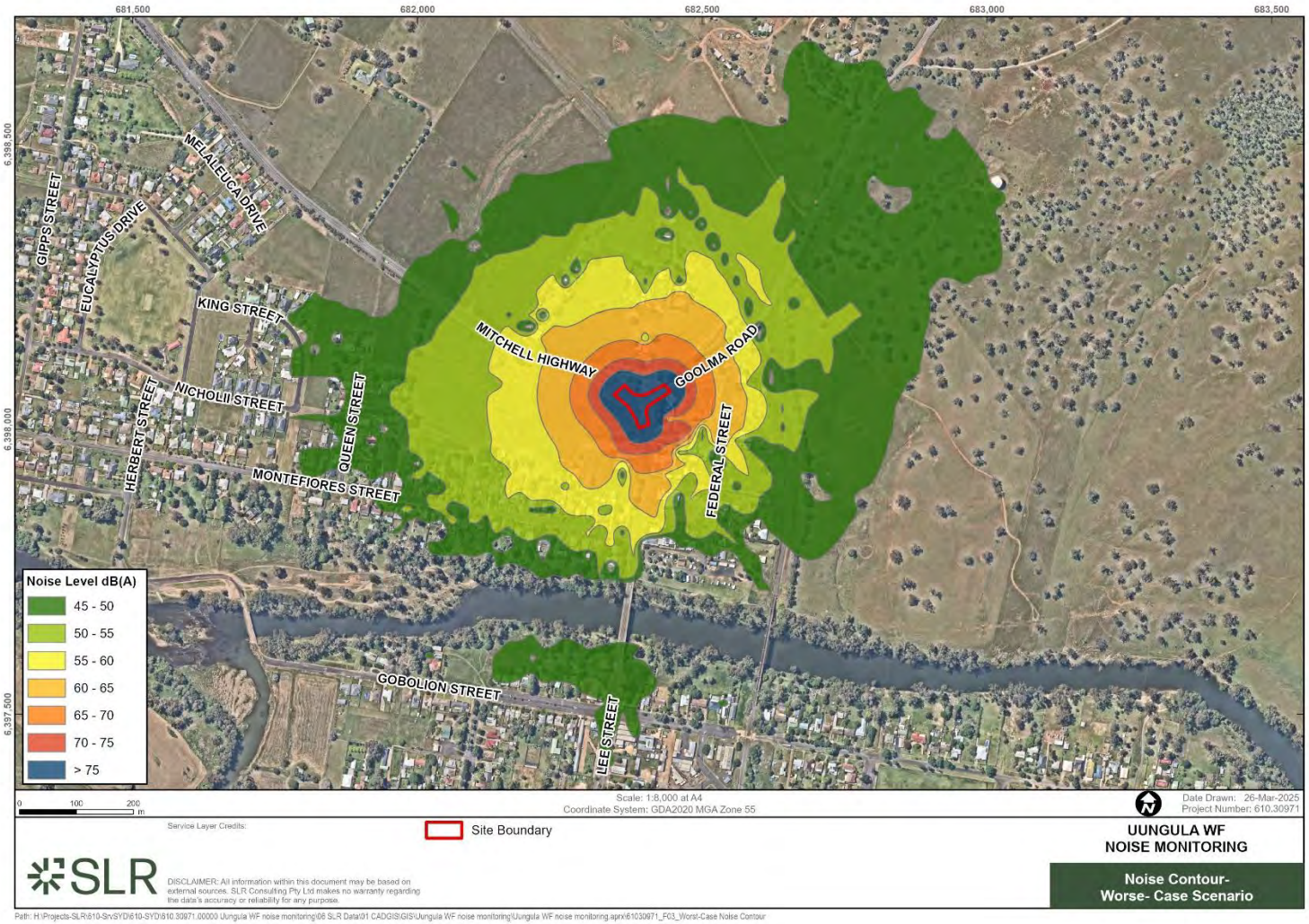
- ‘Moderate impacts’ are predicted at the closest residential receiver during all work scenarios except W.003 and W.004.
- ‘High impacts’ are predicted at the closest residential receiver during W.003 and W.004.
- Noise levels are predicted to remail below the NML for nearby industrial receivers during all work scenarios.
- ‘Low impacts’ are predicted at the closest commercial receiver during W.003. Noise levels are predicted to remain below the NML for nearby commercial receivers during all other work scenarios.

Individual receivers would be subject to a large range of worst-case impacts, depending on how far from the works they are. The highest impacts would be apparent when works occur closest to the receiver. Noise levels would be significantly lower when works move further away from a particular receiver.

A ‘worst-case’ noise contour map for W.003 – Road Work – Peak, which is the scenario with the highest predicted noise impacts, is shown in **Figure 2**.

Construction mitigation measures are discussed in **Section 6.0.**

Figure 2 W.003 (Road Work – Peak) Worst-Case Predicted Noise Contour Map



5.2 Construction Off-Site Traffic

Construction traffic would generally access the site from the Mitchell Highway. Existing daily traffic volumes on the Mitchell Highway in the vicinity of the proposal are in the order of 4000 vehicles per day (based on publicly available data on the TfNSW Traffic Volume Viewer Station ID: 93036).

The requirements for construction traffic movements is expected to be minimal and is unlikely to result in any additional noise impacts at the nearest receivers due to the existing volumes of traffic on the access roads, noting that a vehicle increase of approximately 60% would be required to increase the noise levels by 2 dBA. As such, no recommendations for road traffic noise mitigation and management measures are considered necessary in this assessment.

Therefore, the proposal is not anticipated to increase road traffic noise during construction by more than 2 dBA. Differences in noise levels of less than approximately 2 dBA are generally imperceptible.

5.3 Construction Vibration

The major potential sources of vibration from the proposed construction activities would likely be during W.003 - ‘Road Work - Peak’ when vibratory rollers are being used.

Vibration offset distances have been determined from the TfNSW CNVG minimum working distances for cosmetic damage and human comfort (see **Table 8**) and the assessment is summarised in **Figure 3** for using a large vibratory roller. Buildings within the minimum working distances for human comfort and cosmetic damage have been highlighted.

Figure 3 Construction Vibration – Large Vibratory Roller

Cosmetic Damage

Figure 3 shows that the nearest sensitive receiver buildings to the south of the site (ie 7085 Goolma Rd) may potentially be within the cosmetic damage minimum working distance for vibration intensive equipment. Where this does occur, this would only be when vibration intensive equipment is being used at the site boundary, near to adjacent sensitive receiver. Work in other more distant areas of the site would be outside the minimum working distances.

Offset distances from specific vibration intensive plant to the nearest receivers should be confirmed before commencing vibration intensive works during construction.

Human Comfort

Figure 3 shows that the nearest surrounding commercial and industrial buildings and the residential building (18 Mitchell Highway) are likely within the human comfort minimum working distance and occupants of these buildings may be able to perceive vibration impacts at times when vibratory rollers are in use nearby. Where impacts are perceptible, they would likely only be apparent for relatively short durations when vibration intensive equipment is in use.

The buildings likely to fall with the human comfort minimum working distance include:

- 18 Mitchell Highway, Montefiores NSW 2820 (Residential)
- MNR Auto Electrics - 9 Mitchell Highway, Montefiores NSW 2820 (Industrial)
- 22 Mitchell Highway, Montefiores NSW 2820(Industrial)
- Shell Petrol Station - 14 Mitchell Highway, Montefiores NSW 2820 (Commercial)
- Hardnox Boxing Gym - 20 Mitchell Highway, Montefiores NSW 2820 (Commercial)
- Wellington Veterinary Hospital - 7086 Mudgee Road, Wellington NSW 2820 (Commercial).

Feasible and reasonable construction vibration mitigation measures should be applied where vibration intensive works are required within the minimum working distances. Construction mitigation and management measures are discussed further in **Section 6.0**.

6.0 Mitigation and Management Measures

The ICNG acknowledges that due to the nature of construction works it is inevitable that there will be impacts where construction is near to sensitive receivers.

Predicted construction noise during all working scenarios are not expected to exceed the Highly Noise Affected Level for all surrounding sensitive receivers. However, construction noise is likely to exceed the Noise Management Level for a significant number of receivers surrounding the site. The magnitude of exceedance is dependent on the work scenario and respective cumulative noise levels detailed in **Appendix C**.

Notwithstanding, all appropriate feasible and reasonable mitigation measures should be applied to the work to minimise the potential impacts, as far as practicable.

It is recommended that the mitigation and management measures detailed in **Table 13** are adopted where feasible and practicable to minimise impacts at the surrounding receivers.

Table 13: Environmental Management Controls for Construction Noise and Vibration

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Project Planning			
Use quieter and less vibration emitting construction methods where feasible and reasonable.	Project Manager	Ongoing	Best practice
Works will be completed during standard daytime construction hours outlined in **Section 4.2**.			
Truck routes to site will be limited to major roads.			
It is recommended that all residential receivers that fall within the visible noise contours depicted in **Figure 2** should be provided a letter drop-off notifying of the construction works and schedule.			
Site Layout			
Compounds and worksites will be designed to promote one-way traffic and minimise the need for vehicle reversing.	Project Manager	Ongoing	Best practice
Where practicable, work compounds, parking areas, and equipment and material stockpiles will be positioned away from noise-sensitive locations and take advantage of existing screening from local topography.			
Documentation of how site layout has been considered to reduce noise impacts must be provided to the Contractor's Project Manager. This must occur any time there are significant changes to the site layout.			
Equipment that is noisy will be started away from sensitive receivers.			
Training			
Training will be provided to all personnel on noise and vibration requirements for the project. Inductions and toolbox talks to be used to inform personnel of the location and sensitivity of surrounding receivers.	Project Manager	Ongoing	Best practice

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Plant and Equipment Source Mitigation			
All plant and equipment must be maintained in a proper and efficient condition, operated in a proper and efficient manner, and feature standard noise amelioration measures where applicable.	Project Manager	Ongoing	Best practice
Where practicable, tonal motion / reversing alarms (beepers) will be replaced with non-tonal alarms (squawkers) on all equipment in use (subject to occupational health and safety requirements).			
Equipment will be oriented so that noise emissions are directed away from any sensitive areas, where possible.			
Noise generating equipment will be regularly checked and effectively maintained, including checking of hatches/enclosures regularly to ensure that seals are in good condition and doors close properly against seals.			
Noise monitoring spot checks of equipment will be completed to ensure individual items are operating as expected.			
Dropping materials from a height will be avoided.			
Loading and unloading will be carried out away from noise sensitive areas, where practicable.			
Trucks will not queue outside residential properties. Truck drivers will avoid compression braking as far as practicable.			
Truck movements will be kept to a minimum, i.e. trucks are fully loaded on each trip.			
Screening			
The layout of the site will take advantage of existing screening from local topography, where possible. Site huts, maintenance sheds and/or containers will be positioned between noisy equipment and the affected receivers.	Project Manager	Ongoing	Best practice
Complaints Management			
Where complaints are received, work practices will be reviewed and feasible and reasonable practices implemented to minimise any further impacts.	Communications and Community Liaison Representative	Ongoing	Best practice
Monitoring			
Noise monitoring will be conducted (as appropriate) when noise/vibration intensive works are being undertaken in close proximity to the sensitive receivers identified in **Table 12**.	Environmental Coordinator	Ongoing	Best practice
It is recommended that attended vibration monitoring is undertaken at the closest affected receiver during operation of vibration intensive equipment to determine the impacts and relative risk of cosmetic damage in accordance with the vibration levels identified in **Table 7**.			
Noise and/or vibration monitoring will be conducted (as appropriate) in response to any complaints received to verify that levels are not substantially above the predicted levels.			

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Vibration			
If vibration generating works are required within the minimum cosmetic damage working distances (refer **Table 8**) and considered likely to exceed the criteria: • Different construction methods with lower source vibration levels will be investigated and implemented, where feasible • Attended vibration measurements should be undertaken at the start of the works to determine actual vibration levels at the item. Works will cease if the monitoring indicates vibration levels are likely to, or do, exceed the relevant criteria.	Environmental Coordinator	Ongoing	Best practice
Where works are required within the cosmetic damage minimum working distances (refer **Table 8**), building condition surveys and public infrastructure dilapidation surveys will be completed before and after the works to ensure no cosmetic damage has occurred.			

7.0 Conclusion

SLR has been engaged by Squadron Energy to assess the potential construction noise and vibration impacts associated with the Mitchell and Goolma Hwy Intersection Upgrade.

Construction noise levels are predicted to exceed the management levels at the nearest residential receivers. The magnitude of exceedance varies depending on the work scenario with W.003 (Road Work – Peak) predicted to result in the highest exceedances. Exceedances to surrounding commercial and industrial receivers are expected to be minimal during all work scenarios.

Vibration intensive equipment has the potential to result in human comfort impacts when operated within the minimum working distances of the nearest receivers. There is also potential for the nearest sensitive receiver buildings (south of the project) to be within the cosmetic damage minimum working distance for vibration intensive equipment. Offset distances from specific vibration intensive plant to the nearest receivers should be confirmed before commencing vibration intensive works during construction.

A number of best-practice mitigation and management measures have been recommended. Where feasible and reasonable these should be applied to the project to control and minimise the impacts as far as practicable.

Appendix A Acoustic Terminology

Mitchell and Goolma Highway Intersection Upgrade

Construction Noise and Vibration Impact Assessment

Squadron Energy

SLR Project No.: 610.30971.00002

7 April 2025

1. Sound Level or Noise Level

The terms 'sound' and 'noise' are almost interchangeable, except that 'noise' often refers to unwanted sound.

Sound (or noise) consists of minute fluctuations in atmospheric pressure. The human ear responds to changes in sound pressure over a very wide range with the loudest sound pressure to which the human ear can respond being ten million times greater than the softest. The decibel (abbreviated as dB) scale reduces this ratio to a more manageable size by the use of logarithms.

The symbols SPL, L or LP are commonly used to represent Sound Pressure Level. The symbol LA represents A-weighted Sound Pressure Level. The standard reference unit for Sound Pressure Levels expressed in decibels is 2×10^{-5} Pa.

2. **'A' Weighted Sound Pressure Level**

The overall level of a sound is usually expressed in terms of dBA, which is measured using a sound level meter with an 'A-weighting' filter. This is an electronic filter having a frequency response corresponding approximately to that of human hearing.

People's hearing is most sensitive to sounds at mid frequencies (500 Hz to 4,000 Hz), and less sensitive at lower and higher frequencies. Different sources having the same dBA level generally sound about equally loud.

A change of 1 dB or 2 dB in the level of a sound is difficult for most people to detect, whilst a 3 dB to 5 dB change corresponds to a small but noticeable change in loudness. A 10 dB change corresponds to an approximate doubling or halving in loudness. The table below lists examples of typical noise levels.

Sound Pressure Level (dBA)	Typical Source	Subjective Evaluation
130	Threshold of pain	Intolerable
120	Heavy rock concert	Extremely noisy
110	Grinding on steel	
100	Loud car horn at 3 m	Very noisy
90	Construction site with pneumatic hammering	
80	Kerbside of busy street	Loud
70	Loud radio or television	
60	Department store	Moderate to quiet
50	General Office	
40	Inside private office	Quiet to very quiet
30	Inside bedroom	
20	Recording studio	Almost silent

Other weightings (eg B, C and D) are less commonly used than A-weighting. Sound Levels measured without any weighting are referred to as 'linear', and the units are expressed as dB(lin) or dB.

3. Sound Power Level

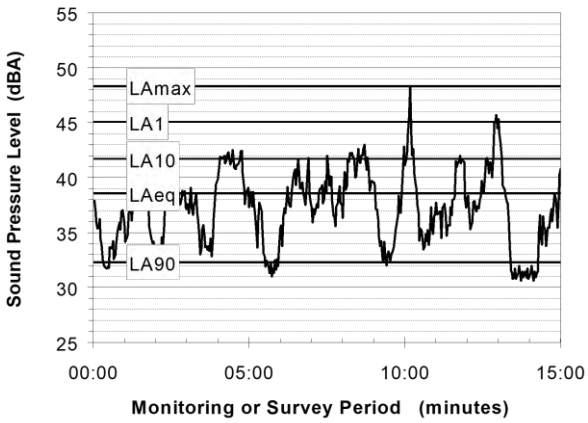
The Sound Power of a source is the rate at which it emits acoustic energy. As with Sound Pressure Levels, Sound Power Levels are expressed in decibel units (dB or dBA), but may be identified by the symbols SWL or LW, or by the reference unit 10^{-12} W.

The relationship between Sound Power and Sound Pressure is similar to the effect of an electric radiator, which is characterised by a power rating but has an effect on the surrounding environment that can be measured in terms of a different parameter, temperature.

4. Statistical Noise Levels

Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels L_{AN}, where L_{AN} is the A-weighted sound pressure level exceeded for N% of a given measurement period. For example, the L_{A1} is the noise level exceeded for 1% of the time, L_{A10} the noise exceeded for 10% of the time, and so on.

The following figure presents a hypothetical 15 minute noise survey, illustrating various common statistical indices of interest.



Of particular relevance, are:

L_{A1} The noise level exceeded for 1% of the 15 minute interval.

L_{A10} The noise level exceeded for 10% of the 15 minute interval. This is commonly referred to as the average maximum noise level.

L_{A90} The noise level exceeded for 90% of the sample period. This noise level is described as the average minimum background sound level (in the absence of the source under consideration), or simply the background level.

L_{Aeq} The A-weighted equivalent noise level (basically, the average noise level). It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.

L_{Amax} The A-weighted maximum sound pressure level of an event measured with a sound level meter.

5. Frequency Analysis

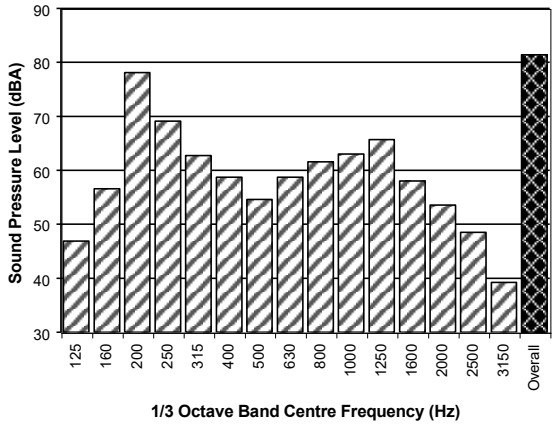
Frequency analysis is the process used to examine the tones (or frequency components) which make up the overall noise or vibration signal.

The units for frequency are Hertz (Hz), which represent the number of cycles per second.

Frequency analysis can be in:

- Octave bands (where the centre frequency and width of each band is double the previous band)
- 1/3 octave bands (three bands in each octave band)
- Narrow band (where the spectrum is divided into 400 or more bands of equal width)

The following figure shows a 1/3 octave band frequency analysis where the noise is dominated by the 200 Hz band. Note that the indicated level of each individual band is less than the overall level, which is the logarithmic sum of the bands.



6. Annoying Noise (Special Audible Characteristics)

A louder noise will generally be more annoying to nearby receivers than a quieter one. However, noise is often also found to be more annoying and result in larger impacts where the following characteristics are apparent:

- Tonality - tonal noise contains one or more prominent tones (ie differences in distinct frequency components between adjoining octave or 1/3 octave bands), and is normally regarded as more annoying than 'broad band' noise.
- Impulsiveness - an impulsive noise is characterised by one or more short sharp peaks in the time domain, such as occurs during hammering.
- Intermittency - intermittent noise varies in level with the change in level being clearly audible. An example would include mechanical plant cycling on and off.
- Low Frequency Noise - low frequency noise contains significant energy in the lower frequency bands, which are typically taken to be in the 10 to 160 Hz region.

7. Vibration

Vibration may be defined as cyclic or transient motion. This motion can be measured in terms of its displacement, velocity or acceleration. Most assessments of human response to vibration or the risk of damage to buildings use measurements of vibration velocity. These may be expressed in terms of 'peak' velocity or 'rms' velocity.

The former is the maximum instantaneous velocity, without any averaging, and is sometimes referred to as 'peak particle velocity', or PPV. The latter incorporates 'root mean squared' averaging over some defined time period.

Vibration measurements may be carried out in a single axis or alternatively as triaxial measurements (ie vertical, longitudinal and transverse).

The common units for velocity are millimetres per second (mm/s). As with noise, decibel units can also be used, in which case the reference level should always be stated. A vibration level V, expressed in mm/s can be converted to decibels by the formula 20 log (V/Vo), where Vo is the reference level (10^{-9} m/s). Care is required in this regard, as other reference levels may be used.

8. Human Perception of Vibration

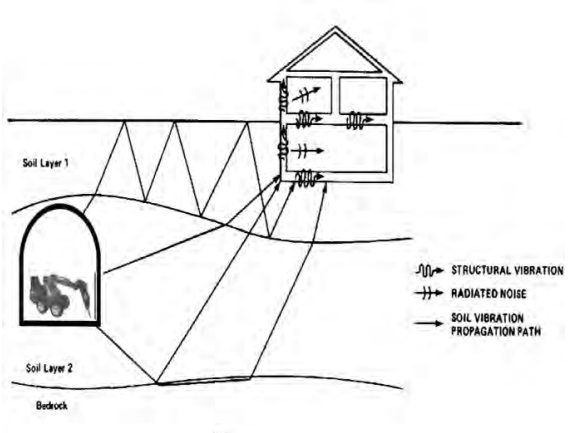
People are able to 'feel' vibration at levels lower than those required to cause even superficial damage to the most susceptible classes of building (even though they may not be disturbed by the motion). An individual's perception of motion or response to vibration depends very strongly on previous experience and expectations, and on other connotations associated with the perceived source of the vibration. For example, the vibration that a person responds to as 'normal' in a car, bus or train is considerably higher than what is perceived as 'normal' in a shop, office or dwelling.

9. Ground-borne Noise, Structure-borne Noise and Regenerated Noise

Noise that propagates through a structure as vibration and is radiated by vibrating wall and floor surfaces is termed 'structure-borne noise', 'ground-borne noise' or 'regenerated noise'. This noise originates as vibration and propagates between the source and receiver through the ground and/or building structural elements, rather than through the air.

Typical sources of ground-borne or structure-borne noise include tunnelling works, underground railways, excavation plant (eg rockbreakers), and building services plant (eg fans, compressors and generators).

The following figure presents an example of the various paths by which vibration and ground-borne noise may be transmitted between a source and receiver for construction activities occurring within a tunnel.



The term 'regenerated noise' is also used in other instances where energy is converted to noise away from the primary source. One example would be a fan blowing air through a discharge grill. The fan is the energy source and primary noise source. Additional noise may be created by the aerodynamic effect of the discharge grill in the airstream. This secondary noise is referred to as regenerated noise.

Appendix B Noise Monitoring Data

Mitchell and Goolma Highway Intersection Upgrade

Construction Noise and Vibration Impact Assessment

Squadron Energy

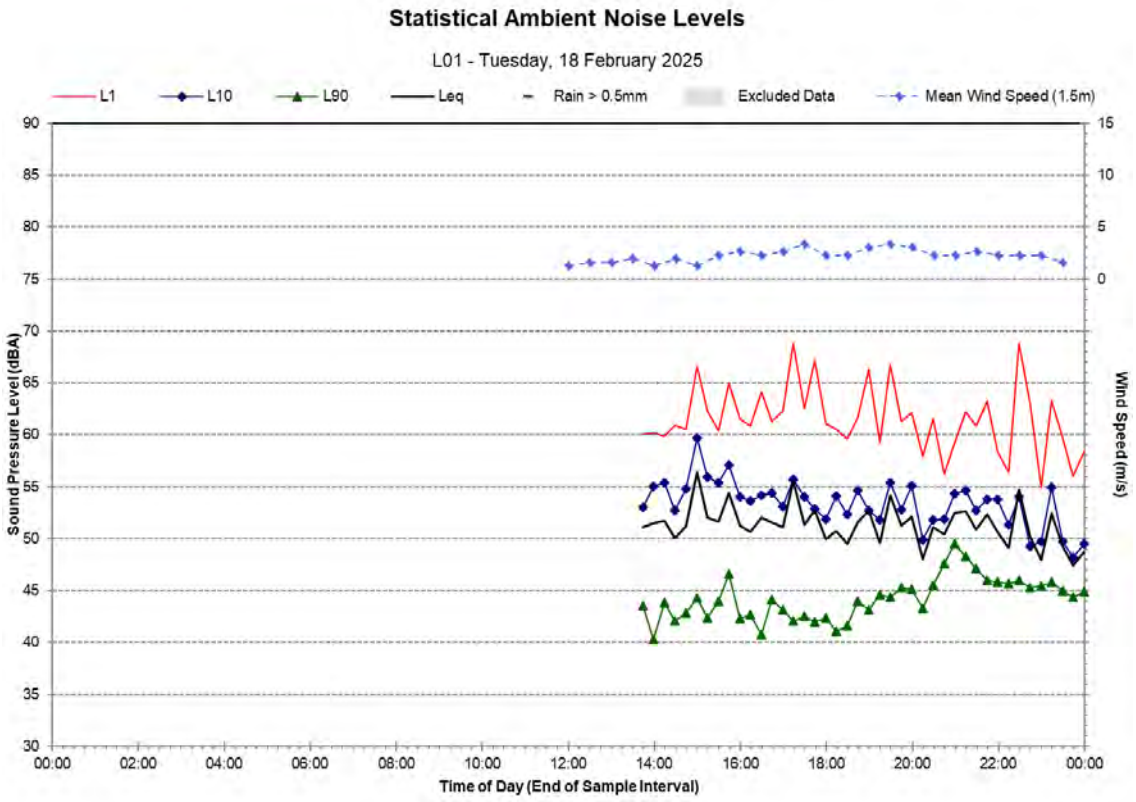
SLR Project No.: 610.30971.00002

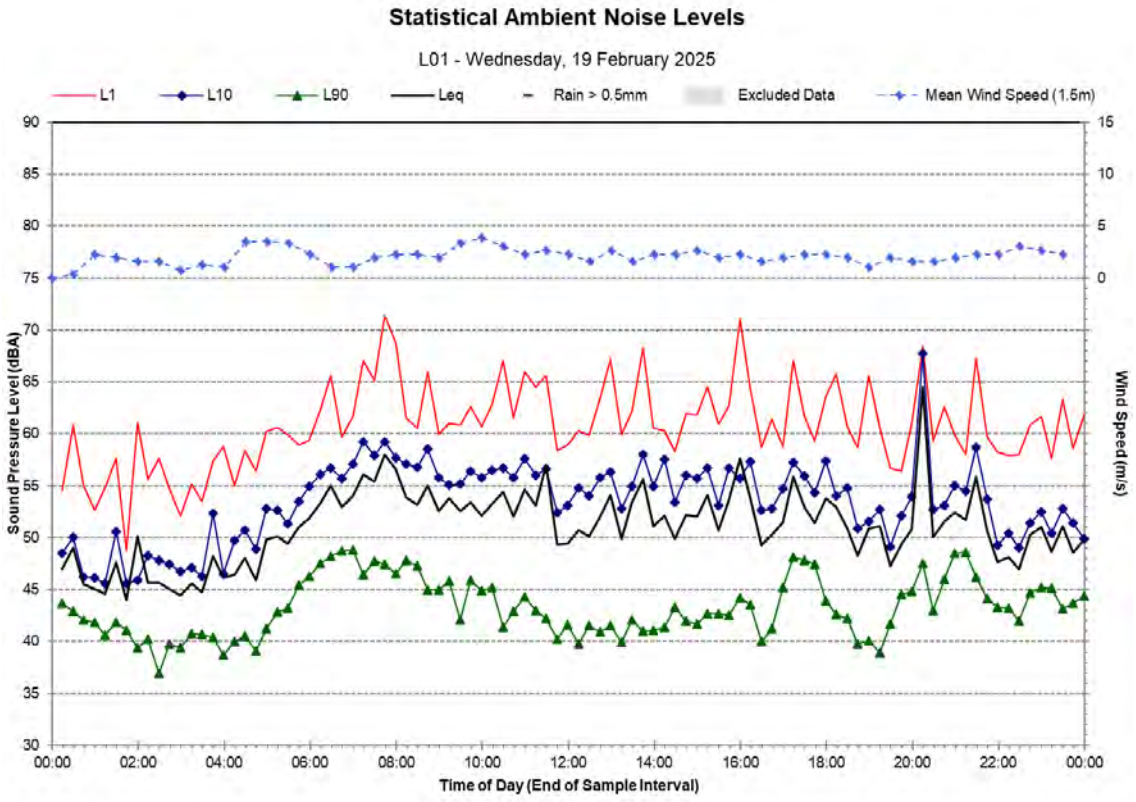
7 April 2025

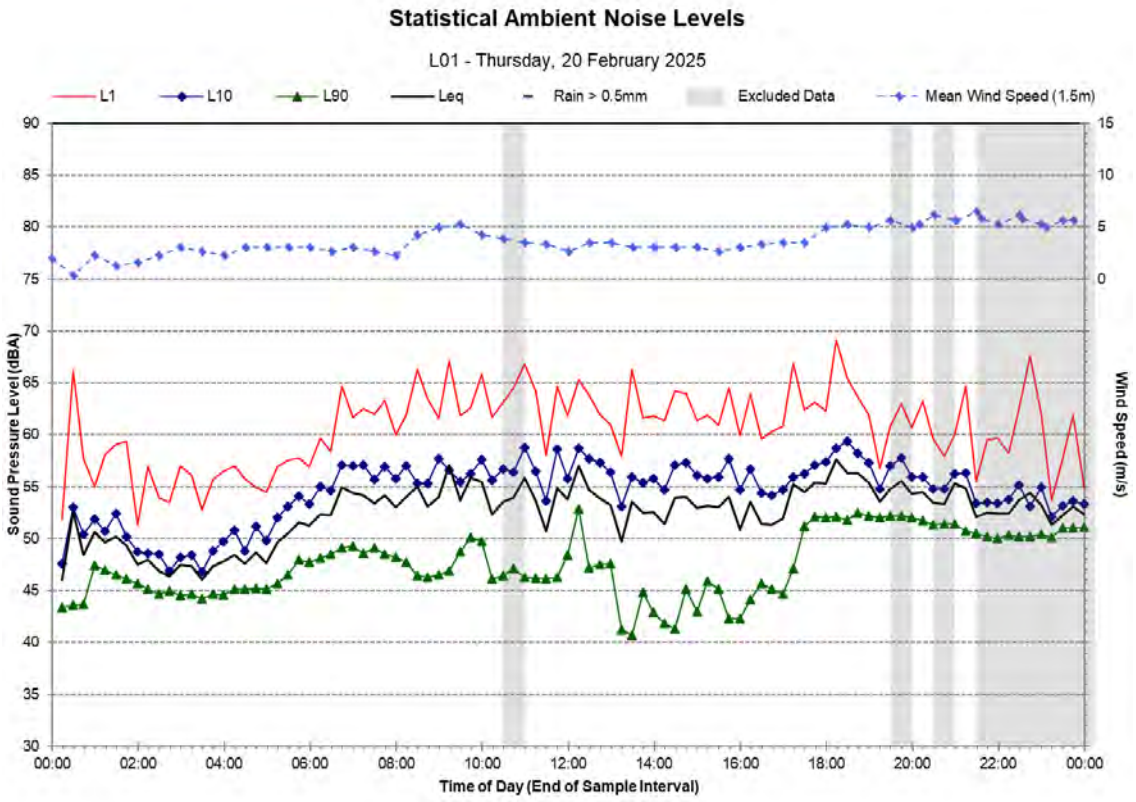
Noise Monitoring Location	**L01**				**Photo of Noise Monitoring Location**
Noise Monitoring Address	**Wellington Veterinary Hospital – 7086 Mudgee Road, Wellington NSW 2820**				
Logger Device Type: Svantek 979, Logger Serial No: 3587 Sound Level Meter: Brüel and Kjær 2270, Sound Level Meter Serial No: 3008204 Ambient noise monitor located in the front of the veterinary clinic at the intersection of Goolma Road and Mitchell Highway. Attended noise measurements indicate the ambient noise environment at this location is dominated by frequent heavy vehicle pass-by along Mitchell Highway and Goolma Road including engine breaking and acceleration. Heavy truck idling in rest bay along Mitchell Highway was the predominant background noise when present during measurement. Natural ambience including trees, birds and insects were also audible.					

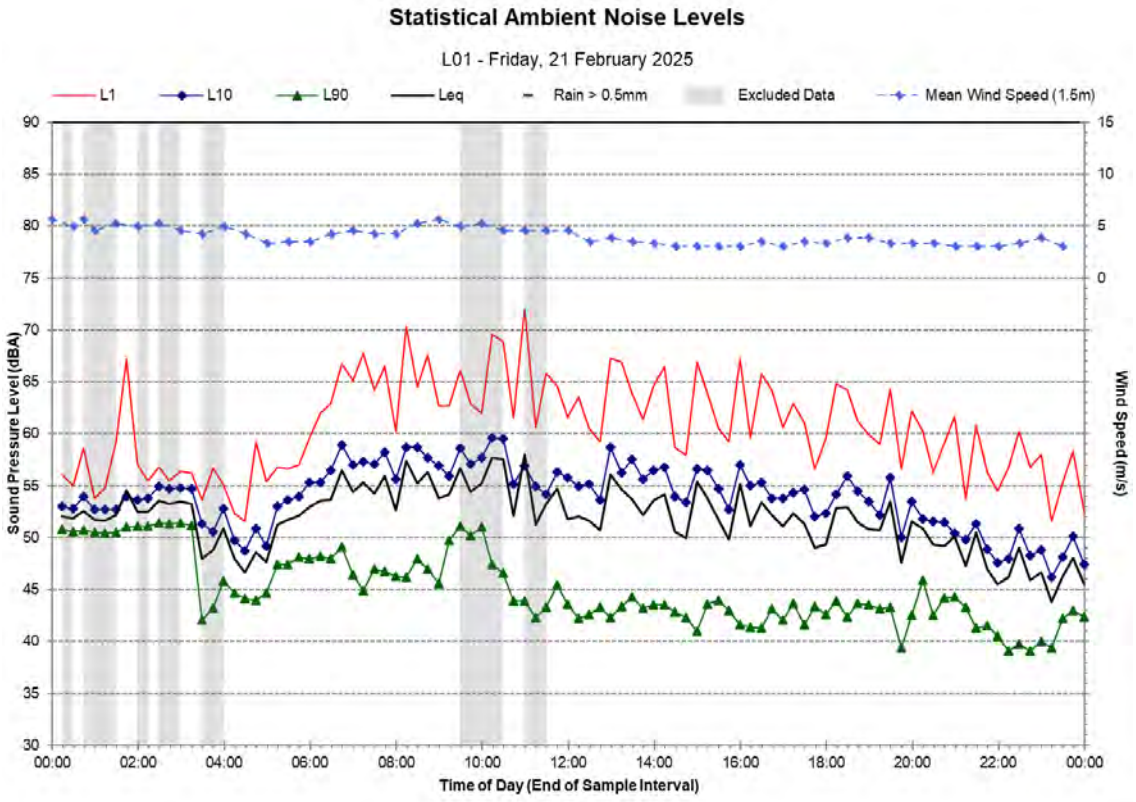
Ambient Noise Logging Results – ICNG/NPfI Defined Time Periods				
Monitoring Period	**Noise Level (dBA)**			
	RBL	**L_{Aeq}**	**L_{10}**	**L_{1}**
Daytime	42	53	56	62
Evening	43	54	53	60
Night-time	44	51	51	57

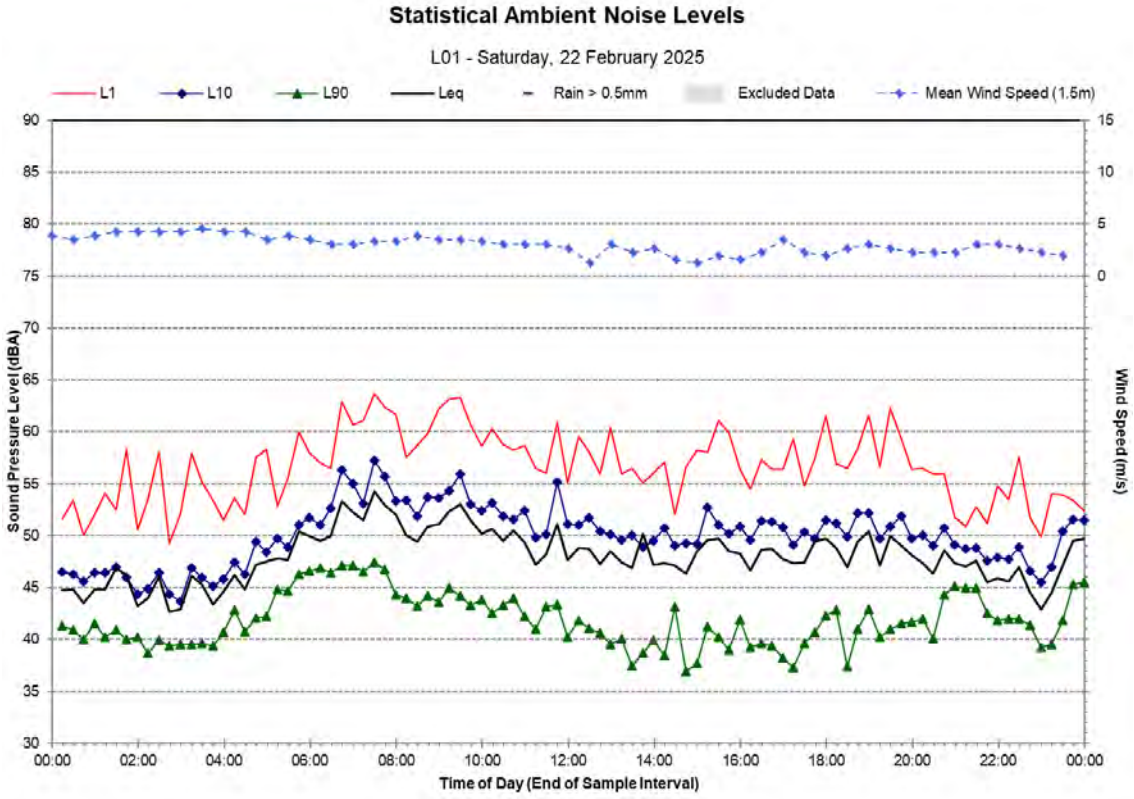
Attended Noise Measurement Results				
Date	**Start Time**	**Measured Noise Level (dBA)**		
		L_{A90}	**L_{Aeq}**	**L_{Amax}**
12/05/23	13:33	42	51	66

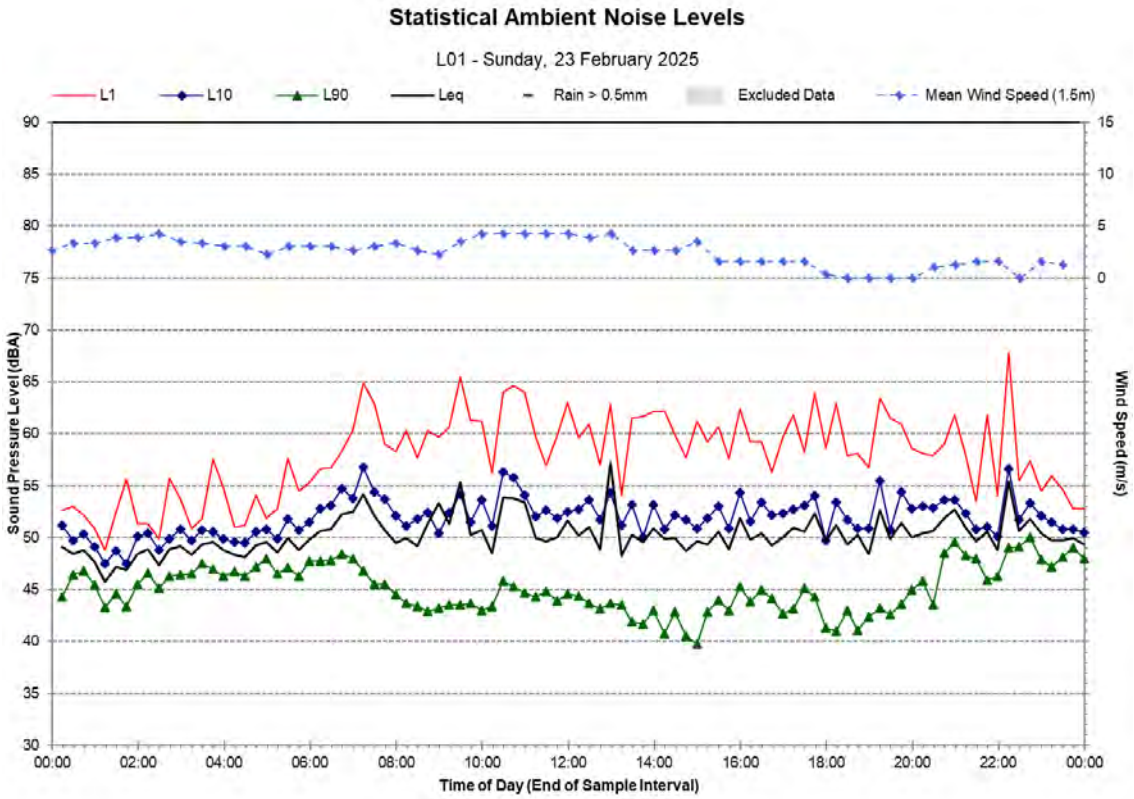

Statistical Ambient Noise Levels
L01 - Tuesday, 18 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

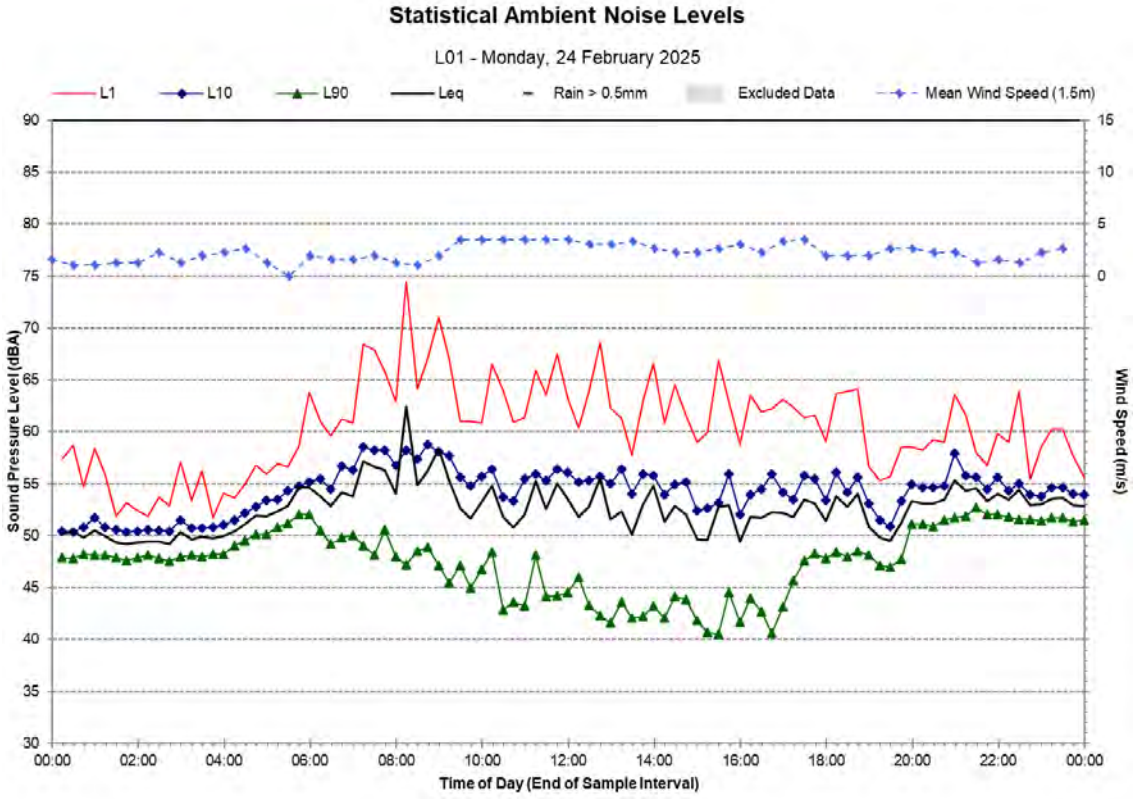

Statistical Ambient Noise Levels
L01 - Wednesday, 19 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

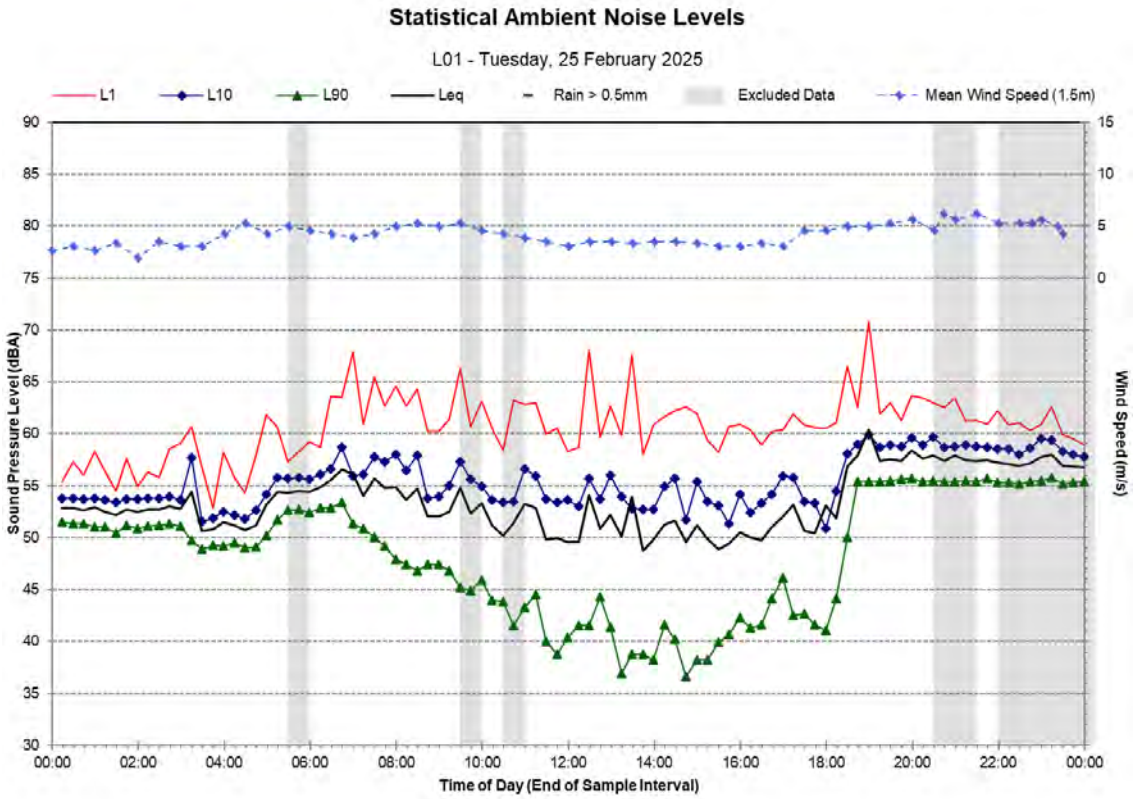

Statistical Ambient Noise Levels
L01 - Thursday, 20 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

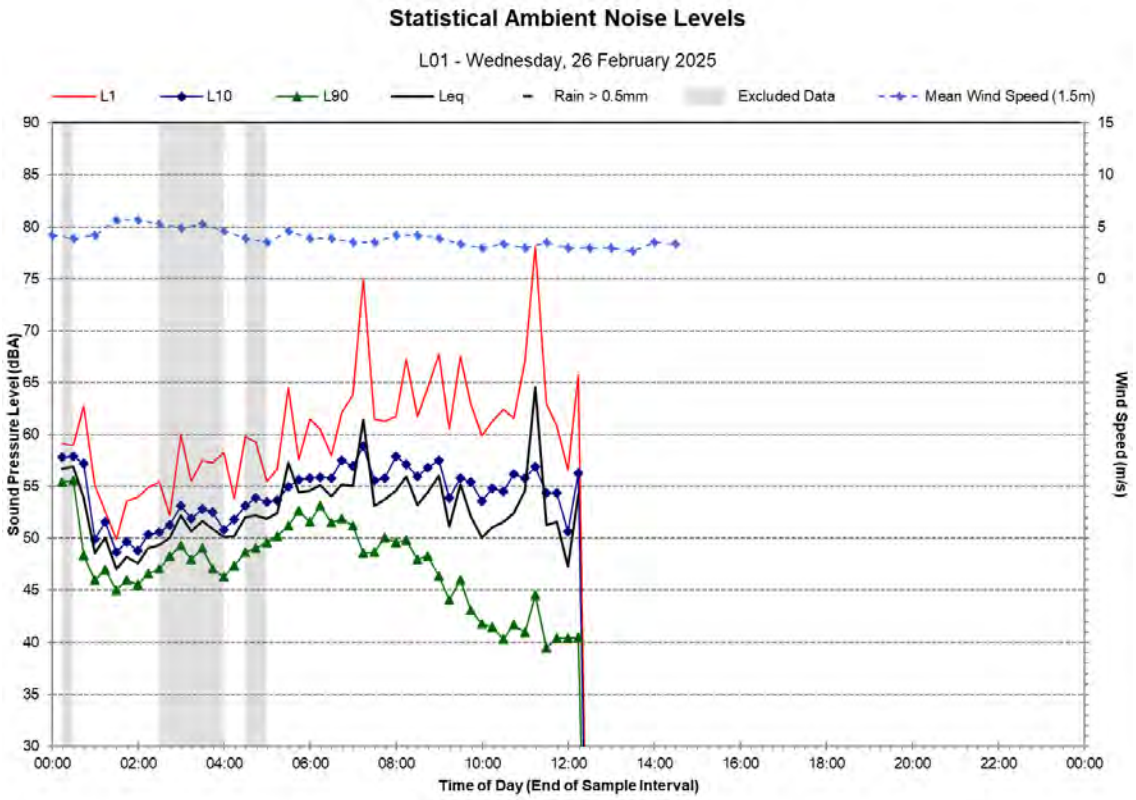

Statistical Ambient Noise Levels
L01 - Friday, 21 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
L01 - Saturday, 22 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

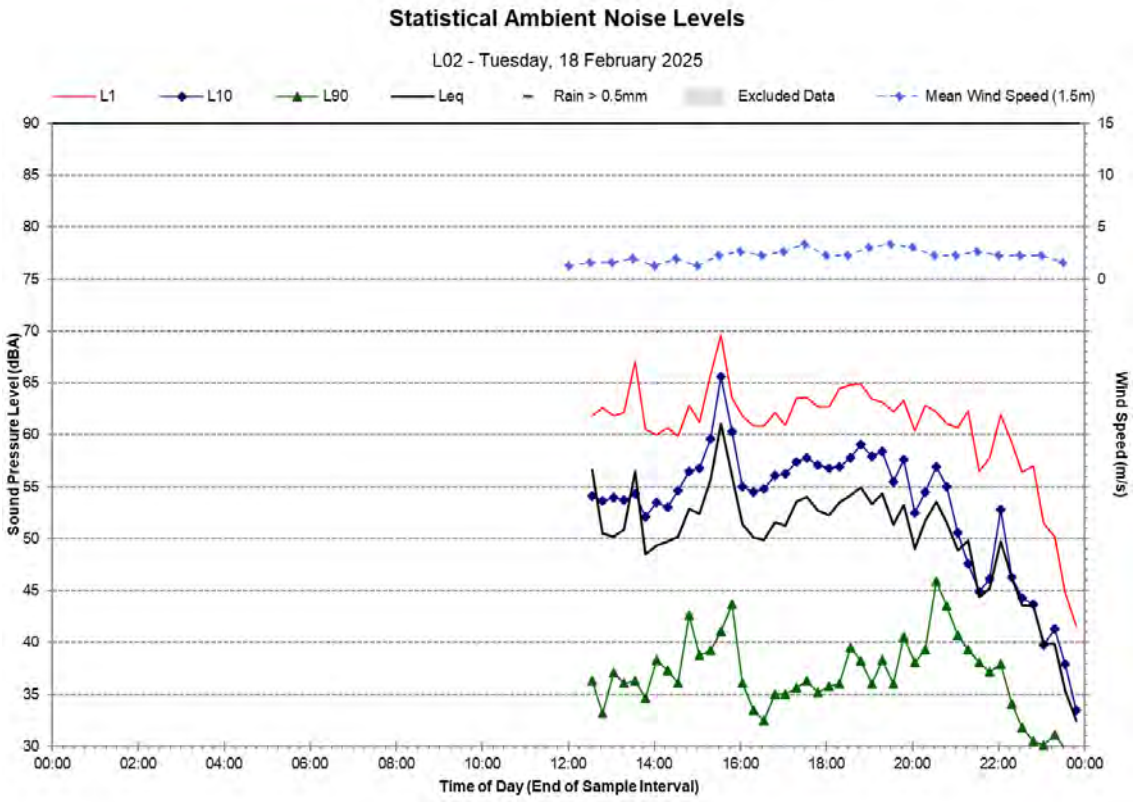

Statistical Ambient Noise Levels
L01 - Sunday, 23 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

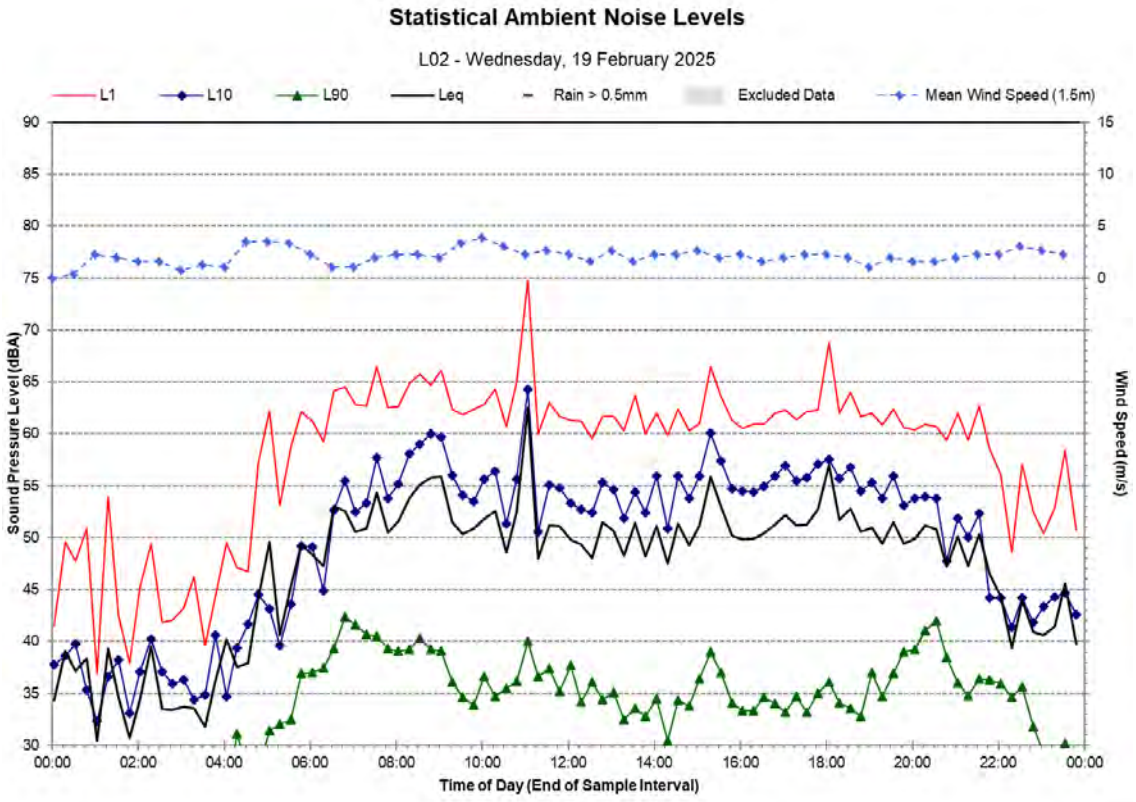

Statistical Ambient Noise Levels
L01 - Monday, 24 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

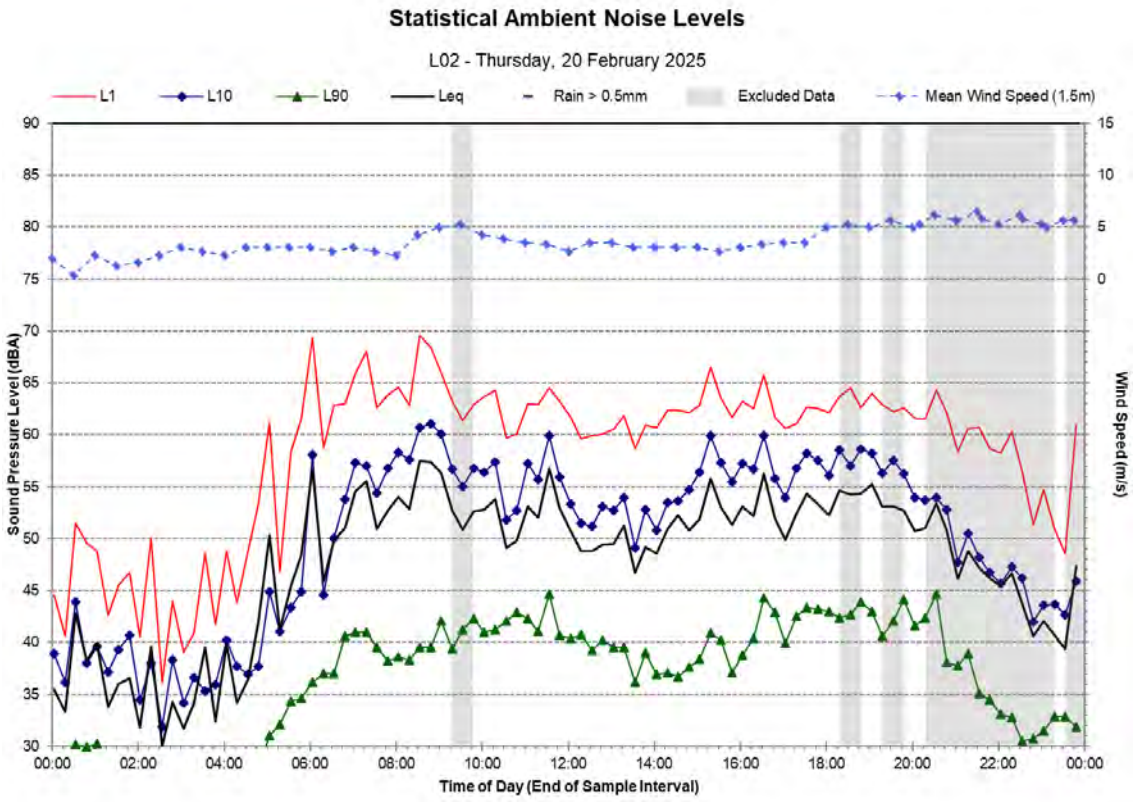

Statistical Ambient Noise Levels
L01 - Tuesday, 25 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

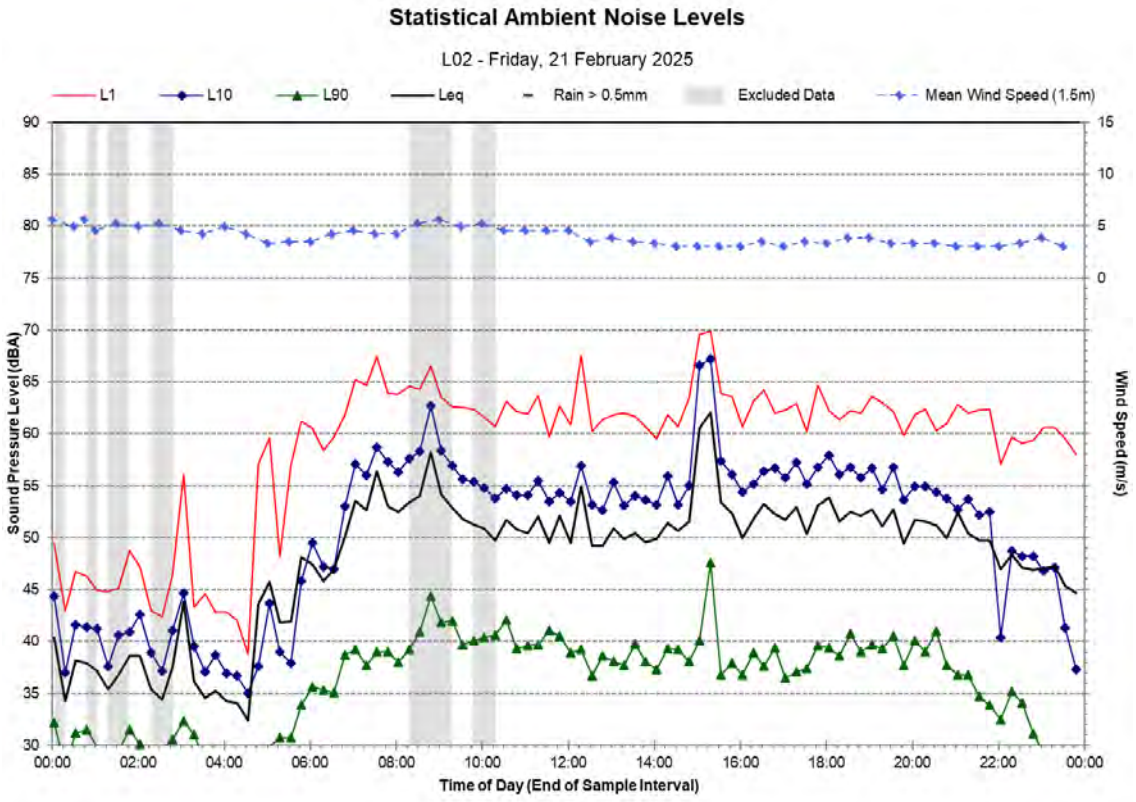

Statistical Ambient Noise Levels
L01 - Wednesday, 26 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)
90
85
80
75
70
65
60
55
50
45
40
35
30
15
10
5
0
00:00
02:00
04:00
06:00
08:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
00:00

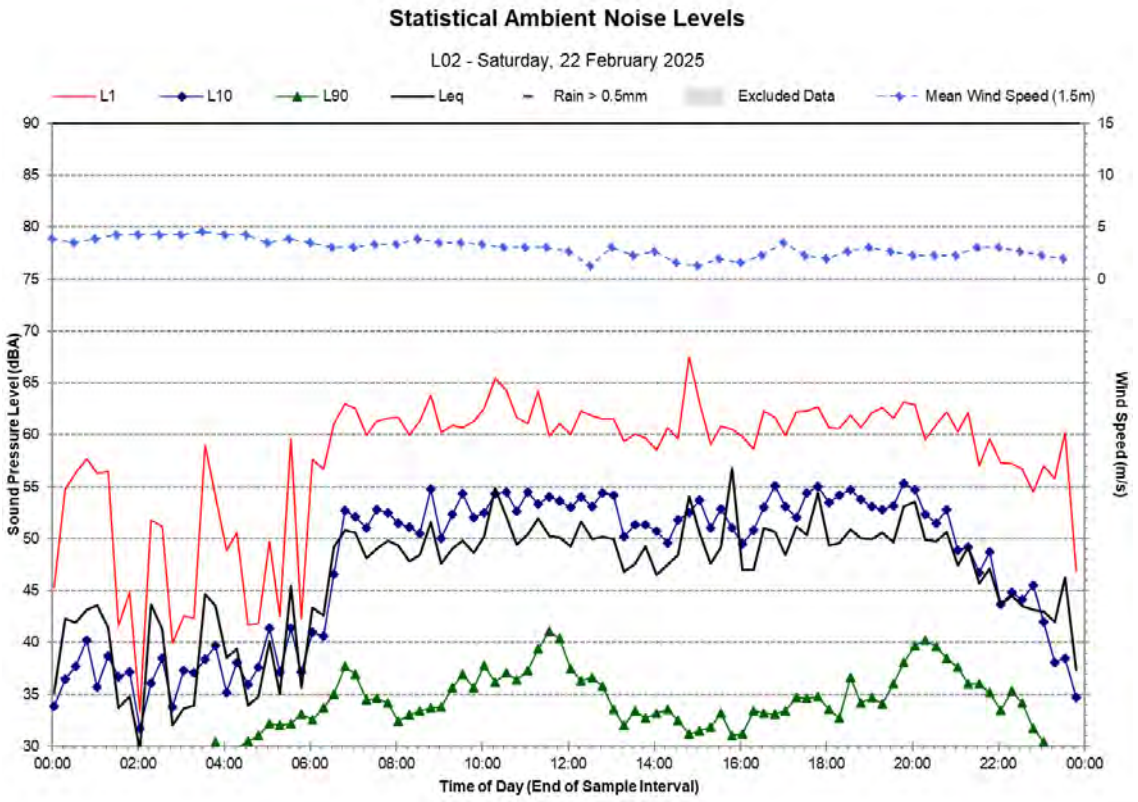
Noise Monitoring Location	**L02**				**Photo of Noise Monitoring Location**
Noise Monitoring Address	**44 Montefiores St, Montefiores NSW 2820**				
Logger Device Type: Svantek 979, Logger Serial No: 21094 Sound Level Meter: Brüel and Kjær 2270, Sound Level Meter Serial No: 3008204 Ambient noise monitor located in the frontyard of a resident's property located at the corner of Montefiores Street and Queen Street. Attended noise measurements indicate the ambient noise environment at this location is dominated by natural ambience including trees, birds and insects. Occasional light vehicle pass-by along Montefiores Road.					
Ambient Noise Logging Results – ICNG/NPfI Defined Time Periods					
Monitoring Period	**Noise Level (dBA)**				
	RBL	**L_{Aeq}**	**L_{10}**	**L_1**	
Daytime	34	53	55	62	
Evening	36	52	54	62	
Night-time	28	44	40	50	
Attended Noise Measurement Results					
Date	**Start Time**	**Measured Noise Level (dBA)**			
		L_{A90}	**L_{Aeq}**	**L_{Amax}**	
12/05/23	12:25	35	50	81	

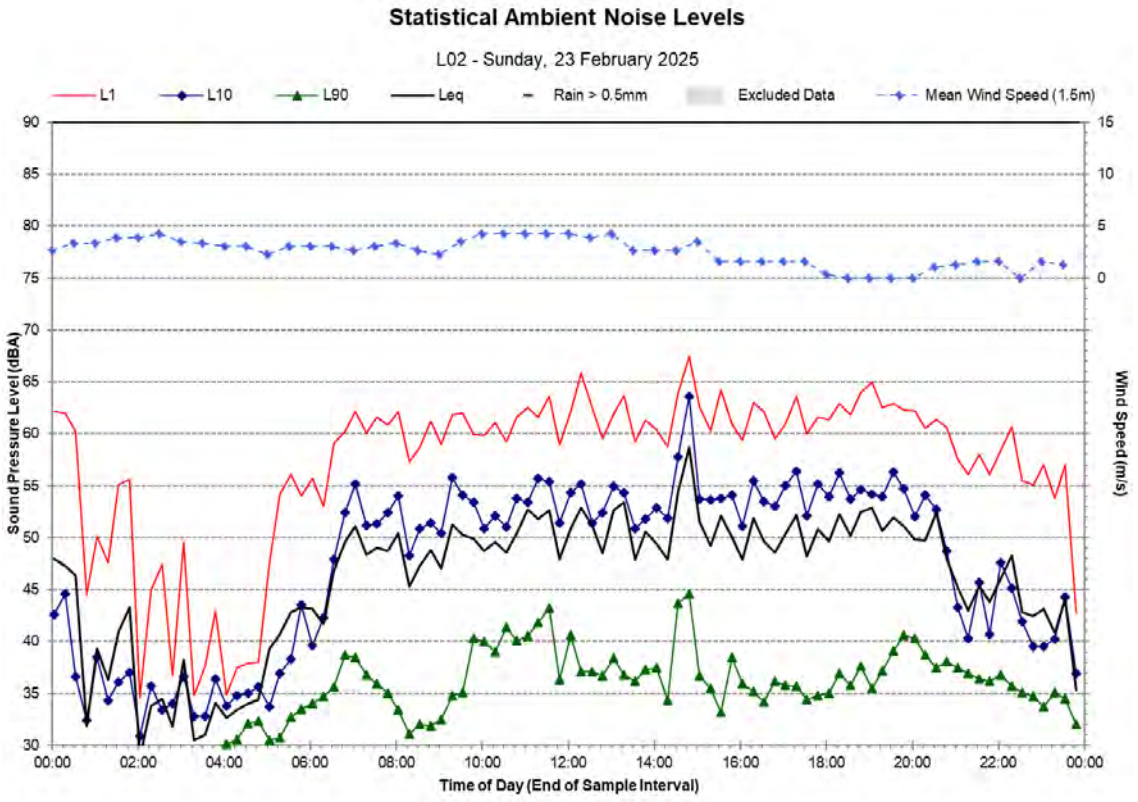

Statistical Ambient Noise Levels
L02 - Tuesday, 18 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

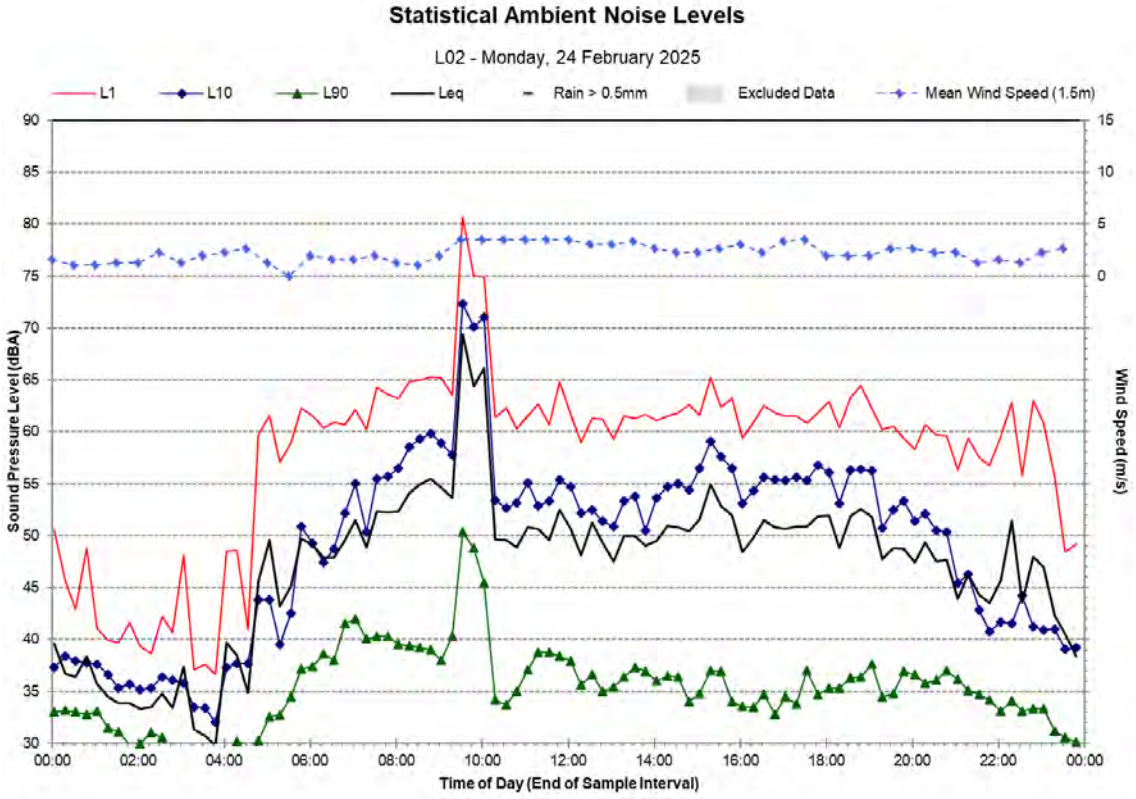

Statistical Ambient Noise Levels
L02 - Wednesday, 19 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

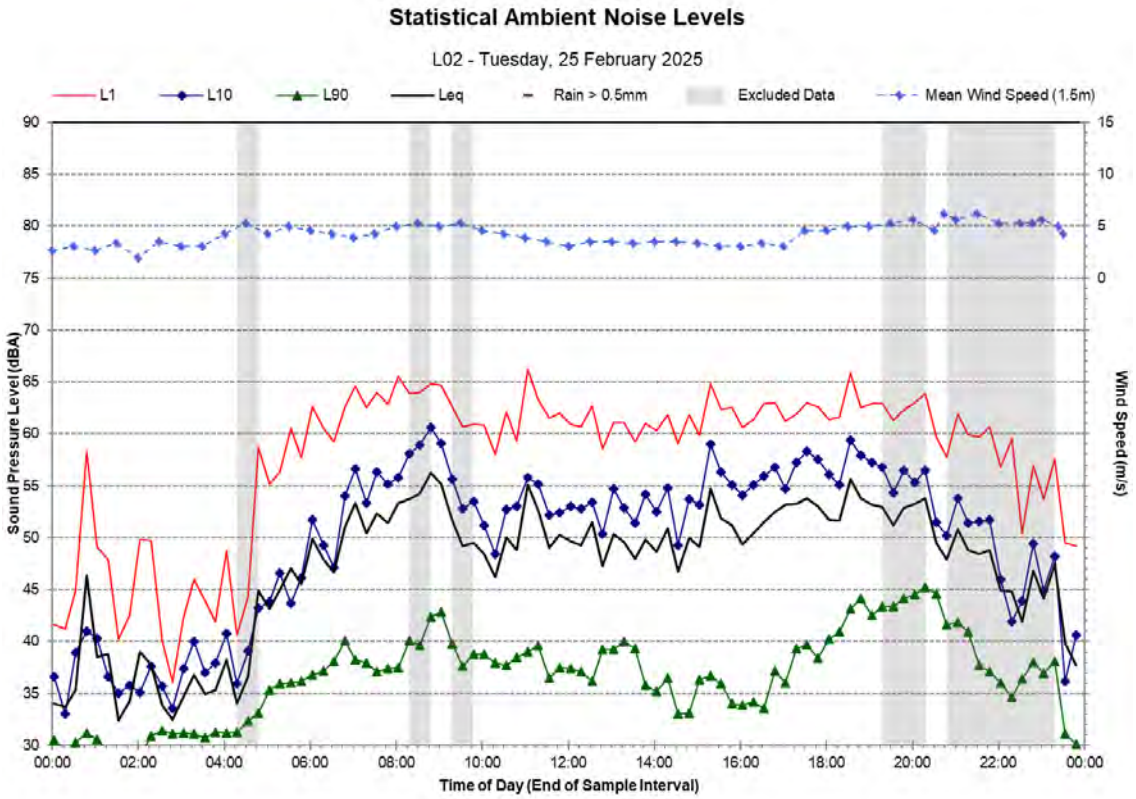

Statistical Ambient Noise Levels
L02 - Thursday, 20 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)

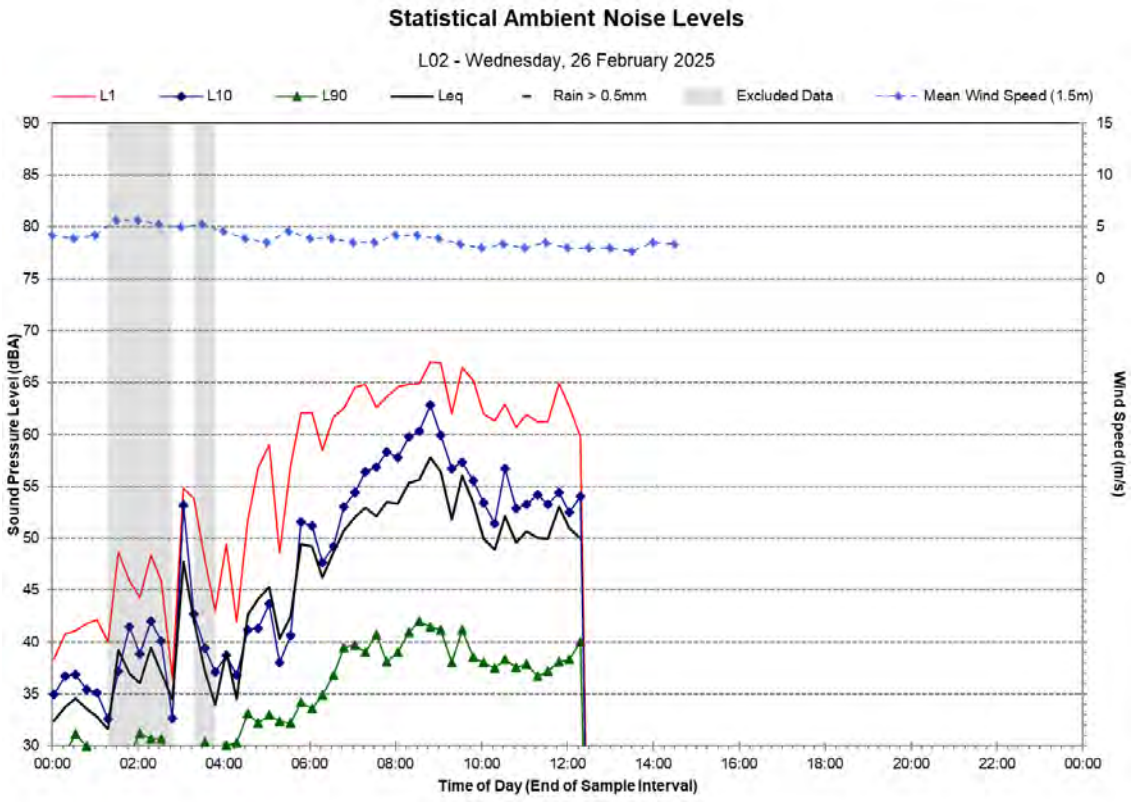

Statistical Ambient Noise Levels
L02 - Friday, 21 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
L02 - Saturday, 22 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
L02 - Sunday, 23 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
L02 - Monday, 24 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
L02 - Tuesday, 25 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
L02 - Wednesday, 26 February 2025
L1
L10
L90
Leq
Rain > 0.5mm
Excluded Data
Mean Wind Speed (1.5m)
Sound Pressure Level (dBA)
Wind Speed (m/s)
Time of Day (End of Sample Interval)
90
85
80
75
70
65
60
55
50
45
40
35
30
15
10
5
0
00:00
02:00
04:00
06:00
08:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
00:00

Appendix C Work Scenarios Noise Levels

Mitchell and Goolma Highway Intersection Upgrade

Construction Noise and Vibration Impact Assessment

Squadron Energy

SLR Project No.: 610.30971.00002

7 April 2025

Equipment		Total Lw (dBA)	Excavator - Tracked (20 tonne)	Generator	Grader (2)	Hand tools	Light Vehicle	Roller - large pad foot[1]	Roller - smooth drum[1]	Truck - Medium Rigid (20 tonne)	Truck - road truck/ truck & dog (30 tonne)	Water Cart
Sound Power Level (Lw)[2]			105	92	110	102	95	109	107	103	108	107
Estimated utilisation (%)			50	100	50	75	25	50	50	25	25	75
ID	**Construction Scenario**											
W.001	Site Establishment / Demobilisation	**102**				1	1			1		
W.002	Compound Operation	**104**		1		1	2			2		
W.003	Road Work - Peak	**115**	1		1		1	1	1	1	1	1
W.004	Road Work - Typical	**109**	1				1			1	1	1
W.005	Drainage Work	**107**	1			1	2			1	1	
W.006	Signage Work	**101**				1	1					

Note 1: Equipment classed as ‘annoying’ in the ICNG and requires a 5 dB correction.

Note 2: Sound power level data is taken from the DEFRA Noise Database, AS2436 and TfNSW Construction Noise and Vibration Guideline.

Appendix D Predicted Construction Noise Levels at Sensitive Receivers

Mitchell and Goolma Highway Intersection Upgrade

Construction Noise and Vibration Impact Assessment

Squadron Energy

SLR Project No.: 610.30971.00002

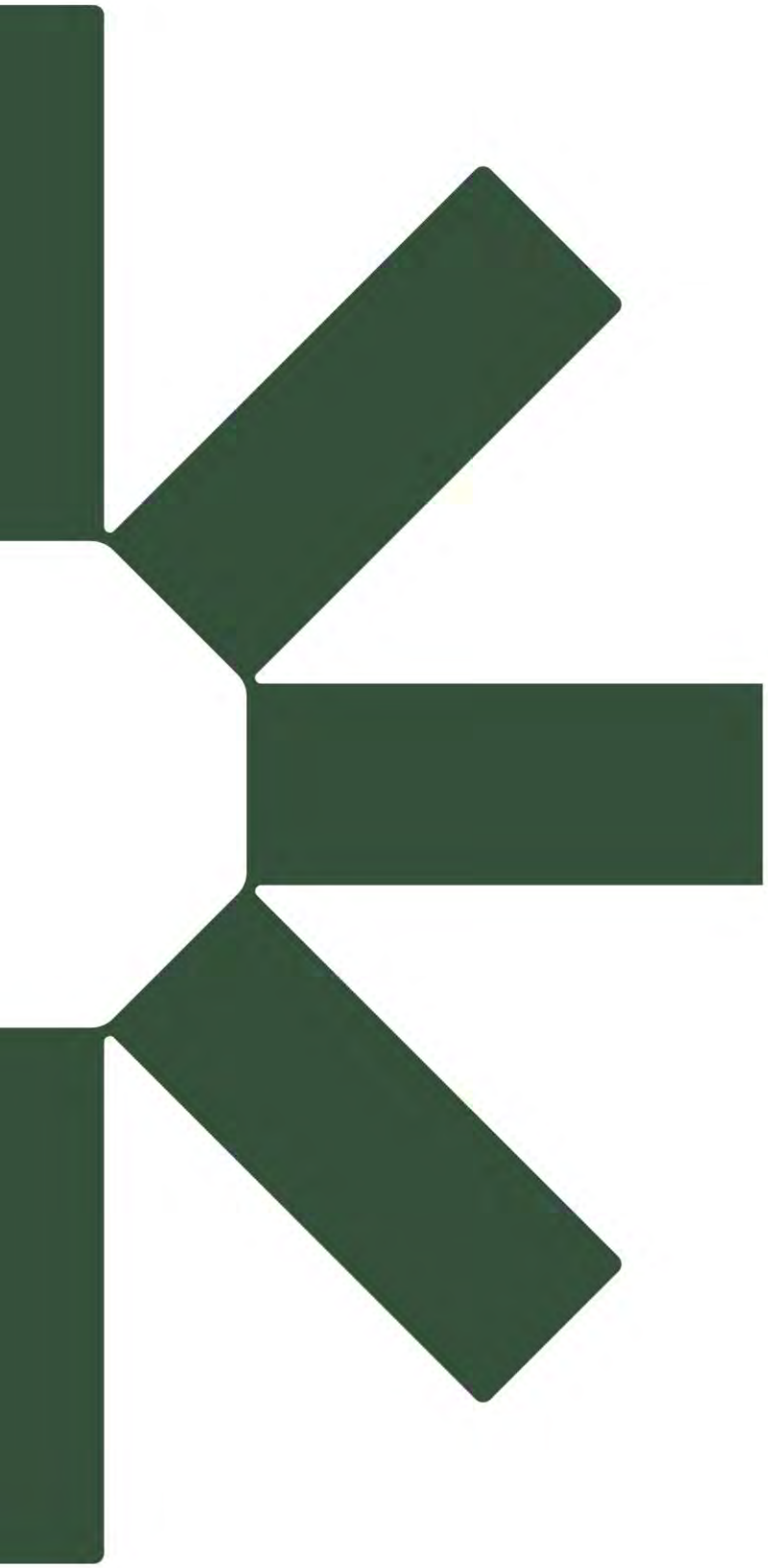
7 April 2025

Receiver Address	Predicted $L_{Aeq(15minute)}$ Construction Noise Level (dBA)					
	W.001 Site Establishment	W.002 Compound Operation	W.003 Road Work – Peak	W.004 Road Work – Typical	W.005 Drainage Work	W.006 Signage Work
Commercial						
14 Mitchell Hwy, Montefiores Nsw 2820	58	60	71	65	63	57
20 Mitchell Hwy, Montefiores Nsw 2820	59	61	72	66	64	58
7085 Goolma Road, Montefiores 2820	71	72	84	78	76	70
7086 Goolma Road, Montefiores 2820	57	59	70	64	62	56
Industrial						
22 Mitchell Hwy, Montefiores Nsw 2820	59	61	72	66	64	59
8 Mitchell Hwy, Montefiores Nsw 2820	52	53	64	59	56	51
9 Mitchell Hwy, Montefiores Nsw 2820	59	60	71	66	63	58
Residential						
18 Mitchell Highway, Montefiores 2820	59	61	72	66	64	59
8a Montefiores Street, Montefiores 2820	50	51	62	57	54	49
28 Federal Street, Montefiores 2820	49	51	62	56	54	49
20 Federal Street, Montefiores 2820	49	51	62	56	54	48

Receiver Address	Predicted $L_{Aeq(15minute)}$ Construction Noise Level (dBA)					
	W.001 Site Establishment	W.002 Compound Operation	W.003 Road Work – Peak	W.004 Road Work – Typical	W.005 Drainage Work	W.006 Signage Work
6 Montefiores Street, Montefiores 2820	48	50	61	55	53	48
4 Montefiores Street, Montefiores 2820	48	50	60	54	52	47
7084 Goolma Road, Montefiores 2820	47	49	60	54	52	47
2 Montefiores Street, Montefiores 2820	47	49	60	53	51	46
7080 Goolma Road, Montefiores 2820	47	48	59	54	51	46
8 Montefiores Street, Montefiores 2820	46	48	58	52	50	45
12 Montefiores Street, Montefiores 2820	45	47	58	51	50	44
194 Mitchell Highway, Montefiores 2820	45	47	58	52	50	44
16 Montefiores Street, Montefiores 2820	44	46	57	52	49	44
14 Montefiores Street, Montefiores 2820	44	46	57	51	49	43
20 Montefiores Street, Montefiores 2820	42	44	55	49	47	41
22 Montefiores Street, Montefiores 2820	40	42	53	47	45	40
34 Montefiores Street, Montefiores 2820	40	42	53	48	45	40

Receiver Address	Predicted $L_{Aeq(15minute)}$ Construction Noise Level (dBA)					
	W.001 Site Establishment	W.002 Compound Operation	W.003 Road Work – Peak	W.004 Road Work – Typical	W.005 Drainage Work	W.006 Signage Work
10 Montefiores Street, Montefiores 2820	40	42	53	47	45	39
9 Macquarie Street, Montefiores 2820	40	42	53	47	45	39
13 Macquarie Street, Montefiores 2820	40	41	53	47	45	39
7082 Goolma Road, Montefiores 2820	39	41	52	47	44	39
11 Macquarie Street, Montefiores 2820	39	41	52	46	44	38
26 Montefiores Street, Montefiores 2820	39	41	52	46	44	38
30 Montefiores Street, Montefiores 2820	38	40	51	46	43	38
4 Queen Street, Montefiores 2820	38	40	51	46	43	38
10 Queen Street, Montefiores 2820	37	39	50	45	42	37
8 Queen Street, Montefiores 2820	37	39	50	44	42	36
17 King Street, Montefiores 2820	37	39	50	45	42	36
6 Queen Street, Montefiores 2820	37	39	50	44	42	36
2 Queen Street, Montefiores 2820	37	39	50	44	42	36

Receiver Address	Predicted $L_{Aeq(15minute)}$ Construction Noise Level (dBA)					
	W.001 Site Establishment	W.002 Compound Operation	W.003 Road Work – Peak	W.004 Road Work – Typical	W.005 Drainage Work	W.006 Signage Work
5 Queen Street, Montefiores 2820	37	39	50	44	42	36
1 Queen Street, Montefiores 2820	36	38	49	44	41	36
42 Montefiores Street, Montefiores 2820	35	37	48	43	40	35
11 Queen Street, Montefiores 2820	35	37	48	42	40	35
38 Montefiores Street, Montefiores 2820	35	37	48	42	40	34
44 Montefiores Street, Montefiores 2820	35	37	48	42	40	34
40 Montefiores Street, Montefiores 2820	35	36	47	42	39	34
3 Queen Street, Montefiores 2820	34	36	47	42	39	33
7 Queen Street, Montefiores 2820	33	35	47	41	38	33
7 King Street, Montefiores 2820	33	35	46	40	38	32
9 King Street, Montefiores 2820	33	35	46	40	38	32
48 Montefiores Street, Montefiores 2820	32	34	45	40	37	31
36 Montefiores Street, Montefiores 2820	30	32	43	37	35	29



Making Sustainability Happen

Appendix D Traffic Assessment

SAMSA CONSULTING
TRANSPORT PLANNING & TRAFFIC ENGINEERING

21 February 2025

Squadron Energy
Wiradjuri Country
16-18 Maughan Street
WELLINGTON, NSW 2820

Our Ref: *Mitchell Goolma_Traffic Assessment*

Attention: Cindy Smith

Dear Cindy,

UUNGULA WIND FARM PROJECT, UUNGULA
Mitchell Highway / Goolma Road Intersection Works: Traffic Assessment

This report provides a traffic assessment of impacts associated with the proposed construction for the Mitchell Highway / Goolma Road intersection works. The report has been prepared for Uungula Wind Farm Pty Ltd (the Proponent) by *Samsa Consulting Pty Ltd – Transport Planning and Traffic Engineering Consultants*.

Background

A traffic assessment is required of the construction works for the Mitchell Highway / Goolma Road intersection upgrade in Wellington. The temporary upgrade works at the subject intersection are needed for the Uungula Wind Farm project to enable delivery of the over-size / over-mass (OSOM) components to the site access point off Twelve Mile Road to the east. The designated (approved) OSOM transport route travels south along Mitchell Highway and turns left (east) into Goolma Road.

The traffic assessment is in response to a request for information (RFI) from NSW Department of Planning, Housing and Infrastructure (DPHI) for a modification submission to include the Mitchell Highway / Goolma Road intersection upgrade in *Appendix 7* of the Project's Development Consent SSD 6687

Description of Proposed Construction Activities

The expected upgrade works are anticipated to occur in June 2025 (dependant on DPHI and TfNSW WAD approvals) for a duration of approximately 3 to 4 weeks. Work hours will be the standard 7 am to 6 pm Monday to Friday and Saturday 8 am to 1 pm.

The temporary site offices are located at the corner of Goolma Road and Twelve Mile Road, which is the main site compound for the public road upgrade works for the Uungula Wind Farm project.

Based on the transport route study undertaken by Rex J Andrews[1], upgrade works required at the subject intersection will include the following (refer to *Figure A1* below):

- Hardstand will be required on the north-eastern corner of the intersection (inside of left turn from Mitchell Highway to Goolma Road).
- Drainage works will be required on the outside corner of the intersection.
- Some delineation markers / guideposts will need to be relocated. Additionally, two signs will need to made removable and two light poles will need to be relocated.
- Appropriate traffic control / traffic management is to be undertaken.

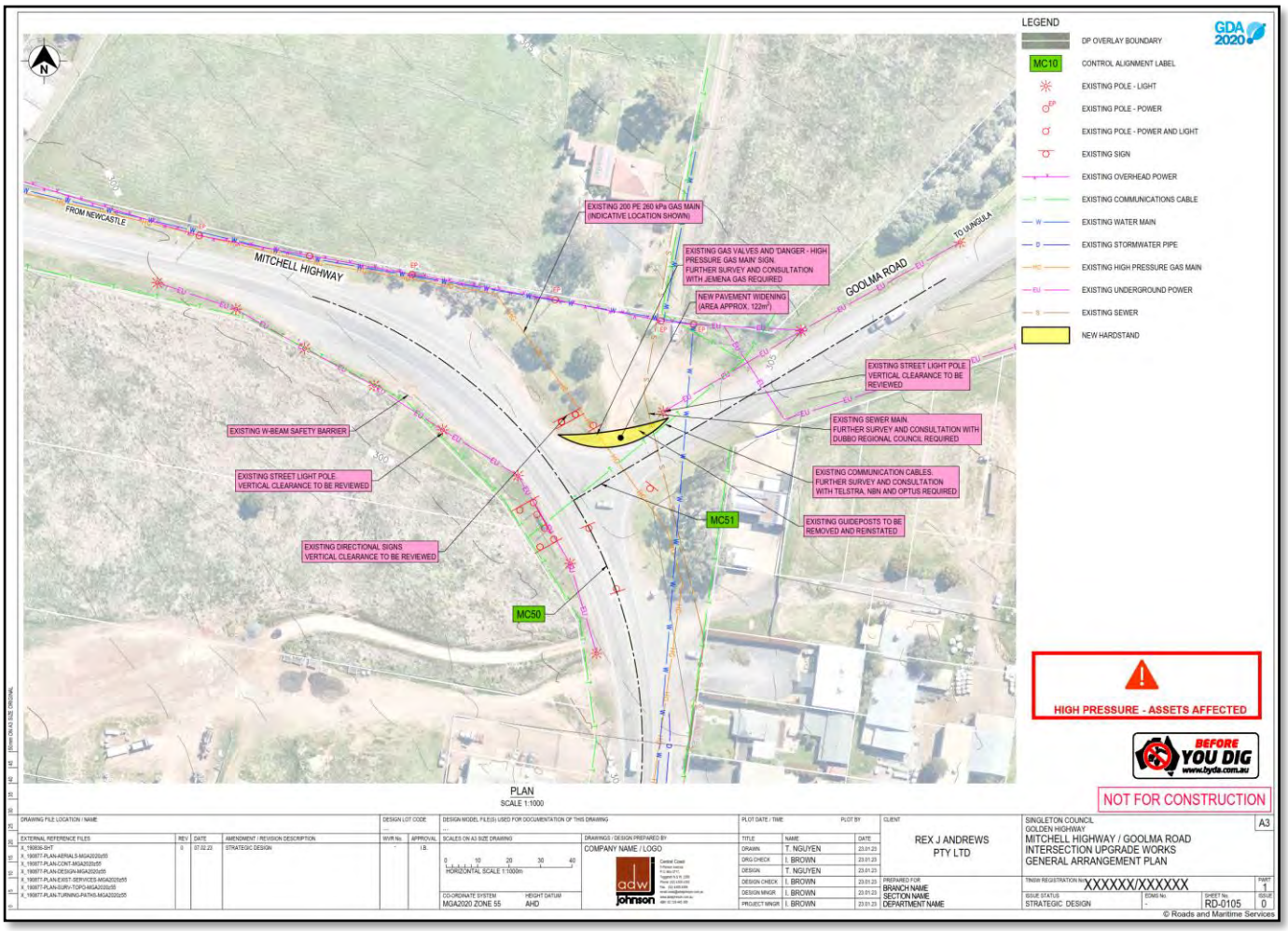


Figure A1: Proposed Upgrade Works at Mitchell Highway / Goolma Road

The expected construction vehicles / plant required for the upgrade works are as follows:

Grader	Water cart (13,000 litre)
20-tonne excavator	Smooth drum roller
12-tonne tipper	Pad foot roller
Truck and trailer ('truck'n'dog')	
Light vehicles (construction employees travelling to / from the site)	

1 Rex J Andrews "*Route Study – Uungula Wind Farm Ex Port of Newcastle*", 21/09/2019

Mitchell Highway / Goolma Road Intersection: Current Traffic

The current traffic volumes along Mitchell Highway have been estimated based on previous information from TfNSW's *Traffic Volume Viewer* website (March 2009 traffic flows for Mitchell Highway between Saxa Road and Goolma Road). The estimated 2025 traffic volumes were evaluated by adopting a conservative (high) traffic growth rate of 2% per annum (compounded) or approximately 37.3% over the sixteen-year period between 2009 and 2025. The adopted growth over a sixteen-year period is higher than the traffic growth rate from various RMS data stations in the regional area and thus is considered to be a reasonable (conservative) assumption.

The current (estimated) 2025 traffic volumes in vehicles per day (vpd) for Mitchell Highway are approximately 5,300 vpd with a heavy vehicle proportion of 14%. During the higher PM peak period, the maximum traffic in vehicles per hour (vph) is approximately 560 vph with a heavy vehicle proportion of 12%.

For Goolma Road, there is some available traffic data from August 2023 [2], which indicates traffic volumes of approximately 3,050 vpd with a 12% heavy vehicle percentage and approximately 280 vph during peak periods.

For the subject Mitchell Highway / Goolma Road intersection, it is likely that the Mitchell Highway traffic above will be a minimum that would travel through the intersection.

Proposed Construction Traffic Management

As part of the current Uungula Wind Farm project, detailed traffic guidance schemes (TGSs) and vehicle movement plans (VMPs) have been prepared by the construction contractor in accordance with the TCWS manual and AS 1742.3 [3]. Similar plans would be prepared for the construction works at the subject Mitchell Highway / Goolma Road intersection including the use of traffic control personnel, warning and advisory signage, delineation devices, lighting and safety barriers on public roads.

Information and advance warning signage will be installed at the work sites and the surrounding road network and will include signage for:

- protection of workers;
- provision of adequate warning of changes in road surface condition and the presence of personnel or plant engaged in work on the road; and
- adequate instruction of road users and their safe guidance through, around or past work site(s).

The potential traffic control measures to be used during construction work will include:

- single-lane alternate (stop / slow) operations which may result in short-term delays; and
- short-term lane closures with reduced speed limits, which may result in short-term delays.

Portable variable message signs (VMS) may be deployed during the works to inform motorists of any significant changes to the road network.

Temporary speed zones may be implemented during road works to assist in controlling the speed of traffic through the intersection roadwork site. Any reduced road speed zones would be implemented during works on public roads as per the TCWS manual and following approval from TfNSW.

Notifications may be prepared for the local community (as per the main Uungula Wind Farm project) to advise local traffic of the construction works progress.

2 Amber "*Orana BESS: Traffic Management Plan*", September 2024

3 TfNSW "*Traffic Control at Work Sites, Technical Manual – Issue 6.1*" (TCWS) and Standards Australia "*AS 1742.3 – 2009: Manual of uniform traffic control devices, Part 3: Traffic control for works on roads*", 2009

Traffic Assessment

Anticipated Construction Traffic Generation

Construction employee traffic (light vehicles) will peak around 6:30 am to 7:30 am and typically end (exit movements) around 5:30 pm to 6:30 pm on weekdays (Monday to Friday) and 7:30 am to 8:30 am (incoming) and 12:30 pm to 13:30 pm (outgoing) on Saturdays. There is also likely to be a reduced light vehicle movement peak around midday back to the temporary office located at the Goolma Road / Twelve Mile Road intersection. Light vehicle traffic generation is expected to be a maximum of up to 30 movements (trips) per day and 10 movements (trips) per hour, based on ten staff operating during peak construction periods.

Heavy vehicles will deliver plant at the beginning of the work activities with the expectation that these will remain on the site accessible for the activity work areas, with delivery of construction material expected during the course of the work. The initial number of plant and equipment is expected to be ten heavy vehicle movements per day at the beginning of the activity periods with a total maximum of up to 20 movements (trips) per day during peak construction periods. It is anticipated that all heavy vehicle movements would occur outside any peak hourly periods and not coincide with the peak light vehicle traffic generation described above. A nominal maximum 4 heavy vehicle trips per hour could be expected to be generated during any hour.

Road Network / Intersection Assessment

In order to assess the potential impacts of the temporary traffic generation on road capacity, the traffic generation of light and heavy vehicles have been added to current daily and peak hour traffic flows to obtain future traffic flows along Mitchell Highway (and by association, its intersection with Goolma Road). Future traffic volumes in vehicles per day and vehicles per hour for the subject intersection are broken up into light vehicles (LV) and heavy vehicles (HV) and shown following in *Table A1*.

Table A1: Future Traffic Volumes

Traffic Scenario		Mitchell Hwy	Goolma Rd
Daily Traffic – vehicles per day			
Current traffic	LV	4,560	2,680
	HV	740	370
Construction traffic generation	LV	30	30
	HV	20	20
Combined future traffic	LV	4,590	2,710
	HV	760	390
Hourly (Peak) Traffic – vehicles per hour			
Current traffic	LV	490	250
	HV	70	30
Construction traffic generation	LV	10	10
	HV	4	4
Combined future traffic	LV	500	260
	HV	74	34

Based on the above volumes, it is clear that the level of traffic that could be generated by the proposed construction works is very low in comparison to background (existing) traffic volumes. It is expected that there would be insignificant impact on traffic operations through the intersection because the level of generated construction traffic is well within any variations in daily or hourly traffic that would occur for Mitchell Highway and for Goolma Road, ie. on any given day there would be fluctuations of at least 50 vehicles and during any peak hour there would be fluctuations of at least 14 vehicles, these being the traffic generated during construction.

Road Safety Assessment

The introduction of a relatively modest number of light and heavy vehicles through the Mitchell Highway / Goolma Road intersection is not expected to create any specific road safety issues or generate any noticeable decline in road safety generally, especially since there is significant spare capacity on the subject road network. The construction traffic generated can be suitably managed via traffic management controls and protocols outlined in the approved Traffic Management Plan (TMP) for the Uungula Wind Farm project.

This would include specific measures to control traffic impacts with the following:

- School buses and other public buses including bus stops.
- Pedestrians and cyclists.
- Special events.

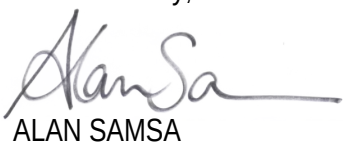
Heavy vehicle movements in particular would generally occur outside of school and background peak hours and therefore, would minimise any potential conflicts with background traffic.

Conclusions

With appropriate traffic management, the traffic generated by construction activities associated with the Mitchell Highway / Goolma Road intersection upgrade works would not result in any significant adverse impacts with respect to traffic operations, road capacity and road safety at the subject intersection and its approaches.

If you have any queries with respect to the above, please do not hesitate to contact the undersigned.

Yours faithfully,



ALAN SAMSA
Fellow, Institute of Engineers Australia (FIEAust)
Chartered Professional Engineer (IEAust): NPER (1151361)
APEC Engineer – International Professional Engineer (Aust)
Fellow, Australian Institute of Traffic Planning & Management (FAITPM)
Certified Transport Planner (CTP) – Member Institute of Transportation Engineers (ITE)
TfNSW Accredited Road Safety Auditor: Level 3 Lead Auditor (Auditor ID: RSA-02-0056)

Appendix E Dubbo Regional Council Consent

12/1009
ED24/239736
PJ:KCB

20 December 2024

DUBBO REGIONAL COUNCIL

Malcolm McPhan
Principle Representative
Support for Squadron Energy
Unit 2 34-36 Bultje Street
DUBBO NSW 2830
Malcolm.McPhan@squadronenergy.com

Dear Malcolm

LAND OWNER CONSENT – CONSTRUCTION OF HARDSTAND AREA AT THE INTERSECTION OF THE MITCHELL HIGHWAY AND GOOLMA ROAD

Under Section 145(3) of the Roads Act 1993 No.33, Dubbo Regional Council (Council) is the owner of all public roads (with the exception of freeways and Crown roads) within Council's local government area.

This landowner consent is for an application to amend Appendix 7 of the development consent by the proponent of the State Significant Development at the Uungula Wind Farm. This is specifically for road upgrades to allow suitable and safe access of components to the development site, and includes the construction of a hardstand area at the Mitchell Highway and Goolma Road intersection.

The Infrastructure Division of Council provides landowner's consent on the basis that the applicant and approving authorities agree that:

1. The landowner's consent is solely for the purpose of enabling the applicant to lodge a consent amendment for the Uungula Wind Farm development.

2. The landowner's consent does not constitute approval for the waiving of any restrictions applying to the land or Council responsibilities as a public authority.

3. The landowner's consent to lodge an amendment application does not constitute development approval, implied or otherwise.

4. The landowner's consent only applies to the nominated road corridors and does not apply to other land that is held in private ownership.

Given that the widening is on a road classified as a State road, Transport for NSW will also have an interest in these proposed works and will need to be involved in the approval process.

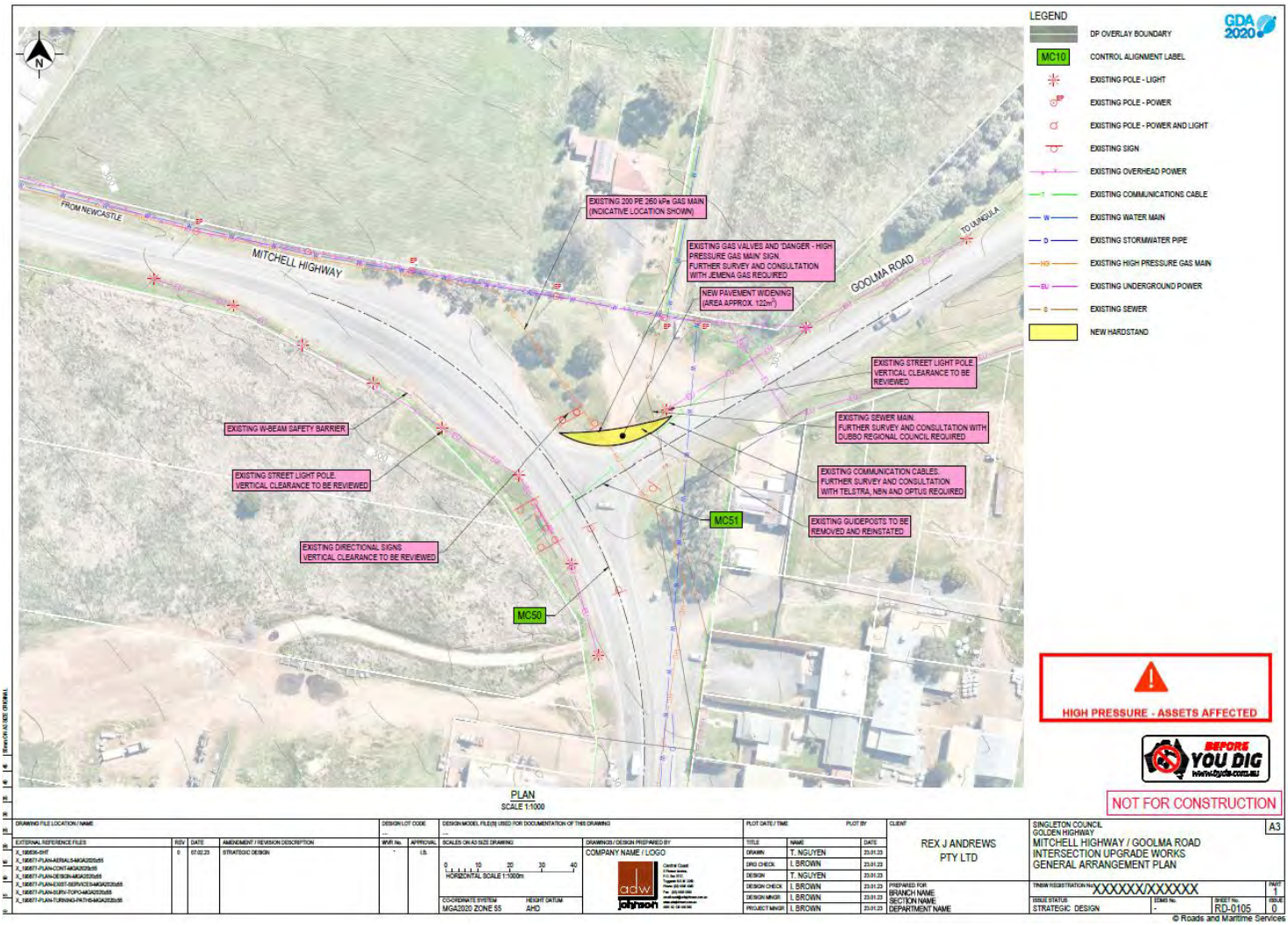
Should you require any further information, please contact the undersigned on 6801 4800.

Yours faithfully

Luke Ryan
Director Infrastructure

cc: Cindy.Smith@squadronenergy.com

Attachment/s: Figure 1 - Subject Land showing the hardstand area.



Appendix F Transport for NSW Consultation

From:	Cindy Smith
To:	Alexandra Power
Cc:	Sheree Kidziak; Veronica Cavanough; Malcolm McPhan; Malcolm Moore; Alana Gordijn; Candice Somerville; Warwick Tidswell
Subject:	Re: evidence of consultation
Date:	Friday, 20 December 2024 12:41:11 PM
Attachments:	image001.png image003.png image004.png image005.png

Hi Alexandra
Thankyou very much for your prompt response.
Have a wonderful Christmas and stay safe over the holidays.

Warm regards,

Cindy Smith

Squadron Energy
+61 491 973 080

From: Alexandra Power <Alexandra.Power@transport.nsw.gov.au>
Sent: Friday, 20 December 2024 12:26
To: Cindy Smith <Cindy.Smith@squadronenergy.com>
Cc: Sheree Kidziak <sheree.kidziak@squadronenergy.com>; Veronica Cavanough <Veronica.Cavanough@squadronenergy.com>; Malcolm McPhan <Malcolm.McPhan@squadronenergy.com>; Malcolm Moore <Malcolm.Moore@squadronenergy.com>; Alana Gordijn <alana.gordijn@squadronenergy.com>; Candice Somerville <Candice.Somerville@squadronenergy.com>; Warwick Tidswell <warwick.tidswell@squadronenergy.com>
Subject: RE: evidence of consultation

Hello Cindy,

As the road's authority, the Council owns all public roads (as per s145 of the Roads Act 1993) except for freeways. Mitchell and Goolma Road are not classified as freeways. Therefore, Dubbo Regional Council, as the road authority for Mitchell and Goolma Road (see Part 5 of the Roads Act 1993), owner these roads and are required to provide owners' consent for the lodgement of the modification.

Kind regards

Please note: Development Services Renewables will prioritise responding to projects within the Major Projects Portal until 20 December 2024. Any requests or responses outside the Major Projects Portal will be reviewed and

allocated to a team member to respond to your enquiry or request within 21 days. Note that design reviews for strategic designs require 14 days for internal review, and meetings will be prioritised for projects within the assessment phase or nearing determination.

Alexandra Power
Team Leader Development Services- Renewables
Transport Planning
Planning,Integration and Passenger
Transport for NSW

P 1300 019 680 **E** development.renewables@transport.nsw.gov.au

transport.nsw.gov.au

Working days Monday-Friday 9.30-5.30pm

Transport for NSW

I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

Please consider the environment before printing this email.

OFFICIAL

From: Cindy Smith <Cindy.Smith@squadronenergy.com>
Sent: Friday, December 20, 2024 11:57 AM
To: Alexandra Power <Alexandra.Power@transport.nsw.gov.au>
Cc: Sheree Kidziak <sheree.kidziak@squadronenergy.com>; Veronica Cavanough <Veronica.Cavanough@squadronenergy.com>; Malcolm McPhan <Malcolm.McPhan@squadronenergy.com>; Malcolm Moore <Malcolm.Moore@squadronenergy.com>; Alana Gordijn <alana.gordijn@squadronenergy.com>; Candice Somerville <Candice.Somerville@squadronenergy.com>; Warwick Tidswell <warwick.tidswell@squadronenergy.com>
Subject: evidence of consultation
Importance: High

Hi Alexandra
Hope you're well.
As discussed in our meeting earlier this week and provided in the minutes, we are applying for a modification to our consent to include in Appendix 7 the intersection upgrades for the OSOM route.

As part of the modification, we need to provide evidence of consultation and landowner's consent. As such, can you please reply by return email that the discussions held with yourself identified that the road work required for the Mitchell / Goolma intersection is owned by Dubbo Regional Council and not TfNSW for landowner consent and that you support our application. I have attached DRC's endorsement for the works that seeks to confirm the understanding that it is DRC is the land owner for the purpose of the application.

Can you please reply at earliest convenience as we are intending to lodge the application immediately.

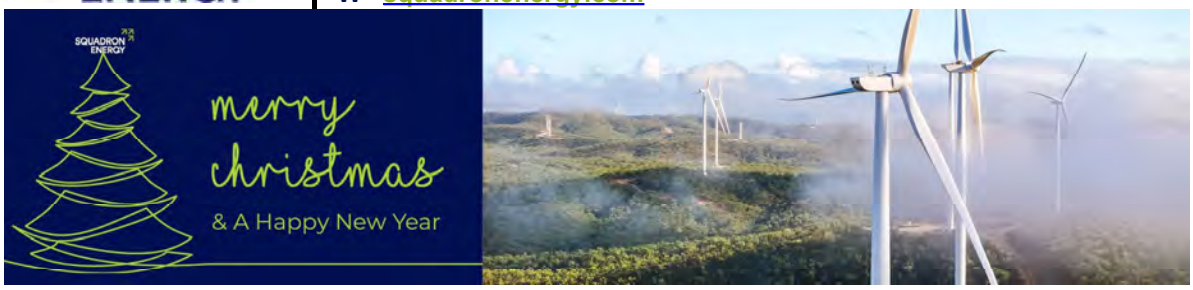
Warm regards

Cindy Smith

Environmental Advisor - UWF
Delivery

SQUADRON ENERGY

M +61 491 973 080
E Cindy.Smith@squadronenergy.com
L Wellington ((GMT+10)) Wiradjuri Country
W squadronenergy.com



Squadron Energy acknowledges the Traditional Owners and ongoing Custodians of the lands and waters on which we operate. We pay our respects to Elders past, present and emerging.

Appendix G Transport for NSW WAD Approval process Consultation

Transport for NSW

18 June 2025
TfNSW Ref: REN25/00011/011

Cindy Smith
Squadron Energy

Attention: Cindy Smith cindy.smith@squadronenergy.com

Works Authorisation Deed (WAD) - Project Management and Roads Act 1993 Approval process

Dear Cindy,

I refer to the Notice of Determination (Development Consent) issued by the Department of Planning, Housing and Infrastructure on 7 May 2021 for SSD-6687 – Uungula Wind Farm.

TfNSW notes that road works and related structures are required to be in a State road, at Mitchell Highway/ Goolma Road intersection, which require the approval of TfNSW under the *s138 Roads Act 1993*. TfNSW must provide final consent for each specific change prior to any work commencing.

The granting of consent under the *s138 Roads Act 1993* and entering a Works Authorisation Deed (per s64 of Roads Act 1993) will not occur until the scope of the intersection upgrades at Mitchell Highway/ Goolma Road which will be captured within Uungula Wind Farm Modification 3 has been by Department of Planning, Housing and Infrastructure (DPHI) and evidence of the approval submitted to TfNSW.

To enable completion of the Schedule in the WAD, please complete the online Developer Details Form quoting the reference number shown at the top of this page. It is recommended that your representative familiarise themselves with the requirements of the WAD process. Once the Developer Details Form has been completed, a Project Officer from our Developer Works team will contact you within 10 business days to organise an initial meeting.

Should you require further information please contact the Developer Works team by emailing: developerworksROM@transport.nsw.gov.au.

Yours faithfully

Alexandra Power
Team Leader Development Services - Renewables
Transport Planning
Planning, Integration and Passenger

Level 1, 51-55 Currajong Street, PARKES NSW 2870
PO Box 334 PARKES NSW 2870 | DX20256
Email: development,renewables@transport.nsw.gov.au | Phone: 1300 207 783
transport.nsw.gov.au

Appendix H Biodiversity and Heritage assessments review post minor design change

Suite 1, Level 1
79 Market Street
Mudgee NSW 2850
t: (02) 6378 2412

10 June 2025

Our ref: 600-24MUD8986

Squadron Energy
via email: Cindy.Smith@squadronenergy.com

Attention: Cindy Smith

Dear Cindy

Updated design and TfNSW requirements Mitchell Highway / Goolma Road intersection – biodiversity and heritage assessments

Eco Logical Australia Pty Ltd (ELA) has reviewed the Strategic Concept Design dated 22 May 2025 and additional requirements within the Transport for NSW (TfNSW) Design Review Register for the abovementioned intersection, for the Uungula Wind Farm. The updated design area, including the location of two new hardstands (ATTACHMENT 1) was included in ELA's previous biodiversity and heritage assessments. There will be no further impacts to biodiversity or heritage as a result of the updated design and the findings presented in ELA's reports dated 6 January 2025 (heritage, ATTACHMENT 2) and 10 January (biodiversity, ATTACHMENT 3) remain current.

Regards,

Kalya Abbey
Principal Environmental Consultant / Mudgee Operations Manager

ATTACHMENT 1 – Strategic Concept Design

ATTACHMENT 2 – Heritage Assessment

ATTACHMENT 3 – Biodiversity Assessment

Squadron Energy is Australia's leading renewable energy company. Proudly Australian owned, our mission is to be a driving force in Australia's transition to a clean energy future by providing green power to our customers.

We develop, operate and own renewable energy assets in Australia, with 1.1 gigawatts (GW) of renewable energy in operation and a development pipeline of 20GW.

With proven experience and expertise across the project lifecycle, we work with local communities and our customers to lead the transition to Australia's clean energy future.

Squadron Energy acknowledges the Traditional Owners of Country throughout Australia. We pay our respects to Elders past , present, and emerging.

SQUADRON ENERGY

SQUADRONENERGY.COM