Transport
for NSW

Wallaga Lake Bridge

Review of Environmental Factors

January 2024

Wallaga Lake Truss Bridge
Northern approach

NSW GOVERNMENT

transport.nsw.gov.au

Acknowledgement of Country

Transport for NSW acknowledges the traditional custodians of the land on which the Wallaga Bridge rehabilitation is proposed.

We pay our respects to Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.

Approval and authorisation

Title	Project Contract Manager, TfNSW
Accepted on behalf of Transport for NSW by:	[redacted]
Signed	[redacted]
Date:	11th January, 2024

Document review tracking

Draft No.	Date	Comments
Draft v1.0 Project Description	27/10/2023	Issued for confirmation of Project Description Drafted by [redacted] Reviewed by [redacted] Approved by: [redacted]
Draft v1.1	16/11/2023	Issued excluding Biodiversity (terrestrial) and Noise/Vibration Drafted by [redacted] Reviewed by [redacted] Approved by: [redacted]
Final Draft v 1.0	29/11/2023	Drafted by [redacted] Reviewed by [redacted] Approved by: [redacted]
Final 1.0	20/12/2023	Drafted by [redacted] Reviewed by [redacted] Approved by: [redacted]
Final 1.1	22/12/2023	Drafted by [redacted] (minor edits) Reviewed and approved by: [redacted]
Final 1.2	09/01/2024	Drafted by [redacted] [redacted] (minor edits) Reviewed and approved by: [redacted]

Executive summary

The proposal

Transport for NSW (Transport) proposes a major rehabilitation of Wallaga Lake Bridge on Wallaga Lake Road, about 11 kilometres north of Bermagui. Wallaga Lake Bridge (the Bridge) is a timber girder bridge and carries single lane traffic. The bridge was built in the 1890's, and currently provides two-way travel connecting Wallaga Lake Road and Bermagui Road. It connects residents of Wallaga Lake and Bermagui to Narooma and the small community of Akolele.

Ongoing monitoring indicated deterioration of the timber structure. In 2018, a load limit of 22.5 tonnes was put in place to protect the structure, and now essential maintenance work on the bridge is required for safety and to improve its serviceability, longevity and durability. While the crossing is currently deemed safe, the proposed rehabilitation works will ensure the bridge remains safe and operational for the local community and the travelling public.

Engineers have investigated the best strategies for managing and maintaining the bridge, with the overall goal of enhancing safety. They have determined that essential work to maintain the bridge will include replacing and strengthening the girders and piles, repairing the bridge deck, and upgrading abutments.

Key features of the proposal include:

- Full replacement of all timber structural elements (superstructure) excluding timber piles.
- Upgrading both abutments including new timber piles in front of the gravel boards and new scour rock placed in front of new timber piles and gravel boards.
- Strengthening and repairing bridge piles.
- Installation of crane pad as well temporary scaffold incorporating pedestrian access and floating pontoons.

Construction is expected to commence in March 2024 and would take around six months to complete.

Need for the proposal

A Level 3 (L3) condition inspection and assessment of the Bridge was carried in August 2020, to establish its condition and understand if the bridge is capable of General Mass Limits (GML) loading Before 2018, the bridge was open to General Access vehicles but since October 2018, a load limit of 22.5 tonne has been implemented on the bridge due to safety concerns raised in this assessment.

A level 2 inspection was carried out on 5 September 2023 to determine if there was a significant risk of the bridge failing leading up to the rehabilitation of the bridge commencing. This inspection identified that one of the headstocks was at risk of failing and temporary steel plates were installed (October, 2023) to remove this risk.

Proposal objectives

The key objectives of the proposal include:

- Strengthen the sub-structure and super-structure of the bridge
- Improve the serviceability and durability of the structure
- Creating a safer environment for traffic travelling across the bridge
- Undertake repair works minimising traffic disruption.

The objective of this REF is to minimise environmental impact during construction and operation of this proposal.

Options considered

The following five options were considered:

- Option 1: Major rehabilitation of the existing bridge – replacing only those superstructure timber elements due for replacement (Condition 3 and 4 timbers) along with renewal of the abutments and timber piles. This option involves a four and a half month full closure of the bridge over a six and a half month construction timeframe.
- Option 2: Major rehabilitation of the existing bridge – replacing only those superstructure timber elements due for replacement (Condition 3 and 4 timbers) along with renewal of the abutments and timber piles. This option involves a two month full closure of the bridge over a nine and a half month construction timeframe.
- Option 3 – Major rehabilitation of the existing bridge – replacing all superstructure timber elements along with renewal of the abutments and timber piles. This option involves two full closure periods. The first closure will be in place for four weeks and the second closure will be in place for three weeks. During the second closure, night work will be carried out.
- Option 4: Replace the bridge with a new timber or concrete bridge.
- Option 5: Do nothing.

Option 3 is the preferred option as it fulfils the proposal objectives as set out in Section 2.3.1 and aligns with the development criteria set out in Section 2.3.2 and has significantly less impact on the community than either Options 1 or 2 which had longer periods of full bridge closure.

Pedestrians and commuters would be affected by two periods of complete bridge closures and two periods of partial closures. However, potential impacts associated with proposed closures have been considered during development and efforts taken to reduce impacts where feasible.

A Community Response Plan (Appendix J of this REF) has been developed to address key themes raised during community consultation to help support the community through the full bridge closure periods proposed in Option 3.

Statutory and planning framework

The proposal for a major rehabilitation of Wallaga Lake Bridge is to be carried out by Transport for NSW and can therefore be assessed under Division 5.1 of the *Environmental Planning and Assessment Act 1979 (NSW)*. Development consent from council is not required.

Community and stakeholder consultation

Community consultation was carried out between May and July 2023 on options 1 and 2. The community were invited to provide feedback through an online survey, email, phone or in person. Consultation activities included, a drop-in session on Payne's Island, meetings with key community and business groups and attendance at a community forum organised by the Member for Bega, Dr Michael Holland MP.

A summary of key themes raised by the community were outlined in the Community Consultation Summary that was released to the public in September 2023. Key themes identified include:

- Build a new bridge
- Build a temporary bridge
- Carry out the work at night
- Maintain pedestrian access
- Provide alternate transport options during closures
- Impacts on school children travelling to school
- Emergency services access and response times and
- Loss of business/tourism, protection of the bridge.

With this detailed community feedback, the project team developed a revised timing and approach (Option 3) to carry out the work that minimises the impact on the community and includes support to the community, while also being safe for crews working on the bridge.

Community feedback has helped shape the plan for essential maintenance on Wallaga Lake Bridge with a new staged approach to minimise the overall time the bridge needs to close.

Community feedback during consultation has informed a range of strategies Transport can put in place to support the community during the closure periods. A Community Response Plan has been developed to outline these strategies.

Community drop in sessions were held on Monday 4 December 2023 at Bermagui Country Club. The project team were available to answer any questions about the revised approach, and throughout the day heard from community members and representatives of key stakeholder groups. During these discussions, the project team also sought local insights which will inform the development of community support strategies during the bridge closure periods.

In addition, the project team visited local businesses and community organisations on Monday 4 and Tuesday 5 December to better understand the needs of their customers and communities during the closure periods, including the medical centre, local pharmacy, supermarket, and Merrimans Local Aboriginal Land Council.

Transport is committed to ongoing consultation with the community.

Environmental impacts

The main environmental impacts of the proposal are:

Aquatic biodiversity

The works would require removal of existing HDPE pile wrapping from each pile, cleaning of the piles and applying PileMedic wrapping and grout in order to strengthen the piles. This would require clearing of 300-500mm of sediments from the bottom of the lake around the piles. Construction activities that include pile cleaning and application of wrap are likely to cause disturbance and resuspension of bed sediments resulting in turbidity plumes and short-term declines in water clarity. Potential indirect impact to the hairy pipefish or Port Phillip pipefish habitat is possible from rehabilitation activities. These potential impacts can be controlled via standard environmental safeguards such as silt curtains and booms.

There is also potential for spillage or leakage of the epoxy grout during application. The grouting process will be monitored by divers in order to minimise any leakages.

The likelihood of direct impacts to seagrass (i.e., direct disturbance) is considered low given the distance of seagrass from the bridge. in order to avoid impact to seagrass, work vessels are not permitted to enter the shallow waters around Paynes Island.

Biodiversity

Construction of the proposal would not require removal of any native vegetation. Some trimming of tree branches may be required for safe loading and unloading of trucks on northern side of the bridge. these trimmings would not be significant and would avoid impact on potential fauna habitat.

The proposal has a potential to impact the Southern Myotis (microbat) population and its habitat. As a result, EnviroKey were engaged by Transport to prepare a Microbat Management Plan (MMP). The MMP is attached as Appendix F of this REF. The MMP also includes a Test of Significance in accordance with the NSW *Biodiversity Conservation Act* 2016. The test has determined that the proposed activity is ‘unlikely’ to have a ‘significant effect’ on Southern Myotis, as well as Eastern Coastal Free-tailed Bat, Eastern False Pipistrelle, and their habitats. Mitigation measures has been proposed in the REF to further minimise the impacts.

The proposal is not likely to significantly impact threatened species or ecological communities or their habitats, within the meaning of the *Biodiversity Conservation Act, 2016* or *Fisheries Management Act 1994* and therefore a *Species Impact Statement* or Biodiversity Development Assessment Report is not required.

Traffic

The refurbishment of the Bridge requires partial and full bridge closures due to the scope of work. Full closures of the bridge would be staged to reduce impacts Stage 1 and 2 will require total bridge closure for approximately four weeks starting 29 April 2024. Following the closure, the bridge will be open with stop/slow traffic arrangements in place from Monday 27 May for six weeks, weather permitting. Delays of up to five minutes can be expected during this period. Work stage 3 will require total closure of the road for 3 weeks beginning 8 July 2024. Following the closure, the bridge will be open with stop/slow traffic arrangements in place from Monday 29 July for five weeks, weather permitting. Delays of up to five minutes can be expected during this period.

During the bridge closure periods, a detour will be in place via Wallaga lake Road onto Bermagui Road and Princes Highway, then onto Cobargo Bermagui Road and back to Wallaga Lake Road as shown in Figure 3-7. This detour adds approximately one hour of extra travel time and 69km of travel if unmitigated.

The floating scaffold under the bridge would restrict anyone trying to navigate to the other side of the bridge. The lake is not generally open to the ocean and the bridge is extremely low lying, The marine traffic is typically limited to recreational vessels and kayaks. These recreation vehicles would not be able to pass through while the floating scaffold isin place.

During community consultation, pedestrian access across the waterway was raised as a concern, hence access will be maintained via floating scaffolding during stage 3 works on the side of the bridge (refer to Figure 3-4).

Proactive consultation with the community will ensure that they are kept informed and concerns addressed as the construction planning progresses.

Noise

Noise impacts from construction activities associated with the proposed rehabilitation works are predicted to potentially exceed the applicable noise management levels at the nearest affected receivers. Furthermore, maximum noise levels for the assessment of sleep disturbance may exceed the applicable sleep disturbance upper limit [i.e., ≥65dB(A)] at the nearest affected residences. As such, feasible and reasonable noise mitigation measures have been provided in accordance with the Construction Noise and Vibration Guidelines to assist in mitigating construction noise impacts (refer to Section 6.3.4).

A Noise and Vibration Management Plan (NVMP) will be prepared and implemented as part of the CEMP. The NVMP will generally follow the approach in *the Interim Construction Noise Guideline (ICNG) (DECC, 2009*).

Non-Aboriginal heritage

Wallaga Lake Bridge is a local heritage item under Bega Valley Local Environmental Plan. Detailed consultation has been ongoing with council regarding the refurbishment plans (refer to Appendix I).

The design of the proposal has considered the heritage significance of the bridge and therefore made effort to replicate every component of the existing bridge into the new structure. The new bridge structure would look similar to the existing bridge therefore retaining the existing heritage appearance with the exception of HDPE jackets around the piles. There changes are necessary to ensure that the refurbishment works would last longer.

Transport have consulted with council and determined that consent and a SOHI would not be required for the works.

The Proposal would involve replacement of Wallaga Lake Bridge with a similar looking bridge structure. The proposed works would increase safety of the bridge and bridge users which would keep the bridge in service for years to come. This would mean that the future generations can appreciate the historical designs for years to come.

Justification and conclusion

This REF has assessed the potential impacts of the proposed Wallaga bridge refurbishment and associated abutment strengthening works along Wallaga Lake Bridge within the Bega Valley Shire LGA. The REF has identified potential impacts relating to aquatic biodiversity, cultural heritage, water, traffic, noise and public utilities.

The assessment has concluded that the proposed works as described in this REF, including any proposed management measures and safeguards, would not result in a significant effect on the environment.

The proposed works would not result in a significant impact on any declared critical habitat, threatened species, populations or ecological communities or their habitats. Therefore, a Species Impact Statement (SIS) is not required.

A number of potential environmental impacts from the proposal have been avoided or reduced during the concept design development and options assessment. The proposal, as described in the REF, best meets the project objectives but would still result in some impacts on aquatic biodiversity, cultural heritage and traffic. On balance, the proposal is considered justified.

The proposed bridge refurbishment at Wallaga Lake is subject to assessment under Division 5.1 of the EP&A Act. The REF has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity.

This has included consideration (where relevant) of conservation agreements and plans of management under the NPW Act, biodiversity stewardship sites under the BC Act, wilderness areas, areas of outstanding value, impacts on threatened species and ecological communities and their habitats, and other protected fauna and native plants. It has also considered potential impacts to matters of national environmental significance listed under the EPBC Act.

A number of potential environmental impacts from the proposal have been avoided or reduced during the concept design development and options assessment. The proposal, as described in the REF, best meets the project objectives but may still result in some minor impacts on aquatic biodiversity, heritage and Noise and vibration.

Safeguards and management measures as detailed in this REF would ameliorate or minimise these anticipated impacts. The proposal would also improve safety of the bridge and its users and reduce travel times for heavier vehicles. On balance, the proposal is considered justified and the following conclusions are made.

Significance of impact under NSW legislation

The proposal would be unlikely to cause a significant impact on the environment. Therefore, it is not necessary for an environmental impact statement to be prepared nor approval to be sought from the Minister for Planning under Division 5.2 of the EP&A Act. A Biodiversity Development Assessment Report or Species Impact Statement is not required. The proposal is subject to assessment under Division 5.1 of the EP&A Act. Consent from Council is not required.

Significance of impact under Australian legislation

The proposal is not likely to have a significant impact on matters of national environmental significance nor the environment of Commonwealth land within the meaning of the *Environment Protection and Biodiversity Conservation Act 1999 (*Commonwealth). A referral to the Australian Department of Climate Change, Energy, the Environment and Water is not required.

This REF has been prepared to meet the requirements of the *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)* strategic assessment approval for Transport Division 5.1 road activities. A referral to the Australian Department of Climate Change, Energy, the Environment and Water is not required.

Table of contents

Tables

Figures

1. Introduction

This chapter introduces the proposal and provides context for the environmental assessment. In introducing the proposal, the objectives and project development history are detailed and the purpose of the report provided.

1.1 Proposal identification

Transport for NSW (Transport) proposes a major rehabilitation of Wallaga Lake Bridge (B6168) on Wallaga Lake Road (Bega to Tilba Road - MR272), about 11 kilometres north of Bermagui (Figure 1-1). Wallaga Lake Bridge (the Bridge) is a timber girder bridge and carries single lane traffic. The bridge was built in the 1890's, and currently provides two-way travel connecting Wallaga Lake Road and Bermagui Road. It connects residents of Wallaga Lake and Bermagui to Narooma and the small community of Akolele.

Key features of the proposal would include:

- Full replacement of all timber structural elements excluding timber piles
- Upgrading both abutments including new timber piles in front of the gravel boards and new scour rock placed in front of new timber piles and gravel boards
- Strengthening and repairing bridge piles
- Installation of crane pad as well temporary scaffold incorporating pedestrian access and floating pontoons.

The location of the proposal is shown in Figure 1-1 and an overview of the proposal is provided in Figure 1-2. Figure 1-3 provides an overview of the bridge elements. Chapter 3 describes the proposal in more detail.

Ongoing monitoring and a recent inspection of Wallaga Lake Bridge (September 2023) indicated further deterioration of the timber structure. A load limit of 22.5 tonnes was put in place to protect the structure (2018), and now essential maintenance work on the bridge is required for safety and to improve its serviceability, longevity and durability. While the crossing is currently deemed safe, the proposed rehabilitation works will ensure the bridge remains safe and operational for the local community and travelling public.

Engineers have investigated the best strategies for managing and maintaining the bridge, with the overall goal of enhancing safety. They have determined that essential work to maintain the bridge will include replacing and strengthening the girders and piles, repairing the bridge deck, and upgrading abutments.

The following definitions are used in this REF:

Proposal: All works involved in the construction and operation of the works described in this REF.

Proposal site: All areas that would be involved in the construction of the proposal. This includes the construction area and all ancillary sites such as material laydowns/stockpile locations with and additional 10m buffer around them.

Construction footprint: This area is limited to the bridge itself and covers all permanently impacted areas.

Locality: The area within a 10 km radius of the proposal site.

Cpt 3058/4 Road
Cpt 3058/3 Road
Additional laydown
Punkalla Tilba Road
NPWS Managed Other
Gulaga National Park
Sunnyside Road
Victoria Creek Road
NPWS Managed Other
Central Tilba
NPWS Managed Other
NPWS Managed Other
Princes Highway
Tilba Tilba
Eurobodalla National Park
Haxstead Road
Meads Road
Truck Waiting Bay
Bermagui Road
Youngs Road
Umbarra Road
Kings Corner
Akolele
Bridge locatiion
Wallaga Lake Road
Wallaga Lake Heights
Beauty Point
Mystery Bay
Central Tilba
Tilba Tilba
Kings Corner
Akolele
Wallaga Lake Heights
Beauty Point
Wallaga Lake
Bermagui

LEGEND
- Proposal site
- State Forest
- NPWS Reserve

Road Network
- Major Local Roads
- Highway
- Residential area

Datum: GDA94 / MGA zone 55

0 0.5 1 1.5 2 km

Figure 1-1: Location of the proposal

Wallaga Lake Road

Wallaga Lake Road

Wallaga Lake Road

LEGEND

Proposal site

Proposal components

- Crane Footprint
- Site Compound
- Timber Stacking Area
- Timber Storage 1
- Timber Storage 2
- Truck Loading
- Parking areas
- Nearby Towns

Road

- Roads
- Highway

Datum: GDA94 / MGA zone 55

0 50 100 m

Figure 1-2: The proposal

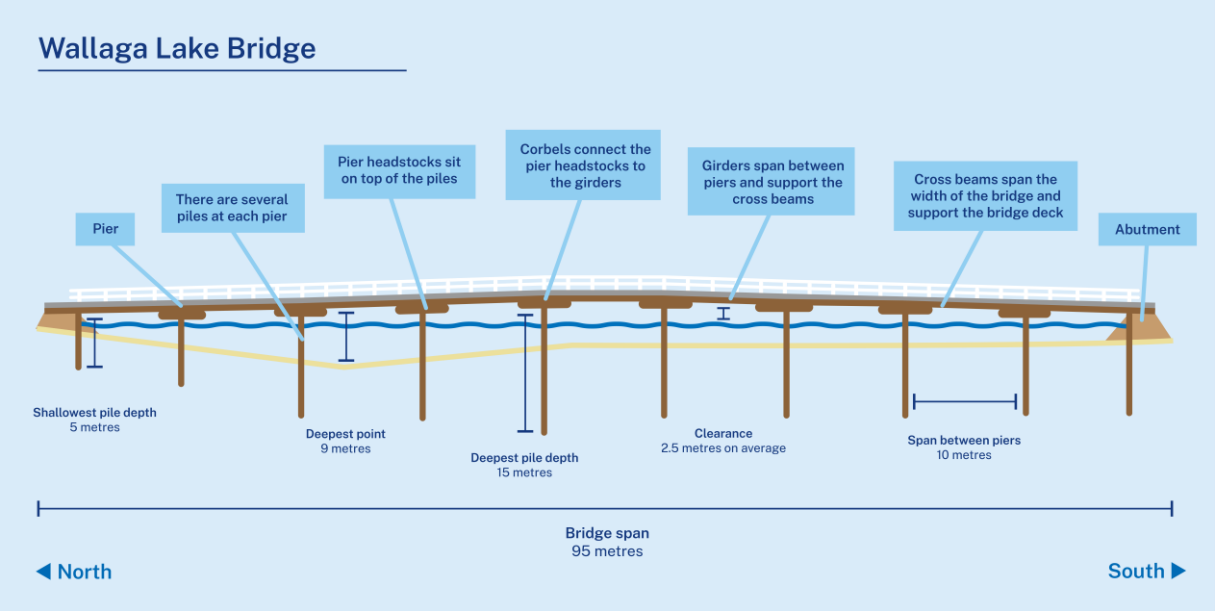


Figure 1-3: Image detailing various elements of the Wallaga Lake Bridge

1.2 Purpose of the report

This Review of Environmental Factors (REF) has been prepared by NGH on behalf of Transport. For the purposes of these works, Transport is the proponent and determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act).

The purpose of the REF is to describe the proposal, to document the likely impacts of the proposal on the environment, and to detail mitigation and management measures to be implemented.

The description of the proposed work and assessment of associated environmental impacts has been undertaken in the context of Section 171 of the *Environmental Planning and Assessment Regulation 2021*, the factors in *Guidelines for Division 5.1 assessments, (DPE 2022)*, *Roads and Related Facilities EIS Guideline* (DUAP 1996), the *Biodiversity Conservation Act 2016* (BC Act), the *Fisheries Management Act 1994* (FM Act), and the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)* (EPBC Act).

In doing so, the REF helps to fulfil the requirements of:

- Section 5.5 of the EP&A Act including that Transport examine and take into account, to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity.

The findings of the REF would be considered when assessing:

- Whether the proposal is likely to have a significant impact on the environment and therefore the necessity for an Environmental Impact Statement to be prepared and approval sought from the Minister for Planning under Division 5.2 of the EP&A Act.
- The significance of any impact on threatened species as defined by the BC Act and/or FM Act, in section 1.7 of the EP&A Act and therefore the requirement for a Species Impact Statement or a Biodiversity Development Assessment Report.
- The significance of any impact on nationally-listed biodiversity matters under the https://www.awe.gov.au/environment/epbc EPBC Act, including whether there is a real possibility that the activity may threaten long-term survival of these matters, and if offsets are required and able to be secured.
- The potential for the proposal to significantly impact any other matters of national environmental significance or Commonwealth land and the need, subject to the EPBC Act strategic assessment approval, to make a referral to the Australian Department of Climate Change, Energy, the Environment and Water for a decision by the commonwealth minister for the Environment on whether assessment and approval is required under the EPBC Act.

2. Need and options considered

This chapter describes the need for the proposal in terms of its strategic setting and operational need. It identifies the various options considered and the selection of the preferred option for the proposal.

2.1 Strategic need for the proposal

The proposal relates to the essential rehabilitation of the Wallaga Lake Bridge to ensure the bridge is safe and to extend its service life as a functional timber bridge, for the local community and road users The rehabilitation works would reduce the necessity of regular bridge maintenance and bridge closures.

2.2 Limitations of existing infrastructure

The Wallaga Lake bridge was built in the 1890's and consists of 9 timber beam spans (on average around 9.5 m per span). The overall length of the bridge is 95.09m whilst the overall width is 5 m. The original bridge deck is 4 timber girders wide extending the full length of the bridge. The original pier configuration was a single trestle with 4 to 6 piles per pier. Piers and abutments consist of driven timber piles supporting a timber headstock.

Timber piles have been sheathed in high-density polyethylene (HDPE) from the tidal zone to bed level to prevent deterioration and borer attack. Steel piles have been installed in the past at abutment A (x1 of), pier 1 (x1 of) and pier 5 (x1 of) as supplementary piles.

A Level 3 (L3) inspection and assessment in August 2020 was carried out by Transport at Wallaga Lake Bridge (B6168) to establish its condition and establish whether the bridge can take General Mass Limits (GML) loading once Pier 5 and both Abutments Piles have been replaced. Before 2018, the bridge was open to General Access vehicles but since October 2018, a load limit of 22.5 tonne has been implemented on the bridge due to safety concerns.

A level 2 inspection was carried out on 5 September 2023 to determine if there was a significant risk of the bridge failing leading up to rehabilitation of the bridge commencing. This inspection identified that one of the headstocks was at risk of failing and temporary steel plates were installed (October, 2023) to remove this risk.

The key constraint of the existing bridge is the load limit of 22.5 tonne, implemented in 2018 to address safety concerns. In addition, the bridge poor alignment (~ 70-80 degree) on the northern end.

2.3 Proposal objectives and development criteria

2.3.1 Proposal objectives

The key objectives of the proposal include:

- Strengthen the sub-structure and super-structure of the bridge by replacing all timber elements except the timber piles
- Improve the serviceability and durability of the structure
- Creating a safer environment for traffic travelling across the bridge
- Undertake repair works minimising traffic disruption.

The objective of this REF is to minimise environmental impact during construction and operation of this proposal.

2.3.2 Development criteria

The development criteria for the proposal includes:

- To improve safety and efficiency at the Wallaga Lake Bridge

- Improving maintenance and reduction in operational costs
- To minimise environmental impacts to the surrounding area during construction and operation.

2.3.3 Urban design objectives

Urban design objectives for the proposal includes:

- Enhance the urban connectivity and respond to the desired future character and functioning of the area
- Minimise impact on the community and the environment
- Design for low maintenance
- Minimise visual impacts to the existing character of the setting.

2.4 Alternatives and options considered

2.4.1 Methodology for selection of preferred option

The selection of the preferred option for the proposal is driven by the safety issues of the existing bridge structure. Due to the age and nature of bridge, the structure is becoming a risk to the safety for road users. A major rehabilitation of the bridge is the only option as a new build would be costly, would not comply with the existing historic aesthetic, would have lengthy bridge closures and have additional impact on the fish community. It is proposed to retain the existing aesthetic, replacing elements with like-for-like.

Different methods were considered for rehabilitation which are discussed in section 2.4.3.

Both positive and negative impacts were analysed and weighted to come up with an option that had more positive impacts, and negative impacts that were acceptable or could be minimized to acceptable limits, while meeting the development criteria and the project objectives.

The shortlisted options are discussed in Section 2.4.2 and an options analysis is provided in Section 2.4.3.

2.4.2 Identified options

- Option 1: Major rehabilitation of the existing bridge – replacing only those superstructure timber elements due for replacement (Condition 3 and 4 timbers) along with renewal of the abutments and timber piles. This option involves a 4 ½ month full closure of the bridge over a 6 ½ month construction timeframe.
- Option 2: Major rehabilitation of the existing bridge – replacing only those superstructure timber elements due for replacement (Condition 3 and 4 timbers) along with renewal of the abutments and timber piles. This option involves a 2 month full closure of the bridge over a 9 ½ month construction timeframe.
- Option 3 – Major rehabilitation of the existing bridge – replacing all superstructure timber elements along with renewal of the abutments and timber piles. This option involves a 4 week full closure of the bridge and a second 3 week full closure (totalling 7 week full closure) of the bridge over a 6 month construction timeframe.
- Option 4: Replace the bridge with a new timber or concrete bridge.
- Option 5: Do nothing.

2.4.3 Analysis of options

Option 1: Major rehabilitation of existing bridge

replacing only those superstructure timber elements due for replacement (Condition 3 and 4 timbers) along with renewal of the abutments and timber piles. This option involves a 4 ½ month full closure of the bridge over a 6 ½ month construction timeframe.

Option 2: Major rehabilitation of the existing bridge

Replacing only those superstructure timber elements due for replacement (Condition 3 and 4 timbers) along with renewal of the abutments and timber piles. This option involves a 2 month full closure of the bridge over a 9 ½ month construction timeframe.

Options 1 and 2 are similar in scope and only differ due to their construction timeframes and periods for full bridge closure. These options were presented to the community as part of initial community consultation and engagement undertaken between May and July, 2023. A summary of this consultation is provided as Appendix K of this REF. Following this consultation, it was evident that the community were not supportive of either option due to the extended bridge closures in periods of high tourist visitation.

Option 3: Major rehabilitation of the existing bridge

Replacing all superstructure timber elements along with renewal of the abutments and timber piles. This option involves a 4 week full closure of the bridge and a second 3 week full closure of the bridge (totalling 7 week full closure) over a 6 month construction timeframe.

This option was proposed by Transport to help alleviate community concerns regarding the extended bridge closures and to choose a less busy time of year in which to conduct the works.

Option 4 Replace the bridge with a new timber or concrete bridge

This option would result in a complete demolition of existing structure and replacing it with a new bridge. This option would provide opportunity to construct a new and improved bridge structure at the same location. This option would require longer bridge closure time, take away the heritage significance of existing bridge and have additional environmental impact.

Option 5 Do nothing

The 'Do Nothing' option would retain the bridge which would continue to degrade, decreasing safety over time. Combined with the ongoing bridge limit, this option would not improve traffic or safety along Wallaga Lake Road.

This option would have no environmental impacts related to construction. However, this option does not satisfy the proposal objectives and would result in ongoing safety concerns.

2.5 Preferred option

Option 3 is the preferred option as it fulfils the proposal objectives set out in Section 2.3.1 and aligns with the development criteria set out in Section 2.3.2 and has significantly less impacts on the wider community through reduced closure times.

The period of bridge closures can be managed through careful consultation and engagement through the implementation of the community response plan (Appendix J).

A further benefit of this option is that the bridge's entire superstructure will be renewed as all timber elements will be replaced providing a greater overall outcome in terms of the bridge's structural integrity and useful life.

2.6 Design refinements

Several changes were made to the design during the design phase based on feedback from stakeholders that have been undertaken over several week. These refinements include:

- Replacing the entire superstructure rather than replacing selected poor condition timbers. This provides a better overall result that will last longer and provide greater certainty to road users
- Minor changes to the construction methodology and embankment maintenance to allow for shorter bridge closures and allow for pedestrian crossing throughout the construction phase
- To avoid impacts to underwater ecology the original plan to use barges to undertake the works was revised. Instead the bridge will be reconstructed using land based cranes sited on the existing road.

3. Description of the proposal

This chapter describes the proposal and provides descriptions of existing conditions, the design parameters including major design features, the construction method and associated infrastructure and activities.

3.1 The proposal

Transport proposes major rehabilitation of the Wallaga Lake Bridge. The rebuild would be undertaken as close to like-for-like as possible, owing to the bridge's heritage status and aesthetic qualities. The proposal is located within the Bega Valley Shire Council area (south side of the proposal) and the Eurobodalla Shire Council (north side of the bridge).

Key features of the proposal would include:

- Full replacement of all timber structural elements excluding timber piles
- Upgrading both abutments including new timber piles in front of the gravel boards and new scour rock placed in front of new timber piles and gravel boards
- Strengthening and repairing bridge piles.

The bridge work would be undertaken in three distinct construction stages and additional preparation stages as outlined in Table 3-1:

Table 3-1: Proposed construction stages and activities

Stage	Activity	Construction timeframe	Bridge closure
Pre-construction works	Ste establishment and delivery of materials to site	4th March - 28th April, 2024	No
1	Repair Piles to original capacity using a wrapped product with an epoxy grout	29th April - 26th May, 2024	Yes
2	Repair Abutments – Pile driving application and placement of rock scour protection.		Yes
Pre-stage 3 works	Floating scaffold, utilities relocation and microbat measures	27th May - 7th July, 2024	No
3	Replace entire superstructure – Headstocks, Corbels, Girder, Decking, Sheeting, Handrail, Kerbing.	8th July - 28th July, 2024	Yes Works undertaken on a 24 hour, 7 days a week basis.
Post-stage 3 works	Finishing works - minor bridge works and decommissioning site.	29th July - 31 August, 2024	No

In order to carry out work on the bridge, some ancillary infrastructure facilities are also proposed. These include:

- Site compound – a site compound is proposed for Payne's Island Reserve on the southern side of the bridge
- Work zones (including timber stockpiles, truck loading areas and construction vehicles parking areas) on the road on both the southern and northern sides of the bridge. The primary work zone is the bridge itself
- Construction vehicles parking area –parking would be facilitated within compound site 3 as shown in Figure 3-9
- Truck waiting bay – located on the Princes Highway (HW1) approximately 800m from the Bermagui Road turnoff
- Timber storage area – located at Victoria Creek, approximately 5 kilometres north of the intersection of the Princes Highway and Bermagui Road.

All sites for these proposed ancillary facilities are shown in Figure 1-2, 3-4 and 3-5.

Section 3.3 provide a detailed description of each stage.

3.2 Design

3.2.1 Engineering constraints

Key constraints that affect the design include the following:

- Age of degrading piers
- Existing utility services through the bridge consisting of council sewer and water lines
- Proximity to residential area
- Ability to establish a crane pad - geotechnical constraints at either abutment
- Proximity to Batemans Marine Park
- Potential Aboriginal heritage on the northern lake shore if the footprint of the bridge is enlarged
- Heritage nature of the bridge
- Load limits placed on the bridge
- Long detours as the result of bridge closures.

3.3 Construction activities

3.3.1 Work methodology

The proposal is anticipated to involve the following work methodologies, broken down into 3 major construction stages outlined below.

1. Repair to pile by wrapping with a product (PileMedic) with an epoxy grout filling the annulus between the wrapped product and each existing timber pile from lake bed to top of pile.
2. This stage involves abutment repairs by pile driving six new timber piles at each abutment and placing of scour rock from the lake bed to the underside of the abutment headstock of the bridge.
3. The final stage would involve replacing the entire superstructure of the bridge and completing rebuild. This would include complete removal of the existing superstructure which includes headstocks, corbels , girders, transverse and longitudinal decking, handrails , and kerbing. Once the existing structure has been fully removed, the process of rebuilding this superstructure would commence. Once the construction is completed rehabilitation works would commence.

Pre-construction works

Site establishment (standard working hours)

- Implementing temporary traffic controls
- Installing environmental controls in the waterway around the abutment areas and piers –floating boom, etc.
- Install site compound facilities at Paynes Island reserve and along road easement (Wallaga Lake Road) as per Figure 3-8 and Figure 3-9. Site compound 3 would be utilised for construction vehicles parking only.

Stage 1 - Repair Piles to original capacity using a wrapped product (PileMedic) with an epoxy grout (within first total bridge closure).

This stage of work is expected to be undertaken between 29th April – 26th May 2024. The bridge would be closed during this 4 week period.

This work would involve:

- Repair of mid-bridge piles as per Work Procedure – PileMedic
    - Removing existing HDPE pile jacket and Denso Tape from each existing timber pile
    - Water blasting existing timber pile to ensure surface is free of loose debris and other contaminates.

- Remove capwales and bracing from each pier with divers lowering with chain blocks from bridge to boat for removal
- Connect sections of PileMedic with epoxy Paste from floating pontoon until PileMedic is at the required depth
- Divers to excavate 300mm below the existing sediments, fill the lower 150mm annular space with resin creating a sealed layer at the bottom of the PileMedic jacket and fill the remaining annulus with epoxy to top of pile
- Reinstall new capwales and bracing (capwale indicated in yellow below).

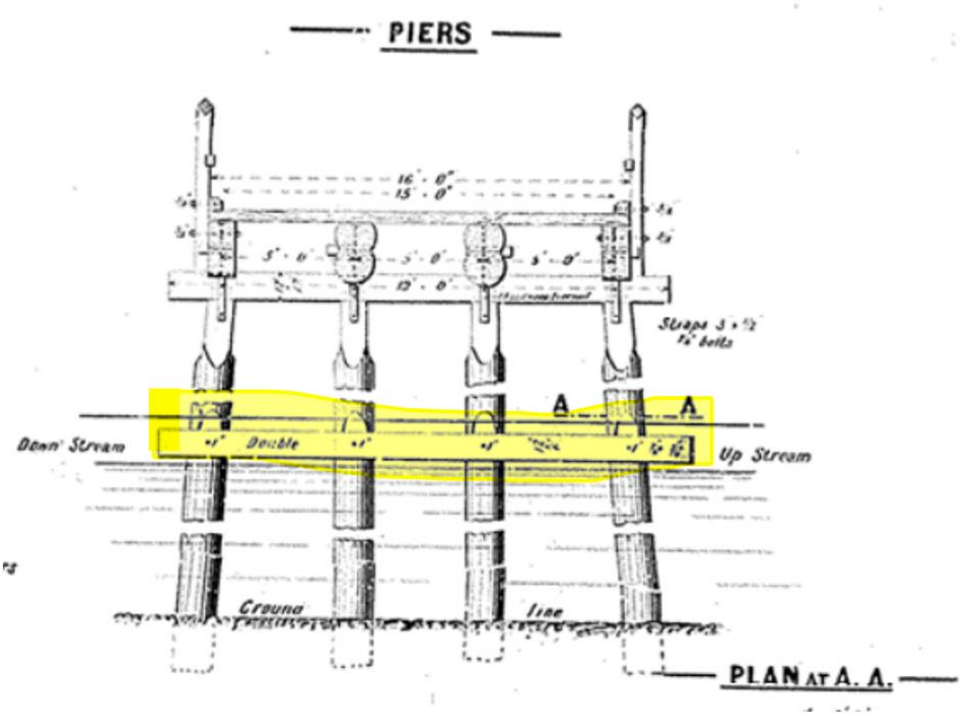


Figure 3-1: Pier arrangement – capwale highlighted

Stage 2: Repair Abutments – Pile driving application and placement of scour rock

This stage of work is expected to be undertaken concurrently with Stage 1 works (between 29th April – 26th May 2024). The bridge would be closed during this 4 week period.

Stage 2 repairs include following works:

- Remove existing decking (longitudinal and then transverse) to reveal the respective abutments
- Instal new 450mm diameter F27 timber piles by pile driving these in line with the existing timber piles. Refer to Figure 3-2 for reference
- Install scour rock protection at Abutment A (northern abutment) and Abutment B (southern abutment) from lake bed level to the underside of the headstock. Refer Figure 3-3 for reference.

Pre-stage 3 works

Following the abutment repairs the following works would also be completed in preparation for Stage 3:

- Install temporary full length floating scaffold under bridge including a pedestrian walkway (refer Figure 3-6)
- Temporarily relocate water and sewer pipes to the temporary scaffold for the duration of Stage 3 works
- Install microbat exclusion and related mitigation measures as specified in the Microbat Management Plan (Appendix F).

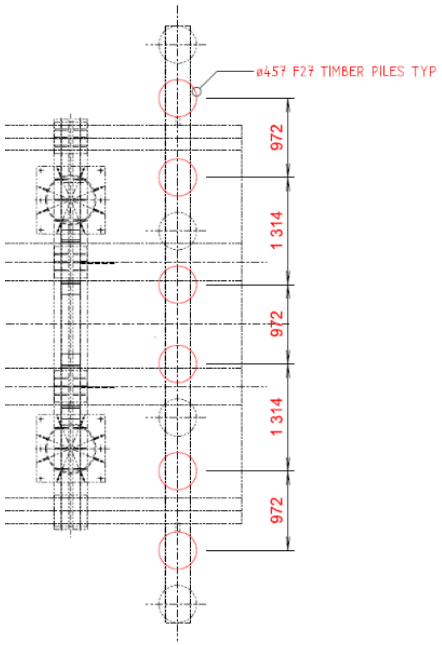


Figure 3-2: Drive new timber piles and wrap with PileMedic jacket to increase their durability

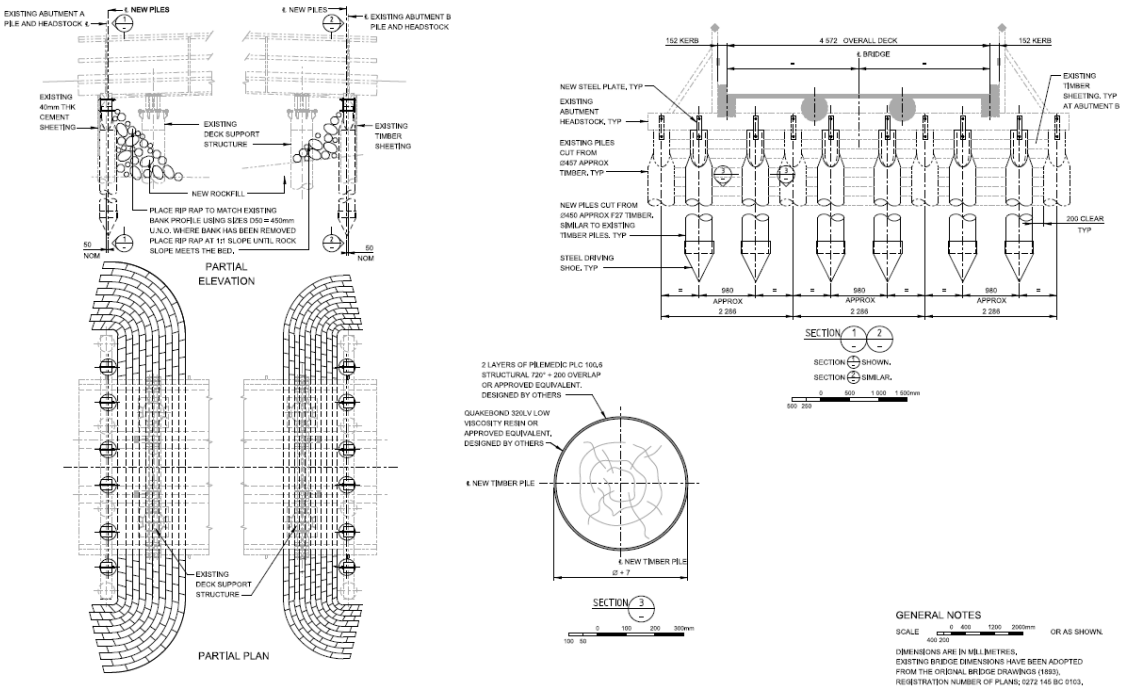


Figure 3-3: Abutment design (Stage 2 works)

Stage 3 -Replace entire superstructure

This component of work is expected to be undertaken from 8th to 26th July, 2023 on a 24 hour, 7 day a week basis. The removal of the superstructure would be completed during this 3 week, 24/7 bridge closure period.

The removal of bridge decks would look similar to Figure 3-5: and follow the sequence below to completion:

- Prepare crane pads for 400 tonne crane for both abutments. The crane itself will be stationed on the road. Where the outriggers are needing to be placed outside the road formation, the placement of material (stabilised sand) will occur, if and where required, to level the areas where the outriggers are intended to be placed.

Southern abutment

- Establish 400T crane to Southern side of Bridge (1 shift) as per crane setup diagram (refer to Figure 3-6:)
- Sawcut midspan and at Piers
- 400T Crane to remove half spans as per Figure 3-7 for spans 7, 8 and 9
- 400T Crane to remove Headstocks and Corbels at Piers 6, 7 and 8
- Drill and connect Headstocks to Piles at Piers 6, 7 and 8
- Bolt Corbels to Headstocks at Piers 6, 7 and 8
- Install Girders and connect to Corbel at spans 7, 8 and 9
- Place cross decking and continue with Franna crane (drivable crane) for spans 7, 8 and 9
- Install decking sheets on spans 7, 8 and 9
- Instal kerb and Handrail at spans 7, 8 and 9

Northern abutment

- De-mobilise 400T Crane and re-establish at Abutment A Northern end.
- 400T Crane to remove half spans for spans 1 to 6
- 400T Crane to remove Headstocks and Corbels at Pier 1 through to Pier-5
- Drill and connect new Headstocks to Piles at Piers 1 to 5
- Bolt new Corbels to Headstocks at Piers 1 to 5
- Install new Girders and connect to Corbels spans 1 through to 6
- Place cross decking and continue with Franna crane (drivable crane) for Spans 1 through to 6
- Continue Sheeting Spans 1 through to 6
- Continue Kerb and Handrail at spans 1 through to 6.

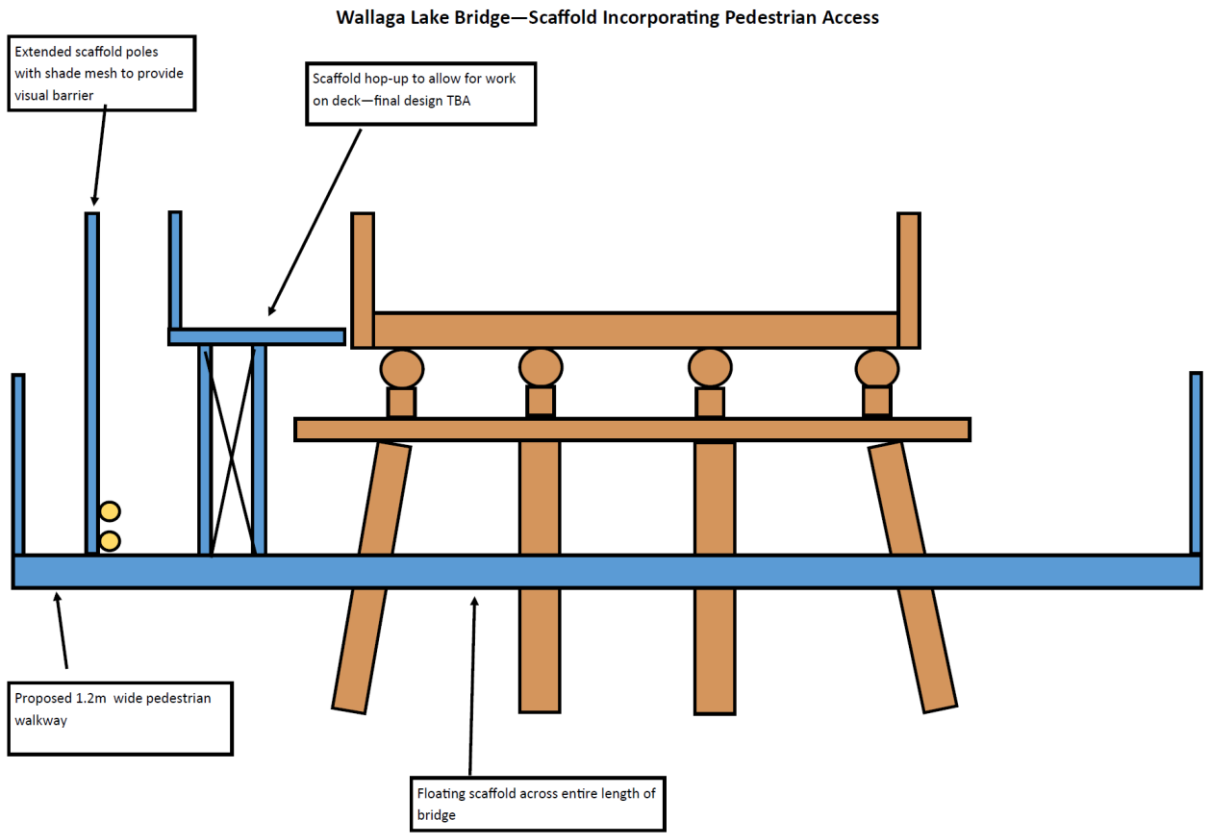


Figure 3-4: Cross section sketch of proposed scaffold incorporating pedestrian access

Figure 3-5: Example of deck removal in spans which encompasses 2 girders, cross decking, kerb and handrail

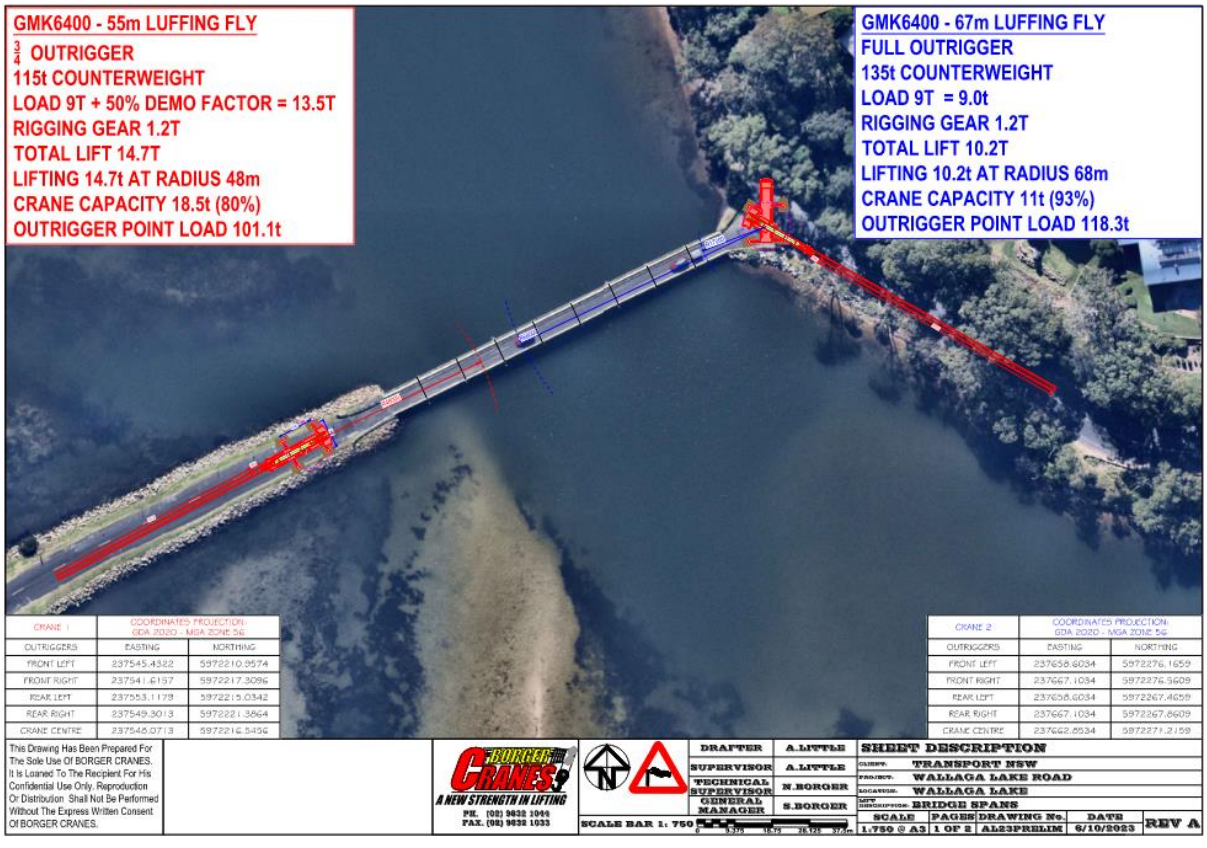


Figure 3-6: Crane setup diagram

Post Stage 3 work

Finishing Works and demobilise from site

Following Stage 3 construction activities, the site will be cleaned up, pontoons and erosion and sediment controls employed on site are to be removed, all waste removed, road signage would be reinstated, and traffic controls would be removed. The following items would occur in this portion of works.

- De-mobilise 400T Crane
- Disestablish site compound, sheds, fencing and materials
- Finish handrail of bridge
- Remove scaffold.

3.3.2 Construction hours and duration

The following working hours would be adopted to carry out for the proposed work activities associated with site establishment and pile and abutment renewal (work stage 1 and 2). These hours being:

- Monday-Friday: 7.00am to 6.00pm
- Saturday 8.00am to 5.00pm
- Sunday: 8.00am to 1.00pm
- Public Holidays: No work.

Note: it is not intended that work will occur on every Saturday or Sunday as detailed above. The working hours beyond the standard working hours will only occur to complete components of work or when deadlines (such as bridge closure period ending) are approaching.

Working hours to undertake the complete rebuild of the bridge superstructure (work stage 3) will be based on a **24-hour, 7 day a week basis.** This round the clock work is necessary to reduce the impact to the community as it will reduce the time needed to close the bridge.

The total works duration broken into stages and duration is summarised in Table 3-1 below.

Table 3-2: Work hours and duration

Stage	Bridge closure	Hours	Duration	Workforce numbers
Pre-construction works – Site establishment	No	Monday-Friday: 7.00am to 6.00pm Saturday: 8.00am to 5.00pm Sunday: 8.00am to 1.00pm	4/3/24 - 28/4/24 8 Weeks	Transport staff – 4 Transport - 1 supervisor
1 –Pile treatment	Yes	Monday-Friday: 7.00am to 6.00pm Saturday: 8.00am to 5.00pm Sunday: 8.00am to 1.00pm	29/4/24 - 26/5/24 4 Weeks	Transport staff - 4 Transport- 2 supervisors 10 divers
2 – Repair abutments	Yes			Pile contractor – 3 staff Excavator operator – 1

Stage	Bridge closure	Hours	Duration	Workforce numbers
				Transport staff – 2 2 divers – contractor
Pre-stage 3 works - establishment (prior to shut down) Install temporary full length floating under bridge scaffold and pedestrian walkway. And temporarily relocate water and sewer pipes. Install microbat exclusion and related mitigation measures.	No	Monday-Friday: 7.00am to 6.00pm Saturday: 8.00am to 5.00pm Sunday: 8.00am to 1.00pm	27/5/24 - 7/7/24 6 Weeks	Transport staff – 4 Transport - 1 supervisor
Timber storage and truck waiting	N/A	24-hours, 7 days a week	Intermittent, as required	
3 – Replace super structure	Yes	24-hours, 7 days a week	8/7/24 – 28/7/24	3 x 8 hour shifts per day 2 crews per shift – 12 staff per shift. Total of Transport crews – 6 with 6 staff per crew. Transport supervisor – 2 per shift – 12 hour rotation Crane contractor – 2 operators
Post stage 3 works - Finishing Works and demobilise from site.	No	Monday-Friday: 7.00am to 6.00pm Saturday: 8.00am to 5.00pm Sunday: 8.00am to 1.00pm	29/7/24 - 31/8/24 5 Weeks	Transport staff – 4 Transport - 1 supervisor

3.3.3 Plant and equipment

The following plant and equipment would be used for the proposed work broken down each stage:

Table 3-3: Stage 1 equipment

Equipment	Qty
Heavy duty cutting tools (i.e. grinder, drop saw, chainsaw)	2
Rattle guns	5
Generator (2kVA)	1
Light vehicles	5
Crew truck	3
IBC	1
Skip bin (6 m3)	1
Flat bottom boat (15hp)	3
Pontoon	1
Scaffold (full length)	1

Table 3-4: Stage 2 equipment

Equipment	Qty
Heavy duty cutting tools (i.e. grinder, drop saw, chainsaw)	2
Rattle guns	5
Generator (30kVA)	1
Generator (60kVA)	1
Light vehicles	5
Crew truck	3
IBC	1
Skip bin (6 m3)	1
Pile driving equipment i.e. piling rig or excavator attachment	1 (possibly 2 i.e. 1 each end simultaneously)
Franna (15T)	1 (possibly 2 i.e. 1 each end simultaneously)
Scaffold (full length)	1

Table 3-5: Stage 3 equipment

Equipment	Qty
Heavy duty cutting tools (i.e. grinder, drop saw, chainsaw)	2
Rattle guns	5
Generator (30kVA)	1
Generator (60kVA)	1
Light vehicles	5
Crew truck	3
IBC	1
Skip bin (6 m3)	1
Pile driving equipment i.e. piling rig or excavator attachment	1 (possibly 2 i.e. 1 each end simultaneously)
Franna (15T)	1 (possibly 2 i.e. 1 each end simultaneously)
Semi Trailers delivering timber and removing timber from site	2 (at any one time)
400T crane	1
Scaffold (full length)	1

3.3.4 Construction materials

Materials which would be brought to site for the work include the following:

- Timber - girders, corbels, headstocks, whalers, bracing, decking, handrail, etc.
- Pile wrapping product - PileMedic
- Rock - abutments

Where possible, the materials would be sourced from local Transport prequalified suppliers. The final quantity of materials would be determined during detailed design.

Surplus or unsuitable material that cannot be used on-site would be classified in accordance with the Waste Classification Guidelines (EPA, 2014) and reused or disposed of at an approved materials recycling or waste disposal facility.

3.3.5 Traffic management and access

The rehabilitation of the Bridge will need partial and full bridge closures. The full closure would be staged at two work stages being work stage (1 and 2) and stage 3. Work stage 1 and 2 will require a full bridge closure for approximately four weeks starting 29 April 2024. Following the closure, the bridge will be open with stop/slow traffic arrangements in place from Monday 27 May for six weeks, weather permitting. Delays of up to five minutes are expected during this period. Work stage 3 will require closure of the bridge for 3 weeks beginning 8 July 2024. Following this 3 week closure period, the bridge will be open with stop/slow traffic arrangements in place from Monday 29 July for five weeks, weather permitting. Delays of up to five minutes are expected during this period.

During the bridge closures, a detour will be in place via Wallaga lake Road onto Cobargo Bermagui Road and Princes Highway then onto Cobargo Bermagui Road and back to Wallaga Lake Road as shown in Figure 3-7.

Figure 3-7: Detour route required during bridge closure periods

Pedestrian access will be maintained via floating scaffolding on the side of the bridge (refer to Figure 3-4:).

Further detail on pedestrian access is provided in the Community Response Plan (Appendix J).

3.4 Ancillary facilities

The proposed site compound and site office will be located at Paynes Island Reserve; the existing rest area located south of the bridge refer to Figure 3-8. Parts of the Wallaga Lake Road will be used for stockpiling of materials (timber, equipment and other construction materials) these areas are shown in Figure 3-9. The nearby public boat ramp (Beauty Point) will be used to access Wallaga Lake. location of the boat ramp is shown in Figure 1-1.

The proposed stockpile for the recovered timber is proposed at the Princes Highway / Victoria Creek bridge site, at Central Tilba the location shown in Figure 1-1. This site is easily accessible off the Princes Highway. In addition to this, there is a truck waiting bay located on the Princes Highway (HW1) approximately 800m from the Bermagui Road turnoff as shown in Figure 1-1.

The location of the proposed ancillary facilities at Paynes Island Reserve is considered the most practicable due to the following factors:

- Within the existing road corridor and indicative construction boundary
- This location would have no public access during construction
- Has direct access from the Wallaga Lake Bridge and Princes Highway for the stockpile location. These sites have clear lines of site for entry and exit for deliveries
- Location does not obstruct construction vehicles
- Would not require levelling as the existing land is relatively flat
- Would not require clearing of native vegetation.

Figure 3-8: Paynes Island – main compound site

The project team will utilise one lane of Wallaga Lake Road for the purposes of storing timber and other equipment required during the construction period. Figure 3-9 shows the location of these respective site compounds/laydown areas being Sites 1 and 2. Site compound 3 would be used as a designated parking area only.

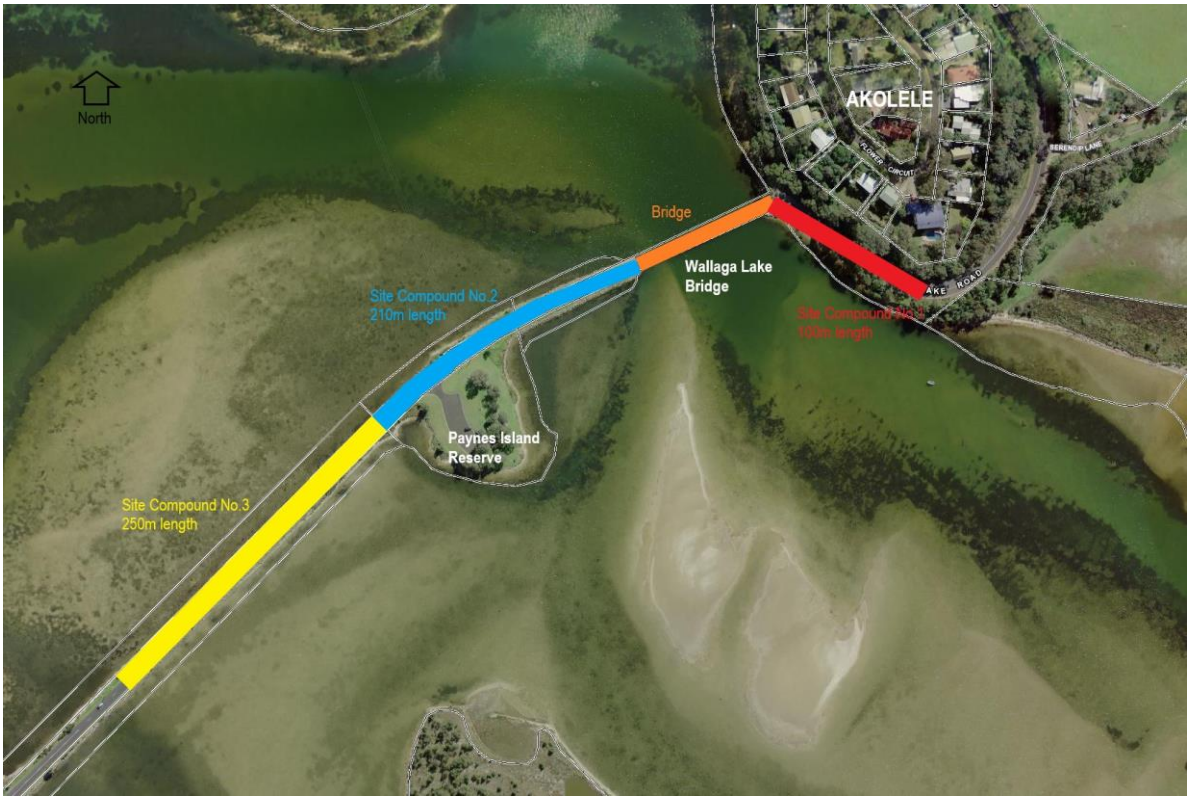


Figure 3-9: Laydown areas along Wallaga Lake Road

3.5 Public utility adjustment

Council sewer and water supply pipelines run over the side of the bridge (as shown in Figure 3-10) and would be disconnected and reconnected to the temporary floating scaffold for the duration of Stage 3 construction works. The pipes would be reattached to the original position once the main bridge components are installed.

Figure 3-10: Bega Council sewer and drinking water lines

3.6 Property acquisition

No property acquisition is required for the proposal.

The proposed compound site (Paynes Island Reserve) is within a Crown land site managed by Bega Valley Shire Council. Transport has consulted with and gained approval from the Crown land manager, Bega Valley Shire Council, for the use of this reserve during construction.

4. Statutory and planning framework

This chapter provides the statutory and planning framework for the proposal and considers the provisions of relevant state environmental planning policies, local environmental plans and other legislation.

4.1 Environmental Planning and Assessment Act 1979

4.1.1 State Environmental Planning Policies

State Environmental Planning Policy (Transport and Infrastructure) 2021

State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP (Transport and Infrastructure)) aims to facilitate the effective delivery of infrastructure across the State.

Section 2.109 of SEPP (Transport and Infrastructure) permits development on any land for the purpose of a road or road infrastructure facilities to be carried out by or on behalf of a public authority without consent.

As the proposal is for a major rehabilitation of Wallaga Lake Bridge (B6168) on Wallaga Lake Road (Bega to Tilba Road - MR272), about 11 kilometres north of Bermagui and is to be carried out by Transport, it can be assessed under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (NSW).

Development consent from council is not required.

The proposal is not located on land reserved under the *National Parks and Wildlife Act 1974* and does not require development consent or approval under:

- State Environmental Planning Policy (Planning Systems) 2021
- State Environmental Planning Policy (Precincts – Central River City)
- State Environmental Planning Policy (Precincts – Eastern Harbour City)
- State Environmental Planning Policy (Precincts – Regional) 2021
- State Environmental Planning Policy (Precincts – Western Parkland City) 2021.

Section 2.10 to 2.15 of SEPP (Transport and Infrastructure) contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. Consultation, including consultation as required by SEPP (Transport and Infrastructure) (where applicable), is discussed in chapter 5 of this REF.

State Environmental Planning Policy (Resilience and Hazards) 2021

State Environmental Planning Policy (Resilience and Hazards) 2021 includes the provisions of the repealed State Environmental Planning Policy (Coastal Management) 2018. It aims to provide regulation of the coastal zone in accordance with the objects of the *Coastal Management Act 2016.*

The proposal is located within proximity to coastal wetlands and within the Coastal use area (refer to Figure 4-1:). Transport as the consent authority must consider the following prior to granting consent for the works under section 2.8 and 2.11 of the SEPP.

2.8 Development on land in proximity to coastal wetlands or littoral rainforest

(1) Development consent must not be granted to development on land identified as “proximity area for coastal wetlands” or “proximity area for littoral rainforest” on the *Coastal Wetlands and Littoral Rainforests Area Map* unless the consent authority is satisfied that the proposed development will not significantly impact on—

(a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or

(b) the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest.

(2) This section does not apply to land that is identified as “coastal wetlands” or “littoral rainforest” on the *Coastal Wetlands and Littoral Rainforests Area Map*.

2.11 Development on land within the coastal use area

(1) Development consent must not be granted to development on land that is within the coastal use area unless the consent authority—

(a) has considered whether the proposed development is likely to cause an adverse impact on the following—

(i) existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,

(ii) overshadowing, wind funnelling and the loss of views from public places to foreshores,

(iii) the visual amenity and scenic qualities of the coast, including coastal headlands,

(iv) Aboriginal cultural heritage, practices and places,

(v) cultural and built environment heritage, and

(b) is satisfied that—

(i) the development is designed, sited and will be managed to avoid an adverse impact referred to in paragraph (a), or

(ii) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(iii) if that impact cannot be minimised—the development will be managed to mitigate that impact, and

(c) has taken into account the surrounding coastal and built environment, and the bulk, scale and size of the proposed development.

(2) This section does not apply to land within the Foreshores and Waterways Area within the meaning of State Environmental Planning Policy (Biodiversity and Conservation) 2021, Chapter 6.

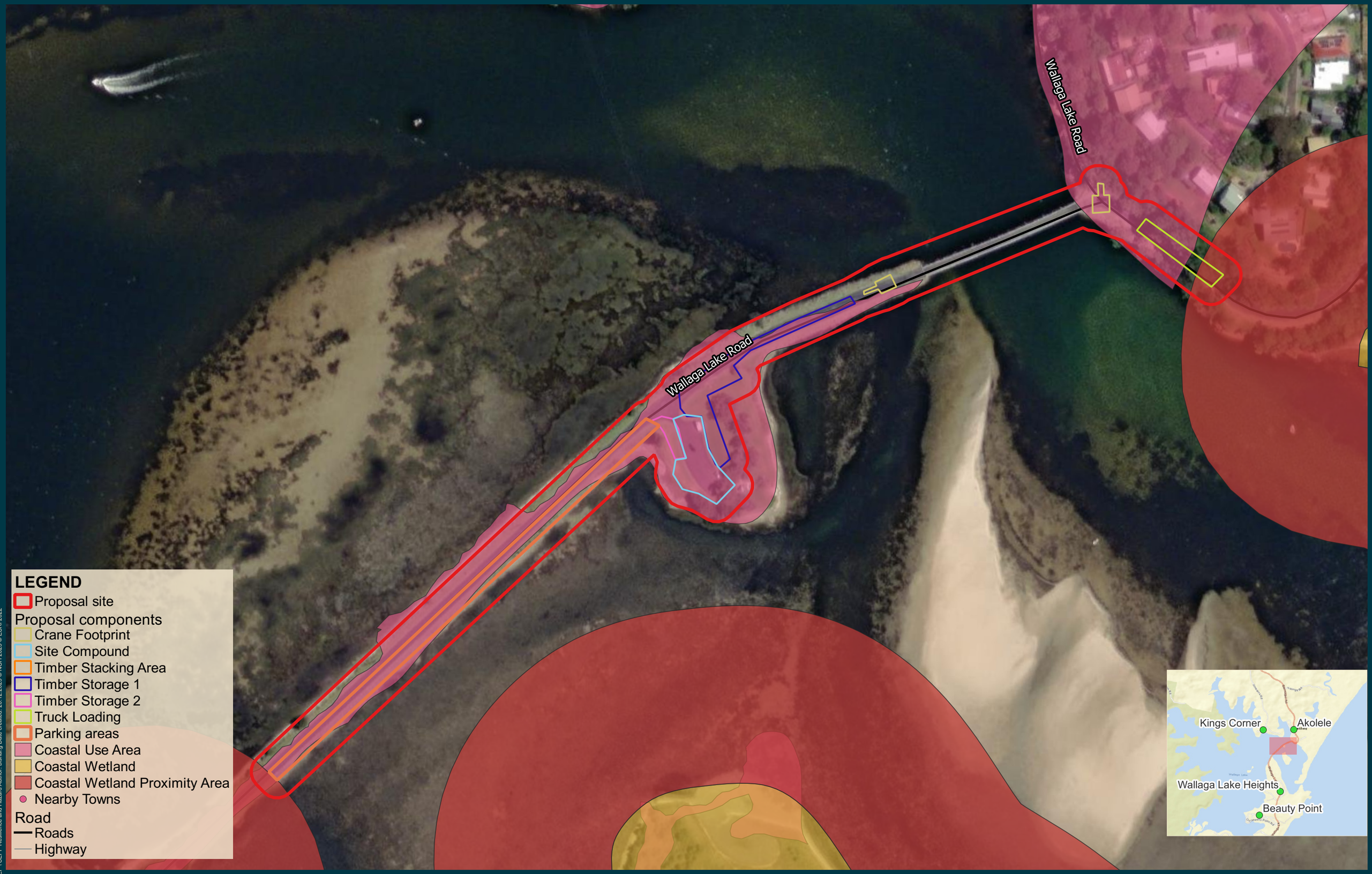


Figure 4-1: Resilience and Hazards SEPP costal planning areas

4.1.2 Local Environmental Plans

Bega Valley Local Environmental Plan (Bega Valley LEP) 2013

The majority of the proposal is within the Bega Valley Local Government Area (LGA). Accordingly, the Bega Valley LEP applies to the proposal site.

The proposal is within the existing road corridor and rest areas and is zoned RE1 Public recreation and W1 Natural Waterways. Temporary compounds are located on the zone classified as RE1. Consultation with Bega Valley Shire Council has taken place regarding use of this site on a temporary basis for the period of construction. The main bridge works are located over the area zoned as W1 Natural Waterways.

The provisions of TISEPP override development consent requirements of the local government LEP's and development consent from local councils is not required. Consultation requirements with Bega Valley Council pursuant to the TISEPP are outlined in Section 5.4.

Wallaga Lake Bridge is listed on the Bega Valley LEP as a local heritage item (no. I126).

The proposed work aims to improve the structural integrity of the existing bridge while maintaining heritage values. Extensive consultation has been undertaken with Bega Valley Shire Council who support the proposal (Appendix I).

Eurobodalla Local Environmental Plan (Eurobodalla LEP) 2012

The northern abutment and stockpiles are located within the Eurobodalla LGA. The Eurobodalla Valley LEP would therefore apply to the areas.

The northern abutment and truck loading area is within the existing road corridor. The rest areas site is zoned R2 Low Density Residential and the stockpile site is located on land zoned RU1 Primary Production.

The provisions of TISEPP override development consent requirements of the local government LEP's and development consent from local councils is not required. Consultation requirements with Eurobodalla Shire Council pursuant to the TISEPP are outlined in Section 5.4.

4.2 Other relevant NSW legislation

4.2.1 Roads Act 1993

Under section 138 of the *Roads Act 1993* a person must not:

erect a structure or carry out a work in, on or over a public road, or dig up or disturb the surface of a public road, otherwise than with the consent of the appropriate roads' authority.

The proposal would affect local road (Wallaga Lake Road), managed by Council. Consultation with Council regarding the proposal was done in September 2022. Please refer to Appendix I for details on consultation with Council.

4.2.1 NSW National Parks and Wildlife Act 1974 (NPW Act)

The proposal is not within National Park. the closest national park is approximately 1.2km west of the proposal.

The objectives of NPW Act are the conservation of nature, objects, places, or features of cultural value within the landscape, fostering public appreciation understanding and enjoyment of nature and cultural heritage and their conservation and providing for the management of land reserved under this Act in accordance with the management principles applicable for each type of reservation. The objects are to be achieved by applying the principles of ESD.

This proposal would not impact on any land, objects, places, or features of cultural value (Aboriginal and non-Aboriginal) reserved under this Act. Nonetheless, this REF applies the principles of ESD.

4.2.2 Crown Lands Management Act 2016

The *Crown Land Management Act 2016* (NSW) aims to provide for ownership, use and management of Crown land in NSW. The proposal site is within Paynes Island which is Crown Land. Bega Valley Shire Council is the land manager, consultation has been undertaken with BVSC.

4.2.3 The Marine Estate Management Act 2014 (MEM Act)

The Marine Estate Management Act 2014 (MEM Act) provides for strategic and integrated management of the whole marine estate – our marine waters, coasts and estuaries. The Act commenced on 19 December 2014.

The Act sets the legal foundation for delivering on the NSW Government's vision for a healthy coast and sea, managed for the greatest well-being of the community, now and into the future. It will mean that decisions will be made by considering environmental, economic and social factors.

The Act does this by:

- Providing for the management of the marine estate consistent with the principles of ecologically sustainable development
- Providing for a comprehensive system of marine parks and aquatic reserves.

The Act is supported by regulations that set out the rules for managing the marine estate and marine parks, and an aquatic reserve notification is in place with management rules for aquatic reserves:

- Marine Estate Management Regulation 2009
- Marine Estate Management (Management Rules) Regulation 1999
- Aquatic Reserves Notification 2013.

The proposal is located within two zones. Downstream of the existing bridge is the Wallaga Lake Habitat Protection zone as defined under section 7.6 of the Marine Estate Management (Management Rules) Regulation 1999 while upstream is a General Use zone.

Clause 55 Development within marine parks and aquatic reserves - application of EP&A Act, subclause 3 states:

A determining authority must not carry out, or grant approval to carry out, an activity (within the meaning of Part 5 of the EP&A Act) unless the determining authority has taken into consideration:

- If there are management rules for the marine park or aquatic reserve, the purposes of the zone within which area concerned is situated as specified in those management rules; and
- The permissible uses of the area concerned under the regulations or the management rules; and
- If a management plan for the marine park or aquatic reserve has been made, the objectives of the marine park or aquatic reserve; and
- Any relevant marine park or aquatic reserve notifications.

Transport have commenced consultation with Batemans Marine Park regarding the proposal. A permit for the proposal would be required under the Marine Estate Management (Management Rules) Regulation 1999 in regard to the protection of animals, plants and habitat.

A specialist Aquatic Biodiversity Assessment for the proposal concluded that the proposal was unlikely to significantly affect the aquatic environment. The assessment is detailed in Appendix E.

4.2.3.1 Heritage Act 1977 (Heritage Act)

Heritage in NSW is principally protected by the Heritage Act. The Heritage Act aims to conserve items of environmental heritage of NSW; and includes known heritage items (such as standing structures) and items that may not be immediately obvious (such as potential archaeological remains or ‘relics’).

Section 170 of the Heritage Act requires that culturally significant items or places managed or owned by Government agencies are listed on departmental Heritage and Conservation Register. No items listed under the NSW State Heritage Register are within the study area.

4.2.4 Native Title Act 1993

The *Native Title Act 1993* provides a legislative framework for the recognition and protection of common law native title rights. Native title is the recognition by Australian law that Indigenous people had a system of law and ownership of their lands before European settlement.

A search of the Register of Native Title Claims was undertaken on 20 July 2023. South coast People have claims for native title accepted on 31 January 2018 within the Bega Valley Shire Local Government Area (LGA). A copy of the registration decision is attached in Appendix D.

4.2.5 Waste Avoidance and Resource Recovery Act 2001

The *Waste Avoidance and Resource Recovery Act 2001* (NSW) includes resource management hierarchy principles to encourage the most efficient use of resources and to reduce environmental harm.

The proposal's resource management options would be considered against a hierarchy of the following order:

- Avoidance of unnecessary resource consumption
- Resource recovery (including reuse, reprocessing, recycling and energy recovery)
- Disposal.

Adopting the above principles would encourage the most efficient use of resources and reduce costs and environmental harm in accordance with the principles of ecologically sustainable development (Section 6.5)

4.2.6 Environmental Planning and Assessment Regulation 2021 (EP&A Regulation)

The Environmental Planning and Assessment Regulation 2021 (NSW) (EP&A Regulation) sets out the requirements and form for a REF and the consideration of matters to be addressed.

Section 170 refers to the REF Guidelines to be followed.

Section 171(2) refers to the environmental factors to be taken into account in the REF.

Section 171(4) requires publication of an REF for any activity with:

- A capital investment value of more than $5 million
- An approval or permit for activity that requires approval under:
  - *Fisheries Management Act 1994* (NSW) sections 144, 201, 205 or 219
  - *Heritage Act 1977* (NSW) section 57
  - *National Parks and Wildlife Act 1974* (NSW) section 90
  - *Protection of the Environment Operations act 1997* (NSW) sections 47-49 or 122
- If the determining authority considers it to be in the public interest.

This applies to the proposal unless, as noted under section 171(6), it:

a) Belongs to a class specified by the Planning Secretary in a notice published on the Department's website for the purposes of this section, or

b) An approved code under Division 6 applies.

Publishing of the REF must be undertaken on Council's website either:

a) Before the activity commences, or

b) If not practical, no later than one month after the activity commences.

In preparing this REF, the REF Guidelines have been followed and all Section 171(2) factors have been taken into consideration (refer Appendix A). Fisheries permit is required. Therefore, the proposal need to be published.

4.3 Commonwealth legislation

4.3.1 Environment Protection and Biodiversity Conservation Act 1999

Under the EPBC Act, a referral is required to the Australian Government for proposed actions that have the potential to significantly impact on matters of national environmental significance or the environment of Commonwealth land. These are considered in Appendix A and chapter 6 of the REF.

A referral is not required for proposed road activities that may affect nationally-listed threatened species, endangered ecological communities and migratory species. This is because requirements for considering impacts to these biodiversity matters are the subject of a strategic assessment approval granted under the EPBC Act by the Australian Government in September 2015.

Potential impacts to these biodiversity matters are considered as part of chapter 6 of the REF.

Findings - matters of national environmental significance

The assessment of the proposal's impact, on matters of national environmental significance and the environment of Commonwealth land, found that there is unlikely to be a significant impact on relevant matters of national environmental significance or on Commonwealth land. Accordingly, the proposal has not been referred to the Australian Government Department of Climate Change, Energy, the Environment and Water under the EPBC Act.

4.4 Confirmation of statutory position

The proposal is categorised as development for the purpose of road infrastructure facilities and is being carried out by or on behalf of a public authority. Under section 2.108 of SEPP (Transport and Infrastructure) the proposal is permissible without consent. The proposal is not State significant infrastructure or State significant development. The proposal can be assessed under Division 5.1 of the EP&A Act.

Transport is the determining authority for the proposal. This REF fulfils Transport's obligation under section 5.5 of the EP&A Act including to examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the activity.

5. Consultation

This chapter discusses the consultation undertaken to date for the proposal and the consultation proposed for the future.

5.1 Consultation strategy

Community involvement has been an integral component in the development of the final proposal (Option 3). At each stage, Transport has proactively engaged the community and stakeholders to increase public understanding of, and participation in, the development of the proposal.

The proposal has benefited from the input of local knowledge provided through community engagement and consultation, which has helped identify issues, potential mitigation strategies and opportunities to improve proposal outcomes.

A Community and Stakeholder Engagement Strategy has and will continue to be designed to inform and consult with the community and stakeholders in a constructive and transparent manner.

5.2 Community involvement

Initial community consultation and engagement – May to July, 2023

Community consultation was carried out by transport between Monday 29 May and Tuesday 25 July 2023 for upcoming essential maintenance work on Wallaga Lake Bridge. The community was invited to provide feedback through an online survey between Monday 29 May and Friday 23 June 2023 on two proposed construction timing and approaches (Option 1 and 2).

An online survey was prepared to allow the community and stakeholders to easily provide feedback. This was the primary feedback tool and was available from Monday 29 May to Friday 23 June 2023. The community and stakeholders were able to submit feedback via mail, email, phone and face-to-face. The survey was promoted in all communication materials about the project and via a media release. A link to the survey was featured on the project webpage, and participants were also able to access the survey via direct link in an email blast and Facebook post. The survey was also accessible from printed material by scanning a QR code, such as the project notification which was distributed via mail. In addition, hard copies of the survey were available at a face-to-face information session on Payne's Island, where interested community members were invited to come along and speak to the project team.

Transport also met with key community groups on Tuesday 25 July at Bermagui Country Club and attended an open community forum organised by the Member for Bega, Dr Michael Holland MP that night where further feedback was received.

Transport for NSW received a total of 501 written responses from the community during the consultation period.

A range of communication tools and activities were used to encourage participation from a wide audience and enable the community and stakeholders to give informed feedback. Communication activities included media announcements, letterbox drops, social media and email campaigns, door knocking local businesses, information sessions and face-to-face engagements.

Details of the consultation and communication activities carried out are listed below:

- Media announcement on Monday 29 May
- Distribution of 7,561 project notifications to residents living in Wallaga Lake, Beauty Point, Fairhaven, Cuttagee, Bermagui, Cobargo, Akolele, Central Tilba, Tilba Tilba, and Narooma
- New project webpage with project specific information including FAQs and a link to the online survey
- Email campaign sent on Monday 29 May to registered stakeholders
- Social media campaign ran from Monday 29 May to Sunday 4 June
- An online survey was the primary tool for collecting feedback between Monday 29 May and Friday 23 June. During this period, transport received:

- 420 online survey responses
- 68 email enquiries/submissions
- 13 written submissions via Member for Bega, Dr Michael Holland. Face-to-face engagement
- Meeting with Merrimans Local Aboriginal Land Council on Wednesday 14 June
- Door knocking local businesses on Thursday 15 and Friday 16 June
- Face-to-face information session on Payne's Island Reserve at Wallaga Lake on Saturday 17 June between 10am –2pm. Around 100 community members attended the session where Transport staff were available to answer questions and receive feedback
- Meeting with Local Emergency Management Committee on Thursday 6 July hosted by Bega Valley Shire Council (Transport attended via MS Teams)
- Meetings with other key stakeholders. Key community group meetings Transport representatives met with several key community groups on Tuesday 25 July at Bermagui Country Club. This included:
  - Bermagui Chamber of Commerce and Tourism Inc
  - Local business owners
  - Board member from Merrimans Local Aboriginal Land Council
  - Mayor and Acting General Manager from Bega Valley Shire Council
  - Bermagui Historical Society and Montreal Goldfields
  - Event organisers from Sculpture Bermagui and Four Winds Festivals
  - Principal from Bermagui Public School.
- Community forum A community forum was held in Bermagui on Tuesday 25 July, hosted by Dr Michael Holland, State Member for Bega and the Hon Kristy McBain, Federal Member for Eden-Monaro. Transport provided an overview of the project at the forum, listened to personal statements from community members, answered questions and recorded feedback. All feedback received has been considered in this report.

Respondents were asked to choose a preference between the two proposed options (Options 1 and 2). 80% of respondents chose option 2 which sees the bridge operating under three different arrangements for a duration of around 11 months. The extended duration proposed allowed connectivity to schools to be maintained with a shorter full closure period but would have longer period of disruption to the community.

A summary of key themes raised by the community was developed through this consultation process. Key themes were outlined in the Community Consultation Summary that was released to the public in September 2023.

Key themes identified include:

- Build a new bridge
- Build a temporary bridge
- Carry out the work at night
- Maintain pedestrian access
- Provide alternate transport options during closure periods
- Impacts on school children travelling to school
- Emergency services access and response times
- Loss of business/tourism
- Protection of the bridge.

Revised construction approach and timeframes

As a result of this consultation, Transport opted to modify the scope of the proposal and construction techniques to minimise total closure periods and impacts on the community.

With the community's detailed feedback, the project team developed a revised timing and approach to carry out the work that will minimise impacts and includes support to the community, while also being safe for crews working on the bridge.

The new proposal was announced in late November 2023 and Transport hosted two drop-in sessions on Monday 4 December where the community were invited to attend and ask questions.

The project team were available to answer any questions about the revised proposal, and throughout the day heard from community members and representatives of key stakeholder groups. During these discussions, the project team also sought

local insights which will inform the development of community support strategies which will be implemented during the bridge closure periods.

In addition, the project team visited local businesses and community organisations on Monday 4 and Tuesday 5 December to better understand the needs of their customers and communities during the closure periods, including the medical centre, local pharmacy, supermarket, and Merrimans Local Aboriginal Land Council.

The new proposal includes a range of strategies to support the community during the delivery of the project and in the full closure periods.

A Community Response Plan has been developed for the project (Appendix J) which outlines the strategies Transport are investigating in response to community key concerns. The strategies include:

- Alternate transport options – shuttle buses will support the community during the full closure periods
- Carry out work at night – during the second closure period work will be carried out during the day and night. This will reduce the time the bridge will need to be closed
- Pedestrian access – pedestrian access will be maintained for the duration of the project
- Travelling to school – Transport are working with local school bus operators to develop solutions to minimise impacts on school children commuting to and from school. In addition, the second closure period falls over the July school holidays to reduce the time school children will be impacted.

Local business and events – local events and peak season has been considered in the new timing of the work. Additionally, we will work with event organisers and local businesses to identify opportunities to promote that a bridge closure at any time does not mean Bermagui is inaccessible or closed for business.

Transport is committed to ongoing consultation with the community as the project progresses.

5.3 Aboriginal community involvement

The project, as described in the Stage 1 PACHI assessment was assessed as being unlikely to have an impact on Aboriginal cultural heritage.

Transport have consulted extensively with the local Aboriginal community through the key Aboriginal body, Merrimans Local Aboriginal Land Council (LALC), which is stationed at the nearby Wallaga Lake Community. A summary of the consultation is as follows:

- 27 March 2023 – Meeting with Amanda Foster, Acting CEO, Merrimans LALC
- 14 June 2023 – Meeting with Merrimans LALC Board to discuss project scope and the two proposed options for carrying out the work. Feedback was received
- 13 July 2023 – Visit to Wallaga Lake community to drop off copies of the community update to residents regarding consultation on the two proposed options
- 9th Oct, 2023 - Visit to Wallaga Lake community to discuss deployment of noise logger to assist with the Construction Noise and Vibration Assessment. Met with Amanda Foster, Acting CEO, Merrimans LALC
- 19 Sept, 2023 – Visit to Wallaga Lake community to drop off copies of the community update (postcard) that announced work will not start till 2024 and the Community Consultation Report is available to view
- 5th Dec 2023 – Visit to Wallaga Lake community to drop off community update and discuss revised construction methodology with Amanda Foster, Acting CEO, Merrimans LALC.

In Section 6.7 of this proposal REF, Transport commits to a thorough communications strategy to engage our Aboriginal community in Wallaga Lake discreet community and Bermagui are engaged and consulted with on the bridge closure and works to be carried out'. This would be completed prior to works commencing.

5.4 SEPP (Transport and Infrastructure) consultation

Bega Valley Shire Council and Eurobodalla Shire Council have been consulted about the proposal as per the requirements of Section 2.10 to 2.15 of SEPP (Transport and Infrastructure). Appendix B contains a SEPP (Transport and Infrastructure)

consultation checklist that documents how SEPP (Transport and Infrastructure) consultation requirements have been considered.

5.5 Government agency and stakeholder involvement

Transport has consulted with DPI Fisheries under Section 199 of the Fisheries Management Act 1994 regarding dredging and reclamation work associated with the proposal. A letter was sent to DPI Fisheries on 19 August 2022. DPI Fisheries responded back on 13 October 2023 with no objection to the proposal, they recommended transport to consult with Batemans Marine Park.

Since then, transport has consulted with Batemans Marine Park and have taken representative from the Marine Park for a site visit. Their recommendations have been considered during detailed design of this proposal.

Transport for NSW Maritime were also consulted on regarding the closure of the bridge to vessels. TfNSW Maritime responded on 8 November2023 advising there were no issue with the rehabilitation works. These letters are attached as Appendix I of this REF. The recommended mitigation measures are included in Section 6.1.4.

5.6 Ongoing or future consultation

This proposal will pilot a new consultation method called Community Disruption Response (CDR) planning. The CDR is a short-term solution which can be rolled out in response to projects like the Wallaga Lake Bridge essential maintenance work where significant impacts to regional NSW customers may result. For further detail on what the CDR will include refer to Appendix J.

The REF will be made available to public for information only.

6. Environmental assessment

This section of the REF provides a detailed description of the potential environmental impacts associated with the construction and operation of the proposal. All aspects of the environment, potentially impacted upon by the proposal, are considered. This includes consideration of:

- Potential impacts on matters of national environmental significance under the EPBC Act
- The factors specified in the Guideline for Division 5.1 assessments (DPE 2022) and as required under section 171 of the EP&A Regulation and the Roads and Related Facilities EIS Guideline (DUAP 1996). The factors specified in section 171 of the EP&A Regulation are also considered in Appendix A
- Site-specific safeguards and management measures are provided to mitigate the identified potential impacts.

General safeguard for the proposal are detailed in Table 6-1.

Table 6-1: General safeguard for the proposal

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
1.	General - minimise environmental impacts during construction	A CEMP will be prepared and submitted for review and endorsement of the Transport for NSW Senior Manager Environment and Sustainability prior to commencement of the activity. As a minimum, the CEMP will address the following: • any requirements associated with statutory approvals • details of how the project will implement the identified safeguards outlined in the REF • issue-specific environmental management plans • roles and responsibilities • communication requirements • induction and training requirements • procedures for monitoring and evaluating environmental performance, and for corrective action • reporting requirements and record-keeping • procedures for emergency and incident management • procedures for audit and review. The endorsed CEMP will be implemented during the undertaking of the activity. The Consultation Plan will include consultation with proponents of the Batemans Marine Park and Kelp Farming Aquaculture projects to: • Increase awareness of construction timeframes and impacts • Coordinate impact mitigation and management.	Transport	Pre-construction / detailed design	

6.1 Aquatic Ecology

6.1.1 Methodology

The biodiversity assessment includes the following:

- Database searches
- Review of existing aquatic ecological assessment (Elgin Associates, 2023)
- Assessment of impacts and recommendation of mitigation measures.

Database Searches

Background searches undertaken for the purposes of this assessment included Commonwealth and State databases to determine whether any of the following occur or are likely to occur within the study area:

- Threatened flora and fauna species
- Threatened populations
- Threatened ecological communities (TECs)
- Migratory species
- Priority weeds.

Database search parameters are listed in Table 6-2 below.

Table 6-2: Biodiversity database searches

Resource	Target	Search Date	Search Area
NSW BioNet Atlas search	Threatened flora and fauna species, populations and ecological communities listed under the BC Act	1/11/23	a. 10 km radius of proposal site
EPBC Act Protected Matters Search Tool	Threatened flora and fauna, endangered populations and ecological communities and migratory species listed under the EPBC Act	1/11/23	10 km radius of proposal site
NSW DPI WeedWise	Priority weeds declared for the region	1/11/23	Snowy Monaro Regional LGA
DPI Fisheries NSW Spatial Data Portal	Freshwater fish community status, key fish habitat and threatened species listed under the FM Act	1/11/23	Lot boundary

Aquatic ecological assessment

The aquatic ecological assessment was undertaken by Elgin Associates Pty Ltd (Elgin Associates) engaged by Envirokey Pty Ltd (Envirokey) on behalf of Transport for the proposal (Appendix E). The objective of the assessment was to document species assemblages and habitats present within the proposal site, identify any matters of conservation significance that may be impacted by the proposed works, and recommend management strategies to mitigate risk of potential impact. Existing spatial datasets and assets relevant to the survey and inspection reviewed included: Atlas of Living Australia (Atlas of Living Australia , 2023), NSW Fisheries Spatial Data Portal (DPI, 2023) and the Piling plan for the Wallaga bridge (provided by Transport).

The field survey methods included a tow video survey to characterise benthic habitats and the extent of seagrass community within the proposal area, in combination with diver inspection survey of the bridge piles and benthic substrates. Fieldwork was conducted under NSW Marine Park permit MEAA21/373 issued to Transport (Appendix A, Elgin 2023). Specifically, this aquatic ecological assessment addresses permit condition 18…*The Permittee must inspect the site for presence of Syngnathids (including sea horses) prior to the commencement of works. No jetting or scraping can commence until the animals have retreated from the area.*

Survey inspections of bridge pilings for the potential presence of sea horses was conducted by two experienced marine ecologists. Divers were supported by a surface attendant operating a small work vessel in 2D survey. Each pile was inspected for presence of any complex three-dimensional (3D) habitats known to potentially support sea horses such as

cunjevoi, sponges, macroalgae, ropes and discarded fishing line, and benthic habitats at the base of each pile. Fish taxa observed during surveys was also noted.

The field survey for seagrass was undertaken during ebb tide conditions on 15 February 2023, from a small commercial vessel using tow-video to inspect the seabed. Validation points were attributed along the inspection route, according to benthic substrate and habitat type and subsequently used to output a revised distribution map of aquatic habitats.

6.1.2 Existing environment

Historical records of syngnathiformes - Wallaga Lake

Available databases were searched by Elgin (2023) as part of field survey preparations for the aquatic ecological assessment, for historical records of sea horses and black cod reported from the Wallaga Lake estuary. Preparations found, observational records from the Atlas of Living Australia indicated two syngnathid taxa had been reported from Wallaga Lake estuary (Figure 6-1: & Figure 6-2:) including:

- Three records of Hairy Pipefish (Urocampus carinirostris), last reported in 1990
- One record of Port Phillip pipefish (Vanacampus phillipi), reported in 1984.

The hairy pipefish has been recorded in the vicinity of the Wallaga bridge with the most recent record from Paynes Island 1984, while the Port Phillip pipefish was recorded on northern side of Regatta Point (Figure 6-1:).

Both pipefish taxa inhabit seagrass meadows and algal beds and are unlikely to be found on structures associated with the Wallaga bridge. In addition to the above, a dead specimen of Weedy seadragon (*Phyllopteryx taeniolatus*) was found washed up on a beach south of the Wallaga Lake entrance in 2023. Weedy seadragons inhabit rocky reef environments on the open coast and are unlikely to occur in Wallaga Lake. A summary of the observational records and habitat preferences of each taxon is provided in Table 6-3 and shown in Figure 6-2: .

Figure 6-1: Records of Syngnathiformes at Wallaga Lake (ALA 2023).

Figure 6-2: Members of Syngnathiformes reported from Wallaga Lake (Fishes of Australia, 2023).

Table 6-3: Summary of the Syngnathiformes records - Wallaga Lake estuary (as shown in Figure 6-1:).

Family	Taxon	Common name	Records[1]	Wallaga Lake record	Preferred Habitat	Likelihood of occurrence
Syngnathidae	*Urocampus carinirostris*	Hairy Pipefish	3	1990, collected in hand net on northern side of Regatta Point.	Inhabits the lower reaches of rivers, sheltered estuaries and shallow reefs in seagrass and algal beds a 0-6 m.	Unlikely
Syngnathidae	*Vanacampus phillipi*	Port Phillip Pipefish	1	1984, collected on northern side of Regatta Point	Commonly inhabits seagrass beds (including *Halophila, Heterozostera*, *Posidonia, Ruppia* and *Zostera)* and macroalgae in shallow estuaries, coastal lagoons, and protected bays at depths to 25 m.	Unlikely

Note: [1] ALA (2023). Atlas of Living Australia, accessed 20 February 2023 URL: https://www.ala.org.au/, [2]Occurrence on Wallaga Bridge pilings.

Piling inspection survey results

Key findings from the Elgin (2023) inspection survey included:

- Bridge piles are characterised by encrusting growth dominated by filter feeding invertebrates barnacles and mussels.
- All surfaces were covered in a fine layer of silt and turfing algae.
- Small aggregations of mussels were also observed on the bed sediments next to piles. Other shellfish observed included the Sydney rock oyster (Saccostrea glomerata) that were present on the rock armour of the bridge abutments but were largely absent from the bridge piles.
- No taxa belonging to Syngnathiformes were recorded during the inspection survey and it is considered unlikely that Syngnathiformes would utilise the encrusting growth on the bridge piles.

- Twelve (12) fish taxa were observed at the bridge including yellowfin bream, silver sweep, luderick, leatherjacket and cryptic species Eastern fortescue, gobies and horned blenny. All species observed are commonly encountered in estuarine and nearshore marine habitats of south-eastern Australia.
- Bed sediments were characterised by highly mobile sandy silt with variable levels of shell, liable to resuspend easily and cause turbidity and a decline in water clarity.

See Appendix E for further details and photos of pilings and benthos.

Benthic habitats and seagrass extent

Elgin (2023) encountered three benthic habitat types over the study area. In order of the total area covered, these included unconsolidated soft sediment, seagrass and consolidated substrate (bedrock, boulder, cobbles). The distribution of benthic habitats in the vicinity of the Wallaga bridge is provided in Figure 6-4:.

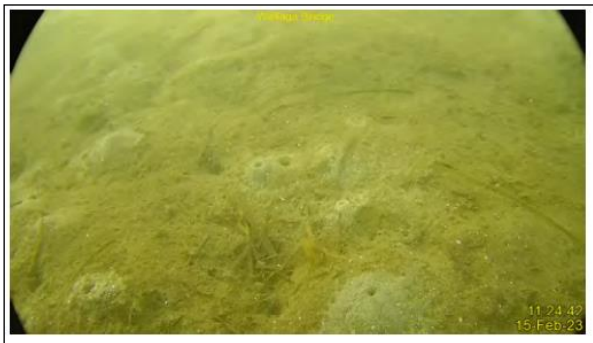


Photo 1. Example of unconsolidated sand substrate with faunal burrows.

Photo 2. Seagrass *Zostera* and macrolagae habitat observed on the eastern side of bridge adjacent to Paynes Island.

Photo 3. Example of consolidated rock substrate colonised by macroalgae observed at the northern shoreline east of the bridge.

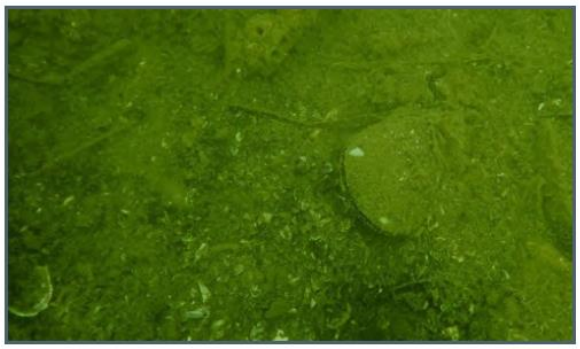


Photo 4. Deposits of dead shell in sediments were highest around the base of bridge piles.

Figure 6-3: Characteristic benthic habitats and seagrass coverage – Wallaga Lake Bridge

Historical seagrass distribution - Wallaga Lake

Elgin (2023) reviewed the DPI Fisheries spatial data portal for mapped extent of seagrass in Wallaga Lake and validated mapping through field assessment (mapped in Figure 6-4:). Key findings from the survey include:

- There is no seagrass present within the footprint of the bridge. The nearest patch of seagrass to the bridge is 15 m away with the majority of seagrass more than 25 m from the bridge.
- The seagrass community is comprised primarily of Zostera muelleri with Halophila ovalis a minor component. Patches of seagrass vary from low to medium shoot density.
- Elgin (2023) found through comparison of the seagrass distribution at the study area between 2002 and 2023 indicates the seagrass meadow has become more fragmented with an overall decline in extent over the past 20-year period.

- The dominant habitat at the survey area is unconsolidated soft sediment comprising fine sand and silt. Except for small aggregations of mussel on the benthos below the bridge, there were no other occurrences of living shellfish such as mud oyster (Ostrea angasi) observed over soft sediment habitat.
- Consolidated substrate is a mixture of bedrock, gravel and cobbles adjacent to the northern shoreline and at the bridge abutments. Macroalgae and oysters are present on the outcropping bedrock.

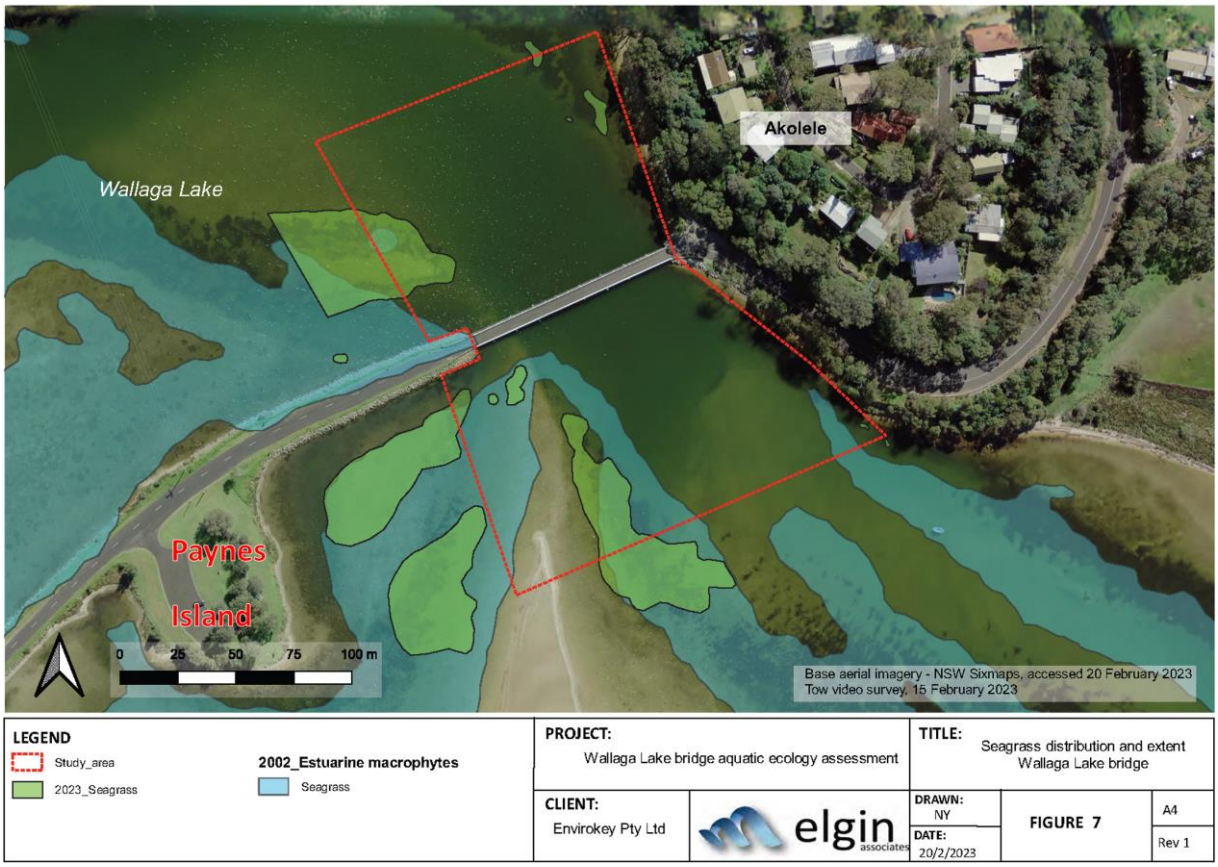


Figure 6-4: Seagrass extent Wallaga Lake

6.1.3 Potential impacts

Construction

Planned works and rehabilitation activities with the largest interaction with the aquatic environment include:

- Removal of the existing HDPE pile wrapping from each pile.
- Scrape clean any material on the timber piles.
- Apply PileMedic wrapping and grout the void (annulus) between the timber pile and wrap with epoxy grout (Elgin 2023).

wrapping of the pile would extend below the bed level by 300 – 500mm. These works will result in the loss of all existing marine encrusting growth on the piles. Construction diver activities that include pile cleaning and application of wrap are likely to cause disturbance and resuspension of bed sediments resulting in turbidity plumes and short-term declines in water clarity.

The grouting method used with piling wrap system comprises low viscosity resins, hardeners and sand aggregate that is pumped or poured into the inside (annulus) of the wrap. Once cured the grout is hardened and has no reported ecological effects. However, some potential for spillage or leakage of the epoxy grout is possible during application. Such incidents may result in localised grout leakage that will eventually cure and harden on the bed sediments at the base of the piles. Hardened grout leakage can be later removed by divers during site clean-up. To avoid such incidents, divers should monitor for potential leakage during application of the epoxy grout.

Syngnathiformes

As no members of Syngnathiformes were recorded on bridge piles or observed in habitats immediately adjacent to the bridge, potential direct impacts to Syngnathiformes from rehabilitation activities is considered minimal. The most recent record of Syngnathiformes for the Wallaga Lake is the hairy pipefish (*Urocampus carinirostris*) in 1990. Potential indirect impact to the hairy pipefish or Port Phillip pipefish from rehabilitation activities may occur from turbidity and sedimentation to its preferred habitat. These potential impacts can be controlled via standard environmental safeguards such as silt curtains and booms.

Seagrass

Seagrass habitat exists in the vicinity of the bridge but there is no seagrass present within the footprint of the bridge itself. The nearest patch of seagrass to the bridge is 15 m away with majority of seagrass more than 25 m distal from the bridge.

The likelihood of direct impacts to seagrass (i.e., direct disturbance) is considered low given the distance of seagrass from the bridge. It is understood that Paynes Island will be used as a project staging area. The water surrounding Paynes Island (See labelled in Figure 6-4:) is shallow with extensive seagrass that could be directly impacted by propellors, or hull grounding should work vessels attempt to moor close to Paynes Island. Work vessels should moor close to the bridge over soft sediments and appropriate boat ramps (i.e., Beauty Point) used for launching and retrieving of work vessels.

Operation

During operation, the proposal would not result in any additional impact to the aquatic ecosystem.

6.1.4 Safeguards and management measures

Table 6-4: Aquatic ecology safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
2.	Aquatic Biodiversity	Aquatic habitat will be protected in accordance with *Guide 10: Aquatic habitats and riparian zones of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA 2011) and Section 3.3.2 Standard precautions and mitigation measures of the *Policy and guidelines for fish habitat conservation and management Update 2013* (DPI (Fisheries NSW) 2013).	Transport	Construction	
3.	Aquatic Biodiversity	Implement environmental safeguards such as silt curtains, booms etc. to control sediment disturbance for the duration of construction and rehabilitation activities to ensure that there is no escape of turbid plumes into the adjacent aquatic environment.	Transport	Pre-construction/ Construction	
4.	Aquatic Biodiversity	Carefully monitor the application of epoxy grout to check for leakages from the PileMedic wrap. Any leakages to the bed sediments to be reported and once cured, removed during site clean-up.	Transport	Pre-construction/ Construction	
5.	Aquatic Biodiversity	Work vessels are not to attempt to enter the shallow waters around Paynes Island to minimise potential direct impact to the seagrass community. Refer to Figure 6-4 which shows the extent of seagrass around	Transport	Pre-construction/ Construction	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		Paynes Island Reserve and for this area to be avoided.			
6.	Aquatic Biodiversity	A copy of Wallaga Lake bridge aquatic ecology assessment report to the manager of the Batemans Marine Park in accordance with permit conditions.	Transport	Detailed Design	
7.	Aquatic Biodiversity	Any material removed from the waterway that is to be temporarily deposited or stockpiled on land is to be located well away from the waterway and to be contained by appropriate erosion and sediment control devices.	Transport	Pre-construction/ Construction	
8.	Aquatic Biodiversity	DPI Fisheries (1800 043 536) is to be notified immediately if any fish kills occur in the vicinity of the works. In this situation, all works other than emergency response procedures are to cease until the issue is rectified and approval is given by DPI Fisheries for the works to proceed.	Transport	Pre-construction/ Construction	

6.2 Biodiversity

6.2.1 Methodology

The biodiversity assessment includes the following:

- Database searches
- Review of existing information
- Field survey (EnviroKey)
- Habitat evaluation and Assessment
- Assessment of impacts and recommendation of mitigation measures.
- Review of the Microbat management plan (Appendix F).

Database Searches

Background searches undertaken for the purposes of this assessment included Commonwealth and State databases to determine whether any of the following occur or are likely to occur within the study area:

- Threatened flora and fauna species
- Threatened populations
- Threatened ecological communities (TECs)
- Migratory species
- Priority weeds.

Database search parameters are listed in Table 6-5.

Table 6-5: Biodiversity database searches

Resource	Target	Search Date	Search Area
NSW BioNet Atlas search	Threatened flora and fauna species, populations and ecological communities listed under the BC Act	1/11/23	9. 10 km radius of proposal site
EPBC Act Protected Matters Search Tool	Threatened flora and fauna, endangered populations and ecological communities and migratory species listed under the EPBC Act	1/11/23	10 km radius of proposal site
NSW DPI WeedWise	Priority weeds declared for the region	1/11/23	Snowy Monaro Regional LGA
DPI Fisheries NSW Spatial Data Portal	Freshwater fish community status, key fish habitat and threatened species listed under the FM Act	1/11/23	Lot boundary

6.2.2 Existing environment

Flora

The Proposal site is highly modified and disturbed and is dominated by exotic grassland and tree plantings. Some small patches of native PCT exists within the proposal site near the northern abutment which are outside of the construction footprint as shown in Figure 6-5:. A site analysis was completed by an experienced EnviroKey ecologist and an assistant on 17 October 2022. The field survey confirmed that no plant community type (PCT) was located in the direct vicinity of the proposal.

Figure 6-5: PCT and Bionet threatened species record in the area

Fauna

Bionet threatened species search resulted in some mapped endangered fauna sighting within the proposal site:

- Caspian Tern (*Hydroprogne caspia*) - protected NSW species, Commonwealth status: J
- Pied Oystercatcher (*Hematopus longirostris*) – E1 and protected NSW species, Commonwealth status Null
- Bar-tailed Godwit (Limosa lapponica) - protected NSW species, Commonwealth status: C, J, K
- Eastern Curlew (*Numenius madagascarinesis*) - protected NSW species, Commonwealth status: CE, C, J, K

All the identified birds are identified on same location shown in Figure 6-5:. The proposal is not proposing any habitat removal for these species.

Microbats (EnviroKey)

The following is a verbatim of the MMP. MMP is attached as Appendix F of this REF.

Wallaga Lake Bridge contains a significant Southern Myotis population containing at least 220 individuals. Southern Myotis is listed as a threatened species under the BC Act (DPE/BCS, 2023b). The conservation status of this species is listed as 'vulnerable'. Previous records for this species are from more than 20 years ago confirming a paucity of information on the species in the locality (DPE/BCS, 2023a).

Individuals are not always present, with a field survey on 21 October 2022 failing to identify any microbats leaving the bridge structure on dusk. Additional field surveys were carried out on 16 February, 2 March and 9 March 2023 and are documented as follows:

- **Thursday 16 February 2023.** Dusk bridge watch. Two EnviroKey ecologists counted at least 100 microbats exiting the bridge structure. Analysis of the echolocation calls recorded indicated these microbats to be Southern Myotis (*Myotis macropus*).
- **Thursday 2 March 2023.** Under bridge inspection by boat. The inspection was carried out using headlamps and an endoscopic camera combined with an Anabat echolocation call recorder. The inspection confirmed three locations of roosting microbats. These were within Girder 20 (will change to Girder 19), span 5 and span 6. An estimate of around 50 microbats within each crevice was made using the endoscopic camera. Corbel 22 (on span 8) was also found to contain a crack with around 20 microbats present. No other locations of roosting microbats (either past or present) were identified. Where observed, individuals present were identified as Southern Myotis. One individual Eastern Horsehoe Bat (*Rhinolophus megaphyllus*) was identified near the roost entrance at Span 5
- **Thursday 2 March 2023.** Dusk bridge watch. Showers of rain began to fall just prior to last light on 2 March 2023, and ecologists were onsite for 1hr past last light, with no microbats observed leaving the bridge structure. The precipitation was thought to be the main factor to explain the absence of microbats exiting.
- **Thursday 9 March 2023.** Dusk bridge watch. Three ecologists were used to replicate the counting method applied on the 16 February. Microbats exited between 7.37pm and 8.13pm during weather conditions considered conducive to microbat activity. Approximately 220 Microbats were observed exiting the bridge at the same locations as previously noted (through dusk watch and under bridge inspection). At least 20 microbats were seen exiting in the vicinity of the northern abutment suggesting some movements of microbats throughout the bridge structure and confirming that the entire bridge provides roosting opportunities.

It cannot be confirmed if the site is used for breeding, as the endoscopic camera inspections failed to identify any young microbats. However, the timing of the bats presence strongly suggests that the bridge is also a maternity site.

EPBC matters of national Environmental Significance

The EPBC Act Protected Matters Search Tool (PMST) was applied to the proposal site on 1 November 2023 with a 10-km buffer. The following MNES relevant to biodiversity are considered to apply to the proposal. These matters are assessed further below.

Threatened ecological communities

Seven threatened ecological communities (TEC) were identified to have the potential to occur within the study area due to known occurrences within the locality (10km) identified by the PMST:

- Brogo Vine Forest of the South East Corner Bioregion

- Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community
- Illawarra and south coast lowland forest and woodland ecological community
- Littoral Rainforest and Coastal Vine Thickets of Eastern Australia
- Lowland Grassy Woodland in the South East Corner Bioregion
- River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria
- Subtropical and Temperate Coastal Saltmarsh

6.2.3 Potential impacts

Construction

Construction of the proposal would not require removal of any native vegetation. Some trimming of tree branches may be required for safe loading and unloading of trucks on northern side of the bridge. these trimmings would not be significant and would avoid impact on potential fauna habitat.

All ancillary facilities would be located in cleared areas with minimal grass cover. The proposal is not proposing removal of any grass cover during the construction.

However, the bridge rehabilitation works would impact the Southern Myotis population. The main potential impacts of the proposal on microbats or their habitat include:

- Loss of bridge roosting and maternity habitat: Known/potential microbat habitat within Wallaga Lake Bridge
- Direct mortality or injury to roosting microbats during bridge removal works. This is a particular risk during the breeding season when non-flying dependant microbats may be present, or, in winter, when microbats may enter periods of torpor (physical inactivity). Indirect mortality may also occur as a result of disruptions during the works (such as daytime predation of dispersed microbats by birds and disturbance from noise).

As a result, EnviroKey were engaged by Transport to prepare a Microbat Management Plan (MMP). The MMP is attached as Appendix F of this REF. The MMP also includes a Test of Significance in accordance with the BC Act.

Operation

Operation of the proposal would not have any negative impact on the biodiversity.

Conclusion on significance of impacts

The bridge rehabilitation works would impact the Southern Myotis population. The main potential impacts of the proposal on microbats or their habitat include loss of roosting and maternity habitat and direct mortality or injury to roosting microbats during bridge removal works. Severity of these impacts have been reduced with the implementation of proposed mitigation measures and will be further reduced with the implementation of MMP.

MMP concluded that Test of Significance has determined that the proposed activity is ‘unlikely’ to have a ‘significant effect’ on Southern Myotis, Eastern Coastal Free-tailed Bat, Eastern False Pipistrelle, and their habitats provided that a MMP is implemented and that adaptive management strategies are applied in the event that performance indicators are not met.

The proposal is not likely to significantly impact threatened species or ecological communities or their habitats, within the meaning of the *Biodiversity Conservation Act, 2016* or *Fisheries Management Act 1994* and therefore a *Species Impact Statement* or Biodiversity Development Assessment Report is not required.

The proposal is not likely to significantly impact threatened species, ecological communities or migratory species, within the meaning of the EPBC Act.

6.2.4 Safeguards and management measures

Table 6-6: Biodiversity safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
10.	Flora	Materials, plant, equipment, work vehicles and stockpiles will be placed to avoid damage to surrounding native vegetation and will be outside tree drip-lines and restricting them to identified construction compounds, in areas of cleared land and exotic grassland.	Transport	Pre-construction, construction	
11.	Flora	If any damage occurs to vegetation outside of the nominated work area the Environmental Representative will be notified so that appropriate remediation strategies can be developed.	Transport	Pre-construction / construction	
12.	Flora	Accurately and clearly mark out the limits of the work zone (within proposal site), areas for parking and turning of vehicles and plant equipment prior to commencement of works. These areas shall be located so that vegetation disturbance is minimised and the drip-line of trees avoided.	Transport	Pre-construction / construction	
13.	Fauna	Construction crews will be made aware that any native fauna species (including microbats) encountered must be allowed to leave site without being harassed and WIRES must be called for assistance where necessary. If any threatened or native species (flora or fauna) are discovered during the works, all work except emergency works will stop immediately and the Environmental Representative will be notified. Work will only recommence once the impact on the species has been assessed and appropriate control measures provided. Any in-situ rock habitat in the study shall be kept and gently placed into adjacent habitat.	Contactor / Transport	Pre-construction / construction	
14.	Fauna	Transport would engage a Project Ecologist for the duration of the proposed work to oversee the implementation of the MMP.	Transport	Pre-construction / construction	
15.	Fauna	Microbat monitoring will be carried out according to the monitoring schedule (Table 4-1) of the MMP.	Transport	Pre-construction / construction	
16.	Fauna	Eleven microbat boxes should be installed as soon as possible but	Transport	Pre-construction / construction	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		outside of the known breeding season. Microbat boxes must be in place in proximity to all known roost sites at least one month prior to exclusion works. Microbats use the microbat boxes or non-conflict bridge areas >10 metres from active work zones.			
17.	Fauna	Remove any microbat boxes that show no signs of occupancy before the end of February 2024.	Transport	Pre-construction / construction	
18.	Fauna	Install microbat exclusion to make habitat within the timber bridge inaccessible prior to bridge construction works. • Full bridge exclusion must only take place between the end of March and the end of April inclusive. • Microbats must not be displaced during periods of torpor. • The Project Ecologist would be responsible for identifying periods of torpor or in appropriate weather conditions. • Exclusion is to be left in place until works commence	Transport	Pre-construction / construction	
19.	Fauna	Install staged microbat exclusion of Girder 19 initially and then Corbel 22 to make habitat within these specific bridge elements inaccessible prior to bridge construction works. • Exclusion of these bridge elements is to only occur between the end of March and the end of April inclusive. • Microbats must not be displaced during periods of torpor. • The Project Ecologist would be responsible for identifying periods of torpor or in appropriate weather conditions.	Transport	Pre-construction / construction	
20.	Fauna	Daily inspections for microbats would be undertaken by Transport using the Transport Daily Bat Inspection Checklist.	Transport	construction	
21.	Fauna	To reinstall girder 19 as a non-structural timber element in the rehabilitation of the bridge's superstructure during the 3 week	Transport	Pre-construction / construction	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		closure period as part of the bridge superstructure renewal.			
22.	Weeds and pathogens management	Priority weeds shall be managed according to the requirements of the Biosecurity Act 2015 (NSW), in that they are to be disposed of at a licensed waste management facility or similar. Priority weeds are not to be mulched and repurposed for any landscaping use. Machinery shall be cleaned prior to entering the site to ensure that weed seeds and propagules are not imported to the site	Transport	Pre-construction / construction	

Other safeguards and management measures to address aquatic biodiversity impacts are identified in section 6.1.4.

6.3 Noise and vibration

A noise and vibration assessment was prepared by acoustic engineers at Renzo Tonin and Associates. Noise modelling was undertaken against established noise criteria for the construction and operational phases of the proposal. The assessment is summarised below and appended in full, in Appendix G.

Noise and vibration impacts are assessed in accordance with several policies, guidelines and standards, including:

- Transport's 'Construction Nose and Vibration Guideline (for road and maritime works)' (CNVG)
- The Interim Construction Noise Guideline (ICNG)
- NSW Road Noise Policy.

6.3.1 Methodology

For the assessment of construction noise impacts and to establish appropriate noise mitigation measures, the following noise catchment areas (NCAs) were nominated. An assessment of the areas exposed to construction noise impacts are highlighted in Table 6-7.

Table 6-7: Noise Catchment Areas

NCA	Description
Day (standard hours)	
NCA 1	Noise catchment area predicted to be exposed to LAeq(15min) construction noise levels that are >20dB(A) above the applicable construction noise management level (NML).
NCA 2	Noise catchment area predicted to be exposed to LAeq(15min) construction noise levels that are between 10dB(A) and 20dB(A) above the applicable NML.
NCA 3	Noise catchment area predicted to be exposed to LAeq(15min) construction noise levels that are >10dB(A) above the applicable NML.
Night (out of hours)	
NCA 1	Noise catchment area predicted to be exposed to LAeq(15min) construction noise levels that are >25dB(A) above the applicable construction noise management level (NML).
NCA 2	Noise catchment area predicted to be exposed to LAeq(15min) construction noise levels that are between 15dB(A) and 25dB(A) above the applicable NML.
NCA 3	Noise catchment area predicted to be exposed to LAeq(15min) construction noise levels that are between 5dB(A) and 15dB(A) above the applicable NML.
NCA 4	Noise catchment area predicted to be exposed to LAeq(15min) construction noise levels that are <5dB(A) above the applicable NML.

Figure 6-6: and Figure 6-7: identifies the site, surrounds and monitoring locations and receivers.

The proposed working hours for the scope of the works are as follows.

Methodology 1 – Repair Piles

- 7:00am to 6:00om, Monday to Friday
- 8:00am to 5:00pm on Saturdays
- 8:00am to 1:00pm on Sundays

Methodology 2 – Repair Abutments

- 7:00am to 6:00pm, Monday to Friday
- 8:00am to 5:00pm on Saturdays
- 8:00am to 1:00pm on Sundays

Methodology 3 – Replace Superstructure

- 24 hours, Monday to Sunday

Finishing Works

- 7:00am to 6:00pm, Monday to Friday
- 8:00am to 5:00pm on Saturdays
- 8:00am to 1:00pm on Sundays

Timber Storage Area (Central Tilba)

- 24 hours, Monday to Sunday

Truck Waiting Bay (Tilba Tilba)

- 24 hours, Monday to Sunday

It is noted that works during the Saturday and Sunday working hours are not intended to occur every Saturday and Sunday.

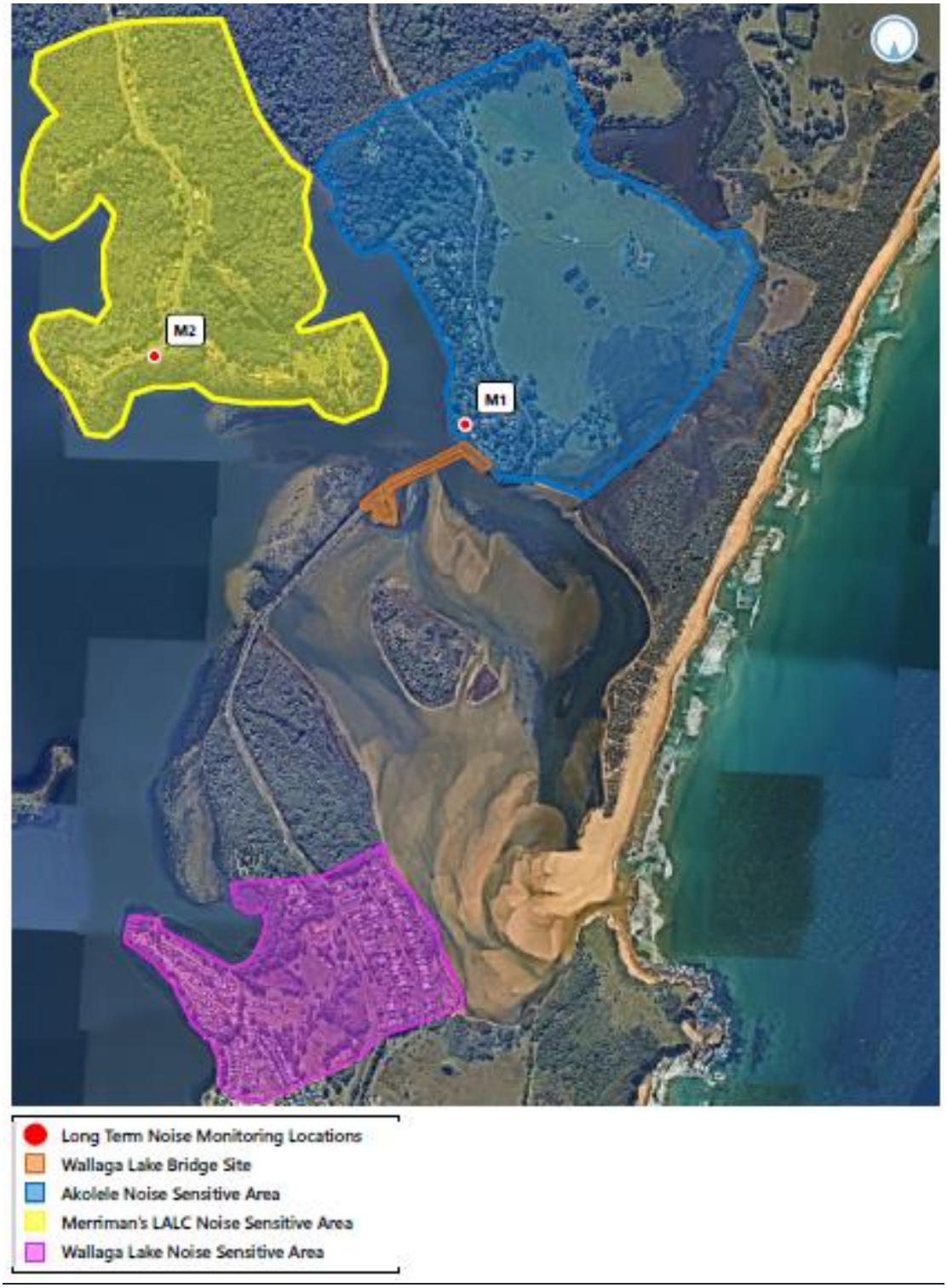


Figure 6-6: Site, Surrounds, Monitoring Locations and Receivers (Wallaga Lake Bridge Site)

Figure 6-7: Site, Surrounds and Receivers (Timber Storage Site)

6.3.2 Existing environment

To determine existing background L_{90} noise levels at the noise sensitive areas surrounding the Wallaga Lake Bridge site and the timber storage site. Long term noise monitoring was undertaken at 15 Flower Circuit, Akolele (M1), Merriman's LALC (M2) and 8217 Princes Highway, Central Tilba (M3).

Long-term (unattended) noise monitoring was conducted from Thursday 19th October to Thursday 2nd November 2023 at the above monitoring locations. The equipment used for noise monitoring were RTA Technology noise loggers, which are based on Nti Audio Type XL2 precision sound level analysers and are Class 1 instruments having accuracy suitable for field and laboratory use. The instruments were calibrated prior and after measurements with no significant drift in calibration observed.

Existing background and ambient noise levels measured at locations M1, M2 and M3 are presented in Table 6-8below.

Table 6-8: Measured Existing Background (LA_{90}) & Ambient (L_{Aeq}) Noise Levels, dB(A)

Location	Address	Background L_{A90} Noise Levels			Ambient L_{A90} Noise Levels		
		Day[1]	Evening[2]	Night[3]	Day[1]	Evening[2]	Night[3]
M1	15 Flower Circuit, Akolele	37	34	32	52	50	44
M2	Merriman's LALC	35(33)[4]	32	30(29)[4]	52	53	42
M3	8217 Princes Highway, Central Tilba	37	32	30(28)[4]	53	51	46

Notes:

1. Day: 7:00am to 6:00pm Monday to Saturday and 8:00am to 6:00pm Sundays & Public Holidays
2. Evening: 6:00pm to 10:00pm Monday to Sunday & Public Holidays
3. Night: 10:00pm to 7:00am Monday to Saturday and 10:00pm to 8:00am Sundays & Public Holidays
4. Number in brackets represents the measured (actual) RBL value, which is below the minimum policy value of 30 dB(A)
5. during the evening or night period or 35 dB(A) during the day period.

6.3.3 Potential impacts

Construction and operational noise and vibration impacts are assessed separately, as required, against specific criteria for:

- Operational noise including:
  - Intrusive noise
  - Noise amenity
  - Sleep disturbance noise
- Vibration assessment
- Road traffic noise assessment

Construction

Noise Criteria

The risk of adverse impact from construction noise within a community is determined by the extent of its emergence above the existing background noise level, the duration of the event and the characteristics of the noise. Impacts can then be worsened by the proximity of construction to residences or other sensitive land uses and the times of occurrence.

Transport's 'Construction Noise and Vibration Guideline (for road and maritime works)' (CNVG) provides guidance for the establishment of construction noise management levels (NMLs). A detailed methodology for assessing construction noise is described in Appendix G.

The rating background level (RBL) is used when determining the NMLs. A quantitative assessment involves the prediction of noise levels at specific locations, and assessment against set criteria. The relevant construction noise criteria shown in Table 6-9. Residential receivers are considered 'noise affected' where construction noise levels are greater than the NMLs identified in Table 6-9. During standard and outside of standard hours, a highly affected noise objective of $L_{Aeq(15min)}$ 75 dB(A) applies to all receivers.

Table 6-9: Construction noise criteria at residential receivers, dB(A)

Time of day	Management Level $L_{Aeq\ (15min)}$	How to Apply
Monday to Friday 7 am to 6 pm Saturday 8 am to 1 pm No works on	Noise affected RBL + 10dB(A)	The noise affected level represents the point above which there may be some community reaction to noise. Where the predicted or measured $L_{Aeq\ (15\ min)}$ is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level.

Time of day	Management Level $L_{Aeq\ (15min)}$	How to Apply
Sundays or public holidays		The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and the duration, as well as contact details.
	Highly noise affected 75dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. Where noise is above this level, the relevant authority may require respite periods by restricting the hours that the very noisy activities can occur, considering: 1. 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 2. If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours	Noise affected RBL + 5dB(A)	A strong justification should 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 practices have been applied and noise is more than 5 dB(A) above the noise affected level, the proponent should negotiate with the community.

Sleep Disturbance

Given that night works are to occur, noise from construction works associated with the project has been assessed for its potential to disturb sleep. The NSW '*Road Noise Policy*' (RNP) identifies several investigations into the impacts of intermittent and emerging noise sources on the disturbance of sleep. The RNP summarises the research on sleep disturbance to date as follows:

- maximum internal noise levels below 50 – 55 dB(A) are unlikely to awaken people from sleep
- one or two noise events per night, with maximum internal noise levels of 65 – 70 dB(A), are not likely to affect health and wellbeing significantly.

The above summary identity that internal noise levels of 45dB(A) and up to 55dB(A), may have the potential to impact sleep but are unlikely to cause awakenings. On the assumption that there is a 10dB(A) outside-to-inside noise loss through an open window, the above references indicate that external noise levels of L_{Amax} 55 to 65dB(A) are unlikely to cause awakening reactions.

Based on the measured RBLs for the night period the sleep disturbance assessment levels for the project are present in Table 6-10 below.

Table 6-10: Sleep Disturbance Assessment Levels

Noise Sensitive Area	External Screening Level ($L_{A90(15min)}$ +15)	Awakening Reaction Level
Akolele	47dB(A)	65dB(A)
Merriman's LALC	45dB(A)	65dB(A)
Wallaga Lake[a]	47dB(A)	65dB(A)
Central Tilba (Timber Storage Area)	45dB(A)	65dB(A)
Tilba Tilba (Truck Waiting Bay)[b]	45dB(A)	65dB(A)

Notes: a Based on background noise levels measured at Location M1

b Based on background noise levels measured at Location M3

Construction Noise Sources

There are specific plant and equipment for each methodology that are likely to be used. The sound power levels for each methodology and the required tools and machinery are based on the maximum levels given in the CNVG. Refer to Appendix G for a full list of all major plant and equipment likely to be used for each construction activity.

Construction Noise Assessment

Methodology 1 – Repair Piles

The Methodology 1 works are expected to take place during daytime hours (between 7:00 am and 6:00 pm). Based on the proposed construction plant and equipment, noise impacts works have been predicted to different noise sensitive areas based on their corresponding NMLs. Figure 6-8: indicates predicated noise impacts on Akolele and Merriman's LALC noise sensitive areas, respectively, with their corresponding NCAs.

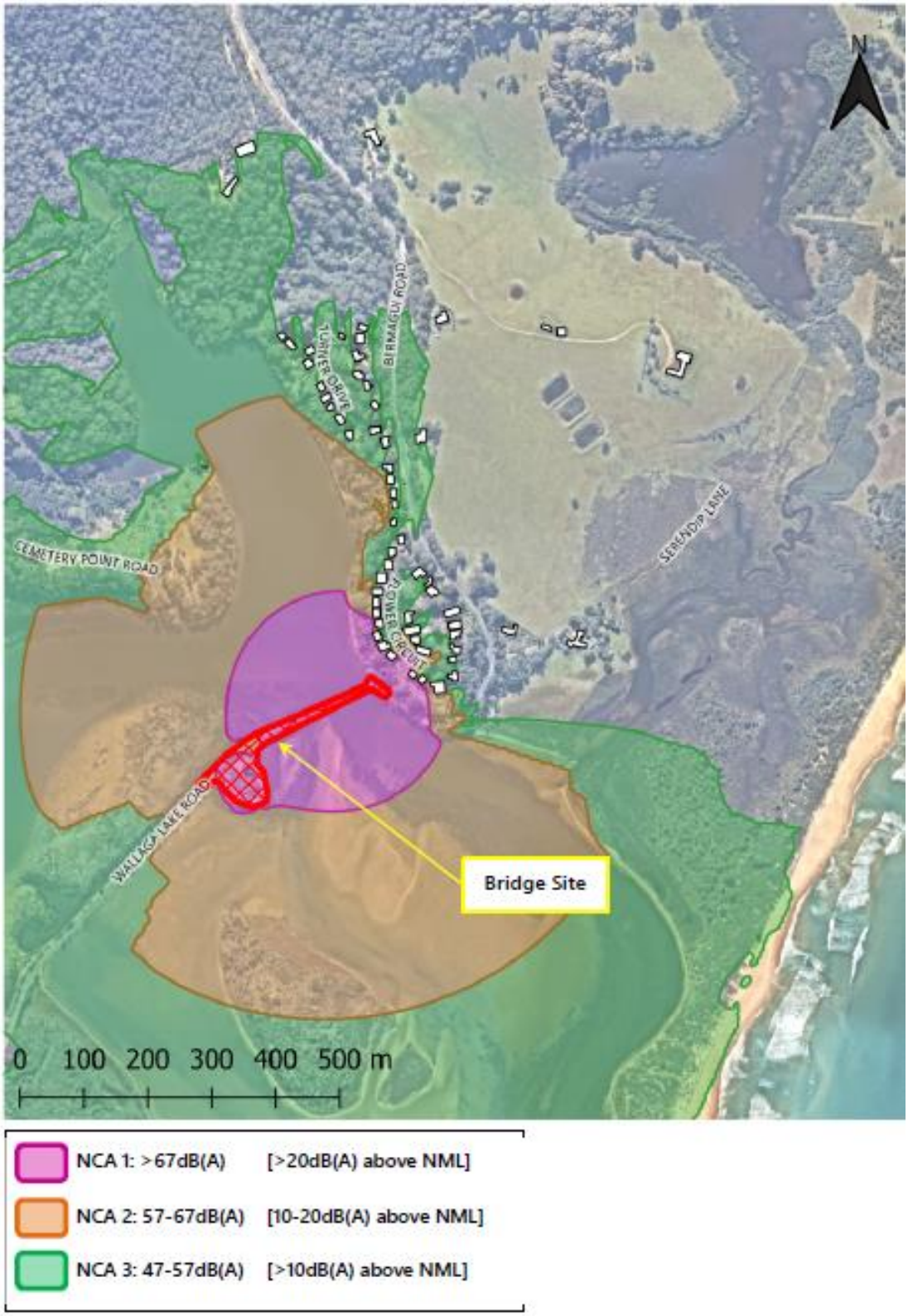


Figure 6-8: NCA based on $L_{Aeq(15min)}$ noise levels - Methodology 1 Works - Akolele (Day)

Methodology 2 – Repair Abutments

The Methodology 2 works are expected to take place during daytime hours (between 7:00 am and 6:00 pm). Based on the proposed construction plant and equipment, noise impacts works have been predicted to different noise sensitive areas based on their corresponding NMLs. Figure 6-9: indicates predicated noise impacts on Akolele, Merriman's LALC and Wallaga Lake noise sensitive areas, respectively, with their corresponding NCAs.

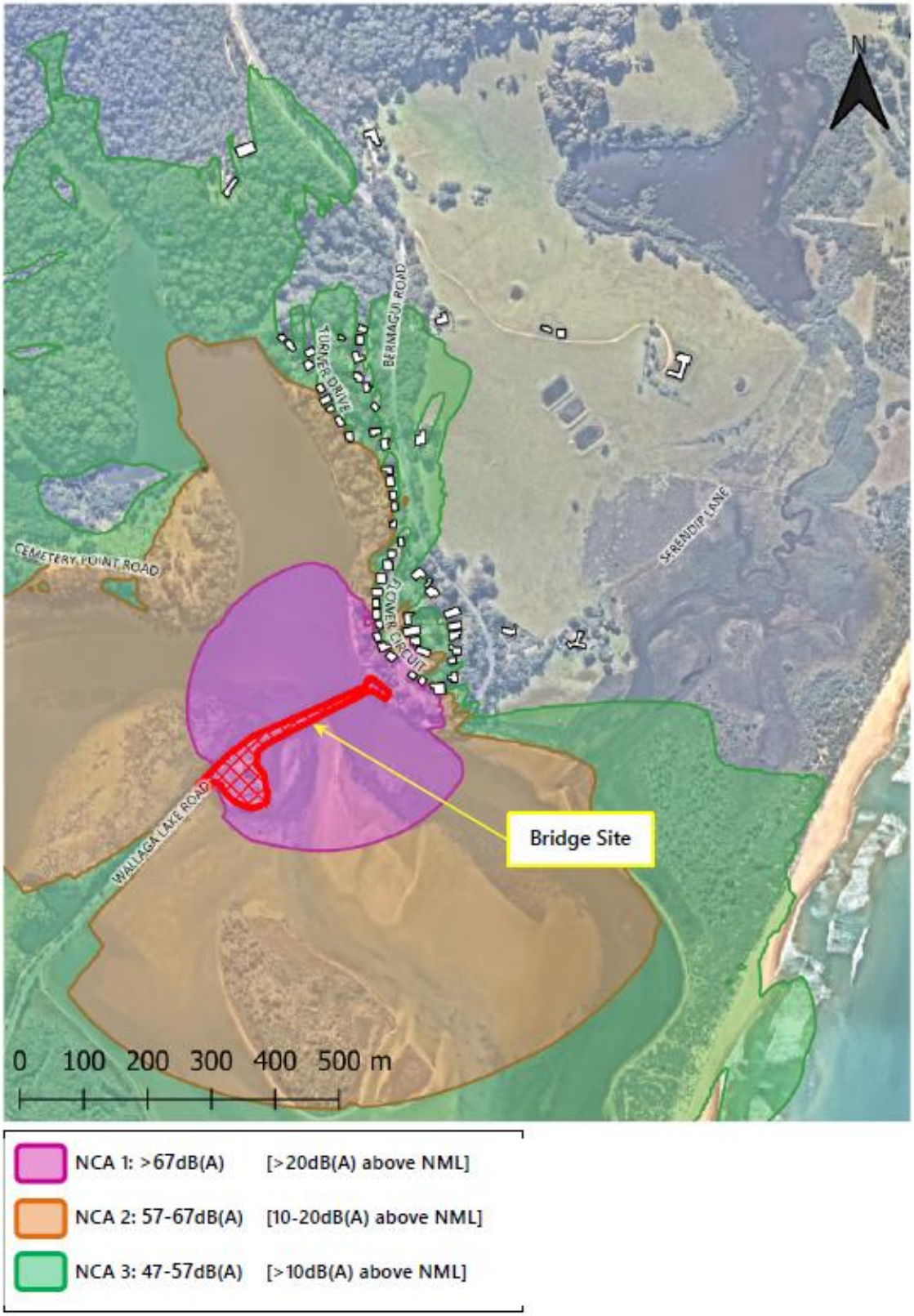


Figure 6-9: NCAs based on $L_{Aeq(15min)}$ noise levels - Methodology 2 Works - Akolele (Day)

Methodology 3 – Replace Bridge Superstructure

The Methodology 3 works are expected to take place 24 hours a day; therefore, for a conservative assessment, the night time period has been assessed. Based on the proposed construction plant and equipment, noise impacts works have been predicted to different noise sensitive areas based on their corresponding NMLs for the night time period. Figure 6-10:

indicates predicated noise impacts on Akolele, Merriman's LALC and Wallaga Lake noise sensitive areas, respectively, with their corresponding NCAs.

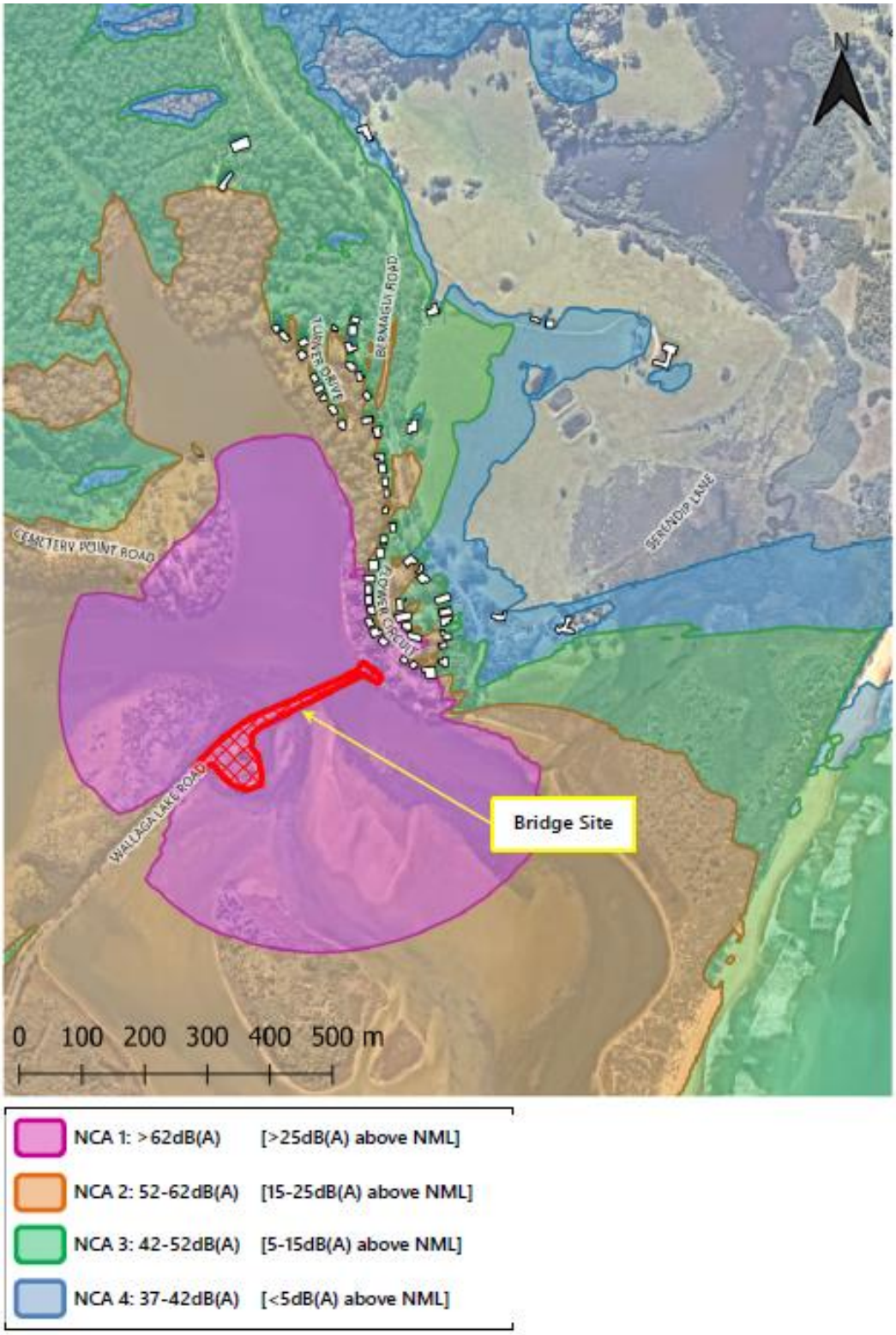


Figure 6-10: NCAs based on $L_{Aeq(15min)}$ noise levels - Methodology 3 Works - Akolele (Night)

Finishing Works

Finishing works are expected to take place during daytime hours (between 7:00 am and 6:00 pm). Based on the proposed construction plant and equipment, noise impacts works have been predicted to different noise sensitive areas based on their corresponding NMLs. Figure 6-11: indicates predicated noise impacts on Akolele, Merriman's LALC and Wallaga Lake noise sensitive areas, respectively, with their corresponding NCAs.

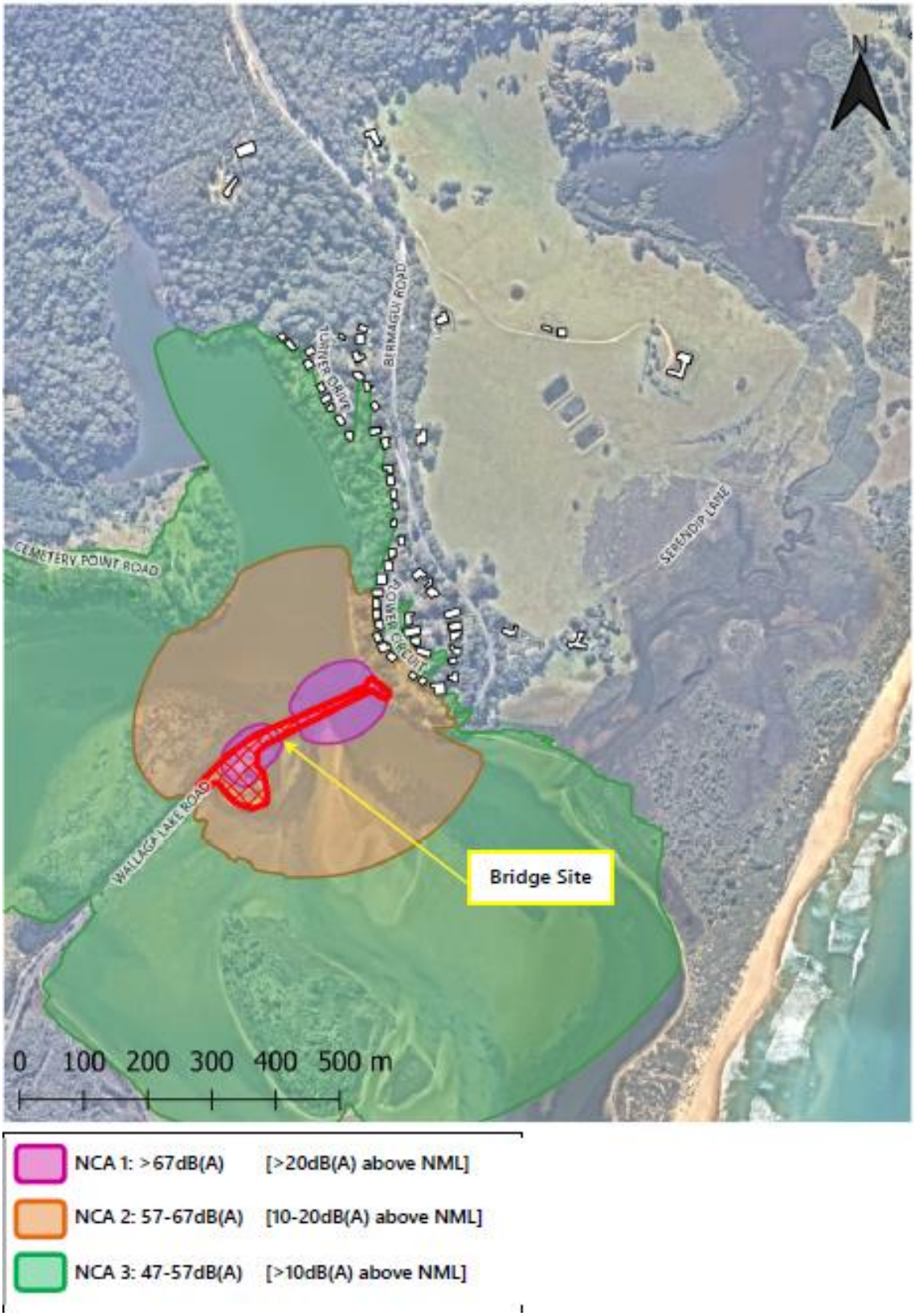


Figure 6-11: NCAs based on $L_{Aeq(15min)}$ noise levels - Finishing Works - Akolele (Day)

Timber Storage Area

Construction activities at the timber storage area at Central Tilba are expected to take place 24 hours a day; therefore, for a conservative assessment, the night time period has been assessed. Based on the proposed construction plant and equipment, noise impacts works have been predicted to different noise sensitive areas based on their corresponding NMLs

for the night time period. Figure 6-12: indicates predicated noise impacts to the noise sensitive areas surrounding the site based on the established NML for the night time period.

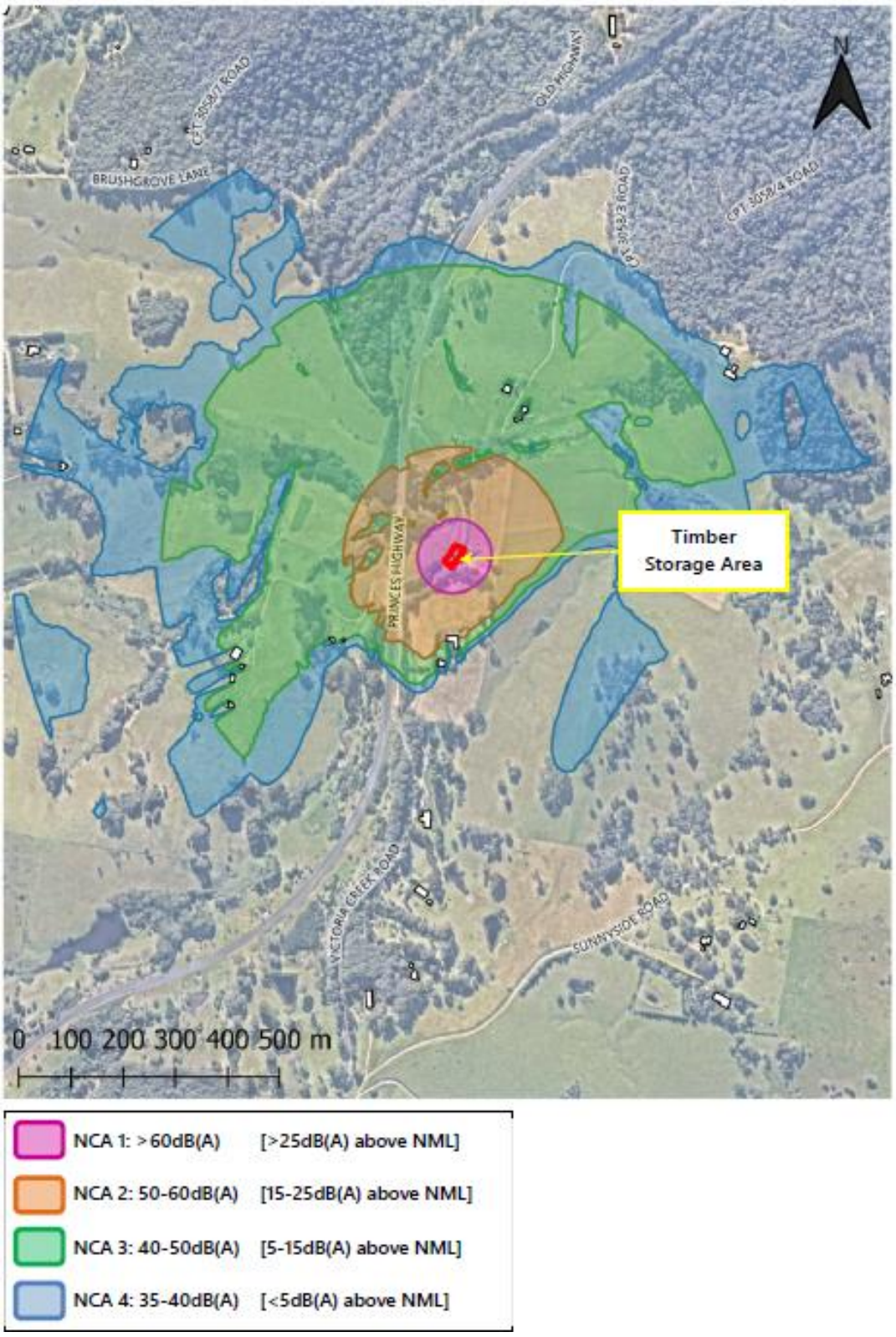


Figure 6-12: NCAs based on $L_{Aeq(15min)}$ noise levels – Timber Storage Area (Night)

Truck Waiting Bay

Construction activities at the truck waiting bay at Tilba Tilba are expected to take place 24 hours a day; therefore, for a conservative assessment, the night time period has been assessed. Based on the proposed construction plant and equipment, noise impacts works have been predicted to different noise sensitive areas based on their corresponding NMLs

for the night time period. Figure 6-13: indicates predicated noise impacts to the noise sensitive areas surrounding the site based on the established NML for the night time period.

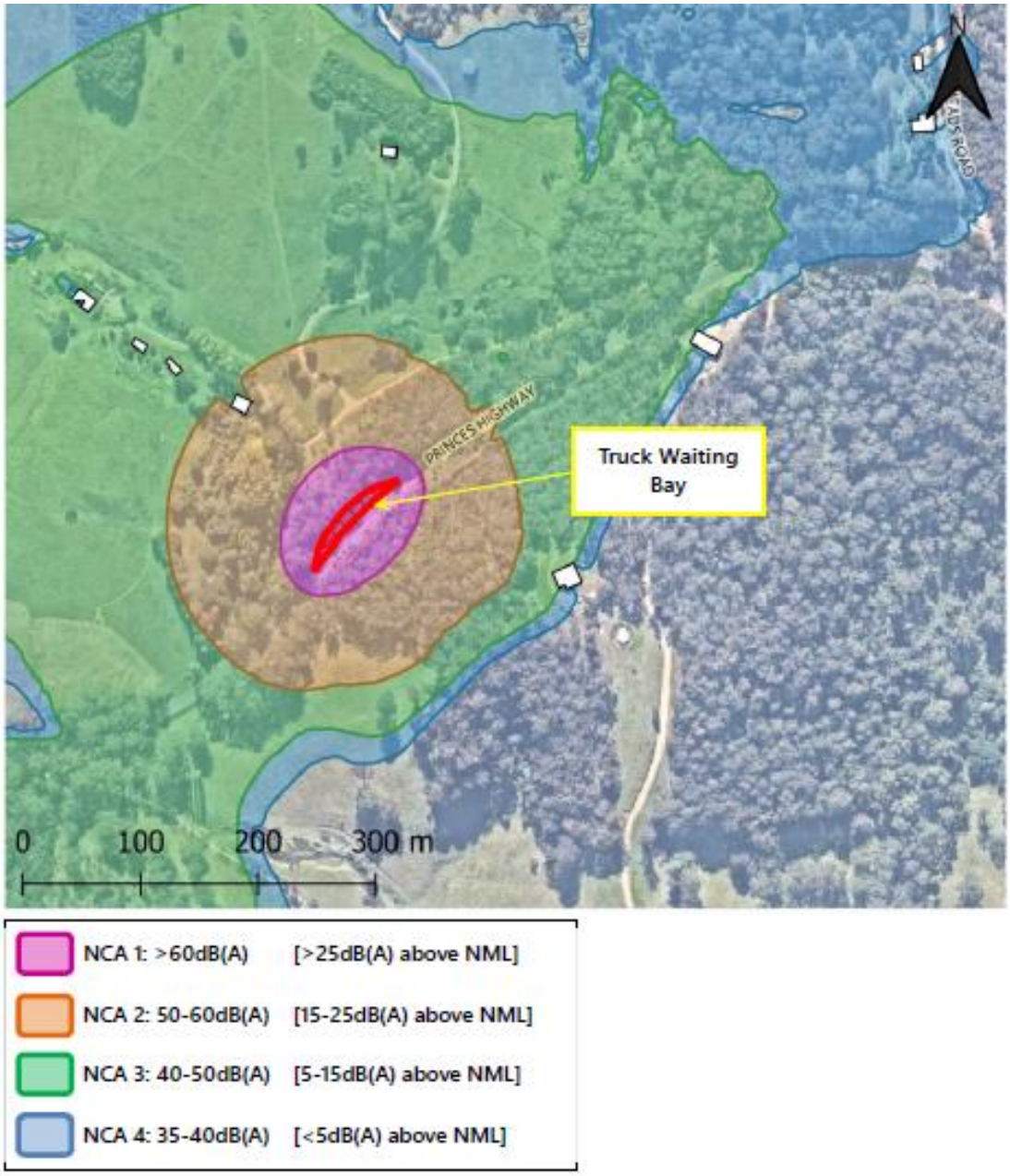


Figure 6-13: NCAs based on $L_{Aeq(15min)}$ noise levels – Truck Waiting Bay (Night)

Noise impacts from construction activities associated with the proposed rehabilitation works are predicted to potentially exceed the applicable noise management levels at the nearest affected receivers. Furthermore, maximum noise levels for the assessment of sleep disturbance may exceed the applicable sleep disturbance upper limit [i.e. ≥65dB(A)] at the nearest affected residences. As such, feasible and reasonable noise mitigation measures have been provided in accordance with the CNVG to assist in mitigating construction noise impacts (refer to Section 6.3.4).

Operation

During operation the bridge would essentially function the same as it currently does with no notable increase in capacity, road surface type or speed limit. Therefore additional noise impacts during operation are unlikely.

Construction Vibration

Construction Vibration Criteria

Construction vibration is associated with three types of impact:

- disturbance to building occupants;
- potential damage to buildings; and
- potential damage to sensitive equipment in a building.

Assessment of potential disturbance from vibration on residents in accordance with EPA's Assessing Vibration; a technical guideline. The guideline provides criteria which are based on British Standard BS 6472-1992 'Evaluation of human exposure to vibration in buildings (1-80Hz). Sources of vibration are defined as either 'Continuous', 'Impulsive' or 'Intermittent'.

Based on the proposed plant and equipment items detailed in Appendix G, vibration generated by construction plant was estimated and potential vibration impacts have been summarised in Table 6-11 below. The assessment is relevant to the identified residential type buildings surrounding the sites and the impacts have been determined based on a worst-case scenario of using piling rigs.

Table 6-11: Potential Vibration for Residential Properties

Approx. distance to nearest buildings from works	Type of nearest sensitive buildings	Assessment on potential vibration impacts	
		Structural damage risk	Human disturbance
50 – 70 m	Residential	Low risk of structural damage from pile driving activities. Very low risk of structural damage from other construction activities.	Medium risk of adverse comment because of pile driving activities. Very low risk of adverse comment because of other construction activities.
>70 m	Residential	Very low risk of structural damage from all construction activities.	Very low risk of adverse comment because of all construction activities.

There is a very low to medium risk that construction vibration would impact nearby residential receivers. There is a medium risk of adverse comments from occupants of the nearest residential receivers as a result from piling activities. Therefore, minimum working distances were recommended based on the proposed construction plant and equipment to be used. Additional vibration management measures recommended include activity-specific vibration risk assessments, vibration monitoring and building condition assessments to address potential concerns of damage to property.

6.3.4 Safeguards and management measures

Table 6-12: Noise and vibration safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
23.	Noise and vibration	A Noise and Vibration Management Plan (NVMP) will be prepared and implemented as part of the CEMP. The NVMP will generally follow the approach in *the Interim Construction Noise Guideline (ICNG) (DECC, 2009*) and identify: • all potential significant noise and vibration generating activities associated with the activity • feasible and reasonable mitigation measures to be implemented, taking into account *Beyond the Pavement: urban design policy, process and principles* (Transport, 2014). • a monitoring program to assess performance against relevant noise and vibration criteria	Transport	Pre-construction	Section 4.6 of QA *G36 Environment Protection*

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		• arrangements for consultation with affected neighbours and sensitive receivers, including notification and complaint handling procedures • contingency measures to be implemented in the event of non-compliance with noise and vibration criteria.			
24.	Scheduling	• Wherever possible schedule works during standard hours of construction. • In consultation with the community, preference may be given to avoiding cumulative impacts by avoiding the con-current completion of phases of construction. Alternatively, impacted receivers may prefer a shorter duration of works where this requires con-current completion of construction phases. • Provide respite periods during all phases of construction. • Stop and alter works in response to noise-related complaints.	Contractor	Pre-construction, construction	Appendix G
25.	Vibration	• Choosing alternative, lower-impact equipment or methods wherever possible. • Scheduling the use of vibration-causing equipment at the least sensitive times of the day (wherever possible). • Locating high vibration sources as far away from sensitive receiver areas as possible. • Sequencing operations so that vibration-causing activities do not occur simultaneously. • Keeping equipment well maintained. • Where service conduits or other infrastructure are located in areas of vibration inducing activities such as hydraulic rock breaking, vibratory compacting or ripping, the management of potential vibration impacts should be given a high priority.	Contractor	Construction	Appendix G

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
26.	Compliance	• Any construction work outside the above hours would be carried in accordance with the CNVG. Residents would be notified of works required outside of these normal hours, and where it would be considered reasonable and feasible, agreement reached concerning the program of works.	Contractor	Pre-construction, construction	Appendix G
27.	Catchment mitigation - *Day (standard hours) – Methodology 1, Methodology 2 & Finishing Works*	During standard hours Letterbox drops will be undertaken for all residents within the NCA1 and NCA2 areas. Letters will be delivered at least seven (7) calendar days days prior to works beginning. Verification measurements should also be considered for works during the day period.	Contractor	Pre-construction, construction	Appendix G
28.	Catchment mitigation – Night (out of hours) - *Methodology 3, Timber Storage Area & Truck Waiting Bay*	During out of hours work periods the following NCA measures must be undertaken: NCA1Predicted noise level > 25 dB(A): Alternative accommodation offer, duration respite or two day consecutive respite period, Individual Briefings, specific notifications, Phone calls, letter drop NCA2 Predicted noise level above by 15-25 dB(A):: Verification, duration respite or two day consecutive respite period , Individual briefings, letterdrop, Phone calls, specific notifications NCA3 Predicted noise level above by 5-15 dB(A): Duration respite or two day consecutive respite period, verification, letterdrop NCA4 Predicted noise level < 5 dB(A): letterdrop	Contractor	Pre-construction, construction	Appendix G

6.4 Hydrology, water quality and flooding

6.4.1 Existing environment

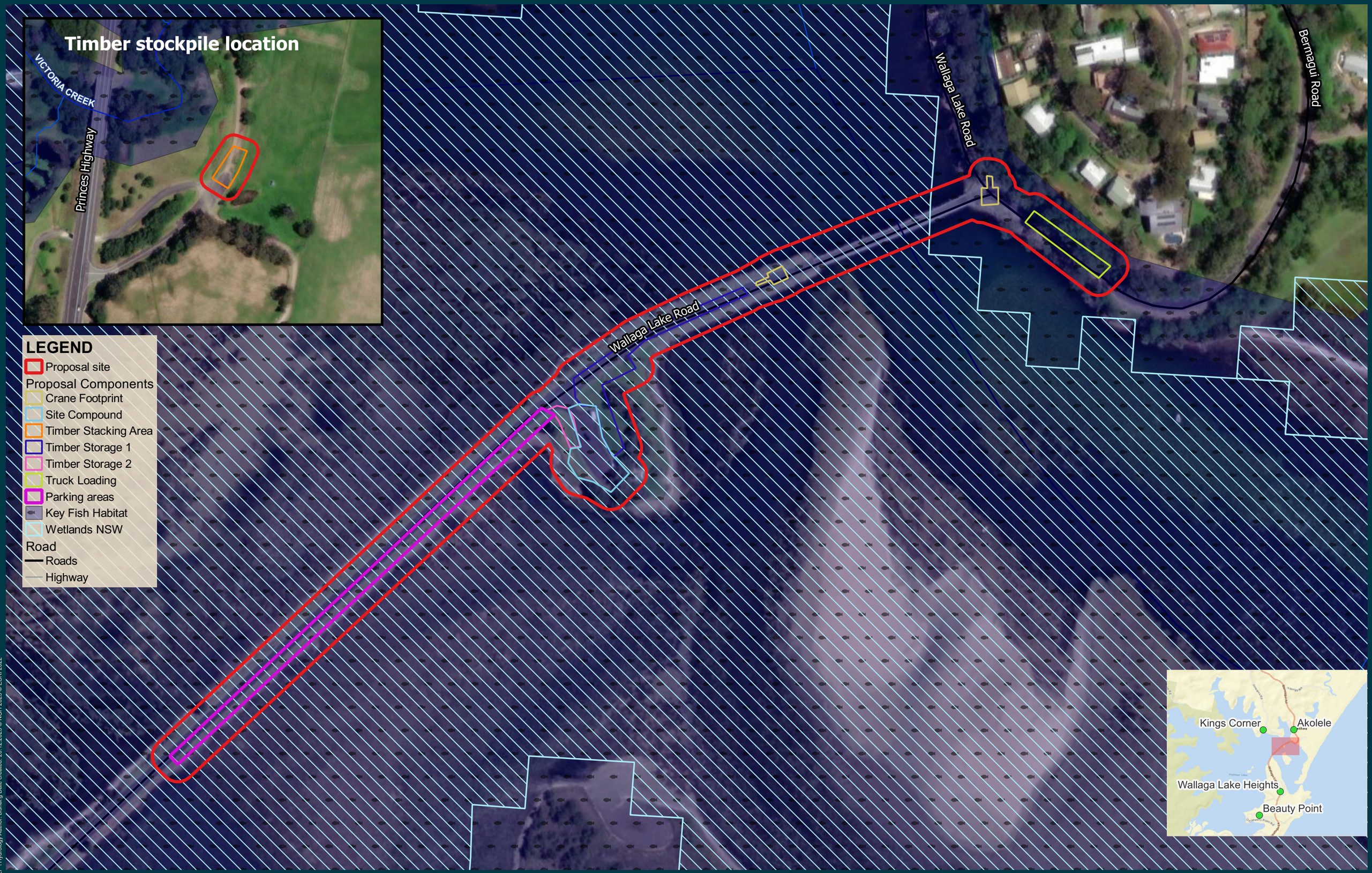
The proposal is largely located within Wallaga Lake itself and on adjoining land with an additional stockpile site located approximately 6.5 km north off the Princes Highway. Wallaga Lake is a large estuarine lake with a total area of about 7.8km^2, and a broader catchment area of about 280km^2. Listed as an Intermittently Closed and Open Lake and Lagoon (ICOLL), the lakes mouth is sometimes closed off by a sand bar, restricting tidal movement (BVSC/ESC, 2006). The construction site lies within wetlands and Key Fish Habitat (KFH) (refer to Figure 6-15:).

The stockpile site located off Princes Highway is approximately 60 metres off Victoria Creek. Vitoria Creek is mapped as Strahler order 4 stream and is also mapped as KFH (refer to Figure 6-15).

The entirety of proposal site is not within any mapped drinking water catchment or within land mapped as flood prone land. However, the section of Wallaga Lake Road on the southern side of the road sometimes experiences inundation prior to the mouth of Wallaga Lake being opened.

A recent wet weather system (late November 2023) which brought about 185mm of rain to the region in 48 hours (Weatherzone, 2023) caused heavy flooding in the area. This flood event inundated the areas proposed for stockpiling materials and construction vehicles parking areas. The extent of this recent image is shown in Figure 6-14.

Figure 6-14: Flooding in Wallaga lake (Picture credit: Michael Blyde Photography)



Datum: GDA94 / MGA zone 55

0 50 100 m

Figure 6-15: Hydrology

6.4.2 Potential impacts

Construction

The construction stage of the proposal does not include significant ground disturbances within the construction footprint or the proposal site. Seabed disturbance is required to access lower areas of piles that are to be wrapped with protective layer. This could create a plume of loose sediments in the water increasing turbidity if carried out unmitigated.

Most of the ancillary facilities will be located within existing sealed road sections. These sites would not impact on hydrology, water quality or flooding.

Since the proposal is replacing an existing bridge structure with essentially like for like components, it would not alter the hydrology of the ICOLL. The abutment stabilisation part of the proposal is designed to protect the bridge abutments. The new abutment would not significantly alter the existing banks around the bridge; therefore, the impacts of abutment stabilisation would be negligible.

Water from ancillary facilities around the bridge area would drain directly to the Lake, as per the design of adjacent roadside drains as shown in Figure 6-16:. It is vital to control and contain any chemical/fuel leakage so that the lake will not be polluted.

In the wake of recent flooding events, it is recommended to be prepared to stop works and move plants, equipment and stockpiles to higher ground where a wet weather event with more than 100mm of rain is predicted.

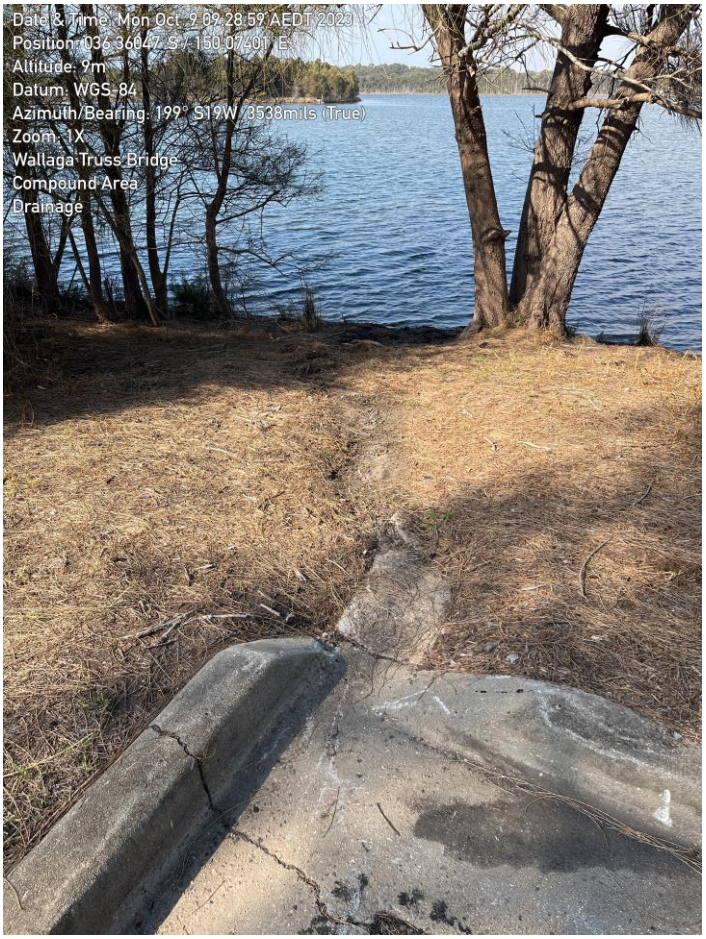


Figure 6-16: Roadside stormwater drain directly draining to Lake (Located next to proposed compound area)

The stockpile site next to Princes Highway (and in the vicinity of Victoria Creek) at Central Tilba would be used for stockpiling recovered timber. This site will also be used to dismantle large bridge fragments into smaller manageable pieces which may involve sawing. There is potential for saw dusts and other contaminants to enter the creek as a result of the stockpiling and dismantling operations.

Operation

Operation stage of the proposal would not result in significant difference from the current operations. There would not be any additional impact on hydrology, water quality and flooding as a result of operation of this proposal.

6.4.3 Safeguards and management measures

Table 6-13: Hydrology safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
29.	Soil and water	A site-specific Erosion and Sediment Control Plan (ESCP)will be prepared and implemented as part of the Soil and Water Management Plan. The Plan will include arrangements for managing wet weather events, including monitoring of potential high-risk events (such as storms) and specific controls and follow-up measures to be applied in the event of wet weather.	Transport	Detailed design / pre-construction	Section 2.2 of *QA G38 Soil and Water Management*
30.	Soil and water	Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.	Contractor/Transport	Construction	ESCP
31.	Soil and water	Prepare an Environmental Work Method Statement (EWMS) for all three stages of the work. The EWMS will detail measures to avoid or minimise risks from erosion and sedimentation to water quality and biodiversity. It will be prepared in accordance with relevant guidelines including, but not limited to: - *Roads and Maritime Biodiversity Guidelines – Protecting and managing biodiversity on RTA projects* - *NSW DPI (Fisheries) guidelines Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings.*	Contractor	Detailed design/Pre-construction	Section 3.7 of QA *G38 Soil and Water Management*, Section 3.2.4 of QA G36 *Environmental Protection*
32.	Water	Vehicle wash down and/or concrete/grout washout is to occur in a designated concrete washout area as approved on a site specific ESCP.	Contractor/Transport	Construction	ESCP
33.	Water	Victoria creek will be monitored on a regular basis to ensure the effectiveness of ESCP	Transport	Construction	
34.	Water	An emergency spill kit is to be kept on site at all times. All staff are to be made aware of the location of the spill kit and trained in its use.	Transport	Construction	
35.	Water	Stop works and move plants, equipment and stockpiles to higher ground where a wet weather event with more than 100mm of rain is predicted.	Transport	Construction	

6.5 Soil, Contamination and waste

6.5.1 Existing environment

The area is characterised as a coastal landscape.

The statewide risk mapping for acid sulphate soils (ASS) identifies the proposal site as having high risk of acid sulphate soils. Mapping identifies that the proposal has a probable risk of encountering class 1 and 2 ASS, which have a high risk of exposure (refer to Figure 6-17:):

- Class 1: ASS in a class 1 area are likely to be found on and below the natural ground surface
- Class 2: ASS in a class 2 area are likely to be found below the natural ground surface.

ASS are natural soils that form in seawater or brackish water environments and are common in estuaries and estuarine floodplains. The proposed work around the abutment would result in interactions with the soil.

The proposal site is also 30m south of land mapped as having low naturally occurring asbestos potential.

Contamination database searches were undertaken on 13 November 2023 as follows:

- EPA contaminated land record was searched for the suburbs of Wallaga Lake, Akolele and Central Tilba (Appendix D). There are no contaminated sites recorded within the proposal or these suburbs.
- List of notified sites regulated under the Contaminated Land Management Act 1997 (NSW) and the Protection of the Environment Operations Act 1997 (NSW) (Appendix D). There are no records, licences or notices are for properties or operations within and/or next to the proposal.

Soil contamination is less likely to exist due to the previous construction and ongoing operation and maintenance of the road corridor. The operation of Wallaga Lake Road may lead to petroleum hydrocarbons such as TPH and BTEX in soil particles on the road and adjacent to the road, being mobilised into adjacent waterways.

The current waste stream from the proposal site would only be the household waste produced by the rest/picnic area users in Payne's Island. No other waste streams are present.

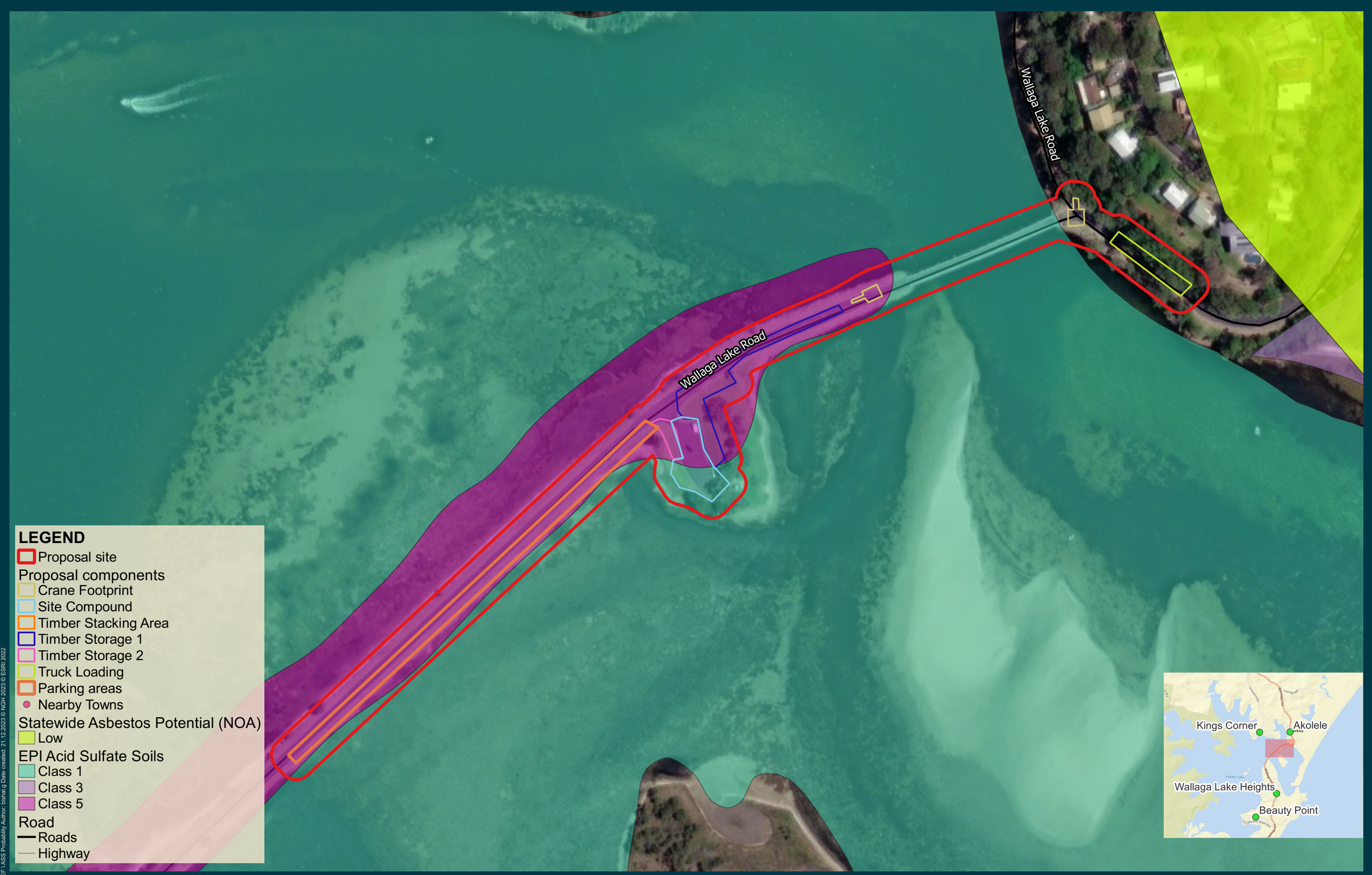


Figure 6-17: Acid Sulphate Soiul probablity and Naturally Occuring Asbestos

6.5.2 Potential impacts

Construction

The proposal would result in minimal soil disturbance during pre-construction and construction stages. Soil would only be impacted during reinforcement of abutments on either side of the bridge. The pile repair works would require clearing of sediments on the bottom portion of the pile in order to access areas for repair works. This would involve removal of up to 0.5m of sediments around the base of piles.

Exposure of ASS and have to potential to contaminate the lake if exposed and left unmanaged. The result of this contamination could result in aquatic flora and fauna kills. However as stated above, earthworks proposed are minimal and are unlikely to disturb or mobilise ASS.

The proposed works would involve the disturbance of less than 1 tonne of soil.

Ancillary infrastructures would be located within the road corridor and mostly within the existing sealed road surfaces. These facilities would not result in soil disturbances. The off-site timber stockpile area is located on a cleared gravel surface. This site would only be used for old timber storage and processing and would not result in any works involving soil disturbance.

Waste streams likely to be generated during construction would include wood from the bridge, bitumen, metal fixtures, concrete and asphalt, domestic wastes and green waste.

Based on the age of the bridge and likely building materials that would have been used, there would be potential for contaminated material to exist in this structure. Potential contaminants may include:

- Creosote associated with treated timber.
- Lead based paint on railings.

Offsite disposal of the above materials would be undertaken in accordance with the EPA *Waste Classification Guidelines Part 1: Classifying Waste* (EPA, 2014). Given recent changes to waste classification for such materials, the timber, concrete and metal would be classified as General Solid Waste (non-putrescible) which may be disposed of at a licenced landfill.

Operation

No operational impacts are expected as a result of the proposal.

6.5.3 Safeguards and management measures

Table 6-14: Contamination and waste safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
36.	Contaminated land	An Acid Sulphate Soils Management Plan will be included as part a of the CEMP. The plan will be consistent with the Acid Sulphate Soils Manual (Stone, Ahern, & Blunden, 1998), to address the potential for the unexpected discovery of acid sulphate soils.	Transport	Detailed design	Section 4.2 of QA G36 Environment Protection
37.	Waste	A Waste Management Plan (WMP) including a specific timber recovery plan will be prepared and implemented as part of the CEMP. The WMP will include but not be limited to: • measures to avoid and minimise waste associated with the proposal • classification of wastes and management options (re-use, recycle, stockpile, disposal)	Transport	Detailed design	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		• statutory approvals required for managing both on and off-site waste, or application of any relevant resource recovery exemptions • procedures for storage, transport and disposal • monitoring, record keeping and reporting. The WMP will be prepared taking into account the Environmental Procedure - Management of Wastes on Transport for NSW Land (Transport for NSW, 2014) and relevant Transport for NSW Waste Fact Sheets.			
38.	Waste	Waste would be appropriately managed in accordance with the Waste Avoidance and Resource Recovery Act 2001 and the Protection of the Environment Operations Act 1997.	Transport	Pre-construction / construction	
39.	Waste	Demolition material would be characterised in accordance with the NSW DECC Waste Classification Guidelines (2008) to identify the appropriate classification, possible waste exemption and/or reuse opportunities, and/or disposal of material to an appropriately licensed facility.	Transport	Pre-construction / construction	
40.	Waste	During the construction period, construction areas would be organised and managed on a daily basis following the completion of daily activities. Waste generated would be temporarily contained within the site compound and removed at regular intervals for reuse or recycling where possible or otherwise to an appropriate waste management facility.	Contractor and Transport	Pre-construction / construction	

6.6 Traffic and transport

6.6.1 Existing environment

Wallaga Lake Bridge is an important link connecting the suburbs of Akolole and Wallaga Lake. The bridge provides access to travel along the eastern side of the Wallaga Lake and mostly serves local traffic. The bridge saves local residents and tourist approximately 69km of travel distance and 1 hour of travel time around the lake via Princes Highway. This bridge provides locals access to amenities across the bridge on either side.

As discussed in Chapter 3, the bridge has a general load limit of 22.5 tonne due to severe defects on piles. This limits the type of vehicle that can use the road and heavy vehicles as a result must travel via the Princes Highway

6.6.2 Potential impacts

Construction

The rehabilitation of the Bridge requires partial and full bridge closures due to the scope of work. Full closures of the bridge would be staged to reduce impacts Stage 1 and 2 will require bridge closure for approximately four weeks starting 29 April 2024. Following the closure, the bridge will be open with stop/slow traffic arrangements in place from Monday 27 May for six weeks, weather permitting. Delays of up to five minutes can be expected during this period. Work stage 3 will require closure of the road for 3 weeks beginning 8 July 2024. Following the closure, the bridge will be open with stop/slow traffic arrangements in place from Monday 29 July for five weeks, weather permitting. Delays of up to five minutes can be expected during this period.

During the bridge closure periods, a detour will be in place via Wallaga lake Road onto Bermagui Road and Princes Highway, then onto Cobargo Bermagui Road and back to Wallaga Lake Road as shown in Figure 3-7. This detour adds approximately one hour of extra travel time and 69km of travel if unmitigated.

The waterway under the bridge is considered navigable. Floating pontoon under the bridge would restrict anyone trying to navigate to the other side of the bridge. The lake is not generally open to the ocean and the bridge is extremely low lying, The marine traffic is typically limited to recreational vessels and kayaks. These recreation vehicles would not be able to pass through while the floating pontoon in in place. Consultation with Transport for NSW - Maritime has been undertaken regarding this closure. Consultation with Transport – Maritime is attached as Appendix I. Transport – Maritime responded they would have no issue with the closure citing the height of bridge, low traffic and the winter timing of construction where water activities would be minimum as the reason for their recommendation.

During community consultation, pedestrian access across the waterway was raised as a concern, hence access will be maintained via floating scaffolding during stage 3 works on the side of the bridge (refer to Figure 3-4). A shuttle bus would be arranged on either side of the bridge to ensure community remains connected during this time. The details of the service would be developed with consultation with local bus operators and the community.

Proactive consultation with the community will ensure that they are kept informed and concerns addressed as the construction planning progresses.

Operation

Once operational the bridge would function as it currently does.

6.6.3 Safeguards and management measures

Table 6-15: Traffic and transport safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
41.	Traffic and transport	A Traffic Management Plan (TMP) will be prepared and implemented as part of the CEMP. The TMP will be prepared in accordance with the Transport *Traffic Control at Work Sites technical Manual* (TfNSW, 2022) and *QA Specification G10 Traffic management Edition 7* (Transport for NSW, 2020). The TMP will include: • confirmation of haulage routes • measures to maintain access to local roads and properties • site-specific traffic control measures (including signage) to manage and regulate traffic movement • measures to maintain pedestrian access • requirements and methods to consult and inform the local community of impacts on the local road network • access to construction sites including entry and exit locations and measures to prevent construction vehicles queuing on public roads. • a response plan for any construction traffic incident • consideration of other developments that may be under construction to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic • monitoring, review and amendment mechanisms.	Transport	Detailed design / Pre-construction	Section 4.8 of QA *G36 Environment Protection*
42.	Traffic and transport	• An alternative pedestrian crossing will be provided within the bridge scaffolding to allow pedestrians to safely cross the lake. The access track will be connected to the main bridge scaffolding but would not be used for construction purposes.	Transport	construction specifically stage 3	
43.	Traffic and transport	• A shuttle bus service would be made available to locals in order	Transport	Pre-construction, construction,	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		to keep the community connected. The details of the service would be developed with consultation with local bus operators and the community.			
44.	Traffic and transport	• Affected residents, NSW SES and local schools and other services will be notified of the change in traffic conditions in line with CDR.	Transport	Pre-construction, construction	

6.7 Aboriginal cultural heritage

6.7.1 Methodology

A Stage 1 Procedure for Aboriginal Cultural Heritage Consultations and Investigation (PACHCI) was completed by Transport's. Aboriginal Cultural Heritage Officer. The PACHCI is attached as Appendix H. The PACHCI was completed in accordance with Roads and Maritime Services (RMS) procedure for Aboriginal cultural heritage consultation and investigation (RMS, 2011).

The Stage 1 assessment included a desktop risk assessment and Aboriginal community consultation as identified in section 5.3 to determine whether the proposal is likely to harm Aboriginal cultural heritage or not, and whether further assessment or investigation is required (RMS, 2011). The risk assessment included an AHIMS search and review of the landscape features within the study area.

6.7.2 Potential impacts

Construction

The proposal was assessed as being unlikely to harm or have an impact on Aboriginal cultural heritage due to the following findings:

- The AHIMS search did not indicate Aboriginal objects in the study area
- The study area does contain landscape features that indicate the presence of Aboriginal objects, based on the Office of Environment and Heritage's Due diligence Code of Practice for the Protection of Aboriginal objects in NSW and the Transport for NSW procedure. However, the cultural heritage potential of the study area appears to be reduced due to past disturbance. These areas are proposed to be a no-go areas and is shown in Figure 6-18.

Figure 6-18: No-go areas on the left side of northern abutment

Operation

No additional impact is expected during operation of the proposal.

6.7.3 Safeguards and management measures

Table 6-16: Aboriginal heritage safeguards and management measures

NO.	Impact	Environmental safeguards	Responsibility	Timing	Reference
45	Aboriginal heritage	• The *Standard Management Procedure - Unexpected Heritage Items* (Transport, 2015) will be followed in the event that an unknown or potential Aboriginal object/s, including skeletal remains, is found during construction. This applies where Transport does not have approval to disturb the object/s or where a specific safeguard for managing the disturbance (apart from the Procedure) is not in place. • Work will only re-commence once the requirements of that Procedure have been satisfied.	Transport	Pre-construction/ construction	Section 4.9 of QA *G36 Environment Protection*

NO.	Impact	Environmental safeguards	Responsibility	Timing	Reference
46	Aboriginal heritage	The Northern Section of the Bridge known as the Tilba side is safeguarded by developing a no-go zone with flagged off areas as shown in Figure 6-18.	Transport	Pre-construction/ construction	PACHI correspondence
47	Aboriginal heritage	Aboriginal community in Wallaga Lake discreet community and Bermagui are to be engaged and consulted with on the bridge closure and works to be carried out	Transport	Pre-construction/ construction	PACHI correspondence
48	Aboriginal heritage	Access areas to Payne Island (apart from construction footprint) will be maintained for community, recreation, cultural or other activities.	Transport	Pre-construction/ construction	PACHI correspondence
49	Aboriginal heritage	Soil should not be disturbed in the Northern Foreshore area close to the bridge. this area should also not be utilised for any laydown or compound areas.	Transport	Pre-construction/ construction	PACHI correspondence
50	Aboriginal heritage	Cultural Educational talk and Welcome to Country and smoking ceremony / or other should be carried out on the first day of construction with Transport's project team and construction crew	Transport	Pre-construction/ construction	PACHI correspondence
51	Aboriginal heritage	ACHO will be invited to environmental inspections and weekly site inspections along with the crew. to ensure that safeguards and limited soil disturbance is being adhered to as described by the project	Transport	Pre-construction/ construction	PACHI correspondence
52	Aboriginal heritage	ACHO must be contacted if the scope of works change.	Transport	Pre-construction/ construction	PACHI correspondence

6.8 Non-Aboriginal heritage

6.8.1 Methodology

A desktop assessment was undertaken to determine the heritage values of any objects or places within the proposal site. Heritage database searches were conducted on 5 October 2023 and 14 November 2023 which included:

- The NSW State Heritage Inventory (SHI) (for items listed on the State Heritage Register, Heritage and Conservation Registers of State Government agencies and local heritage items on the Bega Valley LEP and Eurobodalla LEP).
- Australian Heritage Database searched for suburbs of Wallaga Lake, Akolele and Central Tilba on 14 November 2023

Search results are included in Appendix C.

Considering the heritage significance of the Wallaga Lake Bridge, Transport's Heritage Specialist has conducted a heritage review of the Bridge. The review is attached as Appendix L and its recommendations are included in this REF.

6.8.2 Existing environment

Wallaga Lake Bridge (I126) is a heritage item listed under Schedule 5 of the Bega Valley LEP. It is not listed on the S170 register. Brauer House (I306) is a heritage listed item in the suburb of Akolele. This heritage item is listed under Eurobodalla LEP. This heritage site is located approximately 470m North of the proposal site. This heritage item is noted as having local significance.

Database searches have also identified heritage items near the stockpile site. Tilba Conservation Area (C14) lies approximately 260m south west of the stockpile site and Corunna Digging and Mine (I48) is located approximately 550m north east of the stockpile site. Both of these are noted as having local significance.

6.8.3 Potential impacts

Construction

The design of the proposal has considered the heritage significance of the bridge and therefore made effort to replicate every component of the existing bridge into the new structure. The new bridge structure would look similar to the existing bridge therefore retaining the existing heritage appearance with the exception of:

- PileMedic that are proposed to repair piles instead of current HDPE jackets.

  A review of this change by Transport's Heritage team noted deficiency of the latter that allows moisture to pass through the seems demonstrates their inefficiency. Given the aggressive maritime environment in place the shift to the permanent, and more effective, solution is justified to ensure the longevity and safe management of the bridge into the future. The utilization of a grey laminate would ensure that these modifications are visually recessive.

- Abutment upgrade

  The same review concluded that the use of new timber piles for the proposal is informed by the original design and is thus considered a more heritage sensitive modification than the steel piles noted in place.

Since the bridge is a local heritage item and the proposal is seeking to replicate current structure with more stable and safer structure which can be used by our future generations, this works can be considered as having a positive heritage impact.

For locally listed heritage items, Clause 5.10(2) of the Bega Valley LEP lists works that would require approval and an accompanying Statement of Heritage Impact (SOHI).

However, Clause 5,10(3) details that development consent is not required if:

> (a) the applicant has notified the consent authority of the proposed development, and the consent authority has advised the applicant in writing before any work is carried out that it is satisfied that the proposed development—
>
> > (i) is of a minor nature or is for the maintenance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or archaeological site or a building, work, relic, tree or place within the heritage conservation area, and
> >
> > (ii) would not adversely affect the heritage significance of the heritage item, Aboriginal object, Aboriginal place, archaeological site or heritage conservation area.

Detailed consultation has been ongoing with council regarding the rehabilitation plans (refer to Appendix I).

Transport have consulted with council and determined that consent and a SOHI would not be required for the works.

Operation

Operation of the bridge would not have any negative impact to the cultural heritage items. The design of the rehabilitation works will have positive effects and the character of the bridge will remain consistent with the existing heritage aesthetic.

6.8.4 Safeguards and management measures

Table 6-17: Non-Aboriginal heritage safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
53.	Non-Aboriginal heritage	A detailed photographic recording of the bridge will be undertaken before the commencement of works and at completion.	Transport	Pre-construction/ construction	
54.	Non-Aboriginal heritage	• The *Standard Management Procedure - Unexpected Heritage Items* (Transport for NSW, 2015) will be followed in the event that any unexpected heritage items, archaeological remains or potential relics of non-Aboriginal origin are encountered. • Work will only re-commence once the requirements of that Procedure have been satisfied.	Contractor and Transport	Pre-construction/ Construction	Section 4.9 of QA *G36 Environment Protection*
55.	Non-Aboriginal heritage	Any accidental damage caused to heritage items/fabric must be reported immediately. Damage is to be made good in accordance with specialist heritage advice.	Transport	Pre-construction/ construction	
56.	Non-Aboriginal heritage	The bridge is to be included on the Transport NSW section 170 register also to ensure the continued conservation of a pre-1894 timber beam bridge in the Agency's portfolio	Transport	Pre-construction/ construction	
57.	Non-Aboriginal heritage	On completion of work, photos of the works—both before and after, suitably captioned or identified—must be submitted to transport's heritage specialist for updating the S170 Register (once the bridge is added).	Transport	Operation	
58.	Non-Aboriginal heritage	Timber Recovery Plan will be developed to detail the use of the salvaged timber from the structure in other regional projects.	Transport	Pre-construction/ construction	

6.9 Visual impacts

6.9.1 Approach

The proposal proposes a like for like replacement of components of the existing bridge structure at Wallaga Lake. The visual impact as a result of this proposal would be confined to the construction stage. A visual impact assessment of the Proposal on sensitive receivers, to fully address the new Transport requirements, has been undertaken by NGH in this chapter, with reference to Transport's Guideline for Landscape Character and Visual impact Assessment (TfNSW, 2023).

The potential landscape character and visual impact of the proposal has been assessed in relation to the key viewpoints. The assessment considered the magnitude of visual change and the distance from the viewer, as well as the sensitivity. The sensitivity refers to the quality of the view and how sensitive it is to the proposed change. The magnitude refers to the

overall size of the proposed change and number of affected receivers. The assessment is kept objected through the use of existing landscape character assessment.

The combination of sensitivity and magnitude then provides an overall landscape character and visual impact rating based on the grading matrix shown in Table 6-18. This table has been reproduced from Transport (2023).

Table 6-18: Landscape character and visual impact grading matrix (TfNSW, 2023)

		Magnitude			
		High	**Moderate**	**Low**	**Negligible**
Sensitivity	High	High Impact	High-Moderate Impact	Moderate Impact	Negligible Impact
	Moderate	High-Moderate Impact	Moderate Impact	Moderate-Low Impact	Negligible Impact
	Low	Moderate Impact	Moderate-Low Impact	Low Impact	Negligible Impact
	Negligible	Negligible Impact	Negligible Impact	Negligible Impact	Negligible Impact

6.9.2 Existing environment

Visual amenity is subjective to the extent that landscape features can be perceived differently by different people. What some people may deem to be visually attractive, others may perceive as visually intrusive. The Proposal aims to not significantly alter the existing landscape and landscape features with new bridge to replicate existing bridge.

The proposal is located on costal landscape of southeast Corner region of NSW. The landscape consists of semi-rural setting along the lake, natural woody vegetation and costal landscape. Gulaga National Park is approximately 1200m West from the bridge and Eurobodalla National Park is approximately 5km northeast of the bridge.

6.9.3 Potential impacts

Construction

The assessment of impact is based on the identification of key viewpoint sensitive receivers, which were determined from site investigations, and are listed below:

- Nearby residential properties on the North
- Peninsula on the northwest
- Travellers along Wallaga Lake Road

Refer to Table 6-19 for a summary of visual impacts from the nearest sensitive receivers. It should be noted that the impact rating below is in relation to construction. The final design of the bridge aims the replicate the existing heritage aesthetic and would not result in ongoing visual impact.

Table 6-19: Summary of landscape character and visual impact of the Proposal

Viewpoint	Visual sensitivity	Magnitude	Overall impact (unmitigated)	Comments
Views from nearby residential properties on the North	Moderate	Low	**Moderate-Low Impact**	Viewpoint sensitivity from nearby residents would be moderate as construction activities would be undertaken within lines of sight. Construction activities are expected to be staged and would not result in large construction areas. There is some existing vegetation screening surrounding the Proposal site. Figure 6-19: shows views from a residence in the area looking towards the proposal site. The magnitude for residents is therefore low. Boundary fencing, stockpile site, site office, construction equipment, construction vehicle movements and other construction site-related features would have negative visual impacts and deemed to be moderate-low if unmitigated. Visual impacts would be temporary during construction and would not be noticeable upon completion of the Proposal. Safeguards would be implemented to minimise these impacts.
Peninsula on the north west	Moderate	Negligible	**Negligible Impact**	The peninsula on the northwest is being used by the Aboriginal community. It is home to Merrimans Local Aboriginal Land Council. The Little Yuin Aboriginal Day Care is also situated on the southern side of peninsula approximately 550m from the proposal site. Viewpoint sensitivity from the peninsula would be moderate as construction activities would be undertaken within lines of sight. Construction activities are expected to be staged and would not result in large construction areas. There is dense vegetation along the eastern side of the peninsula which acts as a natural screen. Due to the separation distance and natural vegetation screen, the magnitude for anyone on the peninsula is considered negligible. Any residual visual impacts would be temporary during construction and negligible upon completion of the Proposal.
Travellers along Wallaga Lake Road.	Moderate	Low	**Moderate-Low Impact**	Viewpoint sensitivity from vehicles, cyclists and pedestrians would be moderate as construction activities would be undertaken within lines of sight. However, these lines of sight are not static and temporary in nature. The magnitude for these travellers is therefore low. Construction activities are expected to be staged and would not result in large construction areas. Boundary fencing, stockpile site, site office, construction equipment, construction vehicle movements and other construction site-related features would have negative visual impacts and deemed to be moderate-low if unmitigated. Visual impacts would be temporary during construction and negligible upon completion of the Proposal. Safeguards would be implemented to minimise these impacts.

Construction activities would be temporary and associated visual impact would be minimised upon implementation of safeguards.

Figure 6-19: View from residence on the North of proposal site.

The off-site stockpile site's construction footprint would be approximately 35m X 13m. This site is located approximately 165m from closest receiver and there is a strip of vegetation along the northern boundary of this property which would screen views of the proposed stockpile site. No other sensitive receivers are identified in close proximity of the stockpile site. There is a small break in vegetation along Princes Highway from where road users could have potential view (as shown in Figure 6-20:). Considering a speed limit of 100km/hr, this view would be for a very small amount of time and would not warrant additional mitigation measures.

Figure 6-20: View of stockpile site looking towards Princes Highway

Operation

The proposal would result in major rehabilitation of the Wallaga Lake Bridge. This rehabilitation works would replace components of the existing ageing bridge with a like for like components. There would be negligible change to the landscape character of the place as a result of the proposal.

The stockpile site for managing the timber salvage works would be returned to its original state after construction and no materials or waste would be left behind.

6.9.4 Safeguards and management measures

Table 6-20: Visual safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
59.	Visual impact during construction	Project work sites, including construction areas will be managed to minimise visual impact. A site arrangement plan showing at minimum the following: • Storage areas for equipment and materials • Sufficient parking areas are available at the work sites Waste storage areas, and ensure waste is collected and sorted at the end of each day.	Contractor and Transport	Pre-Construction Construction	
60.	Visual impact upon completion	All work sites including the compound area are to be demobilised and rehabilitated to its previous condition as best as practicable.	Transport	Post-construction	

6.10 Socio-economic and land use

6.10.1 Existing environment

The proposal is located across Bega Valley LGA and Eurobodalla LGA. Some population stats for these regions are provided in Table 6-21.

Table 6-21: 2021 census data for respective LGA (ABS, 2023)

LGA	Total population	Full time work (%)	Part time work (%)
Bega Valley	35,942	49	40.2
Eurobodalla	40,593	47.6	40.4

The bridge is utilised by locals and holiday travellers. There are number of hotels and shared accommodations in the area. School students use the bridge on a regular basin to travel to and from school. Community consultation revealed that the children would need to cross the bridge in order to access after school activities.

There are regular community and business events in the area. People converge from nearby areas to participate in these events. Sculpture Bermagui is one of those events planned during the start of the proposal. It is planned to run from 9 to 17 March 2024.

The location for the site compound and timber storage area are within the Payne's Island Reserve on the southern side of the bridge. This area is mapped as RE1 Public Recreation and is being used as a recreational reserve managed by Bega Valley Shire Council. This space has toilets and picnic benches within. This is also used as a fishing spot by locals and travellers.

A Community Response Plan (CRP) has been prepared and the suggestions are taken onboard during preparation of this REF.

6.10.2 Potential impacts

Construction

Construction of the proposal would close the bridge for a certain period of time as discussed in Section 3.3.5. In addition to this, construction stage will also involve utilising road reserves and rest area (Payne's Island) for ancillary facilities. During this time, public would have no access to the area within the construction compound and proposed stockpiles. Some recreational activity such as fishing would be permitted around Paynes island in consultation with the site manager.

Additional socio-economic impacts during construction are addressed in the following sections:

- Disruption to traffic (see Section6.6)
- Noise and air quality (see Section 6.3 and Section 6.11)
- Impacts to the community (see Section 5.2).

The proposal is fully within the road corridor; no property acquisition is required.

No other socio-economic impacts are expected during construction.

Impact on land use would only be temporary for the construction period.

Operation

Operation of the proposal would improve safety of the bridge and its users

All ancillary facilities would be removed and the sites would be rehabilitated to pre-construction conditions. All restrictions on use of these areas would be lifted.

6.10.3 Safeguards and management measures

Table 6-22: Socio economic safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
61.	Socio-economic	Recommendations from CRP will be implemented where feasible	Transport	Pre-construction/ construction	
62.	Socio-economic	All complaints are to be recorded on a complaint register and attended promptly	Contractor and Transport	Pre-construction/ construction	

Additional safeguard regarding traffic, noise and air pollution is discussed in Sections 6.6.3, 6.3.4 and 6.11.3 respectively.

6.11 Air quality

6.11.1 Existing environment

Air quality in the area is generally good due to limited sources of potential airborne contaminants. The main contaminant source would potentially be from surrounding activities which are predominantly rural agriculture (pasture grazing predominantly) and rural residential in nature. Some dust generation could be expected from rural activities during dry weather periods.

6.11.2 Potential impacts

Construction

The proposal would have minimum soil disturbances. These disturbances are not likely to result in dust impacts, as the work are mostly within a waterway. No vegetation clearing is proposed for the proposal, hence no loose surfaces. There would be minor increase in dust particulate from sawing down of timber structures both at the bridge site and the old timber stockpile site next to Princes Highway.

There would also be potential air quality impacts associated with exhaust fumes from machinery (e g delivery vehicles, construction plant and equipment). Emissions from construction vehicles/equipment would be minor and short term.

Operation

Operation stage would not alter the impact on air quality as the number of vehicles using the bridge would not significantly vary to current uses.

6.11.3 Safeguards and management measures

Table 6-23: Air quality safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
63.	Air quality	• All loads will be covered during transport • Maintain plant to manufacturers standards • Ensure that all plant and equipment comply with Part 4 of the Protection of the Environment Operations (Clean Air) Regulation 2002 • Smokey emissions from construction plant and vehicles will be maintained to Australian Standards. The *Protection of the Environment Operations Act 1997* (POEO Act) requires that no vehicle	Contractor and Transport	Construction	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		shall have continuous smoky emissions for more than 10 seconds			

6.12 Other impacts

6.12.1 Existing environment and potential impacts

Table 6-24: Other potential impacts

Environmental factor	Existing environment	Potential impacts
Utilities	At present the bridge acts as a support structure for water supply and sewerage lines. These would need to be realigned for the construction period and reinstated once the bridge rehabilitation is completed.	The lines need to be realigned and considering the risk of leakage, it is necessary to handle the realignment process very carefully. These pipes also need to be safe and secured for entire construction periods.
Bushfire	Part of proposal site is within category 1 vegetation (refer to Figure 6-21:). This area includes the area past northern abutment which is proposed to be used for truck loading and unloading area. The off site stockpile location is mapped as category 3 vegetation.	Use of machinery during dismantling of bridge components have a potential to start a fire. Additionally the use of cranes and other vehicle use in the bushfire prone areas need to proceed with caution.

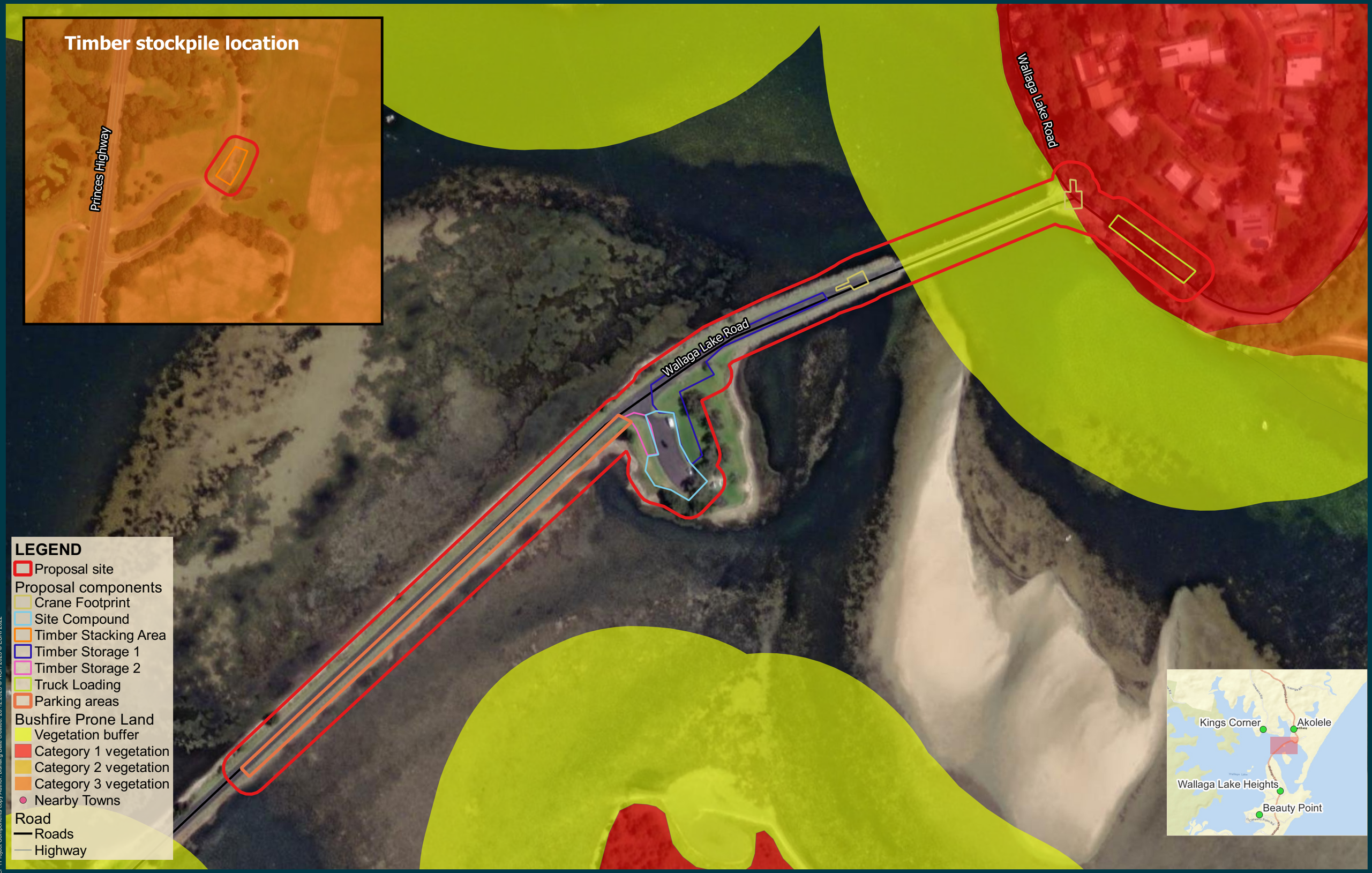


Figure 6-21: Bushfire prone land

6.12.2 Safeguards and management measures

Table 6-25: Other impacts Safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
64.	Utilities	Prior to the commencement of works: • the location of existing utilities and relocation details will be confirmed following consultation with affected utility owners • further assessment will be undertaken if the scope or location of proposed utility relocation works falls outside of the assessed proposal scope and footprint.	Transport	Detailed design / Pre-construction / construction	
65.	Hazards and risk management	Hazard and Risk Management will be Incorporated as part of the CEMP. This will include, but not be limited to: • details of bushfire hazards and risks associated with the activity • measures to be implemented during construction to minimise these risks • record keeping for materials present on the site, material safety data sheets, and personnel trained and authorised to use such materials • a monitoring program to assess performance in managing identified risks • contingency measures to be implemented in the event of unexpected hazards, risks arising and emergency situations. The strategy will be prepared in accordance with relevant guidelines and standards, including relevant Safe Work Australia Codes of Practice, and EPA or OEH publications.	Transport	Detailed design / Pre-construction	

6.13 Cumulative impacts

6.13.1 Study area

The cumulative impact assessment has considered the following suburbs: Wallaga Lake, Bermagui, Akolele and Central Tilba. Apart from these suburbs, SSD projects within 10 km of the proposal are also considered.

6.13.2 Other projects and developments

A search of DPE Major Projects website noted one State Significant Development (SSD) Project. The Project is Kelp Farming Aquaculture at Bermagui and Pambula Beach, south coast of New South Wales (NSW) - Construction and operation of a 30-hectare commercial marine aquaculture lease for seaweed production using longlines off Haywards Beach, approximately 3 km north of Bermagui and Construction and operation of a 30-hectare commercial marine aquaculture lease for seaweed production using longlines off Merimbula Bay, approximately 1.5 km east of Pambula Beach.

The scoping report submitted to DPE has noted that the phase 2 of the project would coincide with the proposed construction period of this proposal. The project is planning on using Wallaga Lake Road to transport materials to site which would not be possible during the bridge closures for third phase of this proposal.

The cumulative traffic impact generated by both development activities cannot be assessed without knowing the impact of the project. Other impact would not be noticeable due to the separation distances between the projects.

Both Bega Valley Shire council and Eurobodalla Shire Council DA application tracker were searched for any major projects in the area. Bega Valley Shire council search showed some small dwelling and associated structure proposals in the suburb of Bermagui and Wallaga Lake. A search of Eurobodalla Shire council's DA tracker resulted in no results for the suburbs of Akolele and Central Tilba.

6.13.3 Safeguards and management measures

Consultation with is Kelp Farming Aquaculture will be carried out as a part of CRP. No additional mitigation measures are required.

7. Environmental management

This chapter describes how the proposal will be managed to reduce potential environmental impacts during detailed design, construction and operation. A framework for managing potential impacts is provided. A summary of site-specific environmental safeguards is provided and the licence and/or approval requirements required prior to construction are listed.

7.1 Environmental management plans

Safeguards and management measures have been identified in the REF in order to minimise adverse environmental impacts, including social impacts, which could potentially arise as a result of the proposal. Should the proposal proceed, these safeguards and management measures would be incorporated into the detailed design and applied during the construction and operation of the proposal.

A Construction Environmental Management Plan (CEMP) will be prepared to describe the safeguards and management measures identified. The CEMP will provide a framework for establishing how these measures will be implemented and who would be responsible for their implementation. The CEMP would include the following aspects as part of the plan:

- Noise and Vibration Management
- Erosion and Sediment Control Plan
- Acid Sulphate Soils Management Waste Management Plan (WMP)
- Hazard and Risk Management
- Microbat Management Plan (Prepared)

The CEMP will be prepared prior to construction of the proposal and must be reviewed and certified by the Transport for NSW Environment and Sustainability Officer, South, prior to the commencement of any on-site works. The CEMP will be a working document, subject to ongoing change and updated as necessary to respond to specific requirements.

The CEMP would be developed in accordance with the specifications set out in the *QA Specification G36 - Environmental Protection (Management System)*, *QA Specification G38 - Soil and Water Management (Soil and Water Plan)*, *QA Specification G40 - Clearing and Grubbing, QA Specification G10 - Traffic Management*.

7.2 Traffic Management Plan

A TMP will be prepared separately and must be reviewed and certified, prior to the commencement of any on-site works. A Traffic Guidance Scheme (TGS)[1] would be prepared as a part of TMP. TGS must be made available to public and affected stakeholders as a part of ongoing communication.

[1] The Guidance Scheme (TGS) is a diagram showing signs and devices arranged to warn traffic and to guide it around, past or if necessary through a work site or temporary hazard.

7.3 Summary of safeguards and management measures

Environmental safeguards and management measures outlined in this REF will be incorporated into the detailed design phase of the proposal and during construction and operation of the proposal, should it proceed. These safeguards and management measures will minimise any potential adverse impacts arising from the proposed works on the surrounding environment. The safeguards and management measures are summarised in Table 7 1.

Table 7-1: Summary of safeguards and management measures

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
1.	General - minimise environmental impacts during construction	A CEMP will be prepared and submitted for review and endorsement of the Transport for NSW Senior Manager Environment and Sustainability prior to commencement of the activity. As a minimum, the CEMP will address the following: • any requirements associated with statutory approvals • details of how the project will implement the identified safeguards outlined in the REF • issue-specific environmental management plans • roles and responsibilities • communication requirements • induction and training requirements • procedures for monitoring and evaluating environmental performance, and for corrective action • reporting requirements and record-keeping • procedures for emergency and incident management • procedures for audit and review. The endorsed CEMP will be implemented during the undertaking of the activity. The Consultation Plan will include consultation with proponents of the Batemans Marine Park and Kelp Farming Aquaculture projects to:	Transport	Pre-construction / detailed design	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		• Increase awareness of construction timeframes and impacts • Coordinate impact mitigation and management.			
2.	Aquatic Biodiversity	Aquatic habitat will be protected in accordance with *Guide 10: Aquatic habitats and riparian zones of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA 2011) and Section 3.3.2 Standard precautions and mitigation measures of the *Policy and guidelines for fish habitat conservation and management Update 2013* (DPI (Fisheries NSW) 2013).	Transport	Construction	
3.	Aquatic Biodiversity	Implement environmental safeguards such as silt curtains, booms etc. to control sediment disturbance for the duration of construction and rehabilitation activities to ensure that there is no escape of turbid plumes into the adjacent aquatic environment	Transport	Pre-construction/ Construction	
4.	Aquatic Biodiversity	Carefully monitor the application of epoxy grout to check for leakages from the PileMedic wrap. Any leakages to the bed sediments to be reported and once cured, removed during site clean-up.	Transport	Pre-construction/ Construction	
5.	Aquatic Biodiversity	Work vessels are not to attempt to enter the shallow waters around Paynes Island to minimise potential direct impact to the seagrass community. Refer to Figure 6-4 that shows the extent of seagrass around Paynes Island Reserve and for this area to be avoided.	Transport	Pre-construction/ Construction	
6.	Aquatic Biodiversity	Provide a copy of Wallaga Lake bridge aquatic ecology assessment report to the manager of the Batemans Marine Park in accordance with permit conditions.	Transport	Detailed Design	
7.	Aquatic Biodiversity	Any material removed from the waterway that is to be temporarily deposited or stockpiled on land is to be located well away from the waterway and to be contained by	Transport	Pre-construction/ Construction	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		appropriate erosion and sediment control devices.			
8.	Aquatic Biodiversity	DPI Fisheries (1800 043 536) is to be notified immediately if any fish kills occur in the vicinity of the works. In this situation, all works other than emergency response procedures are to cease until the issue is rectified and approval is given by DPI Fisheries for the works to proceed.	Transport	Pre-construction/ Construction	
9.	Flora	Materials, plant, equipment, work vehicles and stockpiles will be placed to avoid damage to surrounding native vegetation and will be outside tree drip-lines and restricting them to identified construction compounds, in areas of cleared land and exotic grassland.	Transport	Pre-construction, construction	
10.	Flora	If any damage occurs to vegetation outside of the nominated work area the Environmental Representative will be notified so that appropriate remediation strategies can be developed.	Transport	Pre-construction / construction	
11.	Flora	Accurately and clearly mark out the limits of the work zone (within proposal site), areas for parking and turning of vehicles and plant equipment prior to commencement of works. These areas shall be located so that vegetation disturbance is minimised and the drip-line of trees avoided.	Transport	Pre-construction / construction	
12.	Fauna	Construction crews will be made aware that any native fauna species (including microbats) encountered must be allowed to leave site without being harassed and WIRES must be called for assistance where necessary. If any threatened or native species (flora or fauna) are discovered during the works, all work except emergency works will stop immediately and the Environmental Representative will be notified. Work will only recommence once the impact on the species has been assessed and appropriate control measures provided.	Contactor / Transport	Pre-construction / construction	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		Any in-situ rock habitat in the study shall be kept and gently placed into adjacent habitat.			
13.	Fauna	Transport would engage a Project Ecologist for the duration of the proposed work to oversee the implementation of the MMP.	Transport	Pre-construction / construction	
14.	Fauna	Microbat monitoring will be carried out according to the monitoring schedule (Table 4-1) of the MMP.	Transport	Pre-construction / construction	
15.	Fauna	Eleven microbat boxes should be installed as soon as possible but outside of the known breeding season. Microbat boxes must be in place in proximity to all known roost sites at least one month prior to exclusion works. Microbats use the microbat boxes or non-conflict bridge areas >10 metres from active work zones.	Transport	Pre-construction / construction	
16.	Fauna	Remove any microbat boxes that show no signs of occupancy before the end of February 2024.	Transport	Pre-construction / construction	
17.	Fauna	Install microbat exclusion to make habitat within the timber bridge inaccessible prior to bridge construction works. • Full bridge exclusion must only take place between the end of March and the end of April inclusive. • Microbats must not be displaced during periods of torpor. • The Project Ecologist would be responsible for identifying periods of torpor or in appropriate weather conditions. Exclusion is to be left in place until works commence	Transport	Pre-construction / construction	
18.	Fauna	Install staged microbat exclusion of Girder 19 initially and then Corbel 22 to make habitat within these specific bridge	Transport	Pre-construction / construction	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		elements inaccessible prior to bridge construction works. • Exclusion of these bridge elements is to only occur between the end of March and the end of April inclusive. • Microbats must not be displaced during periods of torpor. The Project Ecologist would be responsible for identifying periods of torpor or in appropriate weather conditions.			
19.	Fauna	Daily inspections for microbats would be undertaken by Transport using the Transport Daily Bat Inspection Checklist.	Transport	Construction	
20.	Fauna	To reinstall girder 19 as a non-structural timber element in the rehabilitation of the bridge's superstructure during the 3 week closure period as part of the bridge superstructure renewal.	Transport	Pre-construction / construction	
21.	Weeds and pathogens management	Priority weeds shall be managed according to the requirements of the Biosecurity Act 2015 (NSW), in that they are to be disposed of at a licensed waste management facility or similar. Priority weeds are not to be mulched and repurposed for any landscaping use. Machinery shall be cleaned prior to entering the site to ensure that weed seeds and propagules are not imported to the site	Transport	Pre-construction / construction	
22.	Noise and vibration	A Noise and Vibration Management Plan (NVMP) will be prepared and implemented as part of the CEMP. The NVMP will generally follow the approach in *the Interim Construction Noise Guideline (ICNG) (DECC, 2009*) and identify: • all potential significant noise and vibration generating activities associated with the activity • feasible and reasonable mitigation measures to be implemented, taking into account *Beyond the Pavement: urban*	Transport	Pre-construction	Section 4.6 of QA *G36 Environment Protection*

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		design policy, process and principles (Transport, 2014). • a monitoring program to assess performance against relevant noise and vibration criteria • arrangements for consultation with affected neighbours and sensitive receivers, including notification and complaint handling procedures contingency measures to be implemented in the event of non-compliance with noise and vibration criteria.			
23.	Scheduling	• Wherever possible schedule works during standard hours of construction. • In consultation with the community, preference may be given to avoiding cumulative impacts by avoiding the con-current completion of phases of construction. Alternatively, impacted receivers may prefer a shorter duration of works where this requires con-current completion of construction phases. • Provide respite periods during all phases of construction. Stop and alter works in response to noise-related complaints.	Contractor	Pre-construction, construction	Appendix G
24.	Vibration	• Choosing alternative, lower-impact equipment or methods wherever possible. • Scheduling the use of vibration-causing equipment at the least sensitive times of the day (wherever possible). • Locating high vibration sources as far away from sensitive receiver areas as possible. • Sequencing operations so that vibration-causing activities do not occur simultaneously. • Keeping equipment well maintained.	Contractor	Construction	Appendix G

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		Where service conduits or other infrastructure are located in areas of vibration inducing activities such as hydraulic rock breaking, vibratory compacting or ripping, the management of potential vibration impacts should be given a high priority.			
25.	Compliance	Any construction work outside the above hours would be carried in accordance with the CNVG. Residents would be notified of works required outside of these normal hours, and where it would be considered reasonable and feasible, agreement reached concerning the program of works.	Contractor	Pre-construction, construction	Appendix G
26.	Catchment mitigation - *Day (standard hours) – Methodology 1, Methodology 2 & Finishing Works*	During standard hours Letterbox drops will be undertaken for all residents within the NCA1 and NCA2 areas. Letters will be delivered at least seven (7) calendar days prior to works beginning. Verification measurements should also be considered for works during the day period.	Contractor	Pre-construction, construction	Appendix G
27.	Catchment mitigation – Night (out of hours) - *Methodology 3, Timber Storage Area & Truck Waiting Bay*	During out of hours work periods the following NCA measures must be undertaken: NCA1Predicted noise level > 25 dB(A): Alternative accommodation offer, duration respite or two day consecutive respite period, Individual Briefings, specific notifications, Phone calls, letter drop NCA2 Predicted noise level above by 15-25 dB(A):: Verification, duration respite or two day consecutive respite period , Individual briefings, letterdrop, Phone calls, specific notifications NCA3 Predicted noise level above by 5-15 dB(A): Duration respite or two day consecutive respite period, verification, letterdrop NCA4 Predicted noise level < 5 dB(A): letterdrop	Contractor	Pre-construction, construction	Appendix G

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
28.	Soil and water	A site-specific Erosion and Sediment Control Plan (ESCP)will be prepared and implemented as part of the Soil and Water Management Plan. The Plan will include arrangements for managing wet weather events, including monitoring of potential high-risk events (such as storms) and specific controls and follow-up measures to be applied in the event of wet weather.	Transport	Detailed design / pre-construction	Section 2.2 of *QA G38 Soil and Water Management*
29.	Soil and water	Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.	Contractor/Transport	Construction	ESCP
30.	Soil and water	Prepare an Environmental Work Method Statement (EWMS) for all three stages of the work. The EWMS will detail measures to avoid or minimise risks from erosion and sedimentation to water quality and biodiversity. It will be prepared in accordance with relevant guidelines including, but not limited to: *- Roads and Maritime Biodiversity Guidelines – Protecting and managing biodiversity on RTA projects* *- NSW DPI (Fisheries) guidelines Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings.*	Contractor	Detailed design/Pre-construction	Section 3.7 of QA *G38 Soil and Water Management*, Section 3.2.4 of QA G36 *Environmental Protection*
31.	Water	Vehicle wash down and/or concrete/grout washout is to occur in a designated concrete washout area as approved on a site specific ESCP.	Contractor/Transport	Construction	ESCP
32.	Water	Victoria creek will be monitored on a regular basis to ensure the effectiveness of ESCP	Transport	Construction	
33.	Water	An emergency spill kit is to be kept on site at all times. All staff are to be made aware of the location of the spill kit and trained in its use.	Transport	Construction	
34.	Water	stop works and move plants, equipment and stockpiles to higher ground where a wet	Transport	Construction	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		weather event with more than 100mm of rain is predicted.			
35.	Contaminated land	An Acid Sulphate Soils Management Plan will be included as a part of the CEMP. The plan will be consistent with the Acid Sulphate Soils Manual (Stone, Ahern, & Blunden, 1998), to address the potential for the unexpected discovery of acid sulphate soils.	Transport	Pre-construction	Section 4.2 of QA G36 Environment Protection
36.	Waste	A Waste Management Plan (WMP) including a specific timber recovery plan will be prepared and implemented as part of the CEMP. The WMP will include but not be limited to: • measures to avoid and minimise waste associated with the proposal • classification of wastes and management options (re-use, recycle, stockpile, disposal) • statutory approvals required for managing both on and off-site waste, or application of any relevant resource recovery exemptions • procedures for storage, transport and disposal • monitoring, record keeping and reporting. The WMP will be prepared taking into account the Environmental Procedure - Management of Wastes on Transport for NSW Land (Transport for NSW, 2014) and relevant Transport for NSW Waste Fact Sheets.	Transport	Detailed design /	
37.	Waste	Waste would be appropriately managed in accordance with the Waste Avoidance and Resource Recovery Act 2001 and the Protection of the Environment Operations Act 1997.	Transport	Pre-construction / construction	
38.	Waste	Demolition material would be characterised in accordance with the NSW DECC Waste Classification Guidelines (2008) to identify the appropriate classification, possible waste exemption and/or reuse	Transport	Pre-construction / construction	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		opportunities, and/or disposal of material to an appropriately licensed facility.			
39.	Waste	During the construction period, construction areas would be organised and managed on a daily basis following the completion of daily activities. Waste generated would be temporarily contained within the site compound and removed at regular intervals for reuse or recycling where possible or otherwise to an appropriate waste management facility.	Contractor and Transport	Pre-construction / construction	
40.	Traffic and transport	A Traffic Management Plan (TMP) will be prepared and implemented as part of the CEMP. The TMP will be prepared in accordance with the Transport *Traffic Control at Work Sites Manual* (RTA, 2010) and *QA Specification G10 Control of Traffic* (Transport for NSW, 2008). The TMP will include: • confirmation of haulage routes • measures to maintain access to local roads and properties • site-specific traffic control measures (including signage) to manage and regulate traffic movement • measures to maintain pedestrian access • requirements and methods to consult and inform the local community of impacts on the local road network • access to construction sites including entry and exit locations and measures to prevent construction vehicles queuing on public roads. • a response plan for any construction traffic incident • consideration of other developments that may be under construction to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic	Transport	Detailed design / Pre-construction	Section 4.8 of QA *G36 Environment Protection*

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		monitoring, review and amendment mechanisms.			
41.	Traffic and transport	An alternative pedestrian crossing will be provided within the bridge scaffolding to allow pedestrians to safely cross the lake. The access track will be connected to the main bridge scaffolding but would not be used for construction purposes.	Transport	construction specifically stage 3	
42.	Traffic and transport	A shuttle bus service would be made available to locals in order to keep the community connected. The details of the service would be developed with consultation with local bus operators and the community.	Transport	Pre-construction, construction,	
43.	Traffic and transport	Affected residents, NSW SES and local schools and other services will be notified of the change in traffic conditions in line with CDR.	Transport	Pre-construction, construction,	
44.	Aboriginal heritage	• The *Standard Management Procedure - Unexpected Heritage Items* (Transport, 2015) will be followed in the event that an unknown or potential Aboriginal object/s, including skeletal remains, is found during construction. This applies where Transport does not have approval to disturb the object/s or where a specific safeguard for managing the disturbance (apart from the Procedure) is not in place. Work will only re-commence once the requirements of that Procedure have been satisfied.	Transport	Pre-construction/ construction	Section 4.9 of QA *G36 Environment Protection*
45.	Aboriginal heritage	The Northern Section of the Bridge known as the Tilba side is safeguarded by developing a no-go zone with flagged off areas.	Transport	Pre-construction/ construction	PACHI correspondence
46.	Aboriginal heritage	Aboriginal community in Wallaga Lake discreet community and Bermagui are to be engaged and consulted with on the bridge closure and works to be carried out	Transport	Pre-construction/ construction	PACHI correspondence
47.	Aboriginal heritage	Access areas to Payne Island (apart from construction footprint) will be maintained	Transport	Pre-construction/ construction	PACHI correspondence

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		for community, recreation, cultural or other activities.			
48.	Aboriginal heritage	Soil should not be disturbed in the Northern Foreshore area close to the bridge. this area should also not be utilised for any laydown or compound areas.	Transport	Pre-construction/ construction	PACHI correspondence
49.	Aboriginal heritage	Cultural Educational talk and Welcome to Country and smoking ceremony / or other should be carried out on the first day of construction with Transport's project team and construction crew	Transport	Pre-construction/ construction	PACHI correspondence
50.	Aboriginal heritage	ACHO will be invited to environmental inspections and weekly site inspections along with the crew. to ensure that safeguards and limited soil disturbance is being adhered to as described by the project	Transport	Pre-construction/ construction	PACHI correspondence
51.	Aboriginal heritage	ACHO must be contacted if the scope of works change.	Transport	Pre-construction/ construction	PACHI correspondence
52.	Non-Aboriginal heritage	A detailed photographic recording of the bridge will be undertaken before the commencement of works and at completion.	Transport	Pre-construction/ construction	
53.	Non-Aboriginal heritage	• The *Standard Management Procedure - Unexpected Heritage Items* (Transport for NSW, 2015) will be followed in the event that any unexpected heritage items, archaeological remains or potential relics of non-Aboriginal origin are encountered. Work will only re-commence once the requirements of that Procedure have been satisfied.	Contractor and Transport	Pre-construction/ Construction	Section 4.9 of QA *G36 Environment Protection*
54.	Non-Aboriginal heritage	Timber Recovery Plan will be developed to detail the use of the salvaged timber from the structure in other regional projects.	Transport	Pre-construction/ construction	
55.	Non-Aboriginal heritage	Any accidental damage caused to heritage items/fabric must be reported immediately. Damage is to be made good in accordance with specialist heritage advice.	Transport	Pre-construction/ construction	
56.	Non-Aboriginal heritage	The bridge is to be included on the Transport NSW section 170 register also to	Transport	Pre-construction/ construction	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		ensure the continued conservation of a pre-1894 timber beam bridge in the Agency's portfolio			
57.	Non-Aboriginal heritage	On completion of work, photos of the works—both before and after, suitably captioned or identified—must be submitted to transport's heritage specialist for updating the S170 Register (once the bridge is added).	Transport	Operation	
58.	Visual impact during construction	Project work sites, including construction areas will be managed to minimise visual impact. A site arrangement plan showing at minimum the following: • Storage areas for equipment and materials • Sufficient parking areas are available at the work sites Waste storage areas, and ensure waste is collected and sorted at the end of each day.	Contractor and Transport	Pre-Construction Construction	
59.	Visual impact upon completion	All work sites including the compound area are to be demobilised and rehabilitated to its previous condition as best as practicable.	Transport	Post-construction	
60.	Socio-economic	Recommendations from CRP will be implemented where feasible.	Transport	Pre-construction/ construction	
61.	Socio-economic	All complaints are to be recorded on a complaint register and attended promptly	Contractor and Transport	Pre-construction/ construction	
62.	Air quality	• All loads will be covered during transport • Maintain plant to manufacturers standards • Ensure that all plant and equipment comply with Part 4 of the Protection of the Environment Operations (Clean Air) Regulation 2002 Smokey emissions from construction plant and vehicles will be maintained to Australian Standards. The *Protection of the Environment Operations Act 1997* (POEO Act) requires that no vehicle shall have continuous smoky emissions for more than 10 seconds	Contractor and Transport	Construction	

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
63.	Utilities	Prior to the commencement of works: • the location of existing utilities and relocation details will be confirmed following consultation with affected utility owners further assessment will be undertaken if the scope or location of proposed utility relocation works falls outside of the assessed proposal scope and footprint.	Transport	Detailed design / Pre-construction / construction	
64.	Hazards and risk management	Hazard and Risk Management will be Incorporated as part of the CEMP. This will include, but not be limited to: • details of bushfire hazards and risks associated with the activity • measures to be implemented during construction to minimise these risks • record keeping for materials present on the site, material safety data sheets, and personnel trained and authorised to use such materials • a monitoring program to assess performance in managing identified risks • contingency measures to be implemented in the event of unexpected hazards, risks arising and emergency situations. The strategy will be prepared in accordance with relevant guidelines and standards, including relevant Safe Work Australia Codes of Practice, and EPA or OEH publications.	Transport	Detailed design / Pre-construction	

7.4 Licensing and approvals

Table 7-2: Summary of licensing and approvals required

Instrument	Requirement	Timing
Clause 9 of the Marine Estate Management Regulation 2017	Proposal will require permit from Batemans Marine Park.	Prior to the start of works.

8. Conclusion

This chapter provides the justification for the proposal taking into account its biophysical, social and economic impacts, the suitability of the site and whether or not the proposal is in the public interest. The proposal is also considered in the context of the objectives of the EP&A Act, including the principles of ecologically sustainable development as defined in Section 193 of the Environmental Planning and Assessment Regulation 2021.

8.1 Justification

This REF has assessed the potential impacts of the proposed Wallaga bridge rehabilitation and associated abutment strengthening works along Wallaga Lake Bridge within the Bega Valley Shire LGA. The REF has identified potential impacts relating to aquatic biodiversity, cultural heritage, water, traffic, noise and public utilities.

A range of safeguards have been developed for the potential impacts identified. These would ensure that the potential negative impacts of the proposal are prevented, mitigated or limited as much as is practical. It is the general recommendation of this REF that the safeguards herein included should be implemented through appropriate design and management strategies, including the development of a Construction Environmental Management Plan for the proposal.

The potential negative impacts of the proposal are considered to be justified in terms of its potential benefits. These include improved safety for road users and reduced requirement for ongoing bridge maintenance and repair. These would have clear social and environmental benefits, in keeping with the principles of ecologically sustainable development.

The assessment has concluded that as the proposed works as described in this REF, including any proposed management measures and safeguards, would not result in a significant effect on the environment.

The proposed works would not result in a significant impact on any declared critical habitat, threatened species, populations or ecological communities or their habitats. Therefore, a Species Impact Statement (SIS) is not required.

A number of potential environmental impacts from the proposal have been avoided or reduced during the concept design development and options assessment. The proposal, as described in the REF, best meets the project objectives but would still result in some impacts on aquatic biodiversity, cultural heritage and traffic. On balance, the proposal is considered justified.

8.2 Objects of the EP&A Act

Table 8-1: Objects of the Environmental Planning and Assessment Act 1979

Instrument	Requirement
1.3(a) To promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources.	The proposal would improve safety and efficiency of the Wallaga Lake Road by refurbishing an old bridge.
1.3(b) To facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment.	Ecologically sustainable development is specifically addressed in Section 8.2.1.
1.3(c) To promote the orderly and economic use and development of land.	The proposal would enhance the capacity of the bridge by allowing heavier vehicle passage.
1.3(d) To promote the delivery and maintenance of affordable housing.	Not relevant to the project.
1.3(e) To protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats.	Measures would be implemented to protect and conserve the environment and native animals and plants. The potential impacts on vegetation, threatened species population and ecological communities are discussed in Sections 6.1 and 6.2.

Instrument	Requirement
1.3(f) To promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage).	Potential impacts to heritage are addressed in Section 6.7 and 6.8. Measures would be implemented to sustainably manage unknown heritage resources.
1.3(g) To promote good design and amenity of the built environment.	The proposal design considers all relevant design and construction standards as well as users and adjoining landowner amenity.
1.3(h) To promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants.	Not relevant to the project.
1.3(i) To promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State.	Not relevant to the project.
1.3(j) To provide increased opportunity for community participation in environmental planning and assessment.	The proposal has considered community feedback and adapted the suggestions in the design and construction methodology.

8.2.1 Ecologically sustainable development

Ecologically sustainable development (ESD) is development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. The principles of ESD have been an integral consideration throughout the development of the project.

ESD requires the effective integration of economic and environmental considerations in decision-making processes. The four main principles supporting the achievement of ESD are discussed below.

The precautionary principle

The precautionary principle deals with reconciling scientific uncertainty about environmental impacts with certainty in decision-making. It provides that where there is a threat of serious or irreversible environmental damage, the absence of full scientific certainty should not be used as a reason to postpone measures to prevent environmental degradation.

This principle was considered during planning of this proposal (refer to Chapter 2). The precautionary principle has guided the assessment of environmental impacts for this REF and the development of mitigation measures.

The following are examples statements only:

- Issues that may cause serious or irreversible environmental damage as a result of the proposed project and where there is scientific uncertainty as to the nature of the damage have been identified.
- The best-available technical information, environmental standards and measures have been used to minimise environmental risks.
- Conservative ‘worst case’ scenarios were considered while assessing environmental impact.
- Specialist studies were incorporated to gain a detailed understanding of the existing environment.

Intergenerational equity

Social equity is concerned with the distribution of economic, social and environmental costs and benefits. Inter-generational equity introduces a temporal element with a focus on minimising the distribution of costs to future generations.

The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. The proposed works would remove a safety risk on Wallaga Bridge that would be of benefit to future generations. At the same time the future generation can enjoy the heritage significance of the Bridge.

Conservation of biological diversity and ecological integrity

The proposed works would not compromise the biological diversity and ecological integrity of the area. There would be some trimming of vegetation on the northern abutment truck loading area, and this would not impact the biological diversity and ecological integrity of the area.

Improved valuation, pricing and incentive mechanisms

The principle of internalising environmental costs into decision making requires consideration of all environmental resources that may be affected by the carrying out of a project, including air, water, land and living things.

The condition of the Wallaga Lake Bridge has deteriorated and is a public safety risk and the ongoing maintenance is not sufficient. The bridge's major rehabilitation is required to increase safety of the bridge users and reduce maintenance costs.

8.3 Conclusion

The proposed bridge rehabilitation at Wallaga Lake is subject to assessment under Division 5.1 of the EP&A Act. The REF has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity.

This has included consideration (where relevant) of conservation agreements and plans of management under the NPW Act, biodiversity stewardship sites under the BC Act, wilderness areas, areas of outstanding value, impacts on threatened species and ecological communities and their habitats, and other protected fauna and native plants. It has also considered potential impacts to matters of national environmental significance listed under the EPBC Act.

A number of potential environmental impacts from the proposal have been avoided or reduced during the concept design development and options assessment. The proposal, as described in the REF, best meets the project objectives but may still result in some minor impacts on aquatic biodiversity, heritage and Noise and vibration.

Safeguards and management measures as detailed in this REF would ameliorate or minimise these anticipated impacts. The proposal would also improve safety of the bridge and its users and reduce travel times for heavier vehicles. On balance, the proposal is considered justified and the following conclusions are made.

Significance of impact under NSW legislation

The proposal would be unlikely to cause a significant impact on the environment. Therefore, it is not necessary for an environmental impact statement to be prepared nor approval to be sought from the Minister for Planning under Division 5.2 of the EP&A Act. A Biodiversity Development Assessment Report or Species Impact Statement is not required. The proposal is subject to assessment under Division 5.1 of the EP&A Act. Consent from Council is not required.

Significance of impact under Australian legislation

The proposal is not likely to have a significant impact on matters of national environmental significance nor the environment of Commonwealth land within the meaning of the *Environment Protection and Biodiversity Conservation Act 1999 (*Commonwealth). A referral to the Australian Department of Climate Change, Energy, the Environment and Water is not required.

This REF has been prepared to meet the requirements of the *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)* strategic assessment approval for Transport Division 5.1 road activities. A referral to the Australian Department of Climate Change, Energy, the Environment and Water is not required.

9. Certification

This review of environmental factors provides a true and fair review of the proposal in relation to its potential effects on the environment. It addresses to the fullest extent possible all matters affecting or likely to affect the environment as a result of the proposal.

Name:	[redacted]
Position:	Principal / Regional Manager - Planning
Company name:	NGH Pty Ltd
Date:	22/12/2023

I certify that I have reviewed and endorsed the contents of this REF and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under Section 170 of the EP&A Regulation, and the information is neither false nor misleading. I accept it on behalf of Transport for NSW.

Name:	[redacted]
Position:	Project Contract Manager
Transport region/program:	Project Services South, Regional and Outer Metropolitan
Date:	10/1/2024

10. EP&A Regulation publication requirement

Table 10-1: EP&A Regulation publication requirement

Requirement	Yes/No
Does this REF need to be published under section 171(4) of the EP&A Regulation?	Yes

11. References

NSW Marine Estate Management Authority. (2018). *NSW Marine Estate Management Strategy 2018–2028.*

ABS. (2023). *Australian Bureau of Statistics*. Retrieved from 2021 Census All Person QuickStats: https://www.abs.gov.au/census/find-census-data/quickstats/2021/LGA12750

Atlas of Living Australia . (2023). *Atlas of Living Australia.*

DPI. (2023). *DPI Fisheries Spatial Portal.*

Elgin Associates. (2023). *Wallaga Lake bridge aquatic ecology assessment.*

EPA. (2014). *Waste Classification Guidelines – Part 1: Classification of waste. .*

RMS. (2011). *Procedure for Aboriginal Cultural Heritage Consultation and Investigation.*

Stone, Y., Ahern, C. R., & Blunden, B. (1998, August 26). Acid Sulfate Soils Manual.

TfNSW. (2022). *Traffic control at work sites Technical Manual.*

TfNSW. (2023). *Guideline for landscape character and visual impact assessment Environmental impact assessment practice note EIA-N04.*

Weatherzone. (2023). *Weatherzone*. Retrieved from Bega Daily Summaries: https://www.weatherzone.com.au/station/SITE/69139/daily-summaries/2023/november

Terms and acronyms used in this REF

Table 11-1: Terms and acronyms used in this REF

Term / Acronym	Description
ABS	Australian Bureau of Statistics
ASS	Acid Sulphate Soil
AusLink	Mechanism to facilitate cooperative transport planning and funding by Commonwealth and state and territory jurisdictions
BC Act	*Biodiversity Conservation Act 2016 (NSW)*
Bridge	Wallaga Lake Bridge
CDR	Community Disruption Response
CEMP	Construction environmental management plan
CNVG	Construction Nose and Vibration Guideline
CRP	Community Response Plan
dB	Decibel
HDPE	High Density Polyethylene
GML	General Mass Limits
EIS	Environmental Impact Statement
EP&A Act	*Environmental Planning and Assessment Act 1979 (NSW).* Provides the legislative framework for land use planning and development assessment in NSW
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*. Provides for the protection of the environment, especially matters of national environmental significance, and provides a national assessment and approvals process
ESCP	Erosion and Sediment Control Plan
ESD	Ecologically sustainable development. Development which uses, conserves and enhances the resources of the community so that ecological processes on which life depends, are maintained and the total quality of life, now and in the future, can be increased
EWMS	Environmental Work Method Statemen
FM Act	*Fisheries Management Act 1994 (NSW)*
Heritage Act	*Heritage Act 1977 (NSW)*
ICNG	Interim Construction Noise Guideline
ICOLL	Intermittenty Closed and Open Lake and Lagoon
KFH	Key Fish Habitat
kVA	Kilo-volt-amperes
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan. A type of planning instrument made under Part 3 of the EP&A Act.
LGA	Local Government Area
LoS	Level of Service. A qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers
MMP	Microbat Management Plan
MNES	Matters of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*
NCA	Noise Catchment Area

Term / Acronym	Description
NML	Noise Management Level
NPW Act	*National Parks and Wildlife Act 1974 (NSW)*
NVMP	Noise and Vibration Management Plan
OEH	Office of Environment and Heritage within the Department of Planning and Environment.
PCT	Plant Community Type
PEA Act	*Protection of the Environment Administration Act 1991.*
PMST	Protected Matters Search Tool
QA Specifications	Specifications developed by Transport for use with road work and bridge work contracts let by Transport.
RBL	Rated Background Level
REF	Review of Environmental Factors
RMS	NSW Roads and Maritime Services, now Transport for NSW
SEPP	State Environmental Planning Policy. A type of planning instrument made under Part 3 of the EP&A Act.
SEPP (Planning Systems)	State Environmental Planning Policy (Planning Systems) 2021
SEPP (Transport and Infrastructure)	State Environmental Planning Policy (Transport and Infrastructure) 2021
SHI	State Heritage Inventory
SIS	Species Impact Statement
SOHI	Statement of Heritage Impact
SSD	State Significant Development
TEC	Threatened Ecological Communities
TMP	Traffic Management Plan
Transport	Transport for NSW
WMP	Waste Management Plan

Appendix A - Consideration of section 171 factors and matters of national environmental significance and Commonwealth land

Section 171 Factors

In addition to the requirements of the Guideline for Division 5.1 assessments (DPE 2022) and the Roads and Related Facilities EIS Guideline (DUAP 1996) as detailed in the REF, the following factors, listed in section 171 of the Environmental Planning and Assessment Regulation 2021, have also been considered to assess the likely impacts of the proposal on the natural and built environment.

Factor		Impact
a	Any environmental impact on a community? The proposal would remove a safety risk from Wallaga Lake Bridge, once operational. The rehabilitation works would have a medium-term negative impact on the local community as a result of traffic and access impacts (in particular long detours) and construction noise.	Medium-term negative and long term positive
b	Any transformation of a locality? The removal and replacement of the bridge would be unlikely to transform the locality. The removal would only impact short term views from local residences.	Short-term negative and long term positive
c	Any environmental impact on the ecosystems of the locality? The proposal would have minor impacts on the ecosystem of the locality. Some trimming of vegetation would be required. The removal would also affect habitat for bats that generally reside under the bridge.	Short-term negative and long-term nil
d	Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality? The proposal would have a minor short term negative impact upon the aesthetic, recreational and environmental value of the locality, during construction.	Short-term minor negative
e	Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations? The proposal would dismantle and reassemble a local heritage item. In doing so, it is increasing the lifespan of the bridge and since the new structure will be a replica of the old heritage item, this proposal can be considered as having a positive impact on heritage significance.	Long term positive
f	Any impact on the habitat of protected fauna (within the meaning of the *National Parks and Wildlife Act 1974*)? The proposal would have some impact to the microbat habitat. Test of Significance has determined that the proposed activity is *'unlikely'* to have a *'significant effect'* on Eastern Coastal Free-tailed Bat, Eastern False Pipistrelle, and their habitats. This impact will be further minimised with the recommendation from the MMP.	Short term negative
g	Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air? Test of Significance has determined that the proposed activity is *'unlikely'* to have a *'significant effect'* on Eastern Coastal Free-tailed Bat, Eastern False Pipistrelle, and their habitats.	Short term negative
h	Any long-term effects on the environment? The proposal would not have any long term effects on the environment.	Nil
i	Any degradation of the quality of the environment? The proposal is unlikely to cause degradation of the quality of the environment in the long term. There is a potential for accidental spills and short-term disturbances resulting from the dismantling and construction works.	Short-term negative
j	Any risk to the safety of the environment?	Short-term negative

Factor		Impact
	Risk factors would always be present in the works of this nature. However, these risks can be safely mitigated with the implementation of mitigation measures proposed in this REF.	
k	Any reduction in the range of beneficial uses of the environment? The construction period would take away some recreational areas for the propose of ancillary infrastructures. People would not be able to use these areas during entire construction period.	Short-term negative
l	Any pollution of the environment? The proposal has the potential to have short-term noise and biodiversity impacts. These would occur during the bridges removal and construction and would last about four months. However, with the implementation of the recommended safeguards, any potential impacts would be appropriately mitigated.	Medium-term minor negative
m	Any environmental problems associated with the disposal of waste? Waste management would be undertaken in accordance with the Waste Avoidance and Resource Recovery Act 2001 (NSW). Disposal of waste will be in accordance with the EPA *Waste Classification Guidelines Part 1: Classifying Waste* (EPA, 2014).	Nil
n	Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply? There would be a small demand for bridge materials for the construction of the new bridge. However, these would be minor quantities and would not impact the supply of resources.	Nil
o	Any cumulative environmental effect with other existing or likely future activities? Cumulative traffic impact is possible as a SSD project is planned to start its construction at the same time as our proposal depending on acquiring necessary approval on time.	Short term negative
p	Any impact on coastal processes and coastal hazards, including those under projected climate change conditions? There would be no impact on coastal processes and coastal hazards, including those under projected climate change conditions.	Nil
q	Applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1, The proposal involves replacing an old and ageing bridge with a safer bridge. It does not impact strategic planning statements, regional strategic plans or district plans made under Division 3.1 of the Act.	Nil
r	Other relevant environmental factors. All environmental impacts have been assessed in chapter 6 of this REF	N/A

Matters of National Environmental Significance and Commonwealth land

Under the environmental assessment provisions of the EPBC Act, the following matters of national environmental significance and impacts on Commonwealth land are required to be considered to assist in determining whether the proposal should be referred to the Australian Department of Climate Change, Energy, the Environment and Water .

A referral is not required for proposed actions that may affect nationally-listed threatened species, endangered ecological communities and migratory species. Impacts on these matters are still assessed as part of the REF in accordance with Australian Government significant impact criteria and taking into account relevant guidelines and policies.

Factor		Impact
a	Any impact on a World Heritage property? The proposal would not impact any World Heritage Properties	Nil
b	Any impact on a National Heritage place? The proposal would not impact any areas of national heritage. The bridge itself is listed as a local heritage item and extensive consultation has taken place with council regarding the works.	Nil
c	Any impact on a wetland of international importance? The proposal would not impact wetland of international importance.	Nil
d	Any impact on a listed threatened species or communities? Test of Significance (MMP) has determined that the proposed activity is 'unlikely' to have a 'significant effect' on Eastern Coastal Free-tailed Bat, Eastern False Pipistrelle, and their habitats. The proposal is not likely to significantly impact threatened species or ecological communities or their habitats, within the meaning of the *Biodiversity Conservation Act, 2016* or *Fisheries Management Act 1994* and therefore a Species Impact Statement or Biodiversity Development Assessment Report is not required.	Minor
e	Any impacts on listed migratory species? The proposal would not have impact on listed migratory species.	Nil
f	Any impact on a Commonwealth marine area? The proposal is now within mapped commonwealth marine area.	Nil
g	Does the proposal involve a nuclear action (including uranium mining)? The proposal does not involve any nuclear action.	Nil
h	Additionally, any impact (direct or indirect) on the environment of Commonwealth land? The proposal would not impact on the environment of commonwealth land.	Nil

Appendix B - Statutory consultation checklists

Transport and Infrastructure SEPP

Certain development types

Development type	Description	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Car Park	Does the project include a car park intended for the use by commuters using regular bus services?	No		Section 2.110
Bus Depots	Does the project propose a bus depot?	No		Section 2.110
Permanent road maintenance depot and associated infrastructure	Does the project propose a permanent road maintenance depot or associated infrastructure such as garages, sheds, tool houses, storage yards, training facilities and workers' amenities?	No		Section 2.110

Development within the Coastal Zone

Development type	Description	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Development with impacts on certain land within the coastal zone	Is the proposal within a coastal vulnerability area and is inconsistent with a certified coastal management program applying to that land?	No		Section 2.14

Council related infrastructure or services

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Stormwater	Are the works likely to have a *substantial* impact on the stormwater management services which are provided by council?	No		Section 2.10
Traffic	Are the works likely to generate traffic to an extent that will *strain* the capacity of the existing road system in a local government area?	No		Section 2.10
Sewerage system	Will the works involve connection to a council owned sewerage system? If so, will this connection have a *substantial* impact on the capacity of any part of the system?	No		Section 2.10
Water usage	Will the works involve connection to a council owned water supply system? If	No		Section 2.10

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
	so, will this require the use of a *substantial* volume of water?			
Temporary structures	Will the works involve the installation of a temporary structure on, or the enclosing of, a public place which is under local council management or control? If so, will this cause more than a *minor* or *inconsequential* disruption to pedestrian or vehicular flow?	Yes	Bega Valley Shire Council and Eurobodalla Shire Council.	Section 2.10
Road & footpath excavation	Will the works involve more than *minor* or inconsequential excavation of a road or adjacent footpath for which council is the roads authority and responsible for maintenance?	Yes	*Roads Act 1993* s64 notices to Bega Valley Shire Council and Eurobodalla Shire Council.	Section 2.10

Local heritage items

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Local heritage	Is there is a local heritage item (that is not also a State heritage item) or a heritage conservation area in the study area for the works? If yes, does a heritage assessment indicate that the potential impacts to the heritage significance of the item/area are more than minor or inconsequential?	Yes	Bega Valley Shire	Section 2.11

Flood liable land

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Flood liable land	Are the works located on flood liable land? If so, will the works change flood patterns to more than a *minor* extent?	No		Section 2.12
Flood liable land	Are the works located on flood liable land? (to any extent). If so, do the works comprise more than minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance?	No		Section 2.13

Public authorities other than councils

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
National parks and reserves	Are the works adjacent to a national park or nature reserve, or other area reserved under the *National Parks and Wildlife Act 1974*, or on land acquired under that Act?	No		Section2.15
National parks and reserves	Are the works on land in Zone E1 National Parks and Nature Reserves or in a land use zone equivalent to that zone?	No		Section 2.15
Navigable waters	Do the works include a fixed or floating structure in or over navigable waters?	Yes	Transport for NSW - Maritime	Section 2.15
Bush fire prone land	Are the works for the purpose of residential development, an educational establishment, a health services facility, a correctional centre or group home in bush fire prone land?	No		Section 2.15
Artificial light	Would the works increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map? (Note: the dark sky region is within 200 kilometres of the Siding Spring Observatory)	No		Section 2.15
Defence communications buffer land	Are the works on buffer land around the defence communications facility near Morundah? (Note: refer to Defence Communications Facility Buffer Map referred to in section 5.15 of Lockhart LEP 2012, Narrandera LEP 2013 and Urana LEP 2011.	No		Section 2.15
Mine subsidence land	Are the works on land in a mine subsidence district within the meaning of the *Mine Subsidence Compensation Act 1961*?	No		Section 2.15

Appendix C Detailed design

WALLAGA LAKE RD

BEGA VALLEY LGA

BRIDGE OVER WALLAGA LAKE
AT WALLAGA LAKE
STRENGTHENING OF ABUTMENTS

SCHEDULE OF DRAWINGS

EXISTING BRIDGE: 1894

REGISTRATION No OF PLANS: 0272 145 BC 0103

BRIDGE No: B06168

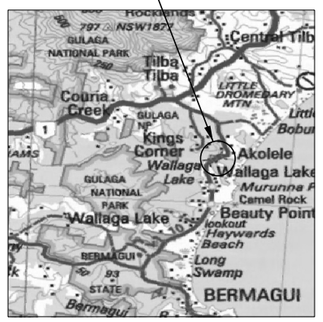
GENERAL FILE No: 145.63

NEW SUPPORTS AT ABUTMENTS: ?

DESIGN FILE NUMBER: ?

DESIGN CODES: ?

BRIDGE SITE



LOCALITY PLAN

THE BRIDGE SITE IS APPROXIMATELY
370 km BY ROAD FROM SYDNEY

0 10 20 30 40 50m
10 5

6:35:18 PM C:\Data\Current_Projects\Asset\A1167\A1167CS.dgn
7/12/2023

REFERENCES:	THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.				SCALE:
	REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
			SB	SA	SD
	COORDINATE SYSTEM: GDA2020		HEIGHT DATUM:		DESIGN LOT CODE:

CLIENT: NSW GOVERNMENT Transport for NSW

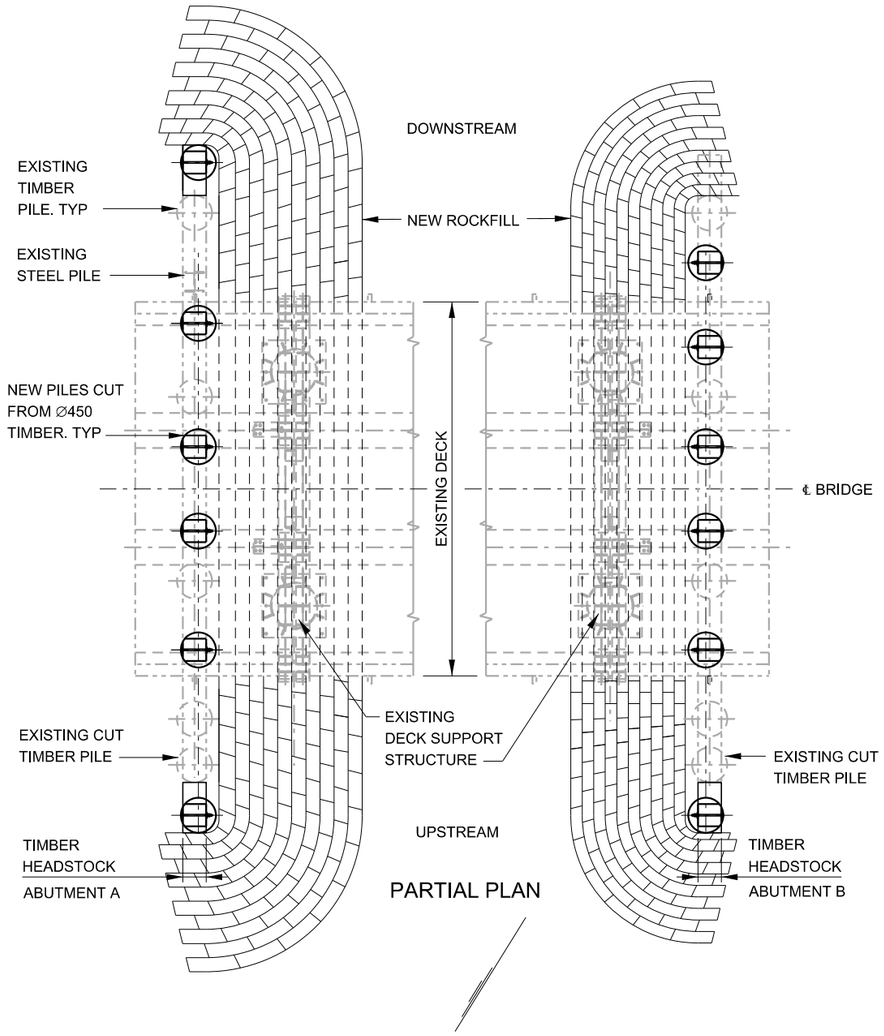
PREPARED FOR:
REGIONAL TECHNICAL SERVICES
BRIDGES & STRUCTURES (NORTH)
INFRASTRUCTURE & PLACE

DRAWN GB
DESIGNED
DRG CHECK
DESIGN CHECK
APPROVED

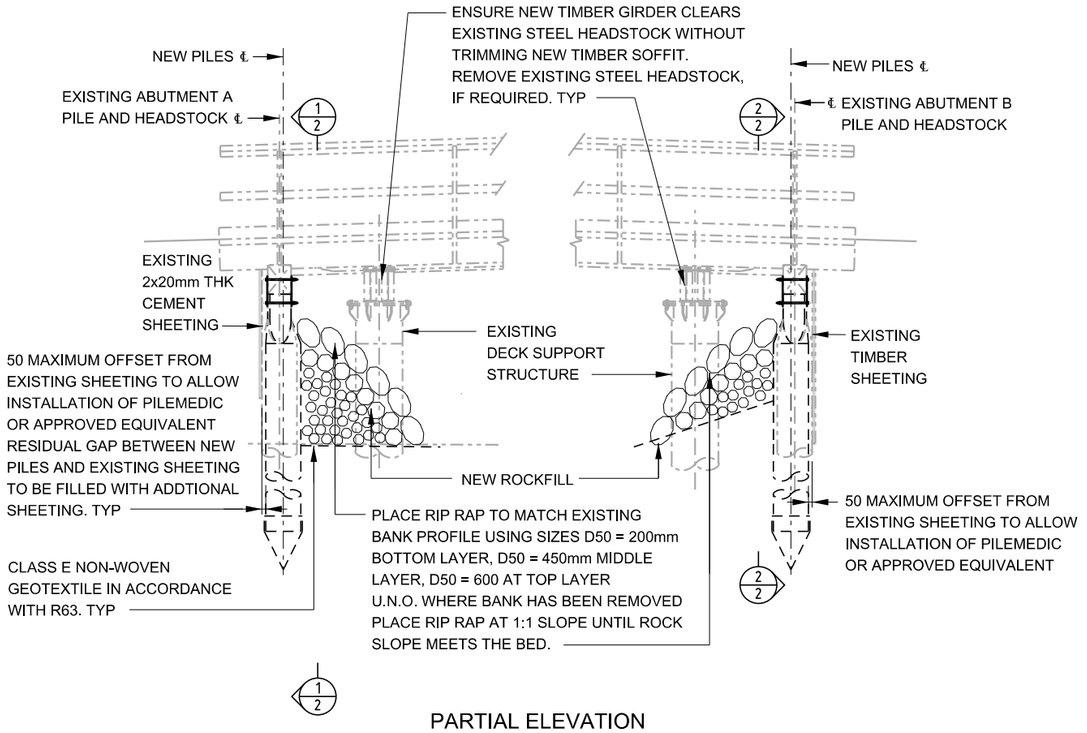
WALLAGA LAKE RD — BEGA VALLEY LGA

BRIDGE OVER WALLAGA LAKE
AT WALLAGA LAKE
REHABILITATION OF ABUTMENTS

SKETCH No: KA1167	PART:	SHEET: 1 OF 3	
STATUS: NOT FOR CONSTRUCTION		BRIDGE No: B06168	©
DRG No.	REV: 1	EDMS No.	AMD No.



PARTIAL PLAN



PARTIAL ELEVATION

GENERAL NOTES

SCALE 0 400 1200 2000mm (400 200) OR AS SHOWN.

DIMENSIONS ARE IN MILLIMETRES.
EXISTING BRIDGE DIMENSIONS HAVE BEEN ADOPTED FROM THE ORIGNAL BRIDGE DRAWINGS (1893),
REGISTRATION NUMBER OF PLANS: 0272 145 BC 0103.

7/12/2023 6:35:18 PM C:\Data\Current_Projects\Asset\A1167\A1167GA.dgn

REFERENCES:

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE

COORDINATE SYSTEM: GDA2020 HEIGHT DATUM:

SCALE:

DESIGN LOT CODE:

CLIENT: NSW GOVERNMENT Transport for NSW

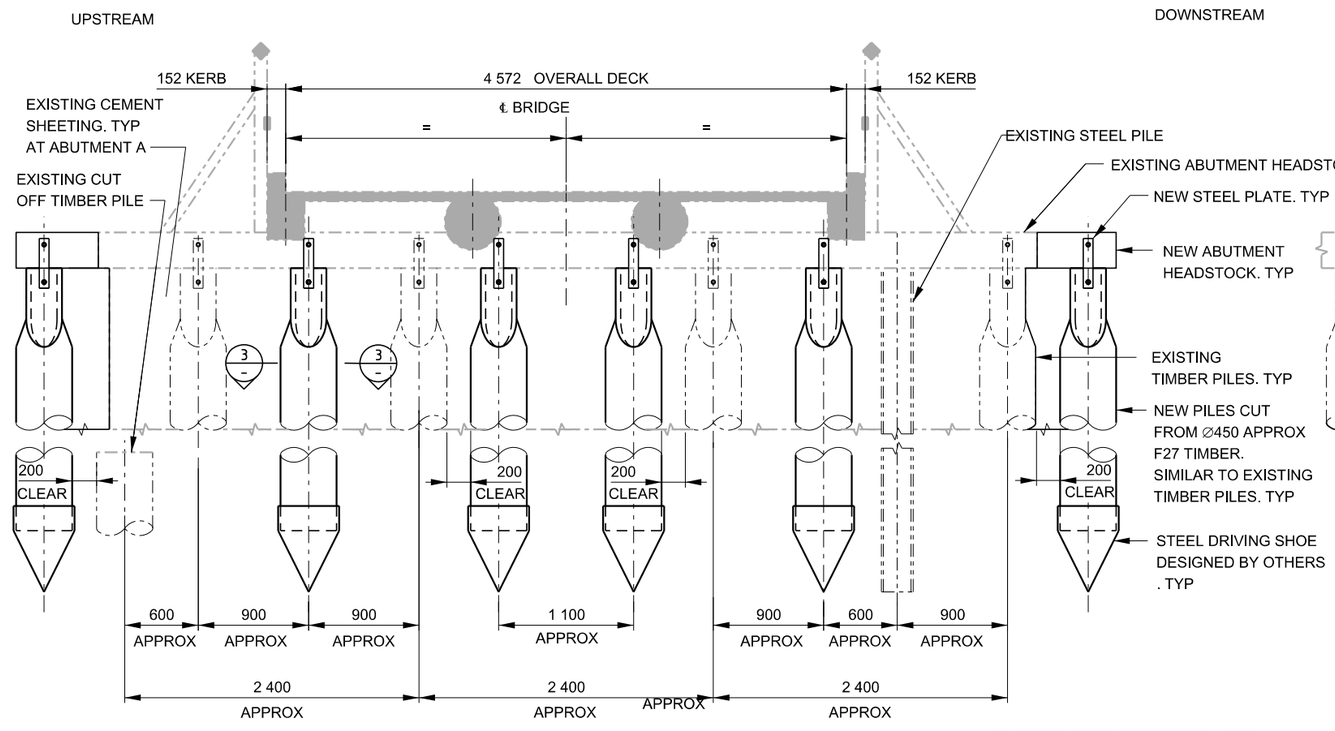
PREPARED FOR:
REGIONAL TECHNICAL SERVICES
BRIDGES & STRUCTURES (NORTH)
INFRASTRUCTURE & PLACE

DRAWN GB
DESIGNED
DRG CHECK
DESIGN CHECK
APPROVED

WALLAGA LAKE RD BEGA VALLEY LGA

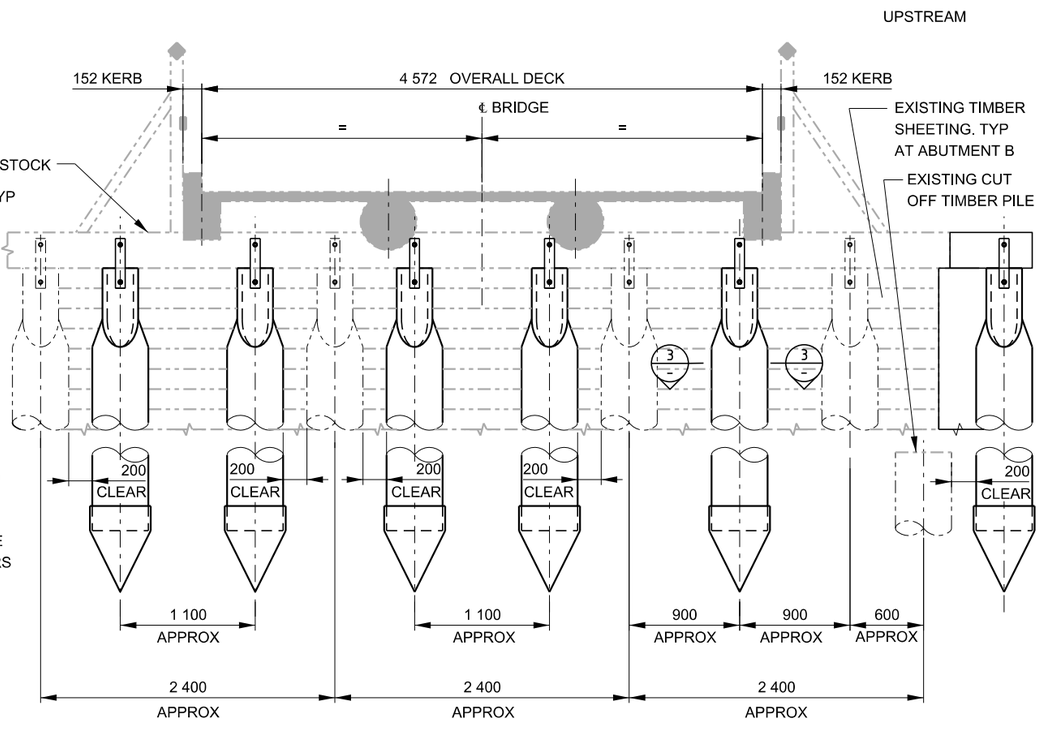
BRIDGE OVER WALLAGA LAKE AT WALLAGA LAKE REHABILITATION OF ABUTMENTS NEW PILE DETAILS - SHEET A

SKETCH No: KA1167	PART:	SHEET: 2 OF 3	
STATUS: NOT FOR CONSTRUCTION	BRIDGE No: B06168		©
DRG No.	REV: 1	VER	EDMS No. / AMD No.



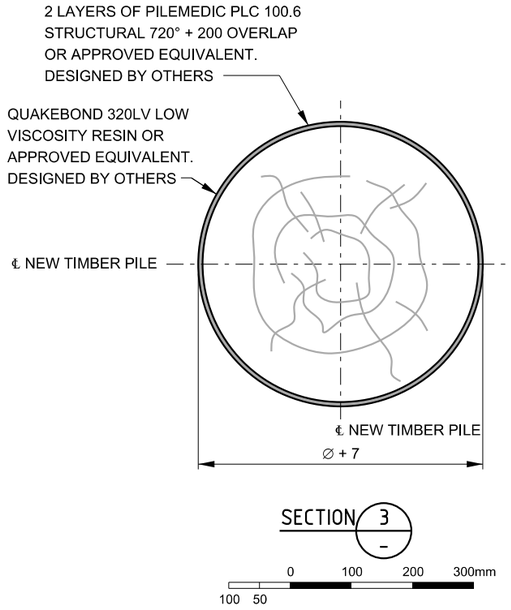
SECTION 1/2

ABUTMENT A



SECTION 2/2

ABUTMENT B



SECTION 3/–

0 100 200 300mm

100 50

GENERAL NOTES

SCALE 0 500 1 000 1 500mm

500 250

OR AS SHOWN.

FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 1.

REFERENCES:

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE

0 500 1 000 1 500mm

500 250

SCALE:

COORDINATE SYSTEM: GDA2020

HEIGHT DATUM:

DESIGN LOT CODE:

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR:
REGIONAL TECHNICAL SERVICES
BRIDGES & STRUCTURES (NORTH)
INFRASTRUCTURE & PLACE

DRAWN GB

DESIGNED

DRG CHECK

DESIGN CHECK

APPROVED

WALLAGA LAKE RD — BEGA VALLEY LGA

BRIDGE OVER WALLAGA LAKE AT WALLAGA LAKE REHABILITATION OF ABUTMENTS NEW PILE DETAILS - SHEET B

SKETCH No: KA1167 | PART: | SHEET: 3 OF 3

STATUS: NOT FOR CONSTRUCTION | BRIDGE No: B06168 ©

DRG No. | REV | VER 1 | EDMS No. | AMD No.

7/12/2023 6:35:19 PM C:\Data\Current_Projects\Asset\A1167\A1167GB.dgn

Appendix D Background searches

Search Results

new search

No results found.

Enter at least one search criterion.

Search Hints

Search | Reset form

Place name

Street name

Town or suburb
Akolole

State
New South Wales

Country

Advanced search options

List
All Lists
Different lists will provide different status and class options

Local Government Area

Place ID number

Legal status
--All--

Class
--All--

Keyword Search

☑ Description ☑ Statement of Significance ☑ Place history

Search Results

new search edit search

9 results found.

Central Tilba Conservation Area Princes Hwy	Central Tilba, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Central Tilba War Memorial Bate St	Central Tilba, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Corunna Recreation Ground and Velodrome (former) Mystery Bay Rd	Mystery Bay, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Goura Nature Reserve Princes Hwy	Central Tilba, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Mount Dromedary (in part)	Central Tilba, NSW, Australia	(Removed from Register or IL) Register of the National Estate (Non-statutory archive)
Mount Dromedary Flora Reserve Tilba Tilba Trk	Central Tilba, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Mount Dromedary and Surrounds Tilba Tilba Trk	Central Tilba, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Tilba Conservation Area Extension Princes Hwy	Central Tilba, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Tilba Tilba General Cemetery Cemetery Rd	Central Tilba, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)

Report Produced: Tue Nov 14 16:51:15 2023

Search Results

new search

No results found.

Enter at least one search criterion.
Search Hints

Search | Reset form

Place name

Street name

Town or suburb
Wallaga Lake

State
New South Wales

Country

Advanced search options

List
All Lists
Different lists will provide different status and class options

Local Government Area

Place ID number

Legal status
--All--

Class
--All--

Keyword Search

☑ Description ☑ Statement of Significance ☑ Place history

Latitude/Longitude

N

Public registers

+ POEO Public Register
– Contaminated land record of notices
  - About the record of notices
  - List of notified sites
  - Tips for searching
  - Disclaimer
- Dangerous goods licences
- Pesticide licences
- Radiation licences

Home Public registers Contaminated land record of notices

Search results

Your search for: Suburb: AKOLELE

Search Again Refine Search

did not find any records in our database.

Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

... more search tips

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the planning process.

More information about particular sites may be available from:

- The POEO public register
- The appropriate planning authority: for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act.

See What's in the record and What's not in the record.

If you want to know whether a specific site has been the subject of notices issued by the EPA under the CLM Act, we suggest that you search by Local Government Area only and carefully review the sites that are listed.
This public record provides information about sites regulated by the EPA under the Contaminated Land Management Act 1997, including sites currently and previously regulated under the Environmentally Hazardous Chemicals Act 1985. Your inquiry using the above search criteria has not matched any record of current or former regulation. You should consider searching again using different criteria. The fact that a site does not appear on the record does not necessarily mean that it is not affected by contamination. The site may have been notified to the EPA but not yet assessed, or contamination may be present but the site is not yet being regulated by the EPA. Further information about particular sites may be available from the appropriate planning authority, for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act. In addition the EPA may be regulating contamination at the site through a licence under the Protection of the Environment Operations Act 1997. You may wish to search the POEO public register.POEO public register

13 November 2023

Heritage Search Result

Date: 14/11/2023

Item Name	Location	LGA	SHR Id	Item Type	Record Owner
Central Tilba Public School - Buildings B00A, B00B and B00D	89 Corkhill Drive CENTRAL TILBA NSW 2546	Eurobodalla		Built	SGOV

Public registers

+ POEO Public Register
– Contaminated land record of notices
  - About the record of notices
  - List of notified sites
  - Tips for searching
  - Disclaimer
- Dangerous goods licences
- Pesticide licences
- Radiation licences

Home Public registers Contaminated land record of notices

Search results

Your search for: Suburb: CENTRAL TILBA

Search Again Refine Search

did not find any records in our database.

Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

... more search tips

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the planning process.

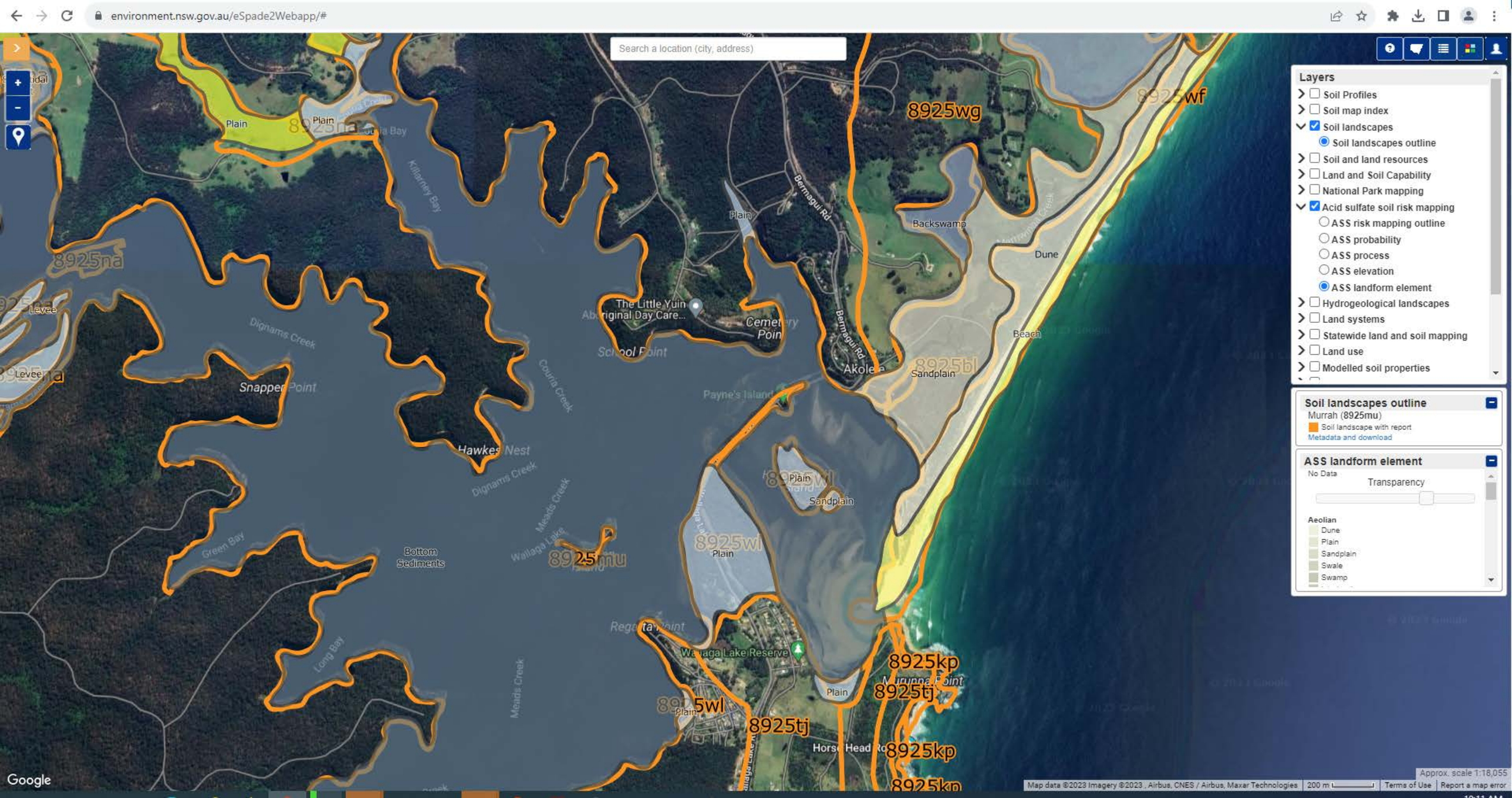
More information about particular sites may be available from:

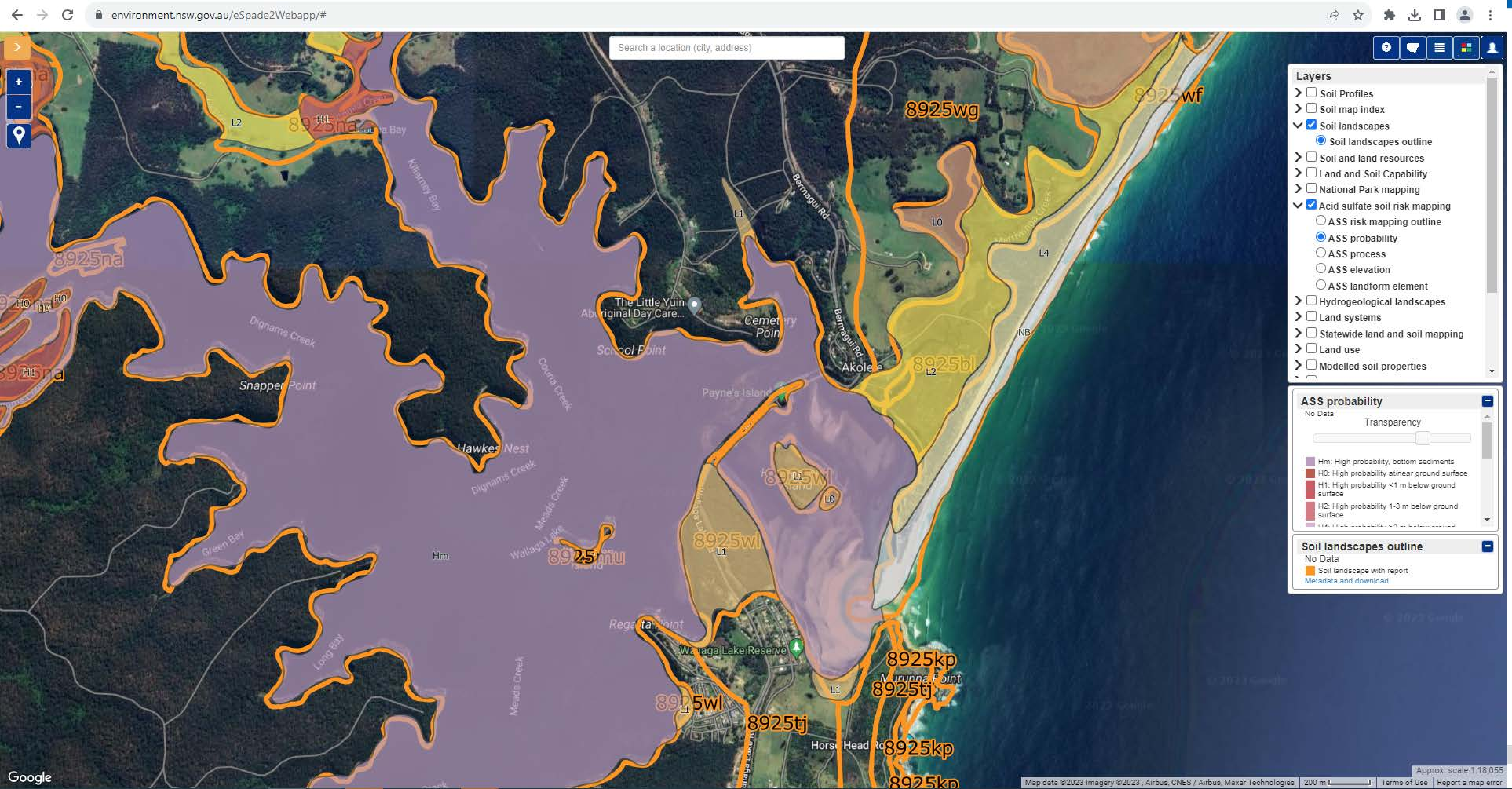
- The POEO public register
- The appropriate planning authority: for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act.

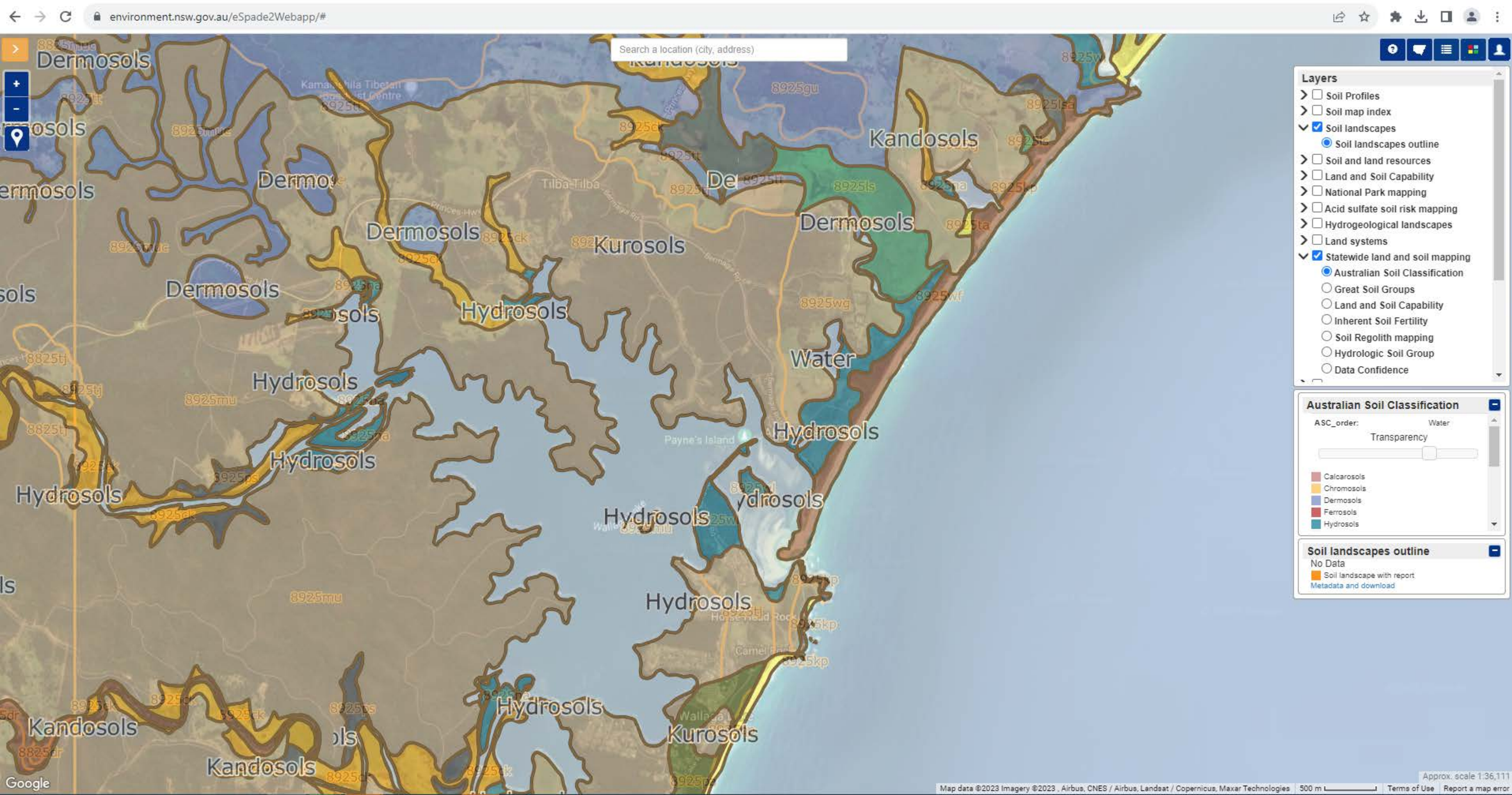
See What's in the record and What's not in the record.

If you want to know whether a specific site has been the subject of notices issued by the EPA under the CLM Act, we suggest that you search by Local Government Area only and carefully review the sites that are listed.
This public record provides information about sites regulated by the EPA under the Contaminated Land Management Act 1997, including sites currently and previously regulated under the Environmentally Hazardous Chemicals Act 1985. Your inquiry using the above search criteria has not matched any record of current or former regulation. You should consider searching again using different criteria. The fact that a site does not appear on the record does not necessarily mean that it is not affected by contamination. The site may have been notified to the EPA but not yet assessed, or contamination may be present but the site is not yet being regulated by the EPA. Further information about particular sites may be available from the appropriate planning authority, for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act. In addition the EPA may be regulating contamination at the site through a licence under the Protection of the Environment Operations Act 1997. You may wish to search the POEO public register.POEO public register

13 November 2023


environment.nsw.gov.au/eSpade2Webapp/#
Search a location (city, address)
Layers
Soil Profiles
Soil map index
Soil landscapes
Soil landscapes outline
Soil and land resources
Land and Soil Capability
National Park mapping
Acid sulfate soil risk mapping
ASS risk mapping outline
ASS probability
ASS process
ASS elevation
ASS landform element
Hydrogeological landscapes
Land systems
Statewide land and soil mapping
Land use
Modelled soil properties
Soil landscapes outline
Murrah (8925mu)
Soil landscape with report
Metadata and download
ASS landform element
No Data
Transparency
Aeolian
Dune
Plain
Sandplain
Swale
Swamp
8925wg
8925wf
8925na
8925bl
8925wl
8925mu
8925kp
8925tj
Plain
Backswamp
Dune
Beach
Sandplain
Bermagui Rd
Killarney Bay
Courla Creek
Dignams Creek
Meads Creek
Wallaga Lake
Green Bay
Long Bay
Bottom Sediments
Snapper Point
Hawkes Nest
Payne's Island
Wallaga Lake Reserve
Google
Map data ©2023 Imagery ©2023 , Airbus, CNES / Airbus, Maxar Technologies
200 m
Terms of Use
Report a map error
Approx. scale 1:16,055


environment.nsw.gov.au/eSpade2Webapp/#
Search a location (city, address)
Layers
Soil Profiles
Soil map index
Soil landscapes
Soil landscapes outline
Soil and land resources
Land and Soil Capability
National Park mapping
Acid sulfate soil risk mapping
ASS risk mapping outline
ASS probability
ASS process
ASS elevation
ASS landform element
Hydrogeological landscapes
Land systems
Statewide land and soil mapping
Land use
Modelled soil properties
ASS probability
No Data
Transparency
Hm: High probability, bottom sediments
H0: High probability at/near ground surface
H1: High probability <1 m below ground surface
H2: High probability 1-3 m below ground surface
Soil landscapes outline
No Data
Soil landscape with report
Metadata and download
8925wg
8925wf
8925na
8925bl
8925wl
8925kp
8925tj
L0
L1
L2
L4
H0
H1
Hm
NB
The Little Yuin Aboriginal Day Care...
School Point
Snapper Point
Hawkes Nest
Payne's Island
Akolele
Regatta Point
Wallaga Lake Reserve
Murunna Point
Horse Head Rock
Dignams Creek
Bermagui Rd
Killarney Bay
Google
Map data ©2023 Imagery ©2023, Airbus, CNES / Airbus, Maxar Technologies
200 m
Terms of Use
Report a map error
Approx. scale 1:18,055


environment.nsw.gov.au/eSpade2Webapp/#
Search a location (city, address)
Layers
Soil Profiles
Soil map index
Soil landscapes
Soil landscapes outline
Soil and land resources
Land and Soil Capability
National Park mapping
Acid sulfate soil risk mapping
Hydrogeological landscapes
Land systems
Statewide land and soil mapping
Australian Soil Classification
Great Soil Groups
Land and Soil Capability
Inherent Soil Fertility
Soil Regolith mapping
Hydrologic Soil Group
Data Confidence
Australian Soil Classification
ASC_order: Water
Transparency
Calcarosols
Chromosols
Dermosols
Ferrosols
Hydrosols
Soil landscapes outline
No Data
Soil landscape with report
Metadata and download
Dermosols
Kandosols
Kurosols
Hydrosols
Water
Payne's Island
Tilba Tilba
Google
Approx. scale 1:36,111
Map data ©2023 Imagery ©2023 , Airbus, CNES / Airbus, Landsat / Copernicus, Maxar Technologies
500 m
Terms of Use
Report a map error

wl WAPENGO LAKE

Landscape— 3.4 km^2 flood-tide supratidal and intertidal Quaternary marine sand flats of coastal lakes and estuaries, from Coila Lake to Cutagee Lake. Elevation <1 m. Mangrove to saltmarsh.

Soils— >300 cm, very poorly drained estuarine sands (Intertidal to Supratidal Hydrosols) over deep clayey sand on supratidal sites and intertidal sites.

Limitations— non-cohesive sodic, saline sands that may be potential acid sulfate materials; severe flood hazard; waterlogging; permanently high watertables; water (wave) erosion hazard; groundwater pollution hazard; engineering hazard.

Variant wla — unvegetated supratidal sand.

LOCATION

Flood-tide supratidal and intertidal marine sand flats on the seaward margins of Coila, Brou, Mummuga, Nangudga Tilba Tilba, Barragoot and Cutagee Lakes, Wagonga Inlet and Bermagui Harbour. Moruya – Bermagui Coastal Lowlands physiographic region. Type location is the sandflats adjacent to the Wagonga Inlet bridge (Map reference: 241200 E 5989625 N).

LANDSCAPE

Geology and Regolith

Holocene marine sands—coarse to medium-grained marine sands to muddy marine sands with shell layers common.

Topography

Supratidal to intertidal flood-tide delta sand flats in Quaternary marine sediments near the mouth of coastal estuaries. Elevation <1 m above sea level.

Vegetation

Low closed-forest to low open-woodland of mangrove in regularly inundated sites; saltmarsh in sites inundated by spring tides. *Triglochin striatum, Selliera radicans, Tetragonia tetragonoides, Carpobrotus glaucescens* and *Isolepis nodosa* with *Juncus krausii* occur in sites protected from wave action and currents—Community 41 of Keith and Sanders (1990). Includes Floristic Assemblages 36 (Dune Dry Shrub Forest) and 61/62 (Coastal Scrub and Beach Strand) of Keith and Bedward (1999).

Land Use

Mangroves are recognised as important breeding areas for fish, crustaceans (West 1985) and waterfowl. They also stabilise lake marginal sediments and protect lake shores from wave erosion. Small areas are designated State Environmental Planning Policy 14 wetlands.

Land Degradation

Wave and current action are the result of natural processes. Erosion of sands from coastal sand barriers (Wallagoot Foredune (**wf**), Tathra (**ta**) soil landscapes) may contribute to sedimentation of coastal estuaries.

Landscape Limitations

Severe flood hazard; permanently high watertables; water (wave) erosion hazard; non-cohesive soils (especially **wl2**, **wl3**), engineering hazard.

Included Soil Landscapes

Materials from Nangudga (**na**) and Nelson Lagoon (**nl**) soil landscapes (from the Bega 1:100 000 sheet, Tulau 1997) may intergrade both laterally and vertically with the lighter materials of the present landscape, although fluvial materials are more common near the fluvial delta landward side of lacustrine environments. The present landscape also intergrades with Brou Lake (**bl**) soil landscape.

Variant

The area marked **wla** on the map is an area of unvegetated supratidal sand at the mouth of the Bermagui River.

SOILS Soil Variation

Dominant Soil Materials, Their Qualities and Limitations

wl1—Black sandy loam (topsoil—A horizon).

Black sandy loam; single-grained, sandy; field pH 8.5–10.0. Low wet bearing strength; organic soil; dispersion; high erodibility; very high permeability.

wl2—Dull yellowish brown sand (subsoil).

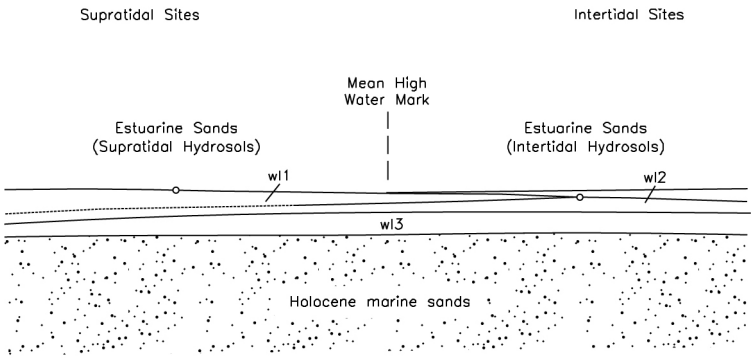
Dull yellowish brown, light grey, dark grey, brownish grey or greyish yellowish brown (occasionally mottled orange, faint, 20–50%) medium to fine sand; some sand may be calcareous; single-grained, sandy; field pH 8.0–9.0. Low wet bearing strength; strong sodicity (soil of light texture without sodic physical properties); dispersion; high erodibility; very high permeability; very highly saline; low fertility; very low available waterholding capacity.

wl3—Brownish black clayey sand (subsoil).

Brownish black to black clayey sand or sand; some sand may be calcareous; single-grained, sandy; field pH 8.0–9.0; often few (2–10%) shell fragments. Low wet bearing strength; strong sodicity (soil of light texture without sodic physical properties); dispersion; high erodibility; very high permeability; extremely acid; very highly saline; very high aluminium toxicity potential; low fertility; low available waterholding capacity; potential acid sulfate soil.

Associated Soil Materials

Some sites that receive materials from both the fluvial and flood-tide deltas may include clay layers (see Nangudga (**na**) and Nelson Lagoon (**nl**) soil landscape materials) interstratified with **wl1** and **wl2**.



■ ***Soil distribution diagram illustrating occurrence and relationship of dominant soil materials in the Wapengo Lake soil landscape.***

Heritage Search Result

Date: 14/11/2023

Item Name	Location	LGA	SHR Id	Item Type	Record Owner
Brauer House	306-308 Bermagui Road AKOLELE NSW 2546	Eurobodalla		Built	LGOV
John Young Family Vault	Bermagui Road AKOLELE NSW 2546	Eurobodalla		Archaeological-Terrestrial	LGOV
Merriwingah Recreation Ground	Youngs Road AKOLELE NSW 2546	Eurobodalla		Landscape	LGOV

Heritage Search Result

Date: 14/11/2023

Item Name	Location	LGA	SHR Id	Item Type	Record Owner
Merriman Island	WALLAGA LAKE NSW 2546	Bega Valley		Complex / Group	HNSW
Merrimans Island	WALLAGA LAKE NSW 2546	Bega Valley		Landscape	LGOV
Montreal Goldfields	Wallaga Lake Road WALLAGA LAKE NSW 2546	Bega Valley		Archaeological-Terrestrial	LGOV
Wallaga Lake Bridge	Wallaga Lake Road WALLAGA LAKE NSW 2546	Bega Valley		Built	LGOV

Background

A strategy to systematically prioritise, assess and respond to notifications under Section 60 of the ***Contaminated Land Management Act 1997*** (CLM Act) has been developed by the EPA. This strategy acknowledges the EPA's obligations to make information available to the public under ***Government Information (Public Access) Act 2009***.

When a site is notified to the EPA, it may be accompanied by detailed site reports where the owner has been proactive in addressing the contamination and its source. However, often there is minimal information on the nature or extent of the contamination.

After receiving a report, the first step is to confirm that the report does not relate to a pollution incident. The Protection of the Environment Operations Act 1997 (POEO Act) deals with pollution incidents, waste stockpiling or dumping. The EPA also has an incident management process to manage significant incidents (https://www.epa.nsw.gov.au/reporting-and-incidents/incident-management).

In many cases, the information indicates the contamination is securely immobilised within the site, such as under a building or carpark, and is not currently causing any significant risks for the community or environment. Such sites may still need to be cleaned up, but this can be done in conjunction with any subsequent building or redevelopment of the land. These sites do not require intervention under the CLM Act, and are dealt with through the planning and development consent process. In these cases, the EPA informs the local council or other planning authority, so that the information can be recorded and considered at the appropriate time (https://www.epa.nsw.gov.au/your-environment/contaminated-land/managing-contaminated-land/role-of-planning-authorities).

Where indications are that the contamination could cause actual harm to the environment or an unacceptable offsite impact (i.e. the land is 'significantly contaminated'), the EPA would apply the regulatory provisions of the CLM Act to have the responsible polluter and/or landowner investigate and remediate the site. If the reported contamination could present an immediate or long-term threat to human health NSW Health will be consulted. SafeWork NSW and Water NSW can also be consulted if there appear to be occupational health and safety risks or an impact on groundwater quality.

As such, the sites notified to the EPA and presented in the list of contaminated sites notified to the EPA are at various stages of the assessment and remediation process. Understanding the nature of the underlying contamination, its implications and implementing a remediation program where required, can take a considerable period of time. The list provides an indication, in relation to each nominated site, as to the management status of that particular site. Further detailed information may be available from the EPA or the person who notified the site.

The following questions and answers may assist those interested in this issue.

Frequently asked questions

Why does my land appear on the list of notified sites?

Your land may appear on the list because:

- the site owner and/or the polluter has notified the EPA under section 60 of the CLM Act
- the EPA has been notified via other means and is satisfied that the site is or was contaminated.

If a site is on the list, it does not necessarily mean the contamination is significant enough to regulate under the CLM Act.

Does the list contain all contaminated sites in NSW?

No. The list only contains contaminated sites that EPA is aware of. If a site is not on the list, it does not necessarily mean the site is not contaminated.

The EPA relies on responsible parties and the public to notify contaminated sites.

How are notified contaminated sites managed by the EPA?

There are different ways the EPA can manage notified contaminated sites. Options include:

• regulation under the CLM Act, POEO Act, or both
• notifying the relevant planning authority for management under the planning and development process
• managing the site under the Protection of the Environment Operation (Underground Petroleum Storage Systems) Regulation 2014.

There are specific cases where contamination is managed under a tailored program operated by another agency (for example, the Resources & Geoscience's Legacy Mines Program).

What should I do if I am a potential buyer of a site that appears on the list?

You should seek advice from the seller to understand the contamination issue. You may need to seek independent contamination or legal advice.

The information provided in the list is indicative only and a starting point for your own assessment. Land contamination from past site uses is common, mainly in urban environments. If the site is properly remediated or managed, it may not affect the intended future use of the site.

Who can I contact if I need more information about a site?

You can contact the Environment Line at any time by calling 131 555 or by emailing info@environment.nsw.gov.au.

List of NSW Contaminated Sites Notified to the EPA

Disclaimer

The EPA has taken all reasonable care to ensure that the information in the list of contaminated sites notified to the EPA (the list) is complete and correct. The EPA does not, however, warrant or represent that the list is free from errors or omissions or that it is exhaustive.

The EPA may, without notice, change any or all of the information in the list at any time.

You should obtain independent advice before you make any decision based on the information in the list.

The list is made available on the understanding that the EPA, its servants and agents, to the extent permitted by law, accept no responsibility for any damage, cost, loss or expense incurred by you as a result of:

1. any information in the list; or
2. any error, omission or misrepresentation in the list; or
3. any malfunction or failure to function of the list;
4. without limiting (2) or (3) above, any delay, failure or error in recording, displaying or updating information.

Site Status	Explanation
Under assessment	The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or *Protection of the Environment Operations Act 1997*.
Under Preliminary Investigation Order	The EPA has issued a Preliminary Investigation Order under s10 of the *Contaminated Land Management Act 1997*, to obtain additional information needed to complete the assessment.
Regulation under CLM Act not required	The EPA has completed an assessment of the contamination and decided that regulation under the *Contaminated Land Management Act 1997* is not required.

Regulation being finalised	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the *Contaminated Land Management Act 1997*. A regulatory approach is being finalised.
Contamination currently regulated under CLM Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record.
Contamination currently regulated under POEO Act	Contamination is currently regulated under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA as the appropriate regulatory authority reasonably suspects that a pollution incident is occurring/ has occurred and that it requires regulation under the POEO Act. The EPA may use environment protection notices, such as clean up notices, to require clean up action to be taken. Such regulatory notices are available on the POEO public register.
Contamination being managed via the planning process (EP&A Act)	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the *Environmental Planning and Assessment Act 1979* (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment.
Contamination formerly regulated under the CLM Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation under the *Contaminated Land Management Act 1997* (CLM Act). The contamination was addressed under the CLM Act.
Contamination formerly regulated under the POEO Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the *Protection of the Environment Operations Act 1997* (POEO Act).

Contamination was addressed via the planning process (EP&A Act)	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the *Environmental Planning and Assessment Act 1979* (EP&A Act).
Ongoing maintenance required to manage residual contamination (CLM Act)	The EPA has determined that ongoing maintenance, under the Contaminated Land Management Act 1997 (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record.

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ABBOTSFORD	Former Gasworks	83 Wymston PARADE	Gasworks	Contamination formerly regulated under the CLM Act	-33.85288351	151.1265979
ABBOTSFORD	Former Gasworks	82, 83, 84 Wymston Pde, & 37, 39, 43, 45 St Albans STREET	Gasworks	Contamination formerly regulated under the CLM Act	-33.85288316	151.1267729
ABBOTSFORD	Former Gasworks	85 Wymston PARADE	Gasworks	Regulation under CLM Act not required	-33.85265214	151.1266277
ABBOTSFORD	Former Gasworks	80-81 Wymston Pde and 35 and 41 St Albans STREET	Gasworks	Regulation under CLM Act not required	-33.85306653	151.1268142
ABBOTSFORD	Former Gasworks	43 St Albans STREET	Gasworks	Contamination formerly regulated under the CLM Act	-33.85270604	151.126976
ABERDEEN	Former Transport Depot	87-89 St Andrew STREET	Other Industry	Regulation under CLM Act not required	-32.17160931	150.8972859
ABERMAIN	Former Abermain Landfill	Albury STREET	Landfill	Under assessment	-32.805018	151.420156
ALBION PARK	Caltex Albion Park Service Station	1 Calderwood ROAD	Service Station	Regulation under CLM Act not required	-34.57131362	150.7647971
ALBION PARK RAIL	Caltex Service Station	174 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.56134097	150.7953663
ALBION PARK RAIL	Caltex Service Station	31 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.55162786	150.7880626
ALBION PARK RAIL	Former Timber Storage Area	36 Rivulet CRESCENT	Other Industry	Regulation under CLM Act not required	-34.54872597	150.7899351
ALBURY	Mobil Depot, Railway Place Albury	1 Railway PLACE	Other Petroleum	Regulation under CLM Act not required	-36.08526805	146.9236999
ALBURY	Woolworths Petrol	515 Young STREET	Service Station	Regulation under CLM Act not required	-36.08073723	146.92351
ALBURY	Former Caltex Service Station	842 David STREET	Service Station	Regulation under CLM Act not required	-36.06398743	146.9252143
ALBURY	SRA Land, 514 to 526 Young Street	514 to 526 Young STREET	Other Petroleum	Regulation under CLM Act not required	-36.08084123	146.9241682

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ALBURY	Former Gasworks and surrounding commercial land	441 Kiewa STREET	Gasworks	Contamination currently regulated under CLM Act	-36.08416926	146.9137704
ALBURY	Coles Express Albury	465 Guinea STREET	Service Station	Regulation under CLM Act not required	-36.07513665	146.9213077
ALBURY	Former Thales Australia site, Albury	161 Fallon STREET	Other Industry	Contamination formerly regulated under the CLM Act	-36.064966	146.9434831
ALBURY	Xpress Service Station	616-624 Young STREET	Service Station	Contamination formerly regulated under the CLM Act	-36.0755401	146.9255668
ALBURY	Albury Plaza	Cnr Smollett Street and Townsend STREET	Other Industry	Regulation under CLM Act not required	-36.08112933	146.9135719
ALBURY	Mobil Albury Aviation Fuel Depot	Hangar 8 (Albury Airport), Ogden PLACE	Other Petroleum	Regulation under CLM Act not required	-36.07178139	146.9530165
ALBURY	SRA Land	448 and 452 Young STREET	Unclassified	Regulation under CLM Act not required	-36.08438605	146.9235454
ALBURY	Caltex Service Station	Dean Street, Corner Creek STREET	Service Station	Regulation under CLM Act not required	-36.07978937	146.9110825
ALEXANDRIA	Former Mobil Service Station	20 O'Riordan STREET	Service Station	Regulation under CLM Act not required	-33.9075539	151.2014811
ALEXANDRIA	Caltex Alexandria Service Station	133 Wyndham St, cnr McEvoy STREET	Service Station	Regulation under CLM Act not required	-33.90220927	151.2000425
ALEXANDRIA	Former Cadbury Schweppes	49-59 O'Riordan STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.91406619	151.195067
ALEXANDRIA	Formerly Gas N Go Alexandria (fully redeveloped into residential apartment as of September 2016)	10-20 Botany ROAD	Service Station	Regulation under CLM Act not required	-33.89536227	151.1987818
ALEXANDRIA	Mascot Developments	494-504 Gardeners ROAD	Other Industry	Regulation under CLM Act not required	-33.9198218	151.191282
ALEXANDRIA	Alexandria GoGas	562 Botany ROAD	Service Station	Regulation under CLM Act not required	-33.91577222	151.2000753
ALEXANDRIA	Australian Refined Alloys	202-212 Euston ROAD	Metal Industry	Regulation under CLM Act not required	-33.91505136	151.185872

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ALEXANDRIA	Alexandra Canal Sediments	Off Huntley STREET	Other Industry	Contamination currently regulated under CLM Act	-33.92204213	151.1770009
ALEXANDRIA	Australia Post	10-24 Ralph STREET	Other Industry	Contamination was addressed via the planning process (EP&A Act)	-33.91583041	151.197997
ALEXANDRIA	Perry Park	1B Maddox STREET	Landfill	Regulation under CLM Act not required	-33.90809949	151.1962945
ALEXANDRIA	Alexandria Gardens	146-156 Wyndham Street & 146-156 Botany ROAD	Unclassified	Regulation under CLM Act not required	-33.89956961	151.1997377
ALEXANDRIA	Sydney Park	Sydney Park ROAD	Landfill	Contamination currently regulated under CLM Act	-33.91031048	151.1844672
ALEXANDRIA	Former Industrial Site (now Value Suites)	16 O'Riordan STREET	Other Industry	Regulation under CLM Act not required	-33.9069796	151.201902
ALEXANDRIA	205-225 Euston Road, Alexandria	205-225 Euston ROAD	Other Industry	Regulation under CLM Act not required	-33.9127872	151.1855565
ALEXANDRIA	The Gentry Alexandria	31-41 William STREET	Unclassified	Regulation under CLM Act not required	-33.91258565	151.1981861
ALEXANDRIA	6 - 8 Huntley Street Alexandria	6 - 8 Huntley STREET	Metal Industry	Regulation under CLM Act not required	-33.90982985	151.1924567
ALEXANDRIA	566 Gardeners Road Alexandria	566 Gardeners ROAD	Unclassified	Regulation under CLM Act not required	-33.91921186	151.1839188
ALLAWAH	Kempt Field	Durham Street / Roberts Lane LANE	Landfill	Under assessment	-33.968206	151.112779
ALSTONVILLE	Caltex Service Station Alstonville	73 Main STREET	Service Station	Regulation under CLM Act not required	-28.84115994	153.4388699
AMBARVALE	Caltex Service Station	37 Woodhouse DRIVE	Service Station	Regulation under CLM Act not required	-34.08438034	150.8019168
ANNANDALE	7-Eleven (former Mobil) Annandale Service Station	198 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.88706434	151.1741135
ANNANDALE	Shell Coles Express Service Station	124-126 Johnston STREET	Service Station	Regulation under CLM Act not required	-33.88085651	151.1704805

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
APPIN	Elladale Creek Aqueduct Upper Canal	Macquariedale ROAD	Unclassified	Regulation under CLM Act not required	-34.18867067	150.7539597
APPIN	West Cliff Colliery	Wedderburn ROAD	Other Petroleum	Regulation under CLM Act not required	-34.21970612	150.8217522
ARDLETHAN	Landmark Fertiliser Storage Facility	18 & 24-26 Ariah STREET	Chemical Industry	Regulation under CLM Act not required	-34.35696645	146.9007084
ARGENTON	NSW Mines Rescue Services - Argenton	533 Lake ROAD	Other Industry	Regulation under CLM Act not required	-32.93807208	151.6269664
ARMIDALE	Former Mobil Depot	132 Niagara STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-30.51115918	151.6490343
ARMIDALE	Caltex Service Station	146 Miller STREET	Service Station	Regulation under CLM Act not required	-30.51362759	151.6481123
ARMIDALE	RTA land adjoining Martin Street estate	Martin STREET	Other Industry	Contamination formerly regulated under the CLM Act	-30.50445941	151.6415415
ARMIDALE	Shell Service Station	93 Marsh STREET	Service Station	Regulation under CLM Act not required	-30.51299824	151.6697557
ARMIDALE	Parklands near the former gasworks	Beardy Street and Allingham STREET	Gasworks	Regulation under CLM Act not required	-30.51013465	151.6652722
ARMIDALE	Gasworks and portion of Harris Park	Corner of Beardy Street and Allingham STREET	Gasworks	Contamination currently regulated under CLM Act	-30.51157374	151.6623009
ARMIDALE	Former Lot 3 Martin Street	89 Martin STREET	Other Industry	Regulation under CLM Act not required	-30.50664682	151.64542
ARMIDALE	Martin Street Estate	Martin STREET	Other Industry	Regulation under CLM Act not required	-30.50559024	151.6431854
ARMIDALE	Caltex Armidale Girraween Service Station	6-8 Queen Elizabeth DRIVE	Service Station	Regulation under CLM Act not required	-30.50348872	151.6510748
ARMIDALE	Martin Street, Crown Land	Martin STREET	Other Industry	Contamination formerly regulated under the CLM Act	-30.50414076	151.6429516
ARMIDALE	Former Shell Depot	134 Niagara STREET	Other Petroleum	Regulation under CLM Act not required	-30.51180178	151.6488634

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ARMIDALE	Caltex Service Station	144 Marsh STREET	Service Station	Regulation under CLM Act not required	-30.51709925	151.6675802
ARMIDALE	Caltex North Hill Service Station	2-4 Marsh STREET	Service Station	Regulation under CLM Act not required	-30.50320439	151.6727051
ARMIDALE	Mobil Armidale Service Station and Former Depot	10-12 McLennan STREET	Service Station	Regulation under CLM Act not required	-30.51107573	151.648242
ARMIDALE	Caltex Service Station	19/10541 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-30.53210764	151.6160492
ARMIDALE	Armidale Dumaresq Council Grafton Road Depot	15-25 Grafton ROAD	Other Petroleum	Regulation under CLM Act not required	-30.52058076	151.6815261
ARNCLIFFE	7-Eleven Arncliffe	28 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.93428397	151.1525438
ARNCLIFFE	Combined Projects Arncliffe	104-128 Princes HIGHWAY	Other Industry	Regulation under CLM Act not required	-33.93783874	151.1494559
ARTARMON	7-Eleven (former Mobil) Artarmon Service Station	477 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.81053826	151.1774248
ASHBY	Ashby Dry Dock	via Clarence STREET	Other Industry	Contamination formerly regulated under the CLM Act	-29.44158377	153.1972304
ASHFIELD	7-Eleven Ashfield	132 Liverpool Road STREET	Service Station	Contamination currently regulated under CLM Act	-33.89057897	151.1295498
ASHFIELD	Vehicle Workshop	445-449 Liverpool ROAD	Service Station	Regulation under CLM Act not required	-33.88826829	151.1167477
ASQUITH	BP Service Station	462 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.68982678	151.106156
ATTUNGA	Attunga Limestone Mine (Waste Oil Site)	Garthowen ROAD	Other Industry	Regulation under CLM Act not required	-30.92920627	150.8579435
AUBURN	DIC Australia	323 Chisholm ROAD	Other Industry	Regulation under CLM Act not required	-33.87228962	151.0157032
AUBURN	Former Ajax Chemical Factory	9 Short STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.83671601	151.0292071

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
AUBURN	Janyon	Manchester ROAD	Other Industry	Regulation under CLM Act not required	-33.84467826	151.020745
AUBURN	Maintrain Facility - Sydney Trains Auburn	Manchester ROAD	Other Industry	Regulation under CLM Act not required	-33.84410947	151.0242502
AUBURN	Department of Corrective Services land adjacent to the former Auburn Landfill	Jamieson STREET	Landfill	Contamination formerly regulated under the CLM Act	-33.82928257	151.0590653
AUBURN	Commercial Premises	11-13 Percy STREET	Other Industry	Under assessment	-33.85021046	151.0410097
AWABA	Awaba Colliery	Wilton ROAD	Other Industry	Regulation under CLM Act not required	-33.02098186	151.5383612
BALGOWLAH	BP Service Station	Cnr Sydney Road and Maretimo STREET	Service Station	Regulation under CLM Act not required	-33.79546175	151.2559309
BALGOWLAH	Part of Manly Council Maintenance Depot	8-10 Roseberry STREET	Other Petroleum	Regulation under CLM Act not required	-33.78928907	151.2679557
BALGOWNIE	Fuel Power Plus	99 Balgownie ROAD	Service Station	Contamination currently regulated under POEO Act	-34.38925632	150.8808544
BALLINA	Former Mobil Service Station	37-41 Cherry STREET	Service Station	Regulation under CLM Act not required	-28.86952673	153.5624436
BALLINA	Ballina Shell	273 River STREET	Service Station	Regulation under CLM Act not required	-28.86809272	153.5552789
BALLINA	Woolworths Petrol	Kerr STREET	Service Station	Regulation under CLM Act not required	-28.85824461	153.5605439
BALLINA	Ballina Mays Motors	River STREET	Other Petroleum	Regulation under CLM Act not required	-28.86935402	153.5585931
BALLINA	Fripp Oval	31 Canal ROAD	Cattle Dip	Under assessment	-28.861572	153.550115
BALRANALD	Caltex Service Station	Sturt HIGHWAY	Service Station	Regulation under CLM Act not required	-34.66747746	143.5662034
BANKSIA	Woolworths Petrol Service Station Banksia	314 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.94567308	151.1416884

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BANKSIA	Cooks Cove Development	Cooks Cove PARK	Landfill	Regulation under CLM Act not required	-33.94492759	151.1549947
BANKSMEADOW	Orica Botany Groundwater Project	16-20 Beauchamp ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-33.95526361	151.2152005
BANKSMEADOW	Discovery Cove, Former Ampol Rail Terminal	1801 Botany ROAD	Other Petroleum	Regulation being finalised	-33.96162178	151.2184122
BANKSMEADOW	Caltex Terminal	1-3 Penrhyn ROAD	Other Petroleum	Contamination currently regulated under POEO Act	-33.96335328	151.2171062
BANKSMEADOW	Orica Botany (Pre-2003 Regulation)	Denison STREET	Chemical Industry	Contamination currently regulated under CLM Act	-33.9516159	151.2195804
BANKSMEADOW	Veolia Waste Transfer Terminal (former Keith Engineering site)	34-36 McPherson STREET	Other Industry	Regulation under CLM Act not required	-33.95811039	151.2195225
BANKSMEADOW	Orica Former Chlor Alkali Plant (same site as Orica Botany Groundwater Project)	Botany Industrial Park, off Denison STREET	Chemical Industry	Contamination currently regulated under CLM Act	-33.95664283	151.221685
BANKSMEADOW	Former Pipeline	Corish CIRCLE	Other Petroleum	Regulation being finalised	-33.94705787	151.2209919
BANKSMEADOW	Pacific National Rail Siding	1 Beauchamp ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-33.95757712	151.2204974
BANKSMEADOW	Former Mobil Banksmeadow Terminal	Coal Pier ROAD	Other Petroleum	Regulation under CLM Act not required	-33.95405624	151.2142048
BANKSMEADOW	Orica Car Park Waste Encapsulation	Corish CIRCLE	Landfill	Contamination formerly regulated under the POEO Act	-33.94703665	151.22083
BANKSTOWN	7-Eleven Service Station	689 Henry Lawson DRIVE	Service Station	Regulation under CLM Act not required	-33.92749953	150.9804784
BANORA POINT	Caltex Service Station	Corner Leisure Drive and Darlington DRIVE	Service Station	Regulation under CLM Act not required	-28.21390712	153.5417434
BARGO	Tahmoor Colliery	Remembrance DRIVE	Other Industry	Regulation under CLM Act not required	-34.25090795	150.5793631
BARMEDMAN	Caltex - Barmedman	Corner Watson Street and Star STREET	Other Petroleum	Regulation under CLM Act not required	-34.14351302	147.3824934

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BARRACK HEIGHTS	Caltex Service Station	332-336 Shellharbour ROAD	Service Station	Regulation under CLM Act not required	-34.56489171	150.8597814
BASS HILL	Woolworths Caltex Bass Hill	862 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.9008648	150.9991181
BATEAU BAY	Former landfill	The Entrance ROAD	Landfill	Contamination currently regulated under CLM Act	-33.3938305	151.4699046
BATEAU BAY	Woolworths Service Station Bateau Bay	9 Bay Village ROAD	Service Station	Regulation under CLM Act not required	-33.37316432	151.4737125
BATEHAVEN	Caltex Service Station	264 Beach ROAD	Service Station	Regulation under CLM Act not required	-35.73255166	150.1997536
BATEHAVEN	Coles Express Service Station Batehaven	198 Beach ROAD	Service Station	Regulation under CLM Act not required	-35.72671807	150.1944931
BATEMANS BAY	Caltex Service Station	87-89 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.71940701	150.1762788
BATHURST	Shell Coles Express Service Station	(Cnr Stewart and Rocket Street) 298 Stewart STREET	Service Station	Regulation under CLM Act not required	-33.41910999	149.5677773
BATHURST	Former Shell Depot Bathurst	56 Bant STREET	Other Petroleum	Regulation under CLM Act not required	-33.43471575	149.5774595
BATHURST	Bathurst Rail Fabrication Centre	34 Alpha STREET	Other Industry	Regulation under CLM Act not required	-33.42805153	149.5829156
BATHURST	Bathurst - Former Caltex Depot	114 Howick STREET	Other Petroleum	Regulation under CLM Act not required	-33.42296963	149.5862574
BATHURST	Caltex Bathurst Service Station	53 Durham STREET	Service Station	Regulation under CLM Act not required	-33.41689545	149.5848527
BATHURST	Former Police Station	Corner of William Street and Durham STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-33.41592424	149.5842233
BATHURST	Former Mobil Depot	1 Lambert STREET	Other Petroleum	Regulation under CLM Act not required	-33.42875534	149.5806344
BATHURST	Crago Mill site	Piper STREET	Other Industry	Regulation under CLM Act not required	-33.42777602	149.5809428

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BATHURST	Former Mobil Depot	Lower Russell STREET	Other Petroleum	Regulation under CLM Act not required	-33.42497876	149.585128
BATHURST	Shell Coles Express Bathurst Service Station	59 Durham STREET	Service Station	Regulation under CLM Act not required	-33.41639415	149.5843243
BATHURST	Former Gasworks	71 Russell STREET	Gasworks	Contamination formerly regulated under the CLM Act	-33.42420302	149.5864517
BATHURST	Former Devro Cattle Hide Processing Plant	46 Vale ROAD	Other Industry	Regulation under CLM Act not required	-33.43926137	149.5803563
BATLOW	Crown Reserves	Mill ROAD	Other Industry	Regulation under CLM Act not required	-35.52355132	148.1505729
BAULKHAM HILLS	Caltex Baulkham Hills Service Station	117 Seven Hills ROAD	Service Station	Regulation under CLM Act not required	-33.76139872	150.9750767
BAULKHAM HILLS	Caltex Service Station	130 Seven Hills ROAD	Service Station	Regulation under CLM Act not required	-33.76180431	150.9746297
BAULKHAM HILLS	Shell Coles Express Service Station	363 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.7601819	150.9916224
BAULKHAM HILLS	IBM Baulkham Hills Data Centre	3 Brookhollow AVENUE	Other Petroleum	Regulation under CLM Act not required	-33.73252699	150.9680221
BEACON HILL	Caltex Service Station	176 Warringah ROAD	Service Station	Contamination currently regulated under CLM Act	-33.75381485	151.2602617
BEACON HILL	Former 7-Eleven Service Station, Beacon Hill	312 Warringah ROAD	Service Station	Regulation under CLM Act not required	-33.75129647	151.2469656
BEACONSFIELD	63-85 Victoria St, Beaconsfield	63-85 Victoria STREET	Other Industry	Regulation under CLM Act not required	-33.9102929	151.2016275
BEGA	Coles Express (former Caltex) Service Station	2-6 Swan (Corner Carp) STREET	Service Station	Regulation under CLM Act not required	-36.67388263	149.838163
BEGA	Former BP Service Station	100 - 102 Gipps STREET	Service Station	Regulation under CLM Act not required	-36.67563094	149.8433291
BEGA	Former Bega Gasworks	19-29 Upper STREET	Gasworks	Under preliminary investigation order	-36.67710613	149.8480253

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BEGA	Caltex Service Station	36-40 Lagoon STREET	Service Station	Regulation under CLM Act not required	-36.66832965	149.8289048
BEGA	Lands Adjoining the Former Bega Gasworks	Part of Upper, East, Gordon & Gloucester STREET	Gasworks	Under preliminary investigation order	-36.67704706	149.848425
BEGA	Spenco Site - owned by Bega Spotlight Property 2 Pty Ltd	53-65 Bega Street STREET	Other Industry	Regulation under CLM Act not required	-36.67135539	149.8450828
BELLA VISTA	2-6 Norbrik Drive, Bella Vista NSW	2-6 Norbrik DRIVE	Unclassified	Under assessment	-33.745597	150.950491
BELMONT	Coles Express Belmont Service Station	502 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.03317155	151.6605194
BELMONT	Former Ampol Service Station	467-469 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.0299728	151.6613301
BELMONT NORTH	Woolworths Service Station Belmont North	399 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.02454211	151.6634893
BELMONT NORTH	Caltex Belmont North Service Station	406 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.02476876	151.6623655
BELMONT NORTH	Belmont Bus Depot	2 Floraville ROAD	Other Petroleum	Regulation under CLM Act not required	-33.02476269	151.6606657
BELMORE	SRA Land	348 Burwood ROAD	Unclassified	Regulation under CLM Act not required	-33.91753611	151.0859487
BELMORE	7-Eleven Service Station	792-794 Canterbury ROAD	Service Station	Regulation under CLM Act not required	-33.92567992	151.0873469
BELROSE	Glenrose Shopping Centre	56-58 Glen STREET	Unclassified	Contamination currently regulated under CLM Act	-33.73917996	151.2101029
BELROSE	Woolworths Petrol	60 Glen STREET	Service Station	Regulation under CLM Act not required	-33.74009002	151.2091045
BELROSE	Caltex Service Station	157 Forest WAY	Service Station	Regulation under CLM Act not required	-33.7347675	151.2212004
BENNETTS GREEN	Former Windale Wastewater Treatment Works	8 Templar PLACE	Other Industry	Regulation under CLM Act not required	-33.00317523	151.6936636

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BERESFIELD	BP Beresfield Truckstop	2 Kinta Drive, corner John Renshaw DRIVE	Service Station	Regulation under CLM Act not required	-32.81122768	151.6393427
BERESFIELD	Former Koppers Timber Treatment Site	53 Weakleys DRIVE	Other Industry	Regulation under CLM Act not required	-32.79902937	151.6358846
BERKELEY VALE	Former Berkeley Vale Service Station	121-123 Lakedge AVENUE	Service Station	Regulation under CLM Act not required	-33.34899186	151.4423109
BERKSHIRE PARK	Shell Coles Express Berkshire Park	746 - 752 Richmond ROAD	Service Station	Regulation under CLM Act not required	-33.66508654	150.7990243
BEROWRA	Caltex Berowra Service Station	12-14 Berowra Waters ROAD	Service Station	Regulation under CLM Act not required	-33.6233827	151.1505554
BEROWRA	7-Eleven Berowra Service Station	965-969 Pacific (Cnr Waratah Rd) HIGHWAY	Service Station	Regulation under CLM Act not required	-33.62673163	151.1479171
BEROWRA	Shell Coles Express Berowra	955 Pacific (Cnr Yallambee Rd) HIGHWAY	Service Station	Regulation under CLM Act not required	-33.62818015	151.1475736
BEROWRA	42 Berowra Waters Road	42 Berowra Waters ROAD	Unclassified	Regulation under CLM Act not required	-33.6203823	151.1481246
BERRIGAN	Caltex Service Station Berrigan	155-165 Chanter STREET	Service Station	Regulation under CLM Act not required	-35.6557616	145.8015557
BERRY	Berry Service Centre - Shell Branded	88 Queen STREET	Service Station	Regulation under CLM Act not required	-34.77571634	150.6961713
BERRY	BP branded service station Berry (Formerly Shell)	75 Queen STREET	Service Station	Contamination currently regulated under POEO Act	-34.77500516	150.695167
BEXLEY	7-Eleven Bexley	474 Forest ROAD	Service Station	Regulation under CLM Act not required	-33.95160096	151.1252355
BEXLEY	7-Eleven (former Mobil) Service Station Bexley	613 Forest ROAD	Service Station	Regulation under CLM Act not required	-33.95539246	151.118447
BILAMBIL HEIGHTS	Former Banana Plantation Land	38 McAllisters ROAD	Other Industry	Regulation under CLM Act not required	-28.21218056	153.4778762
BILLINUDGEL	CSR Readymix	Mogo PLACE	Other Industry	Regulation under CLM Act not required	-28.50210255	153.5278161

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BILLINUDGEL	Billinudgel General Store	2A Wilfred STREET	Service Station	Under assessment	-28.504299	153.5278161
BLACKMANS FLAT	Mount Piper Extension Development Site	2847 Boulder ROAD	Other Industry	Regulation under CLM Act not required	-33.35619968	150.0279881
BLACKMANS FLAT	Western Coal Services (former Lamberts Gully Mine)	Castlereagh HIGHWAY	Other Industry	Regulation under CLM Act not required	-33.36713827	150.0483236
BLACKTOWN	Former Caltex Service Station	131 Richmond ROAD	Service Station	Regulation under CLM Act not required	-33.75866104	150.8962614
BLACKTOWN	Valspar Blacktown	4 Steel STREET	Chemical Industry	Regulation under CLM Act not required	-33.75425018	150.9127714
BLACKTOWN	Harpers Bush (Reserve 752)	Reservoir ROAD	Unclassified	Regulation under CLM Act not required	-33.79119448	150.8967838
BLACKTOWN	7-Eleven Service Station	60 Walters ROAD	Service Station	Regulation under CLM Act not required	-33.77599783	150.8948926
BLAKEHURST	Woolworths Service Station Blakehurst	390 Princes HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.99019694	151.1135663
BLAKEHURST	The Bay Nursing Home	392 & 394 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.99030465	151.1140293
BLAXLAND	7-Eleven (former Mobil) Service Station	137 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.74627	150.6137669
BOAMBEE	Lindsay Bros transport depot site	542 Pacific HIGHWAY	Other Petroleum	Regulation under CLM Act not required	-30.33106848	153.0802985
BOAMBEE	BP-branded (former Mobil) Boambee Service Station	601 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-30.33544287	153.0817266
BOBS FARM	Bob's Farm	15 Fenningham Island ROAD	Other Industry	Regulation under CLM Act not required	-32.74867207	152.0316217
BOGGABILLA	Former Caltex Service Station	90 Simpson Street, corner Newell HIGHWAY	Service Station	Regulation under CLM Act not required	-28.60654029	150.3571056
BOGGABILLA	Lowes (Former Mobil) Depot	Newell HIGHWAY	Other Petroleum	Regulation under CLM Act not required	-28.61023985	150.3529156

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BOMADERRY	Caltex Service Station	341 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.84561952	150.5946978
BOMADERRY	Caltex Service Station Bomaderry	246 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.83833824	150.5958799
BOMADERRY	Former Mobil Emoleum Depot	7 Victa WAY	Other Petroleum	Regulation under CLM Act not required	-34.84454618	150.6139462
BOMADERRY	Former Shell Depot	44 Railway STREET	Other Petroleum	Regulation under CLM Act not required	-34.85193621	150.6117038
BOMADERRY	SRA Land	Lot 2 Meroo STREET	Unclassified	Regulation under CLM Act not required	-34.85314813	150.6099573
BOMADERRY	Bomaderry Works Depot	10 McIntyre WAY	Other Petroleum	Regulation under CLM Act not required	-34.84576748	150.6131411
BOMADERRY	Commercial Land	320 Princes HIGHWAY	Other Industry	Contamination formerly regulated under the CLM Act	-34.84424073	150.5958149
BOMBALA	Caltex Service Station Bombala	159-161 Maybe STREET	Service Station	Regulation under CLM Act not required	-36.91234945	149.2374622
BOMBALA	Former Bright Street Timber Mill	Bright STREET	Other Industry	Regulation under CLM Act not required	-36.91547645	149.2302454
BOMBALA	Caltex Bombala Service Station	High Street corner Stephen STREET	Service Station	Regulation under CLM Act not required	-36.90447935	149.241292
BOMBALA	Prime Pine site	Sandy LANE	Other Industry	Regulation under CLM Act not required	-36.9315425	149.2110959
BOMEN	Caltex Terminal	34 Lewington STREET	Other Petroleum	Regulation under CLM Act not required	-35.0700202	147.4121955
BOMEN	Enirgi Power Storage Recycling	509 Byrnes ROAD	Other Industry	Regulation under CLM Act not required	-35.05985094	147.4283765
BONDI	BP-branded Service Station	185 Bondi ROAD	Service Station	Regulation under CLM Act not required	-33.89432208	151.2647671
BONDI	Caltex Service Station Bondi	51 Bondi ROAD	Service Station	Regulation under CLM Act not required	-33.8936307	151.260001

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BONDI	Woolworths Metro Bondi	137-149 Bondi ROAD	Other Industry	Regulation under CLM Act not required	-33.893966	151.263073
BONDI JUNCTION	Waverley Bus Depot	1-15 Oxford STREET	Other Industry	Regulation under CLM Act not required	-33.89165341	151.2421246
BONNY HILLS	Bonny View Store	923 Ocean DRIVE	Service Station	Regulation under CLM Act not required	-31.59075636	152.8392935
BONNYRIGG	Metro (Formerly United & AP SAVER) Service Station Bonnyrigg	709 Cabramatta (W) ROAD	Service Station	Regulation under CLM Act not required	-33.89297085	150.8925935
BONNYRIGG HEIGHTS	BP-Branded Service Station Bonnyrigg	451 North Liverpool ROAD	Service Station	Regulation under CLM Act not required	-33.89416327	150.8578378
BOOLAROO	Cardiff West Estate - Pasminco Cockle Creek	Adjacent to PCC Smelter at 13A Main ROAD	Metal Industry	Regulation under CLM Act not required	-32.93950137	151.6349183
BOOLAROO	Cockle Creek and Cockle Bay Sediments	Off Creek Reserve ROAD	Metal Industry	Contamination currently regulated under CLM Act	-32.96079541	151.6141327
BOOLAROO	Lake Macquarie Ciy Council Works Depot	Creek Reserve ROAD	Service Station	Regulation under CLM Act not required	-32.9524489	151.6164604
BOOLAROO	Pasminco Cockle Creek Smelter	Lake ROAD	Metal Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-32.94434593	151.6307345
BOOLAROO	Incitec Pivot	13 Main STREET	Other Industry	Contamination formerly regulated under the CLM Act	-32.94803538	151.6302187
BOOLAROO	Bunnings Site - Pasminco Cockle Creek	13a Main ROAD	Metal Industry	Contamination formerly regulated under the CLM Act	-32.94364503	151.6252316
BOOLAROO	Part Lot 2 DP1127713 (proposed Lot G) - Pasminco Cockle Creek Smelter site	13a Main ROAD	Metal Industry	Contamination formerly regulated under the CLM Act	-32.94404392	151.6267695
BOOLAROO	Lot 600 DP1228699 (formerly Part Lot 2 DP1127713 & proposed 'Lot D') - Pasminco Cockle Creek Smelter site	Main ROAD	Metal Industry	Contamination formerly regulated under the CLM Act	-32.94440875	151.6264143
BOOROWA	Former Mobil Depot	14-16 Brial STREET	Other Petroleum	Regulation under CLM Act not required	-34.43673234	148.7300821
BOOROWA	Mobil Service Station	63-69 Marsden STREET	Service Station	Contamination formerly regulated under the CLM Act	-34.44157331	148.7162391

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BOOROWA	Boorowa Service Station	84 Marsden STREET	Service Station	Regulation under CLM Act not required	-34.44302227	148.7151026
BOTANY	Former Aerosols of Australia	1617 Botany ROAD	Chemical Industry	Regulation under CLM Act not required	-33.9529386	151.2037468
BOTANY	Allnex	49-61 Stephen ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-33.9524442	151.2106446
BOTANY	Former Tannery	2 Daniel STREET	Other Industry	Regulation under CLM Act not required	-33.94126194	151.1991087
BOTANY	Botany, Underwood	14a Underwood AVENUE	Unclassified	Contamination being managed via the planning process (EP&A Act)	-33.94508532	151.1947626
BOTANY	Roads and Maritime Service	5 - 9 Lord STREET	Other Industry	Regulation under CLM Act not required	-33.94100279	151.1968763
BOTANY	Former Industrial Site	28 Folkestone PARADE	Unclassified	Contamination being managed via the planning process (EP&A Act)	-33.95187539	151.1960537
BOURKE	Ampol Bourke Service Station	82-86 Anson STREET	Service Station	Regulation under CLM Act not required	-30.09500388	145.9414388
BOURKE	Former Shell Bourke Depot	94-106 Anson STREET	Service Station	Regulation under CLM Act not required	-30.09548497	145.9436745
BOWENFELS	Bowenfels Field Support Centre	9-13 Cooerwull ROAD	Other Petroleum	Regulation under CLM Act not required	-33.47514572	150.1323899
BOWRAL	Shell Coles Express Bowral Service Station	430 Bong Bong STREET	Service Station	Regulation under CLM Act not required	-34.48269596	150.417389
BOWRAL	Former Gasworks	Merrigang STREET	Gasworks	Contamination currently regulated under CLM Act	-34.4783957	150.4255053
BOX HILL	Former Waste Management Facility	25 Terry ROAD	Landfill	Regulation under CLM Act not required	-33.65559259	150.8977986
BOX HILL	Former Poultry Farm	27-33 Boundary ROAD	Other Industry	Regulation under CLM Act not required	-33.64866563	150.8815467
BOX HILL	Former Poultry Farm	19-25 Boundary ROAD	Other Industry	Regulation under CLM Act not required	-33.65038071	150.8813725

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BRANXTON	Former Service Station Branxton	Part of 70 Maitland STREET	Service Station	Contamination currently regulated under CLM Act	-32.65631582	151.3516243
BRANXTON	Branxton Wastewater Treatment Works	2151 New England HIGHWAY	Other Industry	Regulation under CLM Act not required	-32.66069944	151.3625572
BREWARRINA	Dowell's Fuel	39 Doyle STREET	Service Station	Regulation under CLM Act not required	-29.96152786	146.8612561
BRIGHTON-LE-SANDS	Shell Service Station Brighton Le Sands & adjacent land	2 General Holmes DRIVE	Service Station	Contamination formerly regulated under the CLM Act	-33.95791132	151.1576486
BRIGHTON-LE-SANDS	Cook Park	General Holmes DRIVE	Service Station	Contamination formerly regulated under the CLM Act	-33.9581072	151.1579572
BROADMEADOW	Former Industrial Site	16 Broadmeadow ROAD	Service Station	Regulation under CLM Act not required	-32.91444096	151.7300112
BROADMEADOW	Nineways Broadmeadow Coles Express SS	Corner Brunker Road and Lambton ROAD	Service Station	Regulation under CLM Act not required	-32.92511185	151.7364247
BROADMEADOW	2 Georgetown Road, Broadmeadow NSW 2292	2 Georgetown ROAD	Metal Industry	Regulation being finalised	-32.91229404	151.7322202
BROKEN HEAD	South Byron Sewage Treatment Works	Broken Head ROAD	Other Industry	Regulation under CLM Act not required	-28.67233626	153.6148974
BROKEN HILL	Former Caltex Depot	3 Kanandah ROAD	Service Station	Regulation under CLM Act not required	-31.98341823	141.4332211
BROKEN HILL	Former Caltex Service Station	167-173 Argent STREET	Service Station	Regulation under CLM Act not required	-31.96066663	141.4624175
BROKEN HILL	Caltex Service Station	535 Argent STREET	Service Station	Regulation under CLM Act not required	-31.95311924	141.4745274
BROKEN HILL	Tasco Petroleum (Former Mobil) Depot	5 Kanandah ROAD	Other Petroleum	Regulation under CLM Act not required	-31.9843986	141.4329127
BROKEN HILL	Former Mobil Aviation Refuelling Facility, Broken Hill Airport	Airport ROAD	Other Petroleum	Regulation under CLM Act not required	-31.99928312	141.4685759
BROKEN HILL	Caltex Service Station	73-87 Oxide STREET	Service Station	Contamination formerly regulated under the CLM Act	-31.95519591	141.4658647

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BROKEN HILL	Former Mobil Depot	Corner Of Talc Street and Gossan STREET	Other Petroleum	Regulation under CLM Act not required	-31.96018102	141.4514752
BROKEN HILL	Former Gasworks	Cornish STREET	Gasworks	Contamination formerly regulated under the CLM Act	-31.96330562	141.4470611
BROKEN HILL	Broken Hill Kanandah Road Refuelling Depot	Kanandah ROAD	Other Petroleum	Regulation under CLM Act not required	-31.98543706	141.4196
BROKEN HILL	Broken Hill Gas Turbines	76A Pinnacles ROAD	Unclassified	Regulation under CLM Act not required	-33.43673058	148.358727
BROKEN HILL	Broken Hill Railway Yard	Crystal STREET	Landfill	Under assessment	-31.9690434	141.4563004
BROOKLYN	Former Oyster Farm	139 Brooklyn (Off Government) ROAD	Unclassified	Regulation under CLM Act not required	-33.54716867	151.2229744
BROOKVALE	Coles Express Service Station Brookvale	198 Harbord ROAD	Service Station	Regulation under CLM Act not required	-33.76332299	151.2794028
BROOKVALE	Woolworths Petrol Brookvale	756 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.76170587	151.2762411
BROOKVALE	Caltex Service Station Brookvale	740-742 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.76146721	151.2745358
BROOKVALE	Harrison Manufacturing	75 Old Pittwater ROAD	Other Industry	Regulation under CLM Act not required	-33.76497282	151.2637961
BROOKVALE	Brookvale Bus Depot	630-636 Pittwater ROAD	Other Petroleum	Regulation under CLM Act not required	-33.76641698	151.2705659
BROOKVALE	Warringah Mall	Cnr Condamine Street, Old Pittwater Rd & Cross STREET	Other Industry	Regulation under CLM Act not required	-33.76729923	151.2657272
BROOKVALE	Littles Dry Cleaning	123 Old Pittwater ROAD	Other Industry	Regulation under CLM Act not required	-33.76759121	151.2625932
BROOMS HEAD	Former Brooms Head General Store and Service Station	92 Ocean ROAD	Service Station	Regulation under CLM Act not required	-29.60711599	153.3346312
BROWNSVILLE	Caltex Service Station	342 Kanahooka ROAD	Service Station	Regulation under CLM Act not required	-34.48591734	150.8064373

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BRUNSWICK HEADS	Caltex Service Station	5 Tweed STREET	Service Station	Regulation under CLM Act not required	-28.5381619	153.5487135
BUDGEWOI	Colongra Power Station	Off Scenic DRIVE	Other Industry	Under assessment	-33.21463137	151.5529338
BULAHDELAH	Caltex Service Station	8 Red Gum Road, Corner Mahogany STREET	Service Station	Regulation under CLM Act not required	-32.39837094	152.2106015
BULAHDELAH	Former Caltex Service Station	53-59 Bulahdelah WAY	Service Station	Regulation under CLM Act not required	-32.40721638	152.2110291
BULAHDELAH	BP-branded (former Mobil) Service Station	73-75 Bulahdelah WAY	Service Station	Regulation under CLM Act not required	-32.40971018	152.2105785
BULLABURRA	Former Burmah Bullaburra Service Station	367 - 369 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.72482995	150.4124537
BULLI	Scrap Yard	7 Molloy STREET	Other Industry	Contamination formerly regulated under the CLM Act	-34.33663195	150.9131154
BULLI	Bulli Brickworks	Quilkey PLACE	Other Industry	Regulation under CLM Act not required	-34.33263113	150.9086247
BUNGALORA	Former landfill area	Part of 840 Terranora ROAD	Other Industry	Regulation under CLM Act not required	-28.2424318	153.4789209
BUNGENDORE	Former Timber Treatment Plant	Corner King Street and Butmaroo STREET	Other Industry	Contamination formerly regulated under the CLM Act	-35.26151273	149.4434907
BUNGENDORE	Bungendore Railway Station and Rail Corridor	Bungendore STREET	Unclassified	Contamination currently regulated under CLM Act	-35.25397326	149.4470058
BUNGENDORE	Bungendore former Station Masters Cottage	16 Majara STREET	Unclassified	Under assessment	-35.254941	149.44633
BUNGENDORE	Bungendore to Captains Flats – Rail Corridor	Lot 1 DP 189797 FORMATION	Unclassified	Under assessment	-35.588098	149.436721
BURNT YARDS	Junction Reefs Gold Mine (ML 1242 and MPL 273)	Bakers ROAD	Metal Industry	Under assessment	-33.597562	149.007917
BURONGA	Caltex Service Station	Sturt Hwy Cnr Silver City HIGHWAY	Service Station	Regulation under CLM Act not required	-34.17056496	142.1813847

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
BURWOOD	Burwood STA Depot	Cnr Shaftesbury and Parramatta ROADS	Other Industry	Contamination formerly regulated under the CLM Act	-33.86982934	151.1089057
BYRON BAY	Residential Development	Lot 15 Seaview STREET	Unclassified	Regulation under CLM Act not required	-28.65214464	153.6165573
BYRON BAY	Butler Street Reserve Byron Bay	Butler STREET	Landfill	Under assessment	-28.64340617	153.6099674
CABARITA	Dulux (Orica Australia)	Cabarita ROAD	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.84643972	151.1157115
CABARITA	Wellcome Soil Containment Cells Cabarita	47 and 48 Phillips STREET	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.85250251	151.1176366
CABRAMATTA	Caltex (former Mobil) Lansvale Service Station	141 Hume HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.89442261	150.9571507
CABRAMATTA	Caltex Service Station Cabramatta	168 John STREET	Service Station	Regulation under CLM Act not required	-33.89422314	150.9279279
CABRAMATTA	Cabramatta Creek	17 A and 19A Liverpool Street STREET	Unclassified	Regulation under CLM Act not required	-33.90284952	150.9415616
CABRAMATTA WEST	BP Cabramatta (Lansvale)	115-119 Hume HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.89373753	150.9587201
CABRAMURRA	Selwyn Snowfields / Selwyn Snow Resort	213A Kings Cross ROAD	Other Industry	Regulation under CLM Act not required	-35.90869221	148.4565678
CALGA	Former service station	101 Peats Ridge ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.37592138	151.2254951
CALLALA BEACH	Callala Beach General Store	(formerly 1 Quay Rd) 114A Quay ROAD	Service Station	Regulation under CLM Act not required	-35.0101817	150.6964322
CAMBRIDGE GARDENS	Caltex Cambridge Park	1 Boomerang PLACE	Service Station	Regulation under CLM Act not required	-33.74068794	150.717174
CAMDEN	Camden High School (former)	John STREET	Gasworks	Regulation under CLM Act not required	-34.05114079	150.6951285
CAMDEN	Caltex Camden Service Station	21 Barsden STREET	Service Station	Regulation under CLM Act not required	-34.05808413	150.6914744

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CAMDEN SOUTH	Coles Express Service Station Camden South	273 Old Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.08660995	150.6945444
CAMELLIA	Hymix Concrete	14 Grand AVENUE	Metal Industry	Contamination currently regulated under CLM Act	-33.82243454	151.044789
CAMELLIA	Mauri Foods	15 Grand AVENUE	Other Industry	Regulation being finalised	-33.81996985	151.0335725
CAMELLIA	James Hardie Factory (former, eastern portion)	1 Grand AVENUE	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.81822448	151.0260958
CAMELLIA	Bitumen Manufacturer	12 Grand AVENUE	Other Industry	Contamination currently regulated under CLM Act	-33.82189695	151.0429251
CAMELLIA	Hambear	14 Thackeray STREET	Metal Industry	Regulation under CLM Act not required	-33.81920482	151.0419394
CAMELLIA	Former Asciano Properties	37A and 39 Grand AVENUE	Chemical Industry	Contamination currently regulated under CLM Act	-33.82056014	151.0443331
CAMELLIA	Railway Land	27 Grand AVENUE	Other Industry	Regulation under CLM Act not required	-33.81910822	151.0382483
CAMELLIA	Wrigg	13 Grand AVENUE	Metal Industry	Under preliminary investigation order	-33.81971361	151.0321525
CAMELLIA	Former Shell Clyde Refinery	Durham STREET	Other Petroleum	Contamination currently regulated under CLM Act	-33.82804924	151.0378966
CAMELLIA	Council Reserve	11B Grand AVENUE	Metal Industry	Regulation under CLM Act not required	-33.81850502	151.0302425
CAMELLIA	Veolia	37 Grand AVENUE	Chemical Industry	Contamination currently regulated under CLM Act	-33.81980027	151.0430689
CAMELLIA	Sydney Water	41 Grand AVENUE	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.8217493	151.0453367
CAMELLIA	Maritime Services Board	33A Grand AVENUE	Metal Industry	Regulation under CLM Act not required	-33.81836086	151.0401249
CAMMERAY	Tunks Park	Brothers AVENUE	Landfill	Contamination formerly regulated under the CLM Act	-33.81734704	151.2113338

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CAMMERAY	Coles Express Cammeray	477-483 Miller STREET	Service Station	Regulation under CLM Act not required	-33.82141124	151.2108658
CAMPBELLTOWN	Mobil Service Station	96-98 Queen STREET	Service Station	Regulation under CLM Act not required	-34.06407588	150.8170082
CAMPBELLTOWN	BP Macarthur Service Station	Cnr Blaxland ROAD and Campbelltown ROAD	Service Station	Regulation under CLM Act not required	-34.05312872	150.8234349
CAMPBELLTOWN	Former vehicle wrecking yard	38 Blaxland ROAD	Other Industry	Regulation under CLM Act not required	-34.06055735	150.8130598
CAMPERDOWN	Former Gee Graphics	27 Church STREET	Other Industry	Regulation under CLM Act not required	-33.88737747	151.1773616
CAMPERDOWN	O'Dea Reserve	Salisbury LANE	Landfill	Contamination formerly regulated under the CLM Act	-33.89072786	151.1736948
CAMPERDOWN	The Spruce	12-14 Marsden STREET	Other Industry	Regulation under CLM Act not required	-33.88720632	151.1784514
CAMPSIE	Budget Petroleum and adjacent property	403 Canterbury Road and 1 Una STREET	Service Station	Contamination currently regulated under CLM Act	-33.91605617	151.1086596
CAMPSIE	Former Sunbeam factory	60 Charlotte STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.92254225	151.1025796
CANLEY HEIGHTS	Former Caltex Canley Heights	368 Canley Vale ROAD	Service Station	Regulation under CLM Act not required	-33.88271081	150.9154176
CANLEY HEIGHTS	Caltex Canley Heights Service Station	280-286 Canley Vale ROAD	Service Station	Regulation under CLM Act not required	-33.88393501	150.9241656
CANLEY VALE	Coles Express Lansvale	99 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.89295753	150.9606136
CANLEY VALE	Former Mobil Service Station	96 Canley Vale ROAD	Service Station	Regulation under CLM Act not required	-33.88591573	150.9369801
CANOWINDRA	BP-branded Jasbe Service Station	76 Rodd STREET	Service Station	Regulation under CLM Act not required	-33.56131773	148.6682805
CANTERBURY	Metro Petroleum Service Station	13-19 Canterbury ROAD	Service Station	Contamination currently regulated under CLM Act	-33.90783455	151.125207

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CAPTAINS FLAT	Rail corridor adjacent to Lake George Mine	1 Copper Creek Road ROAD	Other Industry	Contamination currently regulated under CLM Act	-35.59038471	149.4382246
CAPTAINS FLAT	Captains Flat former Station Masters Cottage	2 Copper Creek ROAD	Other Industry	Contamination currently regulated under CLM Act	-35.59027127	149.4384122
CAPTAINS FLAT	Captains Flat Rail Corridor	Copper Creek ROAD	Other Industry	Contamination currently regulated under CLM Act	-35.590513	149.438729
CARDIFF	7-Eleven Service Station	399 Main ROAD	Service Station	Regulation under CLM Act not required	-32.93391137	151.6562111
CARDIFF	Former Caltex Service Station	367 Main ROAD	Service Station	Regulation under CLM Act not required	-32.93761223	151.6577781
CARDIFF	Maneela Oval	Main ROAD	Other Industry	Regulation under CLM Act not required	-32.93018443	151.6435559
CARDIFF	Former Mobil Depot	7 Ranton STREET	Other Petroleum	Regulation under CLM Act not required	-32.94516764	151.6470387
CARDIFF	BP Service Station (Reliance Petroleum)	Corner Sturt and Main ROADS	Service Station	Regulation under CLM Act not required	-32.93792229	151.6569905
CARDIFF	Woolworths (former Mobil) Cardiff Service Station	43 Macquarie ROAD	Service Station	Regulation under CLM Act not required	-32.94118246	151.6578195
CARINGBAH	Adjacent to Spirent Australia	101-103 Cawarra ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-34.03360747	151.1245577
CARINGBAH	Former Consumer Health Products Manufacturer	32-40 Cawarra ROAD	Other Industry	Regulation under CLM Act not required	-34.03024369	151.1277755
CARINGBAH	Caltex Lilli Pilli Service Station	477-481 Port Hacking ROAD	Service Station	Regulation under CLM Act not required	-34.05243807	151.1216353
CARINGBAH	7-Eleven Service Station	367 The KINGSWAY	Service Station	Regulation under CLM Act not required	-34.03948677	151.1203268
CARINGBAH	Spirent Australia	105 Cawarra ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-34.03425343	151.1245092
CARINGBAH	BP Service Station Caringbah	54 Captain Cook DRIVE	Service Station	Regulation under CLM Act not required	-34.032986	151.1250656

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CARLINGFORD	Caltex Service Station Carlingford	131 Pennant Hills ROAD	Service Station	Regulation under CLM Act not required	-33.78762398	151.0279422
CARLINGFORD	Caltex Service Station	797 Pennant Hills ROAD	Service Station	Regulation under CLM Act not required	-33.7757819	151.0516532
CARLTON	Shell Coles Express Service Station	277 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.9748579	151.1272732
CARRINGTON	Commercial Metals Company (CMC) Australia Pty Ltd	117-121 Bourke STREET	Other Industry	Regulation under CLM Act not required	-32.9148832	151.7677193
CARRINGTON	Carrington redevelopment site	11 Howden STREET	Other Industry	Regulation under CLM Act not required	-32.91309509	151.7625341
CARRINGTON	Forgacs Dockyard	81 Denison STREET	Other Industry	Regulation under CLM Act not required	-32.9207441	151.764816
CARRINGTON	NAT vacant land	Bourke STREET	Unclassified	Regulation under CLM Act not required	-32.91276029	151.7685894
CARRINGTON	Dyke Point Containment Cell	Dyke ROAD	Other Industry	Regulation under CLM Act not required	-32.91763422	151.7727101
CARRINGTON	Carrington Coal Tar Pavements	Bourke Street to Dyke ROAD	Other Industry	Regulation under CLM Act not required	-32.91441348	151.770271
CARRINGTON	Pasminco Ship Loader	Dyke Berth 2 (off Bourke Street) OTHER	Metal Industry	Regulation under CLM Act not required	-32.9148698	151.7716837
CARSS PARK	Vacant Property	334 Princes HIGHWAY	Other Industry	Regulation under CLM Act not required	-33.98628486	151.1133908
CARSS PARK	Kogarah War Memorial Pool	78 Carwar AVENUE	Other Industry	Regulation under CLM Act not required	-33.9889195	151.1178227
CARWELL	Cement Australia Carwell Creek Quarries	Quarry ROAD	Other Industry	Regulation under CLM Act not required	-32.85570277	149.9170908
CASINO	Caltex Service Station and Depot Casino	28 & 32 Dyraaba STREET	Service Station	Regulation under CLM Act not required	-28.85488567	153.044806
CASINO	Caltex Service Station	96 Centre STREET	Service Station	Regulation under CLM Act not required	-28.86539567	153.0450654

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CASINO	Former Gasworks	134-136 North STREET	Gasworks	Regulation under CLM Act not required	-28.86080712	153.0526043
CASINO	Woolworths Service Station Casino	130 Canterbury STREET	Service Station	Regulation under CLM Act not required	-28.86231341	153.0464642
CASINO	18 Beith Street, Casino	18 Beith STREET	Unclassified	Regulation under CLM Act not required	-28.84951426	153.0446585
CASINO	Corner Store	30 Barker STREET	Service Station	Regulation under CLM Act not required	-28.86316792	153.0389124
CASINO	Casino Roadhouse	86 Johnston STREET	Service Station	Contamination formerly regulated under the CLM Act	-28.85960698	153.0562429
CASULA	Caltex Casula Service Station	646 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.95641262	150.8934783
CATHERINE HILL BAY	Catherine Hill Bay Coal Handling and Preparation Plant	1A Keene STREET	Other Industry	Regulation under CLM Act not required	-33.16120556	151.6302456
CESSNOCK	Caltex Cessnock Service Station	103-105 Wollombi (Cnr James Street) ROAD	Service Station	Regulation under CLM Act not required	-32.83936243	151.3430078
CESSNOCK	Former Mobil Service Station	102 Wollombi ROAD	Service Station	Regulation under CLM Act not required	-32.83844074	151.3436022
CESSNOCK	Former Service Station	2-4 Allandale ROAD	Service Station	Regulation under CLM Act not required	-32.83118911	151.3560677
CESSNOCK	Lot 340 DP 755215	Old Maitland ROAD	Gasworks	Regulation under CLM Act not required	-32.822025	151.379859
CESSNOCK	Cessnock Former Landfill	Quarry St and Maitland Sts STREET	Landfill	Under assessment	-32.822275	151.379365
CHARBON	Charbon Colliery	Clarence ROAD	Other Industry	Regulation under CLM Act not required	-32.92390131	149.9839098
CHARLESTOWN	7-Eleven Charlestown	273 Charlestown ROAD	Service Station	Regulation under CLM Act not required	-32.95797076	151.6896275
CHARLESTOWN	Caltex Service Station	81 Pacific HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-32.96715274	151.6955462

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CHARLESTOWN	Caltex Woolworths (Former BP)	91-93 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-32.96631255	151.6959086
CHARLESTOWN	Ausgrid Powell Street Depot	8 Powell STREET	Other Industry	Regulation under CLM Act not required	-32.95912375	151.6944136
CHARMHAVEN	Caltex Charmhaven Service Station	13-15 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.21655768	151.5091452
CHATSWOOD	Former Caltex Chatswood Service Station	607 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.80396472	151.1795766
CHATSWOOD	Woolworths Chatswood	364-366 Eastern Valley WAY	Service Station	Regulation under CLM Act not required	-33.78667419	151.2010828
CHATSWOOD	Caltex Service Station Chatswood	572 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.80381271	151.1789656
CHATSWOOD	Auto Repairs	2 Devonshire STREET	Service Station	Regulation under CLM Act not required	-33.8015482	151.1859632
CHATSWOOD	Coles Express Service Station Chatswood	877-879 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.79182176	151.1804867
CHATSWOOD	Chatswood Toyota	728 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.79654247	151.1776136
CHERRYBROOK	Caltex Service Station	67 Shepherds DRIVE	Service Station	Regulation under CLM Act not required	-33.72069183	151.0451415
CHESTER HILL	Former Orica, Chester Hill	127 Orchard ROAD	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.8869823	150.9952873
CHESTER HILL	Various industrial premises	191 Miller ROAD	Chemical Industry	Under assessment	-33.88412112	150.9947587
CHESTER HILL	Integrated Packaging	141 Miller STREET	Other Industry	Under assessment	-33.88471858	150.9948992
CHESTER HILL	Building Recycling Operations 191 Miller Rd Chester Hill assessment (including 149 Orchard Rd).	191 Miller St & 149 Orchard Rd STREET	Chemical Industry	Under assessment	-33.884088	150.994779
CHIPPENDALE	Cnr Regent Street & Wellington Street, Chippendale	Wellington STREET	Chemical Industry	Contamination currently regulated under CLM Act	-33.88668912	151.2015246

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CHIPPING NORTON	Former Solchem (Mobil) Depot Chipping Norton	49-51 Riverside ROAD	Other Petroleum	Regulation under CLM Act not required	-33.91621314	150.9696948
CHIPPING NORTON	Former ACR	85-107 Alfred STREET	Chemical Industry	Contamination currently regulated under CLM Act	-33.92226795	150.9586496
CHISWICK	Former Sydney Wiremills (BHP) site	Blackwall Point ROAD	Other Industry	Regulation under CLM Act not required	-33.85131849	151.1369131
CHISWICK	9 -17 Bibby Street, Chiswick	9 -17 Bibby STREET	Other Industry	Regulation under CLM Act not required	-33.884088	150.994779
CHITTAWAY BAY	Former Caltex Chittaway Point	100 Chittaway ROAD	Service Station	Regulation under CLM Act not required	-33.32707555	151.4293546
CHULLORA	Chullora Railway Workshops	Worth STREET	Other Industry	Regulation under CLM Act not required	-33.88639388	151.0598201
CLANDULLA	Brogans Creek Quarry	Brogans Creek ROAD	Other Industry	Under assessment	-32.9851278	149.9587005
CLARENCE	Clarence Colliery	Chifley ROAD	Other Industry	Regulation under CLM Act not required	-33.46450217	150.2522729
CLARENDON	Coles Express Clarendon Service Station	244 Hawkesbury Valley WAY	Service Station	Regulation under CLM Act not required	-33.6083729	150.7890956
CLEARFIELD	Former Pamplings Dip Site	Off Clearfield ROAD	Cattle Dip	Regulation under CLM Act not required	-29.16287185	152.882974
CLYBUCCA	BP Service Station	2171 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-30.93845014	152.9422791
CLYDE	7-Eleven Clyde	3 Parramatta Road, corner Harbord STREET	Service Station	Regulation under CLM Act not required	-33.83494433	151.0222628
CLYDE	4 Tennyson Street, Clyde NSW 2142	4 Tennyson STREET	Other Industry	Regulation under CLM Act not required	-33.83268843	151.0267361
COBAR	Former Caltex (Bogas) Service Station Cobar	56-58 Marshall STREET	Service Station	Regulation under CLM Act not required	-31.49793339	145.8346684
COBAR	Mckinnons Gold Mine	Cobar ROAD	Metal Industry	Regulation under CLM Act not required	-31.78179755	145.693

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
COBAR	Caltex Service Station Cobar	99 Marshall (formerly Cnr Barrier Highway and Bathurst Street) STREET	Service Station	Regulation under CLM Act not required	-31.49631924	145.8275727
COBAR	Caltex Service Station	Lot 10 Railway PARADE	Service Station	Regulation under CLM Act not required	-31.49350124	145.8442372
COFFS HARBOUR	BP Service Station	134-136 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-30.29187037	153.1182106
COFFS HARBOUR	Dan Murphy's Coffs Harbour	10 Elbow STREET	Service Station	Regulation under CLM Act not required	-30.29439262	153.115069
COFFS HARBOUR	Mobil Service Station	314-316 Harbour DRIVE	Service Station	Contamination formerly regulated under the CLM Act	-30.3056983	153.131966
COFFS HARBOUR	Mobil Coffs Harbour Airport	Aviation DRIVE	Other Petroleum	Contamination formerly regulated under the CLM Act	-30.313385	153.1175018
COFFS HARBOUR	Woolworths Petrol	Park Beach Plaza, Arthur STREET	Service Station	Regulation under CLM Act not required	-30.28101154	153.132027
COFFS HARBOUR	Caltex Service Station	157 Orlando STREET	Service Station	Regulation under CLM Act not required	-30.28975334	153.1306354
COFFS HARBOUR	Coffs Harbour Slipway	38 Marina DRIVE	Other Industry	Regulation under CLM Act not required	-30.30325637	153.1441437
COFFS HARBOUR	Aussitel Backpackers Hostel	312 Harbour DRIVE	Service Station	Contamination formerly regulated under the CLM Act	-30.30585731	153.131645
COFFS HARBOUR	Coffs Harbour Airport Enterprise Park	Aviation DRIVE	Other Industry	Under assessment	-30.315403	153.113795
COLEAMBALLY	Former Mobil Coleambally Depot	19 Bencubbin AVENUE	Other Petroleum	Regulation under CLM Act not required	-34.80279552	145.8945239
COLLARENEBRI	Former Shell Depot	Corner Narran Street and Queen STREET	Other Petroleum	Regulation under CLM Act not required	-29.54114772	148.5789365
COLONGRA	Munmorah Colliery	Scenic DRIVE	Other Industry	Regulation under CLM Act not required	-33.21297737	151.5416882
COLONGRA	Endeavour Colliery	Scenic DRIVE	Other Industry	Regulation under CLM Act not required	-33.21297737	151.5416882

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
COLYTON	Coles Express (former Ampol) Service Station	86-88 Great Western HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.77552363	150.7953105
CONCORD	Caltex Service Station	89 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.86785624	151.0993769
CONCORD WEST	Caltex Service Station - 369 -375 Concord Road, Concord West	369-375 Concord ROAD	Service Station	Regulation under CLM Act not required	-33.84113835	151.0888843
CONDOBOLIN	BP-Branded Service Station	38 Denison Street, corner Molong STREET	Service Station	Regulation under CLM Act not required	-33.08520378	147.1524976
CONDOBOLIN	Former Mobil Depot	6 Burnett STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-33.08010515	147.1642972
CONDOBOLIN	Former Ampol Depot	Cnr Parkes Road and Goobang STREET	Service Station	Regulation under CLM Act not required	-33.08034753	147.1642436
CONDOBOLIN	Former Caltex Depot	Parkes ROAD	Service Station	Regulation under CLM Act not required	-33.08255593	147.1585922
CONDOBOLIN	Mobil Condobolin Depot Railway Siding	Railway Siding behind 6 Burnett STREET	Other Petroleum	Regulation under CLM Act not required	-33.08058612	147.164225
CONSTITUTION HILL	Sydney Water Land	Caloola ROAD	Unclassified	Regulation under CLM Act not required	-33.79781738	150.9697436
COOGEE	Caltex Coogee Service Station	146-148 Coogee Bay Road, corner Mount STREET	Service Station	Regulation under CLM Act not required	-33.91989232	151.2517454
COOKS HILL	Former Council Depot Cooks Hill	152 Bruce Street and 115 Corlette STREET	Other Industry	Regulation under CLM Act not required	-32.93525537	151.7641074
COOLAC	Coolac Service Station	Corner Hume Highway and Coleman STREET	Service Station	Regulation under CLM Act not required	-34.95435052	148.1595525
COOLAH	BP Depot (Reliance Petroleum)	72 (formerly 17-23) Cunningham STREET	Other Petroleum	Regulation under CLM Act not required	-31.82275896	149.7243171
COOLONGOLOOK	Caltex Service Station	Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-32.21648325	152.322813
COOMA	Caltex Cooma Service Station	44 Sharp Street, corner Baron STREET	Service Station	Regulation under CLM Act not required	-36.23323489	149.1304134

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
COOMA	Former Mobil Cooma Depot	2 Commissioner STREET	Other Petroleum	Regulation under CLM Act not required	-36.23266081	149.1346674
COOMA	Former Caltex Cooma Depot	2 Short STREET	Service Station	Regulation under CLM Act not required	-36.2338672	149.1348862
COOMA	Lowes Petroleum Cooma Depot and Service Station (Former BP Reliance Petroleum)	2-4 Sharp STREET	Other Petroleum	Regulation under CLM Act not required	-36.22819468	149.1357696
COOMA	Woolworths Caltex Cooma Service Station	Bombala Street Cnr Massie STREET	Service Station	Regulation under CLM Act not required	-36.23364626	149.1267469
COOMA	Former Shell Depot	48-50 Bradley STREET	Other Petroleum	Regulation under CLM Act not required	-36.23448955	149.1347987
COOMA	Former Shell Service Station	48-52 Sharp STREET	Service Station	Contamination formerly regulated under the CLM Act	-36.23350402	149.1299514
COONABARABRAN	Former Mobil Depot	49 Cowper STREET	Other Petroleum	Regulation under CLM Act not required	-31.27096226	149.2818461
COONABARABRAN	Shell Coles Express Service Station	2-6 John STREET	Service Station	Regulation under CLM Act not required	-31.27706775	149.27836
COONABARABRAN	Former Shell Coonabarabran CVRO	Corner Cowper St and Dawson St, formerly 51 Cowper STREET	Other Petroleum	Regulation under CLM Act not required	-31.27003745	149.281788
COONABARABRAN	Caltex Service Station	Cnr Dawson & Drummond STREET	Service Station	Regulation under CLM Act not required	-31.26994941	149.28183
COONABARABRAN	Caltex Service Station	85-87 John STREET	Service Station	Regulation under CLM Act not required	-31.27231215	149.2771297
COONAMBLE	Former Shell Coonamble Depot	Corner Aberford Street and Quambone ROAD	Other Petroleum	Regulation under CLM Act not required	-30.95349182	148.3793432
COONAMBLE	Caltex Service Station	Quambone ROAD	Service Station	Regulation under CLM Act not required	-30.95410067	148.3792167
COORANBONG	Former Poultry Farm - 91 Alton Road, Cooranbong	64 - 98 Alton ROAD	Unclassified	Regulation under CLM Act not required	-33.06860138	151.4512156
COORANBONG	Avondale Auto Centre	679 Freemans DRIVE	Service Station	Regulation under CLM Act not required	-33.06968809	151.4636293

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
COOTAMUNDRA	Former BP Depot	1-5 Murray STREET	Other Petroleum	Regulation under CLM Act not required	-34.62915841	148.0306962
COOTAMUNDRA	Caltex Service Station	26-34 Hovell STREET	Service Station	Regulation under CLM Act not required	-34.63624703	148.0347479
COOTAMUNDRA	Former Caltex Depot	219 Sutton STREET	Other Petroleum	Regulation under CLM Act not required	-34.65126548	148.0145283
COOTAMUNDRA	Former Ampol Service Station	72 Parker STREET	Service Station	Regulation under CLM Act not required	-34.63471008	148.0296112
COOTAMUNDRA	Cootamundra Gasworks	140-146 Hovell STREET	Gasworks	Contamination currently regulated under CLM Act	-34.64572841	148.0255049
COOTAMUNDRA	Former Amoco Depot	68-72 Hovell STREET	Other Petroleum	Contamination currently regulated under CLM Act	-34.63871124	148.0321134
COOTAMUNDRA	Former Ampol Cootamundra Rail Siding	Back Brawlin ROAD	Other Petroleum	Regulation under CLM Act not required	-34.65326425	148.0143068
CORAMBA	Martin Street	End of Martin Street and adjacent car park OTHER	Service Station	Ongoing maintenance required to manage residual contamination (CLM Act)	-30.22125208	153.0156997
CORNWALLIS	532 Cornwallis Road, Cornwallis	532 Cornwallis ROAD	Other Industry	Regulation under CLM Act not required	-33.57473895	150.7792839
COROWA	Corowa Shire Council Works Depot	24 Poseidon ROAD	Other Petroleum	Regulation under CLM Act not required	-35.98807923	146.3652266
COROWA	Former Ampol Corowa	10 Bow STREET	Service Station	Regulation under CLM Act not required	-35.99364786	146.3901259
COROWA	Cignall Corowa	280 Hume STREET	Service Station	Under preliminary investigation order	-36.00996015	146.3760437
CORRIMAL	Woolworths Petrol - Corrimal	275 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.37527426	150.8962637
CORRIMAL	7-Eleven Corrimal	138-146 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.36986818	150.8978241
COWRA	Landmark Fertiliser Storage Facility	Corner Young Road & Waratah STREET	Chemical Industry	Regulation under CLM Act not required	-33.84321832	148.6722578

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
COWRA	Lowes Petroleum (former BP Cowra Depot)	12 Campbell STREET	Other Petroleum	Regulation under CLM Act not required	-33.83803706	148.6977873
COWRA	Former Gasworks	30 Brougham STREET	Gasworks	Contamination currently regulated under CLM Act	-33.8389659	148.6963482
COWRA	Shell Depot	34 Brougham STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-33.83913341	148.6973491
COWRA	Former Railway Gatekeeper Residence Cowra	32 Brougham STREET	Gasworks	Regulation under CLM Act not required	-33.8389659	148.6963482
CRANGAN BAY	Former Service Station	555 and 565 Pacific HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.17306517	151.6084446
CREMORNE	Shell Coles Express Service Station	225 Military ROAD	Service Station	Regulation under CLM Act not required	-33.83063306	151.226223
CRESTWOOD	Former Caltex Depot Queanbeyan	36 Kendall (Cnr Stephens Rd) AVENUE	Other Petroleum	Regulation under CLM Act not required	-35.34615546	149.207807
CRESTWOOD	Former BP Queanbeyan	64 Uriarra ROAD	Service Station	Regulation under CLM Act not required	-35.34646177	149.2246263
CROMER	Former Roche Products Dee Why Facility	100 South Creek ROAD	Other Industry	Contamination currently regulated under CLM Act	-33.73893118	151.2870389
CRONULLA	Breen Holdings	Bate Bay ROAD	Other Industry	Regulation under CLM Act not required	-34.03861737	151.1614114
CROWS NEST	Caltex Service Station	111-121 Falcon STREET	Service Station	Regulation under CLM Act not required	-33.82868236	151.2060317
CROYDON	Caltex Service Station	404-410 Liverpool ROAD	Service Station	Regulation under CLM Act not required	-33.88853994	151.115879
CROYDON	BP Ashfield	584 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.87399409	151.1267296
CROYDON PARK	Mobil Service Station	334 Georges River ROAD	Service Station	Regulation under CLM Act not required	-33.89771626	151.0999194
CULCAIRN	Caltex Service Station	2883 Olympic HIGHWAY	Service Station	Regulation under CLM Act not required	-35.67441635	147.0356845

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
CULLEN BULLEN	Baal Bone Colliery	Castlereagh HIGHWAY	Other Industry	Regulation under CLM Act not required	-33.27193875	150.0587194
CUNDLETOWN	Caltex Service Station (1 Manning River Drive)	Old Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-31.89329598	152.5068225
CURL CURL	John Fisher Park	Corner Harbord and Abbott ROADS	Landfill	Regulation under CLM Act not required	-33.76622613	151.2860705
DACEYVILLE	Astrolabe Park	Cook AVENUE	Landfill	Regulation under CLM Act not required	-33.92963704	151.221773
DALGETY	Waterford	922 Werralong ROAD	Other Petroleum	Under assessment	-36.473311	148.727894
DAPTO	7-Eleven Dapto	125 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.4983106	150.7912911
DAPTO	RailCorp Dapto	(Rear of property) 12-14 Hamilton STREET	Other Industry	Regulation under CLM Act not required	-34.50045405	150.787353
DAPTO	Nicheinvest Pty Ltd (Former service station)	133-139 Lakelands DRIVE	Service Station	Regulation under CLM Act not required	-34.50335	150.803177
DARLINGHURST	Proposed Retail Unit	139-155 Palmer STREET	Unclassified	Regulation under CLM Act not required	-33.87504688	151.2168106
DARLINGHURST	Cross City Tunnel	Riley Street and William STREET	Service Station	Contamination was addressed via the planning process (EP&A Act)	-33.87424636	151.2158305
DARLINGHURST	18-28 Neild Avenue, Darlinghurst	18-28 Neild AVENUE	Landfill	Regulation under CLM Act not required	-33.87876581	151.2276546
DARLINGTON	Redfern North Eveleigh Precinct – Paint Shop and Clothing Store sub-precincts	281 Wilson STREET	Unclassified	Under assessment	-33.893419	151.190342
DEE WHY	United Dee Why	148 Pacific Parade STREET	Service Station	Contamination currently regulated under CLM Act	-33.75569536	151.295963
DEE WHY	United Dee Why Pittwater	625 Pittwater Road, Cnr Mooramba ROAD	Service Station	Regulation under CLM Act not required	-33.7559565	151.2826053
DEE WHY	Caltex Service Station	793-797 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.74566596	151.2920719

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
DEE WHY	Dee Why Town Centre	Pittwater ROAD	Other Industry	Regulation under CLM Act not required	-33.753169	151.2875805
DENHAM COURT	Denham Court Caravan Park and Service Station	505 Campbelltown ROAD	Service Station	Contamination currently regulated under CLM Act	-33.98208395	150.8459471
DENILIQUIN	Shell Coles Express Service Station	336 Victoria STREET	Service Station	Contamination formerly regulated under the CLM Act	-35.52373613	144.9807345
DENILIQUIN	Former Deniliquin Gasworks	365, 369 and 329-331 George and 380 and 386 Charlotte STREET	Gasworks	Under assessment	-35.52670898	144.9634996
DENILIQUIN	Landmark Fertiliser Storage Facility	99-101 Davidson STREET	Chemical Industry	Regulation under CLM Act not required	-35.52534735	144.975142
DENILIQUIN	Former Deniliquin Caltex Depot	116-118 Hardinge (Cnr Wood St) STREET	Service Station	Regulation under CLM Act not required	-35.53196985	144.9544597
DENILIQUIN	BP Depot (Reliance Petroleum)	125 - 127 Hardinge STREET	Service Station	Regulation under CLM Act not required	-35.53222124	144.9517397
DENILIQUIN	Former Shell Depot	143-147 Napier STREET	Other Petroleum	Regulation under CLM Act not required	-35.5342355	144.953169
DENILIQUIN	Previous Council depot site	392 - 394 Hay ROAD	Unclassified	Regulation under CLM Act not required	-35.51888562	144.977968
DENMAN	Former Industrial Site	10 Fontana WAY	Metal Industry	Regulation under CLM Act not required	-32.37945456	150.6868239
DENMAN	Former Industrial Site	9 Fontana WAY	Metal Industry	Regulation under CLM Act not required	-32.37911159	150.6869866
DORA CREEK	Former Service Station	4 Doree PLACE	Service Station	Regulation under CLM Act not required	-33.08452746	151.502415
DOUBLE BAY	64 Suttie Road, Double Bay NSW 2028	64 Suttie ROAD	Other Industry	Regulation under CLM Act not required	-33.88449649	151.2472734
DOYALSON	Part Lot 3 DP 259306	Off David STREET	Other Industry	Regulation under CLM Act not required	-33.20436131	151.5232558
DOYALSON	Munmorah Power Station	(Central Coast Highway) Scenic DRIVE	Other Industry	Under assessment	-33.20678347	151.540795

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
DOYALSON	Mannering Colliery (formerly Wyee)	Rutleys ROAD	Other Industry	Regulation under CLM Act not required	-33.17179576	151.5419248
DOYALSON NORTH	Caltex Service Station	235 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.18501024	151.5526114
DOYALSON NORTH	Shell Coles Express Service Station	260-270 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.18636608	151.5482399
DRUMMOYNE	Coles Express Service Station Drummoyne (Eastbound)	36-46 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.85576628	151.1593519
DRUMMOYNE	Former Dry Cleaners	225 Victoria ROAD	Chemical Industry	Regulation under CLM Act not required	-33.8507152	151.1537113
DRUMMOYNE	Coles Express Service Station Drummoyne South (Westbound)	39-45 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.85606575	151.1589061
DRUMMOYNE	Caltex Service Station	191-195 Lyons ROAD	Service Station	Regulation under CLM Act not required	-33.85699216	151.1460356
DUBBO	BP Reliance Petroleum Service Station (Former Mobil Depot)	107 Erskine STREET	Other Petroleum	Regulation under CLM Act not required	-32.24441287	148.6111704
DUBBO	Dubbo Police Station	143 Brisbane STREET	Other Petroleum	Regulation under CLM Act not required	-32.24652288	148.6034702
DUBBO	Shell Coles Express Service Station	131-133 Cobra STREET	Service Station	Regulation under CLM Act not required	-32.25511317	148.6126147
DUBBO	Shell Coles Express Service Station	45-49 Whylandra STREET	Service Station	Regulation under CLM Act not required	-32.2474598	148.5932769
DUBBO	Former Mobil depot	40-44 Morgan STREET	Other Petroleum	Regulation under CLM Act not required	-32.23912277	148.6182711
DUBBO	Caltex Service Station, Dubbo	60 Windsor PARADE	Service Station	Regulation under CLM Act not required	-32.25459322	148.6318
DUBBO	BP-Branded Service Station Dubbo West	51-63 Whylandra STREET	Service Station	Regulation under CLM Act not required	-32.24827657	148.5927084
DUBBO	Lowes Petroleum (BP-Branded) Depot, Dubbo	105 Erskine STREET	Service Station	Regulation under CLM Act not required	-32.24423247	148.6101676

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
DUBBO	Inland Petroleum (Former Shell) Depot	109 Erskine STREET	Other Petroleum	Regulation under CLM Act not required	-32.24470512	148.6124108
DUBBO	Former Caltex Depot	Phillip (corner Fitzroy) STREET	Service Station	Regulation under CLM Act not required	-32.24534863	148.6150144
DUBBO	Caltex Service Station	119 Bourke STREET	Service Station	Regulation under CLM Act not required	-32.24336464	148.6091931
DUBBO	Former Ambulance Station	165 Brisbane STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-32.24850755	148.6031749
DUBBO	United (former Volume Plus) Service Station	219-223 Cobra STREET	Service Station	Regulation under CLM Act not required	-32.2565155	148.6228586
DUBBO	Ampol Service Station, Dubbo	Cnr Brisbane Street and Cobra STREET	Service Station	Contamination currently regulated under CLM Act	-32.25322183	148.603164
DUDLEY	Dudley Public School	Cnr Ocean & Boundary STREET	Landfill	Regulation under CLM Act not required	-32.988184	151.716027
DULWICH HILL	Former Tyre Recapping	115-117 Constitution ROAD	Other Industry	Regulation under CLM Act not required	-33.90300876	151.1387724
DULWICH HILL	Denison Road Playground	194 Denison ROAD	Landfill	Regulation under CLM Act not required	-33.90121956	151.1404637
DUNEDOO	Former Shell Depot Dunedoo	Cnr Bolaro and Redbank STREET	Other Petroleum	Regulation under CLM Act not required	-32.01565761	149.3922418
DUNGOG	Lot 54 Common Rd	54 Common ROAD	Unclassified	Regulation under CLM Act not required	-32.39490989	151.739821
DUNGOG	Former HWC Maintenance Depot for Civil Engineering Works	86 Abelard STREET	Other Industry	Regulation under CLM Act not required	-32.40429396	151.7514073
DUNMORE	Equestrian Centre	71 Fig Hill LANE	Unclassified	Regulation under CLM Act not required	-34.62313393	150.8421544
DURAL	Caltex Dural Service Station	917-923 Old Northern ROAD	Service Station	Regulation under CLM Act not required	-33.68312075	151.0287519
DURAL	BP Dural Service Station	580 Old Northern ROAD	Service Station	Regulation under CLM Act not required	-33.69569985	151.0283357

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
DURAL	Caltex Service Station	530 Old Northern ROAD	Service Station	Regulation under CLM Act not required	-33.69348472	151.0202716
DURAL	Woolworths Service Station	532 Old Northern ROAD	Service Station	Regulation under CLM Act not required	-33.69348472	151.0202716
DURAL	21 John Radley Avenue, Dural	21 John Radley AVENUE	Landfill	Regulation being finalised	-33.71718718	151.0331317
DURAL	Dural Quarry	54 Quarry ROAD	Landfill	Under assessment	-33.700731	151.053722
DURI	Duri Store	13 Railway AVENUE	Service Station	Contamination currently regulated under CLM Act	-31.21710021	150.8183675
EAGLE VALE	BP Service Station	Corner Eagle Vale Drive and Gould ROAD	Service Station	Regulation under CLM Act not required	-34.03128043	150.816363
EARLWOOD	RTA Land	3 Jackson PLACE	Unclassified	Regulation under CLM Act not required	-33.92724512	151.1433382
EARLWOOD	Wolli Creek Aqueduct	Unwin STREET	Unclassified	Regulation under CLM Act not required	-33.92788788	151.1480807
EARLWOOD	2, 4 & 6 Unwin Street Earlwood	2, 4 & 6 Unwin STREET	Landfill	Regulation under CLM Act not required	-33.92683761	151.149505
EAST BALLINA	Caltex East Ballina Service Station	34 Links AVENUE	Service Station	Regulation under CLM Act not required	-28.85009113	153.5829246
EAST GOSFORD	Presbyterian Aged Care Facility	8-18 Enid CRESCENT	Landfill	Regulation under CLM Act not required	-33.4376675	151.3577947
EAST GOSFORD	Mobil Service Station	44 Victoria STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.43804781	151.353303
EAST GOSFORD	Hylton Moore Park	Althrop STREET	Landfill	Contamination currently regulated under CLM Act	-33.4352203	151.3601193
EAST MAITLAND	United Service Station East Maitland	164 (also known as 250) Newcastle STREET	Service Station	Regulation under CLM Act not required	-32.75245246	151.5869136
EAST MAITLAND	Woolworths Caltex Green Hills	14 Mitchell DRIVE	Service Station	Regulation under CLM Act not required	-32.76182386	151.5927863

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
EAST MAITLAND	Former Gasworks Site	Corner Melbourne Street and Brisbane STREET	Gasworks	Regulation under CLM Act not required	-32.74939199	151.5788783
EAST MAITLAND	Caltex East Maitland Service Station	Newcastle Road, Corner William STREET	Service Station	Regulation under CLM Act not required	-32.74883712	151.5829296
EAST TAMWORTH	Caltex Service Station	350-362 Armidale ROAD	Service Station	Regulation under CLM Act not required	-31.11401974	150.9613327
EASTERN CREEK	Caltex Service Station	M4 (Eastbound) MOTORWAY	Service Station	Regulation under CLM Act not required	-33.801607	150.8857989
EASTERN CREEK	Caltex Service Station M4 Motorway Westbound	M4 (Westbound) MOTORWAY	Service Station	Regulation under CLM Act not required	-33.80255701	150.8829211
EASTERN CREEK	Fulton Hogan Industries (formerly Pioneer Road Services)	Honeycomb DRIVE	Other Industry	Regulation under CLM Act not required	-33.80231274	150.8288299
EASTGARDENS	130-150 Bunnerong Road Eastgardens	130 - 150 Bunnerong ROAD	Other Industry	Regulation under CLM Act not required	-33.94230414	151.2248138
EASTLAKES	Former Shell Rosebery service station and adjacent land	275-279 Gardeners ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.92471289	151.2100772
EASTLAKES	Eastlakes Reserve	Evans AVENUE	Service Station	Contamination formerly regulated under the CLM Act	-33.92497291	151.2102725
EASTLAKES	Budget Petroleum Eastlakes	102 Maloney STREET	Service Station	Under assessment	-33.93120382	151.2054267
EASTLAKES	73 Gardeners Road	73 Gardeners ROAD	Unclassified	Regulation under CLM Act not required	-33.92541594	151.2182856
EASTWOOD	Former Mobil Service Station Eastwood	3-5 Trelawney (Cnr Rutledge St) STREET	Service Station	Regulation under CLM Act not required	-33.79273381	151.079584
EASTWOOD	34 Clanwilliam Street, Eastwood	34 Clanwilliam STREET	Other Industry	Regulation under CLM Act not required	-33.797095	151.073838
EDEN	Caltex Service Station	159 Imlay STREET	Service Station	Regulation under CLM Act not required	-37.06324099	149.9044022
EDEN	Former Caltex Eden Depot	80-82 Imlay STREET	Service Station	Contamination currently regulated under CLM Act	-37.0570984	149.9038538

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
EDENSOR PARK	Caltex Bonnyrigg Service Station, Edensor Park	549 Elizabeth DRIVE	Service Station	Regulation under CLM Act not required	-33.88840816	150.8822609
EDENSOR PARK	7-Eleven (former Mobil) Service Station	615-621 Cowpasture Road, corner Elizabeth DRIVE	Service Station	Regulation under CLM Act not required	-33.88326139	150.865591
EDGECLIFF	BP-branded (former Coles Express) Service Station	73-85A New South Head ROAD	Service Station	Regulation under CLM Act not required	-33.8769602	151.2311617
EDGEWORTH	Caltex Service Station	662 Main ROAD	Service Station	Regulation under CLM Act not required	-32.92566329	151.6278888
EDGEWORTH	Caltex-Woolworths Branded Service Station Edgeworth	738-742 Main ROAD	Service Station	Regulation under CLM Act not required	-32.92455492	151.6202897
EMERALD BEACH	Shell Coles Express Woolgoolga Service Station	1850 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-30.16450856	153.1826673
EMERTON	7-Eleven Emerton	135-137 Popondetta ROAD	Service Station	Regulation under CLM Act not required	-33.74463908	150.8102251
EMPIRE BAY	Empire Bay Marina	16B Sorrento ROAD	Other Industry	Contamination currently regulated under CLM Act	-33.49305196	151.3643119
EMU HEIGHTS	7-Eleven Service Station	126 Old Bathurst ROAD	Service Station	Regulation under CLM Act not required	-33.74299098	150.6547098
EMU HEIGHTS	Woolworths Service Station	132 Old Bathurst ROAD	Service Station	Regulation under CLM Act not required	-33.7429739	150.6559655
EMU PLAINS	Woolworths Service Station	283 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.75371349	150.6530165
ENGADINE	Former Caltex Service Station	995 Old Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.06413459	151.0155734
ENGADINE	BP Service Station	1234 Princes HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-34.07735416	151.01121
ENGADINE	BP Branded Service Station	963 Old Princes HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-34.06428454	151.0167121
ENNGONIA	Clara Hart Village	17 Fourth AVENUE	Landfill	Under assessment	-29.31449	145.85403

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
EPPING	7-Eleven (former Mobil) Service Station	246 Beecroft ROAD	Service Station	Regulation under CLM Act not required	-33.77073552	151.080581
ERINA	Coles Express Service Station Erina	211 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.43547804	151.3850522
ERINA	7-Eleven Erina	214 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.43494257	151.3879511
ERINA	7-Eleven Service Station	96 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.43786868	151.3729331
ERINA	Jaycar Electronics Store	1 Aston ROAD	Other Petroleum	Contamination currently regulated under CLM Act	-33.434878	151.3845431
ERINA	Caltex Service Station	155 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.43824871	151.3801096
ERMINGTON	Blue Star Ermington	700 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.80859566	151.0660133
ERMINGTON	Caltex Service Station	562 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.81392814	151.0547543
ERSKINE PARK	Western Sydney Service Centre	25-55 Templar ROAD	Other Industry	Regulation under CLM Act not required	-33.81897822	150.7937394
ERSKINEVILLE	Redevelopment Site (Former Industrial Park) Erskineville	36/1A Coulson STREET	Other Industry	Regulation under CLM Act not required	-33.90325501	151.1855668
ERSKINEVILLE	Department of Housing	52 John STREET	Other Industry	Regulation under CLM Act not required	-33.8982925	151.1840284
ERSKINEVILLE	RailCorp land	Coulson STREET	Other Industry	Regulation under CLM Act not required	-33.90483899	151.1838804
ERSKINEVILLE	Lot 4/1A Coulson Street	Coulson STREET	Other Industry	Regulation under CLM Act not required	-33.90316549	151.1867963
ERSKINEVILLE	Area B - Public Domain / The Roadway	1A Coulson STREET	Other Petroleum	Regulation under CLM Act not required	-33.90499999	151.1873028
EUABALONG WEST	BP Euabalong West Depot (Reliance Petroleum)	12 Illewong STREET	Other Petroleum	Regulation under CLM Act not required	-33.05720426	146.3946386

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
EVANS HEAD	Evans Head Aerodrome	Memorial Airport DRIVE	Other Industry	Regulation under CLM Act not required	-29.10389976	153.4216791
EVANS HEAD	Bundjalung National Park	The Gap ROAD	Unclassified	Regulation under CLM Act not required	-29.24433977	153.3626472
EVANS HEAD	Evans Head Residential subdivision	Bounded by Currajong, Woodburn, Carrabeen Streets and Tuckeroo CRESCENT	Unclassified	Regulation under CLM Act not required	-29.1080969	153.4243577
EVELEIGH	Macdonaldtown Triangle	Burren STREET	Gasworks	Contamination being managed via the planning process (EP&A Act)	-33.89803492	151.186059
EVELEIGH	Australian Technology Park	Henderson ROAD	Other Industry	Regulation under CLM Act not required	-33.89634136	151.1944915
FAIRFIELD	Endeavour Energy Fairfield Zone Substation	22 Hedges STREET	Other Industry	Regulation under CLM Act not required	-33.86133019	150.9555899
FAIRFIELD EAST	Speedway-Branded Service Station Fairfield	251 The Horsley DRIVE	Service Station	Regulation under CLM Act not required	-33.8711661	150.9630077
FAIRFIELD HEIGHTS	7-Eleven Fairfield Heights	234 Hamilton (Cnr The Boulevarde) ROAD	Service Station	Regulation under CLM Act not required	-33.87208474	150.9373134
FAIRY MEADOW	Woolworths Petrol Service Station	47 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.39399705	150.8925369
FAIRY MEADOW	Caltex Fuel Depot and adjoining land	46 Montague STREET	Service Station	Contamination formerly regulated under the CLM Act	-34.40050499	150.8953125
FAIRY MEADOW	Deynal (Seeman)	51-59 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.39437085	150.8924666
FALLS CREEK	805 Falls Road, Falls Creek NSW	805 Falls ROAD	Unclassified	Under assessment	-34.994368	150.620648
FARLEY	Farley Wastewater Treatment Works	Owlpen LANE	Other Industry	Regulation under CLM Act not required	-32.74431314	151.5194217
FASSIFERN	Newstan Colliery	Fassifern ROAD	Other Industry	Regulation under CLM Act not required	-32.97942521	151.5660046
FASSIFERN	Former Arsenic Smelter	Fassifern ROAD	Other Industry	Regulation under CLM Act not required	-32.99649819	151.5618283

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
FEDERAL	Federal General Store	3-6 Federal DRIVE	Service Station	Contamination formerly regulated under the CLM Act	-28.65190728	153.4552976
FENNELL BAY	Fennell Bay Public School	2 Bay ROAD	Unclassified	Under assessment	-32.99152231	151.6014923
FERN BAY	Former service station	37 Fullerton (1006 Nelson Bay Road) STREET	Service Station	Regulation under CLM Act not required	-32.87245004	151.7939904
FIVE DOCK	7-Eleven Five Dock Service Station	231-235 Great North ROAD	Service Station	Regulation under CLM Act not required	-33.86488376	151.130002
FIVE DOCK	Caltex Five Dock Service Station	47 Ramsay Road, corner Fairlight STREET	Service Station	Regulation under CLM Act not required	-33.87002804	151.1301835
FORBES	BP (Former Mobil) Depot Forbes	3-15 Union STREET	Other Petroleum	Regulation under CLM Act not required	-33.37751977	148.0101422
FORBES	Former Gasworks	24-26 Union STREET	Gasworks	Contamination currently regulated under CLM Act	-33.37752036	148.0090064
FORBES	Woolworths (Former Save on Fuel) Service Station	26 Dowling STREET	Service Station	Regulation under CLM Act not required	-33.38148764	148.0109845
FORBES	BP Service Station Forbes	29 Dowling STREET	Service Station	Regulation under CLM Act not required	-33.38121776	148.0100351
FORBES	Former Shell Depot	Stephen STREET	Other Petroleum	Regulation under CLM Act not required	-33.37704755	148.0103001
FORBES	Caltex Service Station Forbes	Parkes ROAD	Service Station	Regulation under CLM Act not required	-33.36333714	148.0223727
FORESTVILLE	BP Service Station, Forestville	632 Warringah ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.75997969	151.2142944
FORESTVILLE	Shell Service Station	667 Warringah ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.76035336	151.2184929
FORRESTERS BEACH	Caltex Service Station	The Entrance Rd Cnr Bellevue ROAD	Service Station	Regulation under CLM Act not required	-33.40057818	151.4687631
FORSTER	Caltex Service Station	16-18 Lake STREET	Service Station	Regulation under CLM Act not required	-32.18306967	152.5162492

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
FORSTER	Shell (Kneebone's) Service Station	2-6 The Lakes WAY	Service Station	Regulation under CLM Act not required	-32.1946108	152.5145662
FORSTER	Enhance (Former Mobil) Service Station	86-88 Macintosh STREET	Service Station	Regulation under CLM Act not required	-32.19079468	152.5154847
FREDERICKTON	Former Service station	2-4 Great North ROAD	Service Station	Regulation under CLM Act not required	-31.03513998	152.8794105
FRENCHS FOREST	Former BP Service Station	Russell AVENUE	Service Station	Regulation under CLM Act not required	-33.75018093	151.2245005
FRENCHS FOREST	Former 7-Eleven / Mobil Beacon Hill Service Station, Frenchs Forest	312 Warringah ROAD	Service Station	Regulation under CLM Act not required	-33.75129647	151.2469656
FRESHWATER	Prime Service Station Freshwater	117 Harbord ROAD	Service Station	Regulation under CLM Act not required	-33.77286748	151.2794354
FRESHWATER	Former Dry Cleaners	121 Wyndora AVENUE	Other Industry	Regulation under CLM Act not required	-33.77425321	151.2821553
FRESHWATER	Srilax Pty Ltd	2 Soldiers AVENUE	Service Station	Under assessment	-33.777383	151.286944
GATESHEAD	7-Eleven Gateshead	13-15 Pacific HIGHWAY	Service Station	Under assessment	-32.98743366	151.6923984
GEORGETOWN	Former Caltex Service Station	4 Georgetown ROAD	Service Station	Regulation under CLM Act not required	-32.91121105	151.7319693
GERRINGONG	Gerringong Cooperative	18 Belinda STREET	Other Petroleum	Regulation under CLM Act not required	-34.74518835	150.8181054
GILGANDRA	United (Former Mobil) Service Station	13 Castlereagh STREET	Service Station	Regulation under CLM Act not required	-31.71715641	148.6581574
GILGANDRA	Former Mobil Depot	2 Federation STREET	Other Petroleum	Regulation under CLM Act not required	-31.70937362	148.6522102
GILGANDRA	Former Mobil Depot	20 Federation STREET	Other Petroleum	Regulation under CLM Act not required	-31.70771744	148.6514198
GILGANDRA	Caltex Service Station Gilgandra	6425 Newell HIGHWAY	Service Station	Regulation under CLM Act not required	-31.72545524	148.65281

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GILLENBAH	Caltex (Former Mobil) Narrandera Service Station	16321 - 16335 Newell HIGHWAY	Service Station	Regulation under CLM Act not required	-34.76124219	146.5398604
GIRRAWEEN	Industrial Galvanizers Girraween	56-58 Mandoon ROAD	Metal Industry	Contamination currently regulated under CLM Act	-33.80500693	150.9396743
GIRRAWEEN	Caltex Pendle Hill Service Station Girraween	602 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.80827518	150.9421511
GLADESVILLE	Caltex Service Station	287-295 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.8285374	151.1268639
GLADESVILLE	Road Reserve	Pittwater ROAD	Other Industry	Regulation under CLM Act not required	-33.81603924	151.1355085
GLADESVILLE	Caltex Service Station	116 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.83575319	151.1277863
GLADESVILLE	Glade View Business Park	436-484 Victoria ROAD	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.82382382	151.1223941
GLADSTONE	Barbers Auto Port	52-53 Barnard STREET	Service Station	Regulation under CLM Act not required	-31.02313668	152.9481617
GLEBE	The Hill and Jubilee Embankment	12 Maxwell ROAD	Other Industry	Regulation under CLM Act not required	-33.87573032	151.1776027
GLEN INNES	Ambulance Station	106 Bourke STREET	Unclassified	Regulation under CLM Act not required	-29.73805854	151.7313138
GLEN INNES	Telstra Depot Glen Innes	126 Lambeth STREET	Unclassified	Regulation under CLM Act not required	-29.73565341	151.7278271
GLEN INNES	Caltex Glen Innes Service Station	Meade Street, corner Church STREET	Service Station	Regulation under CLM Act not required	-29.73699014	151.7379335
GLEN INNES	Former Shell Depot	Lambeth STREET	Other Petroleum	Regulation under CLM Act not required	-29.7376309	151.7276309
GLEN INNES	Former Caltex Depot, Glen Innes	Lot 1 DP785636 Lambeth STREET	Other Petroleum	Regulation under CLM Act not required	-29.73525485	151.7279167
GLEN INNES	Council-owned Laneway	Lot 2 Lang STREET	Gasworks	Regulation under CLM Act not required	-29.74385432	151.7323049

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GLEN INNES	Caltex Service Station	Cnr Taylor Street & Church STREET	Service Station	Regulation under CLM Act not required	-29.73289036	151.739653
GLEN INNES	Caltex Glen Innes Paddock	9979 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-29.75608853	151.7344106
GLENBROOK	Caltex Service Station Glenbrook	78 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.76545234	150.6215447
GLENDALE	Coles Express Glendale	593 Main ROAD	Service Station	Regulation under CLM Act not required	-32.92709242	151.637946
GLENDALE	Settlement Pond	65 Glendale DRIVE	Unclassified	Regulation under CLM Act not required	-32.93411399	151.6483695
GLENDALE	Former Service Station	334-342 Lake ROAD	Unclassified	Regulation under CLM Act not required	-32.92775076	151.6433463
GLENDALE	Woolworths Service Station	Stockland DRIVE	Service Station	Regulation under CLM Act not required	-32.93250548	151.6404097
GLENDENNING	7-Eleven Plumpton Service Station Glendenning	1 Dublin Street, corner Richmond ROAD	Service Station	Regulation under CLM Act not required	-33.73988232	150.8603323
GLENORIE	Caltex Glenorie Service Station	912 Old Northern ROAD	Service Station	Regulation under CLM Act not required	-33.60550946	151.0126731
GLENTHORNE	Caltex Taree Service Station	Manning River DRIVE	Service Station	Regulation under CLM Act not required	-31.94415251	152.4703511
GLOUCESTER	Caltex Service Station	141 Church STREET	Service Station	Regulation under CLM Act not required	-32.01222514	151.9579521
GOOLMANGAR	Goolmangar General Store	851 Nimbin ROAD	Service Station	Regulation under CLM Act not required	-28.74694441	153.225401
GOONELLABAH	Former Invercauld Road Cattle Dip	161 Invercauld ROAD	Cattle Dip	Contamination formerly regulated under the CLM Act	-28.83098216	153.3097337
GOSFORD	United (former Mobil) Depot	Corner Merinee Road and Bowen CRESCENT	Other Petroleum	Regulation under CLM Act not required	-33.41523225	151.3257069
GOULBURN	Former Goulburn Gasworks	1 Blackshaw ROAD	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-34.75313166	149.725032

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GOULBURN	Goulburn Tannery	13 Gibson STREET	Other Industry	Regulation under CLM Act not required	-34.73756525	149.72059
GOULBURN	Caltex Depot	13 Sloane STREET	Other Petroleum	Regulation under CLM Act not required	-34.77423152	149.7088626
GOULBURN	Metro Goulburn Depot	23 Braidwood ROAD	Other Petroleum	Regulation under CLM Act not required	-34.76217302	149.7170897
GOULBURN	Caltex Service Station	72-74 Clinton STREET	Service Station	Regulation under CLM Act not required	-34.75728157	149.7135824
GOULBURN	Caltex Service Station	68 Goldsmith STREET	Service Station	Regulation under CLM Act not required	-34.75054432	149.7192098
GOULBURN	Former Shell Autoport Service Station	Corner Bruce Street and Lagoon STREET	Service Station	Regulation under CLM Act not required	-34.74807885	149.7266246
GOULBURN	Coles Express Service Station	90 Cowper (Corner Clinton Street) STREET	Service Station	Regulation under CLM Act not required	-34.75566648	149.7107831
GOULBURN	Mobil Service Station	129 Lagoon STREET	Service Station	Contamination formerly regulated under the CLM Act	-34.74618793	149.7330484
GOULBURN	Caltex Service Station	315 Auburn, corner Bradley STREET	Service Station	Regulation under CLM Act not required	-34.74942293	149.7232692
GOULBURN	Former Mobil Service Station Goulburn	422-426 Auburn STREET	Service Station	Regulation under CLM Act not required	-34.74869879	149.7229392
GOULBURN	Goulburn Roundhouse	12 Braidwood ROAD	Other Industry	Contamination currently regulated under CLM Act	-34.77409903	149.7106462
GOULBURN	Goulburn JS Hollingworth & Wheat Siding Yards	Goulburn STREET	Other Industry	Under assessment	-34.7692435	149.7116195
GRAFTON	Former General Store and Service Station Grafton	161 Turf STREET	Service Station	Regulation under CLM Act not required	-29.67412811	152.9336609
GRAFTON	Lowes Petroleum (BP-Branded) Depot, Grafton	13 Orara STREET	Other Petroleum	Regulation under CLM Act not required	-29.67016421	152.918161
GRAFTON	Former Shell Depot	2 Milton STREET	Other Petroleum	Regulation under CLM Act not required	-29.67723019	152.9205374

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GRAFTON	Grafton Works Depot	26-28 Bruce STREET	Other Petroleum	Regulation under CLM Act not required	-29.67975507	152.9249357
GRAFTON	Former BP Service Station (Reliance Petroleum)	202 Queen STREET	Service Station	Regulation under CLM Act not required	-29.67645469	152.9423977
GRAFTON	Woolworths Petrol	75 - 77 Fitzroy Street Cnr of Duke STREET	Service Station	Regulation under CLM Act not required	-29.69221713	152.9343562
GRAFTON	Caltex Service Station	Corner Villiers St and Fitzroy STREET	Service Station	Regulation under CLM Act not required	-29.69296308	152.9366431
GRAFTON	BP Service Station (Reliance Petroleum)	14 Villiers (Cnr Fitzroy) STREET	Service Station	Regulation under CLM Act not required	-29.69345456	152.9373123
GRAFTON	Former Mobil Depot Grafton	2-16 Bruce STREET	Other Petroleum	Regulation under CLM Act not required	-29.68093591	152.9231289
GRAFTON	Caltex Service Station	179 Prince STREET	Service Station	Regulation under CLM Act not required	-29.68600117	152.9371093
GRANVILLE	Caltex Service Station	144 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.83039605	151.0109216
GRANVILLE	Australand	15-17 Berry STREET	Other Industry	Regulation under CLM Act not required	-33.83600073	151.0211988
GRANVILLE	Woolworths Service Station Granville	158 Clyde STREET	Service Station	Regulation under CLM Act not required	-33.84623338	151.0124885
GRANVILLE	Commercial Property	2B Factory STREET	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.84173556	151.0165687
GRANVILLE	Old Granville Depot	23 Elizabeth STREET	Unclassified	Regulation under CLM Act not required	-33.83765925	151.008528
GRANVILLE	7-Eleven Service Station	154-160 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.83022685	151.0101322
GRANVILLE	A'Becketts Creek	Albert STREET	Unclassified	Contamination currently regulated under POEO Act	-33.82735776	151.0112255
GREEN POINT	7-Eleven Green Point	388-390 Avoca DRIVE	Service Station	Regulation under CLM Act not required	-33.46259832	151.3639376

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GREENACRE	Former Plating Works	12 Claremont STREET	Unclassified	Regulation under CLM Act not required	-33.89992254	151.0386128
GREENACRE	7-Eleven (former Mobil) Service Station	301-305 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.90524488	151.0419971
GREENACRE	Caltex Service Station	87 - 91 Roberts ROAD	Service Station	Regulation under CLM Act not required	-33.90461089	151.0648581
GREENACRE	Coles Greenacre	13-19 Boronia ROAD	Other Industry	Regulation under CLM Act not required	-33.9061123	151.0561759
GREENACRE	Chullora Distribution Centre	41 Roberts Road, 2 Mayvic Street, and 27A & 27B Wentworth STREET	Other Industry	Regulation under CLM Act not required	-33.89911054	151.0673226
GREENWICH	Gore Creek Reserve - Drainage Line	St Vincents ROAD	Other Industry	Regulation under CLM Act not required	-33.82888693	151.1819101
GRENFELL	Former SRA Fuel Depot	Grafton STREET	Other Petroleum	Regulation under CLM Act not required	-33.89351237	148.1560188
GRENFELL	Grenfell Gasworks	Corner Gooloogong Road & Bourke STREET	Gasworks	Regulation under CLM Act not required	-33.89006016	148.1615443
GRETA	Coles Express Greta	122 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-32.67656357	151.3872818
GRETA	redevelopment site	112-114 High STREET	Other Industry	Regulation under CLM Act not required	-32.67706709	151.3876682
GRETA	Former landfill	Hollingshed ROAD	Landfill	Regulation under CLM Act not required	-32.66705287	151.3923474
GREYSTANES	Metro Branded (former Mobil) Service Station	73 Ettalong ROAD	Service Station	Regulation under CLM Act not required	-33.81822648	150.9513946
GRIFFITH	Liberty Depot (former Shell CVRO) Griffith	6-10 Mackay AVENUE	Other Petroleum	Regulation under CLM Act not required	-34.2910045	146.063824
GRIFFITH	Former Murrumbidgee Irrigation Depot	55-77 Banna AVENUE	Other Industry	Regulation under CLM Act not required	-34.28858242	146.0567509
GRIFFITH	Mobil Depot - Griffith Airport	Off Rememberance DRIVE	Other Petroleum	Regulation under CLM Act not required	-34.25618872	146.0620449

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GRIFFITH	Former Ampol Depot	32-34 Mackay AVENUE	Other Petroleum	Regulation under CLM Act not required	-34.2933331	146.0679503
GRIFFITH	Caltex Service Station and Depot	2-4 Mackay AVENUE	Service Station	Regulation under CLM Act not required	-34.2908766	146.0630815
GRIFFITH	Former Landmark Fertiliser Storage Facility	2-8 Jensen ROAD	Chemical Industry	Regulation under CLM Act not required	-34.29365599	146.0536413
GRIFFITH	Belford Petroleum (former Mobil) Depot	30 Banna AVENUE	Service Station	Regulation under CLM Act not required	-34.29042827	146.0595497
GRIFFITH	Former BP Service Station (Reliance Petroleum)	81 Banna AVENUE	Service Station	Regulation under CLM Act not required	-34.28851251	146.0540815
GUILDFORD	7-Eleven Service Station Guildford West	176 Fowler ROAD	Service Station	Regulation under CLM Act not required	-33.85149493	150.9722491
GUILDFORD	7-Eleven Guildford West	176 FOWLER STREET STREET	Service Station	Regulation under CLM Act not required	-33.85149493	150.9722491
GULGONG	Lowes Petroleum (former BP) Depot Gulgong	6 Railway STREET	Other Petroleum	Regulation under CLM Act not required	-32.35950625	149.5461499
GULGONG	The Oval Site	Queen STREET	Unclassified	Regulation under CLM Act not required	-32.36169815	149.531075
GULMARRAD	BP Service Station Maclean	3976 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-29.48537407	153.2004311
GUMLY GUMLY	Caltex Service Station	3723 Sturt HIGHWAY	Service Station	Regulation under CLM Act not required	-35.13590309	147.4424551
GUMLY GUMLY	Brick Kiln Reserve	Eunony Bridge ROAD	Landfill	Regulation under CLM Act not required	-35.12098411	147.4196309
GUNDAGAI	Former Mobil Depot	98 Mount STREET	Other Petroleum	Regulation under CLM Act not required	-35.08206783	148.096221
GUNNEDAH	Ampol Australia Petroleum Pty Ltd (previously Caltex Australia)	21 Abbott STREET	Service Station	Regulation under CLM Act not required	-30.98021001	150.2561856
GUNNEDAH	Former Shell Depot Gunnedah	85-89 Barber STREET	Other Petroleum	Regulation under CLM Act not required	-30.97949284	150.2507401

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GUNNEDAH	Mobil Gunnedah Depot	16-24 Wentworth STREET	Other Petroleum	Regulation under CLM Act not required	-30.98428725	150.260609
GUNNEDAH	BP Depot Gunnedah	103 Mathias ROAD	Other Petroleum	Contamination currently regulated under CLM Act	-30.96665001	150.2326526
GUNNEDAH	BP Service Station	Corner Conadilly Street & Henry STREET	Service Station	Contamination formerly regulated under the CLM Act	-30.98116266	150.2583066
GUNNEDAH	Mobil Service Station	341 Conadilly STREET	Service Station	Contamination formerly regulated under the CLM Act	-30.9807394	150.2578428
GUNNEDAH	Property NSW Site	35-37 Abbott STREET	Other Petroleum	Regulation under CLM Act not required	-30.9789841	150.25737
GUNNEDAH	Former Telstra Line Depot	81 Barber STREET	Other Petroleum	Regulation under CLM Act not required	-30.97933809	150.2503121
GUNNEDAH	Adjacent to Service Station	Intersection of Henry Street and Conadilly STREET	Service Station	Contamination formerly regulated under the CLM Act	-30.98072588	150.2582802
GUNNEDAH	Former Caltex Depot	61 Railway AVENUE	Other Petroleum	Contamination formerly regulated under the CLM Act	-30.97953242	150.2494457
GUNNING	Gunning Motors	56 Yass STREET	Service Station	Regulation under CLM Act not required	-34.78159326	149.2684791
GURNANG	Oberon Correctional Centre	110 Gurnang ROAD	Other Petroleum	Under assessment	-32.748217	151.580843
GUYRA	Guyra Fourways Service Centre	87-89 Bradley STREET	Service Station	Regulation under CLM Act not required	-30.21728173	151.6722825
GUYRA	Caltex-branded Service Station	4352 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-30.20601937	151.6757291
GUYRA	StateRail land leased to Incitec	Starr ROAD	Other Industry	Regulation under CLM Act not required	-30.23157011	151.6707135
GUYRA	Black Mountain - Former Cartan Residence	off Black Mountain Road ROAD	Other Industry	Under assessment	-30.305208	151.655985
GWANDALAN	Metro Petroleum Gwandalan (Formerly Gwandalan Auto Care)	47 Orana ROAD	Service Station	Regulation under CLM Act not required	-33.13632941	151.5813396

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
GWANDALAN	Former Gwandalan Landfill	Kanangra DRIVE	Landfill	Regulation under CLM Act not required	-33.17497722	151.5917107
GYMEA	7-Eleven (former Mobil) Gymea Service Station	110 Gymea Bay ROAD	Service Station	Regulation under CLM Act not required	-34.03745848	151.0848547
GYMEA	Coles Express Kirrawee	470 Princes (Cnr The Boulevarde) HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-34.02735302	151.0845079
GYMEA	Former Shell Service Station Gymea	Gymea Bay ROAD	Service Station	Regulation under CLM Act not required	-34.04129676	151.0841328
HABERFIELD	7-Eleven Haberfield	25-35 Parramatta ROAD	Service Station	Contamination currently regulated under CLM Act	-33.88794591	151.14287
HALEKULANI	Former Halekulani Landfill	Macleay DRIVE	Landfill	Regulation under CLM Act not required	-33.21446301	151.5527625
HAMILTON	SRA Land	10 Maitland ROAD	Unclassified	Regulation under CLM Act not required	-32.91994358	151.7512417
HAMILTON	Taxi Services	116 Tudor STREET	Service Station	Contamination formerly regulated under the CLM Act	-32.92351606	151.7454742
HAMILTON	Caltex Hamilton	59-63 Tudor STREET	Service Station	Regulation under CLM Act not required	-32.92498593	151.7509313
HAMILTON	Newcastle Toyota	65 Tudor STREET	Other Petroleum	Regulation under CLM Act not required	-32.925171	151.7504048
HAMILTON	Hamilton Bus Depot	Cnr Denison Street and Gordon AVENUE	Other Petroleum	Regulation under CLM Act not required	-32.92687413	151.7501743
HAMILTON NORTH	Shell Newcastle Terminal	5 Chatham ROAD	Other Petroleum	Contamination formerly regulated under the CLM Act	-32.91630469	151.7408712
HAMILTON NORTH	Former Black and Decker Site	56 Clyde STREET	Metal Industry	Contamination currently regulated under CLM Act	-32.91080413	151.7358236
HAMILTON NORTH	Hamilton Gasworks	1 Chatham ROAD	Gasworks	Contamination currently regulated under CLM Act	-32.91362741	151.7406241
HAMILTON NORTH	Former ELMA Site	54 Clyde STREET	Other Industry	Contamination currently regulated under CLM Act	-32.91145768	151.7367691

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
HARDEN	SRA Site	31 Aurvill ROAD	Unclassified	Regulation under CLM Act not required	-34.54998656	148.3689577
HARDEN	SRA Site	51 Whitton LANE	Unclassified	Contamination formerly regulated under the CLM Act	-34.55396035	148.3713349
HARDEN	South West Fuel Harden	294 Albury STREET	Service Station	Regulation under CLM Act not required	-34.55007021	148.3513821
HAROLDS CROSS	Lot 59, Vernelly Road, Harolds Cross NSW 2622	Lot 59, Vernelly ROAD	Other Industry	Regulation under CLM Act not required	-35.55528436	149.5560649
HARRIS PARK	Dalley Street Reserve	2A Dalley STREET	Other Industry	Regulation under CLM Act not required	-33.82749123	151.0097539
HARTLEY VALE	Former Shale Oil Refinery	Lot 52 Hartley Vale ROAD	Unclassified	Contamination currently regulated under CLM Act	-33.52766912	150.2417878
HASTINGS POINT	Coles Express Hastings Point	99 Tweed Coast ROAD	Service Station	Regulation under CLM Act not required	-28.36914103	153.5725676
HAY	SRA Land	429, 431, 435, 437 & 439 Murray STREET	Other Industry	Regulation under CLM Act not required	-34.49965611	144.840976
HAY	SRA Land	443 Murray STREET	Other Industry	Contamination formerly regulated under the CLM Act	-34.49966753	144.8410778
HAY	Former Shell Hay Depot	391 Murray STREET	Other Petroleum	Regulation under CLM Act not required	-34.50028195	144.8463999
HAY	Former Mobil Depot Hay	397-399 Murray STREET	Other Petroleum	Regulation under CLM Act not required	-34.50019184	144.8456578
HAY SOUTH	Caltex Service Station	429-431 Moama STREET	Service Station	Regulation under CLM Act not required	-34.52001427	144.8380121
HAZELBROOK	Caltex Service Station Hazelbrook	198 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.72106175	150.4520976
HEATHCOTE	Caltex Service Station	1344 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.08841066	151.0072048
HEATHCOTE	Caltex Service Station	1403 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.09059834	151.003752

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
HEATHCOTE	Shell Coles Express Service Station	1355 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.08780042	151.0069741
HEATHERBRAE	Bogas (Former Caltex) Service Station	3 Speedy Lock LANE	Service Station	Regulation under CLM Act not required	-32.78057822	151.7372135
HEATHERBRAE	Shell Coles Express Motto Farm Service Station	2137 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-32.79835449	151.7176284
HEXHAM	QR National - Hexham Precinct	179 & 3/67 Maitland ROAD	Other Industry	Regulation under CLM Act not required	-32.83474038	151.6821895
HEXHAM	Caltex Diesel Stop	360 Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.82844873	151.6851063
HEXHAM	Cummins Newcastle Facility Hexham	21 Galleghan STREET	Other Industry	Regulation under CLM Act not required	-32.83186739	151.686709
HEXHAM	BP Service Station (Reliance Petroleum)	Corner Pacific Highway and Old Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.82756403	151.6846929
HEXHAM	Former Forgacs Site	21 Sparke STREET	Chemical Industry	Under assessment	-32.85464558	151.6988053
HEXHAM	Caltex-Bogas Warehouse	239 Old Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.82899942	151.6861849
HEXHAM	Industrial Galvanizers	312 Pacific HIGHWAY	Metal Industry	Contamination currently regulated under POEO Act	-32.83457186	151.6884941
HEXHAM	14 Sparke St Hexham	14 Sparke STREET	Metal Industry	Under assessment	-32.85394328	151.6960863
HILLSTON	Former BP Depot Hillston	141-143 Cowper STREET	Other Petroleum	Regulation under CLM Act not required	-33.48823546	145.5381623
HOLBROOK	Caltex Truckstop	Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-35.71332625	147.3207237
HOMEBUSH	Ausgrid Mason Park Substation	1 Underwood ROAD	Other Industry	Regulation under CLM Act not required	-33.85674677	151.0747044
HOMEBUSH BAY	SUEZ Waste Recycling Centre (WRC) and Cleanaway Liquid Waste Treatment Plant (LWTP)	Corner Pondage Link and Hill ROAD	Landfill	Regulation under CLM Act not required	-33.84359299	151.0593656

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
HOMEBUSH WEST	Caltex Service Station Homebush West	334-336 Parramatta ROAD	Service Station	Regulation under CLM Act not required	-33.8581543	151.0681261
HOMEBUSH WEST	Former Ford Landfill and Adjacent Land	22 Mandemar AVENUE	Landfill	Regulation under CLM Act not required	-33.86142424	151.0625556
HORNSBY	Midas Car Care Centre Hornsby	2A Linda STREET	Other Industry	Regulation under CLM Act not required	-33.70052215	151.1004786
HORNSBY	Coles Express Hornsby	194- 206 Pacific HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.7071993	151.0991452
HORNSBY	Hornsby Train Maintenance Centre	1B Stephen STREET	Other Industry	Regulation under CLM Act not required	-33.69370022	151.1035939
HOXTON PARK	Endeavour Energy Hoxton Park	490 Hoxton Park ROAD	Other Industry	Regulation under CLM Act not required	-33.92766437	150.8689069
HUNTERS HILL	Coles Express Hunters Hill	4 Ryde ROAD	Service Station	Regulation under CLM Act not required	-33.8317985	151.141655
HUNTERS HILL	Foreshore Land	Rear of 7, 9 & 11 Nelson PARADE	Other Industry	Contamination currently regulated under CLM Act	-33.84248362	151.1649249
HUNTERS HILL	7, 9 and 11 Nelson Parade Hunters Hill	7, 9 and 11 Nelson PARADE	Other Industry	Regulation under CLM Act not required	-33.84220148	151.1649724
HURLSTONE PARK	Former Telstra Depot	82 Canterbury ROAD	Service Station	Regulation under CLM Act not required	-33.90803171	151.1258121
HURLSTONE PARK	Former Speedway Petroleum Service Station	610 - 618 New Canterbury ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.90541228	151.1322009
HURLSTONE PARK	7-Eleven Hurlstone Park	670 New Canterbury ROAD	Service Station	Regulation under CLM Act not required	-33.90510388	151.1299825
HURSTVILLE GROVE	Moore Reserve	Morshead DRIVE	Landfill	Contamination currently regulated under CLM Act	-33.97920603	151.0873578
INGLEBURN	7-Eleven Ingleburn	72 Cumberland Road, corner Oxford ROAD	Service Station	Regulation under CLM Act not required	-34.00041505	150.8679742
INGLEBURN	85 Williamson Road, Ingleburn NSAW 2565	85 Williamson ROAD	Landfill	Under assessment	-33.98926	150.858644

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
INVERELL	Former Shell Depot	25 Edward STREET	Other Petroleum	Regulation under CLM Act not required	-29.76151684	151.1182033
INVERELL	Former Service Station	20 Oliver STREET	Service Station	Regulation under CLM Act not required	-29.77229743	151.1152692
INVERELL	Former Caltex Depot Inverell	4 Edward STREET	Service Station	Regulation under CLM Act not required	-29.76123104	151.1147983
INVERELL	Former Mobil Inverell Depot	29-33 Edward STREET	Other Petroleum	Regulation under CLM Act not required	-29.76135322	151.1171412
INVERELL	Caltex Service Station	55-59 Ring STREET	Service Station	Regulation under CLM Act not required	-29.76204512	151.1141737
INVERELL	Former Mobil Service Station	Corner Otho Street and Henderson STREET	Service Station	Regulation under CLM Act not required	-29.7786926	151.1149921
INVERELL	Former Caltex Service Station	141 Otho STREET	Service Station	Regulation under CLM Act not required	-29.77819403	151.1145699
ISLINGTON	Caltex Service Station	240 Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.91138644	151.7457701
ISLINGTON	Shell Pipeline Easement (vacant land)	24 Fern STREET	Other Petroleum	Regulation under CLM Act not required	-32.91706254	151.7473809
JAMISONTOWN	BP Service Station Jamisontown	124 - 128 Mulgoa ROAD	Service Station	Regulation under CLM Act not required	-33.76978323	150.6764977
JAMISONTOWN	Former Caltex Jamisontown	229-231 Mulgoa ROAD	Service Station	Regulation under CLM Act not required	-33.76661447	150.6784735
JAMISONTOWN	7-Eleven Service Station	92 Mulgoa ROAD	Service Station	Contamination currently regulated under CLM Act	-33.7667231	150.6796488
JANNALI	Former Mobil Service Station	121 Georges River ROAD	Service Station	Regulation under CLM Act not required	-34.01614613	151.0681921
JANNALI	Former IGA	541 Box ROAD	Other Industry	Regulation under CLM Act not required	-34.01602134	151.0660384
JENNINGS	Jennings Former Arsenic Poison Factory	Duke Street, Manor Street, and Ballandean STREET	Chemical Industry	Contamination currently regulated under CLM Act	-28.929342	151.9298622

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
JENNINGS	United Jennings Service Station	1823 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-28.9323235	151.9260334
JESMOND	Caltex Service Station	27 Bluegum ROAD	Service Station	Regulation under CLM Act not required	-32.9029287	151.691164
JINDABYNE	BP Service Station (Reliance Petroleum)	8 Kosciuszko ROAD	Service Station	Regulation under CLM Act not required	-36.41478692	148.6178882
JINDABYNE	Caltex Service Station	50 Kosciuszko ROAD	Service Station	Regulation under CLM Act not required	-36.41395847	148.6225113
JINGELLIC	Former Jingellic School	3179 River ROAD	Other Industry	Regulation under CLM Act not required	-35.92649487	147.7010655
JUNEE	Subdivision Proposal	5858 Gundagai ROAD	Unclassified	Regulation under CLM Act not required	-34.87783587	147.6067578
JUNEE	United Junee Service Station	No. 118-134 BROADWAY	Service Station	Regulation under CLM Act not required	-34.86808328	147.5834883
JUNEE	Junee Railway Workshops	92 Harold STREET	Other Industry	Regulation under CLM Act not required	-34.88398375	147.5795301
KANAHOOKA	Former Dapto Smelter Site, Kanahooka (redeveloped)	Off Kanahooka ROAD	Metal Industry	Regulation under CLM Act not required	-34.4941348	150.8224482
KANDOS	Cement Australia Kandos Cement Works	1 Jamison STREET	Other Industry	Regulation under CLM Act not required	-32.86399912	149.9779259
KANWAL	Kanwal General Store and Fuel Supplies and Adjacent Land	68 and part of 70 Craigie AVENUE	Service Station	Contamination currently regulated under CLM Act	-33.26310031	151.4817395
KANWAL	Former Bus and Truck Rental Yard	645-647 Pacific Highway HIGHWAY	Other Petroleum	Regulation under CLM Act not required	-33.26233802	151.4825469
KARIONG	Coles Express Kariong	6 Central Coast HIGHWAY	Service Station	Regulation under CLM Act not required	-33.43443192	151.2963401
KARIONG	Caltex Service Station	Lot 2 Langford DRIVE	Service Station	Regulation under CLM Act not required	-33.43934827	151.2935447
KARUAH	BP Roadhouse Karuah	403 Tarean ROAD	Service Station	Regulation under CLM Act not required	-32.65371781	151.9629963

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
KATOOMBA	Aldi Stores	201 Katoomba STREET	Service Station	Regulation under CLM Act not required	-33.71756625	150.3101649
KATOOMBA	Former Katoomba/Leura Gasworks	Megalong STREET	Gasworks	Contamination currently regulated under CLM Act	-33.71304308	150.3194624
KELLYVILLE	Caltex Service Station	3-5 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.71436125	150.9602175
KELLYVILLE	BP Service Station Kellyville	19-23 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.71280997	150.9590756
KELSO	Caltex Service Station Kelso	19 Sydney ROAD	Service Station	Regulation under CLM Act not required	-33.41904247	149.6023985
KELSO	BP Service Station (Reliance Petroleum)	63 Sydney ROAD	Service Station	Regulation under CLM Act not required	-33.41925328	149.6076677
KELSO	23 Zagreb Street, Kelso NSW	23 Zagreb STREET	Other Industry	Regulation under CLM Act not required	-33.42724599	149.609825
KEMBLA GRANGE	ShawCor Australia	66 West Dapto ROAD	Other Petroleum	Regulation under CLM Act not required	-34.46875328	150.8106326
KEMBLAWARRA	Griffins Bay, Lake Illawarra	Shellharbour ROAD	Landfill	Regulation under CLM Act not required	-34.49653984	150.8943776
KEMPS CREEK	Caltex-branded Service Station	1163 Mamre ROAD	Service Station	Regulation under CLM Act not required	-33.86972102	150.7966074
KEMPSEY	Kempsey Showground	19 Sea STREET	Unclassified	Contamination being managed via the planning process (EP&A Act)	-31.07334836	152.8308795
KEMPSEY	Former Shell Depot	43-51 Gladstone STREET	Other Petroleum	Regulation under CLM Act not required	-31.07500944	152.8346699
KEMPSEY	Former Mobil Depot	14 Hopetoun STREET	Other Petroleum	Regulation under CLM Act not required	-31.07603107	152.8350132
KEMPSEY	Shell Coles Express Service Station Kempsey	165 Smith STREET	Service Station	Regulation under CLM Act not required	-31.07036743	152.8461571
KEMPSEY	Mobil Depot	154 Belgrave STREET	Service Station	Regulation under CLM Act not required	-31.07965043	152.8326303

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
KEMPSEY	Liberty (Former Mobil) Service Station	108-112 Smith STREET	Service Station	Regulation under CLM Act not required	-31.07492508	152.8431945
KENSINGTON	7-Eleven Kensington	135 Anzac PARADE	Service Station	Regulation under CLM Act not required	-33.91035885	151.2228537
KENSINGTON	Former Ampol Service Station	76-82 Anzac PARADE	Service Station	Regulation under CLM Act not required	-33.9059246	151.2242891
KENSINGTON	Footpath adjacent to 10-20 Anzac Parade	10-20 Anzac PARADE	Service Station	Regulation under CLM Act not required	-33.9032124	151.2237836
KENSINGTON	Caltex Service Station	211-213 Anzac PARADE	Service Station	Regulation under CLM Act not required	-33.91460752	151.2251266
KENTHURST	Vacant Land	259 McCylmonts ROAD	Unclassified	Regulation under CLM Act not required	-33.61283529	150.9425303
KHANCOBAN	Khancoban Tip	Alpine WAY	Landfill	Regulation under CLM Act not required	-36.21994191	148.1542718
KIAMA	Former Gasworks	105 to 109 and 113 Shoalhaven STREET	Gasworks	Regulation under CLM Act not required	-34.67416881	150.8504143
KIAMA HEIGHTS	Former Mobil Service Station Kiama	7-9 South Kiama DRIVE	Service Station	Regulation under CLM Act not required	-34.69553931	150.8437977
KILLARA	7-Eleven Service Station (Former Mobil)	496 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.77146554	151.1606903
KILLARA	Former Caltex Service Station	692B-694 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.76306802	151.1550109
KILLARA	Killara Garage	544 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.76974164	151.1599696
KILLARA	Land Adjacent to Former Service Station Site	684-684a, 690, 692 and 696 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.7631019	151.1548963
KINCUMBER	Frost Reserve	Avoca DRIVE	Landfill	Contamination currently regulated under CLM Act	-33.47065695	151.3909044
KINGS PARK	Multi-Fill	14 Garling ROAD	Chemical Industry	Under assessment	-33.74478046	150.9111964

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
KINGS PARK	Former Dow Corning Factory	21 Tattersall ROAD	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.75012653	150.9138477
KINGSFORD	Caltex Service Station	603-611 Anzac PARADE	Service Station	Regulation under CLM Act not required	-33.93435787	151.2371198
KINGSFORD	Coles Express Service Station Kingsford	58 Gardeners ROAD	Service Station	Regulation under CLM Act not required	-33.9250054	151.2257601
KINGSGROVE	Shell Coles Express Service Station	137 Kingsgrove ROAD	Service Station	Regulation under CLM Act not required	-33.93276948	151.099026
KINGSGROVE	Caltex Kingsgrove	351-357 Stoney Creek ROAD	Service Station	Regulation under CLM Act not required	-33.95132175	151.0926872
KINGSGROVE	State Transit Authority Depot	17-23 Richland STREET	Other Petroleum	Regulation under CLM Act not required	-33.93646086	151.0973617
KINGSGROVE	30A and 32 Commercial Road Kingsgrove	30A and 32 Commercial ROAD	Service Station	Regulation under CLM Act not required	-33.94022425	151.0974202
KIRRAWEE	Ingal Civil Products	127-141 Bath ROAD	Metal Industry	Regulation under CLM Act not required	-34.03029516	151.0754469
KIRRAWEE	7-Eleven (former Mobil) Service Station	542-546 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.03238179	151.0758071
KIRRAWEE	Caltex-branded Kirrawee Service Station	(1-3 Waratah Street) 487 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.02915971	151.0808279
KOGARAH	Scarborough Park South	184R Production AVENUE	Landfill	Regulation being finalised	-33.97922253	151.140276
KOGARAH	Caltex Service Station	29 President AVENUE	Service Station	Regulation under CLM Act not required	-33.96516866	151.141145
KOGARAH	Former 7-Eleven Kogarah	734 Princes HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.96406472	151.1376011
KOGARAH	Woolworths Petrol Service Station	69 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.96330397	151.1371182
KOOLKHAN	Former Koolkhan Power Station	Summerland WAY	Other Industry	Regulation under CLM Act not required	-29.61688704	152.9300645

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
KOORAGANG	NPC, berths 2 and 3	Heron ROAD	Metal Industry	Regulation under CLM Act not required	-32.89260063	151.7742527
KOORAGANG	Kooragang Island Waste Facility	Off Cormorant ROAD	Metal Industry	Contamination currently regulated under POEO Act	-32.86901125	151.7377773
KOORAGANG	Orica Kooragang Island	15 Greenleaf ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-32.89654619	151.7771372
KOORAGANG	Former Boral Timber Export Facility	16 Heron ROAD	Other Industry	Regulation under CLM Act not required	-32.89710295	151.7739966
KOORAGANG	Cleanaway Technical Services	19 Egret STREET	Other Industry	Regulation under CLM Act not required	-32.8812145	151.766282
KOORAGANG	Industrial Facility	39 Heron ROAD	Chemical Industry	Under assessment	-32.89106439	151.7784064
KOORAGANG	Vacant Land	Raven Street and Cormorant ROAD	Unclassified	Regulation under CLM Act not required	-32.88410199	151.7701334
KOORAGANG	544 Cormorant Road, Kooragang	544 Cormorant Road, Kooragang ROAD	Other Industry	Contamination currently regulated under CLM Act	-32.87480951	151.7757352
KOORINGAL	Former Shell Wagga Depot	11-15 Lake Albert ROAD	Other Petroleum	Regulation under CLM Act not required	-35.12273113	147.3786005
KOORINGAL	Caltex Service Station	265-267 Lake Albert ROAD	Service Station	Regulation under CLM Act not required	-35.14078443	147.3755442
KOORINGAL	Caltex-branded (former Mobil) Service Station	24 Lake Albert ROAD	Service Station	Regulation under CLM Act not required	-35.12239591	147.3769936
KOSCIUSZKO	Smiggin Holes Snow Clearing Shed	Link ROAD	Landfill	Regulation under CLM Act not required	-36.39098211	148.4304981
KOSCIUSZKO	Khancoban Spoil Dump	Alpine WAY	Landfill	Regulation under CLM Act not required	-36.21982803	148.1527401
KOSCIUSZKO	Sawpit Creek landfill	13km from Jindabyne, off Kosciuszko ROAD	Landfill	Regulation under CLM Act not required	-36.34858097	148.5673374
KURMOND	BP Service Station	501 Bells Line of road ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.55099195	150.6912536

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
KURNELL	Former Phillips Imperial Chemicals site	260 Captain Cook DRIVE	Chemical Industry	Regulation under CLM Act not required	-34.02493837	151.1952149
KURNELL	Caltex Kurnell Terminal (refer also to ID23868)	2 Solander STREET	Other Petroleum	Contamination currently regulated under POEO Act	-34.0175214	151.2159572
KURNELL	Abbott Australasia	Captain Cook DRIVE	Chemical Industry	Contamination formerly regulated under the CLM Act	-34.02339937	151.19921
KURNELL	Former Caltex Kurnell Service Station	Corner Captain Cook Drive and Solander STREET	Service Station	Regulation under CLM Act not required	-34.01269846	151.2094347
KURRI KURRI	United Petroleum Service Station Kurri Kurri	279-281 Lang STREET	Service Station	Contamination formerly regulated under the CLM Act	-32.82047175	151.477646
KURRI KURRI	Kurri Kurri Smelter	Hart ROAD	Metal Industry	Regulation under CLM Act not required	-32.7873063	151.4828827
KYOGLE	Caltex Service Station	22-24 Summerland WAY	Service Station	Regulation under CLM Act not required	-28.61806766	153.003862
LAKE HAVEN	Caltex Service Station	Goobarabah Ave Cnr Gorokan DRIVE	Service Station	Regulation under CLM Act not required	-33.24337276	151.5065335
LAKE ILLAWARRA	22 Queen Street, Lake Illawarra NSW 2528	22 Queen STREET	Other Petroleum	Under assessment	-34.547113	150.855097
LAKEMBA	Former Lakemba Police Station	59 Quigg STREET	Unclassified	Regulation under CLM Act not required	-33.92199239	151.079412
LAKEMBA	Caltex Service Station - Corner Punchbowl Rd and Wangee Rd	81 Wangee ROAD	Service Station	Regulation under CLM Act not required	-33.91153044	151.073306
LAKEMBA	Caltex Service Station	961-967 Canterbury ROAD	Service Station	Regulation under CLM Act not required	-33.92671102	151.0814905
LAMBTON	Caltex Service Station	422 Newcastle ROAD	Service Station	Regulation under CLM Act not required	-32.9095592	151.7109684
LAMBTON	4-26 Verulam Road, Lambton NSW 2299	4-26 Verulam ROAD	Metal Industry	Under assessment	-32.91130954	151.7170534
LANE COVE	7-Eleven Service Station	203 Burns Bay ROAD	Service Station	Regulation under CLM Act not required	-33.81458334	151.1543844

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
LANE COVE	BP-branded Jasbe Service Station	62-70 Epping ROAD	Service Station	Regulation under CLM Act not required	-33.81108427	151.1641531
LANE COVE	Pacific Power	Sirius ROAD	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.80701776	151.1449658
LANE COVE	Coles Express Service Station Burns Bay	254 Burns Bay ROAD	Service Station	Regulation under CLM Act not required	-33.81719214	151.1518774
LANE COVE	331-335 Burns Bay Road, Lane Cove NSW 2066	331 and 333 - 335 Burns Bay ROAD	Other Industry	Contamination currently regulated under CLM Act	-33.82095496	151.1493274
LANE COVE NORTH	Former Caltex Service Station	428-432 Mowbray ROAD	Service Station	Regulation under CLM Act not required	-33.80804563	151.1721538
LANE COVE NORTH	BP Artarmon Service Station, Lane Cove North	432 Pacific HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.8112038	151.175547
LANE COVE WEST	Caltex Lane Cove West	235-245 Burns Bay ROAD	Service Station	Regulation under CLM Act not required	-33.81719214	151.1518774
LANE COVE WEST	Ventemans Reach Bushland	Off Mars ROAD	Unclassified	Regulation under CLM Act not required	-33.80499552	151.1450719
LANE COVE WEST	Lovetts Reserve Walking Track	301B Burns Bay ROAD	Unclassified	Contamination currently regulated under CLM Act	-33.82044223	151.1492125
LANE COVE WEST	315-317 Burns Bay Road, Lane Cove West	315-317 Burns Bay ROAD	Unclassified	Regulation under CLM Act not required	-33.82065224	151.1496027
LANSVALE	Mobil Service Station	44 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.89172416	150.9656537
LAURIETON	Camden Haven Tyre and Brake Centre (Former Caltex Service Station)	461 Ocean DRIVE	Service Station	Regulation under CLM Act not required	-31.64367775	152.7977735
LAVENDER BAY	SRA Land	French STREET	Unclassified	Regulation under CLM Act not required	-33.84560621	151.2030148
LAVINGTON	Former Caltex Service Station	373-375 Wagga ROAD	Service Station	Regulation under CLM Act not required	-36.04797551	146.9385325
LAVINGTON	Caltex Service Station	436 Wagga (corner Dick Road) ROAD	Service Station	Regulation under CLM Act not required	-36.04500034	146.9444932

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
LAVINGTON	Former ERS liquid waste treatment and storage facility	819 Knights ROAD	Other Industry	Regulation under CLM Act not required	-36.06763885	146.942143
LEETON	Former Mobil Depot	108 Calrose STREET	Other Petroleum	Regulation under CLM Act not required	-34.55813326	146.3921296
LEETON	Caltex Service Station	1 Belah STREET	Service Station	Regulation under CLM Act not required	-34.55421752	146.3998431
LEETON	Yenda Producers (formerly Incitec) Leeton	1 - 2 Canal STREET	Other Petroleum	Regulation under CLM Act not required	-34.55184684	146.3862573
LEETON	Former Fuel Depot, Leeton	1-3 Short STREET	Other Petroleum	Regulation under CLM Act not required	-34.55253237	146.3864507
LEETON	United Leeton Service Station	110 Kurrajong AVENUE	Service Station	Regulation under CLM Act not required	-34.55573364	146.4099077
LEICHHARDT	SRA Land	10-11 Balmain ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-33.8776803	151.1591041
LEICHHARDT	Former Kolotex site	22 George STREET	Other Industry	Contamination currently regulated under CLM Act	-33.88855307	151.1482106
LEICHHARDT	Former Labelcraft Site	30-40 George STREET	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.88778798	151.1484773
LEICHHARDT	Leichhardt Bus Depot Area E	240 Balmain Road, corner City West LINK	Other Industry	Regulation under CLM Act not required	-33.87589727	151.1598073
LEICHHARDT	RailCorp Leichhardt	7 Darley ROAD	Other Industry	Regulation under CLM Act not required	-33.87520846	151.1539012
LENNOX HEAD	Former Caltex Lennox Head	Byron STREET	Service Station	Regulation under CLM Act not required	-28.79189328	153.5883225
LENNOX HEAD	Spoors Dip	13 Fig Tree Hill DRIVE	Cattle Dip	Contamination formerly regulated under the CLM Act	-28.78258175	153.5752527
LEPPINGTON	Coles Express Leppington	1443 Camden Valley WAY	Service Station	Regulation under CLM Act not required	-33.96631609	150.8154793
LEUMEAH	Caltex Service Station	6 Rudd ROAD	Service Station	Regulation under CLM Act not required	-34.05398325	150.8299209

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
LEURA	Former Leura Garage	126-128 Leura MALL	Service Station	Regulation under CLM Act not required	-33.7125311	150.3315386
LIDCOMBE	Metro Lidcombe (former Liberty)	134 John STREET	Service Station	Contamination currently regulated under POEO Act	-33.85456019	151.0468136
LIDDELL	Liddell Power Station	New England HIGHWAY	Other Industry	Regulation under CLM Act not required	-32.37393962	150.9756283
LIDSDALE	Angus Place Colliery	Wolgan ROAD	Other Industry	Regulation under CLM Act not required	-33.35274573	150.0996773
LIDSDALE	Kerosene Vale Colliery	Wolgan ROAD	Other Industry	Regulation under CLM Act not required	-33.38232515	150.0943561
LIDSDALE	Kerosene Vale Ash Repository	110 Skelly ROAD	Other Industry	Contamination currently regulated under CLM Act	-33.39095144	150.1049798
LIDSDALE	Lot 424 Walgan Road, Lidsdale	Lot 424 Walgan ROAD	Other Industry	Regulation under CLM Act not required	-33.382457	150.083557
LIGHTNING RIDGE	Former Ambulance Station	18 - 42 Pandora STREET	Other Industry	Regulation under CLM Act not required	-29.43133877	147.9812981
LIGHTNING RIDGE	Caltex Service Station	Onyx Street, corner Morilla STREET	Service Station	Regulation under CLM Act not required	-29.42922885	147.9747954
LILLIAN ROCK	Former 'Peters Dip' Cattle Tick Dip Site	427 Lillian Rock ROAD	Cattle Dip	Regulation under CLM Act not required	-28.5314327	153.1556392
LINDFIELD	Former BP Service Station Lindfield	478 Pacific HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.7719298	151.1613874
LINDFIELD	7-Eleven (former Mobil) Service Station	238 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.7788603	151.1689594
LINDFIELD	1 Roxy Place, Lindfield	1 Roxy PLACE	Unclassified	Under assessment	-33.787503	151.16021
LISAROW	OneSteel Recycling	902A Pacific HIGHWAY	Metal Industry	Regulation under CLM Act not required	-33.38420179	151.3655856
LISMORE	Caltex Lismore Service Station	136 Woodlark STREET	Service Station	Regulation under CLM Act not required	-28.80807597	153.2807591

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
LISMORE	Shell Coles Express Service Station	100 Dawson STREET	Service Station	Regulation under CLM Act not required	-28.81140865	153.2800472
LISMORE	Former Shell Depot	116 Wilson STREET	Other Petroleum	Regulation under CLM Act not required	-28.81070081	153.2621577
LISMORE	Caltex Service Station	73-75 Dawson STREET	Service Station	Regulation under CLM Act not required	-28.80894415	153.2809619
LISMORE	Lismore Gasworks	Cnr John Street & Keen STREET	Gasworks	Contamination formerly regulated under the CLM Act	-28.81764489	153.2710196
LISMORE	SRA Land	Norco LANE	Unclassified	Regulation under CLM Act not required	-28.810742	153.2702306
LISMORE HEIGHTS	Coles Express Lismore Heights	426 Ballina ROAD	Service Station	Contamination currently regulated under CLM Act	-28.81068067	153.3053065
LISMORE HEIGHTS	Impacted land, below Beardow Street landslide	22 New Ballina ROAD	Unclassified	Regulation under CLM Act not required	-28.80410458	153.2939349
LISMORE HEIGHTS	Roadside Embankment (Beardow Street)	Between Beardow and 22 New Ballina ROAD	Unclassified	Regulation under CLM Act not required	-28.80374297	153.2942495
LITHGOW	Former Shell CVRO and Depot	77 Bridge Street and 6 Gas Works LANE	Other Petroleum	Regulation under CLM Act not required	-33.47995091	150.162216
LITHGOW	Lithgow Thales	4 Martini PARADE	Metal Industry	Contamination formerly regulated under the CLM Act	-33.48988084	150.141366
LITHGOW	Former Mobil Depot	353 Main STREET	Other Petroleum	Regulation under CLM Act not required	-33.48235166	150.1383012
LITHGOW	Former Gasworks	Mort STREET	Gasworks	Regulation under CLM Act not required	-33.47995167	150.1635401
LITHGOW	Jasbe BP-branded Service Station (Former Reliance Petroleum)	1106 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.48426647	150.134992
LITHGOW	Caltex Lithgow (Quota Park)	Adjacent to 1131 Great Western HIGHWAY	Unclassified	Regulation under CLM Act not required	-33.47927554	150.1366238
LIVERPOOL	AC McGrath (Wholesale) Pty Ltd	20 Shepherd Street and 6A & 6B Atkinson STREET	Other Industry	Regulation under CLM Act not required	-33.9320192	150.9236862

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
LIVERPOOL	Former Car Park	4 - 6 Rose STREET	Unclassified	Regulation under CLM Act not required	-33.93258955	150.9157936
LIVERPOOL	Woolworths Service Station	59-67 Orange Grove ROAD	Service Station	Regulation under CLM Act not required	-33.90711248	150.9178855
LIVERPOOL	68 Speed Street (former gasworks)	2A Mill ROAD	Gasworks	Regulation under CLM Act not required	-33.92992649	150.9224472
LIVERPOOL	Woodward Park	84 Memorial AVENUE	Other Industry	Regulation under CLM Act not required	-33.92477836	150.9169229
LOFTUS	BP Freedom Fuel Service Station Loftus	127 Loftus AVENUE	Service Station	Regulation under CLM Act not required	-34.04570765	151.0508004
LONG JETTY	Metro Petroleum Service Station Long Jetty	326 The Entrance ROAD	Service Station	Under assessment	-33.35897356	151.4847709
LONG JETTY	Caltex Service Station	431 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.36022468	151.4826553
LONG JETTY	Westside Petroleum Service Station	290-294 The Entrance ROAD	Service Station	Contamination currently regulated under CLM Act	-33.35686757	151.4861479
LONG JETTY	7-Eleven (former Mobil) Service Station	184-186 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.35089363	151.4924904
LONGUEVILLE	Caltex Service Station	5 Northwood ROAD	Service Station	Regulation under CLM Act not required	-33.82427366	151.1724497
LOXFORD	Kurri Kurri Wastewater Treatment Plant	McLeod ROAD	Other Industry	Regulation under CLM Act not required	-32.80593657	151.4843665
LUCAS HEIGHTS	Harringtons Quarry	access from Little Forest ROAD	Landfill	Contamination currently regulated under CLM Act	-34.03555347	150.9751826
LUCAS HEIGHTS	IWC landfill	Little Forest ROAD	Landfill	Contamination formerly regulated under the CLM Act	-34.03214889	150.9753474
LUCAS HEIGHTS	Sydney Clay Target Club	Heathcote ROAD	Other Industry	Under assessment	-34.042114	150.959833
LUDDENHAM	Caltex Service Station	3019-3035 The Northern ROAD	Service Station	Regulation under CLM Act not required	-33.87536093	150.6888872

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MACKSVILLE	Caltex Service Station	Pacific (22-24 Cooper Street) HIGHWAY	Service Station	Regulation under CLM Act not required	-30.70977455	152.9198448
MACLEAN	MacLean Outdoors	255 River STREET	Service Station	Regulation under CLM Act not required	-29.45782683	153.1970725
MACQUARIE FIELDS	Caltex Service Station	68 Harold STREET	Service Station	Regulation under CLM Act not required	-33.98557276	150.8933681
MACQUARIE PARK	Caltex North Ryde Service Station	41-43 Epping ROAD	Service Station	Regulation under CLM Act not required	-33.79138236	151.1312248
MACQUARIE PARK	1-7 Waterloo Road, Macquarie Park	1-7 Waterloo ROAD	Other Petroleum	Regulation under CLM Act not required	-33.78806877	151.1332148
MACQUARIE PARK	Porters Creek Depot - Proposed Operations Centre Site	160 Wicks ROAD	Landfill	Regulation under CLM Act not required	-33.78581579	151.1367075
MACQUARIE PARK	De Burghs Cycleway - Lane Cove National Park	Riverside DRIVE	Other Petroleum	Regulation under CLM Act not required	-33.77668985	151.136542
MAITLAND	Maitland Gasworks	Charles STREET	Gasworks	Contamination currently regulated under CLM Act	-32.73603658	151.5578926
MAITLAND	Hannan and High Street	Hannan Street and High STREET	Service Station	Regulation under CLM Act not required	-32.72731682	151.5515673
MAITLAND	Coles Express Service Station	235 High STREET	Service Station	Regulation under CLM Act not required	-32.73923807	151.5620399
MALABAR	ANZAC Rifle Range former landfill	Franklin STREET	Landfill	Regulation being finalised	-33.95792671	151.2566373
MANDALONG	Mandalong Mine	Mandalong ROAD	Other Industry	Regulation under CLM Act not required	-33.11725583	151.4616452
MANGROVE MOUNTAIN	Poultry Litter Containment Pit site	258 Waratah ROAD	Unclassified	Regulation under CLM Act not required	-33.28917947	151.1672284
MANILLA	Tamworth Regional Council Works Depot - Manilla	73 River STREET	Other Petroleum	Regulation under CLM Act not required	-30.74879943	150.7181011
MANLY	Caltex Service Station	86 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.79306889	151.2858638

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MANLY	Open Space at end of Stuart Street (Lot 1 DP544297)	End of Stuart STREET	Gasworks	Regulation under CLM Act not required	-33.8078063	151.2898273
MANLY	St Patrick's Estate	151 Darley ROAD	Unclassified	Regulation under CLM Act not required	-33.8044568	151.2938595
MANLY	Former Little Manly Point Gasworks	Stuart STREET	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.8081596	151.287697
MANLY VALE	Caltex Service Station Manly Vale	236-238 Condamine STREET	Service Station	Regulation under CLM Act not required	-33.78508231	151.2674386
MANLY VALE	Former Landfill Addiscombe Road	Addiscombe ROAD	Landfill	Contamination currently regulated under CLM Act	-33.78307439	151.2747846
MANNERING PARK	Parkview General Store (a former service station)	2 Vales ROAD	Service Station	Regulation under CLM Act not required	-33.14753814	151.5387832
MANNERING PARK	Mannering Park Mini Mart	70 Vales ROAD	Service Station	Regulation under CLM Act not required	-33.15236501	151.5371767
MARAYONG	7-Eleven (former Mobil Blacktown West) Service Station Marayong	173 Richmond ROAD	Service Station	Regulation under CLM Act not required	-33.75472796	150.8913605
MARAYONG	Woolworths Petrol Service Station Marayong	Corner Vardys Road and Turbo ROAD	Service Station	Regulation under CLM Act not required	-33.7452356	150.9041601
MARDI	Former Mardi Landfill	70-90 McPherson ROAD	Landfill	Regulation under CLM Act not required	-33.29273289	151.4100941
MARKS POINT	Former Mobil Service Station (now 7-Eleven)	770-772 Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-33.05646268	151.6533795
MARKS POINT	Former Mobil Aviation Depot Belmont Airport	864 Pacific HIGHWAY	Other Petroleum	Regulation under CLM Act not required	-33.06657244	151.6497674
MAROUBRA	Coles Express Pagewood Service Station, Maroubra	299 Bunnerong PARADE	Service Station	Regulation under CLM Act not required	-33.94071282	151.2285063
MARRANGAROO	United (Former Mobil) Service Station Marrangaroo	394-398 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.45253322	150.1181023
MARRICKVILLE	Former Mobil Service Station	384 Illawarra ROAD	Service Station	Regulation under CLM Act not required	-33.91534969	151.1506717

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MARRICKVILLE	TRW Steering and Suspension	22-28 Carrington ROAD	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.92012667	151.1566181
MARRICKVILLE	Woolworths Petrol Service Station Marrickville	490 Illawarra ROAD	Service Station	Regulation under CLM Act not required	-33.91845177	151.1459951
MARRICKVILLE	RailCorp	361 Victoria ROAD	Other Industry	Regulation under CLM Act not required	-33.91404835	151.1557132
MARRICKVILLE	Mackey Park	Cnr Richardsons Crescent and Carrington ROAD	Landfill	Regulation under CLM Act not required	-33.9220263	151.1547903
MARRICKVILLE	Cooks River Aqueduct	Thornley STREET	Unclassified	Contamination formerly regulated under the CLM Act	-33.92224311	151.1479744
MARRICKVILLE	2 Carrington Road	2 Carrington ROAD	Unclassified	Regulation under CLM Act not required	-33.91567088	151.1589931
MARRICKVILLE	Former Dry Cleaners and Loading Dock	Smidmore STREET	Other Industry	Contamination currently regulated under CLM Act	-33.90752498	151.1717761
MARSDEN PARK	226 Grange Avenue	226 Grange AVENUE	Unclassified	Regulation under CLM Act not required	-33.70259609	150.83825
MARSFIELD	Coles Express Service Station Marsfield	189 Epping ROAD	Service Station	Regulation under CLM Act not required	-33.77519246	151.1053691
MARULAN	BP Express Marulan (Northbound)	(Northbound) Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.7188332	149.9949547
MARULAN	BP Service Station	(Southbound) Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.71932066	150.0014827
MARYVILLE	7-Eleven Service Station	184-188 Hannell STREET	Service Station	Contamination formerly regulated under the CLM Act	-32.91336028	151.7579315
MASCOT	BP Mascot	1077 Botany ROAD	Service Station	Under assessment	-33.92839	151.19501
MASCOT	Former Zinc Smelter and Paint Manufacturing Facility	163 O'Riordan STREET	Metal Industry	Regulation under CLM Act not required	-33.92526513	151.1892582
MASCOT	Caltex Service Station	125 O'Riordan STREET	Service Station	Regulation under CLM Act not required	-33.92309169	151.1911539

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MASCOT	Mascot Pioneer Plating	25-29 Ricketty STREET	Metal Industry	Contamination currently regulated under CLM Act	-33.92075288	151.1824801
MASCOT	Heritage Business Centre	5-9 Ricketty STREET	Unclassified	Regulation under CLM Act not required	-33.92029202	151.1816656
MASCOT	Telstra Exchange	904-922 Botany ROAD	Other Industry	Regulation under CLM Act not required	-33.9293166	151.1942777
MASCOT	Former Shell Service Station Mascot	746 Botany ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.92352295	151.1955852
MASCOT	Former Freight Distribution Facility (now High-Density Residential / Commercial)	19-33 Kent ROAD	Unclassified	Regulation under CLM Act not required	-33.9227711	151.1854202
MASCOT	Former Mascot Galvanising	336-348 King STREET	Metal Industry	Contamination currently regulated under CLM Act	-33.92902126	151.185874
MASCOT	Sokol Corporation	50-56 Robey STREET	Other Industry	Regulation under CLM Act not required	-33.93162265	151.1904955
MASCOT	Linear Park	Off O'Riordan STREET	Landfill	Regulation under CLM Act not required	-33.92278693	151.1904751
MASCOT	Aston, Gardeners Rd Mascot	551-559 Gardeners ROAD	Unclassified	Regulation under CLM Act not required	-33.921733	151.195359
MATRAVILLE	Port Botany Bus Depot	7 Bumborah Point ROAD	Other Petroleum	Regulation under CLM Act not required	-33.96880413	151.2255889
MATRAVILLE	Former Golden Fleece Terminal No2	151 Beauchamp ROAD	Other Petroleum	Contamination formerly regulated under the CLM Act	-33.95719404	151.2259884
MATRAVILLE	Former Rieco Incinerator	Kain AVENUE	Other Industry	Contamination being managed via the planning process (EP&A Act)	-33.95980534	151.2423679
MATRAVILLE	7-Eleven Service Station Matraville	515 Bunnerong ROAD	Service Station	Contamination currently regulated under CLM Act	-33.95943536	151.2317598
MATRAVILLE	Former Golden Fleece Terminal No1	133 -149 Beauchamp ROAD	Other Petroleum	Contamination formerly regulated under the CLM Act	-33.95759006	151.2252023
MATRAVILLE	Vacant Lot	3 Wilkes AVENUE	Other Industry	Regulation under CLM Act not required	-33.96006406	151.2431087

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MATRAVILLE	Eastern Suburbs Memorial Park	12 Military ROAD	Chemical Industry	Regulation under CLM Act not required	-33.9719906	151.2274386
MATRAVILLE	42-52 Raymond Avenue, Matraville NSW	42-52 Raymond AVENUE	Other Industry	Regulation under CLM Act not required	-33.961817	151.222098
MATRAVILLE	Opal Packaging Botany Mill	1891 Botany ROAD	Other Industry	Under assessment	-33.96438	151.225016
MAYFIELD	7-Eleven (Former Mobil) Service Station	412-416 Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.89292005	151.7300948
MAYFIELD	Shell Coles Express Service Station	63-69 Maud STREET	Service Station	Regulation under CLM Act not required	-32.89358962	151.7221298
MAYFIELD	Hunter River Sediments	Bed Sediments of the Hunter adjacent to Lot 221 DP1013964 RIVER	Metal Industry	Contamination formerly regulated under the CLM Act	-32.89203741	151.7646702
MAYFIELD	Australian Tube Mills Newcastle Site	Industrial DRIVE	Metal Industry	Under assessment	-32.88835767	151.7450751
MAYFIELD	BHP Steel River	The Buffer Zone' extending directly adjacent to the Hunter River; near the Tourle Street Bridge STREET	Metal Industry	Contamination currently regulated under CLM Act	-32.8773556	151.7252427
MAYFIELD	Waratah Steel Mill	23 Frith STREET	Metal Industry	Regulation under CLM Act not required	-32.89426592	151.7257429
MAYFIELD	OneSteel (BHP)	Industrial DRIVE	Metal Industry	Contamination currently regulated under CLM Act	-32.88365878	151.7448793
MAYFIELD NORTH	BHPB Closure site and bed sediments of the Hunter River	Bound by Hunter River, Selwyn Street & Industrial DRIVE	Metal Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-32.89436064	151.7590762
MAYFIELD NORTH	OneSteel - Newcastle Wire, Rod and Bar Mills	141 & 151 Ingall STREET	Metal Industry	Under assessment	-32.89008485	151.752949
MAYFIELD NORTH	Former BHPB Supply site	Industrial DRIVE	Metal Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-32.88583061	151.7386157
MAYFIELD NORTH	Swing Basin allotment on former Onesteel site - Lot 2 DP 1184252	151B Ingall STREET	Metal Industry	Under assessment	-32.89008485	151.752949
MAYFIELD WEST	Stevenson Park landfill	2/559 Maitland ROAD	Landfill	Regulation under CLM Act not required	-32.88472556	151.7224791

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MAYFIELD WEST	Koppers Coal Tar	East of Woodstock Street and Tourle STREET	Other Industry	Contamination currently regulated under POEO Act	-32.88592437	151.7361839
MAYFIELD WEST	Tourle Street Bridge Project	Tourle STREET	Landfill	Regulation under CLM Act not required	-32.88075518	151.7330073
MCDOUGALLS HILL	Caltex Service Station	4949 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-32.54484714	151.1490757
MEADOWBANK	Former Council Works Depot	2 Parsonage STREET	Unclassified	Regulation under CLM Act not required	-33.82191421	151.0951974
MENAI	7-Eleven (Former Mobil) Service Station Menai	289 Menai ROAD	Service Station	Contamination currently regulated under CLM Act	-34.01579095	151.0131737
MENAI	Caltex Service Station Menai	1 Carter Road ROAD	Service Station	Regulation under CLM Act not required	-34.01654043	151.0124133
MENANGLE	285 Finns Road, Menangle NSW	285 Finns ROAD	Unclassified	Regulation under CLM Act not required	-34.1291386	150.7010393
MEREWETHER	Merewether Childcare Centre	2/23 Caldwell STREET	Unclassified	Regulation under CLM Act not required	-32.94249653	151.7504279
MEREWETHER HEIGHTS	Burwood Beach Wastewater Treatment Works	Lot 1, Scenic DRIVE	Other Industry	Regulation under CLM Act not required	-32.95401348	151.7412468
MERIMBULA	Caltex Service Station	19-25 Merimbula DRIVE	Service Station	Regulation under CLM Act not required	-36.88757881	149.9089159
MERIMBULA	Former Mobil Service Station	27 Market STREET	Service Station	Regulation under CLM Act not required	-36.88941693	149.9103485
MERRYLANDS	Former Timber Yard and Hardware	11-19 Centenary ROAD	Other Petroleum	Regulation under CLM Act not required	-33.83083025	150.9698915
MERRYLANDS	Caltex Service Station	229 Woodville ROAD	Service Station	Regulation under CLM Act not required	-33.84547463	150.9983413
MERRYLANDS	Caltex Service Station Merrylands	148 Woodville ROAD	Service Station	Regulation under CLM Act not required	-33.83818499	150.9997199
MERRYLANDS	Stockland Merrylands Court	249-259 Merrylands ROAD	Service Station	Regulation under CLM Act not required	-33.83560037	150.9869735

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MERRYLANDS	7-Eleven Merrylands Service Station	295-297 Merrylands Road, corner Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.83533205	150.9851801
MERRYLANDS	Former Stockfeed Manufacturing Site	1-7 & 9-11 Neil STREET	Other Petroleum	Regulation under CLM Act not required	-33.83390257	150.9947449
MERRYLANDS WEST	Former Mobil Service Station	3 Centenary ROAD	Service Station	Regulation under CLM Act not required	-33.83214226	150.9698958
MILLER	Caltex Service Station	86 Cartwright AVENUE	Service Station	Regulation under CLM Act not required	-33.91878146	150.8827514
MILLERS FOREST	Chichester Trunk Gravity Main	water pipeline ACCESS	Other Industry	Contamination currently regulated under POEO Act	-32.772877	151.6826841
MILLERS POINT	Former AGL Gasworks	30 - 34 Hickson ROAD	Gasworks	Regulation under CLM Act not required	-33.86179594	151.2031726
MILLERS POINT	Moores Wharf UPSS	4 Towns PLACE	Other Petroleum	Regulation under CLM Act not required	-33.85581123	151.2024759
MILLERS POINT	Former AGL Gasworks	38 Hickson and road reserve ROAD	Gasworks	Contamination being managed via the planning process (EP&A Act)	-33.86280104	151.2032452
MILLERS POINT	Former AGL Gasworks	Berths 5, 6 and 7 (already demolished) and part Hickson ROAD	Gasworks	Contamination formerly regulated under the CLM Act	-33.86239771	151.2024819
MILLERS POINT	Former AGL Gasworks 36 Hickson Road	36 Hickson ROAD	Gasworks	Contamination formerly regulated under the CLM Act	-33.86243824	151.2032514
MILPERRA	Heatcraft Australia Pty Ltd	286 Horsley ROAD	Other Industry	Regulation under CLM Act not required	-33.94031556	150.9958606
MILPERRA	United Group Rail Pty Limited	373 Horsley ROAD	Landfill	Regulation under CLM Act not required	-33.93286283	150.9934071
MILPERRA	Caltex Service Station	264 Milperra ROAD	Service Station	Regulation under CLM Act not required	-33.93018101	150.9910964
MILPERRA	Former Landfill	479 Henry Lawson DRIVE	Landfill	Regulation under CLM Act not required	-33.93394617	150.9776715
MILPERRA	Riverlands Milperra Property	54 Auld AVENUE	Landfill	Regulation under CLM Act not required	33.930897	150.971318

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MILTON	Former Sanitary Depot	Slaughterhouse ROAD	Other Industry	Regulation under CLM Act not required	-35.33819825	150.4471917
MILTON	Caltex Milton Service Station and Depot	331 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.33154474	150.4492852
MINCHINBURY	7-Eleven (former Mobil) Service Station	815 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.78812909	150.8495992
MINCHINBURY	BP Service Station	1055 Great Western Highway corner Archbold ROAD	Service Station	Regulation under CLM Act not required	-33.78211857	150.8244185
MINTO	Land adjacent to Former Shell depot	Airds Road and Essex STREET	Other Petroleum	Regulation under CLM Act not required	-34.02140447	150.8415134
MINTO	Shell Coles Express Service Station	73 Pembroke STREET	Service Station	Regulation under CLM Act not required	-34.02316454	150.8503118
MINTO	Former Endeavour Energy Depot	Pembroke ROAD	Other Petroleum	Regulation under CLM Act not required	-34.0408973	150.8451837
MINTO	Logistics Hub - Culverston Road, Minto	Culverston ROAD	Other Petroleum	Regulation under CLM Act not required	-34.0421711	150.833825
MIRANDA	Woolworths Service Station	455 Kingsway OTHER	Service Station	Contamination currently regulated under CLM Act	-34.03492814	151.1124681
MITTAGONG	Enhance (former Coles Express) Service Station	224 Old Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.44746118	150.4326183
MITTAGONG	Lots 1 and 2 Alfred St.	Alfred STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-34.44738105	150.4565159
MITTAGONG	Caltex Mittagong Service Station	65 Bowral ROAD	Service Station	Regulation under CLM Act not required	-34.45245915	150.4381291
MOAMA	Caltex Moama Service Station	73 Meninya (Cnr Regent St) STREET	Service Station	Regulation under CLM Act not required	-36.10815134	144.752849
MOLONG	Cabonne BP Service Station	2 Gidley STREET	Service Station	Contamination currently regulated under CLM Act	-33.09026307	148.8695809
MOLONG	Former Gasworks	Hill STREET	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.09074595	148.8703262

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MONA VALE	Mona Vale Bus Depot	58 Darley STREET	Other Petroleum	Contamination currently regulated under CLM Act	-33.67452414	151.3074246
MONA VALE	Former Caltex service station and adjacent properties	79 Barrenjoey Road, 2 Polo Avenue, 6 Polo Avenue, 45 Bassett STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.6743659	151.3096932
MONA VALE	7-Eleven (former Mobil) Service Station	24 Barrenjoey ROAD	Service Station	Regulation under CLM Act not required	-33.676909	151.3082515
MONA VALE	BP Peninsula Express Service Station	Corner Barrenjoey Road and Darley Street East STREET	Service Station	Regulation under CLM Act not required	-33.67670799	151.3090068
MONA VALE	BP Service Station Mona Vale	1721 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.68043443	151.3023553
MONA VALE	Caltex Investigation Area	Polo Ave, Perak STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.67431333	151.3091148
MONA VALE	Taronga Place Mona Vale properties	Taronga PLACE	Other Petroleum	Contamination currently regulated under CLM Act	-33.67422848	151.3066972
MOOBALL	Mooball General Store	5913 Tweed Valley WAY	Service Station	Regulation under CLM Act not required	-28.44204594	153.4887648
MOONBI	Caltex Moonbi Service Station	New England HIGHWAY	Service Station	Regulation under CLM Act not required	-31.02264369	151.069094
MOORE PARK	Area 2, Moore Park	Driver AVENUE	Unclassified	Regulation under CLM Act not required	-33.89426868	151.2226839
MOOREBANK	Caltex Service Station	216 Newbridge ROAD	Service Station	Regulation under CLM Act not required	-33.92930835	150.9551469
MOOREBANK	Joyce Foam Products	5-9 Bridges ROAD	Chemical Industry	Regulation under CLM Act not required	-33.92596302	150.9335273
MOOREBANK	ABB Australia Pty Ltd	(a) 1 Bapaume ROAD	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.94143741	150.9208754
MOOREBANK	Caltex Service Station Moorebank	2 Bridges ROAD	Service Station	Regulation under CLM Act not required	-33.92839682	150.9327012
MOOREBANK	Former Concrete Recyclers property, Newbridge Road, Moorebank	Newbridge ROAD	Landfill	Regulation under CLM Act not required	-33.9390295	150.9653979

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MOOREBANK	Helles Park	Helles AVENUE	Landfill	Regulation under CLM Act not required	-33.93633126	150.9221424
MOORLAND	Caltex Service Station	99 Jericho ROAD	Service Station	Regulation under CLM Act not required	-31.79436622	152.6514849
MOREE	Former Freedom Service Station Site Moree	1 Dover STREET	Service Station	Contamination formerly regulated under the CLM Act	-29.4715814	149.8440279
MOREE	Caltex Depot	101 Gosport STREET	Other Petroleum	Regulation under CLM Act not required	-29.47603684	149.8476728
MOREE	Former Golden Fleece Depot	Gosport STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-29.47698315	149.8477108
MOREE	Former Mobil Depot	Gosport STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-29.47764104	149.8478284
MOREE	Moree Airport Evaporation Pond	Newell HIGHWAY	Unclassified	Regulation under CLM Act not required	-29.50289837	149.8411301
MOREE	Caltex Service Station	54 Alice STREET	Service Station	Contamination currently regulated under CLM Act	-29.47158492	149.8433182
MOREE	Former Shell Depot	Adelaide STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-29.47655335	149.8465698
MOREE	Shell Coles Express Service Station	Corner Gwydir and Balo STREET	Service Station	Regulation under CLM Act not required	-29.46081826	149.8419975
MOREE	BP Truckstop and Depot Moree	Newell Highway - 423 Frome STREET	Service Station	Regulation under CLM Act not required	-29.48223274	149.8463679
MOREE	Sunnyside Road	Sunnyside ROAD	Unclassified	Regulation under CLM Act not required	-29.45652718	149.8226682
MORISSET	Railcorp Station Masters Cottage	24 Dora STREET	Unclassified	Regulation under CLM Act not required	-33.10849681	151.4880317
MORISSET	Morisset High School	Bridge STREET	Unclassified	Regulation under CLM Act not required	-33.10475221	151.4866482
MORISSET	Sanyog Holdings Pty Ltd	57 Dora STREET	Service Station	Regulation under CLM Act not required	-33.10732744	151.4900584

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MORPETH	Telstra Cable Installation and RTA Bridge work	Northumberland STREET	Other Petroleum	Regulation under CLM Act not required	-32.72489729	151.6266795
MORPETH	Former Service Station	Swan STREET	Service Station	Regulation under CLM Act not required	-32.72477413	151.6250642
MORTLAKE	Former Petroleum Storage Site	108-116 Tennyson ROAD	Other Petroleum	Regulation under CLM Act not required	-33.83979033	151.1064889
MORTLAKE	Kendall Bay Sediments	Kendall BAY	Gasworks	Contamination currently regulated under CLM Act	-33.83905999	151.1120458
MORTLAKE	Former AGL site	Tennyson ROAD	Gasworks	Contamination formerly regulated under the CLM Act	-33.84287407	151.1109313
MORTLAKE	Majors Bay Redevelopment	14-22 Hilly STREET	Other Industry	Regulation under CLM Act not required	-33.83954617	151.1054674
MORUYA	Former Fuel Depot Moruya	11 to 13 Ford STREET	Other Petroleum	Regulation under CLM Act not required	-35.9112243	150.0826475
MORUYA	Caltex Service Station Moruya	80-84 Campbell STREET	Service Station	Regulation under CLM Act not required	-35.91195596	150.0824213
MORUYA	Caltex Service Station	26 Campbell STREET	Service Station	Regulation under CLM Act not required	-35.9104985	150.0711419
MOSMAN	7-Eleven Mosman	162A Spit Road Corner Mitchell ROAD	Service Station	Regulation under CLM Act not required	-33.81747016	151.2433633
MOSMAN	BP Service Station	175 Ourimbah ROAD	Service Station	Regulation under CLM Act not required	-33.82106757	151.233291
MOSMAN	BP Express Mosman	175 Ourimbah ROAD	Service Station	Regulation under CLM Act not required	-33.82106459	151.2332921
MOSMAN	7-Eleven Service Station Mosman	45 Spit ROAD	Service Station	Regulation under CLM Act not required	-33.82302718	151.2435627
MOSMAN	Allan Border Oval	Myahgah ROAD	Landfill	Regulation under CLM Act not required	-33.82681534	151.2417712
MOSMAN	173 Avenue Road, MOSMAN NSW 2088	173 Avenue ROAD	Unclassified	Regulation under CLM Act not required	-33.830565	151.243523

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MOSS VALE	Woolworths Service Station Moss Vale	609 Argyle STREET	Service Station	Regulation under CLM Act not required	-34.55409411	150.3609797
MOSS VALE	Coles Express Service Station	579 Argyle STREET	Service Station	Regulation under CLM Act not required	-34.55313422	150.364684
MOSS VALE	Moss Vale Refuelling Facility	Lackey ROAD	Other Petroleum	Regulation under CLM Act not required	-34.54662421	150.3721525
MOUNT ANNAN	Woolworths Caltex Mount Annan	157 Narellan (Corner Smeaton Grange Road) ROAD	Service Station	Regulation under CLM Act not required	-34.04685527	150.7610434
MOUNT ANNAN	Great Southern Railways Aqueduct	Off Narellan ROAD	Unclassified	Regulation under CLM Act not required	-34.07308479	150.7707436
MOUNT COLAH	Caltex Service Station Mount Colah	603 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.67034662	151.1151861
MOUNT COLAH	Foxglove Oval	Foxglove ROAD	Landfill	Contamination currently regulated under CLM Act	-33.65829855	151.1229638
MOUNT DRUITT	Caltex (former Mobil) Service Station, 17 Mount Street, Mount Druitt	17 Mount STREET	Service Station	Regulation under CLM Act not required	-33.76567994	150.8244544
MOUNT DRUITT	7-Eleven Mount Druitt	Lot 6 Luxford ROAD	Other Petroleum	Regulation under CLM Act not required	-33.76483839	150.8254157
MOUNT HUTTON	Woolworths Service Station	46 Wilsons ROAD	Service Station	Regulation under CLM Act not required	-32.9836378	151.67309
MOUNT PRITCHARD	7-Eleven Service Station	352 Elizabeth DRIVE	Service Station	Regulation under CLM Act not required	-33.90260656	150.8963326
MOUNT THORLEY	Bulga Surface Operations	Broke ROAD	Other Industry	Regulation under CLM Act not required	-32.68325751	151.1206158
MOUNT THORLEY	Lowes Petroleum (Former BP) Depot Mount Thorley	74 Mount Thorley ROAD	Other Petroleum	Regulation under CLM Act not required	-32.62443074	151.1025122
MOUNT VICTORIA	Former Mobil Service Station	81 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.5889727	150.2511783
MOUNT VICTORIA	Caltex Service Station	36a Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.58436517	150.2465528

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MUDGEE	Caltex Service Station	114-116 Church STREET	Service Station	Regulation under CLM Act not required	-32.59428029	149.5876199
MUDGEE	Shell Coles Express Service Station	47 Church STREET	Service Station	Regulation under CLM Act not required	-32.59347493	149.5884623
MUDGEE	BP Service Station Mudgee	77 Church STREET	Service Station	Regulation under CLM Act not required	-32.59545872	149.588123
MUDGEE	Mobil Depot	47 Douro STREET	Other Petroleum	Contamination currently regulated under CLM Act	-32.60023979	149.5823448
MUDGEE	Mudgee Gasworks	Mortimer Street and Court STREET	Gasworks	Regulation under CLM Act not required	-32.59168859	149.5817705
MUDGEE	Former Essential Energy Depot	27-31 Inglis STREET	Other Industry	Regulation under CLM Act not required	-32.60076552	149.5858905
MUDGEE	Former Caltex Depot Mudgee	cnr Nicholson Street & Atkinson STREET	Other Petroleum	Regulation under CLM Act not required	-32.60125298	149.5851398
MULGRAVE	7-Eleven (former Mobil) Service Station	Corner Windsor Road and Mulgrave ROAD	Service Station	Regulation under CLM Act not required	-33.61687781	150.8341809
MULLUMBIMBY	Station Street, Mullumbimby NSW 2482	Station STREET	Other Industry	Regulation under CLM Act not required	-28.55211357	153.5035218
MULWALA	Mulwala ADI Explosives Factory	Bayly STREET	Other Industry	Regulation under CLM Act not required	-35.97572689	145.9809786
MURWILLUMBAH	Murwillumbah Ambulance Depot	27 Queen STREET	Other Petroleum	Regulation under CLM Act not required	-28.32552576	153.4000182
MURWILLUMBAH SOUTH	Caltex Murwillumbah (formerly Puma)	182 Tweed Valley WAY	Service Station	Contamination formerly regulated under the CLM Act	-28.3263681	153.4103824
MURWILLUMBAH SOUTH	Former Norco Butter Factory (Eastern Portion)	230 Tweed Valley WAY	Other Petroleum	Regulation under CLM Act not required	-28.32791359	153.4073052
MUSWELLBROOK	Former Caltex Depot	1 Lower William STREET	Other Petroleum	Regulation under CLM Act not required	-32.26614257	150.8865136
MUSWELLBROOK	Vacant Rail Land	27 Brook STREET	Unclassified	Regulation under CLM Act not required	-32.26346086	150.8873181

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
MUSWELLBROOK	United Branded (Former Mobil) Service Station Muswellbrook	49-51 Maitland STREET	Service Station	Regulation under CLM Act not required	-32.27218162	150.8900206
MUSWELLBROOK	Former Mobil Depot Muswellbrook	43-51 Ford STREET	Other Petroleum	Regulation under CLM Act not required	-32.2599725	150.887573
MUSWELLBROOK	Woolworths Petrol	72 Brook STREET	Service Station	Regulation under CLM Act not required	-32.26325377	150.8905966
MUSWELLBROOK	Caltex Muswellbrook Service Station	84-86 Maitland STREET	Service Station	Regulation under CLM Act not required	-32.27793094	150.8980938
MUSWELLBROOK	Former Gasworks	Corner Carl Street and Foley STREET	Gasworks	Regulation under CLM Act not required	-32.26672337	150.8935982
MUSWELLBROOK	Bayswater Power Station	New England HIGHWAY	Other Industry	Regulation under CLM Act not required	-32.3954046	150.9502683
MUSWELLBROOK	Former Industrial Site	Lot 89 Rathmore STREET	Other Industry	Regulation under CLM Act not required	-32.30544071	150.8823657
MUSWELLBROOK	Caltex Service Station	12-16 Sydney STREET	Service Station	Regulation under CLM Act not required	-32.26785559	150.8879601
MUSWELLBROOK	Former Caltex Depot	47-50 Victoria STREET	Service Station	Regulation under CLM Act not required	-32.26788823	150.8930609
MUSWELLBROOK	Former Pit Top No. 1 Colliery Muswellbrook Coal	Corner Clendinning Street and Victoria STREET	Other Industry	Regulation under CLM Act not required	-32.27031992	150.9009981
NABIAC	Caltex Service Station Nabiac	3964 Wallanbah (Cnr Wallanbah Rd and Pacific Hwy) ROAD	Service Station	Regulation under CLM Act not required	-32.09864883	152.3754346
NAMBUCCA HEADS	Former Mobil Service Station	6 Bowra STREET	Service Station	Regulation under CLM Act not required	-30.64282127	153.0035884
NARELLAN	Caltex Service Station Narellan	1 George Hunter DRIVE	Service Station	Regulation under CLM Act not required	-34.03963992	150.7432386
NARELLAN	Former Landfill	1 Elyard STREET	Landfill	Regulation under CLM Act not required	-34.043474	150.7393256
NAROOMA	Narooma Service Station	60 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-36.21617955	150.126261

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
NAROOMA	Former Caltex - Narooma	82 Princes HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-36.21711766	150.1279305
NAROOMA	Narooma BP - 90 Campbell St, Narooma	90 Campbell STREET	Service Station	Under assessment	-36.216338	150.130229
NARRABEEN	Caltex Service Station	1509-1511 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.70455756	151.2969352
NARRABEEN	Shell Coles Express Service Station	1418 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.70013931	151.3002782
NARRABEEN	Narrabeen Shotgun Range Sydney Academy of Sport	Wakehurst PARKWAY	Unclassified	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.72138423	151.2642798
NARRABEEN	7-Eleven Service Station	1234 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.71958892	151.298272
NARRABEEN	7-Eleven Narrabeen North	1501-1505 Pittwater Road, corner Gondola ROAD	Service Station	Regulation under CLM Act not required	-33.70749859	151.296351
NARRABRI	Caltex Service Station	13 Doyle STREET	Service Station	Regulation under CLM Act not required	-30.3239182	149.7843052
NARRABRI	Lowes Petroleum (Former Mobil) Narrabri Depot	3 Old Gunnedah ROAD	Other Petroleum	Regulation under CLM Act not required	-30.33473586	149.789587
NARRABRI	Caltex Service Station	31-35 Cooma ROAD	Service Station	Regulation under CLM Act not required	-30.33968576	149.7657241
NARRABRI	Caltex Narrabri Service Station	31 Dangar (Cnr Anne and Dangar) STREET	Service Station	Regulation under CLM Act not required	-30.32989667	149.7756598
NARRABRI	Caltex Service Station	12 Reid STREET	Other Petroleum	Regulation under CLM Act not required	-30.32282764	149.7901182
NARRABRI	Cargill Soapstock Disposal Site	Westport ROAD	Unclassified	Contamination formerly regulated under the CLM Act	-30.4698458	149.6981931
NARRABRI	Caltex Service Station	7-13 James STREET	Service Station	Regulation under CLM Act not required	-30.33016168	149.7940732
NARRANDERA	Former Mobil Narrandera Depot	24 Whitton STREET	Other Petroleum	Regulation under CLM Act not required	-34.7410523	146.5620667

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
NARRANDERA	Former Mobil Emoleum Narrandera Depot	5-7 Margaret STREET	Other Petroleum	Regulation under CLM Act not required	-34.74105391	146.5628144
NARROMINE	Narromine Fuel (Former Caltex) Service Station	Cnr Burraway Street and Algalah STREET	Service Station	Regulation under CLM Act not required	-32.23565321	148.2454259
NELLIGEN	Former Clay Target Shooting Range	1398 Kings Highway and adjoining land on Old Bolaro Mountain ROAD	Unclassified	Contamination currently regulated under CLM Act	-35.64392469	150.0955224
NELLIGEN	Lot 2 Old Bolaro Road	Old Bolaro ROAD	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-35.64485609	150.0937341
NELSON BAY	Shell Coles Express Service Station	25 Stockton STREET	Service Station	Regulation under CLM Act not required	-32.72265762	152.1437317
NELSON BAY	Former Caltex Service Station Nelson Bay	38 Stockton STREET	Service Station	Regulation under CLM Act not required	-32.72335662	152.1429384
NEMINGHA	Caltex Service Station and Depot Nemingha	428 Armidale (previously 16 New England Highway) ROAD	Service Station	Regulation under CLM Act not required	-31.12425169	150.9909054
NEUTRAL BAY	Caltex Service Station	16-38 Military ROAD	Service Station	Regulation under CLM Act not required	-33.82907162	151.2163342
NEUTRAL BAY	Shell Coles Express Service Station	200-204 Ben Boyd ROAD	Service Station	Regulation under CLM Act not required	-33.82915781	151.219437
NEW LAMBTON	Caltex Service Station New Lambton	144 Bridges ROAD	Service Station	Regulation under CLM Act not required	-32.93283668	151.7141748
NEW LAMBTON	BP Service Station	105 St James ROAD	Service Station	Regulation under CLM Act not required	-32.92910325	151.7155801
NEW LAMBTON	7-Eleven (former Mobil) Service Station	291 Turton ROAD	Service Station	Regulation under CLM Act not required	-32.91773864	151.7243096
NEWCASTLE	Reclaimed Land	26-28 Honeysuckle DRIVE	Unclassified	Contamination formerly regulated under the CLM Act	-32.92604705	151.7649508
NEWCASTLE	Wharf Road Newcastle Car Park	313-317 Wharf ROAD	Unclassified	Regulation under CLM Act not required	-32.92570385	151.7744076
NEWCASTLE	Newcastle Foreshore	40 Stevenson Place STREET	Other Industry	Regulation under CLM Act not required	-32.92556503	151.7876742

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
NEWCASTLE	SRA Land	Scott STREET	Gasworks	Regulation under CLM Act not required	-32.92641425	151.7837817
NEWCASTLE WEST	Former Mobil Service Station	113 Parry STREET	Service Station	Regulation under CLM Act not required	-32.92560628	151.7558542
NEWPORT	7-Eleven (former Mobil) Service Station	307 Barrenjoey ROAD	Service Station	Regulation under CLM Act not required	-33.65632902	151.3182089
NEWPORT	Former Caltex Service Station Newport	316-324 Barrenjoey ROAD	Service Station	Regulation under CLM Act not required	-33.65634516	151.3191571
NEWTOWN	Caltex Service Station Newtown	26 - 36 Enmore ROAD	Service Station	Regulation under CLM Act not required	-33.89851331	151.17714
NEWTOWN	Former Service Station	81 Wilson STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.89626791	151.1827556
NEWTOWN	Aluminium Enterprises	66 Brocks LANE	Metal Industry	Contamination was addressed via the planning process (EP&A Act)	-33.89467126	151.1847528
NEWTOWN	Adjacent to Former Service Station	79 Wilson STREET	Service Station	Contamination formerly regulated under the CLM Act	-33.89630155	151.1826567
NORAVILLE	Former Toukley Landfill	Wilfred Barrett DRIVE	Landfill	Regulation under CLM Act not required	-33.27734185	151.5537784
NORTH ALBURY	Caltex Service Station and Diesel Stop	79 Union ROAD	Service Station	Regulation under CLM Act not required	-36.05496713	146.9487635
NORTH BOAMBEE VALLEY	Caltex Service Station	Cnr Pacific Hwy & Halls ROAD	Service Station	Regulation under CLM Act not required	-30.30639482	153.1007996
NORTH BONDI	Caltex Service Station North Bondi	321 Old South Head ROAD	Service Station	Regulation under CLM Act not required	-33.88463526	151.268551
NORTH NARRABEEN	7-Eleven Service Station	1501-1503 Pittwater ROAD	Service Station	Regulation under CLM Act not required	-33.70749859	151.296351
NORTH RICHMOND	Caltex Service Station	50 Bells Line Of ROAD	Service Station	Regulation under CLM Act not required	-33.57991338	150.7202346
NORTH ROCKS	7-Eleven Service Station North Rocks	340 North Rocks ROAD	Service Station	Regulation under CLM Act not required	-33.76895144	151.0305952

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
NORTH ST MARYS	BP Service Station	76 Glossop STREET	Service Station	Regulation under CLM Act not required	-33.76020183	150.7818149
NORTH ST MARYS	Mt Druitt Transmission Substation	69 Kurrajong ROAD	Other Industry	Regulation being finalised	-33.76376093	150.7921691
NORTH STRATHFIELD	Budget Service Station	143 Concord ROAD	Service Station	Regulation under CLM Act not required	-33.85945248	151.0927853
NORTH STRATHFIELD	Former Caltex Service Station	92a Concord ROAD	Service Station	Regulation under CLM Act not required	-33.86244297	151.0932434
NORTH SYDNEY	Iora Complex	1 Kiara PLACE	Gasworks	Regulation under CLM Act not required	-33.843145	151.2161142
NORTH SYDNEY	Neutral Bay Sediments	Adjacent to Sub Base Platypus, High STREET	Gasworks	Contamination formerly regulated under the CLM Act	-33.8417682	151.2158756
NORTH SYDNEY	Sub Base Platypus (previously HMAS Platypus)	High STREET	Gasworks	Contamination formerly regulated under the CLM Act	-33.84325935	151.2170347
NORTH WOLLONGONG	Former Mobil Depot	122-126 Montague STREET	Other Petroleum	Regulation under CLM Act not required	-34.40988259	150.8939374
NORTHMEAD	Former Prestige Plastics	1C Redbank ROAD	Other Industry	Regulation under CLM Act not required	-33.79716925	150.989926
NORTHMEAD	Coles Express Service Station Northmead	197 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.77741733	151.0001719
NORTHMEAD	Sydney Water Land	51c Hammers ROAD	Landfill	Regulation under CLM Act not required	-33.7887535	150.9858088
NORTHMEAD	Caltex Service Station	98-100 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.78786563	150.9945909
NORTHMEAD	7-Eleven Service Station Northmead	56 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.79090731	150.9967332
NOWRA	Former Gasworks Managers Residence	24 Osborne STREET	Gasworks	Regulation under CLM Act not required	-34.8708875	150.5992586
NOWRA	Fire Station	69 Bridge ROAD	Gasworks	Regulation under CLM Act not required	-34.87081582	150.6004881

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
NOWRA	Historically Filled Land	70 Bridge ROAD	Unclassified	Regulation under CLM Act not required	-34.87081809	150.6013231
NOWRA	Shell Coles Express Service Station	55 Kinghorne STREET	Service Station	Regulation under CLM Act not required	-34.87633757	150.6023481
NOWRA	Former gasworks	Lamonds LANE	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-34.87111182	150.6000803
NOWRA	Former Hollingworth Scrap Yard	72-74 Jervis and 117 East STREET	Other Industry	Regulation under CLM Act not required	-34.88324216	150.6034361
NOWRA	Woolworths Service Station	60 North Street STREET	Service Station	Regulation under CLM Act not required	-34.87266278	150.6014052
NOWRA	Harry Sawkins Park	Bounded by Princes Hwy, Graham St & McGrath AVENUE	Gasworks	Regulation under CLM Act not required	-34.87093993	150.6037157
NOWRA EAST	Mobil Service Station	Lot 3 Kalandar STREET	Service Station	Contamination formerly regulated under the CLM Act	-34.88850535	150.6093504
NYNGAN	Caltex Service Station	39-41 Pangee STREET	Service Station	Regulation under CLM Act not required	-31.56101006	147.1914997
NYNGAN	Caltex Service Station	126 Pangee STREET	Service Station	Regulation under CLM Act not required	-31.56482841	147.2002892
NYNGAN	Main West Rail Line	Mitchell HIGHWAY	Other Industry	Regulation under CLM Act not required	-31.6411651	147.344176
OAK FLATS	Shellharbour City Works Depot	132 Industrial ROAD	Other Industry	Regulation under CLM Act not required	-34.56546013	150.8087225
OBERON	Caltex Service Station and Depot	Lowes Mount ROAD	Service Station	Regulation under CLM Act not required	-33.69509055	149.8570553
OBERON	Oberon Timber Complex	Lowes Mount ROAD	Other Industry	Regulation under CLM Act not required	-33.69264862	149.8564588
OBERON	Former Shell Depot	32 O'Connell ROAD	Other Petroleum	Regulation under CLM Act not required	-33.6997172	149.8450057
OBERON	CSR Ltd Property and King's Stockyard Creek	Off Endeavour STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.6922152	149.8686909

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
OCEAN SHORES	Former Ocean Shores Service Station	Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-28.51270299	153.5301496
OLD GUILDFORD	Caltex Service Station	636-644 Woodville ROAD	Service Station	Regulation under CLM Act not required	-33.86670857	150.9879189
OLD TOONGABBIE	Baulkham Hills Transmission Substation	191z Old Windsor ROAD	Other Industry	Under assessment	-33.78166777	150.9689625
ORANGE	Former Fuel Depot	24-28 Peisley STREET	Other Petroleum	Contamination currently regulated under CLM Act	-33.29624293	149.1017277
ORANGE	Caltex Orange Depot	184 Byng STREET	Service Station	Regulation under CLM Act not required	-33.28285589	149.1050273
ORANGE	Woolworths Orange Service Station	357-361 Summer Street, corner William STREET	Service Station	Regulation under CLM Act not required	-33.28445811	149.1053604
ORANGE	BP Orange Service Station (Reliance Petroleum)	81 Summer STREET	Service Station	Regulation under CLM Act not required	-33.2825884	149.0951535
ORANGE	BP-Branded Lowes Petroleum Depot	197 - 201 Margaret STREET	Other Petroleum	Regulation under CLM Act not required	-33.27145977	149.1078103
ORANGE	Caltex Summer Street Service Station Orange	70-74 Summer Street, corner Hill STREET	Service Station	Regulation under CLM Act not required	-33.28311722	149.0940712
ORANGE	Lowes Petroleum (BP-branded) Service Station	76 Peisley STREET	Service Station	Regulation under CLM Act not required	-33.29025034	149.1027194
ORANGE	Former Mobil Service Station	24-28 Bathurst ROAD	Service Station	Regulation under CLM Act not required	-33.2866912	149.1066505
ORANGE	BP (Reliance Petroleum) Service Station Orange	56-60 Bathurst ROAD	Service Station	Regulation under CLM Act not required	-33.28980053	149.1086212
ORANGE	Former Mobil Service Station	168 Peisley STREET	Service Station	Regulation under CLM Act not required	-33.28525478	149.1037259
ORANGE	5-7 Edward St Orange	5-7 Edward STREET	Other Industry	Contamination currently regulated under CLM Act	-33.2991077	149.1034092
OURIMBAH	Palmdale Service Centre Pty Ltd	3130 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.3381336	151.374586

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
OURIMBAH	United Ourimbah	51 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.36025941	151.3694483
OURIMBAH	Shell Coles Express Service Station	78-80 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.3468202	151.3710098
OXLEY VALE	Hayes Transport Services	10 Manilla ROAD	Other Petroleum	Regulation under CLM Act not required	-31.06991417	150.9101381
OYSTER BAY	Shell Coles Express Service Station	20 Carvers ROAD	Service Station	Contamination formerly regulated under the CLM Act	-34.00934475	151.0758626
OYSTER COVE	Cove Marine Pty Ltd	60 Frederick STREET	Unclassified	Contamination currently regulated under POEO Act	-32.73549959	151.952446
PADDINGTON	7-Eleven Service Station	59 Oxford STREET	Service Station	Contamination currently regulated under CLM Act	-33.88322921	151.2205024
PADDINGTON	Former Workshop	52 Hopewell STREET	Other Industry	Regulation under CLM Act not required	-33.88195798	151.2220744
PADSTOW	Caltex Padstow	115 Fairford ROAD	Service Station	Regulation under CLM Act not required	-33.9434571	151.0345671
PADSTOW	Selleys / Dulux	1-29 Gow STREET	Chemical Industry	Regulation under CLM Act not required	-33.93904125	151.0381725
PADSTOW	Former Exide Battery Manufacturing & Recycling	55 Bryant STREET	Other Industry	Contamination currently regulated under CLM Act	-33.94265241	151.0378986
PADSTOW	Galvatech	49 Gow STREET	Metal Industry	Contamination currently regulated under POEO Act	-33.93808679	151.0346862
PADSTOW	Foseco Australia	7 Stuart STREET	Chemical Industry	Regulation under CLM Act not required	-33.94342957	151.0377316
PADSTOW	Sebel Furniture	Parts 64 and 92 Gow STREET	Other Industry	Regulation under CLM Act not required	-33.93606752	151.0322057
PAGEWOOD	Former Email Site	Corner of Page Street and Holloway STREET	Metal Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.94302462	151.2132036
PAMBULA	Offsite area (roadways) adjacent to United Service Station Pambula (former Shell)	Corner Quondola Street and Bullara STREET	Service Station	Regulation under CLM Act not required	-36.93104481	149.8746763

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PARKES	Caltex Service Station Parkes	352-360 Clarinda STREET	Service Station	Regulation under CLM Act not required	-33.13317454	148.173643
PARKES	Former Caltex Parkes (Mugincoble) Depot - Eugowra Rd, Mugincoble	Eugowra ROAD	Service Station	Regulation under CLM Act not required	-33.19007031	148.224822
PARKES	BP Truckstop	(Newell Highway) 1 Forbes ROAD	Other Petroleum	Regulation under CLM Act not required	-33.14309226	148.1710282
PARKES	Former BP Telescope Service Station	339-341 Clarinda STREET	Service Station	Regulation under CLM Act not required	-33.13216152	148.1743239
PARKES	BP Reliance East End Service Station Parkes	46 Clarinda STREET	Service Station	Regulation under CLM Act not required	-33.14243539	148.1846227
PARKES	Former Parkes Gasworks (including Rail Corridor and offsite land)	129 Woodward Street and land within the Parkes railway CORRIDOR	Gasworks	Contamination currently regulated under CLM Act	-33.14480316	148.1844397
PARKLEA	Caltex Parklea Service Station	Old Windsor (north of Miami Street) ROAD	Service Station	Regulation under CLM Act not required	-33.72427108	150.9388531
PARRAMATTA	BP Service Station	435 Church STREET	Service Station	Regulation under CLM Act not required	-33.80498714	151.0056151
PARRAMATTA	Coleman Oval Embankment	Cnr of Pitt STREET and Maquarie STREET	Unclassified	Regulation under CLM Act not required	-33.80441625	150.9954841
PARRAMATTA	7-Eleven (former Mobil) Service Station	81 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.80919769	151.0142894
PARRAMATTA	Parramatta Park Toilet Block Demolition	The Cresent Toilet Block Parramatta PARK	Unclassified	Regulation under CLM Act not required	-33.81054034	150.9961968
PAUPONG	Former Timber Treatment Plant	Off Paupong ROAD	Other Industry	Regulation under CLM Act not required	-36.57657408	148.6624998
PENDLE HILL	7-Eleven Service Station	217 Wentworth AVENUE	Service Station	Regulation under CLM Act not required	-33.8017814	150.9577994
PENNANT HILLS	Shell Coles Express Pennant Hills West	386 Pennant Hills ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.73928611	151.0679704
PENRITH	Mirvac Industrial Site	2101 Castlereagh ROAD	Other Industry	Regulation under CLM Act not required	-33.73497514	150.6954097

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PENRITH	7-Eleven (former Mobil) Service Station	212-222 Andrews ROAD	Service Station	Regulation under CLM Act not required	-33.73059678	150.6952571
PENRITH	Lowes Petroleum (Former Mobil) Depot Penrith	174 Coreen AVENUE	Other Petroleum	Regulation under CLM Act not required	-33.74484268	150.6980504
PENRITH	Caltex Service Station	Castlereagh Rd Cnr Lugard STREET	Service Station	Regulation under CLM Act not required	-33.73426843	150.6933382
PENRITH	BP Express Service Station	Corner Coreen Avenue and Castlereagh ROAD	Service Station	Regulation under CLM Act not required	-33.74385498	150.6925743
PENRITH	Crane Enfield Metals	2115-2131 Castlereagh ROAD	Metal Industry	Contamination formerly regulated under the CLM Act	-33.73734959	150.696442
PENRITH	7-Eleven Service Station Penrith	30 Henry STREET	Service Station	Regulation under CLM Act not required	-33.75408799	150.7045594
PENRITH	Caltex Penrith Service Station	153 Coreen AVENUE	Service Station	Regulation under CLM Act not required	-33.74287244	150.6927071
PENRITH	Jet 60 Dry Cleaners	Shop 3 134-138 Henry STREET	Unclassified	Regulation under CLM Act not required	-33.75231953	150.6964541
PENRITH	Former Dry Cleaners	Shop 3, 134-138 Henry STREET	Other Industry	Regulation under CLM Act not required	-33.75231953	150.6964541
PENSHURST	7-Eleven Service Station	612 Forest ROAD	Service Station	Regulation under CLM Act not required	-33.96153533	151.0793525
PENSHURST	Caltex Service Station	641 King Georges ROAD	Service Station	Regulation under CLM Act not required	-33.95985335	151.0891118
PERISHER VALLEY	Perisher Centre Loading Dock	Kosciuszko ROAD	Other Petroleum	Regulation under CLM Act not required	-36.40392862	148.4111593
PERISHER VALLEY	Perisher Ski Resort	Kosciuszko ROAD	Other Petroleum	Regulation under CLM Act not required	-36.41106374	148.4005469
PETERSHAM	Fanny Durack Aquatic Centre	Station STREET	Unclassified	Regulation under CLM Act not required	-33.89194583	151.151824
PETERSHAM	7-Eleven Petersham	8-10 Crystal STREET	Service Station	Regulation under CLM Act not required	-33.88867433	151.1585716

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PHEASANTS NEST	7-Eleven Service Station	(Southbound) Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.28291571	150.6394606
PHEASANTS NEST	7-Eleven (former Mobil) Service Station	(Northbound) Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.28303112	150.6363145
PICTON	Coles Express Picton	93-99 Argyle STREET	Service Station	Regulation under CLM Act not required	-34.16844337	150.6114236
PICTON	McDonalds	69 -71 Argyle STREET	Service Station	Regulation under CLM Act not required	-34.16711877	150.6121524
PITT TOWN	Whites Water Service	1 Canning PLACE	Other Industry	Regulation under CLM Act not required	-33.57418268	150.8811385
PLUMPTON	Woolworths Service Station Plumpton (Plumpton Marketplace Shops)	260 Jersey ROAD	Service Station	Regulation under CLM Act not required	-33.74478874	150.8369408
POINT PIPER	5 Wunulla Road Point Piper	5 Wunulla ROAD	Other Industry	Regulation under CLM Act not required	-33.8683426	151.2532699
PORT BOTANY	Vopak B	20 Friendship ROAD	Chemical Industry	Regulation under CLM Act not required	-33.97946548	151.2121752
PORT BOTANY	Vopak A	49 Friendship ROAD	Chemical Industry	Regulation under CLM Act not required	-33.97426175	151.2206228
PORT BOTANY	Terminals	45 Friendship ROAD	Chemical Industry	Regulation under CLM Act not required	-33.97609287	151.2174402
PORT BOTANY	Bunnerong Canal	Between Brotherson Dock and Bumborah Point ROAD	Unclassified	Regulation under CLM Act not required	-33.96798227	151.2230052
PORT BOTANY	Bulk Liquids Berth UPSS, Port Botany	Charlotte ROAD	Other Petroleum	Regulation under CLM Act not required	-33.97386329	151.2120157
PORT BOTANY	Port Operations Centre UPSS, Port Botany	Penrhyn ROAD	Other Petroleum	Regulation under CLM Act not required	-33.96803686	151.2205968
PORT BOTANY	Port Botany Railway Corridors	Friendship ROAD	Other Industry	Regulation under CLM Act not required	-33.95467008	151.2178012
PORT BOTANY	Smith Bros	4 Bumborah Point ROAD	Other Petroleum	Regulation under CLM Act not required	-33.9681757	151.2239505

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PORT BOTANY	Vopak Terminals - Pipeline Corridor	21 Fishburn ROAD	Other Industry	Regulation under CLM Act not required	-33.97946548	151.2121752
PORT KEMBLA	Coates Hire Facility (Eastern Portion)	1 Flinders STREET	Other Industry	Regulation under CLM Act not required	-34.47104817	150.89162
PORT KEMBLA	Shell Port Kembla CVRO	87-89 Flinders STREET	Other Petroleum	Regulation under CLM Act not required	-34.46964995	150.8953859
PORT KEMBLA	Darcy Road Rail Sidings	Darcy ROAD	Other Industry	Regulation under CLM Act not required	-34.47792834	150.9105503
PORT KEMBLA	No 2 Steelworks	Five Islands ROAD	Metal Industry	Contamination formerly regulated under the CLM Act	-34.45965024	150.8844432
PORT KEMBLA	Port Kembla Orica	Foreshore Road and Darcy ROAD	Other Industry	Contamination currently regulated under CLM Act	-34.47773583	150.9054545
PORT KEMBLA	Port Kembla, Auszinc Metals and Alloys	Lot 2 Shellharbour ROAD	Metal Industry	Regulation under CLM Act not required	-34.49335414	150.8961205
PORT KEMBLA	South Yard Rail Sidings	Lot 3 Old Port ROAD	Unclassified	Regulation under CLM Act not required	-34.47500551	150.8951759
PORT KEMBLA	Manildra Park	Flinders STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-34.46946878	150.8935731
PORT KEMBLA	Port Kembla Copper Smelter	Military ROAD	Metal Industry	Contamination currently regulated under POEO Act	-34.4810006	150.9063426
PORT KEMBLA	Caltex Service Station	16 Flinders STREET	Service Station	Regulation under CLM Act not required	-34.47058088	150.8945864
PORT KEMBLA	BHP Area 21	Springhill ROAD	Metal Industry	Contamination formerly regulated under the CLM Act	-34.45243931	150.8676495
PORT KEMBLA	Port Kembla Steelworks Recycling Area	Springhill ROAD	Unclassified	Regulation under CLM Act not required	-34.45271181	150.8677127
PORT KEMBLA	Commonwealth Rolling Mills (CRM)	Old Port ROAD	Metal Industry	Regulation under CLM Act not required	-34.47476117	150.8974746
PORT KEMBLA	Port Kembla, Former Electricity Commission Site	Old Port Road/Christie Drive ROAD	Other Industry	Regulation under CLM Act not required	-34.46899143	150.8982854

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PORT KEMBLA	Port Kembla Steelworks - Steelhaven	Five Islands ROAD	Other Industry	Regulation under CLM Act not required	-34.47605247	150.891144
PORT KEMBLA	Port Kembla Steelworks - No.1 Works Site	Five Islands ROAD	Metal Industry	Regulation under CLM Act not required	-34.47386606	150.8794912
PORT KEMBLA	Port Kembla Springhill Works	Springhill ROAD	Metal Industry	Regulation under CLM Act not required	-34.45574479	150.875052
PORT KEMBLA	Metal Manufactures (MM Kembla)	30 Gloucester BOULEVARD	Metal Industry	Regulation being finalised	-34.48227206	150.9111203
PORT MACQUARIE	Former Mobil Depot	211 Lake ROAD	Other Petroleum	Regulation under CLM Act not required	-31.44688513	152.8864499
PORT MACQUARIE	Caltex Service Station	112-114 Gordon STREET	Service Station	Regulation under CLM Act not required	-31.43491709	152.9047618
PORT MACQUARIE	Caltex Port Macquarie Service Station	29 Lord STREET	Service Station	Regulation under CLM Act not required	-31.43326436	152.9169873
PORT MACQUARIE	Coles Myer	43 John Oxley DRIVE	Service Station	Regulation under CLM Act not required	-31.45741442	152.8739626
PORT MACQUARIE	Air BP Avgas Facility	Oliver DRIVE	Other Petroleum	Regulation under CLM Act not required	-31.43227222	152.8681083
PORT MACQUARIE	Former Mobil Service Station	Corner Oxley Highway and Major Innes DRIVE	Service Station	Regulation under CLM Act not required	-31.45738931	152.873956
PORT MACQUARIE	Port Macquarie Council Depot	Koala STREET	Unclassified	Regulation under CLM Act not required	-31.45341586	152.9032764
PORT MACQUARIE	Shell Coles Express Port Macquarie Service Station	121 Gordon STREET	Service Station	Regulation under CLM Act not required	-31.4343131	152.9046869
PORT MACQUARIE	Caltex Service Station	92 Hastings River DRIVE	Service Station	Regulation under CLM Act not required	-31.42934052	152.8830188
PORT MACQUARIE	Caltex Service Station	12-14 Bolwarra ROAD	Service Station	Regulation under CLM Act not required	-31.45015286	152.8854769
PORT MACQUARIE	Car park	28 Hayward STREET	Other Industry	Regulation under CLM Act not required	-31.43385131	152.9072399

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PORTLAND	Ivanhoe Colliery	Pipers Flat ROAD	Other Industry	Regulation under CLM Act not required	-33.36595748	150.0099577
PORTLAND	Mt Piper Power Station	350 Boulder ROAD	Other Petroleum	Regulation under CLM Act not required	-33.35581541	150.0350801
PRAIRIEWOOD	7-Eleven (former Caltex) Service Station	485-487 Smithfield ROAD	Service Station	Regulation under CLM Act not required	-33.87102509	150.9031383
PRESTONS	Jalco Automotive Pty Ltd	238 Hoxton Park ROAD	Unclassified	Under assessment	-33.92820345	150.8928415
PROSPECT	7-Eleven (former Mobil) Service Station Prospect	354 Flushcombe ROAD	Service Station	Regulation under CLM Act not required	-33.79541624	150.9049417
PROSPECT	Pincott's Cottage, Gate C1	Off Reservoir ROAD	Unclassified	Regulation under CLM Act not required	-33.81589773	150.9144343
PROSPECT	Gatehouse, 544 Reservoir Road	544 Reservoir ROAD	Unclassified	Regulation under CLM Act not required	-33.81026272	150.9160605
PROSPECT	Cottage 3, William Lawson Drive	William Lawson DRIVE	Unclassified	Regulation under CLM Act not required	-33.81490331	150.9149885
PUNCHBOWL	Former BP Service Station	1375 Canterbury Road, corner Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.93170424	151.0537302
PUNCHBOWL	Punchbowl Laundry	42-44 Belmore ROAD	Chemical Industry	Contamination currently regulated under CLM Act	-33.93582701	151.0562638
PUNCHBOWL	Caltex Service Station Punchbowl	1285-1289 Canterbury ROAD	Service Station	Regulation under CLM Act not required	-33.93146308	151.0596348
PUTNEY	Putney Marina	20 Waterview STREET	Other Industry	Regulation under CLM Act not required	-33.82608091	151.1003966
PYMBLE	Caltex Service Station	1089 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.74102977	151.1385257
PYMBLE	Shell Coles Express Service Station	21 Ryde ROAD	Service Station	Regulation under CLM Act not required	-33.75198512	151.1438115
PYMBLE	Former 3M site	950 Pacific HIGHWAY	Gasworks	Regulation under CLM Act not required	-33.75050288	151.1460578

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
PYMBLE	Pymble West Dry Cleaners	6 Philip MALL	Other Industry	Under preliminary investigation order	-33.76109009	151.1284329
PYRMONT	Former Council Works Depot (Fig and Wattle Depot)	14-26 Wattle STREET	Other Industry	Regulation under CLM Act not required	-33.8752655	151.1942645
QUAKERS HILL	7-Eleven (former Mobil) Service Station	83 Lalor ROAD	Service Station	Regulation under CLM Act not required	-33.72759077	150.8966764
QUAKERS HILL	BP Branded Parkway (Former Caltex) Service Station Quakers Hill	450 Quakers Hill PARKWAY	Service Station	Regulation under CLM Act not required	-33.72998613	150.9023617
QUEANBEYAN	Former Mobil Service Station	153 Uriarra ROAD	Service Station	Regulation under CLM Act not required	-35.34425514	149.2148687
QUEANBEYAN	Bill Lilley Automotive	169 Crawford STREET	Service Station	Regulation under CLM Act not required	-35.35138121	149.232486
QUEANBEYAN	Woolworths Queanbeyan Service Station	196 Crawford (Cnr Morisset St) STREET	Service Station	Regulation under CLM Act not required	-35.35163055	149.2335759
QUEANBEYAN	Caltex Queanbeyan Service Station	88 Macquoid (also known as Bungendore Rd) STREET	Service Station	Regulation under CLM Act not required	-35.34930535	149.2438607
QUEANBEYAN	Former Mobil Emoleum Depot	109-111 High STREET	Other Petroleum	Regulation under CLM Act not required	-35.3396115	149.237556
QUEANBEYAN	Former Caltex Depot	20-30 Railway STREET	Other Petroleum	Regulation under CLM Act not required	-35.34218326	149.2253753
QUEANBEYAN	95 Crawford St, Queanbeyan	95 Crawford STREET	Chemical Industry	Under assessment	-35.34707	142.229088
QUEANBEYAN EAST	BP-Branded Service Station Queanbeyan	50 Yass ROAD	Service Station	Regulation under CLM Act not required	-35.34126641	149.2445103
QUEANBEYAN WEST	Caltex Service Station	Lanyon Dr Cnr Mccrae St (1 Suraci Place) STREET	Service Station	Regulation under CLM Act not required	-35.36372923	149.2067531
QUIRINDI	Former Mobil Depot Quirindi	4-6 Cross STREET	Other Petroleum	Regulation under CLM Act not required	-31.49903355	150.681972
QUIRINDI	Tamarang ServiCentre Quirindi	113-117 Station (also known as 119-121 Nowland) STREET	Service Station	Regulation under CLM Act not required	-31.50179204	150.6814611

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
QUIRINDI	Caltex Service Station, Quirindi	199-201 George STREET	Service Station	Regulation under CLM Act not required	-31.5068778	150.6805874
RAMSGATE	Shell Coles Express Service Station	Grand Parade cnr Ramsgate ROAD	Service Station	Regulation under CLM Act not required	-33.98537988	151.1471234
RANDWICK	7-Eleven Service Station	126-130 Barker STREET	Service Station	Contamination currently regulated under CLM Act	-33.92096152	151.2355927
RANDWICK	Caltex Service Station	2 Alison ROAD	Service Station	Regulation under CLM Act not required	-33.9065752	151.2320697
RANDWICK	Metro Petroleum	345 Avoca STREET	Service Station	Regulation under CLM Act not required	-33.92544832	151.2396799
RANDWICK	Service Station, Randwick	33-37 Carrington ROAD	Service Station	Contamination currently regulated under CLM Act	-33.90655015	151.2525065
RANDWICK	Newmarket Stage 3	Young & Barker STREET	Other Industry	Under assessment	-33.921459	151.237982
RAVENSWORTH	Ravensworth Operations Narama Mine	Lemington ROAD	Other Industry	Regulation under CLM Act not required	-32.47115903	151.0359579
RAVENSWORTH	Cumnock Colliery	Pikes Gully ROAD	Other Industry	Regulation under CLM Act not required	-32.40218281	150.9960082
RAYMOND TERRACE	Shell Coles Express Raymond Terrace	107 Adelaide (formerly Pacific Highway) STREET	Service Station	Regulation under CLM Act not required	-32.76110922	151.7492847
RAYMOND TERRACE	Caltex Service Station Raymond Terrace	136 Adelaide Street, corner Glenelg STREET	Service Station	Regulation under CLM Act not required	-32.76503842	151.7425264
RAYMOND TERRACE	Former Motor Registry	53 William STREET	Other Petroleum	Regulation under CLM Act not required	-32.76286473	151.7445839
RAYMOND TERRACE	Raymond Terrace Wastewater Treatment Works	22 Elizabeth AVENUE	Other Industry	Regulation under CLM Act not required	-32.7745339	151.7498871
RAYMOND TERRACE	Former Service Station	82 Benjamin Lee DRIVE	Service Station	Contamination currently regulated under CLM Act	-32.76079457	151.7738493
RAZORBACK	Muscat Developments Pty Ltd	115 Mount View CLOSE	Other Industry	Regulation under CLM Act not required	-34.15859952	150.6328008

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
REDFERN	BP Service Station	116 Regent STREET	Service Station	Regulation under CLM Act not required	-33.89367876	151.1995256
REDFERN	Former Printing Works	101a Marriott STREET	Other Industry	Regulation under CLM Act not required	-33.89512556	151.2113422
REDFERN	BP-branded Jasbe Surry Hills	411 Cleveland STREET	Service Station	Regulation under CLM Act not required	-33.89183974	151.2132466
REDFERN	Surry Hills Shopping Village	397-399 Cleveland & 2-38 Baptist STREET	Other Industry	Regulation under CLM Act not required	-33.89229521	151.2119397
REVESBY	Dorf Clark Industries	184-194 Milperra ROAD	Metal Industry	Regulation under CLM Act not required	-33.93387149	151.000553
REVESBY	Thetis Pty Ltd - Bituminous Products	33-35 Violet STREET	Chemical Industry	Contamination currently regulated under CLM Act	-33.93702092	151.0067896
REVESBY	Mirotone Pty Ltd	21 Marigold STREET	Chemical Industry	Contamination currently regulated under POEO Act	-33.93559608	151.0002207
REVESBY	Caltex Service Station Revesby	181 The River ROAD	Service Station	Regulation under CLM Act not required	-33.95573605	151.0171779
REVESBY	Commercial Premises	40 Marigold STREET	Unclassified	Regulation under CLM Act not required	-33.936897	150.998204
RHODES	Homebush Bay Sediments adjoining the former UCAL and Allied Feeds sites	Homebush BAY	Chemical Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.8263749	151.0839216
RHODES	Former Glad factory site	10-16 Marquet STREET	Chemical Industry	Regulation under CLM Act not required	-33.82884048	151.0848716
RHODES	Former Allied Feeds site	Walker STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.82465376	151.0870401
RHODES	Former UCAL site	Walker STREET	Chemical Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.82727505	151.0853195
RHODES	Homebush Bay sediments adjoining former Berger Paint factory	Oulton AVENUE	Chemical Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.83535308	151.083238
RICHMOND	Caltex Richmond Service Station	98 March (Cnr East Market St) STREET	Service Station	Regulation under CLM Act not required	-33.59937996	150.7514483

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
RICHMOND	Western Sydney University	2 College STREET	Unclassified	Regulation under CLM Act not required	-33.6192	150.755816
RIVERSTONE	Axalta Coating Systems	15-23 Melbourne ROAD	Other Industry	Regulation under CLM Act not required	-33.6636649	150.8557519
RIVERSTONE	7-Eleven Riverstone	55 Garfield ROAD	Service Station	Regulation under CLM Act not required	-33.67802232	150.8635246
RIVERSTONE	Woolworths Vineyard Service Station, Riverstone	1 Woodland Street, corner of Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.65607641	150.8724067
RIVERSTONE	Vacant Commercial Land	88-94 Junction ROAD	Unclassified	Regulation under CLM Act not required	-33.66226398	150.8789967
RIVERWOOD	7-Eleven Riverwood	30 Bonds ROAD	Service Station	Regulation under CLM Act not required	-33.9523701	151.0583887
ROCKDALE	7-Eleven (former Mobil) Service Station	293 West Botany STREET	Service Station	Regulation under CLM Act not required	-33.94995672	151.1484667
ROCKDALE	7-Eleven Service Station	99 Railway STREET	Service Station	Regulation under CLM Act not required	-33.95247322	151.1356785
ROCKDALE	Lindsay St, Rockdale	7 Lindsay STREET	Other Industry	Under assessment	-33.95900867	151.1436466
ROOTY HILL	7-Eleven (former Mobil) Service Station	106 Rooty Hill Road South ROAD	Service Station	Regulation under CLM Act not required	-33.78036181	150.8501998
ROOTY HILL	7-Eleven (former Mobil) Service Station	1042 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.78214955	150.8287656
ROOTY HILL	Infrabuild NSW Pty Ltd (formerly OneSteel NSW Pty Ltd)	22 Kellogg ROAD	Other Industry	Regulation under CLM Act not required	-33.76664143	150.8493465
ROSE BAY	Caltex Rose Bay Service Station	488 Old South Head ROAD	Service Station	Regulation under CLM Act not required	-33.87475145	151.2723847
ROSE BAY	Rose Bay Budget Service station	638-646 New South Head ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.87062149	151.2677617
ROSEBERY	Autofoil P/L	2 Mentmore AVENUE	Other Industry	Regulation under CLM Act not required	-33.91121318	151.2054882

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ROSEBERY	Caltex Rosebery Service Station	321 Gardeners (Cnr Macquarie St) ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.92302898	151.2059541
ROSEBERY	Former Industrial Site (Former Electroplating Facility)	108 Dunning AVENUE	Other Industry	Regulation under CLM Act not required	-33.91630811	151.201557
ROSEBERY	Rosebery Service Station	395 Gardeners ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.92246784	151.2024589
ROSEHILL	Former Akzo Nobel site	4 Grand AVENUE	Chemical Industry	Contamination currently regulated under CLM Act	-33.82238826	151.0319264
ROSEHILL	James Hardie Australia and former James Hardie lands	8 and 10 Colquhoun Street and 5 Devon STREET	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.82539019	151.0339466
ROSEHILL	2 Ritchie Street, Rosehill	2 Ritchie STREET	Unclassified	Contamination formerly regulated under the CLM Act	-33.82691192	151.0154948
ROSEHILL	James Hardie Factory (former, western portion)	181 James Ruse DRIVE	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.81605834	151.0238145
ROSEHILL	Viva Clyde Western Area	Durham Street, Rosehill (Camellia Peninsula) STREET	Other Petroleum	Regulation under CLM Act not required	-33.824104	151.037338
ROSELANDS	Roselands Shopping Centre	24 Roseland AVENUE	Service Station	Regulation under CLM Act not required	-33.93499281	151.0691284
ROSELANDS	Woolworths Caltex Petrol Service Station Roselands	218 King Georges ROAD	Service Station	Regulation under CLM Act not required	-33.93303118	151.0735036
ROSELANDS	7-Eleven (former Mobil) Service Station	91 Canary's ROAD	Service Station	Regulation under CLM Act not required	-33.93356078	151.0736274
ROSEVILLE	Mobil Service Station	2 Boundary STREET	Service Station	Regulation under CLM Act not required	-33.78769177	151.1796011
ROSEVILLE CHASE	Coles Express Roseville Chase	388 Eastern Valley WAY	Service Station	Regulation under CLM Act not required	-33.78337722	151.1973901
ROZELLE	Caltex Service Station	121 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.86252996	151.168497
ROZELLE	7-Eleven (former Mobil) Service Station	178-180 (176-184) Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.8630268	151.1680857

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ROZELLE	Kennards Rozelle	15-39 Wellington STREET	Other Petroleum	Regulation under CLM Act not required	-33.86176757	151.1686519
ROZELLE	White Bay Power Station	Robert STREET	Other Industry	Regulation under CLM Act not required	-33.86674636	151.1772204
ROZELLE	BP Service Station	Corner Darling Street and Thornton STREET	Service Station	Regulation under CLM Act not required	-33.8591647	151.1716591
RUFUS RIVER	SA Water Depot - Rufus River	Old Wentworth STREET	Other Petroleum	Regulation under CLM Act not required	-34.04191512	141.2679475
RUSHCUTTERS BAY	d'Albora Marinas	1b New Beach ROAD	Other Industry	Contamination currently regulated under POEO Act	-33.87351297	151.2345082
RUTHERFORD	Rutherford Transpacific	11 Kyle STREET	Other Industry	Regulation under CLM Act not required	-32.71105203	151.500311
RUTHERFORD	Shell Coles Express Service Station Rutherford	118 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-32.7208703	151.5394595
RUTHERFORD	Caltex Service Station	134-138 New England HIGHWAY	Service Station	Regulation under CLM Act not required	-32.7202589	151.5381526
RUTHERFORD	Transpacific Industrial Services/Nationwide Oil Pty Ltd	99 Kyle STREET	Chemical Industry	Regulation under CLM Act not required	-32.71262159	151.5013865
RUTHERFORD	Former Anambah Landfill	Anambah ROAD	Landfill	Contamination currently regulated under CLM Act	-32.70493978	151.512629
RYDALMERE	Caltex Service Station	309 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.81196193	151.0371185
RYDALMERE	Mitsubishi Electric	348 Victoria ROAD	Other Industry	Contamination currently regulated under CLM Act	-33.81040138	151.0392812
RYDALMERE	Rheem Australia	1 Alan STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.81545013	151.0295476
RYDALMERE	BP Service Station	265 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.8109483	151.0328101
RYDALMERE	Hunter Douglas	Victoria ROAD	Chemical Industry	Regulation under CLM Act not required	-33.81009112	151.0384732

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
RYDALMERE	United Petroleum (former 7-Eleven) Service Station Rydalmere	262-272 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.81006724	151.032377
RYDE	Shell Coles Express Ryde	45 Lane Cove ROAD	Service Station	Regulation under CLM Act not required	-33.80726028	151.109981
RYDE	Caltex Service Station	110 Lane Cove ROAD	Service Station	Regulation under CLM Act not required	-33.80142973	151.1137925
RYDE	7-Eleven (former Mobil) Service Station	326-328 Blaxland ROAD	Service Station	Regulation under CLM Act not required	-33.80242183	151.1004278
RYDE	Ryde Bus Depot	51 - 75 Buffalo ROAD	Other Petroleum	Regulation under CLM Act not required	-33.81679771	151.1225255
SANCTUARY POINT	United Service Station, Sanctuary Point	147 Larmer AVENUE	Service Station	Regulation under CLM Act not required	-35.09918861	150.6329537
SANDGATE	Caltex Service Station Sandgate	162 Maitland ROAD	Service Station	Regulation under CLM Act not required	-32.86501596	151.706161
SANDGATE	North Limited Storage Handling facility	Maitland ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-32.86598453	151.7012866
SANS SOUCI	7-Eleven (Former Mobil) Service Station	474 Rocky Point ROAD	Service Station	Regulation under CLM Act not required	-33.99088939	151.1333779
SANS SOUCI	BP Sans Souci	520 Rocky Point ROAD	Service Station	Contamination currently regulated under CLM Act	-33.99245122	151.1323571
SANS SOUCI	Kendall Street Reserve	Lawson Street and Kendall STREET	Landfill	Regulation under CLM Act not required	-33.99966431	151.13005
SANS SOUCI	Former Service Station	542-544 Rocky Point ROAD	Service Station	Contamination was addressed via the planning process (EP&A Act)	-33.99376148	151.1316131
SANS SOUCI	Former 7-Eleven Ramsgate	368 Rocky Point ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.98615125	151.1359961
SCHOFIELDS	Reserve 478, Grange Avenue, Schofields	Reserve 478, Grange AVENUE	Landfill	Regulation under CLM Act not required	-33.70228736	150.8518591
SCONE	Shell Coles Express Service Station	91- 93 Kelly STREET	Service Station	Contamination currently regulated under CLM Act	-32.04715941	150.8676346

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SCONE	Scone Works Depot	220 Susan STREET	Other Petroleum	Regulation under CLM Act not required	-32.04444892	150.879152
SCONE	Mobil Scone Airport Elt	8 Walter Pye AVENUE	Other Petroleum	Regulation under CLM Act not required	-32.03596733	150.8323698
SCONE	BP - Former Depot	Scone St, Guernsey St & Susan STREET	Service Station	Contamination formerly regulated under the CLM Act	-32.04599284	150.8662046
SCONE	BP Scone	26 Kelly STREET	Service Station	Regulation under CLM Act not required	-32.04033034	150.86549
SCONE	BP Scone Service Station	58 Kelly STREET	Service Station	Contamination currently regulated under CLM Act	-32.0437827	150.8662754
SEVEN HILLS	7-Eleven (Former Mobil) Service Station Seven Hills	151 Prospect HIGHWAY	Service Station	Regulation under CLM Act not required	-33.76894646	150.9427004
SEVEN HILLS	Australia Post	3 Powers ROAD	Unclassified	Regulation under CLM Act not required	-33.77434009	150.9395495
SEVEN HILLS	Car Park (Former Brickworks / Warehouse)	1 Powers ROAD	Other Industry	Regulation under CLM Act not required	-33.77387442	150.9379787
SEVEN HILLS	BP-branded Jasbe Petroleum Service Station	156 Prospect HIGHWAY	Service Station	Regulation under CLM Act not required	-33.76906502	150.9414821
SEVEN HILLS	Caltex Service Station	38 Abbott ROAD	Service Station	Regulation under CLM Act not required	-33.76692649	150.9548271
SEVEN HILLS	Caltex Service Station Seven Hills	105 Station ROAD	Service Station	Regulation under CLM Act not required	-33.77435881	150.9448733
SEVEN HILLS	Former Australian Waste Oil Refineries Site	27 Powers ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-33.77536127	150.9511122
SHELLY BEACH	Former Shelly Beach Landfill	Oaks AVENUE	Landfill	Regulation under CLM Act not required	-33.36700551	151.4913631
SHORTLAND	Former Astra Street Landfill	2 (part) & 28 (part) Astra STREET	Landfill	Contamination currently regulated under CLM Act	-32.8689426	151.6974685
SHORTLAND	Tuxford Park landfill	10 King STREET	Landfill	Regulation under CLM Act not required	-32.87721139	151.6936837

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SHORTLAND	Former Lorna St landfill	8/475 Sandgate ROAD	Landfill	Regulation under CLM Act not required	-32.87888726	151.7023245
SHORTLAND	7-Eleven (Former BP) Service Station	298-302 Sandgate ROAD	Service Station	Regulation under CLM Act not required	-32.8861645	151.6953912
SHORTLAND	Shortland Wastewater Treatment Works	Aden STREET	Other Industry	Regulation under CLM Act not required	-32.88228564	151.6819137
SILVERWATER	Former Silverwater Landfill	Carnarvon ROAD	Landfill	Contamination currently regulated under CLM Act	-33.83506394	151.033214
SILVERWATER	Vacant property	103-105 Silverwater ROAD	Other Industry	Regulation under CLM Act not required	-33.83831374	151.0472576
SILVERWATER	Storage Facility	54-58 Derby STREET	Unclassified	Regulation under CLM Act not required	-33.83855869	151.0478649
SILVERWATER	Former Printing Facility	46-58 Derby STREET	Other Industry	Regulation under CLM Act not required	-33.83866058	151.0482675
SILVERWATER	Silverwater Correctional Complex	Holker STREET	Landfill	Regulation under CLM Act not required	-33.83123611	151.0585298
SILVERWATER	Vittoria	141 Silverwater ROAD	Other Industry	Under assessment	-33.834303	151.048664
SINGLETON	BP Service Station Singleton	53 George (Cnr Macquarie St) STREET	Other Petroleum	Regulation under CLM Act not required	-32.56182325	151.1748054
SINGLETON	Singleton Gasworks	55-57 John STREET	Gasworks	Contamination formerly regulated under the CLM Act	-32.56774715	151.1658188
SINGLETON	Shell Coles Express Service Station	69-73 George STREET	Service Station	Regulation under CLM Act not required	-32.56297156	151.1755215
SINGLETON	Mobil Singleton Airport Elt	74B Range ROAD	Other Petroleum	Regulation under CLM Act not required	-32.60270846	151.1944828
SINGLETON	Putty Saw Mill	(via Singleton) Putty ROAD	Other Industry	Contamination currently regulated under CLM Act	-32.99958725	150.7111684
SINGLETON	NSW Mines Rescue Services - Singleton	6 Lachlan AVENUE	Other Industry	Regulation under CLM Act not required	-32.54537821	151.156584

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SMITHFIELD	Caltex Smithfield	16-18 Tait STREET	Service Station	Regulation under CLM Act not required	-33.84596441	150.9435497
SMITHFIELD	Freestones	1 Hume ROAD	Other Petroleum	Regulation under CLM Act not required	-33.83577694	150.9310112
SMITHFIELD	Liquip International	13 Hume ROAD	Other Industry	Regulation under CLM Act not required	-33.83802635	150.9319034
SMITHFIELD	Coles Express (former Mobil) Service Station	678 The Horsley Drive, corner Smithfield ROAD	Service Station	Regulation under CLM Act not required	-33.85376154	150.9400104
SMITHFIELD	Former Landfill	Little STREET	Landfill	Contamination being managed via the planning process (EP&A Act)	-33.85025253	150.9411561
SOUTH ALBURY	BP Border Service Station	Corner Ebden Street and Wodonga PLACE	Service Station	Contamination formerly regulated under the CLM Act	-36.08875942	146.9093882
SOUTH BOWENFELS	Shell Coles Express Service Station	Lot 1 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.50589001	150.1238487
SOUTH COOGEE	Caltex South Coogee Service Station	169-173 Malabar ROAD	Service Station	Regulation under CLM Act not required	-33.93233184	151.2574377
SOUTH GRAFTON	Shell Coles Express Service Station	91 Bent STREET	Service Station	Regulation under CLM Act not required	-29.70605829	152.9400329
SOUTH GRAFTON	Former United (former Mobil) Service Station	Corner Pacific Highway and Charles STREET	Service Station	Regulation under CLM Act not required	-29.70814828	152.9412928
SOUTH GRAFTON	Former Caltex Service Station	46-58 Schwinghammer STREET	Service Station	Regulation under CLM Act not required	-29.71149672	152.9453337
SOUTH GRAFTON	Former Caltex Depot South Grafton	72-82 Swallow ROAD	Other Petroleum	Regulation under CLM Act not required	-29.73168549	152.944024
SOUTH GRAFTON	Caltex Service Station	Pacific Hwy Cnr Gwyder HIGHWAY	Service Station	Regulation under CLM Act not required	-29.70739015	152.9425508
SOUTH GRANVILLE	Enhance Service Station South Granville	2 Rawson ROAD	Service Station	Regulation under CLM Act not required	-33.86366193	151.0088768
SOUTH KEMPSEY	Caltex Service Station	52 Lachlan STREET	Service Station	Regulation under CLM Act not required	-31.09361084	152.8370796

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SOUTH LISMORE	North Coast Petroleum (Former Mobil) Depot Lismore	19-21 Elliot ROAD	Other Petroleum	Regulation under CLM Act not required	-28.81212046	153.2661935
SOUTH LISMORE	Former Mobil Service Station	126 - 128 Union STREET	Service Station	Regulation under CLM Act not required	-28.81242175	153.267541
SOUTH LISMORE	Caltex Service Station	237 Union STREET	Service Station	Regulation under CLM Act not required	-28.82052708	153.2648111
SOUTH LISMORE	Former Mobil Depot	26-32 Phyllis STREET	Other Petroleum	Regulation under CLM Act not required	-28.81005206	153.2660073
SOUTH MURWILLUMBAH	Former Caltex Depot	39 Lundberg DRIVE	Service Station	Regulation under CLM Act not required	-28.332622	153.4212884
SOUTH MURWILLUMBAH	Caltex Service Station	1-7 Buchanan (Cnr Tweed Valley Way) STREET	Service Station	Regulation under CLM Act not required	-28.32687988	153.4093274
SOUTH MURWILLUMBAH	Former Mobil Depot	45 Wardrop STREET	Other Petroleum	Regulation under CLM Act not required	-28.33421395	153.3993772
SOUTH NOWRA	Caltex South Nowra	100 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.90516081	150.6029621
SOUTH PENRITH	7-Eleven Service Station	45 Aspen STREET	Service Station	Regulation under CLM Act not required	-33.77727694	150.7107228
SOUTH TAMWORTH	Coles Express Tamworth	251 - 253 Goonoo Goonoo ROAD	Service Station	Contamination currently regulated under CLM Act	-31.1118945	150.9228523
SOUTH TAMWORTH	Caltex Service Station	2 Kathleen Street, corner Kent STREET	Service Station	Regulation under CLM Act not required	-31.10361712	150.9186343
SOUTH WENTWORTHVILLE	Aldi Stores Development	331-339 Great Western HIGHWAY	Metal Industry	Regulation under CLM Act not required	-33.81605854	150.9697429
SOUTH WENTWORTHVILLE	Caltex Service Station	313 Great Western HIGHWAY	Service Station	Regulation under CLM Act not required	-33.81643692	150.9718802
SOUTH WEST ROCKS	Former Trial Bay Caltex Depot	Phillip DRIVE	Other Petroleum	Under assessment	-30.89190078	153.0573056
SOUTH WEST ROCKS	Former Shell Trial Bay Depot	Phillip DRIVE	Other Industry	Regulation under CLM Act not required	-30.89273836	153.0612772

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SOUTH WEST ROCKS	Residential area and Reserve opposite Former Caltex terminal	Phillip DRIVE	Other Petroleum	Regulation under CLM Act not required	-30.89172594	153.0573164
SPRINGVALE	Springvale Colliery	Castlereagh HIGHWAY	Other Industry	Regulation under CLM Act not required	-33.40334736	150.1070462
ST CLAIR	7-Eleven (former Mobil) Service Station	4 Endeavour AVENUE	Service Station	Regulation under CLM Act not required	-33.79430926	150.7885793
ST IVES	7-Eleven (former Mobil) St Ives Service Station	157-159 Mona Vale Road, corner Putarri AVENUE	Service Station	Regulation under CLM Act not required	-33.73265301	151.1563899
ST IVES	Caltex Service Station	452 Mona Vale ROAD	Service Station	Regulation under CLM Act not required	-33.70752272	151.187545
ST IVES	Caltex Service Station	164 Mona Vale ROAD	Service Station	Regulation under CLM Act not required	-33.7307595	151.1570462
ST IVES	Caltex Service Station St Ives	363 Mona Vale ROAD	Service Station	Regulation under CLM Act not required	-33.7168971	151.1735263
ST IVES	Shell Service Station	179-181 Mona Vale ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.73124859	151.1575827
ST LEONARDS	Telstra Data Centre	4A Herbert STREET	Other Petroleum	Regulation under CLM Act not required	-33.81873741	151.1914222
ST MARYS	Former Woolworths Service Station	120-128 Forrester ROAD	Service Station	Regulation under CLM Act not required	-33.75525115	150.7752897
ST MARYS	7-Eleven (former Mobil) Service Station	2 Christie STREET	Service Station	Regulation under CLM Act not required	-33.74790843	150.7767667
ST MARYS	7-Eleven (former Mobil) Service Station	2 Wilson STREET	Service Station	Regulation under CLM Act not required	-33.77790415	150.771689
ST MARYS	Solveco	38 LINKS ROAD	Other Industry	Contamination currently regulated under CLM Act	-33.73875413	150.7716457
ST MARYS	Integral Energy Mt Druitt Transmission Substation	69 Kurrajong North ROAD	Other Industry	Regulation under CLM Act not required	-33.76376093	150.7921691
ST MARYS	Caltex St Marys Service Station	Wordoo St Cnr Forrester ROAD	Service Station	Regulation under CLM Act not required	-33.75334263	150.7755489

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
ST MARYS	Chemcolour Industries	19-25 Anne STREET	Chemical Industry	Regulation under CLM Act not required	-33.75027071	150.7725397
ST MARYS	Former Dry Cleaning Location	1-7 Queen STREET	Other Industry	Under assessment	-33.76223376	150.774412
ST MARYS	St Mary's Shopping Village	10 Charles Hackett DRIVE	Other Industry	Regulation under CLM Act not required	-33.76647672	150.7710143
ST PETERS	Cooks River Rail Terminal	20 Canal ROAD	Unclassified	Regulation under CLM Act not required	-33.91943986	151.1726689
ST PETERS	Camdenville Park	May STREET	Other Industry	Regulation under CLM Act not required	-33.90911815	151.176951
ST PETERS	Former Tidyburn Facility	53 Barwon Park ROAD	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.9130091	151.1809912
ST PETERS	BP Express Service Station	2 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-33.90982281	151.1809936
ST PETERS	Former Industrial Manufacturing Facility (Taubman's Paints)	75 Mary STREET	Other Industry	Regulation under CLM Act not required	-33.91307297	151.1731383
ST PETERS	Burrows Industrial Estate	1-3 Burrows ROAD	Landfill	Regulation under CLM Act not required	-33.91814763	151.1789035
STANMORE	125 Corunna Road	125 Corunna ROAD	Unclassified	Regulation under CLM Act not required	-33.88937382	151.1644589
STOCKTON	Former Coroba Landfill	310 Fullerton STREET	Landfill	Regulation under CLM Act not required	-32.89578751	151.7898857
STRATHFIELD	7-Eleven (former Mobil) Service Station	577 Liverpool ROAD	Service Station	Regulation under CLM Act not required	-33.88736091	151.0743474
STRATHFIELD SOUTH	Former Landfill Site	7-9 Dunlop STREET	Landfill	Regulation under CLM Act not required	-33.89509698	151.0796751
STRATHFIELD SOUTH	7-23 Water Street, Strathfield South	7-23 Water STREET	Landfill	Regulation under CLM Act not required	-33.895928	151.082037
STROUD	Stroud Fuel Supplies (Former Caltex) Service Station	1 Cowper STREET	Service Station	Regulation under CLM Act not required	-32.39092749	151.9563089

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SUFFOLK PARK	BP Service Station	207-209 Broken Head ROAD	Service Station	Regulation under CLM Act not required	-28.68800088	153.6083821
SUFFOLK PARK	Suffolk Park dip site	Cnr Broken Head Road & Beech DRIVE	Cattle Dip	Regulation under CLM Act not required	-28.6874242	153.6072824
SUMMER HILL	Maurice Dry Cleaners	150 Smith STREET	Other Industry	Under assessment	-33.89191012	151.1372942
SURRY HILLS	Woolworths Petrol Surry Hills	475 Cleveland STREET	Service Station	Regulation under CLM Act not required	-33.89223271	151.2161434
SURRY HILLS	Former Legion Cabs (Trading) Cooperative	81 & 81A (Formerly 69 - 81) Foveaux STREET	Service Station	Regulation under CLM Act not required	-33.88470082	151.2107944
SURRY HILLS	Ausgrid Road Reserve	Mary STREET	Other Industry	Regulation under CLM Act not required	-33.88292195	151.2095176
SUTHERLAND	United Service Station and Sutherland Reservoir	1 to 3 Oxford STREET	Service Station	Contamination currently regulated under CLM Act	-34.029532	151.0579906
SUTHERLAND	7-Eleven Service Station	693 Old Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.02976735	151.0588789
SUTTON FOREST	Coles Express Sutton Forest West	Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-34.60808989	150.2250592
SWANSEA	Caltex Service Station	126 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.08811841	151.6381764
SWANSEA	Swansea 1 - Wastewater Pumping Station	137 and 137a Northcote AVENUE	Other Industry	Regulation under CLM Act not required	-33.09733813	151.6473669
SYDENHAM	SRA Land	117 Railway PARADE	Other Industry	Regulation under CLM Act not required	-33.91560723	151.1656846
SYDENHAM	Sydenham XPT Maintenance Facility	Way STREET	Other Industry	Regulation under CLM Act not required	-33.91698468	151.1614089
SYDNEY	Interpro House (OSP 46581)	447 Kent STREET	Other Petroleum	Regulation under CLM Act not required	-33.87225413	151.204761
SYDNEY	Eurostar Dry Cleaners	100 Oxford STREET	Chemical Industry	Regulation under CLM Act not required	-33.8792987	151.2156647

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SYDNEY	Chifley Tower (basement fuel storage area)	2 Chifley SQUARE	Other Petroleum	Regulation under CLM Act not required	-33.8659151	151.2117496
SYDNEY OLYMPIC PARK	RMS Western Precinct	14A-14E and 16 Hill ROAD	Other Petroleum	Regulation under CLM Act not required	-33.82239777	151.0758664
SYDNEY OLYMPIC PARK	Haslams Creek South Area 3	At Kronos Hill, Kevin Coombes AVENUE	Landfill	Contamination formerly regulated under the CLM Act	-33.84113059	151.0602966
SYDNEY OLYMPIC PARK	Bicentennial Park	Bicentennial DRIVE	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.84456248	151.0788116
SYDNEY OLYMPIC PARK	Former Golf Driving Range Landfill	Sarah Durack AVENUE	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.85358517	151.0713987
SYDNEY OLYMPIC PARK	Kronos Hill Landfill	Kevin Coombes AVENUE	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.84014442	151.0649521
SYDNEY OLYMPIC PARK	Wilson Park (Former oil gas plant site)	Newington ROAD	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.82623982	151.0536833
SYDNEY OLYMPIC PARK	Woo-la-ra Landfill	Hill ROAD	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.82695807	151.07282
SYDNEY OLYMPIC PARK	Aquatic Centre Carpark Landfill	Shane Gould AVENUE	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.85153457	151.0678127
SYDNEY OLYMPIC PARK	Blaxland Common Landfill	Jamieson STREET	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.82638382	151.05972
SYLVANIA	Caltex Service Station	61 Port Hacking ROAD	Service Station	Regulation under CLM Act not required	-34.0140089	151.104212
SYLVANIA HEIGHTS	Ampol Service Station (former Caltex) - Sylvania Heights	414-416 Princes HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-34.02361051	151.0895394
TALBINGO	Old Town Landfill	Bridle STREET	Landfill	Regulation under CLM Act not required	-35.59018237	148.3041771
TALBINGO	T3 Spoil dump and adjoining river sediments	Off Snowy Mountains HIGHWAY	Landfill	Contamination formerly regulated under the CLM Act	-35.6177268	148.2926158
TALBINGO	Former grit blasting site	Old Damsite ROAD	Other Industry	Regulation under CLM Act not required	-35.60894551	148.3030165

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
TALLAWANG	Rail Corridor at Tallawang	Whistons LANE	Other Industry	Under assessment	-32.211829	149.476697
TAMINDA	Taminda Depots and Adjacent Areas	27-29 Gunnedah ROAD	Other Petroleum	Regulation being finalised	-31.09642128	150.9058193
TAMINDA	Mobil Depot	9 Hinkler ROAD	Other Petroleum	Regulation under CLM Act not required	-31.09584286	150.9040493
TAMINDA	Cleanaway Operations Pty Ltd	31 Gunnedah ROAD	Other Industry	Regulation being finalised	-31.09621029	150.9051567
TAMINDA	Cummins South Pacific Pty Ltd	141 Gunnedah ROAD	Other Petroleum	Regulation under CLM Act not required	-32.211829	149.476697
TAMWORTH	Caltex Tamworth Service Station	109 Gunnedah ROAD	Service Station	Regulation under CLM Act not required	-31.09723226	150.8955299
TAMWORTH	Curlew Crescent	19-29 Curlew CRESCENT	Metal Industry	Regulation under CLM Act not required	-31.06963607	150.9069306
TAMWORTH	Former Service Station, Fitzpatrick Super Fund, Tamworth	210 Goonoo Goonoo ROAD	Service Station	Regulation under CLM Act not required	-31.10613594	150.9234143
TAMWORTH	Gunnedah Road Site	49 GUNNEDAH ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-31.09574904	150.9021583
TAMWORTH	Elovera Former Sheep Dip	730 Ascot Calala ROAD	Cattle Dip	Regulation under CLM Act not required	-31.1801846	150.962897
TAMWORTH	Housing NSW	29 -33 White STREET	Other Petroleum	Regulation under CLM Act not required	-31.0915651	150.9357811
TAMWORTH	Former Mobil Service Station	373-375 Armidale ROAD	Service Station	Regulation under CLM Act not required	-31.10122679	150.9441341
TAMWORTH	Kensell's Mitsubishi	11-14 Kable AVENUE	Other Petroleum	Regulation under CLM Act not required	-31.08921565	150.9273063
TAMWORTH	Caltex Star Tamworth	21 White STREET	Service Station	Regulation under CLM Act not required	-31.09255137	150.9341709
TAMWORTH	Former Service Station Tamworth	(Cnr Scott Rd) 254-256 Goonoo Goonoo ROAD	Service Station	Regulation under CLM Act not required	-31.1118945	150.9228523

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
TAMWORTH	Elgas Depot (former gasworks)	115 Marius STREET	Gasworks	Regulation under CLM Act not required	-31.08546191	150.926437
TAMWORTH	Proposed ALDI Store Tamworth	194-196 Peel STREET	Other Industry	Regulation under CLM Act not required	-31.08522053	150.9260054
TAMWORTH	BP Viaduct	190 Peel STREET	Service Station	Under assessment	-31.08521	150.925337
TARAGO	Tarago Railway Siding	Goulburn STREET	Other Industry	Contamination currently regulated under CLM Act	-35.0695949	149.6516166
TARAGO	Tarago former Station Masters Cottage	106 Goulburn STREET	Other Industry	Contamination currently regulated under CLM Act	-35.06938653	149.6521178
TARCUTTA	Mobil Service Station	(Hume Highway) 32 Sydney STREET	Service Station	Contamination formerly regulated under the CLM Act	-35.2772942	147.73574
TAREE	Caltex Taree	12 Pitt STREET	Service Station	Regulation under CLM Act not required	-31.90551738	152.4783334
TAREE	Former Caltex Depot	44 Stevenson STREET	Other Petroleum	Regulation under CLM Act not required	-31.90563595	152.4640848
TAREE	Former BP Service Station (Reliance Petroleum)	150 Manning River DRIVE	Service Station	Regulation under CLM Act not required	-31.93842026	152.4682056
TAREE	Former Shell Depot	53-55 Stevenson STREET	Other Petroleum	Regulation under CLM Act not required	-31.90514622	152.4649706
TAREE	United Service Station and Former Mobil Depot	85 Muldoon Street, corner Grey Gum ROAD	Service Station	Regulation under CLM Act not required	-31.89744109	152.4508569
TAREE	Caltex Service Station	104-106 Commerce STREET	Service Station	Regulation under CLM Act not required	-31.90720519	152.4500926
TAREE	Footpath in front of the former BP service station	53-55 Victoria STREET	Service Station	Regulation under CLM Act not required	-31.91015653	152.4659073
TAREE	20 Pitt Street, Taree	20 Pitt STREET	Other Petroleum	Under assessment	-31.904006	152.482089
TAREN POINT	Former Oyster Farm	Part 2R Alexander Avenue and part 98 Woodlands ROAD	Other Industry	Contamination was addressed via the planning process (EP&A Act)	-34.01714802	151.1252694

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
TAREN POINT	Former Oyster Farmer	1A Atkinson ROAD	Other Industry	Regulation under CLM Act not required	-34.02081803	151.1283282
TAREN POINT	Former manufacturing site	46-50 Bay ROAD	Other Industry	Regulation under CLM Act not required	-34.0236184	151.1231649
TAREN POINT	Mangrove Lane Cycle pathway	Mangrove LANE	Unclassified	Regulation under CLM Act not required	-34.02404025	151.1324783
TAREN POINT	Caltex Service Station	114 Taren Point ROAD	Service Station	Regulation under CLM Act not required	-34.02065958	151.1218938
TAREN POINT	Shell Coles Express Service Station	99-103 Parraweena ROAD	Service Station	Regulation under CLM Act not required	-34.02630233	151.1200897
TAREN POINT	Redevelopment Site	25 Bay ROAD	Landfill	Regulation under CLM Act not required	-34.02119591	151.1274727
TELARAH	Former Ausgrid Depot	Green STREET	Other Industry	Regulation under CLM Act not required	-32.7276446	151.5269745
TELARAH	ACIRL	5 Junction STREET	Other Industry	Regulation under CLM Act not required	-32.73457183	151.5400128
TEMORA	Woolworths Caltex Temora	98-100 Hoskins STREET	Service Station	Regulation under CLM Act not required	-34.44324584	147.5318667
TEMORA	Former Temora Roundhouse	Corner Victoria and Camp STREET	Unclassified	Regulation under CLM Act not required	-34.45074538	147.5295383
TEMPE	Tempe Depot	1a Gannon STREET	Other Petroleum	Regulation under CLM Act not required	-33.92408255	151.1596469
TEMPE	Caltex Service Station	775 Princes HIGHWAY	Service Station	Contamination currently regulated under CLM Act	-33.9253681	151.1596532
TEMPE	Former Tempe Tip	South STREET	Landfill	Contamination currently regulated under CLM Act	-33.92558642	151.1667178
TEMPE	Railcorp Site Renwick Street	Renwick STREET	Other Industry	Regulation under CLM Act not required	-33.91997709	151.1576058
TENTERFIELD	United Tenterfield Service Station	94 Rouse STREET	Service Station	Regulation under CLM Act not required	-29.06260969	152.0168305

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
TERALBA	Lake Macquarie Teralba Sanitary Depot	Griffen ROAD	Landfill	Regulation under CLM Act not required	-32.9372059	151.6214528
TERALBA	Lucky's Scrap Metal Yard	21 Racecourse ROAD	Metal Industry	Contamination currently regulated under CLM Act	-32.946854	151.617115
TERANIA CREEK	Former Izzards Cattle Tick Dip	Wallace ROAD	Cattle Dip	Contamination formerly regulated under the CLM Act	-28.64999469	153.2788615
THE ENTRANCE NORTH	The Entrance North Beach (Crown Reserve)	25CR Hargraves STREET	Landfill	Regulation under CLM Act not required	-33.33770829	151.5050033
THE ROCKS	Dawes Point Park	Hickson ROAD	Other Industry	Regulation under CLM Act not required	-33.85518053	151.2089319
THIRLMERE	Thirlmere Rail Heritage Museum	10 Barbour ROAD	Other Industry	Regulation under CLM Act not required	-34.20689245	150.5693902
THORNLEIGH	Caltex Thornleigh Service Station	192-198 Pennant Hills (Cnr Duffy Ave) ROAD	Service Station	Regulation under CLM Act not required	-33.72660793	151.08364
THORNLEIGH	Coles Express Service Station Thornleigh	188 - 190 Pennant Hills ROAD	Service Station	Regulation under CLM Act not required	-33.72502184	151.0850569
THORNTON	Energy Australia Thornton Pole Yard	55 Weakleys DRIVE	Other Industry	Regulation under CLM Act not required	-32.79973875	151.6374998
TIGHES HILL	Holcim Australia Cement Batching Plant	340 Industrial DRIVE	Other Industry	Regulation under CLM Act not required	-32.90532418	151.7574857
TIGHES HILL	SRA Land	73 Elizabeth STREET	Unclassified	Regulation under CLM Act not required	-32.90795794	151.754631
TIGHES HILL	Former Ampol Depot	94 Elizabeth STREET	Other Petroleum	Regulation under CLM Act not required	-32.90658137	151.757239
TIGHES HILL	Former Mobil Terminal	110 Elizabeth STREET	Other Petroleum	Contamination formerly regulated under the CLM Act	-32.90600406	151.7586907
TOCUMWAL	Former Mobil Depot	250 Murray STREET	Other Petroleum	Regulation under CLM Act not required	-35.79180653	145.5648214
TOCUMWAL	Former Mobil Depot	79-83 Deniliquin ROAD	Other Petroleum	Regulation under CLM Act not required	-35.80914914	145.5585528

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
TOMAGO	Balcombe Sweat Furnace	26 Laverick AVENUE	Metal Industry	Regulation under CLM Act not required	-32.82557395	151.7056416
TOMAGO	Former Hydromet Site	25 School DRIVE	Metal Industry	Under assessment	-32.8301553	151.7300603
TOMAGO	RZM Site - Tomago	1877 Pacific HIGHWAY	Other Industry	Regulation under CLM Act not required	-32.81419433	151.6985159
TOMERONG	Log Cabin Service Station (United Petroleum)	D1300 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.01820959	150.5779687
TOONGABBIE	7-Eleven (Former Mobil) Service Station Toongabbie	3 Metella ROAD	Service Station	Regulation under CLM Act not required	-33.78692357	150.9462837
TOORMINA	Caltex Service Station	2 Minorca PLACE	Service Station	Regulation under CLM Act not required	-30.35229568	153.0906606
TORONTO	Coles XP (Former Mobil) Toronto Service Station	133 - 137 Cary (Cnr Thorne St) STREET	Service Station	Regulation under CLM Act not required	-33.01187681	151.5930879
TORONTO	BP Toronto Service Station	132 Cary (Cnr Donnelly Ave) STREET	Service Station	Regulation under CLM Act not required	-33.01144673	151.5937863
TORONTO	Toronto Hotel	74 Victory PARADE	Unclassified	Regulation under CLM Act not required	-33.01214835	151.5958127
TORONTO	Caltex Service Station	147 Cary STREET	Service Station	Regulation under CLM Act not required	-33.01288007	151.5928388
TORONTO	155B Brighton Avenue, Toronto NSW 2283	155B Brighton AVENUE	Other Industry	Regulation under CLM Act not required	-33.0149011	151.5997613
TOUKLEY	Former Shell Toukley Autoport	211 Main ROAD	Service Station	Regulation under CLM Act not required	-33.26383791	151.5386268
TOUKLEY	7-Eleven Australia	287 Main ROAD	Service Station	Regulation under CLM Act not required	-33.26469166	151.5462414
TOUKLEY	Lot 6 & 8, DP25876	5-7 Main Road ROAD	Service Station	Under assessment	-33.262751	151.522666
TRANGIE	Caltex Service Station	(Mitchell Hwy) 76 Narromine STREET	Service Station	Regulation under CLM Act not required	-32.03234676	147.985164

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
TUGGERAH	BP Tuggerah	100 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.30578167	151.4198083
TUMBARUMBA	Former Caltex Depot	150 Albury STREET	Other Petroleum	Regulation under CLM Act not required	-35.77024081	147.9927182
TUMBI UMBI	Former Tumbi Landfill	140 Bellevue ROAD	Landfill	Regulation under CLM Act not required	-33.3993472	151.456471
TUMUT	CSR Blue Dam	Jepsen AVENUE	Other Industry	Regulation under CLM Act not required	-35.30098337	148.1958308
TUMUT	CSR Railway cutting	Jepsen AVENUE	Unclassified	Regulation under CLM Act not required	-35.30422002	148.1942579
TUMUT	Former Telstra Depot	22-26 Carey STREET	Other Industry	Regulation under CLM Act not required	-35.29873079	148.2191122
TUNCESTER	Asbestos Waste Burial Site	13 Rifle Range ROAD	Other Industry	Contamination currently regulated under CLM Act	-28.79939255	153.2193708
TUROSS HEAD	Tern Inn Restaurant (abandoned UPSS)	2 Trafalgar ROAD	Service Station	Regulation under CLM Act not required	-36.05871059	150.1308443
TURRAMURRA	7-Eleven (former Mobil) Service Station Turramurra	1408 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.73326389	151.1264194
TURRAMURRA	Woolworths Service Station	1233 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.73317594	151.1313195
TURRELLA	Tulloch Australia Pty Ltd	61 Turrella STREET	Chemical Industry	Contamination currently regulated under CLM Act	-33.92857213	151.1475387
TWEED HEADS	Former Mobil Quix Service Station	60 MINJUNGBAL DRIVE	Service Station	Contamination formerly regulated under the CLM Act	-28.20143775	153.5445381
TWEED HEADS	Francis Street Road Reserve adjacent to 79-81 Wharf Street, Tweed Heads	79-81 Wharf STREET	Other Petroleum	Regulation under CLM Act not required	-28.17351959	153.542262
TWEED HEADS	Tweed Heads Slipway	8 Terranora TERRACE	Landfill	Under assessment	-28.18052246	153.5416407
TWEED HEADS SOUTH	Former BP Depot	142 Minjungbal DRIVE	Other Petroleum	Regulation under CLM Act not required	-28.20860702	153.5455932

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
TWEED HEADS SOUTH	Coles Express Service Station	Corner Minjungbal Drive and Heffron STREET	Service Station	Regulation under CLM Act not required	-28.19459987	153.5419978
TWEED HEADS SOUTH	Woolworths Plus Petrol	98-102 Pacific (100 Minjungbal Drive) HIGHWAY	Service Station	Regulation under CLM Act not required	-28.20488521	153.5448675
TWEED HEADS WEST	Caltex Service Station	96 to 98 Kennedy DRIVE	Service Station	Regulation under CLM Act not required	-28.1871486	153.5229866
TYAGARAH	Tyagarah Airstrip	25 Staceys WAY	Other Petroleum	Regulation under CLM Act not required	-28.59511995	153.546834
ULAN	Ulan Coal Mine	4505 Ulan ROAD	Other Industry	Regulation under CLM Act not required	-32.25620603	149.7558075
ULLADULLA	Coles Express Ulladulla	153 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.36288274	150.47272
ULLADULLA	Woolworths Petrol Station	155-157 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.36316263	150.4725668
ULLADULLA	Caltex Service Station	62A Deering Street, corner Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-35.36276828	150.473578
ULTIMO	Shell Coles Express Service Station	387-429 Wattle STREET	Service Station	Regulation under CLM Act not required	-33.88138825	151.1966791
UNANDERRA	Endeavour Energy Springhill Field Service Centre	195 Five Island ROAD	Other Industry	Regulation under CLM Act not required	-34.45837706	150.8598825
UNANDERRA	BlueScope Stainless Steel	13 Marley PLACE	Metal Industry	Contamination currently regulated under CLM Act	-34.44959798	150.8571632
UNANDERRA	Unanderra Weekend Detention Centre	34-40 Lady Penryhn DRIVE	Landfill	Regulation under CLM Act not required	-34.4620226	150.8473821
UNANDERRA	Veolia Environmental Services	9 Waynote PLACE	Other Industry	Regulation under CLM Act not required	-34.46042393	150.863232
UNANDERRA	Caltex Service Station	86-98 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.45414951	150.845165
UNANDERRA	Former Prime Service Station and adjoining lands	41-49 Princes HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-34.45056105	150.8490833

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
UNANDERRA	DGL Environmental Pty Ltd	201 Five Islands ROAD	Metal Industry	Under assessment	-34.45384578	150.8552253
UNANDERRA	7-Eleven Unanderra	41-43 Princes HIGHWAY	Service Station	Regulation under CLM Act not required	-34.45056105	150.8490833
URALLA	Caltex Service Station	103 Bridge STREET	Service Station	Regulation under CLM Act not required	-30.64524911	151.4934484
URALLA	Phoenix Foundry	44 Duke STREET	Metal Industry	Regulation under CLM Act not required	-30.65093272	151.5004479
URANQUINTY	Former Caltex Depot Kapooka (Wagga Wagga)	6876 Olympic (Uranquinty Rd) HIGHWAY	Service Station	Regulation under CLM Act not required	-35.15319793	147.3085469
URUNGA	Former Antimony Process plant	Hillside DRIVE	Chemical Industry	Contamination currently regulated under CLM Act	-30.50422942	153.0132011
VALENTINE	BP Express Service Station	855 Macquarie DRIVE	Service Station	Regulation under CLM Act not required	-33.00801109	151.6425806
VALENTINE	Valentine Public School	Tallawalla ROAD	Unclassified	Regulation under CLM Act not required	-33.0091613	151.6423231
VALLA	BP Nambucca Heads (Travel Centre and Truckstop)	2 Corkwood ROAD	Other Industry	Regulation under CLM Act not required	-30.62648768	152.9727148
VILLAWOOD	Former Toll Site	110A Christina ROAD	Other Industry	Regulation under CLM Act not required	-33.87919117	150.9812193
VILLAWOOD	Former Defence Site	29 Biloela STREET	Landfill	Regulation under CLM Act not required	-33.88782978	150.9886275
VILLAWOOD	Former Siemens/Westinghouse	49 Miowera ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-33.87641909	150.9836746
VILLAWOOD	Former Orica Crop Care	2 Christina ROAD	Chemical Industry	Contamination formerly regulated under the CLM Act	-33.880329	150.9896329
VILLAWOOD	PPG Industries	9 Birmingham AVENUE	Chemical Industry	Regulation under CLM Act not required	-33.87800757	150.9887929
VILLAWOOD	Former Electrical Component Manufacturer	66 Christina ROAD	Other Industry	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.88018315	150.9838773

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
VILLAWOOD	Ettason Villawood Site	2A Birmingham AVENUE	Chemical Industry	Regulation under CLM Act not required	-33.87877335	150.9827722
VINEYARD	Shell Coles Express Service Station	731 Windsor ROAD	Service Station	Regulation under CLM Act not required	-33.65780463	150.8753245
WAGGA WAGGA	Caltex Service Station	170 Fitzmaurice STREET	Service Station	Regulation under CLM Act not required	-35.10289587	147.3679002
WAGGA WAGGA	Former BP Service Station	31 Bourke STREET	Service Station	Regulation under CLM Act not required	-35.12626628	147.3547199
WAGGA WAGGA	Caltex (former Mobil) Service Station	106 Edward STREET	Service Station	Regulation under CLM Act not required	-35.11910909	147.3682364
WAGGA WAGGA	Former Caltex Depot	60 Lake Albert DRIVE	Service Station	Regulation under CLM Act not required	-35.12316794	147.37724
WAGGA WAGGA	Former Mobil Depot Wagga Wagga	97-99 Coleman STREET	Other Petroleum	Regulation under CLM Act not required	-35.12173871	147.3576651
WAGGA WAGGA	Ashmont Autoport	Cnr Tobruk Street and Bardia STREET	Service Station	Regulation under CLM Act not required	-35.12517373	147.329919
WAGGA WAGGA	Former Caltex Service Station	343 Hammond AVENUE	Service Station	Regulation under CLM Act not required	-35.12420793	147.4157959
WAGGA WAGGA	Caltex Service Station	56 - 60 Docker St STREET	Service Station	Regulation under CLM Act not required	-35.11737947	147.3558145
WAGGA WAGGA	Former Iron Foundry	212-230 Hammond STREET	Metal Industry	Regulation under CLM Act not required	-35.12605478	147.4045461
WAGGA WAGGA	Coles Express Wagga Wagga	353-355 Edward STREET	Service Station	Regulation under CLM Act not required	-35.11606625	147.3509339
WAGGA WAGGA	Former Wiradjuri landfill	Narrung STREET	Landfill	Regulation under CLM Act not required	-35.09628532	147.3619535
WAGGA WAGGA	Former Gasworks	54 Chaston STREET	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-35.12262069	147.3482778
WAGGA WAGGA	Former Gasworks	Cnr Tarcutta Street and Cross STREET	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-35.10871183	147.3737933

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WAGGA WAGGA	BP Wagga Wagga	180 Edward STREET	Service Station	Regulation under CLM Act not required	-35.11850802	147.3639619
WAGGA WAGGA	Former Dry Cleaning Facility	183 Fitzmaurice STREET	Other Industry	Contamination currently regulated under CLM Act	-35.10209987	147.3683852
WAHROONGA	Coles Express Wahroonga	1601 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.71945571	151.1163002
WAHROONGA	7-Eleven Service Station	1579 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.71974617	151.1168106
WAITARA	Caltex Service Station	59-61 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.71064349	151.1024644
WALGETT	Former Shell Depot	Castlereagh HIGHWAY	Other Petroleum	Regulation under CLM Act not required	-30.00861179	148.1239938
WALLERAWANG	Wallerawang Power Station	1 Main STREET	Other Petroleum	Regulation under CLM Act not required	-33.40339296	150.0855101
WALLERAWANG	Lidsdale Coal Loading Facility	Main STREET	Other Industry	Regulation under CLM Act not required	-33.39996523	150.0737717
WALLSEND	Caltex Maryland Service Station Wallsend	41 Minmi ROAD	Service Station	Regulation under CLM Act not required	-32.88967866	151.6619253
WALLSEND	Coles Express Wallsend East	15 Thomas STREET	Service Station	Regulation under CLM Act not required	-32.90719444	151.6693426
WALLSEND	OneSteel Recycling	64-80 Sandgate ROAD	Metal Industry	Regulation under CLM Act not required	-32.89425477	151.6799648
WALLSEND	Ausgrid Wallsend Depot	Abbott STREET	Other Industry	Regulation under CLM Act not required	-32.90162796	151.6857267
WALLSEND	Cnr of Douglas Street and 111 Newcastle Road Wallsend	111 Newcastle ROAD	Metal Industry	Regulation under CLM Act not required	-32.90416617	151.6832227
WAMBERAL	Caltex Service Station	654 The Entrance ROAD	Service Station	Regulation under CLM Act not required	-33.42338668	151.4375685
WANGI WANGI	Myuna Colliery	Wangi Point ROAD	Other Industry	Regulation under CLM Act not required	-33.06139532	151.5697186

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WARATAH	Waratah Area Health	Turton ROAD	Unclassified	Regulation under CLM Act not required	-32.90961233	151.7260867
WARATAH	Waratah former Gasworks	Turton and Georgetown ROADS	Gasworks	Contamination currently regulated under CLM Act	-32.90591166	151.7272715
WARDELL	Nancy's Cattle Dip, Thurgates Lane, Wardell	Thurgates LANE	Cattle Dip	Regulation under CLM Act not required	-28.9540212	153.4274874
WARILLA	Woolworths Petrol Warilla	43 -57 Shellharbour ROAD	Service Station	Regulation under CLM Act not required	-34.5470966	150.863748
WARKWORTH	Emulsion Plant, Dyno Nobel Asia Pacific Pty Ltd	186 Long Point ROAD	Chemical Industry	Regulation under CLM Act not required	-32.5781708	151.0834387
WARKWORTH	United Colliery	Jerrys Plains ROAD	Other Industry	Regulation under CLM Act not required	-32.5654356	150.9916698
WARNERS BAY	Caltex Service Station	55 King STREET	Service Station	Regulation under CLM Act not required	-32.97418806	151.6476184
WARNERS BAY	7-Eleven (former Mobil) Service Station	393 Hillsborough ROAD	Service Station	Regulation under CLM Act not required	-32.9659363	151.6543264
WARNERS BAY	Historically Filled Land	41-43 Charles STREET	Unclassified	Regulation under CLM Act not required	-32.97340461	151.6464383
WARNERVALE	Former Timber Treatment Plant	Aldenham and Railway ROADS	Other Industry	Contamination formerly regulated under the CLM Act	-33.24732018	151.4469037
WARRAGAMBA	Warragamba Dam Viewing Platform	Eighteenth STREET	Unclassified	Regulation under CLM Act not required	-33.88545624	150.6016219
WARRAGAMBA	Megarrity's Creek Site	Weir ROAD	Unclassified	Regulation under CLM Act not required	-33.8873146	150.5967305
WARRAWONG	Caltex Service Station	75-77 King STREET	Service Station	Regulation under CLM Act not required	-34.49037817	150.888802
WARREN	Former Shell Depot	8 Dubbo STREET	Other Petroleum	Regulation under CLM Act not required	-31.69379262	147.8308088
WARREN	Caltex Warren Service Station	1 Coonamble ROAD	Service Station	Regulation under CLM Act not required	-31.69508383	147.8405578

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WARREN	Former Mobil Warren Depot	16 Dubbo STREET	Other Petroleum	Contamination currently regulated under CLM Act	-31.6943058	147.8314606
WARWICK FARM	Warwick Farm Public School	95 Lawrence Hargrave ROAD	Unclassified	Regulation under CLM Act not required	-33.90978695	150.9291852
WATERLOO	Proposed Construction Site	2 John STREET	Other Industry	Regulation under CLM Act not required	-33.89989686	151.2010324
WATERLOO	Waverley Woollahra Process Plant	355 Botany ROAD	Other Industry	Regulation under CLM Act not required	-33.9063092	151.2042672
WATERLOO	Shell Coles Express Service Station	867-877 South Dowling STREET	Service Station	Regulation under CLM Act not required	-33.90179774	151.2143789
WATERLOO	Lawrence Dry Cleaners	887-893 Bourke STREET	Unclassified	Contamination currently regulated under CLM Act	-33.89897433	151.2101436
WATERLOO	Divercity Waterloo Blocks C & D and adjacent plaza / park	1, 9, 13, 13A, 13B and 23 Archibald Avenue, 20 Dunkerley Place and 850 Bourke STREET	Other Industry	Regulation under CLM Act not required	-33.90200158	151.2098496
WATERLOO	Iconic (Former Chubb Factory) Waterloo	830-838 Elizabeth STREET	Other Industry	Regulation under CLM Act not required	-33.90227718	151.2060305
WATERLOO	22-24 Archibald Avenue	22-24 Archibald AVENUE	Other Petroleum	Regulation under CLM Act not required	-33.90206938	151.2139293
WAUCHOPE	Expressway Spares UST	3 Sancrox ROAD	Other Petroleum	Regulation under CLM Act not required	-31.44163879	152.8231104
WAUCHOPE	Former Shell Depot	56-64 High STREET	Other Petroleum	Regulation under CLM Act not required	-31.45804845	152.7314151
WAUCHOPE	Wauchope Service Station	57 High STREET	Service Station	Regulation under CLM Act not required	-31.45737022	152.7305018
WAUCHOPE	Former Timber Treatment Site	Blackbutt DRIVE	Other Industry	Regulation under CLM Act not required	-31.46575645	152.7228555
WAUCHOPE	Shell Coles Express Service Station	64 High STREET	Service Station	Regulation under CLM Act not required	-31.45764495	152.7315975
WAUCHOPE	Wauchope Public Primary School	2 Waugh STREET	Unclassified	Regulation under CLM Act not required	-31.45602953	152.7295059

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WAVERTON	SRA Land	95 Bay ROAD	Unclassified	Contamination formerly regulated under the CLM Act	-33.83716728	151.1969497
WAVERTON	Berry's Bay Woodley's Marina	1 Balls Head DRIVE	Other Industry	Contamination formerly regulated under the POEO Act	-33.84441851	151.1947433
WAVERTON	Oyster Cove AGL	2 King STREET	Gasworks	Ongoing maintenance required to manage residual contamination (CLM Act)	-33.83637995	151.193541
WEE JASPER	Wee Jasper Tavern	6499 Wee Jasper ROAD	Other Industry	Regulation under CLM Act not required	-35.10992483	148.679428
WELLINGTON	Former Caltex Service Station	124-128 Lee STREET	Service Station	Regulation under CLM Act not required	-32.55082729	148.9411537
WELLINGTON	BP Wellington Service Station	35A Maxwell STREET	Service Station	Regulation under CLM Act not required	-32.55835121	148.9447284
WELLINGTON	Woolworths Petrol Wellington	79 Lee STREET	Service Station	Regulation under CLM Act not required	-32.54874227	148.9408531
WELLINGTON	The Wash Shed (Laundromat)	67 Gobolion STREET	Gasworks	Under assessment	-32.545525	148.943732
WELLINGTON	Police Citizens Youth Club (PCYC)	69 Gobolion STREET	Gasworks	Under assessment	-32.545654	148.944005
WELLINGTON	J&J Mechanical	1 Warrawee STREET	Gasworks	Under assessment	-32.545829	148.943352
WENTWORTH	Caltex - Wentworth	110 Adams STREET	Service Station	Regulation under CLM Act not required	-34.1024927	141.9160539
WENTWORTH FALLS	Bodington Hospital	Bodington DRIVE	Unclassified	Contamination formerly regulated under the CLM Act	-33.73204611	150.3874554
WENTWORTH POINT	RMS Eastern Precinct	3-7 Burroway ROAD	Other Petroleum	Regulation under CLM Act not required	-33.8233882	151.0815668
WENTWORTH POINT	Former TNT Express	23 Bennelong PARKWAY	Other Petroleum	Regulation under CLM Act not required	-33.83115118	151.0726636
WENTWORTHVILLE	Former Workshop	2 Rawson Rd and 8 Barfil CRESCENT	Unclassified	Regulation under CLM Act not required	-33.81568808	150.9671853

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WERRINGTON	Caltex Service Station	Cnr Dunheved Rd and Henry Lawson DRIVE	Service Station	Regulation under CLM Act not required	-33.74577725	150.7409877
WERRINGTON	Claremont Meadows Former landfill	Gipps STREET	Landfill	Regulation under CLM Act not required	-33.77341076	150.7557628
WERRINGTON COUNTY	7-Eleven Werrington	Lot 122 Dunheved ROAD	Service Station	Regulation under CLM Act not required	-33.74699408	150.7428609
WEST BALLINA	Caltex Big Prawn Service Station	Pacific HIGHWAY	Service Station	Contamination formerly regulated under the CLM Act	-28.86374913	153.5321482
WEST GOSFORD	Caltex Service Station	283 Manns ROAD	Service Station	Regulation under CLM Act not required	-33.41659727	151.325219
WEST GOSFORD	Caltex Service Station	69-71 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.42729985	151.3214621
WEST GOSFORD	Caltex Service Station	30a Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.42778813	151.3190581
WEST GOSFORD	Adcock Memorial Park	Central Coast HIGHWAY	Landfill	Contamination currently regulated under CLM Act	-33.42963075	151.3273331
WEST NOWRA	Endeavour Energy Nowra Field Service Centre	20 Depot ROAD	Other Industry	Regulation under CLM Act not required	-34.88993085	150.5878854
WEST PENNANT HILLS	7-Eleven (former Mobil) Service Station	552 Pennant Hills ROAD	Service Station	Regulation under CLM Act not required	-33.74686545	151.0508067
WEST RYDE	7-Eleven (former Mobil) Service Station	917 Victoria ROAD	Service Station	Regulation under CLM Act not required	-33.80921103	151.0932917
WEST RYDE	Pfizer Australia Pty Ltd	38-42 Wharf ROAD	Chemical Industry	Regulation under CLM Act not required	-33.81021085	151.0693631
WEST RYDE	Reckitt Benckiser	44 Wharf ROAD	Chemical Industry	Regulation under CLM Act not required	-33.81172205	151.0692752
WEST RYDE	JHM Property Development	2A Mellor STREET	Other Industry	Regulation under CLM Act not required	-33.81207534	151.094598
WEST TAMWORTH	Woolworths Petrol	119 Bridge STREET	Service Station	Regulation under CLM Act not required	-31.09358262	150.9167693

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WEST WALLSEND	West Wallsend Cemetery	6 Cemetery ROAD	Unclassified	Regulation under CLM Act not required	-32.9025615	151.5701278
WEST WYALONG	Lowes Petroleum (Former BP) Depot West Wyalong	Compton (formerly known as Town Bypass/Railway Road) ROAD	Other Petroleum	Regulation under CLM Act not required	-33.93440247	147.2154596
WEST WYALONG	Caltex Depot	(Wyalong By-pass Rd) Lot 1-3 Showground ROAD	Service Station	Regulation under CLM Act not required	-33.92580863	147.1978504
WEST WYALONG	Former Mobil Depot	104 Compton ROAD	Other Petroleum	Regulation under CLM Act not required	-33.93449194	147.2147948
WESTON	Illegal Dumping Site	Corner Kline Street & First STREET	Unclassified	Regulation under CLM Act not required	-32.81367986	151.4551507
WETHERILL PARK	Former Fuel Storage Depot	200-212 Cowpasture ROAD	Other Petroleum	Regulation under CLM Act not required	-33.84568871	150.8764012
WETHERILL PARK	Sims Wetherill Park	35-37 Frank STREET	Metal Industry	Regulation under CLM Act not required	-33.84056122	150.9086265
WETHERILL PARK	Shell Coles Express Service Station	565 Polding STREET	Service Station	Regulation under CLM Act not required	-33.8569731	150.8992804
WETHERILL PARK	Cleanaway (Formerly Nationwide Oil) Wetherill Park	6 Davis ROAD	Other Industry	Regulation under CLM Act not required	-33.83770038	150.9045197
WETHERILL PARK	BOC Sydney Operations Centre	428-440 Victoria STREET	Chemical Industry	Regulation being finalised	-33.84375988	150.8960027
WETHERILL PARK	Camide Former Landfill	Newton ROAD	Landfill	Regulation under CLM Act not required	-33.83898879	150.8963813
WETHERILL PARK	Fairfield Sustainable Resource Centre	Corner Hassall Street and Widemere ROAD	Other Industry	Under assessment	-33.83860329	150.9170013
WICKHAM	Caltex Terminal and "Building 33" on offsite adjacent land	156 Hannell Street and 33 Annie STREET	Other Petroleum	Contamination currently regulated under CLM Act	-32.9153413	151.7560062
WICKHAM	Former Warehouse	10 Dangar STREET	Unclassified	Regulation under CLM Act not required	-32.92383206	151.759761
WICKHAM	Former Factory	57 Annie STREET	Other Industry	Regulation under CLM Act not required	-32.91524827	151.7539893

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WICKHAM	Railcorp Wickham	50 Railway STREET	Other Industry	Regulation under CLM Act not required	-32.9210433	151.7544687
WICKHAM	Fuchs Lubricants Wickham	2 Holland STREET	Other Industry	Contamination currently regulated under CLM Act	-32.9214709	151.7556928
WILBERFORCE	Former Drum Reconditioners	12-14 Box AVENUE	Other Industry	Contamination formerly regulated under the CLM Act	-33.5453884	150.8587934
WILBERFORCE	Former Solvent Recycling Site	13 Box AVENUE	Chemical Industry	Regulation under CLM Act not required	-33.54557427	150.8577006
WILEY PARK	Sydney Water Property	1B Hillcrest STREET	Other Industry	Regulation under CLM Act not required	-33.92391634	151.0676256
WILLIAMTOWN	Hunter Land Effluent Pond	38 Cabbage Tree ROAD	Other Industry	Regulation under CLM Act not required	-32.80750069	151.8310107
WILLOUGHBY	Shell Coles Express Service Station	616-626 Willoughby ROAD	Service Station	Regulation under CLM Act not required	-33.80593769	151.1988559
WILLOUGHBY	Caltex Service Station	157 Penhur STREET	Service Station	Regulation under CLM Act not required	-33.79793513	151.1981926
WILLOUGHBY	BP Willoughby Express Tower	498 Willoughby STREET	Service Station	Contamination currently regulated under POEO Act	-33.81022918	151.199315
WILLOUGHBY	Bicentennial Reserve, Flat Rock Gully, Willoughby Leisure Centre	Small STREET	Other Industry	Regulation being finalised	-33.81232124	151.2030744
WILLOUGHBY EAST	Willoughby Bus Depot	Corner Ann Street and Stan STREET	Other Industry	Regulation under CLM Act not required	-33.7982569	151.2038993
WILTON	Condell Park Homestead	(Part Lot 17 DP 270536) Condell Park ROAD	Unclassified	Regulation under CLM Act not required	-34.21910141	150.6837962
WINDANG	Caltex Service Station	244-248 Windang ROAD	Service Station	Regulation under CLM Act not required	-34.5274434	150.8691161
WINDSOR	Former Caltex Service Station	46-52 Macquarie STREET	Service Station	Regulation under CLM Act not required	-33.60783315	150.8213428
WINDSOR	Former Caltex Windsor Depot and Service Station	48-50 Mileham STREET	Service Station	Regulation under CLM Act not required	-33.61538627	150.8157517

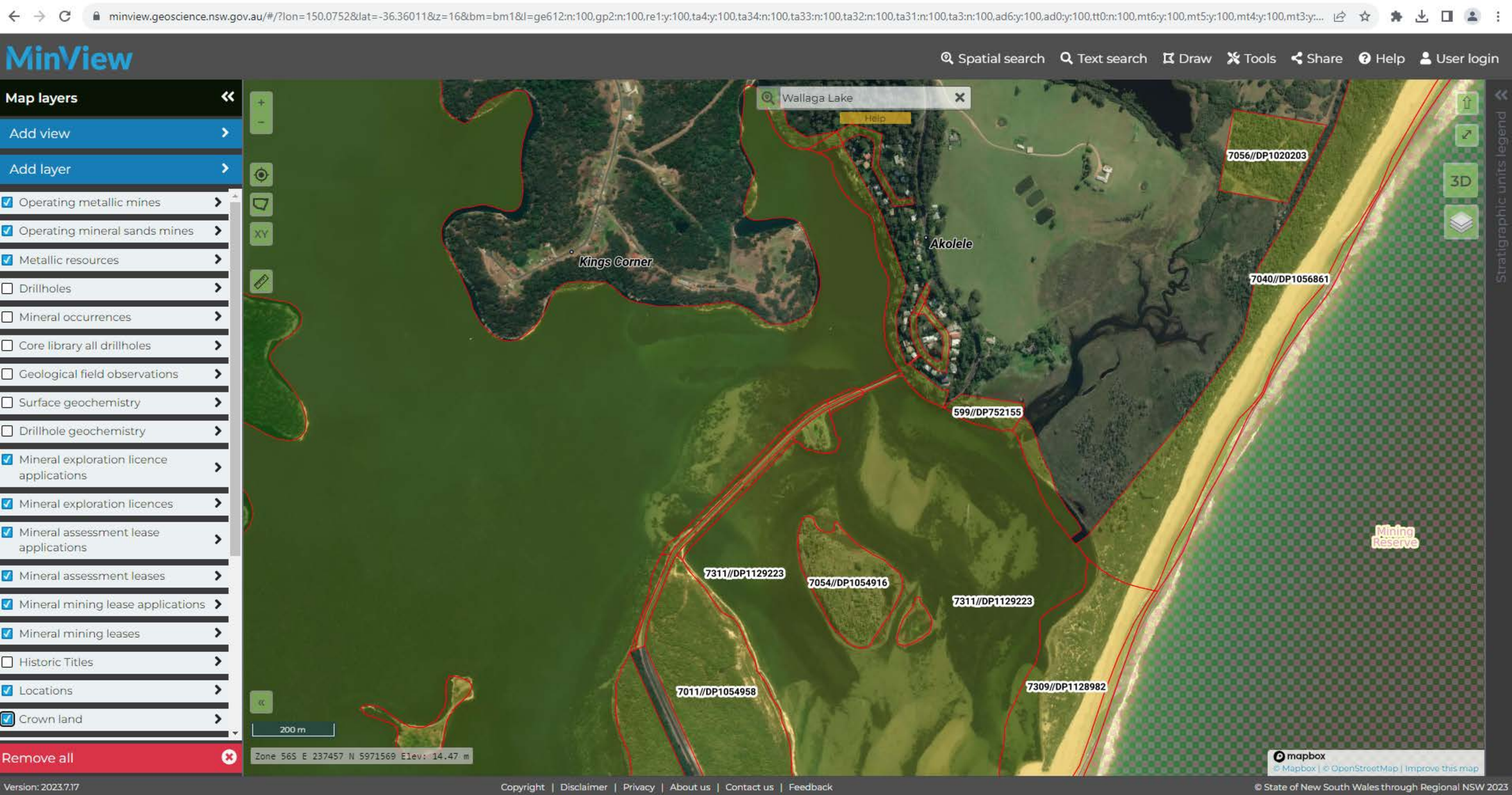
Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WINDSOR	Woolworths (former Caltex) Service Station	Cnr Macquarie Street & Baker STREET	Service Station	Regulation under CLM Act not required	-33.60569346	150.8232803
WINDSOR	Former Windsor Fire Station	19 Fitzgerald STREET	Other Industry	Regulation under CLM Act not required	-33.6064873	150.8199089
WINDSOR	Windsor Zone Substation	56-60 Macquarie STREET	Other Industry	Regulation under CLM Act not required	-33.60812428	150.8208856
WINGHAM	Former Caltex Service Station	1036-1038 Wingham ROAD	Service Station	Regulation under CLM Act not required	-31.86236594	152.3805752
WINGHAM	Bogas Service Station	Cnr Primrose Street and Isabella STREET	Service Station	Regulation under CLM Act not required	-31.86833656	152.3716346
WINMALEE	Prime Winmalee Service Station	281 Hawkesbury ROAD	Service Station	Regulation under CLM Act not required	-33.68223276	150.5997203
WIRLINGA	Former Liquid Waste Disposal Facility	704 Riverina ROAD	Unclassified	Regulation under CLM Act not required	-36.07103958	147.0193522
WOLLI CREEK	Former Ausgrid Substation 10061	13 Gertrude STREET	Other Industry	Regulation under CLM Act not required	-33.93364031	151.1543818
WOLLONGONG	Redevelopment site	33 - 39 Beatson STREET	Other Petroleum	Regulation under CLM Act not required	-34.43196083	150.8976661
WOLLONGONG	Metro Petroleum	394 - 396 Crown STREET	Service Station	Under assessment	-34.425736	150.877619
WOLLONGONG	Caltex Service Station	9 Flinders STREET	Service Station	Regulation under CLM Act not required	-34.41505616	150.8932515
WOLLONGONG	Greenhouse Park	Springhill ROAD	Landfill	Contamination currently regulated under CLM Act	-34.44119949	150.8931764
WOLLONGONG	Former Wollongong Gasworks	120 and 122 Smith STREET	Gasworks	Regulation under CLM Act not required	-34.42030173	150.8906745
WOLLONGONG	Woolworths Service Station	425 Crown STREET	Service Station	Contamination currently regulated under CLM Act	-34.42637378	150.8799288
WOLLONGONG	Wollongong Harbour Central Spur	Off Endeavour DRIVE	Other Petroleum	Regulation under CLM Act not required	-34.42066879	150.906821

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WOLLONGONG	Commercial Premises	76-78 Auburn STREET	Other Industry	Under assessment	-34.432119	150.888112
WOODBURN	Caltex Service Station	129 River STREET	Service Station	Regulation under CLM Act not required	-29.07206887	153.3409769
WOODBURN	Crown Reserve 88037 Woodburn	Pacific HIGHWAY	Landfill	Regulation under CLM Act not required	-29.06580577	153.3541886
WOOLGOOLGA	Caltex Woolgoolga Service Station	16 Bosworth ROAD	Service Station	Regulation under CLM Act not required	-30.12569561	153.1946006
WOOLGOOLGA	United Petroleum Service Station (1868 Solitary Islands Way)	56 Clarence STREET	Service Station	Contamination currently regulated under CLM Act	-30.11045544	153.1904609
WOOLLAHRA	Former Service Station	20 Wallis STREET	Service Station	Regulation under CLM Act not required	-33.8901965	151.2372752
WOOLLAHRA	Proposed Jewish Care Centre	7-21 Saber STREET	Unclassified	Regulation under CLM Act not required	-33.8904055	151.2480062
WOOLLAHRA	Caltex Woollahra Service Station	116 Old South Head ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.88959697	151.2553736
WOOLLOOMOOLOO	Former BP Service Station	2 Dowley STREET	Service Station	Contamination being managed via the planning process (EP&A Act)	-33.86940191	151.2218741
WOOLOMIN	Woolomin Gold Rush Store	65 Nundle ROAD	Other Petroleum	Contamination formerly regulated under the CLM Act	-31.30415134	151.149729
WOOLOOWARE	Caltex Service Station	100 Woolooware ROAD	Service Station	Regulation under CLM Act not required	-34.05274635	151.1408413
WOOLOOWARE	Oyster Farm	Captain Cook DRIVE	Other Industry	Regulation under CLM Act not required	-34.03807914	151.1476055
WOONGARRAH	Former Warnervale Landfill	236-264 Hakone ROAD	Landfill	Regulation under CLM Act not required	-33.2376313	151.464362
WOOTTON	Former Chemical Spill Site	11859 Pacific HIGHWAY	Chemical Industry	Regulation under CLM Act not required	-32.28168548	152.3117819
WOY WOY	Mobil Former Woy Woy Service Station and adjacent land	177-181 Blackwall ROAD	Service Station	Contamination formerly regulated under the CLM Act	-33.49257884	151.3273559

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
WOY WOY	Barry Robertson Holden	231 Blackwall ROAD	Service Station	Regulation under CLM Act not required	-33.49621068	151.3285128
WOY WOY	Bogas Service Station	66 Memorial AVENUE	Service Station	Contamination currently regulated under CLM Act	-33.5069738	151.3315579
WOY WOY	Rogers Park	Dunban ROAD	Landfill	Regulation under CLM Act not required	-33.50009693	151.3181347
WOY WOY	Austin Butler Memorial Oval	Blackwall ROAD	Landfill	Regulation under CLM Act not required	-33.48672201	151.3283032
WOY WOY	James Browne Oval	Welcome STREET	Landfill	Regulation under CLM Act not required	-33.49720596	151.3242986
WOY WOY	7-Eleven Service Station	Corner Rawson and Ocean Beach ROADS	Service Station	Regulation under CLM Act not required	-33.49379351	151.3201639
WYALONG	Caltex Service Station	50 Neeld (Newell Highway) STREET	Service Station	Regulation under CLM Act not required	-33.92665025	147.2446546
WYOMING	Caltex Service Station Wyoming	465 Pacific HIGHWAY	Service Station	Regulation under CLM Act not required	-33.40945391	151.3499812
WYONG	Wyong Bayer/Kemcon	16 Lucca ROAD	Chemical Industry	Contamination currently regulated under POEO Act	-33.26192339	151.4429446
WYONG	Caltex Service Station	M1 Pacific (Northbound) MOTORWAY	Service Station	Regulation under CLM Act not required	-33.25641477	151.4024821
WYONG	Caltex Service Station	M1 Pacific (Southbound) MOTORWAY	Service Station	Regulation under CLM Act not required	-33.25330747	151.4053862
WYONG	IXOM Facility	8 Pavitt CRESCENT	Other Industry	Regulation under CLM Act not required	-33.26379108	151.4485113
YAGOONA	Galserv Galvanising Services	117-153 Rookwood ROAD	Metal Industry	Contamination currently regulated under POEO Act	-33.89493085	151.0388013
YAGOONA	BP Service Station Potts Hill (Yagoona)	155 Rookwood ROAD	Service Station	Regulation under CLM Act not required	-33.89330525	151.0390969
YAGOONA	7-Eleven (former Mobil) Service Station	519 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.90760623	151.0207783

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
YAGOONA	Shell Coles Express Service Station	112 Rookwood ROAD	Service Station	Regulation under CLM Act not required	-33.89856213	151.0370458
YAGOONA	Sydney Water Corporation Potts Hill Complex	91 Brunker ROAD	Other Industry	Regulation under CLM Act not required	-33.89887589	151.0289165
YALLAH	Tallawarra Power Station site	Princes HIGHWAY	Unclassified	Ongoing maintenance required to manage residual contamination (CLM Act)	-34.52412143	150.8062159
YAMBA	Caltex Service Station	22 Treelands DRIVE	Service Station	Regulation under CLM Act not required	-29.42701701	153.3279204
YANCO	Former Service Station	14 Main AVENUE	Service Station	Contamination formerly regulated under the CLM Act	-34.60356494	146.4105016
YASS	Caltex Service Station	228 Comur STREET	Service Station	Regulation under CLM Act not required	-34.84440036	148.9140179
YASS	Caltex Service Station	1715 Yass Valley WAY	Service Station	Regulation under CLM Act not required	-34.80708856	148.8824228
YASS	Former Mobil Depot Yass and adjacent land	54-58 Laidlaw STREET	Service Station	Ongoing maintenance required to manage residual contamination (CLM Act)	-34.83226934	148.9069512
YASS	Former Gasworks	Dutton STREET	Gasworks	Contamination currently regulated under CLM Act	-34.83982614	148.9060029
YASS	Transgrid Depot Yass	Perry STREET	Unclassified	Under assessment	-34.86238341	148.9052809
YENNORA	Former Alcoa Australia Rolled Products Facility - Area 3	1 Kiora CRESCENT	Metal Industry	Regulation under CLM Act not required	-33.86568158	150.9649297
YENNORA	Spicer Axle Australia Manufacturing Facility	205-231 Fairfield ROAD	Other Industry	Regulation under CLM Act not required	-33.85655114	150.9579167
YENNORA	Former Caltex Service Station	137-141 Fairfield STREET	Service Station	Regulation under CLM Act not required	-33.86824768	150.9706137
YENNORA	Former Metal Plant	44 Larra STREET	Metal Industry	Contamination formerly regulated under the CLM Act	-33.86340576	150.9764349
YENNORA	TetraPak Site	6 Foray STREET	Other Industry	Contamination formerly regulated under the CLM Act	-33.8557183	150.9561605

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
YENNORA	19 Pine Road, Yennora	Pine ROAD	Metal Industry	Contamination currently regulated under CLM Act	-33.86713232	150.9621172
YETHOLME	Yetholme CCA Timber Treatment Plant	351 Eusdale ROAD	Other Industry	Contamination formerly regulated under the CLM Act	-33.45386256	149.8537787
YOUNG	Former Mobil Depot and Service Station Young	149 Lovell STREET	Service Station	Regulation under CLM Act not required	-34.31024587	148.290424
YOUNG	Former Shell Depot	166 Nasmyth STREET	Other Petroleum	Regulation under CLM Act not required	-34.31025192	148.2931008
YOUNG	Former battery recycler	45 Nasmyth STREET	Metal Industry	Contamination currently regulated under CLM Act	-34.31201571	148.306772
YOUNG	Adjacent to former battery recycler	47 Nasmyth STREET	Metal Industry	Contamination formerly regulated under the CLM Act	-34.31176273	148.3064765
YOUNG	Mobil Depot	186 Nasmyth STREET	Other Petroleum	Contamination currently regulated under CLM Act	-34.30954389	148.2908476
YOUNG	Former Caltex Depot	95 Lovell STREET	Service Station	Regulation under CLM Act not required	-34.31127119	148.2955092
ZETLAND	Energy Australia/ Ausgrid Zetland Depot	122 - 138 Joynton AVENUE	Other Industry	Regulation under CLM Act not required	-33.90883116	151.2101184
ZETLAND	Former Goodrich Control Systems, Zetland	84 - 92 Epsom ROAD	Other Industry	Regulation under CLM Act not required	-33.91025707	151.2078048


minview.geoscience.nsw.gov.au/#/?lon=150.0752&lat=-36.36011&z=16&bm=bm1&l=ge612:n:100,gp2:n:100,re1:y:100,ta4:y:100,ta34:n:100,ta33:n:100,ta32:n:100,ta31:n:100,ta3:n:100,ad6:y:100,ad0:y:100,tt0:n:100,mt6:y:100,mt5:y:100,mt4:y:100,mt3:y:...
MinView
Spatial search
Text search
Draw
Tools
Share
Help
User login
Map layers
Add view
Add layer
Operating metallic mines
Operating mineral sands mines
Metallic resources
Drillholes
Mineral occurrences
Core library all drillholes
Geological field observations
Surface geochemistry
Drillhole geochemistry
Mineral exploration licence applications
Mineral exploration licences
Mineral assessment lease applications
Mineral assessment leases
Mineral mining lease applications
Mineral mining leases
Historic Titles
Locations
Crown land
Remove all
Wallaga Lake
Help
Kings Corner
Akolele
7056//DP1020203
7040//DP1056861
599//DP752155
Mining Reserve
7311//DP1129223
7054//DP1054916
7311//DP1129223
7011//DP1054958
7309//DP1128982
3D
XY
200 m
Zone 56S E 237457 N 5971569 Elev: 14.47 m
Stratigraphic units legend
mapbox
© Mapbox | © OpenStreetMap | Improve this map
Version: 2023.7.17
Copyright | Disclaimer | Privacy | About us | Contact us | Feedback
© State of New South Wales through Regional NSW 2023

Search Register of Native Title Claims
Search National Native Title Register
Search Register of Indigenous Land Use Agreements
Search Records of Section 31 Agreements
Search Applications and Determinations
Search Future Act Applications and Determinations

Search National Native Title Register

The National Native Title Register (NNTR) is a register established under s. 192 of the *Native Title Act 1993* (Cth).

The NNTR contains determinations of native title made by:

- the High Court of Australia
- the Federal Court of Australia
- or a recognised body such as South Australia's Supreme Court and Environment Resources and Development Court.

Further information about the NNTR is available.

Tribunal file no.	
Federal Court file no.	
Short name	
Case name	
State or Territory	ALL
Registered Native Title Body Corporate*	
Representative A/TSI body area	
Local government area	Bega Valley Shire Council
Determination type	ALL
Legal process	ALL
Determination outcome	ALL
Determination date between	and
Sort by	Determination date

Search >

*Please note: current contact details for the Registered Native Title Body Corporate are available from the Office of the Registrar of Indigenous Corporations www.oric.gov.au

Your search returned **4** matches.

Short name	Case name	Legal process	Determination date	Outcome
Eden Local Aboriginal Land Council #2	Eden Local Aboriginal Land Council	Consent	15/07/2010	Native title does not exist
Eden Local Aboriginal Land Council #3	Eden Local Aboriginal Land Council	Consent	15/07/2010	Native title does not exist
Eden Local Aboriginal Land Council	Eden Local Aboriginal Land Council v Minister for Lands and NTSCORP Ltd	Consent	17/12/2008	Native title does not exist
Eden Local Aboriginal Land Council	Cruse v New South Wales Native Title Services Ltd	Unopposed	23/08/2006	Native title does not exist

https://geo.seed.nsw.gov.au/Public_Viewer/index.html?viewer=Public_Viewer&locale=en-AU

Vantagepoint (NGH) | Welcome to the NG... | Support - Levit8 | State HEritage Inve... | Large-Scale Solar E... | NSW Combined Hi... | ePlanning Spatial Vi... | Fisheries | Wind energy - | Ahims Search | Contaminated land

The SEED Initiative | Citizen Science Hub | SEED Miners and Explorers Map

NSW GOVERNMENT

SEED
The Central Resource for
Sharing and Enabling Environmental Data in NSW

Dataset Catalogue | Dashboards | Need Help?

Legend

Filter Swatches... | Filter

- Tableland Swamp Meadow
- Tableland Swamp Woodland
- Tantawangalo Wet Shrub Forest
- Temperate Dry Rainforest
- Temperate Littoral Rainforest
- Timbillica Dry Shrub Forest
- Waalimma Dry Grass Forest
- Wadbilliga Dry Shrub Forest
- Wadbilliga Gorge Dry Forest
- Wadbilliga Heath Forest
- Wallagaraugh Dry Grass Forest
- Warm Temperate Layered Forest
- Western Tablelands Dry Forest
- Wingecarribee-Burragorang Sandstone Forest
- Wog Wog Dry Grass Forest
- Wollondilly-Cox-Shoalhaven Gorge Woodland
- Wombeyan Caves Woodland
- Yalwal Shale-Sandstone Transition Forest
- Yarrawa Temperate Rainforest

Legend | SEED Datasets (100)

I want to...

Labels

Class: e70
Map Unit: Seagrass Meadows (Zostera)

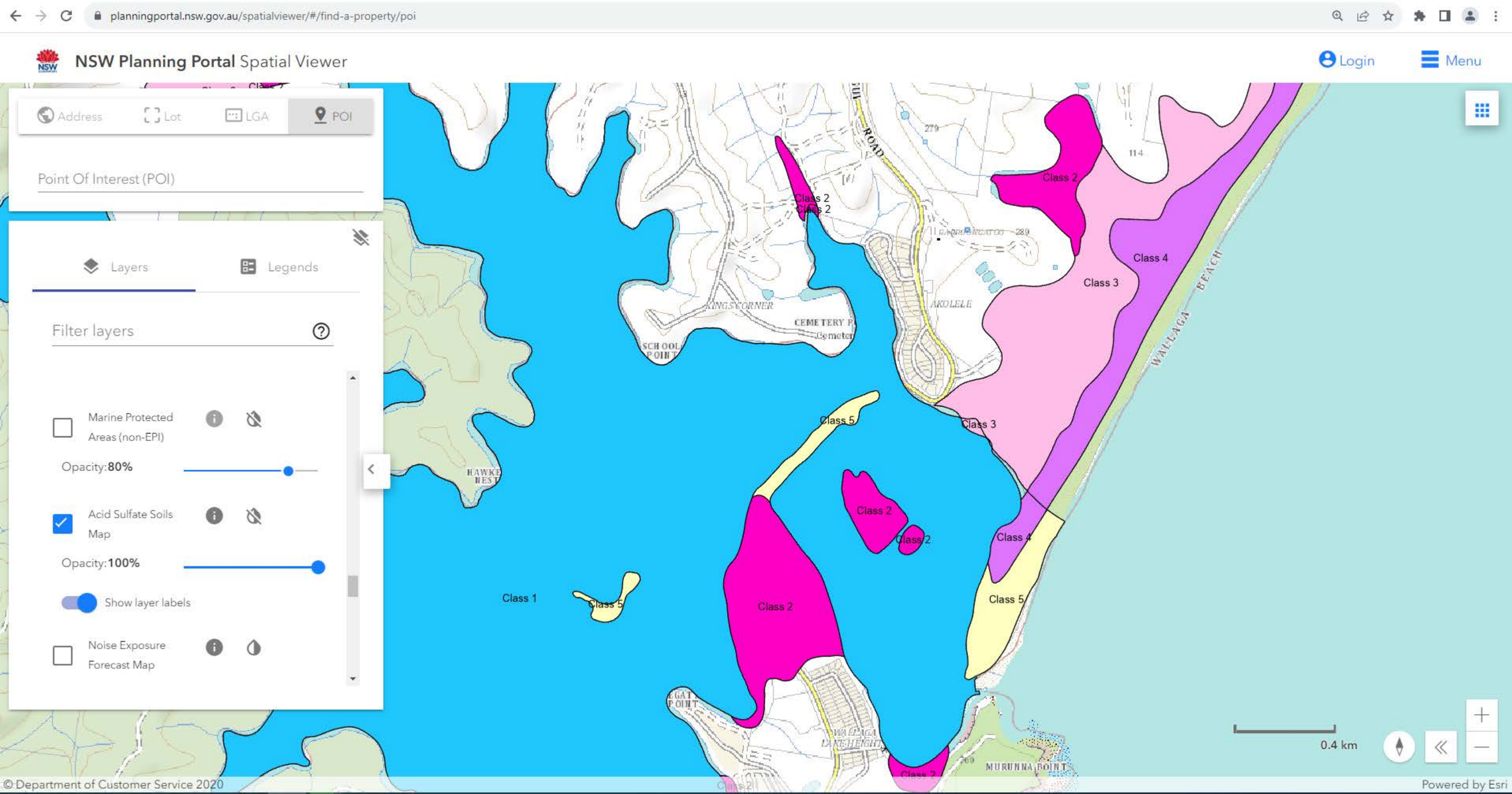
Metadata

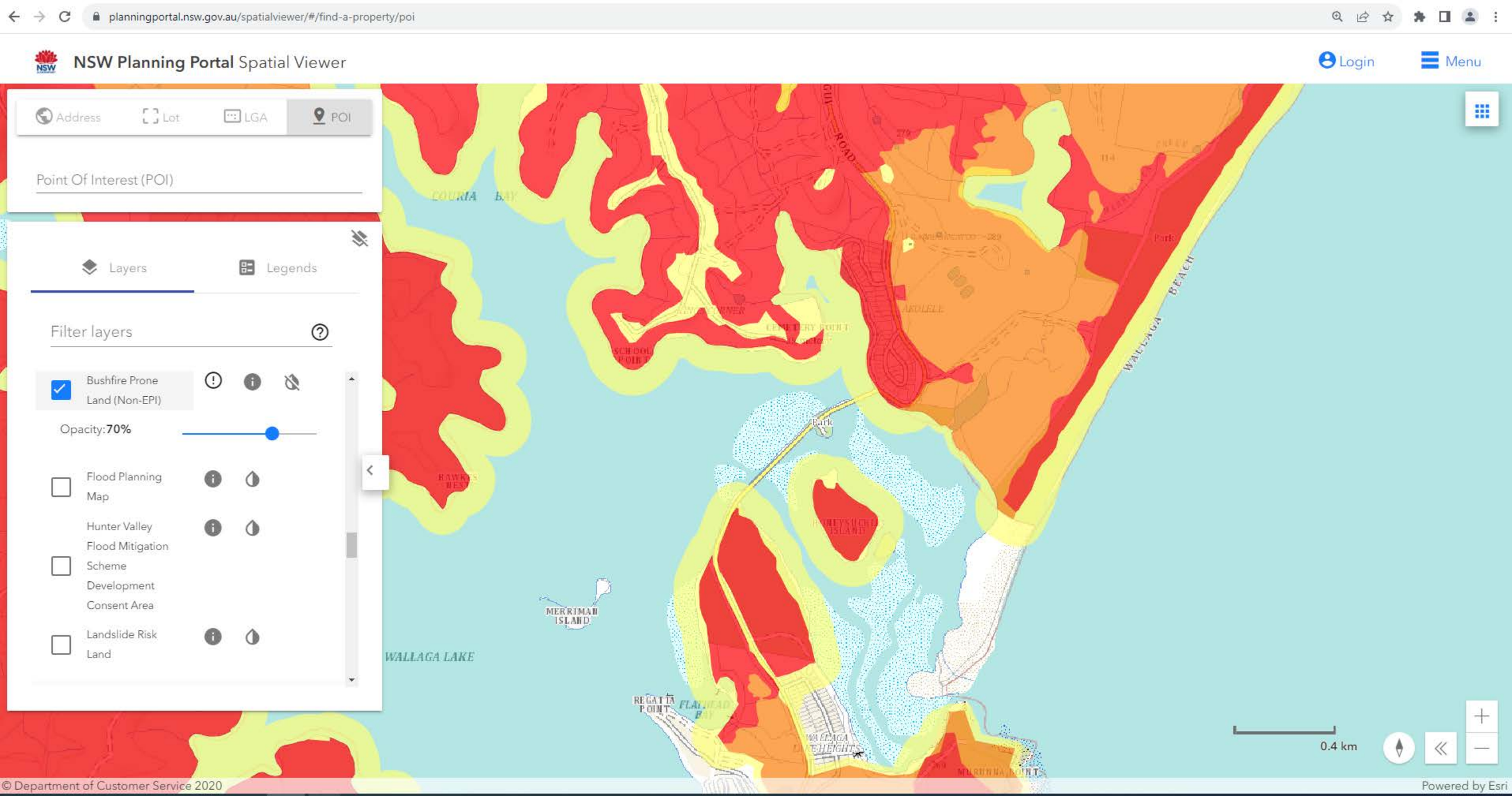
Remove from Results | View Additional Details

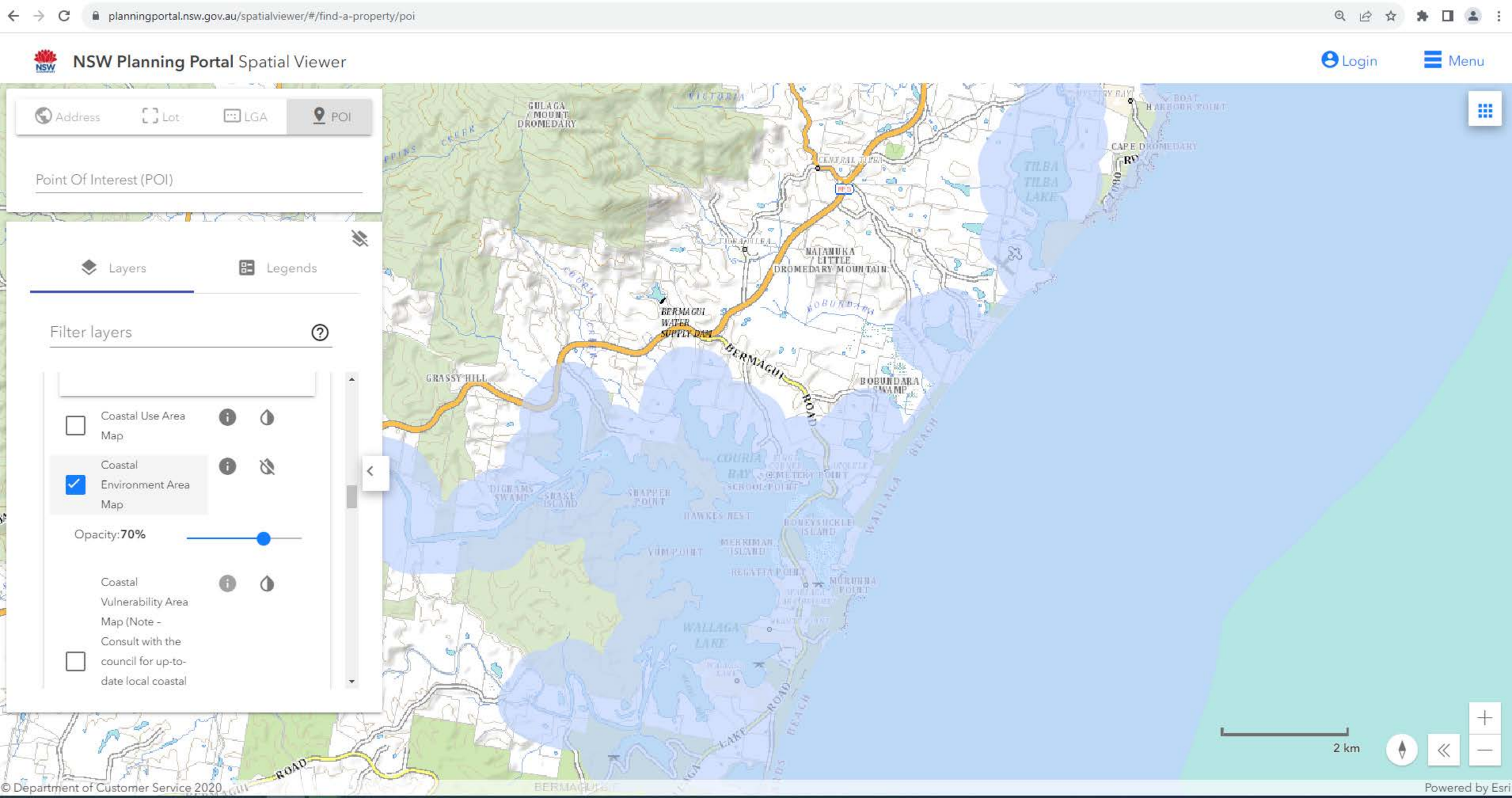
Tools

Merriwinga Creek
Batemans Marine Park
Wallaga Lake Road
Payne's Island
Clr
e70
9

Open Str... | 0 20 40m | Provide Feedback


planningportal.nsw.gov.au/spatialviewer/#/find-a-property/poi
NSW Planning Portal Spatial Viewer
Login
Menu
Address
Lot
LGA
POI
Point Of Interest (POI)
Layers
Legends
Filter layers
Marine Protected Areas (non-EPI)
Opacity:80%
Acid Sulfate Soils Map
Opacity:100%
Show layer labels
Noise Exposure Forecast Map
Class 1
Class 2
Class 3
Class 4
Class 5
KINGS CORNER
CEMETERY
SCHOOL POINT
AKOLELE
WALLAGA BEACH
MURUNNA POINT
0.4 km
© Department of Customer Service 2020
Powered by Esri


planningportal.nsw.gov.au/spatialviewer/#/find-a-property/poi
NSW Planning Portal Spatial Viewer
Login
Menu
Address
Lot
LGA
POI
Point Of Interest (POI)
Layers
Legends
Filter layers
Bushfire Prone Land (Non-EPI)
Opacity:70%
Flood Planning Map
Hunter Valley Flood Mitigation Scheme Development Consent Area
Landslide Risk Land
COUNTRY ROAD
WALLAGA BEACH
Park
MERRIMAN ISLAND
WALLAGA LAKE
REGATTA POINT
0.4 km
© Department of Customer Service 2020
Powered by Esri


planningportal.nsw.gov.au/spatialviewer/#/find-a-property/poi
NSW Planning Portal Spatial Viewer
Login
Menu
Address
Lot
LGA
POI
Point Of Interest (POI)
Layers
Legends
Filter layers
Coastal Use Area Map
Coastal Environment Area Map
Opacity:70%
Coastal Vulnerability Area Map (Note - Consult with the council for up-to-date local coastal
GULAGA / MOUNT DROMEDARY
CAPE DROMEDARY
NAJANUKA / LITTLE DROMEDARY MOUNTAIN
BERMAGUI WATER SUPPLY DAM
BERMAGUI ROAD
GRASSY HILL
BOBUNDARA SWAMP
COURIA BAY
WALLAGA LAKE
2 km
© Department of Customer Service 2020
Powered by Esri

Address Lot LGA POI

Point Of Interest (POI)

Layers Legends

Filter layers

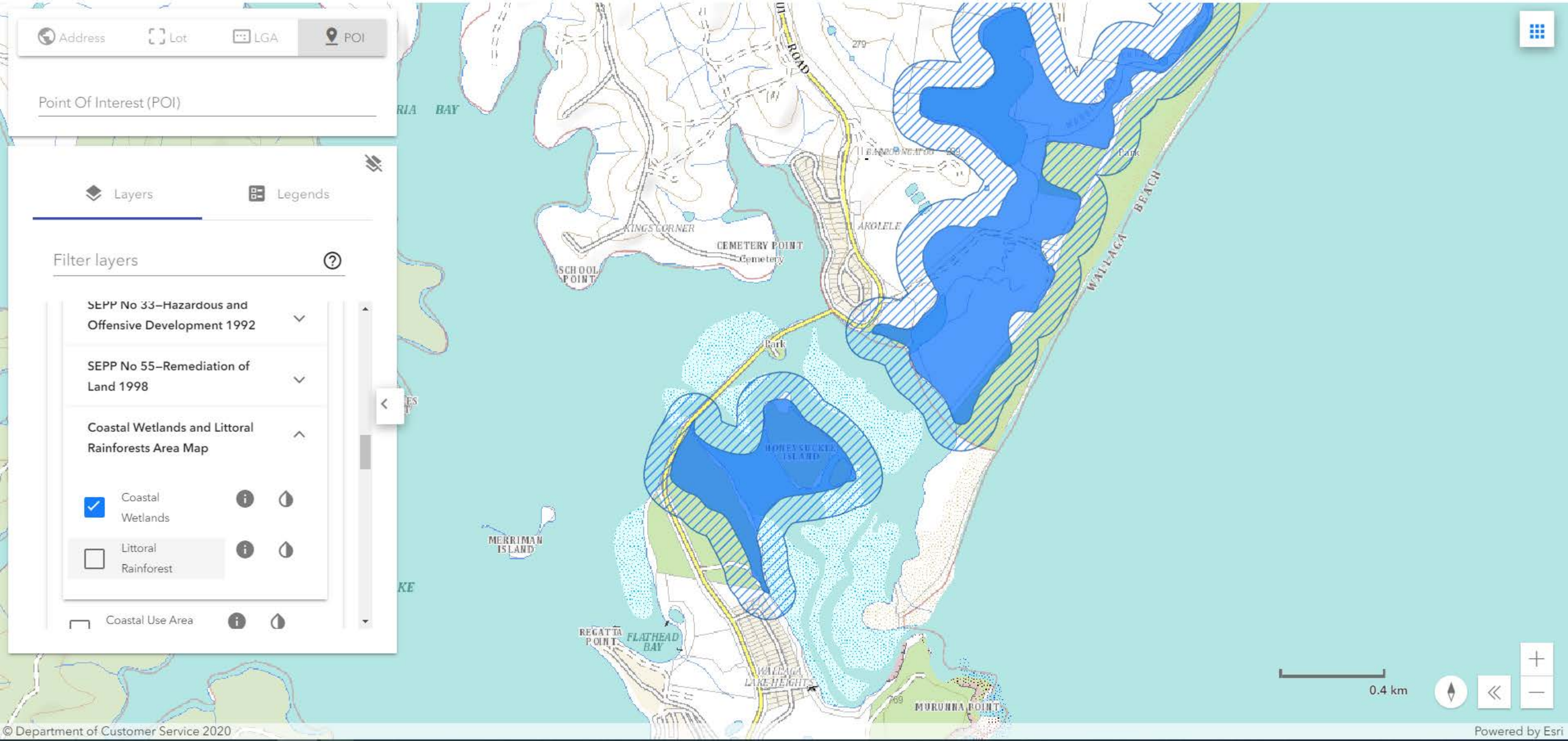
SEPP No 33–Hazardous and Offensive Development 1992

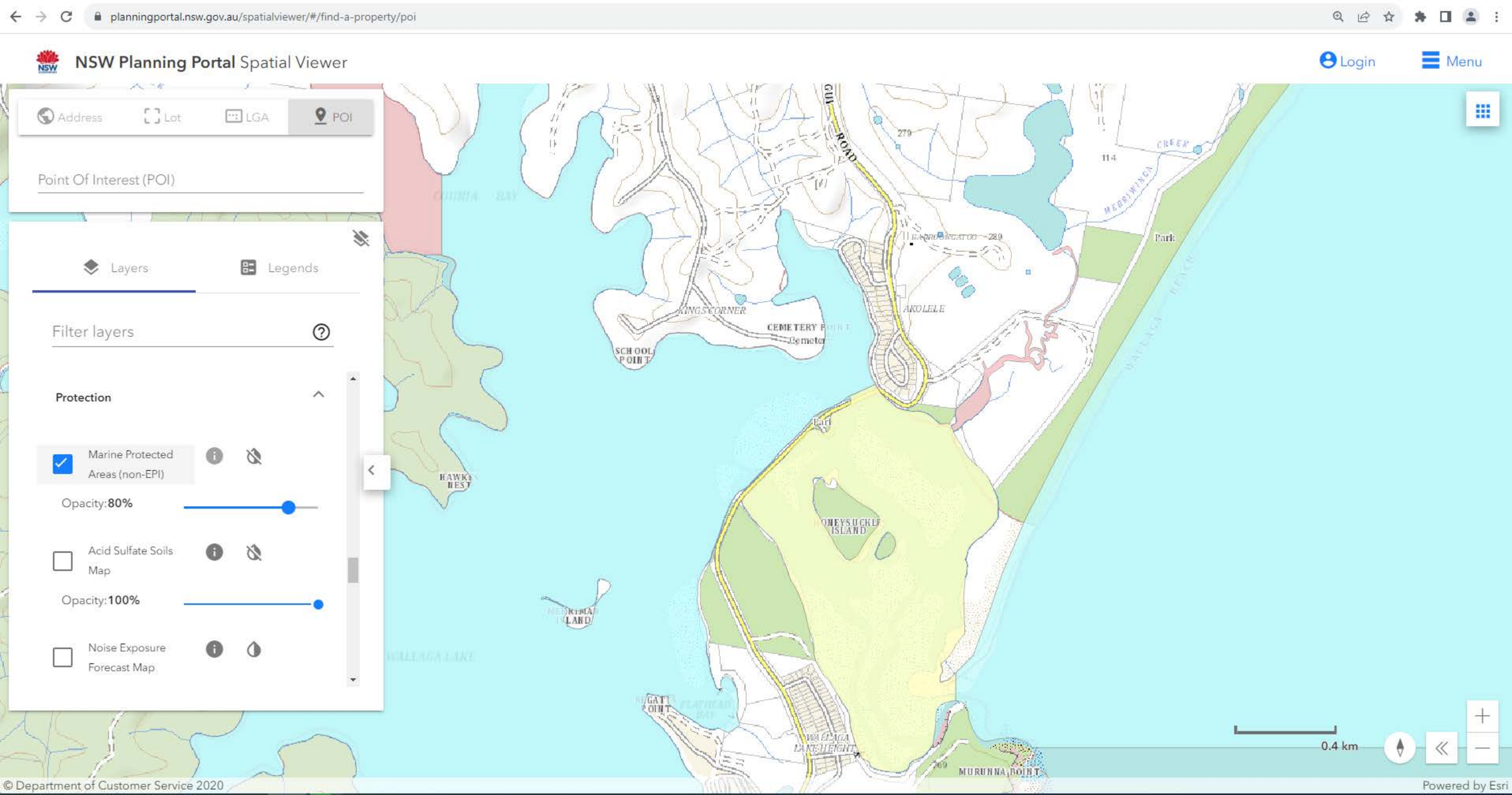
SEPP No 55–Remediation of Land 1998

Coastal Wetlands and Littoral Rainforests Area Map

- [x] Coastal Wetlands
- [ ] Littoral Rainforest

Coastal Use Area




planningportal.nsw.gov.au/spatialviewer/#/find-a-property/poi
NSW Planning Portal Spatial Viewer
Login
Menu
Address
Lot
LGA
POI
Point Of Interest (POI)
Layers
Legends
Filter layers
Protection
Marine Protected Areas (non-EPI)
Opacity: 80%
Acid Sulfate Soils Map
Opacity: 100%
Noise Exposure Forecast Map
KINGS CORNER
CEMETERY POINT
SCHOOL POINT
AKOLELE
HAWKS NEST
HONEYSUCKLE ISLAND
MURUNNA POINT
0.4 km
© Department of Customer Service 2020
Powered by Esri

Naturally Occurring Asbestos in NSW

Legend

Naturally Occuring Asbestos in NSW

POINT OCCURRENCE DATA

Mineral Occurences - Asbestos Sites

- VLGE
- LGE
- MED
- OCC
- SML

BROKEN HILL - GEOLOGICAL UNITS WITH ASBESTOS POTENTIAL

- Retrograde Ultrabasic Dykes with MEDIUM asbestos potential
- Dykes with HIGH asbestos potential
- Geological Units with HIGH asbestos potential

STATEWIDE - GEOLOGICAL UNITS WITH ASBESTOS POTENTIAL

- Geological Units with HIGH asbestos potential
- Geological Units with MEDIUM asbestos potential
- Geological Units with LOW asbestos potential

Public registers

+ POEO Public Register
– Contaminated land record of notices
  - About the record of notices
  - List of notified sites
  - Tips for searching
  - Disclaimer
- Dangerous goods licences
- Pesticide licences
- Radiation licences

Home Public registers Contaminated land record of notices

Search results

Your search for: Suburb: WALLAGA LAKE

Search Again Refine Search

did not find any records in our database.

Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

... more search tips

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the planning process.

More information about particular sites may be available from:

- The POEO public register
- The appropriate planning authority: for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act.

See What's in the record and What's not in the record.

If you want to know whether a specific site has been the subject of notices issued by the EPA under the CLM Act, we suggest that you search by Local Government Area only and carefully review the sites that are listed.
This public record provides information about sites regulated by the EPA under the Contaminated Land Management Act 1997, including sites currently and previously regulated under the Environmentally Hazardous Chemicals Act 1985. Your inquiry using the above search criteria has not matched any record of current or former regulation. You should consider searching again using different criteria. The fact that a site does not appear on the record does not necessarily mean that it is not affected by contamination. The site may have been notified to the EPA but not yet assessed, or contamination may be present but the site is not yet being regulated by the EPA. Further information about particular sites may be available from the appropriate planning authority, for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act. In addition the EPA may be regulating contamination at the site through a licence under the Protection of the Environment Operations Act 1997. You may wish to search the POEO public register.POEO public register

13 November 2023

Weed	Duty
All plants	**General Biosecurity Duty** *All pest plants are regulated with a **general biosecurity duty** to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.*
Aaron's beard prickly pear *Opuntia leucotricha*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
African boxthorn *Lycium ferocissimum*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Alligator weed *Alternanthera philoxeroides*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Alligator weed *Alternanthera philoxeroides*	**Biosecurity Zone** The Alligator Weed Biosecurity Zone is established for all land within the state except land in the following regions: Greater Sydney; Hunter (but only in the local government areas of City of Lake Macquarie, City of Maitland, City of Newcastle or Port Stephens). *Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone*
Anchored water hyacinth *Eichhornia azurea*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Athel pine *Tamarix aphylla*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Bitou bush *Chrysanthemoides monilifera* subs p. *rotundata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Bitou bush *Chrysanthemoides monilifera* subs p. *rotundata*	**Biosecurity Zone** The Bitou Bush Biosecurity Zone is established for all land within the State except land within 10 kilometres of the mean high water mark of the Pacific Ocean between Cape Byron in the north and Point Perpendicular in the south. *Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed*

	suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone
Black knapweed *Centaurea* x *moncktonii*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Black willow *Salix nigra*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Blackberry *Rubus fruticosus* species aggregate	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Rubus fruiticosus species aggregate have this requirement, except for the varietals Black Satin, Chehalem, Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan, Smooth Stem, and Thornfree**
Blind cactus *Opuntia rufida*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Boneseed *Chrysanthemoides monilifera* subsp. *monilifera*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Boneseed *Chrysanthemoides monilifera* subsp. *monilifera*	**Control Order** Boneseed Control Zone: Whole of NSW *Boneseed Control Zone (Whole of NSW): Owners and occupiers of land on which there is boneseed must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of boneseed must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.*
Boxing glove cactus *Cylindropuntia fulgida* var. *mamillata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Bridal creeper *Asparagus asparagoides*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* ***this requirement also applies to the Western Cape form of bridal creeper**
Bridal veil creeper *Asparagus declinatus*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence*

		of prohibited matter must immediately notify the Department of Primary Industries
	Broomrapes *Orobanche* species	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species of Orobanche are Prohibited Matter in NSW, except Clover broomrape, Orobanche minor and Australian broomrape, Orobanche cernua var. australiana.**
	Bunny ears cactus *Opuntia microdasys*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
	Cabomba *Cabomba caroliniana*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
	Cane cactus *Austrocylindropuntia cylindrica*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Austrocylindropuntia genus have this requirement**
	Cape broom *Genista monspessulana*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
	Cat's claw creeper *Dolichandra unguis-cati*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
	Cat's claw creeper *Dolichandra unguis-cati*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
	Chicken dance cactus *Opuntia schickendantzii*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
	Chilean needle grass *Nassella neesiana*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
ha	Chinese violet *Asystasia gangetica* subsp. *micrant*	**Control Order** *Owners and occupiers of land on which there is Chinese violet must notify the local control authority for the area if the Chinese violet is part of a new infestation on the land, destroy all Chinese violet on the land ensuring that subsequent generations of Chinese violet are destroyed; and keep the land free of Chinese violet. A person who deals with a carrier of Chinese violet must*

	ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant on the land, or on or in a carrier.
Climbing asparagus *Asparagus africanus*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Climbing asparagus fern *Asparagus plumosus*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Common pear *Opuntia stricta*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Coolatai grass *Hyparrhenia hirta*	**Regional Recommended Measure** Containment zone: Goulburn Mulwaree, Shoalhaven, Snowy Monaro, Wingecarribee, Upper Lachlan, Wollongong and Shellharbour Local Government Areas. Exclusion zone: Whole of region except containment zone. *Whole of region: Land managers mitigate the risk of new weeds being introduced to their land. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Within exclusion zone: Land managers should eradicate the plant from the land and keep the land free of the plant. Notify local control authority if found. Within containment zone: Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value. Land managers should mitigate spread of the plant from their land.*
Coral creeper *Barleria repens*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Eurasian water milfoil *Myriophyllum spicatum*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Eve's needle cactus *Austrocylindropuntia subulata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Austrocylindropuntia genus have this requirement**
Fireweed	**Prohibition on certain dealings**

Senecio madagascariensis	*Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Flax-leaf broom *Genista linifolia*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Foxtail fern *Asparagus densiflorus*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Frogbit *Limnobium laevigatum*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species of Limnobium are Prohibited Matter**
Gamba grass *Andropogon gayanus*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Giant devil's fig *Solanum chrysotrichum*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Gorse *Ulex europaeus*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Gorse *Ulex europaeus*	**Regional Recommended Measure** Containment zone: Goulburn Mulwaree, Queanbeyan-Palerang, Snowy Monaro, Wingecarribee and Yass Valley Local Government Areas. Exclusion zone: Whole of region except containment zone. *Whole of region: Land managers mitigate the risk of new weeds being introduced to their land. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Within exclusion zone: Land managers should eradicate the plant from the land and keep the land free of the plant. Notify local control authority if found. Within containment zone: Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value. Land managers should mitigate spread of the plant from their land.*
Grey sallow	**Prohibition on certain dealings**

Salix cinerea	*Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Ground asparagus *Asparagus aethiopicus*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Groundsel bush *Baccharis halimifolia*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Hawkweeds *Pilosella* species	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species in the genera *Pilosella* and *Hieracium* are Prohibited Matter except for *Hieracium murorum*.**
Holly leaved senecio *Senecio glastifolius*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Horsetails *Equisetum* species	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Hudson pear *Cylindropuntia pallida*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Hydrocotyl *Hydrocotyle ranunculoides*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Hymenachne *Hymenachne amplexicaulis* and hybrids	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Karoo acacia	**Prohibited Matter**

Vachellia karroo	*A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Kei apple *Dovyalis caffra*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Kidney-leaf mud plantain *Heteranthera reniformis*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Kochia *Bassia scoparia*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **Excluding the subspecies *trichophylla***
Koster's curse *Clidemia hirta*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Kudzu *Pueraria lobata*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Lagarosiphon *Lagarosiphon major*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Lantana *Lantana camara*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*

Lantana *Lantana camara*	**Regional Recommended Measure** Containment zone: Eurobodalla, Shoalhaven, Wollongong, Shellharbour and Kiama Local Government Areas. Exclusion zone: Whole of region except containment zone. *Whole of region: Land managers mitigate the risk of new weeds being introduced to their land. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Within exclusion zone: Land managers should eradicate the plant from the land and keep the land free of the plant. Notify local control authority if found. Within containment zone: Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value. Land managers should mitigate spread of the plant from their land.*
Long-leaf willow primrose *Ludwigia longifolia*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Ludwigia *Ludwigia peruviana*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Madeira vine *Anredera cordifolia*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Mesquite *Prosopis* species	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the genus *Prosopis* have this requirement**
Mexican feather grass *Nassella tenuissima*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Miconia *Miconia* species	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence*

	of prohibited matter must immediately notify the Department of Primary Industries **All species of *Miconia* are Prohibited Matter in NSW**
Mikania vine *Mikania micrantha*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* ***all species in the genus *Mikania* are Prohibited Matter in NSW**
Mimosa *Mimosa pigra*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Ming asparagus fern *Asparagus macowanii*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Mysore thorn *Caesalpinia decapetala*	**Regional Recommended Measure** Containment zone: Wollongong Local Government Area. Exclusion zone: Whole of region except containment zone. *Whole of region: Land managers mitigate the risk of new weeds being introduced to their land. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Within exclusion zone: Land managers should eradicate the plant from the land and keep the land free of the plant. Notify local control authority if found. Within containment zone: Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value. Land managers should mitigate spread of the plant from their land.*
Parkinsonia *Parkinsonia aculeata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Parkinsonia *Parkinsonia aculeata*	**Control Order** Parkinsonia Control Zone: Whole of NSW *Parkinsonia Control Zone (Whole of NSW): Owners and occupiers of land on which there is parkinsonia must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent*

	generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of parkinsonia must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.
Parthenium weed *Parthenium hysterophorus*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Parthenium weed *Parthenium hysterophorus*	**Prohibition on certain dealings** *The following equipment must not be imported into NSW from Queensland: grain harvesters (including the comb or front), comb trailers (including the comb or front), bins used for holding grain during harvest operations, augers or similar for moving grain, vehicles used to transport grain harvesters, support vehicles driven in paddocks during harvest operations, mineral exploration drilling rigs and vehicles used to transport those rigs, unless set out as an exception in Division 5, Part 2 of the Biosecurity Order (Permitted Activities) 2017*
Pond apple *Annona glabra*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Prickly acacia *Vachellia nilotica*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Prickly pears - Austrocylindropuntias *Austrocylindropuntia* species	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Austrocylindropuntia genus have this requirement**
Prickly pears - Cylindropuntias *Cylindropuntia* species	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Cylindropuntia genus have this requirement**
Prickly pears - Opuntias *Opuntia* species	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*

	For all Opuntia species except for *Opuntia ficus-indica* (Indian fig).
Riverina pear *Opuntia elata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Rope pear *Cylindropuntia imbricata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Cylindropuntia genus have this requirement**
Rubber vine *Cryptostegia grandiflora*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Sagittaria *Sagittaria platyphylla*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Salvinia *Salvinia molesta*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Salvinia *Salvinia molesta*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Scotch broom *Cytisus scoparius* subsp. *scoparius*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Sea spurge *Euphorbia paralias*	**Regional Recommended Measure** Exclusion zone: Wollongong, Shellharbour and Kiama Local Government Areas. Containment zone: Whole of region except Exclusion zone. *Whole of region: Land managers mitigate the risk of new weeds being introduced to their land. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Within exclusion zone: Land managers should eradicate the plant from the land and keep the land free of the plant. Notify local control authority if found. Within containment zone: Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value. Land managers should mitigate spread of the plant from their land.*
Senegal tea plant	**Regional Recommended Measure**

Gymnocoronis spilanthoides	*Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Serrated tussock *Nassella trichotoma*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Siam weed *Chromolaena odorata*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Sicklethorn *Asparagus falcatus*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Silverleaf nightshade *Solanum elaeagnifolium*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Silverleaf nightshade *Solanum elaeagnifolium*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Smooth tree pear *Opuntia monacantha*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Snakefeather *Asparagus scandens*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Spanish heath *Erica lusitanica*	**Regional Recommended Measure** Containment zone: Queanbeyan-Palerang, Snowy Monaro and Wingecarribee Local Government Areas. Exclusion zone: Whole of region except containment zone. *Whole of region: Land managers mitigate the risk of new weeds being introduced to their land. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Within exclusion zone:*

	Land managers should eradicate the plant from the land and keep the land free of the plant. Notify local control authority if found. Within containment zone: Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value. Land managers should mitigate spread of the plant from their land.
Spongeplant *Limnobium spongia*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species of *Limnobium* are Prohibited Matter**
Spotted knapweed *Centaurea stoebe* subsp. *micranthos*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Sticky nightshade *Solanum sisymbriifolium* *Regional recommended measure for Central Tablelands from February 2020*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Tiger pear *Opuntia aurantiaca*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Tropical soda apple *Solanum viarum*	**Control Order** Tropical Soda Apple Control Zone: Whole of NSW *Tropical Soda Apple Control Zone (Whole of NSW): Owners and occupiers of land on which there is tropical soda apple must notify the local control authority of new infestations; destroy the plants including the fruit; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of tropical soda apple must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant on the land, or on or in a carrier.*
Velvety tree pear *Opuntia tomentosa*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Water caltrop	**Prohibited Matter**

Trapa species	*A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species in the *Trapa* genus are Prohibited Matter in NSW**
Water hyacinth *Eichhornia crassipes*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Water hyacinth *Eichhornia crassipes*	**Biosecurity Zone** The Water Hyacinth Biosecurity Zone applies to all land within the State, except for the following regions: Greater Sydney or North Coast, North West (but only the local government area of Moree Plains), Hunter (but only in the local government areas of City of Cessnock, City of Lake Macquarie, MidCoast, City of Maitland, City of Newcastle or Port Stephens), South East (but only in the local government areas of Eurobodalla, Kiama, City of Shellharbour, City of Shoalhaven or City of Wollongong). *Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone*
Water lettuce *Pistia stratiotes*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Water poppy *Hydrocleys nymphoides*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Water soldier *Stratiotes aloides*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Water star grass	**Regional Recommended Measure**

Heteranthera zosterifolia	*Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Wheel cactus *Opuntia robusta*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Willows *Salix* species	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the *Salix* genus have this requirement, except *Salix babylonica* (weeping willows), *Salix x calodendron* (pussy willow) and *Salix x reichardtii* (sterile pussy willow)**
Witchweeds *Striga* species	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species in the *Striga* genus are Prohibited Matter in NSW, except the native *Striga parviflora***
Yellow burrhead *Limnocharis flava*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 01-Nov-2023

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	7
Listed Threatened Species:	85
Listed Migratory Species:	59

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	79
Whales and Other Cetaceans:	28
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	7
Regional Forest Agreements:	2
Nationally Important Wetlands:	2
EPBC Act Referrals:	5
Key Ecological Features (Marine):	1
Biologically Important Areas:	13
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Commonwealth Marine Area [Resource Information]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name	Buffer Status
Commonwealth Marine Areas (EPBC Act)	In buffer area only

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Brogo Vine Forest of the South East Corner Bioregion	Endangered	Community likely to occur within area	In feature area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area	In feature area
Illawarra and south coast lowland forest and woodland ecological community	Critically Endangered	Community may occur within area	In feature area
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Community likely to occur within area	In buffer area only
Lowland Grassy Woodland in the South East Corner Bioregion	Critically Endangered	Community likely to occur within area	In feature area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area	In feature area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area	In buffer area only

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Anthochaera phrygia](#) Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area
[Aphelocephala leucopsis](#) Southern Whiteface [529]	Vulnerable	Species or species habitat may occur within area	In feature area
[Botaurus poiciloptilus](#) Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
[Calidris canutus](#) Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
[Callocephalon fimbriatum](#) Gang-gang Cockatoo [768]	Endangered	Species or species habitat known to occur within area	In feature area
[Calyptorhynchus lathami lathami](#) South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Climacteris picumnus victoriae](#) Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
[Dasyornis brachypterus](#) Eastern Bristlebird [533]	Endangered	Species or species habitat likely to occur within area	In feature area
[Diomedea antipodensis](#) Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat may occur within area	In feature area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area	In feature area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pterodroma leucoptera leucoptera Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area	In buffer area only
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Thalassarche steadi](#) White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
[Thinornis cucullatus cucullatus](#) Eastern Hooded Plover, Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat known to occur within area	In feature area
FISH			
[Epinephelus daemelii](#) Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
[Prototroctes maraena](#) Australian Grayling [26179]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Seriolella brama](#) Blue Warehou [69374]	Conservation Dependent	Species or species habitat known to occur within area	In buffer area only
[Thunnus maccoyii](#) Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only
FROG			
[Heleioporus australiacus](#) Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Litoria aurea](#) Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Litoria watsoni](#) Watson's Tree Frog [91509]	Endangered	Species or species habitat may occur within area	In buffer area only
[Mixophyes balbus](#) Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat may occur within area	In buffer area only
MAMMAL			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	In feature area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area	In buffer area only
Isoodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat likely to occur within area	In feature area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat known to occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Potorous tridactylus trisulcatus Long-nosed Potoroo (southern mainland) [86367]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Pteropus poliocephalus](#) Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
PLANT			
[Caladenia tessellata](#) Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Correa baeuerlenii](#) Chef's Cap [17007]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
[Cryptostylis hunteriana](#) Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Eucalyptus stenostoma](#) Jillaga Ash [3976]	Endangered	Species or species habitat may occur within area	In buffer area only
[Haloragis exalata subsp. exalata](#) Wingless Raspwort, Square Raspwort [24636]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Persicaria elatior](#) Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Pomaderris cotoneaster](#) Cotoneaster Pomaderris [2043]	Endangered	Species or species habitat may occur within area	In buffer area only
[Pomaderris parrisiae](#) Parris' Pomaderris [22119]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Rhodamnia rubescens](#) Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Thesium australe](#) Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Zieria tuberculata](#) Warty Zieria [56736]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
REPTILE			
[Aprasia parapulchella](#) Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In buffer area only
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In buffer area only
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Natator depressus](#) Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
SHARK			
[Carcharias taurus (east coast population)](#) Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
[Carcharodon carcharias](#) White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Galeorhinus galeus](#) School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark [68453]	Conservation Dependent	Species or species habitat may occur within area	In buffer area only
[Rhincodon typus](#) Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Listed Migratory Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Ardenna grisea Sooty Shearwater [82651]		Species or species habitat likely to occur within area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sternula albifrons Little Tern [82849]		Breeding likely to occur within area	In buffer area only
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area

Migratory Marine Species

Scientific Name	Threatened Category	Presence Text	Buffer Status
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	In buffer area only
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Eubalaena australis as Balaena glacialis australis](#)			
Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area	In buffer area only
[Lagenorhynchus obscurus](#)			
Dusky Dolphin [43]		Species or species habitat may occur within area	In buffer area only
[Lamna nasus](#)			
Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area	In buffer area only
[Megaptera novaeangliae](#)			
Humpback Whale [38]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
[Mobula birostris as Manta birostris](#)			
Giant Manta Ray [90034]		Species or species habitat may occur within area	In buffer area only
[Natator depressus](#)			
Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Orcinus orca](#)			
Killer Whale, Orca [46]		Species or species habitat likely to occur within area	In buffer area only
[Physeter macrocephalus](#)			
Sperm Whale [59]		Species or species habitat may occur within area	In buffer area only
[Rhincodon typus](#)			
Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Migratory Terrestrial Species			
[Cuculus optatus](#)			
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
[Hirundapus caudacutus](#)			
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
[Rhipidura rufifrons](#) Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
[Calidris canutus](#) Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area	In feature area
[Gallinago megala](#) Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Ardenna grisea as Puffinus griseus Sooty Shearwater [82651]		Species or species habitat likely to occur within area	In buffer area only
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In feature area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni as Diomedea gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Diomedea exulans](#) Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
[Diomedea sanfordi](#) Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area overfly marine area	In feature area
[Gallinago megala](#) Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In feature area
[Gallinago stenura](#) Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In feature area
[Haliaeetus leucogaster](#) White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
[Lathamus discolor](#) Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
[Limosa lapponica](#) Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In feature area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In buffer area only
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Stercorarius antarcticus as Catharacta skua Brown Skua [85039]		Species or species habitat may occur within area	In buffer area only
Sterna striata White-fronted Tern [799]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Sternula albifrons as Sterna albifrons Little Tern [82849]		Breeding likely to occur within area	In buffer area only
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche bulleri platei as Thalassarche sp. nov. Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735]		Species or species habitat known to occur within area overfly marine area	In feature area
Thinornis cucullatus cucullatus as Thinornis rubricollis rubricollis Eastern Hooded Plover, Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Fish			
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area	In buffer area only
Cosmocampus howensis Lord Howe Pipefish [66208]		Species or species habitat may occur within area	In buffer area only
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area	In buffer area only
Hippocampus abdominalis Big-belly Seahorse, Eastern Potbelly Seahorse, New Zealand Potbelly Seahorse [66233]		Species or species habitat may occur within area	In buffer area only
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area	In buffer area only
Histiogamphelus briggsii Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242]		Species or species habitat may occur within area	In buffer area only
Kimblaeus bassensis Trawl Pipefish, Bass Strait Pipefish [66247]		Species or species habitat may occur within area	In buffer area only
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area	In buffer area only
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area	In buffer area only
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area	In buffer area only
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Solegnathus spinosissimus](#) Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area	In buffer area only
[Solenostomus cyanopterus](#) Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In buffer area only
[Stigmatopora argus](#) Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area	In buffer area only
[Stigmatopora nigra](#) Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area	In buffer area only
[Syngnathoides biaculeatus](#) Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In buffer area only
[Urocampus carinirostris](#) Hairy Pipefish [66282]		Species or species habitat may occur within area	In buffer area only
[Vanacampus margaritifer](#) Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area	In buffer area only
[Vanacampus phillipi](#) Port Phillip Pipefish [66284]		Species or species habitat may occur within area	In buffer area only
Mammal			
[Arctocephalus forsteri](#) Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area	In buffer area only
[Arctocephalus pusillus](#) Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area	In buffer area only
Reptile			
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Whales and Other Cetaceans			[Resource Information]
Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area	In buffer area only
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Berardius arnuxii Arnoux's Beaked Whale [70]		Species or species habitat may occur within area	In buffer area only

Current Scientific Name	Status	Type of Presence	Buffer Status
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	In buffer area only
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area	In buffer area only
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area	In buffer area only
Globicephala melas Long-finned Pilot Whale [59282]		Species or species habitat may occur within area	In buffer area only
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	In buffer area only
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area	In buffer area only
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area	In buffer area only
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area	In buffer area only
Lissodelphis peronii Southern Right Whale Dolphin [44]		Species or species habitat may occur within area	In buffer area only
Megaptera novaeangliae Humpback Whale [38]		Foraging, feeding or related behaviour known to occur within area	In buffer area only

Current Scientific Name	Status	Type of Presence	Buffer Status
Mesoplodon bowdoini Andrew's Beaked Whale [73]		Species or species habitat may occur within area	In buffer area only
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area	In buffer area only
Mesoplodon grayi Gray's Beaked Whale, Scamperdown Whale [75]		Species or species habitat may occur within area	In buffer area only
Mesoplodon hectori Hector's Beaked Whale [76]		Species or species habitat may occur within area	In buffer area only
Mesoplodon layardii Strap-toothed Beaked Whale, Strap-toothed Whale, Layard's Beaked Whale [25556]		Species or species habitat may occur within area	In buffer area only
Mesoplodon mirus True's Beaked Whale [54]		Species or species habitat may occur within area	In buffer area only
Orcinus orca Killer Whale, Orca [46]		Species or species habitat likely to occur within area	In buffer area only
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area	In buffer area only
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area	In buffer area only
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In buffer area only
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Batemans	Marine Park	NSW	In feature area
Bermaguee	Nature Reserve	NSW	In buffer area only
Bermagui	Flora Reserve	NSW	In buffer area only
Biamanga	National Park	NSW	In buffer area only
Eurobodalla	National Park	NSW	In buffer area only
Gulaga	National Park	NSW	In buffer area only
Kooraban	National Park	NSW	In buffer area only

Regional Forest Agreements		[Resource Information]
Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.		
RFA Name	State	Buffer Status
Eden RFA	New South Wales	In feature area
Southern RFA	New South Wales	In feature area

Nationally Important Wetlands		[Resource Information]
Wetland Name	State	Buffer Status
Nargal Lake	NSW	In buffer area only
Wallaga Lake	NSW	In feature area

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Bermagui Golf Club Proposed Subdivision (Stages 3-8)	2022/09242		Post-Approval	In buffer area only
Not controlled action				

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Referral decision				
Breeding program for Grey Nurse Sharks	2007/3245	Referral Decision	Completed	In buffer area only

Key Ecological Features [Resource Information]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region	Buffer Status
Upwelling East of Eden	South-east	In buffer area only

Biologically Important Areas

Scientific Name	Behaviour	Presence	Buffer Status
Dolphins			
Tursiops aduncus			
Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Likely to occur	In buffer area only
Seabirds			
Ardenna carneipes			
Flesh-footed Shearwater [82404]	Foraging	Known to occur	In buffer area only
Ardenna grisea			
Sooty Shearwater [82651]	Foraging	Likely to occur	In buffer area only
Ardenna pacifica			
Wedge-tailed Shearwater [84292]	Foraging	Likely to occur	In buffer area only
Ardenna tenuirostris			
Short-tailed Shearwater [82652]	Foraging	Likely to occur	In buffer area only
Diomedea exulans antipodensis			
Antipodean Albatross [82269]	Foraging	Known to occur	In buffer area only
Eudyptula minor			
Little Penguin [1085]	Breeding	Likely to occur	In buffer area only

Scientific Name	Behaviour	Presence	Buffer Status
Pelagodroma marina White-faced Storm-petrel [1016]	Breeding	Known to occur	In buffer area only
Procellaria parkinsoni Black Petrel [1048]	Foraging	Likely to occur	In buffer area only
Thalasseus bergii Crested Tern [83000]	Foraging	Likely to occur	In feature area
Sharks			
Carcharias taurus Grey Nurse Shark [64469]	Foraging	Known to occur	In buffer area only
Carcharodon carcharias White Shark [64470]	Distribution	Known to occur	In buffer area only
Whales			
Megaptera novaeangliae Humpback Whale [38]	Foraging	Known to occur	In buffer area only

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

Appendix E Aquatic Ecological Assessment

[redacted]
Principal Ecologist | Envirokey
PO Box 7231, Tathra, NSW, 2550

13 March 2023

SUBJECT: Wallaga Lake bridge aquatic ecology assessment

DOCUMENT INFORMATION

Author (s): [redacted]
PRINCIPAL ENVIRONMENTAL SCIENTIST

Reviewed by: [redacted]

Project Manager: [redacted]

Date: 13 March 2023

Status: FINAL

Filename: JN22430_Wallaga Lake bridge marine survey_v1 DRAFT

Project: Elgin JN22430

Contact: Elgin Associates Pty Ltd ABN 59123488639
Level 1, 45-47 Church Street, PO Box 829
Bega, New South Wales, 2550
Telephone: [redacted] Fax: +61 3 86486336 www.elgin.com.au

RECORD OF REPORT DISTRIBUTION

№ of copies	**Status**	**Date**	**Prepared for:**
1 digital	FINAL	13 March 2023	Envirokey
1 digital	DRAFT	9 March 2023	Envirokey

LIST OF TABLES

ATTACHED TABLES

LIST OF FIGURES

LIST OF PLATES

LIST OF APPENDICES

1. INTRODUCTION AND BACKGROUND

Elgin Associates Pty Ltd (Elgin Associates) was engaged by Envirokey Pty Ltd (Envirokey) on behalf of Transport for NSW (TfNSW) to undertake an aquatic ecological assessment at the Wallaga Lake bridge ahead of proposed rehabilitation works scheduled for 2023.

The Wallaga Lake bridge is a timber girder bridge located on MR272 Bega to Tilba road, 11 km north of Bermagui, and carries single lane traffic (**Figure 1**). The bridge was built in the 1890's and consists of nine timber beam spans, on average around 9.5 m per span. The overall length of the bridge is 95.09 m whilst the overall width in 5 m. The bridge comprises eight (8) piers and 70 piles.

Existing timber piles have been sheathed in HDPE from the intertidal zone to bed level to prevent deterioration and borer attack. Previous maintenance works on the bridge have included the installation of steel piles and since 2018 a load limit of 22.5 tonne has been implemented on the bridge due to severe defects on the piles which require strengthening and rehabilitation.

1.1. PROPOSED REHABILITATION WORKS

The proposed bridge rehabilitation works (*from the project brief, dated 18 August 2022*) include:

- Replace condition 3 and 4 timber elements as per the timber test bore report December 2017.

Abutments A and B

- Replace abutment gravel boards on both abutments. Additional rock armour to be placed along the road embankment at both abutments.

Headstocks

- Pier 5 and 6 headstocks have rot and crushing visible – re-examine the cracks while on site to determine if need replacement.

Cross beams

- Replace badly cracked cross beams supporting the pier headstocks at piers 1, 2, 3, 4 and 8.

Corbels

- Replace corbels on piers 3,4,5,6, 7 and 8.
- Some corbels have minor split cracking at ends which could be strengthened by bolting at cracked ends. Some of the existing corbels have considerably less length (average 2.4m) as compared to the original design (4.8m). Hence replacement corbels to be as per the original design length i.e. 4.8m.

Girders

- Replace girders in span 2, 3, 4, 5, 6, 7 & 8.

Longitudinal Sheeting / Decking

- Replace of longitudinal sheeting / decking at spans 2, 5, 6, 7 and 8.

Piles

- The visible parts (above water at the time of inspection) of most of the piles are in "poor" condition. Vertical cracks and splits were identified on top of the piles which need some strengthening or splicing, approximately 2m below from the headstock.
- Options such as clamping stainless steel rings, wrapping to encapsulate the damaged region which is to be filled either with resin or grout or with resin and gravel or similar methods is to be considered as potential repair methods.

Walers / Brace

- Pier 3, 4 and 8 bottom walers are badly rotten or missing and need to be replaced.

Railing and Kerbs

- There are some spots that the handrails and posts show significant deterioration and need replacement or reinstatement.

The subject of this proposal concerns the construction activities associated with the in-water elements of the bridge that includes the piles that are to be strengthened and rehabilitated.
The following rehabilitation works to the bridge piles is proposed:

1. Removal of the existing HDPE pile wrapping from each pile.
2. Scrape clean any material on the timber piles.
3. Apply PileMedic wrap and fill the void between the timber pile and wrap with epoxy grout. The wrap will extend to 300 mm below the bed level.

Artificial substrates such as bridge piles can be important to local biodiversity providing a vertical substrate for a wide array of sessile marine fauna and flora. The complexity of marine growth on piles may then provide habitat to a range of small cryptic mobile species. Bridge piles can also provide habitat for fish species attracted to the structure. The removal of existing HDPE wrapping and cleaning of timber piles is likely to result in the loss of existing marine growth and species assemblages on the piles.

The application of PileMedic^{TM} wrapping to 300 mm below bed level would require minor excavation of sediment around the base of each pile that has the potential to cause localised turbidity plumes and may be considered dredging under the definitions within the NSW *Fisheries Management Act 1994* (FM Act).

A draft REF (*not sighted during the preparation of this report*) has been prepared by Envirokey for the bridge rehabilitation works and an aquatic ecology assessment is now required by TfNSW to better understand potential impacts to the marine communities associated with the proposed rehabilitation activities.

Sensitive marine receptors protected under the NSW *Fisheries Management Act 1994* (FM Act) and or Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) that may be affected by the proposed works include the seagrass community and members of syngnathiformes (i.e. seahorses, pipefish, seadragons). Seagrass has been mapped in the vicinity of the bridge and records of syngnathiformes reported for Wallaga Lake include the hairy pipefish (*Urocampus carinirostris*) and Port Phillip pipefish (*Vanacampus phillipi*).

Figure 1. Wallaga Lake bridge from the northern shoreline at Akolele.

1.2. OBJECTIVE

The objective of the aquatic ecological assessment was to document the species assemblages and habitats present within the project area, identify any matters of conservation significance that may be impacted by the proposed works, and recommend management strategies to mitigate risk of potential impact.

1.3. SCOPE OF WORK

The following scope of work was completed:

- Preparation of project OHS
- Fieldwork preparation and preliminaries
- Mobilisation of personnel and equipment
- Field survey work
    - Tow video survey to confirm benthic habitats and extent of seagrass community within the project area.
    - Diver inspection survey of bridge piles and benthic substrates
- Preparation of this letter report that conveys the findings of the field survey and assessment and provides advice regarding potential impacts to syngnathiformes and seagrass community.

2. LEGISLATIVE CONTEXT

2.1. COMMONWEALTH ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (EPBC ACT)

The EPBC Act provides a legal framework for the protection of Matters of National Environmental Significance (MNES) including threatened ecological communities, flora and fauna, and native migratory and marine species listed under the Act. Members of Syngnathiformes belonging to families Syngnathidae and Solenostomidae found in Commonwealth waters are protected under the EPBC Act, making it is an offence to kill, injure, take, trade, move or export any black cod or members of the Syngnathidae and Solenostomidae without a Commonwealth approval permit.

2.2. NSW FISHERIES MANAGEMENT ACT 1994 (FM ACT)

The FM Act provides for the protection, conservation, and recovery of threatened species defined under the Act. It also makes provision for the management of threats to threatened species, populations, and ecological communities defined under the Act, as well as the protection of fish and fish habitat in general. As of July 2004 all species of the families 'Syngnathidae', 'Solenostomidae' and 'Pegasidae' were listed as "protected" under the FM Act.

To support the FM Act, DPI also has *Policies and Guidelines for Fish Habitat Conservation and Management* (DPI 2013) that identifies three types of key fish habitat that are classified as:

- TYPE 1 (highly sensitive aquatic habitat);
- TYPE 2 (moderately sensitive key fish habitat); and
- TYPE 3 (minimally sensitive key fish habitat).

The classification scheme is used within the policy and guidelines to differentiate between permissible and prohibited activities or developments and for determining value in the event an activity or proposed activity results in harm (cut, injure, destroy, shade) to marine vegetation (includes mangrove, saltmarsh, seagrass and macroalgae) and offsetting is required. Seagrass is recognised as Type 1 – highly sensitive key fish habitat.

Wallaga Lake supports seagrass meadows in the vicinity of the bridge that comprise two taxa including *Zostera muelleri* and *Halophila ovalis.*

2.3. MARINE ESTATE MANAGEMENT ACT 2014 (MEM ACT)

The MEM Act provides for strategic and integrated management of the whole marine estate in NSW including marine waters, coasts and estuaries. The Act is supported by several regulations that set out the rules for managing the marine estate and marine parks, and an aquatic reserve notification is in place with management rules for aquatic reserves.

Wallaga Lake estuary is part of the Batemans Marine Park with the area including the bridge to the entrance zoned habitat protection. As such any infrastructure development requires a Marine Parks permit. The area west of the bridge is zoned general use.

3. APPROACH AND METHODOLOGY

3.1. REVIEW OF PREVIOUS DATA AND FIELDWORK PREPARATION

Existing spatial datasets and assets relevant to the inspection were reviewed and included:

- Atlas of Living Australia (ALA 2023)
- NSW Fisheries Spatial Data Portal (DPI 2023)
- Piling plan for the Wallaga bridge (provided by TfNSW)

3.1.1. Wallaga Bridge

Piling plans provided by TfNSW show the bridge comprises eight piers and 70 piles. Upon inspection, the bridge also comprises additional steel piers adjacent to each abutment. The total number of pilings per pier is provided in **Table 1** with the piling configuration shown in **Figure 2**.

Table 1. Wallaga Lake bridge piers, piles and water depth.

Pier	No. of Piles	Max Depth (m)	Actual Depth (m) 15/2/23
Abutment A	5	-	1.0
Steel pier	2	-	1.8
1	6	4.7	4.0
2	6	6.0	5.0
3	10	7.0	5.2
4	8	7.3	5.4
4-5	3	8.0	6.3
5	6	7.8	6.4
6	8	7.7	5.5
7	7	6.4	4.5
8	6	3.4	2.5
Steel pier	2	-	0.5
Abutment B	5	-	0.5
TOTAL	**74**		

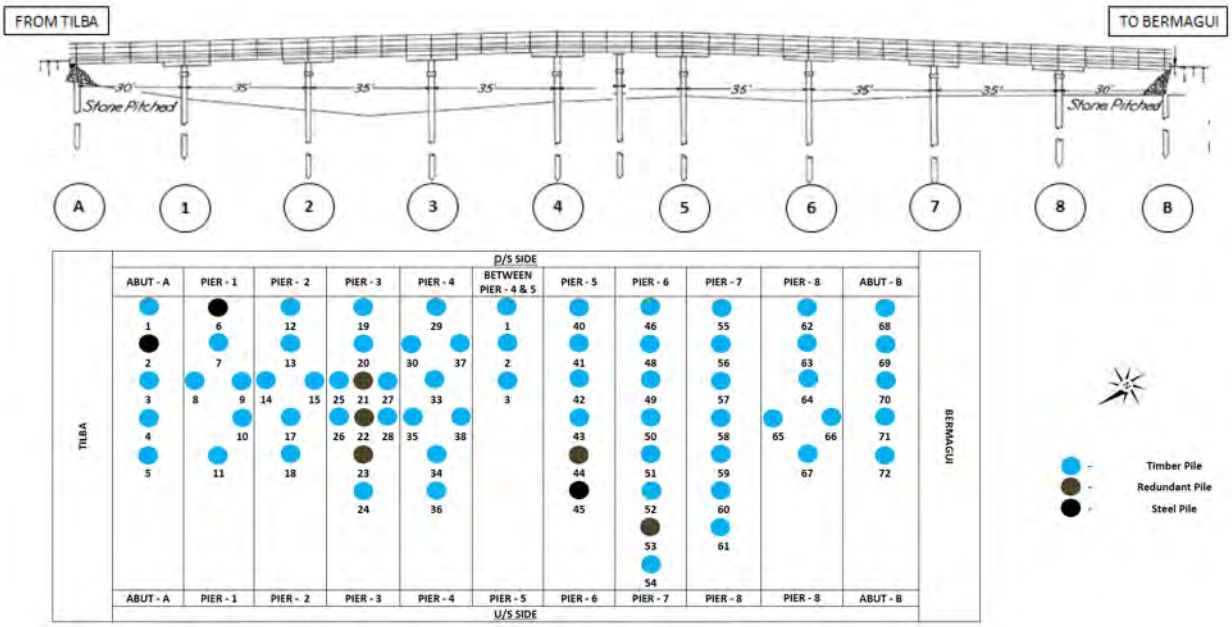


Figure 2. Wallaga Lake bridge pile layout (provided by TfNSW).

3.2. PERMIT

Fieldwork was conducted under NSW Marine Park permit MEAA21/373 issued to Transport for NSW (**Appendix A**). Courtesy notification was provided to Batemans Marine Park via email on 13 February 2023 ahead of the planned marine surveys.

This aquatic ecological assessment addresses permit condition 18…*The Permittee must inspect the site for presence of Syngnathids (sea horses) prior to the commencement of works. No jetting or scraping can commence until the animals have retreated from the area.*

3.3. DIVER INSPECTION SURVEY FOR SYNGNATHIFORMES

Inspections of bridge pilings for the potential presence of Syngnathiformes was conducted by two experienced marine ecologists, also ADAS accredited divers. Divers were supported by a surface attendant operating a small work vessel in 2D survey.

Approximately 5 minutes was spent searching each pile with a focus on presence of any complex three-dimensional (3D) habitats known to potentially support Syngnathiformes such as cunjevoi, sponges, macroalgae, ropes and discarded fishing line; as well as benthic habitats at the base of each pile.

The following information was recorded at each piling:

- Pier and piling notation.
- Presence (yes/no) of Syngnathiformes taxa. In event a member of Syngnathiformes was observed, images of the taxon, habitat and depth of occurrence was recorded.
- Types of habitat present, depth of occurrence of any interesting features, and potential to support Syngnathiformes
- Total depth to bed sediments and benthic habitat surrounding the pile;
- Fish taxa observed during surveys.

3.4. SURVEY FOR SEAGRASS

Field survey for seagrass was undertaken during ebb tide conditions on 15 February 2023.

Survey was conducted from a small commercial workboat in 2C survey using tow-video to inspect the seabed providing continuous HD1080 live video feed to laptop computer and Garmin GPSMAP 953xsv chart plotter with single beam sonar to record bathymetry. Validation points were collected using Esri Field Maps application combined with Emlid Reach RTK GNSS receiver. Spatial corrections were provided by nearest AUSCORS base station (BERM00AUS0) providing spatial accuracy typically between 2-10 cm. Validation points were attributed according to benthic substrate and habitat type (**Table 2)** and subsequently used to output a revised distribution map of aquatic habitats using QGIS.

Table 2. Site assessment field validation and mapping attributes.

CATEGORY	ATTRIBUTE	CATAMI CODE
Substrate	consolidated	82001001
	unconsolidated	82001005
Consolidated	boulders	82001003
	cobbles	82001004
	rock	82001002
Unconsolidated	gravel (2-10 mm)	82001011
	biogenic	82001007
	pebble (10-64 mm)	82001012
	sand/mud (<2 mm)	82001013
Sand	coarse sand (with shell)	82001014
	fine sand (with shell)	-
	fine sand (no shell)	82001015
	mud / silt (<64um)	82001016
Bedforms	none	82002001
	bioturbated	81000000
	2D ripples (<10 cm)	82002003
	2D waves (>10 cm)	82002004
	3D ripples (<10 cm)	82002007
	3D waves (>10 cm)	82002008
Habitat	Mangrove	-
	Seagrass	63600901
Habitat	Saltmarsh	-
	Macroalgae	80300000

CATEGORY	ATTRIBUTE	CATAMI CODE
	Sponges	10000000
	Biogenic (shell bed)	82001007
Macrophyte	Mangrove	-
	Mangrove/Saltmarsh	-
	Halophila	-
	Posidonia	-
	Posidonia/Halophila	-
	Posidonia/Zostera	-
	Posidonia/Zostera/Halophila	-
	Zostera	-
	Zostera/Halophila	-
	Saltmarsh	-
Fish Habitat Type	Type 1	-
	Type 2	-
	Type 3	-

4. RESULTS AND DISCUSSION

4.1. HISTORICAL RECORDS OF SYNGNATHIFORMES FROM WALLAGA LAKE

As part of field survey preparations, available databases were searched for historical records of Syngnathiformes and black cod reported from the Wallaga Lake estuary. Observational records from the Atlas of Living Australia (ALA 2023) indicate two syngnathid taxa have been reported from Wallaga Lake estuary (**Figure 4**) including:

- Three records of Hairy Pipefish (*Urocampus carinirostris),* last reported in 1990.
- One record of Port Phillip pipefish (*Vanacampus phillipi*), reported in 1984.

The hairy pipefish has been recorded in the vicinity of the Wallaga bridge with the most recent record from Paynes Island 1984, while the Port Phillip pipefish was recorded on northern side of Regatta Point (**Figure 5**). Both pipefish taxa inhabit seagrass meadows and algal beds and are unlikely to be found on structures associated with the Wallaga bridge.

In addition to the above, a dead specimen of Weedy seadragon (*Phyllopteryx taeniolatus*) has been found washed up on beach south of the Wallaga Lake entrance in 2023. Weedy seadragons inhabit rocky reef environments on the open coast and are unlikely to occur in Wallaga Lake.

A summary of the observational records and habitat preferences of each taxon is provided in **Table 3** below.

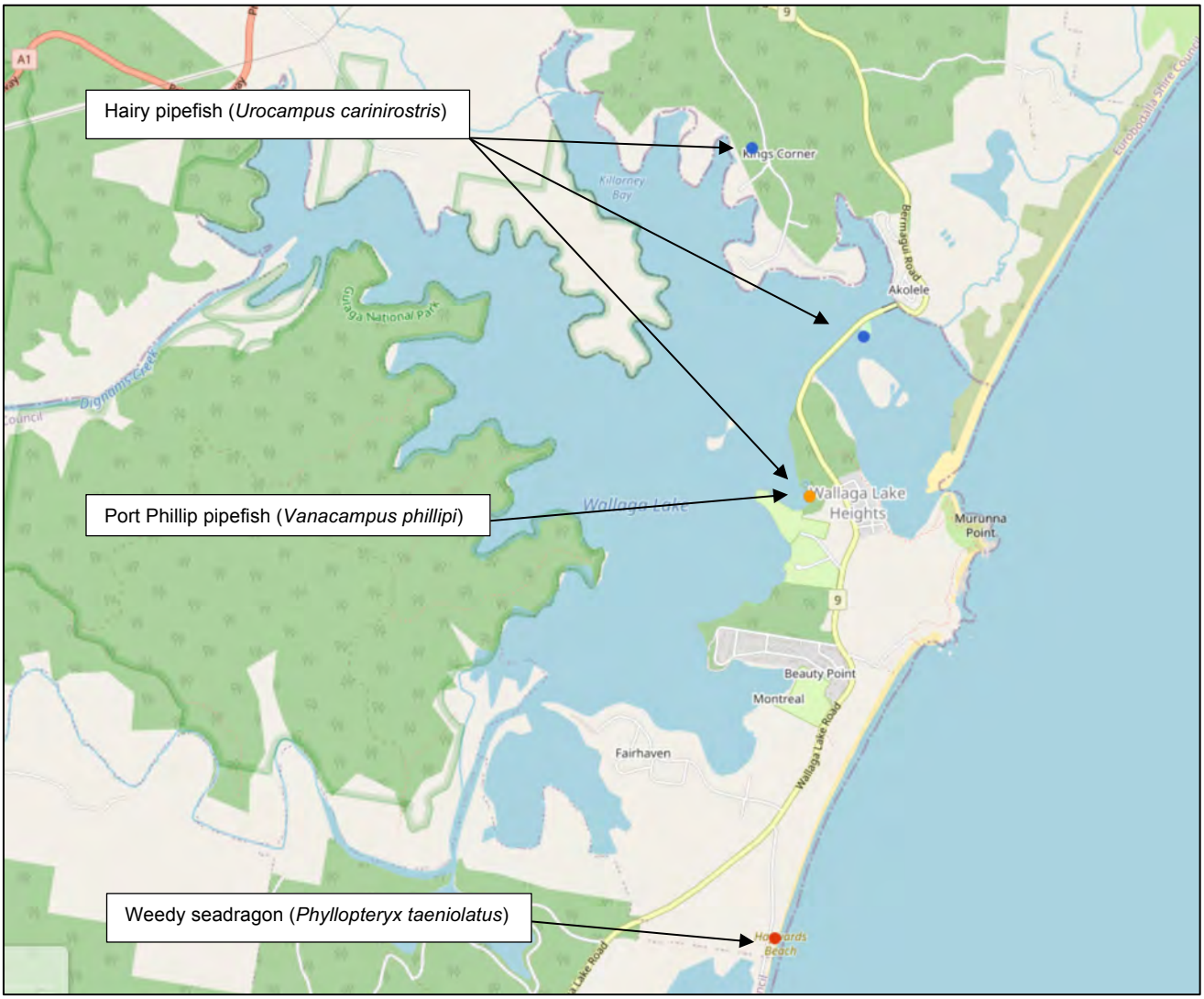


Figure 3. Records of Syngnathiformes at Wallaga Lake (ALA 2023).

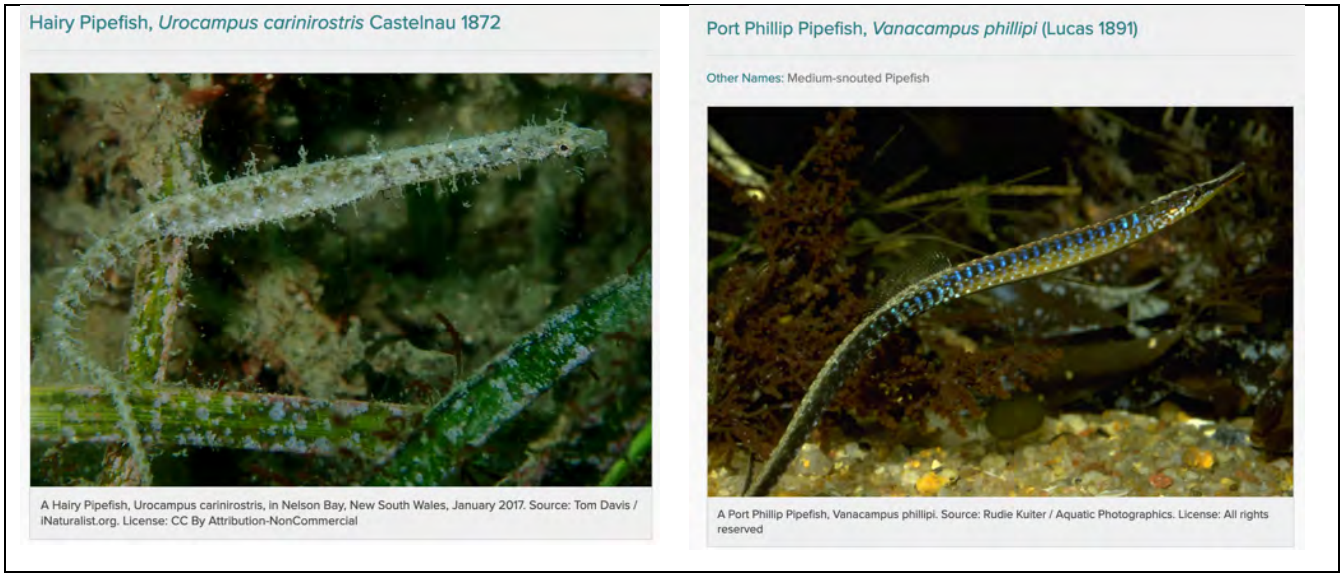


Figure 4. Members of Syngnathiformes reported from Wallaga Lake (Fishes of Australia, 2023).

Table 3. Summary of the Syngnathiformes recorded from Wallaga Lake estuary (limited to the search area in Figure 3).

FAMILY	TAXON	Common Name	Records[1]	Most recent record in Wallaga Lake	Preferred Habitat	Likelihood of Occurrence [2]
Syngnathidae	*Urocampus carinirostris*	Hairy Pipefish	3	1990, collected in hand net on northern side of Regatta Point.	Inhabits the lower reaches of rivers, sheltered estuaries and shallow reefs in seagrass and algal beds a 0-6 m.	Unlikely
Syngnathidae	*Vanacampus phillipi*	Port Phillip Pipefish	1	1984, collected on northern side of Regatta Point	Commonly inhabits seagrass beds (including *Halophila, Heterozostera*, *Posidonia, Ruppia* and *Zostera)* and macroalgae in shallow estuaries, coastal lagoons, and protected bays at depths to 25 m.	Unlikely

Note: [1] ALA (2023). Atlas of Living Australia, accessed 20 February 2023 URL: https://www.ala.org.au/, [2] Occurrence on Wallaga Bridge pilings.

4.2. DIVER INSPECTIONS OF BRIDGE PILES FOR SYNGNATHIFORMES

A total of 70 piles were inspected by divers over 175 minutes with total diver time of 350 minutes. Water depths ranged from 0.5 to 1.0 m at the abutments, to 5.0 to 6.5 m in the deepest part of the channel. Water clarity was poor with visibility limited to 1.0 to 2.0 m, although this did not hinder the diver's ability to search for Syngnathiformes.

Twelve fish species representing 11 different families were recorded during the dive inspection survey (**Table 4** attached). Taxa observed included yellowfin bream, silver sweep, luderick, leatherjacket and cryptic species Eastern fortescue, gobies and horned blenny. All species observed are commonly encountered in estuarine and nearshore marine habitats of south-eastern Australia.

No taxa belonging to the Syngnathiformes were recorded and few habitat opportunities considered suitable for members of Syngnathiformes were observed on bridge piles. The Hairy pipefish and Port Phillip pipefish that have been previously recorded in seagrass habitats of Wallaga Lake were not recorded on or at the base of bridge piles.

Marine encrusting growth on the piles followed a similar trend with barnacles (*Amphibalanus variegatus*), both a combination of dead and live, dominant in the intertidal to upper subtidal zone. Below this zone was a variable cover of barnacles (*Amphibalanus variegatus*) and mussels (*Mytilus galloprovincalis*) over the pile surface all the way to the benthos. All surfaces were covered in a fine layer of silt and turfing algae.

Small aggregations of mussels were also observed on the bed sediments next to piles. Other shellfish observed included the Sydney rock oyster (*Saccostrea glomerata*) that were present on the rock armour of the bridge abutments but were largely absent from the bridge piles themselves, a single individual of mud oyster (*Ostrea angasi*) observed attached to pile 6-46, and a cockle. Images of the typical encrusting growth of filter feeding invertebrates including barnacles and mussels is provided in **Plate 1**.

Key findings from the inspection survey included:

- Bridge piles are characterised by encrusting growth dominated by filter feeding invertebrates barnacles and mussels.
- No taxa belonging to Syngnathiformes were recorded during the inspection survey and it is considered unlikely that Syngnathiformes would utilise the encrusting growth on the bridge piles.
- Twelve (12) fish taxa were observed at the bridge including yellowfin bream, silver sweep, luderick, leatherjacket and cryptic species Eastern fortescue, gobies and horned blenny. All species observed are commonly encountered in estuarine and nearshore marine habitats of south-eastern Australia.

Photo 1. Barnacles were the dominant encrusting growth on piles followed by mussels.

Photo 2. Typical pattern of marine growth on piles was limited to barnacles and mussels.

Photo 3. Sydney rock oysters at the base of abutment A.

Photo 4. Mussels were common on all piles with abundant on piles of pier 6.

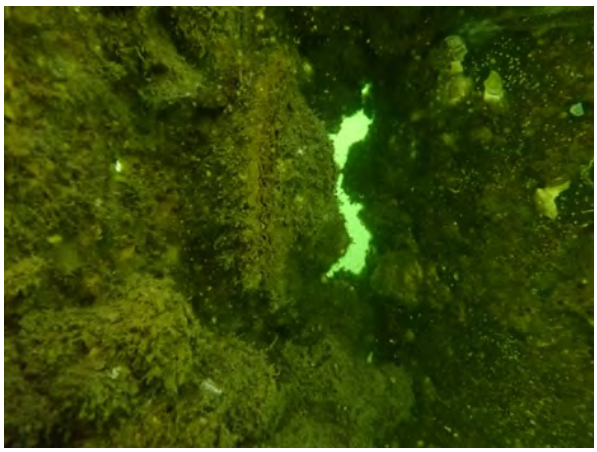


Photo 5. A single mud oyster (*Ostrea angasi*) observed on pile 6-46.

Photo 6. Encrusting yellow sponge.

Plate 1. Images of marine growth on Wallaga bridge piles and abutments.

Photo 1. Eastern fortescue (*Centropogon australis*) was the most abundant species at the study site.

Photo 2. Example of unconsolidated sand substrate with faunal burrows.

Photo 3. East Australian stripey (*Microcanthus joyceae*) were common around bridge structures.

Photo 4. Glassfish (*Ambassis jacksoniensis*) were abundant in the waters around the bridge.

Photo 5. Luderick (Girella tricuspidate) were common around bridge piles.

Photo 6. Few individuals of Yellowfin bream (*Acanthopagrus australis*) were observed.

Plate 2. Images of fish taxa observed at the Wallaga bridge.

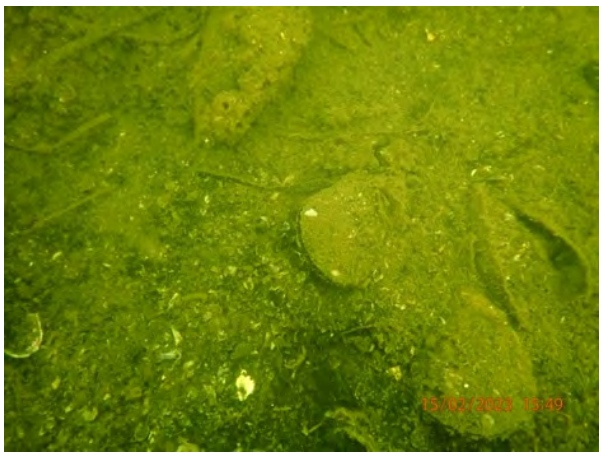
Photo 1. Cryptic fish observed at base of bridge abutment A included the Cocos frillgoby (*Bathygobius cocoensis*).

Photo 2. Cryptic fish observed at base of bridge abutment A included the Largemouth goby (*Redigobius macrostoma).*

Plate 3. Images of cryptic fish taxa observed at the Wallaga bridge.

4.3. CHARACTERISTICS OF BED SEDIMENTS

Observations of bed sediment characteristics were recorded by divers at the base of piles. Bed sediments are characterised by fine sand and layer of fine silt with variable levels of shell (**Plate 4**). The layer of fine silt overlying sand was easily disturbed by divers and any agitation of the sediments during construction activities would cause a turbidity plume and result in a decline in water clarity.



Example of the bed sediment characteristics adjacent to bridge piles.

Plate 4. Typical images of bed sediments below the Wallaga bridge.

4.4. HISTORICAL SEAGRASS DISTRIBUTION IN WALLAGA LAKE

The DPI Fisheries spatial data portal was reviewed for mapped extent of seagrass in Wallaga Lake. The most recent available mapping is 20 years old with the distribution of estuarine macrophytes as mapped in 2002 shown in **Figure 5**. Estuarine habitats present at the study area is limited to *Zostera* seagrass (light blue polygon) as shown in **Figure 5**.

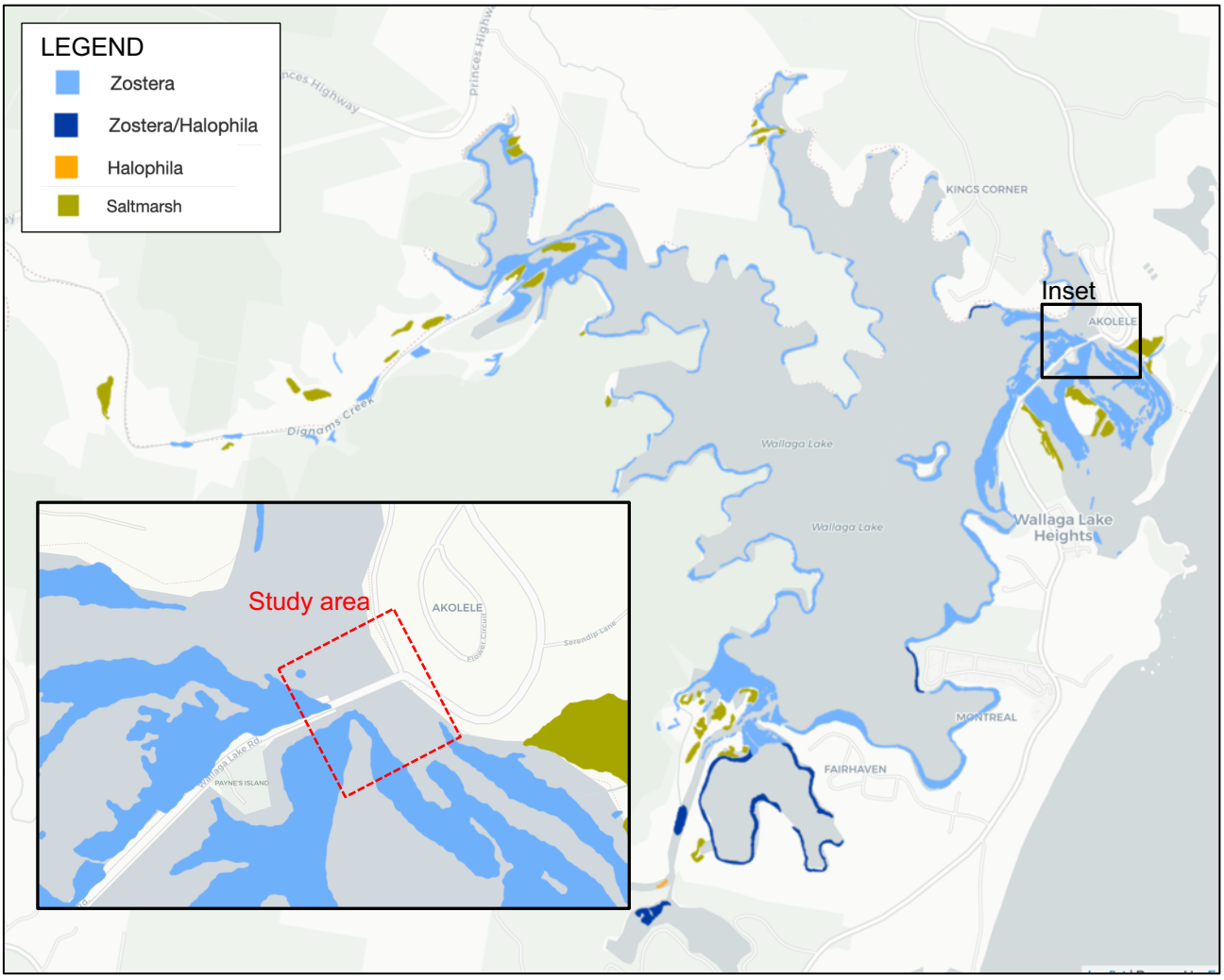


Figure 5. Distribution and extent of estuarine macrophytes mapped at Wallaga Lake in 2002 (source – DPI spatial portal, accessed 14 February 2023).

4.5. BENTHIC HABITATS AND SEAGRASS EXTENT IN VICINITY OF WALLAGA BRIDGE

Tow video survey was undertaken on 15 February 2023 during ebb tide conditions. The benthos was surveyed using tow video drifting along transects and targeting the extent of seagrass, with habitat type recorded at 215 validation points that were subsequently used to infer habitat mapping.

Three benthic habitat types were encountered over the area surveyed. In order of dominance, these included unconsolidated soft sediment, seagrass and consolidated substrate (bedrock, boulder, cobbles)(**Plate 4**). The distribution of benthic habitats in the vicinity of the Wallaga bridge is provided in **Figure 6**.

Unconsolidated soft sediment comprising fine sand, silt and a variable amount of dead shell is the dominant substrate at the study area. The soft sediment is characterised by faunal burrows and seagrass detritus with deposits of dead shell and shell fragments increasing close to bridge and greatest around the base of bridge piles. Small aggregations of mussel *Mytilus galloprovincalis* were observed on benthic sediments

immediately below the bridge. No other live shellfish such as mud oyster (*Ostrea angasi*) were observed over soft sediment habitat.

The distribution and extent of seagrass habitat at the study area is shown in **Figure 6.** There is no seagrass present within the footprint of the bridge. The nearest patch of seagrass to the bridge is located 15 m away with majority of seagrass more than 25 m distal from the bridge. The seagrass community is comprised primarily of *Zostera muelleri* with *Halophila ovalis* a minor component. Patches of seagrass vary from low to medium shoot density. A comparison of the seagrass distribution at the study area between 2002 and 2023 indicates the seagrass meadow has become more fragmented with an overall decline in extent over the past 20-year period (**Figure 7**).

Consolidated substrates including bedrock, gravel and cobble occur along the northern shoreline and at the bridge abutments. Large brown macroalgae such as *Sargassum* sp. and *Sirophysalis trinodis,* and Sydney rock oyster *(Saccostrea glomerata)* occur on consolidated substrates.

Key findings from the survey include:

- There is no seagrass present within the footprint of the bridge. The nearest patch of seagrass to the bridge is 15 m away with majority of seagrass more than 25 m distal from the bridge.
- The dominant habitat at the survey area is unconsolidated soft sediment comprising fine sand and silt. Except for small aggregations of mussel on the benthos below the bridge, there were no other occurrences of living shellfish such as mud oyster (*Ostrea angasi*) observed over soft sediment habitat.
- Consolidated substrate is a mixture of bedrock, gravel and cobbles adjacent to the northern shoreline and at the bridge abutments. Macroalgae and oysters are present on the outcropping bedrock.

Photo 1. Example of unconsolidated sand substrate with faunal burrows.

Photo 2. Seagrass *Zostera* and macrolagae habitat observed on the eastern side of bridge adjacent to Paynes Island.

Photo 3. Example of consolidated rock substrate colonised by macroalgae observed at the northern shoreline east of the bridge.

Photo 4. Deposits of dead shell in sediments were highest around the base of bridge piles.

Plate 5. Still images taken from tow video survey of benthic habitats and seagrass at Wallaga bridge.

5. SUMMARY OF FINDINGS

Key findings from the inspection survey include:

- Bridge piles are characterised by encrusting growth dominated by filter feeding invertebrates barnacles and mussels.
- No taxa belonging to Syngnathiformes were recorded during the inspection survey and it is considered unlikely that Syngnathiformes would utilise the encrusting growth on the bridge piles.
- Twelve (12) fish taxa were observed at the bridge including yellowfin bream, silver sweep, luderick, leatherjacket and cryptic species Eastern fortescue, gobies and horned blenny. All species are commonly encountered in estuarine and nearshore marine habitats of south-eastern Australia.
- There is no seagrass present within the footprint of the bridge. The nearest patch of seagrass to the bridge is 15 m away with majority of seagrass more than 25 m distal from the bridge.
- The dominant habitat at the survey area is unconsolidated soft sediment comprising fine sand and silt. Except for small aggregations of mussel on the benthos below the bridge, there were no other occurrences of living shellfish such as mud oyster (*Ostrea angasi*) observed over soft sediment habitat.

- Consolidated substrate is a mixture of bedrock, gravel and cobbles adjacent to the northern shoreline and at the bridge abutments. Macroalgae and oysters are present on the outcropping bedrock.
- Bed sediments below the bridge are characterised by fine sand and layer of fine silt with variable levels of shell. The layer of fine silt overlying sand was easily disturbed by divers and any agitation of the sediments during construction activities would cause a turbidity plume and result in decline in water clarity.

5.1. Impact Analysis of the Bridge Construction and Rehabilitation Activities on Syngnathiformes and Seagrass

Planned construction and rehabilitation activities include:

1. Removal of the existing HDPE pile wrapping from each pile.
2. Scrape clean any material on the timber piles.
3. Apply PileMedic wrap and fill the void between the timber pile and wrap with epoxy grout (**Appendix B**). The wrap will extend to 300 mm below the bed level.

These works will result in the loss of all existing marine encrusting growth on the piles and construction diver activities that include the pile cleaning and application of pilemedic wrap are likely to cause disturbance to the bed sediments resulting in turbidity plumes and short-term declines in water clarity.

The epoxy grout to be used with the pilemedic wrap system is a three-component substance comprising low viscosity resin, hardener and sand aggregate that can be pumped or poured into the annulus of the wrap. Once cured the grout is hardened and has no reported ecological effects. However, there is potential for spillage or leakage of the epoxy grout substance during its application. Such incidents may result in localised blobs that will eventually cure and harden on the bed sediments. These hardened blobs can be removed by divers during site clean-up. To avoid such incidents, divers should monitor for potential leakage during application of the epoxy grout.

Syngnathiformes

As no members of Syngnathiformes were recorded on bridge piles or observed in habitats immediately adjacent to the bridge, potential direct impacts to Syngnathiformes from rehabilitation activities is considered minimal. The most recent record of Syngnathiformes for the Wallaga Lake is the hairy pipefish (*Urocampus carinirostris)* in 1990 (ALA 2023) which may be found in nearby algal beds or seagrass meadows. Potential indirect impact to the hairy pipefish or Port Phillip pipefish from rehabilitation activities may be from turbidity and sedimentation to its preferred habitat. These potential effects can be controlled via standard environmental safeguards such as silt curtains and booms.

Seagrass

Seagrass habitat exists in the vicinity of the bridge but there is no seagrass present within the footprint of the bridge itself. The nearest patch of seagrass to the bridge is 15 m away with majority of seagrass more than 25 m distal from the bridge.

The likelihood of direct impacts to seagrass (i.e. direct disturbance) is considered low given the distance of seagrass from the bridge. It is understood that Paynes Island will be used as a project staging area. The water surrounding Paynes Island is shallow with extensive seagrass that could be directly impacted by propellors, or hull grounding should work vessels attempt to moor close to Paynes Island. Work vessels should moor close to the bridge over soft sediments and appropriate boat ramp (i.e Beauty Point) used for launching and retrieving of work vessels.

It is anticipated that turbidity plumes and declines in water clarity may result from construction diver activities that include the pile cleaning and application of pilemedic wrap. Declines in water clarity have the potential to cause indirect impact to seagrass if prolonged. However, it is expected that turbidity plumes would be relatively short-lived and of no longer duration than what may be experienced during a heavy rainfall event resulting in catchment flood flows.

6. RECOMMENDATIONS

- Implement standard environmental safeguards to control sediment disturbance for the duration of construction and rehabilitation activities that will minimise potential impacts to sensitive receptors that include nearby seagrass community as well as water quality.
- Carefully monitor the application of epoxy grout to check for leakages from the pilemedic wrap. Any leakages to the bed sediments to be reported and once cured, removed during site clean-up.
- Work vessels are not to attempt to enter the shallow waters around Paynes Island to minimise potential direct impact to the seagrass community.
- Provide a copy of this report to the manager of the Batemans Marine Park in accordance with permit conditions.

7. LIMITATIONS

Elgin Associates has prepared this letter report at the request of Envirokey based on the conditions encountered and information reviewed during the period up to time of preparation. No other warranty, expressed or implied, is made as to the professional advice included in this report. The methodology adopted and sources of information used by Elgin Associates are outlined in this report. The information in this report is considered to be accurate at the date of issue and reflects the sites at the dates sampled. This document and the information contained herein should only be regarded as validly representing the site conditions at the time of the fieldwork unless otherwise explicitly stated. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties.

8. CLOSING

If you have any queries regarding the information contained, please contact using the email or phone provided below.

Sincerely,

Elgin Associates Pty Ltd

[redacted]
PRINCIPAL ENVIRONMENTAL SCIENTIST | Elgin Associates Pty Ltd
[redacted]
1st Floor 45-47 Church Street, PO Box 829
Bega, NSW, 2550

9. REFERENCES

ALA (2023). Atlas of Living Australia.

DPI (2023). DPI Fisheries Spatial Portal

TABLE A3-1 LIST OF INVERTEBRATE AND ALGAL TAXA

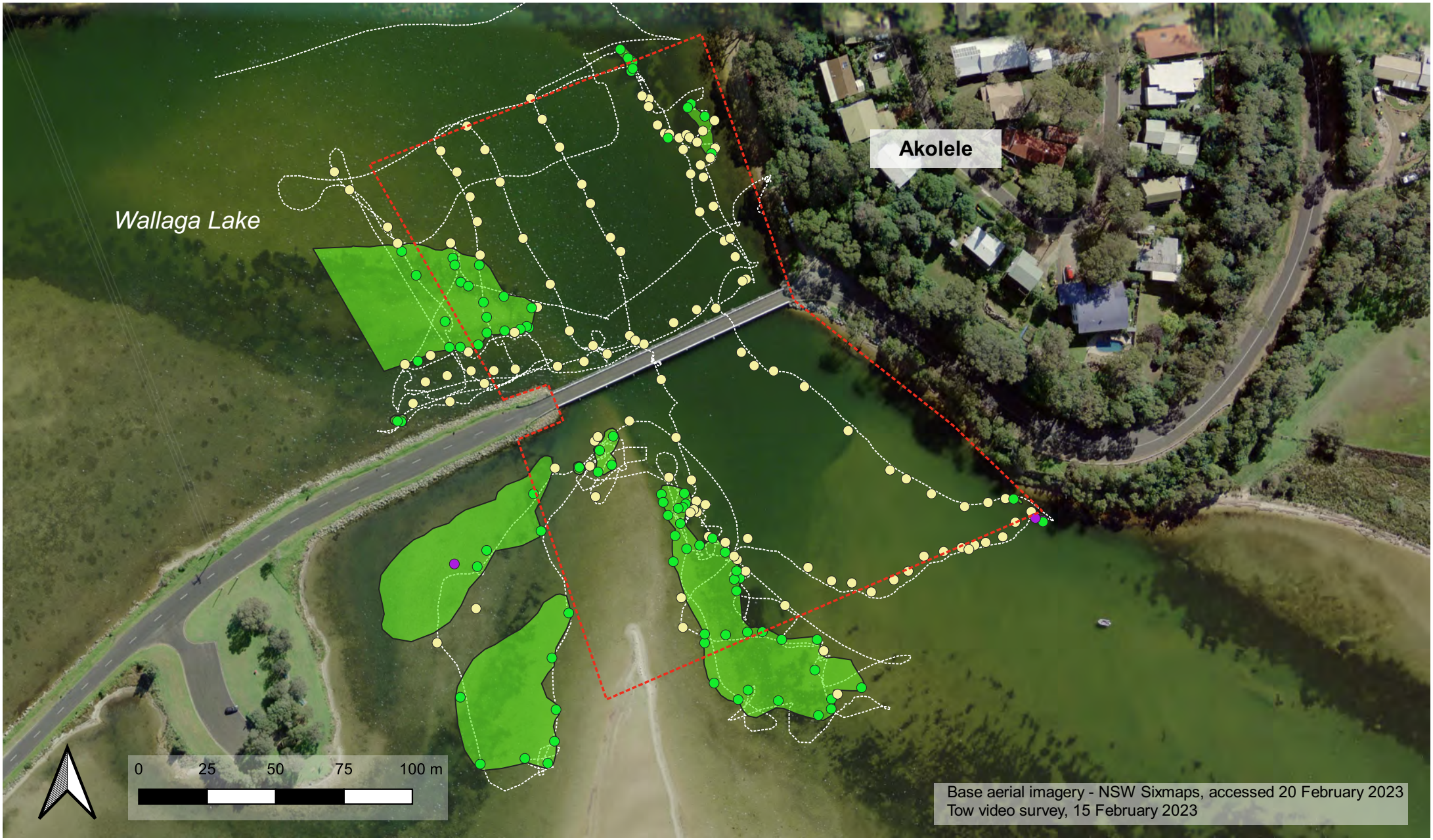
Table 4. Aquatic flora and fauna recorded at Wallaga bridge study site, 15 February 2023

Phylum	Class	Order	Family	Taxon	Common name
VERTEBRATES					
Chordata	Teleostei	Anguilliformes	Anguillidae	*Anguilla reinhardtii*	longfin eel
Chordata	Teleostei	Blenniiformes	Blenniidae	*Parablennius intermedius*	Horned blenny
Chordata	Teleostei	Perciformes	Ambassidae	*Ambassis jacksoniensis*	Glassfish
Chordata	Teleostei	Perciformes	Girellidae	*Girella tricuspidata*	luderick
Chordata	Teleostei	Perciformes	Gobiidae	*Bathygobius cocoensis*	Cocos frillgoby
Chordata	Teleostei	Perciformes	Gobiidae	*Redigobius macrostoma*	Largemouth goby
Chordata	Teleostei	Perciformes	Microcanthidae	*Microcanthus joyceae*	East Australian stripey
Chordata	Teleostei	Perciformes	Monodactylidae	*Monodactylus argenteus*	diamondfish
Chordata	Teleostei	Perciformes	Scorpididae	*Scorpis lineolata*	silver sweep
Chordata	Teleostei	Perciformes	Sparidae	*Acanthopagrus australis*	yellowfin bream
Chordata	Teleostei	Perciformes	Tetrarogidae	*Centropogon australis*	Eastern fortescue
Chordata	Teleostei	Tetraodontiformes	Monacanthidae	*Meuschenia scaber*	Velvet leatherjacket
INVERTEBRATES					
Crustacea	Thecostraca	Balanomorpha	Balanidae	*Amphibalanus variegatus*	Variegated barnacle
Crustacea	Malacostraca	Decapoda	Grapsidae	*Leptograpsus variegatus*	Purple shore crab
Mollusca	Bivalvia	Ostreida	Ostreidae	*Saccostrea glomerata*	Sydney rock oyster
Mollusca	Bivalvia	Mytilida	Mytilidae	*Mytilus galloprovincialis*	Blue mussel
Mollusca	Bivalvia				cockle
Mollusca	Bivalvia	Ostreida	Ostreidae	*Ostrea angasi*	mud oyster
Mollusca	Gastropoda	Caenogastropoda	Batillariidae	*Batillaria australis*	Southern mud whelk
Bryozoa				unidentified bryozoan	unidentified bryozoan
Porifera				yellow sponge	yellow sponge
Porifera				red sponge	red sponge
ALGAE					
Chlorophyta	Ulvophyceae	Bryopsidales	Codiaceae	*Codium*	
Ochrophyta	Phaeophyceae	Fucales	Sargassaceae	*Sirophysalis trinodis*	
Ochrophyta	Phaeophyceae	Fucales	Sargassaceae	*Sargassum sp.*	
SEAGRASS					
Tracheophyta	Magnoliopsida	Alismatales	Zosteraceae	*Zostera muelleri*	Eelgrass
Tracheophyta	Magnoliopsida	Alismatales	Hydrocharitaceae	*Halophila ovalis*	Paddle weed

Taxonomy follows currently accpeted nomenclature from:

WoRMS Editorial Board (2023). World Register of Marine Species. Available from URL: http://www.marinespecies.org at VLIZ. Accessed 2023-02-20

Guiry, M.D and Guiry, G.M. (2023). AlgaeBase. World-wide electronic publication, National University of Ireland, Galway. https://www.algaebase.org; searched on 20 February 2023



LEGEND

Study_area

Validation point

- Seagrass
- Macroalgae
- Other

2023_Seagrass

PROJECT: Wallaga Lake bridge aquatic ecology assessment

TITLE: Benthic habitat in vicinity of Wallaga Lake bridge

CLIENT: Envirokey Pty Ltd

elgin associates

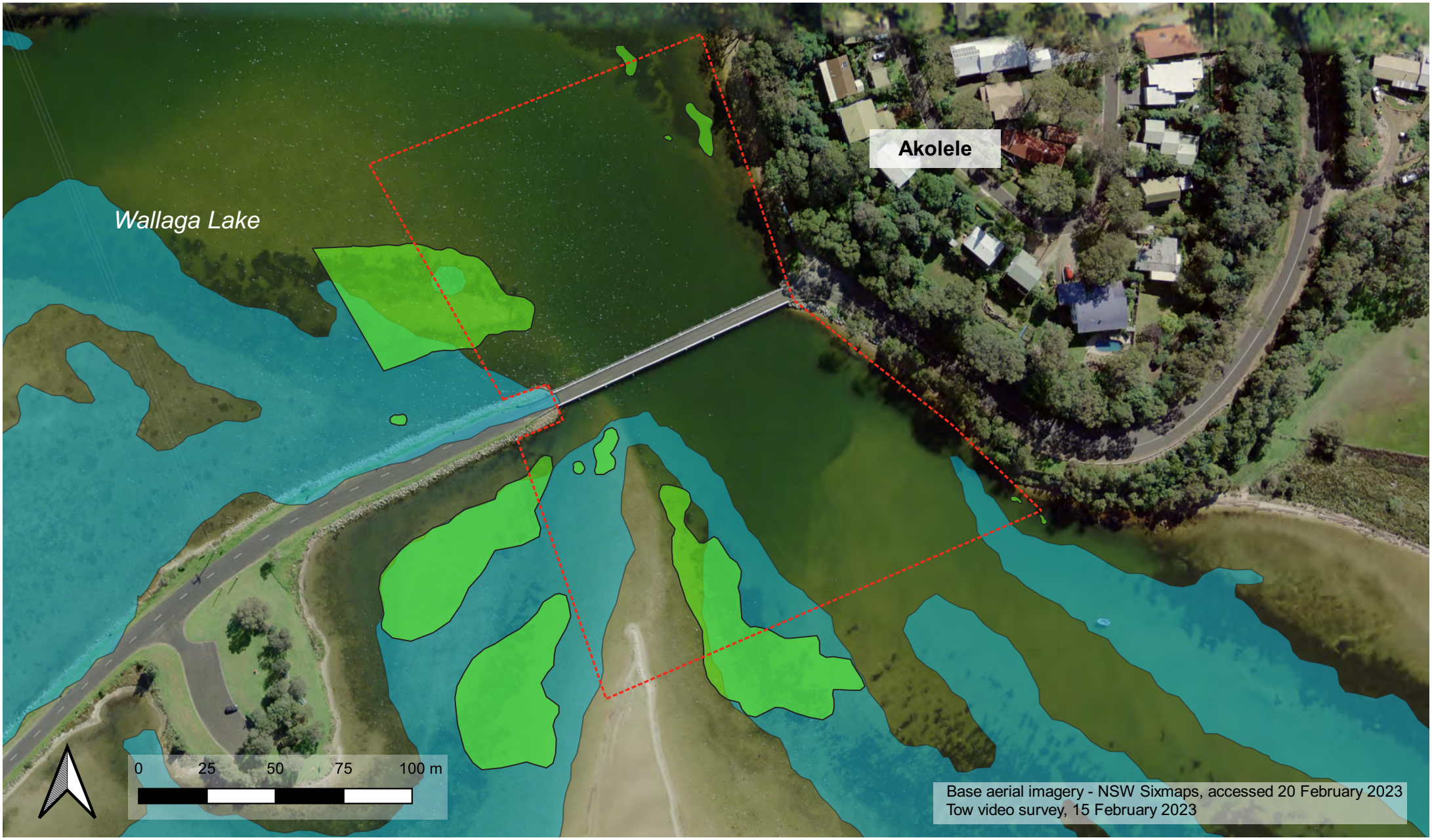
DRAWN: NY

DATE: 20/2/2023

FIGURE 6

A4

Rev 1



LEGEND

- Study_area
- 2023_Seagrass

2002_Estuarine macrophytes

- Seagrass

PROJECT: Wallaga Lake bridge aquatic ecology assessment

TITLE: Seagrass distribution and extent Wallaga Lake bridge

CLIENT: Envirokey Pty Ltd

elgin associates

DRAWN: NY

DATE: 20/2/2023

FIGURE 7

A4

Rev 1

APPENDIX A

Batemans Marine Park Permit

Department of Primary Industries

Reference: MEAA21/373

[redacted]
Transport for NSW
21 York Place
RUSSELL VALE NSW 2517

[redacted],

Marine Parks permit MEAA21/373 - Batemans Marine Park

I refer to your application received 21 December 2021 for a permit to conduct underwater bridge inspections within Batemans Marine Park. Please find permit MEAA21/373 which provides the necessary permissions to harm marine vegetation and animals for public safety purposes. Of particular importance are the special conditions 16 to 35 for these works.

This permit has been issued from the 2 March 2022 until 2 March 2023 and grants the necessary authorities for the activity under the *Marine Estate Management (Management Rules) Regulation 1999*. Please review the conditions of the permit and ensure compliance to the conditions therein. Note that failure to comply with the conditions of a permit is an offence under the *Marine Estate Management (Management Rules) Regulation 1999.* Permit holders found guilty of contravening a permit condition may face a fine as well as the cancellation of the permit by the Batemans Marine Park. We would like to stress the need to minimise harm to the natural environment both at the work site and the adjacent land based temporary works depots. We anticipate the implementation of best management practise with respect to stormwater, erosion and sediment control and habitat management, including:

- Work scheduling (installation of protective measure before works commence, suspension of works during heavy rain, etc);
- Use of protective measures (silt curtains, floating booms, site drainage, separation of 'clean' and 'dirty' water, sediment traps, etc);
- Active management and maintenance of those measures (replacing damaged control measures, modification of sediment control and stormwater management systems if they are not working appropriately and removing accumulated sediment etc).

Please ensure that all workers on-site adhere to the mitigation measures outlined in the above mentioned documents. Workers should also be aware of the permit conditions and their obligations under the *Protection of the Environment and Operations (POEO) Act 1997* with respect to pollution control at the site. If you believe you cannot comply with the conditions of the permit, then you should not commence work. If you have any queries regarding the above, please contact the Batemans Marine Park office on the number listed below.

Yours sincerely,

[redacted]
A/Manager
Batemans Marine Park

2 March 2022

Department of Primary Industries

NSW DEPARTMENT OF PRIMARY INDUSTRIES - MARINE PARKS PERMIT

NSW Marine Estate Management (Management Rules) Regulation 1999,
Part 1, Division 2, Clause 1.11 (1)(a)(b)(c)
Part 1, Division 2, Clause 1.16 (1) (a)(b) c)
Part 1, Division 2, Clause 1.19 (1)(a)(b)(c)
Part 1, Division 2, Clause 1.22 (1)(a)(b)(c)

works in sanctuary zone, habitat protection zone, general use zone and works in a special purpose zone

Permit No: **MEAA21/373** Expiry Date: 2 March 2023

This permit and all conditions herein extend to all employees of the Permittee, and other persons acting on behalf of or at the direction of the Permittee for the purposes specified in this permit.

Permit is granted to:

Permittee:	[redacted] Transport for NSW
Trading As:	Transport for NSW
Address:	21 York Place RUSSELL VALE NSW 2517
Use and entry authorised to the following NSW Marine Park/s:	Batemans Marine Park
Permitted Zone/s and Location/s:	All Zones, Batemans Marine Park: Nelligen Bridge, Clyde River Habitat Protection Zone Batemans Bay Bridge, Clyde River Habitat Protection Zone Moruya Bridge, Moruya River General Use Zone Coila Creek Bridge, Coila Creek Sanctuary Zone Smarts Creek Bridge, Tuross River Habitat Protection Zone Tuross River Bridge, Tuross River Habitat Protection Zone Trunketabella Creek Bridge, Tuross River Habitat Protection Zone Whittakers Creek Bridge, Whittakers Creek Sanctuary Zone Narooma Bridge, Wagonga Inlet Special Purpose Zone; Wagonga Inlet Habitat Protection Zone Nangudga Lake Bridge, Nangudga Sanctuary Zone Corunna Lake Bridge, Corunna Lake General Purpose Zone Wallaga Bridge, Wallaga Lake Habitat Protection Zone.
Permitted Activity:	Conduct underwater bridge inspections with divers and boats. Remove fouling from bridge infrastructure by scraping or water jetting with water extracted from immediate waters. Coring and visual inspections of bridge infrastructure to determine structural integrity and safety of assets.

The Activity must be conducted in accordance with the details above and subject to conditions stated on the following pages.

[redacted]
A/Marine Park Manager
Delegate of the Minister for Agriculture and Western New South Wales and Minister for the Environment and Heritage

Date: 2 March 2022

WARNINGS

1) This permit is not transferable.

2) All activities, the subject of this permit, must be undertaken in accordance with the provisions of the laws in force from time to time in the State of New South Wales and, in particular, the provisions of the *Marine Estate Management Act 2014*, the *Marine Estate Management Regulation 2009* and the *Marine Estate Management (Management Rules) Regulation 1999*.

3) A breach by the Permittee/s or any person to whom this permit extends, of the *Marine Estate Management Act 2014*, the *Marine Estate Management Regulation 2009* or the *Marine Estate Management (Management Rules) Regulation 1999* including any permit condition contained herein may result in the variation, suspension or cancellation of this permit or in a fine.

INSURANCE CONDITIONS

4) The Permittee must at all times during the period of the permit, maintain a policy of public liability insurance for a sum of not less than ten million dollars ($10,000,000) to indemnify itself, from and against liability for all action, suits, demands, costs, losses, damages and expenses (hereinafter called claims) which the Permittee may pay, sustain or be put to by reason of damage to property or injury to persons (including death) caused by or arising in any way out of the conduct of the Permittee on any lands or waters managed by the Department of Primary Industries – Marine Parks or generally as a result of the presence of the Permittee, or the Permittee's agents or clients on lands or waters managed by the Department of Primary Industries – Marine Parks.

5) The Permittee must not cancel or later the insurance policy without first obtaining written consent from the Department of Primary Industries – Marine Parks.

6) In the event the insurer cancels the insurance policy prior to the expiration of the insurance policy, the Permittee must advise the Department of Primary Industries – Marine Parks in writing within three (3) business days of receiving advice of the cancellation from the insurer.

7) In the event the insurance policy expires prior to the expiration date of this permit, the Permittee must produce to the Department of Primary Industries – Marine Parks evidence of renewal of the insurance policy no fewer than 28 days prior to the expiry of the insurance policy.

8) The Permittee must provide a copy of the insurance policy and a copy of the certificate of currency of the insurance policy, to the delegate when required by the Department of Primary Industries – Marine Parks.

9) The Permittee must notify the Department of Primary Industries – Marine Parks as soon as possible of any fatal accident or serious injury sustained by a participant/s resulting from the conduct of the permitted activity listed in this permit on lands or waters of a marine park. All other accidents or injuries must be reported to the Department of Primary Industries – Marine Parks in writing within seven (7) days of the occurrence.

STANDARD CONDITIONS

10) The Permittee must ensure that when operations are conducted in the Marine Park under this permit, the permit or a certified copy of the permit is held at the site or sites of operation and on vessels during transit to and from that site or sites.

11) The Permittee must produce a copy of this permit on site when requested by an Authorised Officer.

12) The Permittee must inform staff and participants in the program of any restrictions applying under this permit.

13) The Permittee must notify the Department of Primary Industries – Marine Parks within seven (7) days of:
    a) any change to the Permittee details; and/or
    b) the cessation of operations to which this permit relates.

14) Where the activity, the subject of this permit, relates, requires a licence or permit issued by other government agencies, it is a condition of this permit that other license/s or permit/s is issued and current.

15) The Permittee must ensure that any waste is managed, transported, reused, stored, collected receipted and disposed of in an environmentally satisfactory manner pursuant *to NSW Protection of the Environment Operations Act 1997*, and that all reasonable measures regarding the control and prevention of pollution and waste from being introduced into the Marine Park are implemented.

SPECIFIC CONDITIONS

16) The Permittee or any person to whom this permit extends, must ensure that all activities conducted under this permit are undertaken in accordance with the following documents;

- DPI Fisheries Permit application dated 21/12/2021
- Construction Environmental Management Plan – Underwater Bridge Inspections V.20.0 Issue date 13/12/2001
- Step 2 Memo – Southern Region Underwater bridge inspections – dated 16/12/2021
- Transport for NSW – QA Specifications B350 – dated June 2020.

These documents, or a certified copy of them must be held at the site of operation during work activity. All safeguards and mitigation measures listed in these documents are to be conducted as part of the works as described. Other works which have not been described must not be undertaken.

17) The Permittee must ensure that any debris or slurry generated from drilling core holes into the bridges is captured and removed from site.

18) The Permittee must inspect each site for the presence of Syngnathids (sea horses) prior to commencement of works. No jetting or scraping can commence until the animals have retreated from the area.

19) The Permittee must ensure that erosion and sediment control at the site is managed in a manner consistent with currently accepted Best Management Practice (i.e. Managing Urban Stormwater, Soils and Construction guidelines; 4th Edition Landcom 2004 (The Blue Book) to prevent the unnecessary entry of sediment into the waterway, particularly during heavy rainfall or flood events. These measures must be maintained in good working order throughout the period of the works and subsequently until the site has been stabilised and the risk of erosion and sediment movement from the site is minimal.

20) The Permittee must ensure that any 'clean' stormwater runoff is prevented from entering the marine park from land-based areas of the works during rain events and is diverted around the site.

21) The Permittee must ensure that machinery is to be appropriately cleaned, degreased and serviced. Spill kits are to be available on site (including large plant and machinery, work barges and smaller work boats) at all times during the works.

22) The Permittee must ensure that all workers and sub-contractor on site are fully trained and familiar with all environmental control measures outlined in the environmental work method statements referred to in this permit and deployment procedures (ie.in the event of an oil spill or other event) prior to the works commencing.

23) The Permittee must ensure that where possible, land based refuelling of work boats within 50m of waterways is to be avoided. Where the 50m refuelling separation from waterways cannot be achieved, a physical bund is to be installed around the plant item being refuelled, or a hydrocarbon boom/s when plant is being refuelled over water.

24) The Permittee must ensure that all fuels, chemicals and/or liquids to be stored at least 40m from waterways, where physically possible given site constraints (e.g. live roads and carparks).

25) The Permittee must ensure that on land where a 40m liquid storage separation from waterways cannot be achieved, a physical bund (e.g. bunding or edge protection) is to be established flush with the relevant ground surface and fully surrounding the areas containing any liquid/s being stored.

26) The Permittee must ensure that all fixed machinery is to be bunded when working from an adjacent foreshore of the waterway.

27) The Permittee must ensure that all plant items on work vessels is bunded when working from the waterway. The condition of the bunds must be regularly inspected and maintained. If works are to occur from a flat decked barge, the perimeter of the barge must be sealed and bunded.

28) The Permittee must ensure that any jetting work is kept to as minimal area as possible to complete the required inspection. If a plume of greater the 2m2 is generated work must cease until disturbed material has settled out of suspension.

29) The Permittee must ensure that waste will be managed and disposed of in accordance with relevant State legislation and government policies, disposal of waste to landfill will be at an appropriate licensed facility that can lawfully accept the waste.

30) The Permittee must ensure that the site is restricted to, and safe for the public during the construction period.

31) The Permittee must remove all equipment and other material introduced by the activities from the Marine Park immediately on cessation of works or as directed by an authorised officer.

NOTIFICATION AND SITE SUPERVISION CONDITIONS

32) The Permittee must notify the Batemans Marine Park (batemans@dpi.nsw.gov.au ph: 02 4476 0807 or Ranger: [redacted] 48 hours prior to the commencement of works within the Marine Park.

33) The Permittee must notify the Batemans Marine Park of any alterations to the scheduled works at least 48 hours prior to the commencements of the works.

34) The Permittee must notify the Batemans Marine Park if any Syngnathids (sea horses) are identified on-site. Works are to cease until disturbed animals have retreated from the immediate vicinity of coring activities.

35) The Permittee must notify the Batemans Marine Park immediately should any pollution event occur within the area of the works. This includes all minor incidents. In all cases works are to cease until the issue is resolved. For significant incidents approval must be given to proceed.

36) The Permittee must notify the Batemans Marine Park immediately if any distressed fish (fish gasping at surface, fish crowding in pools or along the banks of the waterway) are located within the waterway or should any fish kills occur within the waterway. In this case works are to cease until the issue is resolved and approval is given to proceed.

37) All activities may be subject to inspection by an Authorised Officer, nominated by the Department of Primary Industries – Marine Parks, unless the Permittee has been advised in writing by the Department of Primary Industries – Marine Parks that this is not required. The Authorised Officer is authorised to stop or suspend activities that in his/her opinion are likely to cause environmental or social harm.

38) When required by the Department of Primary Industries – Marine Parks, the Permittee must nominate in writing to the Department of Primary Industries – Marine Parks an on-site liaison officer with whom the Authorised Officer can maintain contact at all times.

39) The Permittee and its employees, contractors, sub-contractors and agents must comply with all directions of the Authorised Officer in relation to the works as are reasonable necessary for the conservation, protection and preservation of the Marine Park and property and things in the Marine Park.

NATIVE TITLE CONDITIONS

40) In the event that native title rights and interests are, or would be, affected by the grant of this Permit and this Permit is not authorised under the Native Title Act 1993 (Cth) so that the Permit may be 'invalid' within the meaning of the Native Title Act 1993 (Cth) then:
   a) The Permittee agrees that it will not seek to recover any compensation, damages, costs, losses or expenses whatsoever resulting from the invalidity from the Department of Primary Industries – Marine Parks;
   b) The parties agree that the valid parts of the Permit continue in force unaffected by the invalid parts.

41) The Permittee must not interfere with or prevent any person holding native title in the Marine Park from having reasonable access to the Marine Park.

INTERPRETATION AND DEFINITIONS

A word or phrase in this permit has the same meaning as the word or phrase has in the *NSW Marine Estate Management Act 2014,* NSW Marine Estate Management (Management Rules) Regulation *1999* and the *NSW Marine Estate Management Regulation 2017*.

A reference to a date includes that date.

APPENDIX B

Pilemedic and epoxy grout system information

PileMedic™

THE PERMANENT SOLUTION FOR PILE RESTORATION

PileMedic+™

By QuakeWrap, Inc.

QuakeWrap® AUSTRALIA

Stronger Than Steel™

PILEMEDIC™

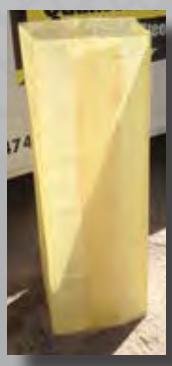
THE PERMANENT SOLUTION FOR PILE RESTORATION

PileMedic™ is a patent-pending product developed by Professor Mo Ehsani following 25 years of research and development. It is the most economical and the fastest system for repair and strengthening of columns, underwater piles, utility poles, and bridge piling with little disruption to traffic.

PileMedic™ Fiber reinforced Polymer (FRP) laminates are only 0.025 inches (o.6 mm) thick. They are supplied in rolls that are 4-ft wide X 150-ft long (1.2 m X 46 m). In the field, the rolls are cut to the desired length, coated with our epoxy paste and wrapped around the pile or column to create a solid shell of desired shape. The annular space between the pile and the shell is then filled with grout or a low viscosity resin.

We also offer a complete line of pre-fabricated shells and wet lay up FRP fabrics and resins for repair of utility poles, timber piles, etc.

In either case, our engineers will provide sealed drawings guaranteeing the highest quality repair system offered in the industry. Installation is performed by our trained and certified applicators.



PileMedic™ prefabricated shells (PS)

PileMedic™ carbon and glass laminates

APPROVALS

The unique engineering features of our product resulted in the US Army Corps of Engineers and FEMA's Urban Search & Rescue Program singling out PileMedic™ as ***the only product*** recommended for fast repair of columns and piles that are damaged in a disaster such as hurricane, earthquake, terrorism, etc.

US Army Corps of Engineers

FEMA

ADVANTAGES

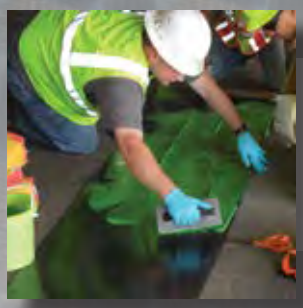
- The ONLY product approved by FEMA and US Army Corps of Engineers
- 3-4 times stronger than steel with tensile strength more than 150,000 psi (1030 MPa)
- Fastest repair & strengthening system with no traffic control!
- Increase axial capacity beyond original strength of column/pile
- No weak seams along height offers uniform confining pressure (360°)
- No costly divers for underwater repair
- Underwater cured resin eliminates the need for coffer dams
- Does not corrode
- No metallic parts
- Grout or resin can be pressurized to penetrate all cracks and crevices
- Available in carbon or glass
- Works equally well on concrete, steel and wood or timber piles and columns
- One size fits all piles (no delays for ordering customized jackets

The historic Powder Point Bridge (the longest timber bridge in the U.S.) was repaired with PileMedic™

INSTALLATION

REPAIRS IN JUST A FEW HOURS!

1) Corro-sion-damaged



2) Cut PileMedic™ to desired size and apply epoxy

3) Wrap PileMedic™ around column to create a shell of any shape

4) Use ratchet straps to temporarily hold the shell's shape

5) Fill annular space with non-shrink grout or low velocity resin

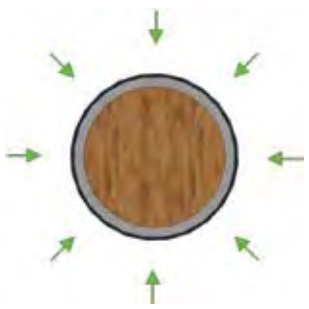
6) Remove ratchet straps and paint jacket (if desired)

CONFINEMENT

360° OF CONFINING PRESSURE!

PileMedic™ is the only pile jacket system on the market that provides an all-around (360 degree) confining pressure. This significantly increases the strength of the pile. The strength of a typical 4000-psi concrete pile will be raised to over 6000 psi once it is wrapped with PileMedic™.

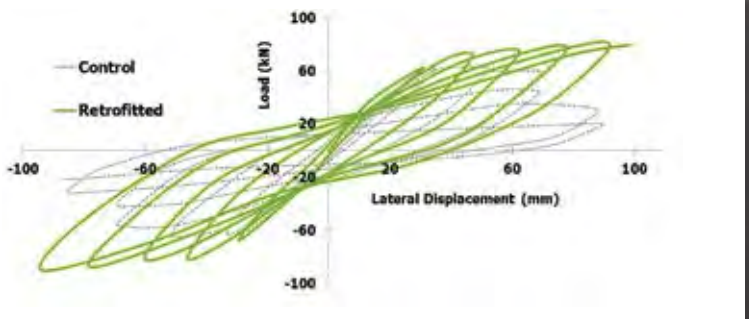
Side view of confined pile



Top view of confined pile

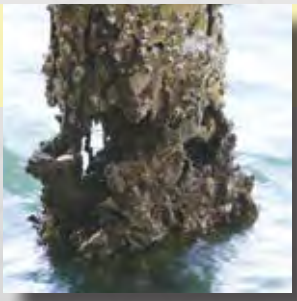
TESTS

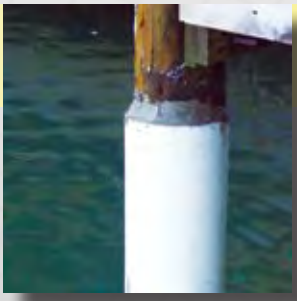
SCIENTIFICALLY PROVEN STRENGTH!



Extensive tests have demonstrated the structural improvements offered by PileMedic™ jackets due to confinement of concrete in columns and piles. Additional tests are currently underway for steel H-piles (funded by Texas DOT) and timber piles (funded by Nebraska DOT).

APPLICATIONS





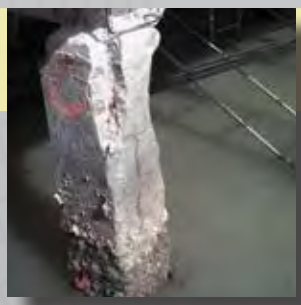
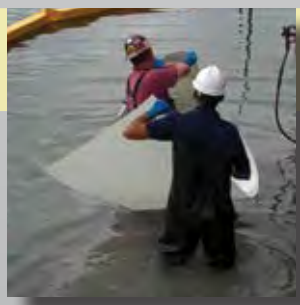
UNDERWATER PILES

- Restore full capacity of deteriorated piles
- Underwater curing resins eliminate coffer dams

STEEL POLES

- Repairs completed in 2-3 hours
- No disruption of service during repair




CONCRETE PILES

- Confinement increases concrete strength by more than 50%
- No coffer dams needed during repair

TIMBER PILES

- Injection with low viscosity resin fills all voids and cracks
- Pile strength is increased beyond the original capacity



WE PROVIDE SEALED ENGINEERED DRAWINGS AND INSTALLATION BY CERTIFIED CONTRACTORS.

UTILITY POLES

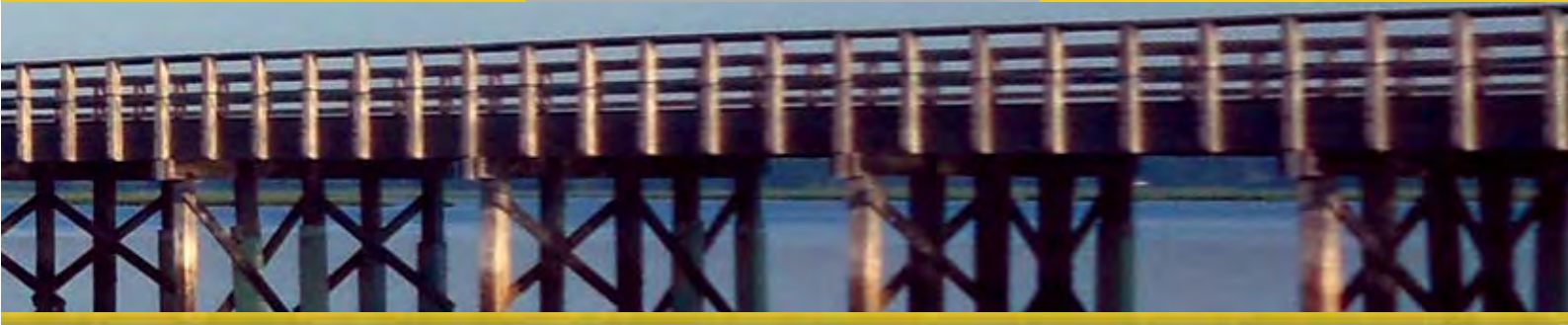
- Increase flexural strength to carry heavier loads
- Prevent breaking of piles during storms

BRIDGE PILINGS

- Stop corrosion by eliminating oxygen supply
- Bridge remains open to traffic during repair

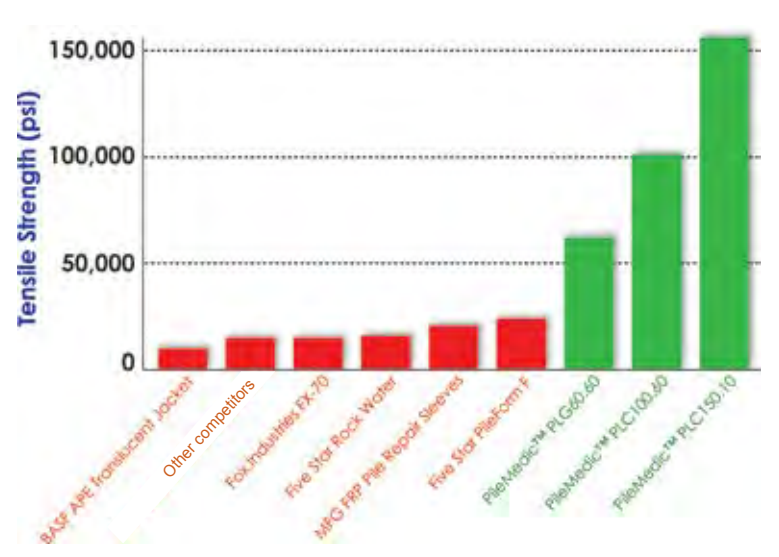
PILE EXTENSIONS

- Homes can be raised to FEMA recommended Flood Protection Elevation (FPE)
- Spliced pile is stronger than new



COMPARISON WITH OTHER JACKETS

The tensile strength of PileMedic™ carbon and glass FRP laminates is 3-15 times stronger than other commercially available products.



Other jackets (as depicted below) have a seam along the height that allows moisture and oxygen to penetrate into the pile, leading to continued corrosion of the jacketed portion.

The seams also weaken the jacket and prevent application of any confining pressure around the pile.

Examples of conventional jackets

SIDE BY SIDE COMPARISON CHART

CONVENTIONAL JACKETS	DRAWBACKS	PILEMEDIC™ SYSTEM	ADVANTAGES
MUST BE CUSTOM MADE	• Additional costs for labor, materials, storage and transportation • Requires longer time to order and install	ONE SIZE FITS ALL	• No delays waiting for customized jackets to be manufactured • Fastest repair and strengthening system available
VERTICAL SEAM	• Provides no confinement pressure • Moisture and oxygen can penetrate through the seam • Metallic hardware will corrode	NO VERTICAL SEAM	• 360° of uniform confining pressure • Seamless shell will keep moisture and oxygen out to halt corrosion process • No metallic hardware to corrode • 3-15 times stronger than competitors
GROUT CAN'T BE PRESSURIZED	• Voids and cracks in the pile remain unfilled • Deterioration continues	GROUT CAN BE PRESSURIZED	• All cracks, voids and crevices are filled • Achieve active confinement for pile

CALL US FOR A FREE EVALUATION AND ESTIMATE BY OUR ENGINEERS!

HYCHEM
INFRASTRUCTURE SOLUTIONS
Quakerwrap Australia is now proudly owned by Hychem

QuakeWrap Australia

Gary Broadstock
QLD, NT
gary.b@hychem.com.au
+61 (0) 426816247

Tony White
NSW, WA
tony.w@hychem.com.au
+61 (0) 434760136

Dean Drummond
TAS, VIC, SA, ACT
dean.d@hychem.com.au
+61(0) 458965479

PileMedic+
By QuakeWrap, Inc.

SCAN CODE TO WATCH OUR INSTALLATION VIDEOS:

PileMedic® PLG14.13

Description

PileMedic® PLG14.13 is a high-strength Glass Fiber Reinforced Polymer (FRP) laminate constructed with bidirectional glass fabrics providing strength in both longitudinal and transverse directions. The laminate is wrapped around the host structure and the overlapping portions are bonded together using QuakeBond™ 220UR (Universal Resin) to create a strong shell around the existing structure. PileMedic® is unique in that it allows construction of a seamless structural shell around an existing column, utility pole or submerged pile. The annular space between the PileMedic® Jacket and the host structure can be filled with an array of QuakeWrap® fill materials, including resins, epoxy grouts, and non-shrinking grouts.

Uses

- Repair and strengthening of underwater piles
- Repair and strengthening of bridge piers or piles
- Repair and strengthening of corroded or damaged structural columns
- Repair and strengthening of utility poles
- Applicable to all materials: concrete, steel and timber

Advantages

- One flat sheet can be used to construct a custom shell of any shape (e.g. circular, oval, etc.) in the field, eliminating the expense and delays of special-order jackets.
- The jacket provides significant lateral confining pressure in the hoop direction under code compliant conditions.
- Increases the axial compressive capacity of the structure under code compliant conditions
- Provides flexural (bending) enhancement under code compliant conditions
- The seamless shell prevents migration of moisture and oxygen into the structure, significantly reducing future rate of corrosion and deterioration.
- The laminates incorporate peel-ply technology for enhanced bonding characteristics of the surface
- Annular space is easily maintained in the field, minimizing the waste of fill material.
- Reduces the diving time in underwater repairs
- System does not corrode and is chemical resistant
- Laminates can be installed as single shells with overlapping joints along the height of the structure.
- Strengthening system may be designed as a contact critical application where surface preparation requirements of the host structure are significantly reduced.

Packaging

Laminates are available in 48-in. (1.22 m) wide rolls. The length of each roll can be customized up to 60 feet (18.3 m) long. PileMedic® laminates can be custom manufactured in widths up to 100 inches (2.54 m).

Shelf Life & Storage

PileMedic® laminates have unlimited shelf life when stored properly. Store in dry place at 30°-120° F (0°-50° C).

Fiber & Laminate Properties

		US Units	SI Units
Longitudinal (0°) Direction:			
Tensile Strength	**(ASTM D3039)**	28.7 ksi	198 MPa
Breaking Load		1430 lb/in.	25.54 kg/mm
Modulus of Elasticity	**(ASTM D3039)**	2,848 ksi	19, 630 MPa
Ultimate Elongation	**(ASTM D3039)**	1.70 %	1.70%
Transverse (90°) Direction:			
Tensile Strength	**(ASTM D3039)**	27.6 ksi	190 MPa
Breaking Load		1270 lb/in.	22.68 kh/mm
Modulus of Elasticity	**(ASTM D3039)**	2,766 ksi	19,070 MPa
Ultimate Elongation	**(ASTM D3039)**	1.80 %	1.80 %
Laminate Properties:			
Ply Thickness		0.05 in	1.27 mm
Barcol Hardness	**(ASTM D2583)**	75 min	75 min
Water Absorption	**(ASTM D570)**	0.8% max	0.8% max

The Infrastructure Innovators

QuakeWrap.com

QuakeWrap, Inc.
6840 S. Tucson Blvd.
Tucson, AZ 85756
Toll Free (866) QUAKEWRAP [782-5397]

PileMedic® PLG14.13

Application

The following steps outline a typical application of the PileMedic® system. Project-specific requirements may vary.

1) Cut the required length of PileMedic® laminate considering the number of layers necessary and the overlap length.
2) Wipe laminate using a clean cloth.
3) Apply appropriate QuakeBond™ 220 epoxy paste on the overlapping regions of the laminate sheet.
4) Wrap the laminate around the host structure to create a multi-layer jacket. PileMedic® spacers shall be used to control the size of the annular space between the host structure and the laminate.
5) Use straps to temporarily hold the jacket in the desired shape.
6) Seal the bottom of the annular space, as required.
7) Fill the annular space with approved fill material; the hydrostatic pressure from the weight of the fill material will press the laminate plies against each other for improved bonding. For underwater applications, the fill material must be compatible for such applications.
8) For longer piles, repeat the above steps for additional bands of jacket along the height of the pile; overlap the new jacket as required with the adjacent jacket.
9) Leave the installation undisturbed for 24 hours before removing the straps.
10) Apply appropriate coating on the exterior of the jacket, if required.

Installation of PileMedic® products must be performed only by specially-trained and approved contractors.

Laminates can be cut to appropriate length using commercial quality heavy duty shears. Care must be taken to support both sides of the laminate during cutting to avoid splintering. Since dull or worn cutting tools can damage, weaken or fray the fiber, their use should be avoided.

Limitations

If required, design calculations must be made and certified by a licensed professional engineer.

When repairing rectangular piles, the minimum bend radius of the jacket around the corners of such piles should not be less than 2 in. (50 mm).

Caution

PileMedic® PLG14.13 laminates are non-reactive. However, caution must be used when handling since a fine dust may be present on the surface. Gloves and safety glasses are recommended to protect against skin and eye irritation. Care must also be taken when cutting the laminates to protect against airborne dust generated by the cutting procedure. Use of an appropriate, properly fitted NIOSH approved respirator is recommended.

First Aid

Appropriate Personal Protective Equipment (PPE) should be worn at all times when handling product.

The Infrastructure Innovators

QuakeWrap.com

QuakeWrap, Inc.
6840 S. Tucson Blvd.
Tucson, AZ 85756
Toll Free (866) QUAKEWRAP [782-5397]

QuakeWrap

UW Pile Jacket Epoxy Grout (PJE)

Description

QuakeWrap UW Pile Jacket Epoxy Grout (PJE) is a three component underwater curing, long pot life structural epoxy grout. The QuakeWrap UW Pile Jacket Epoxy Grout is a low viscosity resin and hardener system mixed with aggregate to make a pumpable epoxy grout for filling the PileMedic jacket Systems or void filling in timber and concrete substrates.

Uses

- Filling of annulus in the PileMedic jacket systems for structural retrofit applications of marine piles.
- Excellent Adhesion to PileMedic ,concrete, steel ,masonry, and wood
- A moisture barrier (water-resistant) system when used in conjunction with QuakeWrap® PileMedic, Spire and StifPipe Systems.
- Non-compressive void filler in timber piles and component

Advantages

- Long pot life
- High-strength, high-modulus, low-viscosity structural adhesive
- Fully compatible and excellent adhesion to QuakeWrap® PileMedic jacket System.
- Convenient mix ratio, by weight
- 100% solvent free
- Color coded components (pigmented syrup & amber liquid) to ensure proper mixing control
- Nearly odor free and low toxicity during cure
- Under Water Curing

Epoxy Grout Properties	
Color	Part A: Pigmented Syrup Part B: Amber Liquid
Viscosity mixed at 77° F (25° C)	1500-1600 cps
Tensile Strength (ASTM C 307)	12.7 MPa
Compressive Strength (ASTM C-579 B)	65.4 MPa
Flexural Strength (ASTM D-790)	21.4 MPa
24-hr water absorption (% gain)	< 1%
Bond Strength to Steel (ASTM C882)	10.4 MPa
Bond Strength to Concrete (ASTM C882)	15.3 MPa
Pot life at 77° F (25° C)	1-1 1/2 hrs.
Full cure time	24 hours
Unit Yield	44.5 litre
(When mixed with 3 x bags aggregate)	
Water Absorption, ASTM C 413	0.0%

Packaging

QuakeWrap UW Pile Jacket Epoxy Grout (PJE) is a three component system consisting of Part A =13.03kg (Low Viscosity resin), Part B = 3.6kg (Hardener) and 3 x 20kg bags of sand aggregate.
Ships DOT non-regulated.

Application Equipment

QuakeWrap UW Pile Jacket Epoxy Grout (PJE) can be pumped or hand poured into place.

Surface Preparation

For Bond-Critical Applications:
Surfaces must be entirely free of oil, grease, dirt, detergent, laitance, Curing compounds, coatings, or other contaminants that may Interfere with adhesion.

Steel: *Immersion Service*: SSPC-SP10 near White Blast Cleaning with 3.0 mil profile
Non-Immersion Service: SSPC-SP6 - Commercial Blast Cleaning with 2.0 mil profile.

Concrete: Concrete shall be properly cured for a minimum of 28 days before application of coating. The concrete must be prepared to provide anchor pattern for adhesion. Final prepared surface should be clean and rough. Consult SSPC-SP13 - Surface Preparation of Concrete.

For Contact-Critical Applications:
Surfaces must be entirely free of oil, grease, dirt, detergent, laitance, curing compounds, coatings, or other contaminants that may interfere with adhesion. Surface voids should be patched, and materials and coatings with low compression strengths and elastic moduli should be removed.

The Infrastructure Innovators

quakewrap.com.au

QuakeWrap Pty Ltd
sales@quakewrap.com.au
Mob: 0426 816 247

QuakeWrap

UW Pile Jacket Epoxy Grout (PJE)

Mixing
Prior to mixing, all products should be preconditioned to room temperature 18-29° C. Begin application immediately – no induction time.
Combine Component "B" to pail of component "A". Mix thoroughly for 3 minutes using a paddle and a mechanical drill at low speed (400-600 rpm) until uniform color is achieved. While Mixing slowly add aggregate until aggregate is completely mixed and wet. Mix only the quantities that can be used within the pot life.
DO NOT THIN; solvents will prevent proper cure.

Placement
QuakeWrap UW Pile Jacket Epoxy Grout (PJE) can be pumped or poured by hand into place. For PileMedic applications insert tremie pipes into the annulus and slowly remove pipes as annulus is filling to prevent falling of epoxy grout.

Cleanup
Collect with absorbent material, flush with water. Clean up using Acetone or other Ketone solvent. Dispose waste in accordance with local disposal regulation. Cured materials can only be removed mechanically.

Shelf Life & Storage
Shelf life is 1 year from the marked date of manufacture when unopened and stored in a dry, covered area at temperatures between 13-38° C. Keep away from heat, flame, and ignition sources.

Limitations
Attention also needs to be paid to the substrate temperature which should be at least 3°C during the curing phase.

Industry standards recommend the accurate recording of times and dates, batch numbers, consumption rates and environmental conditions including substrate and air temperatures, humidity levels and dew point readings during both the application and curing processes. Full material warranties cannot be provided unless all the relevant data has been recorded accurately.

If in doubt consult the QuakeWrap technical department for advice .

First Aid
Appropriate Personal Protective Equipment (PPE) should be worn at All times when handling product. Consult SDS for more information.

Certificate of Compliance
Safety Data Sheet (SDS) will be supplied upon request and is included with each shipment.

The Infrastructure Innovators

quakewrap.com.au

QuakeWrap Pty Ltd
sales@quakewrap.com.au
Mob: 0426 816 247

Appendix F Microbat Management Plan

Transport for NSW

Microbat Management Plan

Wallaga Lake Bridge (B6168)

December 2023

NSW GOVERNMENT

transport.nsw.gov.au

Document review tracking

Project Title: Wallaga Lake Bridge (B6168) – Major Rehabilitation, Microbat Management Plan	
Project Identifier:	23.BAR-024_MMP
Project Location:	\EnviroKey Public\Projects\TransportforNSW\WallagaLakeBridgeMWREF

Revision	Date	Prepared by (name)	Reviewed by (name)	Approved by (name)
Draft	27.03.2023	SS	ZS	[redacted]
Final Draft	16.04.2023	SS	-	[redacted]
Final draft v2	23.05.2023	SS	-	[redacted]
Final Draft v3	12.07.2023	SS	LS	[redacted]
Final	28.07.2023	SS	-	[redacted]
Final Draft 2023_0111	06.11.2023	SS	-	[redacted]
Final Draft_2023_1011	10.11.2023	SS	-	[redacted])
Final Draft 241123	24.11.2023	SS	JS	[redacted]
Final	18.12.2023	SS	-	[redacted]

Table of contents

List of figures

1. Introduction

1.1 Proposal background

Wallaga Lake Bridge (B6168) on the Bega to Tilba Road (MR272) is a timber girder bridge built in the 1890s that carries single lane traffic (Figure 1-1). The bridge is located about 11 kilometres north of Bermagui (Figure 1-2). Transport for NSW (Transport) proposes a major rehabilitation of the bridge. Previous work on Wallaga Lake Bridge has been carried out to maintain safety. While the bridge has been deemed safe for road users there has been a 22.5 tonne load limit in place since 2018 due to severe defects that require rehabilitation. The proposed major rehabilitation of Wallaga Lake Bridge will ensure that the bridge is repaired so it remains safe for all road users. The proposal is located within both the Bega Valley Shire Council local government area (LGA) and the Eurobodalla Shire Council LGA.

A detailed description of the proposed bridge rehabilitation (the proposal) and the site are provided in the Project Review of Environmental Factors (REF) prepared by NGH Consulting (NGH).

In summary, key features of the proposal are:

- Repair piles to original capacity using a wrapped product and an epoxy grout
- Repair abutments
- Replace entire superstructure (headstocks, corbels, girder, decking, sheeting, handrail and kerbing).

1.2 Microbats at Wallaga Lake Bridge

Wallaga Lake Bridge contains a significant Southern Myotis population containing at least 220 individuals. Southern Myotis is listed as a threatened species under the NSW *Biodiversity Conservation Act 2016* (DPE/BCS, 2023b). The conservation status of this species is listed as 'vulnerable'.

It would appear that individuals are not always present, with a field survey on 21 October 2022 failing to identify any microbats leaving the bridge structure at dusk. Additional field surveys were carried out on 16 February, 2 March and 9 March 2023 and are documented as follows:

- Thursday 16 February 2023. Dusk bridge watch. Two EnviroKey ecologists counted at least 100 microbats exiting the bridge structure. Both ecologists counted independently (and silently of each other) with each recording 115 and 125, respectively, strongly suggesting a relatively accurate count. Analysis of the echolocation calls recorded indicated these microbats to be Southern Myotis (*Myotis macropus*).
- Thursday 2 March 2023. Under bridge inspection by boat. The inspection was carried out using headlamps and an endoscopic camera combined with an Anabat echolocation call recorder to detect potential "chatter". The inspection confirmed three locations of roosting microbats. These were within Girder 20 (will change to Girder 19), span 5 and span 6. At both spans, a 65 mm man-made hole appeared to be the entry/exit point. An estimate of around 50 microbats within each crevice was made using the endoscopic camera. Corbel 22 (on span 8) was also found to contain a crack with around 20 microbats present (estimated using the same method). No other locations of roosting microbats (either past or present) were identified. Where observed, individuals present were identified as Southern Myotis where the enlarged feet were noted with the endoscopic camera. One individual Eastern Horsehoe Bat (*Rhinolophus megaphyllus*) was identified near the roost entrance at Span 5 with the observer familiar with this species. The apparent presence of a single microbat within the Southern Myotis roost would be considered unusual, but not impossible as mixed roosts are well documented amongst microbat species.
- 2 March 2023. Dusk bridge watch. Showers of rain began to fall just prior to last light on 2 March 2023, and ecologists were onsite for 1hr past last light, with no microbats observed leaving the bridge structure. The precipitation was thought to be the main factor to explain the absence of microbats exiting.
- 9 March 2023. Dusk bridge watch. Three ecologists were used to replicate the counting method applied on the 16 February. Microbats exited between 7.37pm and 8.13pm during weather conditions considered conducive to microbat activity (17.3 degrees Celsius reducing to 16.8 degrees Celsius and no wind). All three ecologists counted independently (and silently of each other) with each recording 207, 230 and 223 individuals respectively (mean of 220). Microbats were observed exiting the bridge at the same locations as previously noted (through dusk watch and under bridge inspection), however, at least 20 microbats were seen exiting in the vicinity of the northern

abutment suggesting some movements of microbats throughout the bridge structure and confirming that the entire bridge provides roosting opportunities.

It cannot be confirmed if the site is used for breeding, as the endoscopic camera inspections failed to identify any young microbats. However, the timing of the bats presence strongly suggests that the bridge is also used a maternity site.

Potential roosting habitat within this bridge includes:

- Rotted timber cavities
- Old bolt holes
- Cracks within the timber structure
- Gaps between timber decking
- Beneath the Malthoid Waterproofing membrane that runs along each girder.

1.3 Aims and objectives

The main objective of this Microbat Management Plan (MMP) is to minimise impacts to microbats from the proposed work at Wallaga Lake Bridge and to ensure the long-term viability of this population into the future.

The MMP aims to:

- Retain and protect the Southern Myotis population at Wallaga Lake Bridge
- Avoid a significant impact to the population
- Provide advice for construction personnel on how to manage microbat conflicts during the bridge removal
- Guide the microbat exclusion installation process
- Reduce potential for microbat injury or mortality
- Avoid disturbances to breeding microbats
- Provide details of permanent and compensatory breeding/roosting habitat within the refurbished bridge structure e.g. replacing Girder 19 as a habitat structure.
- Provide details of the temporary relocation of microbat habitat (to be determined where they can be relocated to)
- Assess the impacts of the proposal on microbats in accordance with the NSW *Biodiversity Conservation Act 2016*.

The MMP is an Appendix to the Project REF.

1.4 Potential impacts

Potential environmental impacts of the proposed rehabilitation work of the timber bridge are described in detail within the REF. The main potential impacts of the proposal on microbats or their habitat include:

1. Loss of bridge roosting and maternity habitat: Known/potential microbat habitat within Wallaga Lake Bridge
2. Direct mortality or injury to roosting microbats during bridge removal works. This is a particular risk during the breeding season when non-flying dependant microbats may be present, or, in winter, when microbats may enter periods of torpor. Indirect mortality may also occur as a result of disruptions during the works (such as daytime predation of dispersed microbats by birds and disturbance from noise).

As a result, EnviroKey were engaged by Transport to prepare this MMP. This MMP also includes a Test of Significance in accordance with the NSW *Biodiversity Conservation Act 2016* (Appendix A).

Figure 1-1: Wallaga Lake Bridge is a timber girder bridge.

1.5 Southern Myotis in the locality

A review of existing Southern Myotis records in the Threatened Biodiversity Profile Data Collection (TBDC) found no records within a 30 kilometre radius within the Bega Valley local government area (LGA) and only 6 individuals from 3 sites within the Eurobodalla LGA and all within Eurobodalla National Park (DPE/BCS, 2023a) (Figure 1-3). All of the previous records in the 30 kilometre radius are from 1997. The absence of additional records is not surprising given a general paucity of microbat surveys that occur in the region in general, and this result is not suggestive of the local population size, extent or distribution of Southern Myotis. There is some level of likelihood that Southern Myotis also roost in other timber bridges as well as culverts within a 30 kilometre radius (Gorecki et al., 2020, Gorecki, 2020, Gonsalves and Law, 2017, Campbell, 2011, Marshall, 2011, Churchill, 2008), but without target survey and inspection, this can only be assumed.

1.6 Development and consultation of this MMP

In an attempt to better understand Southern Myotis in the region, the following persons were contacted by email for any information regarding the species and roost and maternity sites in the region:

1. [redacted], Senior Threatened Species Officer, Department of Planning & Environment
2. [redacted], Project Officer Threatened Species, Department of Planning & Environment. Merimbula
3. [redacted], Environment Manager, Bega Valley Shire Council
4. [redacted], Bega Valley Shire Council
5. [redacted], Accountable Officer for Southern Myotis, Department of Planning & Environment
6. [redacted], Arthur Rylah Institute, Victoria

From this consultation, it is clear that there is a paucity of information about Southern Myotis. However, the following information was obtained:

- *"Thanks for the email asking about Myotis in Victoria. We don't know much about the Myotis populations in East Gippsland unfortunately as most of our work on this species has been focused in central Victoria. There are old records of Myotis maternity sites in caves in the Buchan area but we don't even know if these are still being used. Most of the roost sites we have found for Myotis in Victoria are in tree hollows rather than caves or bridges. They seem to use bridges a lot more in NSW than we know of them doing in Victoria. As for breeding, in central Victoria around Melbourne know that they can sometimes have two breeding seasons in a year however we don't know how often this occurs, and not sure what happens in East Gippsland, but I would expect the same. And I would expect that this would vary based on the year and in good years they would be more likely to have two breeding seasons but in drier years they may only have one breeding season – but I don't have good data on this to back up my theory or what the thresholds would be.*

  As Myotis is not listed as a threatened species in Victoria it does not receive as much attention as some of our threatened species and unfortunately we don't know a huge amount about what it is doing. So sorry I can't provide anything more tangible" ([redacted], email 11/06/2023)

- "*I reached out to Michael Pennay. His understanding is Myotis only breed once per season on the south coast, although the data for or against this is pretty scant*" ([redacted], email 05/06/2023)

- "*With reference to Churchill (2008) Australian Bats - 2nd Edition, in northern NSW, the first young is born in October and in Victoria the single young is born in November-December. Lactation lasts about 8 weeks and offspring forage and roost with the parent for an additional 3-4 weeks. Campbell (2009) recorded recently furred, flightless young in a maternity roost near Melbourne in mid-December. This would suggest these young were born around mid-late November. If the timing of breeding is more coinciding with northern NSW (i.e. October), then you could undertake your first survey around late-November and be reasonably comfortable that if a maternity roost is present, there would be young. If breeding is more like that of Victoria then a late-November survey also has a high change of recording lactating females with new-born young. If surveys at this time are inconclusive, then I'd suggest a re-surveys in mid-December and late-December/early-January.*" ([redacted], email 07/06/2023)

- "*I have spoken to a few other researchers working on Myotis about this over the past few years ([redacted]). From memory no-one had any definite information on whereabouts in NSW Myotis are capable of breeding more than once but the general consensus was that it's somewhere around Newcastle but likely moving south as the climate changes. Have you contacted anyone else? Have you checked in with [redacted], who is the Accountable Officer for Myotis with the Saving our Species program, based in the Hunter region? [redacted]" (Alicia Scanlon, email 05/06/2023*)

A number of previously prepared MMP (GeoLink, 2021, RMS, 2018, GeoLink, 2015) were reviewed in this development of this MMP and the Transport for NSW microbat management guidelines were also reviewed (TransportNSW, 2021).

In addition, [redacted], Senior Ecologist of GeoLINK carried out a peer review of an earlier version of the MMP (GeoLink, 2023). The peer review has been considered in this MMP and where appropriate, recommendations from it have been incorporated. Further to this, TfNSW Senior Biodiversity Specialist, [redacted], has provided an extensive review of previous versions of this MMP.

Finally, a meeting between TfNSW, EnviroKey and Department of Planning and Environment (DPE) on Thursday 19 October 2023 provided further clarity to DPE regarding the scope of work, the proposed work methodology, and an additional request for information regarding timing of torpor of Southern Myotis. A response was received from [redacted] Senior Team Leader – Ecosystems and Threatened Species, South East Branch by email on 19/10/2023 as follows:

- *"I have received a prompt response from [redacted] about the Myotis torpor question. Michael's advice is that it should not be a problem. He advises that all the evidence from Australian bats (even in very cold places like Armidale) is that they typically rouse from torpor daily, or occasionally if the weather is particularly bad they may have multi day torpor (still often rousing briefly each day) . There's no evidence of prolonged seasonal hibernation like North American or European species where the climate is much colder. I don't think there is any specific data for Myotis but given this pattern is widely observed in other Australian vespertilionids I'm confident it's unlikely to be different for Myotis. To be safe capping should be avoided in very inclement weather eg very cold, windy, rainy weather. "*

The email continues as follows:

- *"Also, just to confirm DPE supports the erection of roosting boxes on trees adjacent to or overhanging water close to the bridge, and would be happy for the artificial roost boxes to be removed from the bridge well before the works commence if there is no evidence of uptake during the breeding season. Please send us a final version of the*

Management Plan when it is completed. Thanks for bringing DPE into this discussion – Transport NSW have done a good job consulting – once the new bridge is completed and roosting structures are attached, I think it will be important to monitor their efficacy and promote any good news when they re-inhabit the bridge."

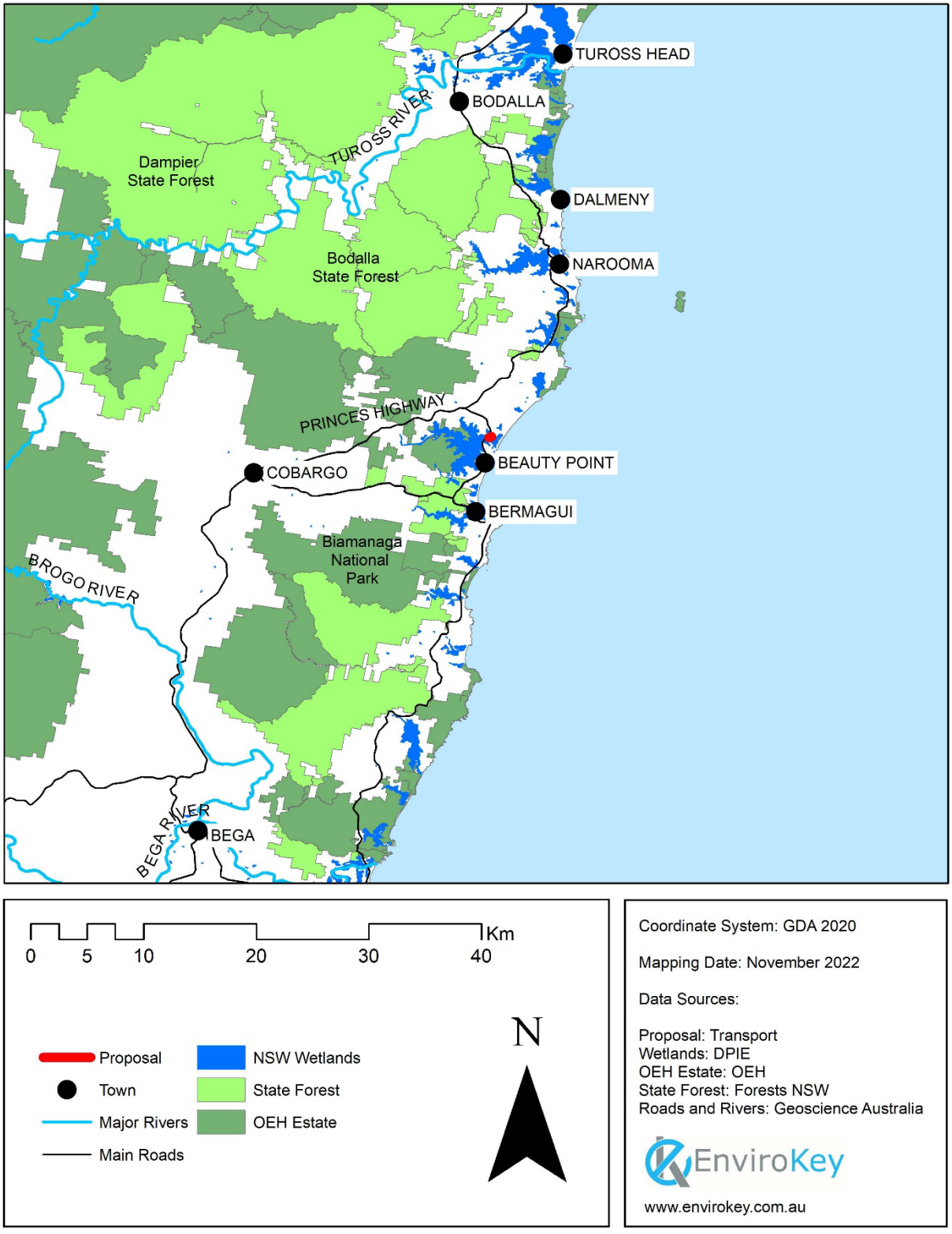


Figure 1-2: Location of Wallaga Lake Bridge

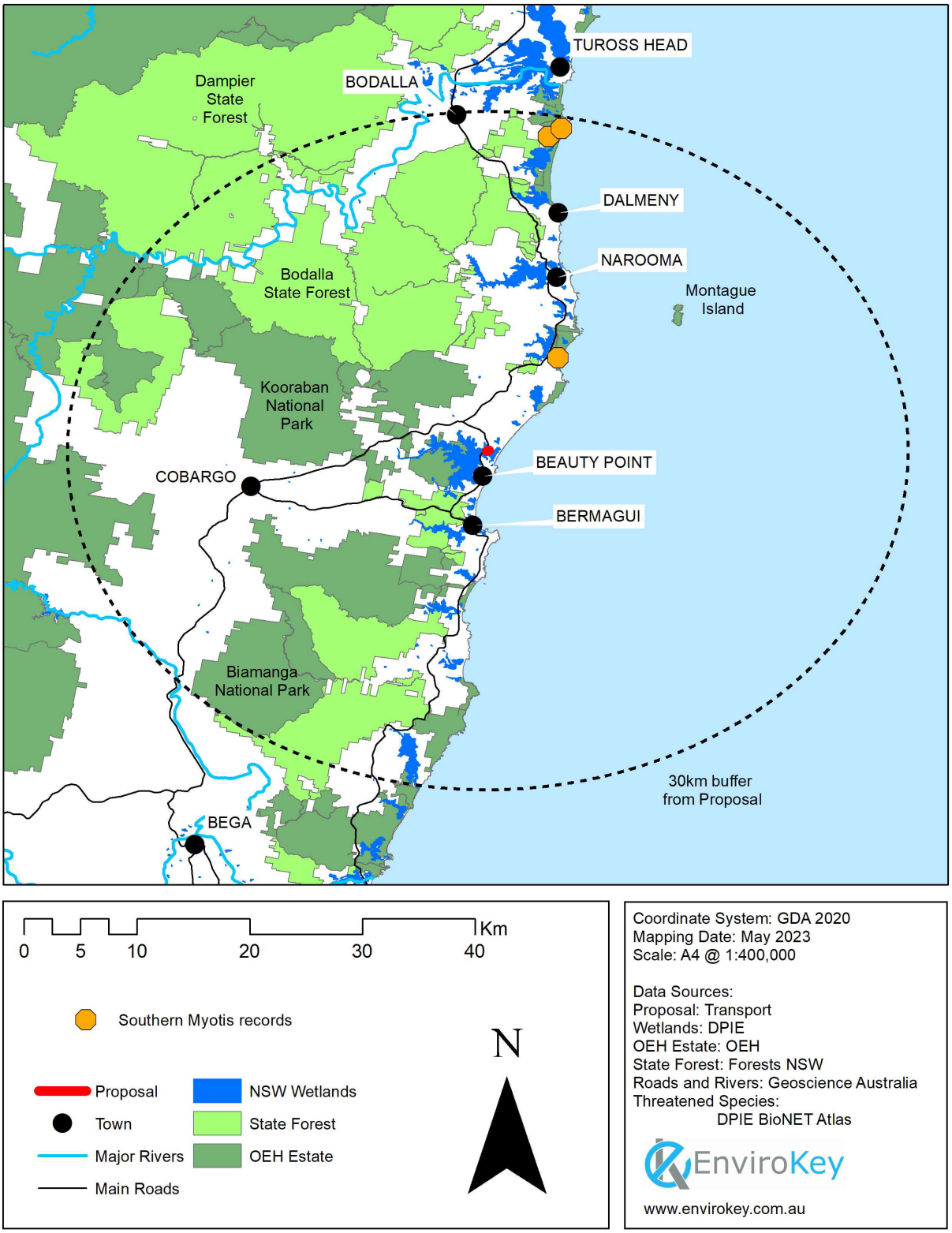


Figure 1-3: Location of existing BioNET records of Southern Myotis within 30 kilometres of the Wallaga Lake Bridge

Figure 1-4: Photograph of Girder 19 (currently labelled as Girder 20 due to temporary girders having been installed) – to be referred to as Girder 19 within this document.

Figure 1-5: Photograph of Girder 19 detailing gap between the two entry holes used by Southern Myotis to enter this girder.

Figure 1-6: Photograph of Corbel 22 showing crack at end of corbel which is the entry/exit point for Southern Myotis.

2. Microbat Management

Recommended microbat management actions are provided in Table 2-1. These have been developed based on the similar projects carried out by Transport for NSW and EnviroKey previous experience with microbats.

The management of microbats inhabiting the Wallaga Lake Bridge is based on the construction approach being adopted for the project. This approach is summarised below:

Stage 1 - First Closure – 29th April to 26th May, 2024

Repair Piles to original capacity using a wrapped product (PileMedic) with an epoxy grout.

Repair Abutments – Pile driving application with scour rock protection

Stage 2 – 26th May to 8th July, 2024

Install temporary full length floating under bridge scaffold and pedestrian walkway.

Temporarily relocate water and sewer pipes

Install microbat exclusion and relocate microbat boxes off bridge

Stage 3 – 8th July to 26th July, 2024

Remove existing bridge superstructure

Replace entire superstructure – girders, headstock, corbels, decking and handrails with new timber elements.

Reinstate compensatory microbat habitat (Girder 19 and microbat boxes)

Stage 4 – 27th July to 31st August, 2024

Finishing works and demobilisation

Note:

By the commencement of Stage 3 all microbat measures need to have been implemented and microbats excluded entirely from the bridge to enable the removal of the existing bridge superstructure. All other stages are not expected to impact on the microbat population.

Table 2-1: Summary of management actions

Safeguard	Details	Timing	Performance Indicators	Responsibility
Engage Project Ecologist	Transport would engage a Project Ecologist for the duration of the proposed work to oversee the implementation of the MMP	Prior to works commencing	Project Ecologist is engaged	Transport for NSW
Pre-construction monitoring of Southern Myotis numbers	Detailed in section 2.5	1 week prior to works commencing	The following performance indicators for this action are to understand these factors prior to commencing exclusion works: • Current microbat species • Roost location • Estimated number of microbats present.	Transport for NSW & Project Ecologist
Induction of site personnel	An induction would be prepared and delivered to all personnel involved with the bridge rehabilitation removal. Main points to be delivered during the induction as part of this MMP are as identified in section 2.3.2.	Prior to relevant personnel working on site.	This action will use the following indicators of performance: • All personnel involved with bridge removal know MMP requirements • Records of training/induction are recorded • Site supervision during works to ensure procedures are being followed.	Project manager and Site supervisor
Removal of unoccupied microbat boxes	Removal of unoccupied microbat boxes are to be installed within 1000 metres of the existing bridge (see Section 2.4).	Remove any microbat boxes that show no signs of occupancy before the end of February 2024	Remove the microbat boxes where no evidence of occupancy occurs.	Project construction manager and Project Ecologist
Relocation of remaining microbat boxes around Wallaga Lake	Microbat boxes removed from the bridge are to be installed within 1000 metres of the existing bridge (see Section 2.4).	By 8 July 2024 (no earlier than March).	Microbat boxes are installed around Wallaga Lake.	Project construction manager and Project Ecologist

Safeguard	Details	Timing	Performance Indicators	Responsibility
Microbat exclusion – bridge structure.	Install microbat exclusion to make habitat within the timber bridge inaccessible prior to bridge construction works.	Full bridge exclusion must take place by 8 July 2024 (but no earlier than the end of March). Microbats must not be displaced during periods of torpor. The Project Ecologist would be responsible for identifying periods of torpor or inappropriate weather conditions. Exclusion is to be left in place until each section is demolished.	The following performance indicators for the works are: • Microbats are excluded from work areas • Exclusion is completed according to timing • No mortality/injury occurs as a result of the exclusion installation process	Project manager, supervisor and Project Ecologist.
Microbat exclusion – Girder 19 and corbel 22	Install staged microbat exclusion of Girder 19 initially and then Corbel 22 to make habitat within these specific bridge elements inaccessible prior to bridge construction works.	Exclusion of these bridge elements is to only occur by 8 July (no earlier than end of March). Microbats must not be displaced during periods of torpor. The Project Ecologist would be responsible for identifying periods of torpor or inappropriate weather conditions.	The following performance indicators for the works are: • Microbats are excluded from work areas • Exclusion is completed prior to 8th July 2024 • No mortality/injury occurs as a result of the exclusion installation process	Project manager, supervisor and Project Ecologist.
Daily Site inspections	Daily inspections for microbats would be undertaken by the works crew using the Transport Daily Bat Inspection Checklist	Daily	• Microbat exclusions remain in position • No mortality/injury occurs during the works schedule	Project manager or Bridge supervisor
Reinstate girder 19 (if possible)	To reinstate girder 19 as a non-structural timber element in the refurbishment of the bridge's superstructure.	During the bridge superstructure renewal. Bats would not be able to reuse the girder until the works program is complete.	Girder is reinstalled, and microbats begin to use it again within 12 months	Bridge Works Supervisor Bridge Engineer

2.1 Appointment of a Project Ecologist

Transport would engage a Project Ecologist for the duration of the proposed work to oversee the implementation of the MMP.

The Project Ecologist must meet the following criteria:

1. Have at least 3 years experience in managing microbat issues, including field experience with the implementation of microbat management
2. Hold a suitable qualification in environmental science, ecology or animal management
3. Hold a current DPE Scientific Licence and approval from NSW DPI's Animal Care and Ethic Committee authority
4. Be able demonstrate they have a current Rabies vaccination (the NSW Health mandated vaccine for Australian Bat Lyssa Virus (ABLV)).

The Project Ecologist would be responsible for managing microbats, including capture and release of microbats when required, identifying if there are potential issues and any adaptive management of the MMP.

2.2 The approach

The preferred option was developed by Transport for NSW following the community consultation process:

1. Install a minimum of 11 timber microbat boxes in proximity to the known roosts.
2. Removal of unoccupied microbat boxes before the end of February 2024 (outside the breeding season)
3. Install microbat exclusion across the entire bridge between end of March and 8 July 2024 (exclude corbel 22 and girder 19)
4. Install microbat exclusion (one way devices) at the active roost sites (Girder 19 and Corbel 22)
5. Install permanent compensatory roosting habitat at the bridge once works are completed.

Staged exclusion

- Relocate any unoccupied boxes before the end of February 2024
- Undertake exclusion of the bridge (except Girder 19 and Corbell 22)
- Exclude Girder 19
- Exclude Corbel 22
- Move all remaining bat boxes to locations nearby based on advice from the Project Ecologist. It is also noted, that the movement of bat boxes should be limited to only when absolutely necessary as it is considered a high risk activity.

2.3 Induct Bridge rehabilitation personnel

2.3.1 Objective

To ensure all bridge rehabilitation personnel understand the actions and responsibilities of the MMP.

2.3.2 Action

An induction would be prepared and delivered to all personnel involved with the bridge rehabilitation removal. Main points to be delivered during the induction as part of this MMP are as follows:

- The presence of microbats on site (both identification and potential habitat)
- Summary of the MMP actions
- Education if microbats are found during works including:
    - Potential disease that microbats can carry
    - Microbats are **not** to be handled by an untrained or unvaccinated person
    - Microbats would be reported immediately to the Project Ecologist by the Environment Officer
- Protocols for injured microbats
- Contact details of a local wildlife rescue organisations (WIRES, Wildlife Rescue)

Additional training including pre-start reminders and toolbox training would be conducted as needed.

2.3.3 Timing

Prior to relevant personnel working on site.

2.3.4 Performance indicator

This action will use the following indicators of performance:

- All personnel involved with bridge removal are aware of the MMP requirements through regular toolbox talks
- Records of training/induction are recorded

2.3.5 Responsibility

Project manager and supervisor.

2.4 Microbat box management

2.4.1 Objective

The objective of microbat box management is to:

- Relocate unoccupied microbat boxes by the end of February
- Relocate remaining microbat boxes off the bridge to within 1,000m prior to staged exclusion being undertaken. (by 8 July 2024, but no earlier than end of March)
- Relocate microbat boxes (along with Girder 19) back on the refurbished bridge structure at the completion of the works.

2.4.2 Action

Unoccupied microbat boxes are to be removed from the bridge and reinstalled within 1000 metres of the existing bridge, adjacent to or overhanging water. The exact location to be determined by the Project Ecologist.

Figure 2-2 provides an example of the microbat boxes used for Southern Myotis on other bridge projects including the Barrington Bridge Removal. The installation locations on the existing bridge should be as follows:

- Adjacent to girder 19 and corbel 20 initially and within the spans associated with those components.
- Within all other spans as deemed necessary by Project Ecologist.

Microbat boxes should be installed within the centre of the underside of the decking and be permanently numbered for monitoring reporting at the completion of the bridge works.

Four chambered hollow-log home bat boxes (if used) should have reinforced connections between the roof and sides.

Eleven microbat boxes would be installed in suitable locations on the existing bridge at the conclusion of the works program.

2.4.3 Timing

Unoccupied microbat boxes should be removed from the existing bridge before the end of February and relocated to areas in and around the project site up to within 1,000 metres of the bridge.

All remaining microbat boxes would be removed by 8 July 2024 (no earlier than March 2024).

At the conclusion of works, up to 6 microbat boxes would be installed in suitable locations on the existing bridge to complement the reinstated Girder 19 to the bridge as a non-structural element and compensatory habitat.

2.4.4 Performance indicator

Microbat boxes are installed within 1000 metres of the existing bridge before 8 July 2024 (no earlier than March 2024).

2.4.5 Responsibility

Project construction manager and Project Ecologist

Figure 2-2: Example of two and four chambered bat boxes installed on a Transport bridge project

Figure 2-3: Example of Transport fabricated boxes – Timber and Hebel boxes.

2.5 Microbat surveys Pre-removal/ Exclusion

2.5.1 Objective

Determine current microbat species, numbers and roost locations including use of microbat boxes within Wallaga Lake Bridge.

2.5.2 Action

Undertake microbat surveys using a combination of methods:

- Inspection of microbat boxes by boat/barge
- Inspection of bridge structure by boat/barge (torch, endoscopic camera, echolocation call recording device)
- Fly-out counts noting the span location of exit points

Information to be recorded includes:

- Species and number of individuals per roost (including in each individual microbat box, added as part of this plan)
- Roost location and habitat type
- Mark active roost locations on the bridge during any pre-removal/ exclusion surveys.

2.5.3 Timing

Any unoccupied microbat boxes would be moved to within 1000 metres of the existing bridge (adjacent to the water's edge or overhanging) by the end of February 2024,

Before the end of April, 2024, a flyout survey would be completed.

Should there be any gaps between exclusion installation and bridge work commencing of greater than 7 days, the Project Ecologist would carry out an additional inspection prior to the recommencement of work. The Daily Bat Inspection checklist would be implemented on a daily basis.

2.5.4 Performance indicator

Microbat surveys are undertaken up to one week before commencing bridge works that require installation of habitat exclusion devices.

2.5.5 Responsibility

Project Manager (or their delegate) and Project Ecologist.

2.6 Microbat Exclusion Installation

2.6.1 Objective

The objective is to prevent microbats from using the bridge structure during the proposed works, which, in turn, would reduce the potential for injury/mortality.

2.6.2 Action

Install microbat exclusion to make habitat within the timber bridge inaccessible prior to the bridge demolition and reconstruction works. Exclusion installation must be installed by the 8 July 2024 (but no earlier than end of March) which is outside the most likely breeding season. Exclusion is then to remain insitu until the superstructure is removed as it will assist in trapping fines and debris during the demolition phase of this project.

2.6.3 Methodology

The following methodology is proposed:

1. Use the approach detailed in section 2.2
2. Project Ecologist would carry out direct inspections of the target span work location prior to installation of exclusion
3. Active microbat roost locations would be clearly marked
4. Installation of exclusion would occur in areas where no microbats are present
5. Where microbats are present:
    a. For when smaller groups (<15) are present, these can be captured during the day by the Project Ecologist and housed as appropriate to enable exclusion installation.
    b. For larger groups (>15) or where smaller groups are not able to removed by the Project Ecologist, either:
        i. Wait until the next day and check again
        ii. Install exclusion barrier at night after the fly out, but prior to microbats returning. The Project Ecologist must confirm that bats have left through inspection by camera, torch and echolocation call recording equipment.
        iii. Install a one-way exclusion device (during the day – the day after the exclusion barrier is installed) to allow microbats that did not leave the roost at the previous stage (refer ii above) to leave but not re-enter the roost (under Project Ecologist supervision). Leave for 2 weeks subject to Project ecologist's advice. Refer to Figure 2-4 as an example of a one-way device.
6. The Project Ecologist must inspect the exclusion once installed to ensure it is secure and not able to be accessed by microbats.

Figure 2-4: Examples of a one-way exclusion device.

The following exclusion methods or a combination of these, may be applied:

- Geofabric material
- Plastic sheeting (see through transparent plastic sheeting)
- Gap filler or expandable foam (must be covered with duct tape or similar so that if microbats try to enter before drying they cannot make contact with the foam)
- Plywood

- One-way flap for deep cavities that can be confidently inspected to ensure that no bats are present.

2.6.4 Timing

All exclusion must be fully installed by the 8th July 2024 (but no earlier than the end of March).

Microbats must not be displaced during periods of torpor. The Project Ecologist would be responsible for identifying periods of torpor or appropriate weather conditions.

2.6.5 Performance indicator

The following performance indicators for the works are:

- Exclusion devices are installed as required on the bridge where known or potential habitat is identified
- Exclusion is installed by 8th July (but no early than the end of March)
- No mortality/injury occurs as a result of the exclusion installation process.

2.6.6 Responsibility

Project manager, supervisor and Project Ecologist. It is also the responsibility of the work crew to ensure the exclusions remain in place every day.

Flexibility in the microbat exclusion process would be required following advice from the Project Ecologist. The Project Ecologist would be responsible for managing the microbats, including capture and release, and to identify any issues with microbats.

2.6.7 Contingency triggers

The exclusion method may require review following advice from the Project Ecologist. This may include reducing the rate of exclusion and/or the extent of bridge where exclusion is proposed. Additional measures may also be adopted subject to the discretion of the Project Ecologist.

2.7 Relocation of occupied bat boxes (if any are present)

2.7.1 Objective

To relocate microbat boxes (occupied) from the bridge (if any are present).

2.7.2 Action

1. Project Ecologist to inspect microbat boxes and record the number of microbats within each box.
2. Entrances to occupied microbat boxes would be covered with cloth (eg, a duct taped pillow case) and remain in situ for at least two hours to allow bats to re-settle before the cloth is removed.
3. Project Ecologist would supervise the construction crew transfer the microbat boxes to new locations predetermined by the Project Ecologist in consultation with the Project Manager.
4. Transfer of microbat boxes would occur over two days (i.e. half one day, half the next) to lessen the potential impact.
5. The following day the relocated microbat boxes would be inspected to determine where the microbats are roosting. If they are not located, the timber bridge would be inspected to determine occupation of the bridge structure or that they have relocated elsewhere.
6. Additional moves of the microbat boxes may be required as deemed fit by the Project ecologist through adaptive management.

2.7.3 Timing

Prior to work on the bridge and in accordance with the timing requirements of other sections of this MMP. Transfer of occupied microbat boxes would occur by 8th July 2024 (but no earlier than March).

2.7.4 Performance indicator

The following performance indicators would apply:

- Microbat boxes are relocated safely.
- The microbat populations continue to roost within the relocated boxes after relocating to their temporary location during construction.
- No mortality/injury occurs during the microbat box relocation.

2.7.5 Responsibility

Project manager, supervisor and Project Ecologist.

2.8 Reinstatement of Girder 19

2.8.1 Objective

To retain and reinstate the microbat habitat within girder 19. To reinstate girder 19 to allow use of the girder by the microbats (Figures 1-4 and 2-4) on completion of the project.

2.8.2 Action

To reinstate girder 19 on the same headstock, to allow continued use of the girder by the microbats. It would have no structural capacity in this location and would be retained on the bridge solely as microbat habitat (compensatory).

The process would be as follows:

- Disconnect girder from headstock and bridge and move into onsite storage area
- Once headstock is reinstalled, girder 19 would be reinstalled
- Microbats would not be allowed to enter girder 19 until the project is completed.

Should girder 19 not be relocatable, permanent compensatory habitat should be installed to replace the girder. The structure should allow for the bats to roost in their current social structure (i.e, about 250 bats in a single roost, or multiple roosts adjoining each other).

2.8.3 Timing

Microbat boxes must be installed in the locality prior to girder 19 being excluded and then removed. The timing of the girder removal and reinstatement as a habitat structure would be dependent on the works program.

2.8.4 Performance indicator

Microbats are excluded from this girder for the duration of the project and the girder continues to provide microbat habitat at the completion of the project.

2.8.5 Responsibility

Bridge Works Supervisor

Bridge Engineer

Figure 2-4: One of the exit locations within girder 19.

2.9 Daily management during demolition of superstructure

2.9.1 Objective

- To ensure microbat exclusion remains in place and functional until the bridge is removed
- To monitor and manage the impact of demolition activities on microbats
- Implement stop work provisions if microbats fly out from the timber bridge during the day.

2.9.2 Action

1. Daily inspections for microbats would be undertaken by the works crew using the Transport Daily Bat Inspection Checklist (Appendix B)
2. The work crew would remove and reinstate the exclusion each day in the areas where works are required. The key is that the exclusion must be reinstated and checked for integrity before the crew leave each day.

2.9.3 Timing

Prior to starting work for the day, the work area would be inspected by the works crew for microbats. The Daily Bat Inspection Checklist (Appendix B) is to be used to undertake this inspection.

If no microbats are present, work can proceed with caution.

If microbats are present, contact Transport's Lead Environmental Officer (LEO) who will, in turn, discuss with the Project Ecologist.

The Project Ecologist may decide:

- If works can cautiously continue provided that microbats are not at risk of harm
- To avoid the microbat location by working elsewhere (greater than 10 metres away)
- To remove and relocate microbats
- To have additional exclusions installed (follow section 2.6)

2.9.4 Performance indicator

- The Daily checklist is completed during demolition
- No mortality/injury occurs during the works schedule

2.9.5 Responsibility

Project manager, supervisor and Project Ecologist

2.10 Compensatory habitat

2.10.1 Objective

- To ensure microbats can use Wallaga Lake Bridge once the works program is complete.

2.10.2 Action

1. Reinstate girder 19 on the same headstock
2. Should girder 19 not be relocatable, permanent compensatory habitat should be installed to replace the girder. The structure should allow for the bats to roost in their current social structure (i.e, about 250 bats in a single roost, or multiple roosts adjoining each other).
3. The work crew would remove and reinstate the exclusion each day in the areas where works are required. The key is that the exclusion must be reinstated and checked for integrity before the crew leave each day.

2.10.3 Timing

At the completion of the works program.

2.10.4 Performance indicator

- Bats begin to reuse the bridge structure within 12 months.

2.10.5 Responsibility

Project manager, supervisor and Project Ecologist

3. Contingency measures

3.1 Adaptive management

Management plans need to be adaptable to account for animals often having unpredicted or unexpected behaviour. The procedures and actions in this plan may need to be adapted to account for this behaviour including but not limited to:

- pace of work,
- results of inspections and monitoring,
- exclusion procedure.

This also includes the relocation of Girder 19 as compensatory habitat should the bat boxes not be as successful as the performance indicators identified in this MMP.

These procedures allow for the best course of action for changes in situations. For this to work, open communication is required between the work supervisor, project manager, Transport for NSW Lead Environmental Advisor (LEA) and the Project Ecologist.

3.2 Capturing and releasing healthy microbats

The handling of any microbats must be carried out under the supervision of the Project Ecologist. The Project Ecologist can assign microbat handling to suitably qualified and appropriately vaccinated persons for Australian Bat Lyssa Virus.

The Project Ecologist must meet the criteria set out in section 2.3 for qualifications, experience and vaccination status.

Any microbats captured during nocturnal or diurnal inspections would be housed in small cloth bags in a suitable location for nocturnal release on the evening/night following capture. Bags containing microbats would be hung in a cool, dry place off the ground, preferably within a wire box, similar to a cat carry cage for safety. Microbats housed in this way can be taken off site if required. Microbats would be kept in a cool, shaded environment (< 25^{o}C) and be assessed for heat stress as required. If temperatures exceed 30^{o}C, a cooler location within a local building would be sought.

Southern Myotis groups would be housed together in the same groups they were collected in. Different species of microbat must be kept in separate small cloth bags.

The Project Ecologist is responsible for releasing the microbats in the evening at the site.

Microbats would not be held for any period longer than 24 hours. It is expected that the longest holding time for microbats is 16 hours. Microbats captured at night would be released using the following approaches:

- If dawn is more than two hours away, microbats would be released that night
- If dawn is less than two hours away, micro bats would be released the following night or relocated into compensatory roosting habitat or bat box.

3.3 Injured or Dead Microbats

It is the responsibility of any worker that identifies a dead or injured microbat during the work, to notify the work supervisor and Lead Environmental Advisor (LEA) immediately. The LEA would advise the Project Ecologist and Environment and Sustainability Manager. Should the LEA not be available, the work supervisor would notify the Project Ecologist. Work within the specific location of the find would stop until the injured microbat is collected.

The Project Ecologist would then arrange for veterinary care for any injured microbats. Transport would be responsible for any costs associated with treatment of any injured microbat.

For any dead microbats, these would also be collected by the Project Ecologist for lodgement with the Australian Museum Mammal section for future research/study. If a fresh specimen cannot be lodged, freezing is suitable provided the specimen is not thawed and refrozen.

4. Monitoring and Reporting

4.1 Monitoring

Microbat monitoring would be carried out by the Project Ecologist with the following objectives:

- Gathering data on take up of microbat boxes
- Gathering additional data about this population
- Gathering qualitative data on high noise activities on microbats during construction
- Determining whether the MMP has been successful in avoiding a significant impact on the local population
- Determining whether the proposal has been successful in managing potential impacts to Southern Myotis while providing compensatory habitat within the existing timber bridge and in the locality
- Identifying if additional contingency measures are required if the provision of compensatory habitat was not successful
- Provide further recommendations on future projects with similar impacts on threatened microbats.

For the purpose of the monitoring, a significant proportion of the population is considered to be greater than 68 percent of the numbers recorded from the initial surveys (refer section 1.2).

It should be noted that population numbers can vary seasonally, so any consideration of numbers should be used cautiously pending seasonality. It is important to remember that environmental factors and natural fluctuations should also be considered by the Project Ecologist when quantifying the success/failure of the project.

The Project Ecologist would be responsible for identifying any need to adapt management actions and to implement corrective measures.

The project would be considered successful if:

- A significant proportion of the Southern Myotis population continue to use the Wallaga Lake Bridge during and post-construction.
- Compensatory habitat including microbat boxes installed on the bridge, and the reinstatement of Girder 19, are utilised by Southern Myotis.

4.2 Reporting

The results of microbat inspections made during the project would be progressively reported to the Lead Environmental Advisor for the project. A final monitoring report outlining all phases of the project including post construction monitoring, would be provided. Additionally, a logbook of decision making would be maintained.

Table 4-1 provides a summary of the monitoring schedule considered suitable for this MMP. The Project Ecologist may alter this schedule if considered necessary in consultation with the LEA.

Table 4-1: Summary of Monitoring schedule

Monitoring Phase	Objective	Monitoring Effort	Timing and Frequency	Contingency Triggers and Potential measures
Prior to construction and prior to exclusion	Identify microbat population size and additional potential roost locations. Compare with roost watch data collected in Feb-March 2023	Flyout counts noting the span location of exit points. Direct inspections from a barge/boat documenting: • Species presence • Numbers of individuals and groups • Locations of roosts • Uptake of bat boxes	One survey prior to construction and exclusion works commencing.	Accurately record numbers of the population and compare with surveys undertaken at different seasonal times to determine a baseline population estimate.
Monitoring of bat boxes (locality boxes)	To determine bat box uptake (presence/absence) and to inform exclusion of Girder 19 and Corbel 22.	Direct inspections documenting: • Species presence • Numbers of individuals and groups • Locations of roosts • Uptake of bat boxes	Weekly or as required. As required to determine uptake (presence/absence) of bat boxes.	During the works program, if 68% of the population are not locatable on Wallaga Lake Bridge or within the locality bat boxes, consider additional mitigation measures including: • Modifying compensatory roosting habitat • Installing additional compensatory roosting habitat in the surrounds (within 12km radius).
During microbat exclusion	To ensure no microbats become entrapped within exclusion work	Direct inspections of the target span	Day of exclusion works	Following exclusion if >68% of baseline numbers are not

Monitoring Phase	Objective	Monitoring Effort	Timing and Frequency	Contingency Triggers and Potential measures
During microbat exclusion	Monitor microbat behaviour response to exclusion.	Direct inspections from a barge/boat documenting: • Species presence • Numbers of individuals and groups • Locations of roosting microbats • Breeding status (if relevant)	Daily for three days after exclusion (fly-in counts)	locatable within bat Boxes or within the bridge structure, the ecologist is to investigate the whereabouts of the microbats (conduct searches in habitat in proximity to the site), the Project Ecologist would investigate the potential whereabouts of the bats (by inspecting other bridges and culverts within a 12 kilometre radius of Wallaga Lake Bridge) as well as consider the implementation of additional management measures including extending the monitoring period and extending the monitoring to include the bridges or culverts identified in the 12 km radius.
Reinstatement of Girder 19	To determine success/failure of relocation/reinstalment of Girder 19	Direct inspections by roost watch to enable flyout counts to determine if bats are using relocated Girder 19	Fly-out, fly-in counts as follows: • Every three months after girder reinstallation for 12 months	Additional mitigation measures including: • Modifying compensatory roosting habitat (eg moving bat boxes) • Installing additional compensatory roosting habitat on Wallaga Lake Bridge and/or surrounds (within 12km radius).

Monitoring Phase	Objective	Monitoring Effort	Timing and Frequency	Contingency Triggers and Potential measures
Post construction	To identify microbat numbers using newly installed microbat boxes, compensatory habitat and relocated girder 19 (if relevant), and the new bridge superstructure	Direct inspections from a barge/boat documenting: • Species presence • Numbers of individuals and groups • Locations of roosting microbats • Breeding status (if relevant) Direct inspections by roost watch (from bridge deck) to determine if bats exiting bridge superstructure.	Two monitoring surveys (events) post construction completion for a period of 12 months – one event in November and another event in February.	Should less than 68 percent of the microbats be located in Wallaga Lake Bridge after 12 months (2 monitoring surveys), the Project Ecologist would investigate the potential whereabouts of the bats (by inspecting other bridges and culverts within a 12 kilometre radius of Wallaga Lake Bridge) as well as consider the implementation of additional management measures including extending the monitoring period and extending the monitoring to include the bridges or culverts identified in the 12 km radius.

5. References

CAMPBELL, S. 2011. Ecological specialisation and conservation of Australia's large-footed myotis: a review of trawling bat behaviour. *The Biology and conservation of Australasian bats*, 72-85.

CHURCHILL, S. 2008. Australian Bats. *Reed New Holland, Frenchs Forest, Australia*.

DPE/BCS. 2023a. *BioNET: The website for the Atlas of NSW Wildlife: A whole-of-government system for flora and fauna sightings information* [Online]. Available: www.bionet.nsw.gov.au [Accessed].

DPE/BCS 2023b. Threatened species, populations and ecological communities of NSW. *NSW Office of Environment & Heritage. ,* www.threatenedspecies.environment.nsw.gov.au.

GEOLINK 2015. Microbat Management Plan: Sections 3 to 11, Woolgoolga to Ballina Pacific Highway upgrade. *A report by GeoLink prepared for Roads and Maritime Services*.

GEOLINK 2021. Barrington Bridge Replacement Microbat Management Plan. *A report prepared by GeoLink for Transport for NSW*.

GEOLINK 2023. Peer review: Wallaga Lake Microbat Management Plan. *A peer review by GeoLink prepared for Transport for NSW*.

GONSALVES, L. & LAW, B. 2017. Distribution and key foraging habitat of the large-footed myotis Myotis macropus in the highly modified Port Jackson estuary, Sydney, Australia: an overlooked, but vulnerable bat. *Australian Zoologist,* 38, 629-642.

GORECKI, V. 2020. *The ecology and conservation of the large-footed Myotis (Myotis macropus) in an urban environment.* Dissertation, Queensland University of Technology.

GORECKI, V., RHODES, M. & PARSONS, S. 2020. Roost selection in concrete culverts by the large-footed myotis (Myotis macropus) is limited by the availability of microhabitat. *Australian journal of zoology*.

MARSHALL, C. 2011. Investigation of the success of artificial roosts for Myotis macropus at Koala Beach NSW. *The Biology and Conservation of Australasian Bats,.(Eds B. Law, P. Eby, D. Lunney, and LF Lumsden.) pp*, 322-323.

RMS 2018. Microbat Management Plan: Briner Bridge Upgrade, Tucabia. *A report by Roads and Maritime Services*.

TRANSPORTNSW 2021. Microbat Management Guidelines: A guide for undertaking works in culverts, bridges and other structures.

Appendix A: Assessment of Significance (microbats)

Section 7.3 of the *BC Act* has five factors which are to be considered when determining if a proposed development or activity '*is likely to have a significant effect on the threatened species, or ecological communities, or their habitats'.* These five factors must be taken into account by consent or determining authorities when considering a development proposal or development application. This enables a decision to be made as to whether there is likely to be a significant effect on the species.

Southern Myotis

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Wallaga Lake Bridge contains a significant Southern Myotis population containing at least 220 individuals. Southern Myotis is listed as a threatened species under the NSW *Biodiversity Conservation Act 2016* (DPE/BCS, 2023b). The conservation status of this species is listed as 'vulnerable'. As a result of this, a Microbat Management Plan (MMP) was prepared in consultation with species experts and in accordance with Transport for NSW microbat management guidelines (TransportNSW, 2021). A number of previously prepared MMP (GeoLink, 2021, RMS, 2018, GeoLink, 2015) were also reviewed in the development of this MMP.

A review of existing Southern Myotis records in the Threatened Biodiversity Profile Data Collection (TBDC) found no records within a 30 kilometre radius within the Bega Valley LGA and only 6 individuals from 3 sites within Eurobodalla National Park located within the Eurobodalla LGA (DPE/BCS, 2023a) (Figure 1-3). All of the previous records in the 30 kilometre radius are from 1997. The absence of additional records is not surprising given a general paucity of microbat surveys that occur in the region in general, and this result is not suggestive of the local population size, extent or distribution of Southern Myotis. There is some level of likelihood that Southern Myotis could also roost in other timber bridges as well as culverts within a 30 kilometre radius (Gorecki et al., 2020, Gorecki, 2020, Gonsalves and Law, 2017, Campbell, 2011, Marshall, 2011, Churchill, 2008), but without target survey and inspection, this can only assumed.

The main potential impacts of the proposal on Southern Myotis or their habitat include:

1. Loss of bridge roosting and maternity habitat: Known/potential microbat habitat within Wallaga Lake Bridge
2. Direct mortality or injury to roosting microbats during bridge removal works. This is a particular risk during the breeding season when non-flying dependant microbats may be present, or, in winter, when microbats may enter periods of torpor. Indirect mortality may also occur as a result of disruptions during the works (such as daytime predation of dispersed microbats by birds and disturbance from noise and vibration).

The main objective of the MMP is to minimise impacts to microbats from the proposed work at Wallaga Lake Bridge and to ensure the long-term viability of this population into the future. The MMP has the following aims:

- Retain and protect the Southern Myotis population at Wallaga Lake Bridge
- Avoid a significant impact to the population
- Provide advice for construction personnel on how to manage microbat conflicts during the bridge removal
- Guide the microbat exclusion installation process
- Reduce potential for microbat injury or mortality
- Avoid disturbances to breeding microbats
- Provide details of permanent and compensatory breeding/roosting habitat within the refurbished bridge structure e.g. replacing Girder 19 as a habitat structure.
- Provide details of the temporary relocation of microbat habitat (to be determined where they can be relocated to)

The MMP identifies key actions that must be carried out at certain stages of the project. These include appointment of a Project Ecologist, pre-construction monitoring, induction of site personnel, installation of microbat boxes, microbat exclusion, daily site inspections, reinstatement of a key roost (girder 19) and other actions such as adaptive management of the MMP and monitoring and reporting. The successful implementation of the MMP along with adaptive management strategies between the Project Ecologist, Work Supervisor, Project Manager, Transport Lead Environmental Advisor are required to ensure that it is *unlikely* that the proposed activity could have an adverse effect on the life cycle of Southern Myotis, or their habitats, such that a viable local population is likely to be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

This species is not listed as an endangered ecological community or critically endangered ecological community.

(c) in relation to the habitat of a threatened species, or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,

i. The proposed work would result in the removal of bridge structure and a rebuild over about 28 days.

ii. The proposal would not isolate or fragment other areas of habitats further than the impact that pre-exists given the ability of these species to move (fly).

iii. The potential and known habitat to be removed is considered to be high importance to the long-term viability of the species in the locality. The MMP identifies key actions to minimise impacts to this species and their habitat.

(d) whether the action proposed is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),

No declared areas of outstanding biodiversity value are known from the vicinity of the proposed work.

(e) whether the action proposed constitutes or is part of a key threatening process or is likely to increase the impact of, a key threatening process.

Bridge repairs and rehabilitation are not listed as key threatening process (KTP) nor is it likely to increase the impact of a KTP.

Conclusion

This Test of Significance has determined that the proposed activity is *'unlikely'* to have a *'significant effect'* on Southern Myotis, and their habitats provided that a MMP is developed and implemented and that adaptive management strategies are applied in the event that performance indicators are not met.

Other Microbats (Eastern Coastal Free-tailed Bat, Eastern False Pipistrelle)

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

All of these species of microchiropteran bat are known to occupy man-made structures including bridges (Churchill, 2008). The proposed work on the existing bridge combined with bridge disturbance is necessary to carry out the proposal. Searches of the bridge structure and a 'stagwatch' under suitable weather conditions failed to identify the presence of these species roosting within the bridge structure. In this context, the direct impacts proposed as part of the bridge rebuild are considered negligible. With an absence of these species during the field survey, and in previous REFs, this suggests that the bridge may be of little importance to these species. Regardless, the MMP provides a framework for minimising potential direct and indirect impacts to these species should they occur there in the future.

With consideration of these factors, it is *unlikely* that the proposed activity could have an adverse effect on the life cycle of Eastern Coastal Free-tailed Bat, Eastern False Pipistrelle, or their habitats, such that a viable local population is likely to be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

These biota are not listed as an endangered ecological community or critically endangered ecological community.

(c) in relation to the habitat of a threatened species, or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,

i. The proposed work would result in the removal of much of the bridge structure and a rebuild over about 28 days.

ii. The proposal would not isolate or fragment other areas of habitats further than the impact that pre-exists given the ability of these species to move (fly).

iii. The potential and known habitat to be removed is considered to be of little importance to the long-term viability of these biota in the locality.

(d) whether the action proposed is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),

No declared areas of outstanding biodiversity value are known from the vicinity of the proposed work.

(e) whether the action proposed constitutes or is part of a key threatening process or is likely to increase the impact of, a key threatening process.

Bridge repairs and rehabilitation are not listed as key threatening process.

Conclusion

This Test of Significance has determined that the proposed activity is *'unlikely'* to have a *'significant effect'* on Eastern Coastal Free-tailed Bat, Eastern False Pipistrelle, and their habitats.

Appendix B: Daily Bat Inspection Checklist

Daily bat inspection checklist

Project		Project Number	
Area inspected (e.g. pier/span number)			

Inspector's name and role	Inspection date	Inspection time

Inspection	Check	Comments
Look in all areas containing microbat habitat e.g. between gaps in the cross decking above the girders, in grab holes of culverts etc.		
Look for any guano (bat faeces) around work area.		
Listen for any microbat chatter/calls.		
Any other dark or protected areas that bats might be?		

Any bats or evidence of bats found? Yes No

If “Yes” work MUST stop. PDM or Work Supervisor MUST be contacted immediately.

Certification

Inspected by

Name	Signature	Date

Sighted by

(Site supervisor)

Name	Signature

NSW GOVERNMENT

Appendix G Noise and Vibration Assessment

RENZO TONIN & ASSOCIATES
inspired to achieve

Acoustics
Vibration
Structural Dynamics

REHABILITATION WORKS FOR WALLAGA LAKE BRIDGE

Construction Noise and Vibration Assessment

1 December 2023

NGH Consulting

TN593-01F03 CNVA (r2).docx

40 YEARS 1982-2022 ACOUSTIC ENGINEERING EXCELLENCE

Sydney Melbourne Brisbane Gold Coast Kuwait Singapore
Renzo Tonin & Associates ABN 29 117 462 861
Level 1/418A Elizabeth St SURRY HILLS NSW 2010 | PO Box 877 STRAWBERRY HILLS NSW 2012
P (02) 8218 0500 F (02) 8218 0501 sydney@renzotonin.com.au www.renzotonin.com.au

Document Details

Detail	Reference
Doc reference:	TN593-01F03 CNVA (r2).docx
Prepared for:	NGH Consulting
Address:	Level 1, 31-33 Beaumont Street Hamilton NSW 2303
Attention:	[redacted]

Document Control

Date	Revision history	Non-issued revision	Issued revision	Prepared	Instructed	Reviewed / Authorised
15/11/2023	Generate draft report	0	1	[redacted]	[redacted]	[redacted]
01/12/2023	Finalise report	-	2	[redacted]	-	[redacted]

File Path: R:\AssocSydProjects\TN551-TN600\TN593 mch Bridge over Wallaga Lake\1 Docs\TN593-01F03 CNVA (r2).docx

Important Disclaimers:

The work presented in this document was carried out in accordance with the Renzo Tonin & Associates Quality Assurance System, which is based on Australian/New Zealand Standard AS/NZS ISO 9001.

This document is issued subject to review and authorisation by the suitably qualified and experienced person named in the last column above. If no name appears, this document shall be considered as preliminary or draft only and no reliance shall be placed upon it other than for information to be verified later.

This document is prepared for the particular requirements of our Client referred to above in the 'Document details' which are based on a specific brief with limitations as agreed to with the Client. It is not intended for and should not be relied upon by a third party and no responsibility is undertaken to any third party without prior consent provided by Renzo Tonin & Associates. The information herein should not be reproduced, presented, or reviewed except in full. Prior to passing on to a third party, the Client is to fully inform the third party of the specific brief and limitations associated with the commission.

In preparing this report, we have relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by the Client and/or from other sources. Except as otherwise stated in the report, we have not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate, or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

We have derived data in this report from information sourced from the Client (if any) and/or available in the public domain at the time or times outlined in this report. The passage of time, manifestation of latent conditions or impacts of future events may require further examination and re-evaluation of the data, findings, observations and conclusions expressed in this report.

We have prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law.

The information contained herein is for the purpose of acoustics only. No claims are made and no liability is accepted in respect of design and construction issues falling outside of the specialist field of acoustics engineering including and not limited to structural integrity, fire rating, architectural buildability and fit-for-purpose, waterproofing and the like. Supplementary professional advice should be sought in respect of these issues.

External cladding: No claims are made and no liability is accepted in respect of any external wall and/or roof systems (eg facade / cladding materials, insulation etc) that are: (a) not compliant with or do not conform to any relevant non-acoustic legislation, regulation, standard, instructions or Building Codes; or (b) installed, applied, specified or utilised in such a manner that is not compliant with or does not conform to any relevant non-acoustic legislation, regulation, standard, instructions or Building Codes.

Contents

List of tables

List of figures

1 Introduction

Transport for NSW (Transport) proposes a major rehabilitation of the Wallaga Lake Bridge (B6168) on Wallaga Lake Road (Bega to Tilba Road – MR272), about 11 kilometres (km) north of Bermagui, NSW. Wallaga Lake Bridge is a timber girder bridge and carries single lane traffic. The bridge was built in the 1890's, and currently provides two-way travel connecting Wallaga Lake Road and Bermagui Road. It connects residents of Wallaga Lake and Bermagui to Narooma and the small community of Akolele. The bridge and roadway are under the management of Transport.

Key features of the proposal would include:

- Material laydown areas on Transport land
- Full replacement of all timber structural elements excluding timber piles
- Replace abutment gravel boards on both abutments
- Strengthening and repairing bridge piles.

Ongoing monitoring and a recent inspection of Wallaga Lake Bridge (August 2020) indicated deterioration of the timber structure. A load limit of 22.5 tonnes was put in place to protect the structure (2018), and now essential maintenance work on the bridge is required for safety and to improve its serviceability, longevity and durability. While the crossing is currently deemed safe, the proposed rehabilitation works will ensure the bridge remains safe and operational for the local community and travelling public.

Engineers have investigated the best strategies for managing and maintaining the bridge, with the overall goal of enhancing safety. They have determined that essential work to maintain the bridge will include replacing and strengthening the girders and piles, repairing the bridge deck, and upgrading abutments.

The project also includes repairing the bridge deck and work to stabilise the abutments and prevent scouring. This will involve the installation of new H piles, gravel boards and replacing backfill material and rock.

2 Project Description

Transport proposes to undertake major rehabilitation of the Wallaga Lake Bridge (B6168) located on Wallaga Lake Road (Bega to Tilba Road - MR272) in Wallaga Lake, NSW.

2.1 Scope of Works

Three work methodologies will be carried out as part of the major rehabilitation works for the bridge. These methodologies are as follows:

1. Repair piles to original capacity using a wrapped product with an epoxy grout
2. Repair abutments – pile driving application
3. Replace entire superstructure – headstocks, corbels, girder, decking, sheeting, handrail and kerbing

In addition to the three methodologies listed above, finishing works are to be undertaken at the bridge when the major rehabilitation works are completed. Furthermore, the following areas associated with the major rehabilitation works, which are well removed from the bridge site, are to be used.

- A timber storage and truck laydown area located off the Princes Highway in Central Tilba and approximately 6.5 km north of the bridge site is to be used to store and stack old timber elements from the original bridge, ready for transport to timber recyclers.
- A truck waiting bay located on the Princes Highway in Tilba Tilba and approximately 3.5 km northwest of the bridge site is to be used by semi-trailers waiting to travel to the site to deliver / pickup timber elements. It is noted that the truck waiting bay can only accommodate one (1) semi-trailer at any one time.

2.2 Sensitive Receivers

Noise sensitive receivers surround the bridge site to the north in Akolele, to the south in Wallaga Lake and to the west in the Merriman's Local Aboriginal Land Council (LALC) area. At the timber storage site in Central Tilba, noise sensitive receivers surround the site to the north, south, east and west. At the trucking waiting bay area in Tilba Tilba, noise sensitive receivers surround the site to the north, south, east and west.

For the assessment of construction noise impacts and to establish appropriate noise mitigation measures, the following noise catchment areas (NCAs) were nominated to provide an assessment of areas exposed to construction noise impacts during the day time (standard hours) and night time (out of hours) periods.

Table 2.1 – Noise Catchment Areas

NCA	Description
Day (standard hours)	
NCA 1	Noise catchment area predicted to be exposed to $L_{Aeq(15min)}$ construction noise levels that are **>20dB(A)** above the applicable construction noise management level (NML).
NCA 2	Noise catchment area predicted to be exposed to $L_{Aeq(15min)}$ construction noise levels that are **between 10dB(A) and 20dB(A)** above the applicable NML.
NCA 3	Noise catchment area predicted to be exposed to $L_{Aeq(15min)}$ construction noise levels that are **<10dB(A)** above the applicable NML.
Night (out of hours)	
NCA 1	Noise catchment area predicted to be exposed to $L_{Aeq(15min)}$ construction noise levels that are **>25dB(A)** above the applicable construction noise management level (NML).
NCA 2	Noise catchment area predicted to be exposed to $L_{Aeq(15min)}$ construction noise levels that are **between 15dB(A) and 25dB(A)** above the applicable NML.
NCA 3	Noise catchment area predicted to be exposed to $L_{Aeq(15min)}$ construction noise levels that are **between 5dB(A) and 15dB(A)** above the applicable NML.
NCA 4	Noise catchment area predicted to be exposed to $L_{Aeq(15min)}$ construction noise levels that are **<5dB(A)** above the applicable NML.

Figure 1, Figure 2 and Figure 3 presents the project site and surrounds of the study area and the nearby sensitive receivers at the bridge site, the timber storage site and the truck waiting bay, respectively.

2.3 Construction Hours

The proposed working hours for the scope of works are as follows.

Methodology 1 – Repair Piles

- 7.00am to 6.00pm, Monday to Saturday
- 7.00am to 1.00pm on Sundays

Methodology 2 – Repair Abutments

- 7.00am to 6.00pm, Monday to Saturday
- 7.00am to 1.00pm on Sundays

Methodology 3 – Replace Superstructure

- 24 hours, Monday to Sunday

Finishing Works

- 7.00am to 6.00pm, Monday to Saturday
- 7.00am to 1.00pm on Sundays

Timber Storage Area (Central Tilba)

- 24 hours, Monday to Sunday

Truck Waiting Bay (Tilba Tilba)

- 24 hours, Monday to Sunday

It is noted that works during the Saturday and Sunday working hours are not intended to occur every Saturday and Sunday. Typically, works during Saturday and/or Sunday will only occur when contractors are finishing components of work or when deadlines are approaching.

Figure 1 – Site, Surrounds, Monitoring Locations and Receivers (Wallaga Lake Bridge Site)

Figure 2 – Site, Surrounds and Receivers (Timber Storage Site)

Figure 3 – Site, Surrounds and Receivers (Truck Waiting Bay)

3 Existing Noise Environment

Noise management levels for the assessment of construction noise are usually derived from the existing noise environment of an area, excluding noise from the subject construction activities.

3.1 Noise Monitoring Locations

To determine existing background L_{90} noise levels at the noise sensitive areas surrounding the Wallaga Lake Bridge site and the timber storage site, long term noise monitoring was undertaken at the following locations.

Table 3.1 – Long Term Noise Monitoring Location

Location	Address	Description
M1	15 Flower Circuit, Akolele	Noise monitor was located in the free field, approximately 1.5m above ground level and in the rear yard of the property, facing Wallaga Lake and the bridge. The noise environment is considered representative of the sensitive receivers in Akolele, north of the bridge site. For assessment purposes, the noise environment at this location is also considered representative of the sensitive receivers in Wallaga Lake, south of the bridge site.
M2	Merriman's LALC	Noise monitor was located in the free field on the southern side of Umbarra Road, approximately 1.5m above ground level and in the vegetated area facing Wallaga Lake and the bridge. The noise environment is considered representative of the sensitive receivers within the Merriman's LALC area.
M3	8217 Princes Highway, Central Tilba	Noise monitor was located in the free field, approximately 1.5m above ground level, in the front yard of the property, approximately 140m east of the Princes Highway and approximately 140m south of the timber storage site. The noise environment is considered representative of the sensitive receivers surrounding the timber storage site. For assessment purposes, the noise environment at this location is also considered representative of the sensitive receivers surrounding the truck waiting bay in Tilba Tilba.

To quantify the existing ambient noise environment, long-term (unattended) noise monitoring was conducted from Thursday 19th October to Thursday 2nd November 2023 at the above monitoring locations. Figure 1 and Figure 2 show the long term noise monitoring locations.

The equipment used for noise monitoring were RTA Technology noise loggers, which are based on NTi Audio Type XL2 precision sound level analysers and are Class 1 instruments having accuracy suitable for field and laboratory use. The instruments were calibrated prior and subsequent to measurements using a Bruel & Kjaer Type 4231 calibrator. No significant drift in calibration was observed. All instrumentation complies with IEC 61672 (parts 1-3) 'Electroacoustics - Sound Level Meters' and IEC 60942 'Electroacoustics - Sound calibrators' and carries current NATA certification (or if less than 2 years old, manufacturers certification).

Weather information was obtained from the Bureau of Meteorology for the area over this monitoring period and any data adversely affected by rain, wind or extraneous noise were excluded.

APPENDIX A of this report presents a description of acoustic terms. The graphically recorded output from long-term noise monitoring is included in APPENDIX D of this report. The graphs in APPENDIX D were analysed to determine a single assessment background level (ABL) for each day, evening and night period, in accordance with the NSW 'Noise Policy for Industry' (NPfI).

3.2 Existing Background and Ambient Noise Levels

Existing background and ambient noise levels measured at Locations M1, M2 and M3, are presented in Table 3.2 below.

Table 3.2 – Measured Existing Background (L_{A90}) & Ambient (L_{Aeq}) Noise Levels, dB(A)

Location	Address	Background L_{A90} Noise Levels			Ambient L_{Aeq} Noise Levels		
		Day[1]	Evening[2]	Night[3]	Day[1]	Evening[2]	Night[3]
M1	15 Flower Circuit, Akolele	37	34	32	52	50	44
M2	Merriman's LALC Area	35 (33)[4]	32	30 (29)[4]	52	53	42
M3	8217 Princes Highway, Central Tilba	37	32	30 (28)[4]	53	51	46

Notes:
1. Day: 7:00am to 6:00pm Monday to Saturday and 8:00am to 6:00pm Sundays & Public Holidays
2. Evening: 6:00pm to 10:00pm Monday to Sunday & Public Holidays
3. Night: 10:00pm to 7:00am Monday to Saturday and 10:00pm to 8:00am Sundays & Public Holidays
4. Number in brackets represents the measured (actual) RBL value, which is below the minimum policy value of 30 dB(A) during the evening or night period or 35 dB(A) during the day period.

4 Construction Noise

4.1 Construction Noise Criteria

4.1.1 Construction Noise Management Level at Residences

Transport's 'Construction Noise and Vibration Guideline (for road and maritime works)' (CNVG) provides guidance for the establishment of construction noise management levels (NMLs) and the methods for assessing construction noise. There are two parts to the CNVG that are used to determine the type of assessment required to be undertaken:

- Duration of impact to affected receivers
- Number of affected receivers

The proposed rehabilitation works are anticipated to occur for a duration of more than three weeks and the number of receivers potentially affected by the construction noise impacts would be many, in accordance with the CNVG.

Based on the proposed duration of works and many affected receivers, a quantitative assessment in accordance with the noise objectives of the NSW 'Interim Construction Noise Guideline' (ICNG, EPA 2009) is to be undertaken. Table 4.1 below (reproduced from Table 2 of the ICNG) sets out the noise management levels for residences and how they are to be applied.

The CNVG intends to provide respite for residents exposed to excessive construction noise outside the recommended standard hours whilst allowing construction during the recommended standard hours without undue constraints.

The rating background level (RBL) is used when determining the NMLs. The RBL is the overall single-figure background noise level measured in each relevant assessment period (during or outside the recommended standard hours).

Table 4.1 – Noise Management Levels at Residential Receivers

Time of Day	Management Level $L_{Aeq\ (15\ min)}$*	How to Apply
Recommended standard hours: Monday to Friday 7 am to 6 pm Saturday 8 am to 1 pm No work on Sundays or public holidays	Noise affected RBL + 10dB(A)	The noise affected level represents the point above which there may be some community reaction to noise. Where the predicted or measured $L_{Aeq\ (15\ min)}$ 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.

Time of Day	Management Level $L_{Aeq\ (15\ min)}$*	How to Apply
	Highly noise affected 75dB(A)	The highly noise affected 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 restricting the hours that the very noisy activities can occur, taking into account: • 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) • if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours	Noise affected RBL + 5dB(A)	A strong justification should 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 practices have been applied and noise is more than 5dB(A) above the noise affected level, the proponent should negotiate with the community. For guidance on negotiating agreements see section 7.2.2 of the ICNG.

* Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5 metres above ground level. If the property boundary is more than 30 metres from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30 metres of the residence. Noise levels may be higher at upper floors of the noise affected residence.

Residential receivers are considered 'noise affected' where construction noise levels are greater than the NMLs identified in Table 4.1 above. The noise affected level represents the point above which there may be some community reaction to noise. Where predicted and/or measured construction noise levels exceed NMLs, all feasible and reasonable work practices will be applied to meet the management levels.

During standard and outside of standard construction hours, a highly affected noise objective of $L_{Aeq(15min)}$ 75 dB(A) applies at all receivers.

Table 4.2 presents the construction NMLs established for the nearest affected noise sensitive residential receivers based upon the noise monitoring results outlined in Section 3, the proposed construction hours and the above ICNG requirements.

Table 4.2 – Construction Noise Management Levels at Residential Receivers

Noise Sensitive Area	Assessment Period	Noise Management Level $L_{Aeq\ (15\ min)}$
Akolele	Day (standard hours)	37 + 10 = **47dB(A)**
	Evening (outside standard hours)	34 + 5 = **39dB(A)**
	Night (outside standard hours)	32 + 5 = **37dB(A)**
Merriman's LALC	Day (standard hours)	35 + 10 = **45dB(A)**
	Evening (outside standard hours)	32 + 5 = **37dB(A)**
	Night (outside standard hours)	30 + 5 = **35dB(A)**
Wallaga Lake[1]	Day (standard hours)	37 + 10 = **47dB(A)**
	Evening (outside standard hours)	34 + 5 = **39dB(A)**
	Night (outside standard hours)	32 + 5 = **37dB(A)**

Noise Sensitive Area	Assessment Period	Noise Management Level $L_{Aeq\ (15\ min)}$
Central Tilba (Timber Storage Area)	Day (standard hours)	37 + 10 = **47dB(A)**
	Evening (outside standard hours)	32 + 5 = **37dB(A)**
	Night (outside standard hours)	30 + 5 = **35dB(A)**
Tilba Tilba (Truck Waiting Bay)[2]	Day (standard hours)	37 + 10 = **47dB(A)**
	Evening (outside standard hours)	32 + 5 = **37dB(A)**
	Night (outside standard hours)	30 + 5 = **35dB(A)**

Notes: 1. Based on background noise levels measured at Location M1
2. Based on background noise levels measured at Location M3

As stated in Section 2.3, Methodology 3 works and activities at the timber storage area and truck waiting bay would take place outside of standard hours. Thus, to present a worst-case scenario, the construction noise assessment at these locations will be based on the night period NML.

4.1.2 Sleep Disturbance

Given that night works are to occur, noise emanating from construction works associated with the project has been assessed for its potential to disturb sleep. The NSW EPA has made the following policy statement with respect to sleep disturbance:

> *"Peak noise level events, such as reversing beepers, noise from heavy items being dropped or other high noise level events, have the potential to cause sleep disturbance. The potential for high noise level events at night and effects on sleep should be addressed in noise assessments for both the construction and operational phases of a development. The INP does not specifically address sleep disturbance from high noise level events.*
>
> *Research on sleep disturbance is reviewed in the NSW Road Noise Policy. This review concluded that the range of results is sufficiently diverse that it was not reasonable to issue new noise criteria for sleep disturbance.*
>
> *From the research, the EPA recognised that the current sleep disturbance criterion of an $L_{A1,\ (1\ minute)}$ not exceeding the $L_{A90,\ (15\ minute)}$ by more than 15 dB(A) is not ideal. Nevertheless, as there is insufficient evidence to determine what should replace it, the EPA will continue to use it as a guide to identify the likelihood of sleep disturbance. This means that where the criterion is met, sleep disturbance is not likely, but where it is not met, a more detailed analysis is required.*
>
> *The detailed analysis should cover the maximum noise level or $L_{A1,\ (1\ minute)}$, that is, the extent to which the maximum noise level exceeds the background level and the number of times this happens during the night-time period. Some guidance on possible impact is contained in the review of research results in the NSW Road Noise Policy. Other factors that may be important in assessing the extent of impacts on sleep include:*

- *how often high noise events will occur*
- *time of day (normally between 10pm and 7am)*
- *whether there are times of day when there is a clear change in the noise environment (such as during early morning shoulder periods).*

The $L_{A1, (1\ minute)}$ descriptor is meant to represent a maximum noise level measured under 'fast' time response. The EPA will accept analysis based on either $L_{A1, (1\ minute)}$ or $L_{A, (Max)}$."

Source: http://www.epa.nsw.gov.au/noise/applicnotesindustnoise.htm Downloaded: 04.12.2014

Where the background noise levels are less than 40dB(A), some studies indicate that the above approach may result in noise limits that are unnecessarily strict.

In relation to maximum noise level events, the NSW '*Road Noise Policy*' (RNP) identifies several investigations into the impacts of intermittent and emerging noise sources on the disturbance of sleep. Reference is made to enHealth report (2004) which notes the following in relation to maximum noise level events:

"As a rule in planning for short-term or transient noise events, for good sleep over 8 hours the indoor sound pressure level measured as a maximum instantaneous value should not exceed approximately 45 dB(A) L_{Amax} more than 10 or 15 times per night."

The RNP summarises the research on sleep disturbance to date as follows:

- maximum internal noise levels below 50–55 dB(A) are unlikely to awaken people from sleep
- one or two noise events per night, with maximum internal noise levels of 65–70 dB(A), are not likely to affect health and wellbeing significantly.

The above references identify that internal noise levels of 45dB(A) and up to 55dB(A), may have the potential to impact sleep but are unlikely to cause awakenings. On the assumption that there is a 10dB(A) outside-to-inside noise loss through an open window, the above references indicate that external noise levels of L_{Amax} 55 to 65dB(A) are unlikely to cause awakening reactions.

To assess the likelihood of sleep disturbance, an initial screening level of L_{Amax} (or $L_{A1(1min)} \leq L_{A90(15min)}$ + 15dB(A) is used. In situations where this results in an external screening level of less than 55dB(A), a minimum screening level of 55dB(A) is set. Note that this is equivalent to a maximum internal noise level of 45dB(A) with windows open.

Where there are noise events found to exceed the initial screening level, further analysis is made to identify:

- the likely number of events that might occur during the night assessment period
- whether events exceed an 'awakening reaction' level of $L_{A1(1min)}$ 65dB(A).

Therefore, based on the measured RBLs for the night period the sleep disturbance assessment levels for the project are presented in Table 4.3.

Table 4.3 – $L_{A1,1min}$ (or L_{Amax}) Sleep Disturbance Assessment Levels

Noise Sensitive Area	External Screening Level ($L_{A90(15min)}$ + 15)	Awakening Reaction Level
Akolele	47dB(A)	65dB(A)
Merriman's LALC	45dB(A)	65dB(A)
Wallaga Lake[1]	47dB(A)	65dB(A)
Central Tilba (Timber Storage Area)	45dB(A)	65dB(A)
Tilba Tilba (Truck Waiting Bay)[2]	45dB(A)	65dB(A)

Notes: 1. Based on background noise levels measured at Location M1
2. Based on background noise levels measured at Location M3

4.2 Construction Noise Sources

The following table lists major plant and equipment likely to be used by the contractor to carry out the necessary construction activities for this project, their corresponding sound power levels and the proposed period of use.

Table 4.4 – Typical Activities & Sound Power Levels, dB(A) re. 1pW

Construction Activity	Plant and Equipment	Qty	L_{Aeq} (each)	L_{Amax} (each)	Day (standard hours)	Night (out of hours)
Methodology 1 – Repair Piles	Heavy duty cutting tools (grinder, drop saw, chainsaw)	2	114	117	✓	-
	Rattle guns	5	104	115	✓	-
	Generator (2kVA)	1	103	106	✓	-
	Light vehicles	5	98	101	✓	-
	Crew truck	3	100	103	✓	-
	Flat bottom boat (15hp)	3	100	103	✓	-
Methodology 2 – Repair Abutments	Heavy duty cutting tools (grinder, drop saw, chainsaw)	2	114	117	✓	-
	Rattle guns	5	104	115	✓	-
	Generator (30kVA)	1	103	106	✓	-
	Generator (60kVA)	1	103	106	✓	-
	Light vehicles	5	98	101	✓	-
	Crew truck	3	100	103	✓	-
	Piling Rig (driven piles)	2	116	124	✓	-
	Franna Crane (15T)	2	98	103	✓	-

Construction Activity	Plant and Equipment	Qty	L_{Aeq} (each)	L_{Amax} (each)	Day (standard hours)	Night (out of hours)
Methodology 3 – Replace Bridge Superstructure	Heavy duty cutting tools (grinder, drop saw, chainsaw)	2	114	117	✓	✓
	Rattle guns	5	104	115	✓	✓
	Generator (30kVA)	1	103	106	✓	✓
	Generator (60kVA)	1	103	106	✓	✓
	Light vehicles	5	98	101	✓	✓
	Crew truck	3	100	103	✓	✓
	Piling Rig (driven piles)	2	116	124	✓	✓
	400T crane	1	110	115	✓	✓
	Semi-trailers	2	108	113	✓	✓
	Franna crane (15T)	2	98	103	✓	✓
Finishing Works	Power Tools (rattle guns, saws)	5	104	115	✓	-
	Franna Crane (15T)	1	98	103	✓	-
	Semi-trailers	1	108	113	✓	-
Timber Storage Area (Central Tilba)	Heavy duty cutting tools (grinder, drop saw, chainsaw)		114	117	✓	-
	Franna Crane (15T)		98	103	✓	✓
	Semi-trailers		108	113	✓	✓
Truck Waiting Bay (Tilba Tilba)	Semi-trailers		108	113	✓	✓

The sound power levels for the majority of activities presented in the above table are based on maximum levels given in Table F.1 of the CNVG, Table A1 of Australian Standard 2436 - 2010 'Guide to Noise Control on Construction, Demolition and Maintenance Sites', the ICNG, information from past projects and/or information held in the Renzo Tonin & Associates library files.

4.3 Construction Noise Assessment

4.3.1 Methodology 1 – Repair Piles

The Methodology 1 works are expected to take place during daytime hours (between 7:00am and 6:00pm). Based on the proposed construction plant and equipment presented in Table 4.4, noise impacts from Methodology 1 works (repairing of piles) have been predicted to different noise sensitive areas based on their corresponding NMLs.

Figure 4, Figure 5 and Figure 6 present the predicted noise impacts to the Akolele, Merriman's LALC and Wallaga Lake noise sensitive areas, respectively, and the corresponding NCAs as described in Table 2.1 for Methodology 1 works.

Figure 4 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Methodology 1 Works – Akolele (Day)

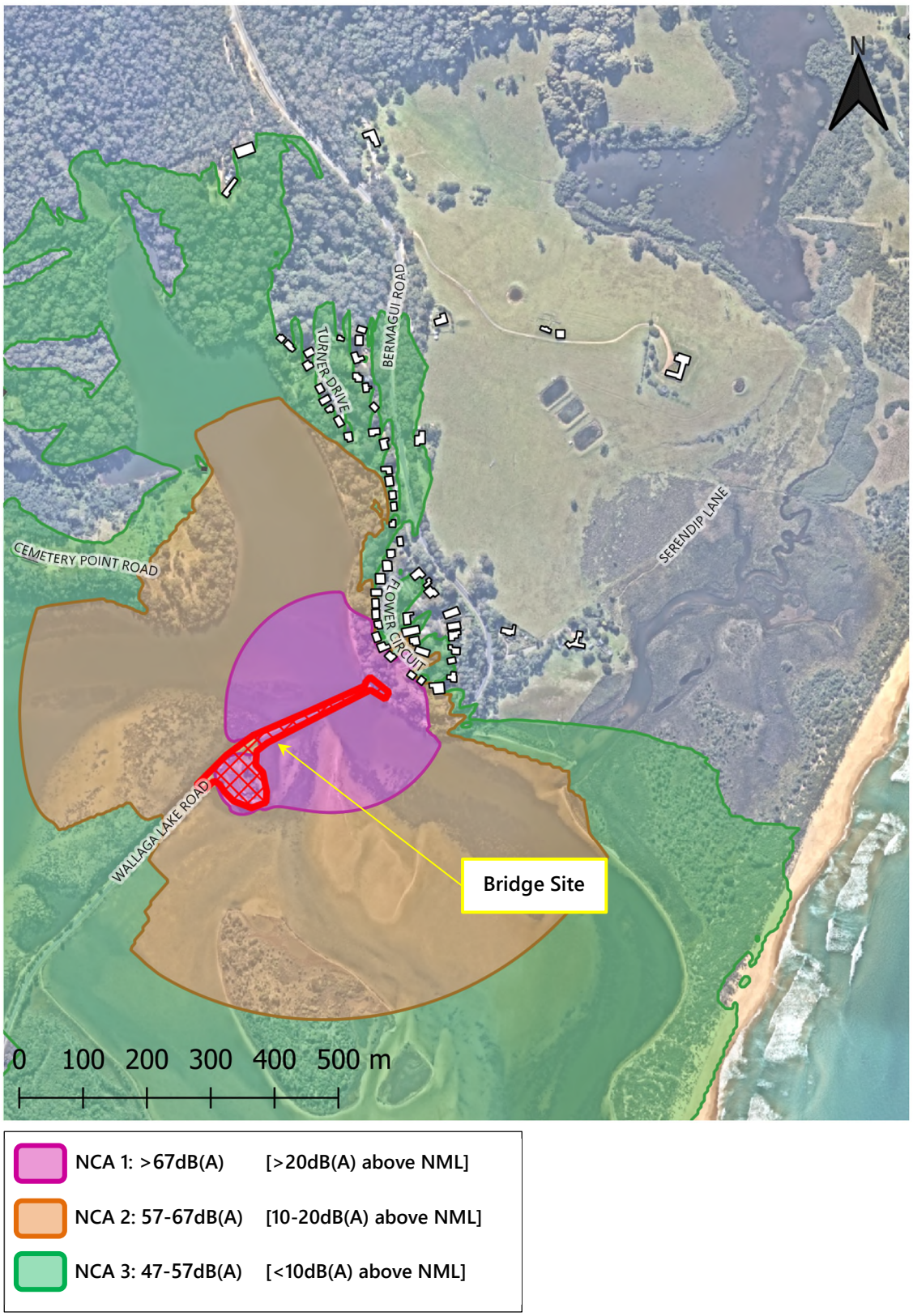


Figure 5 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Methodology 1 Works – Merriman's LALC (Day)

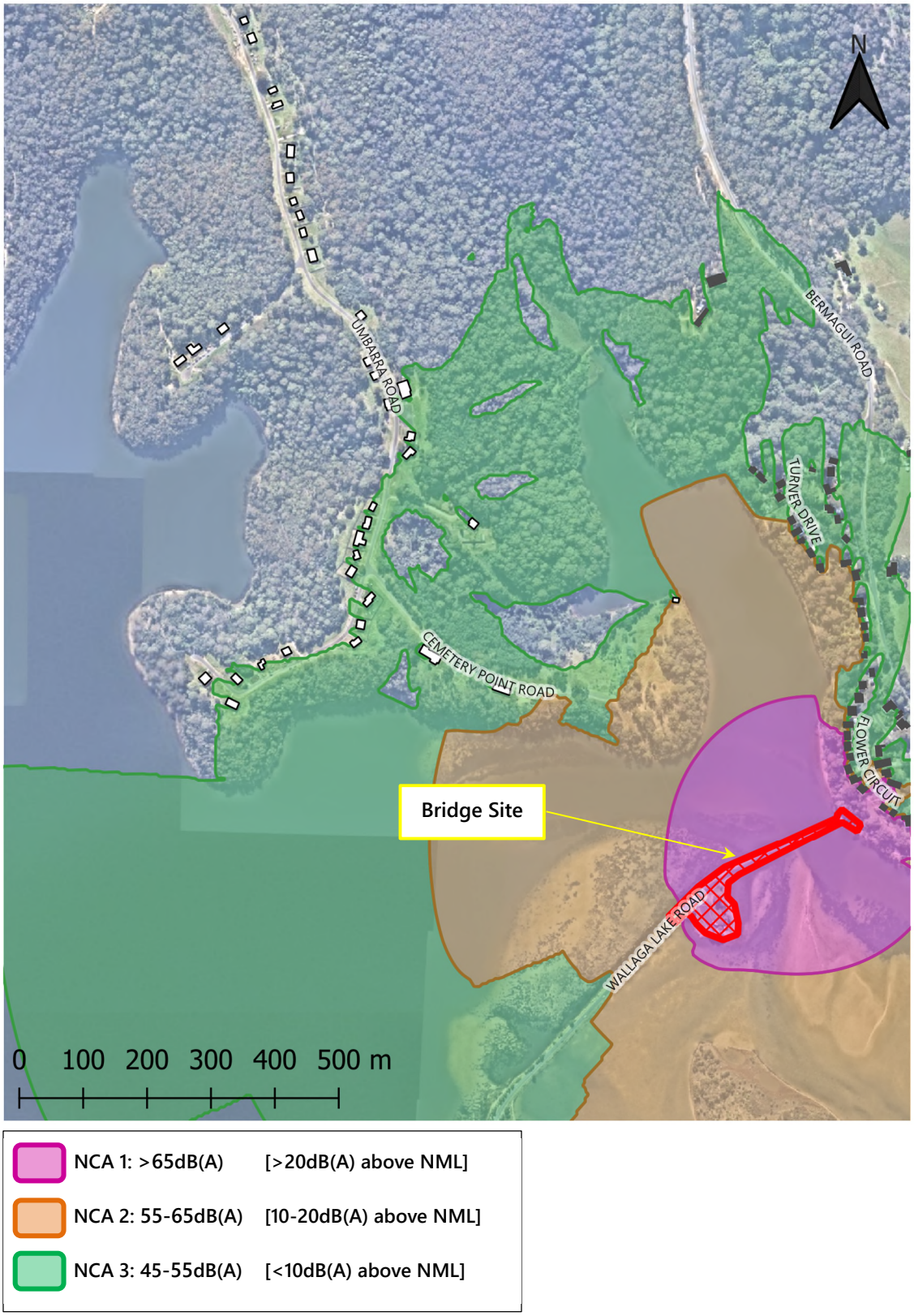
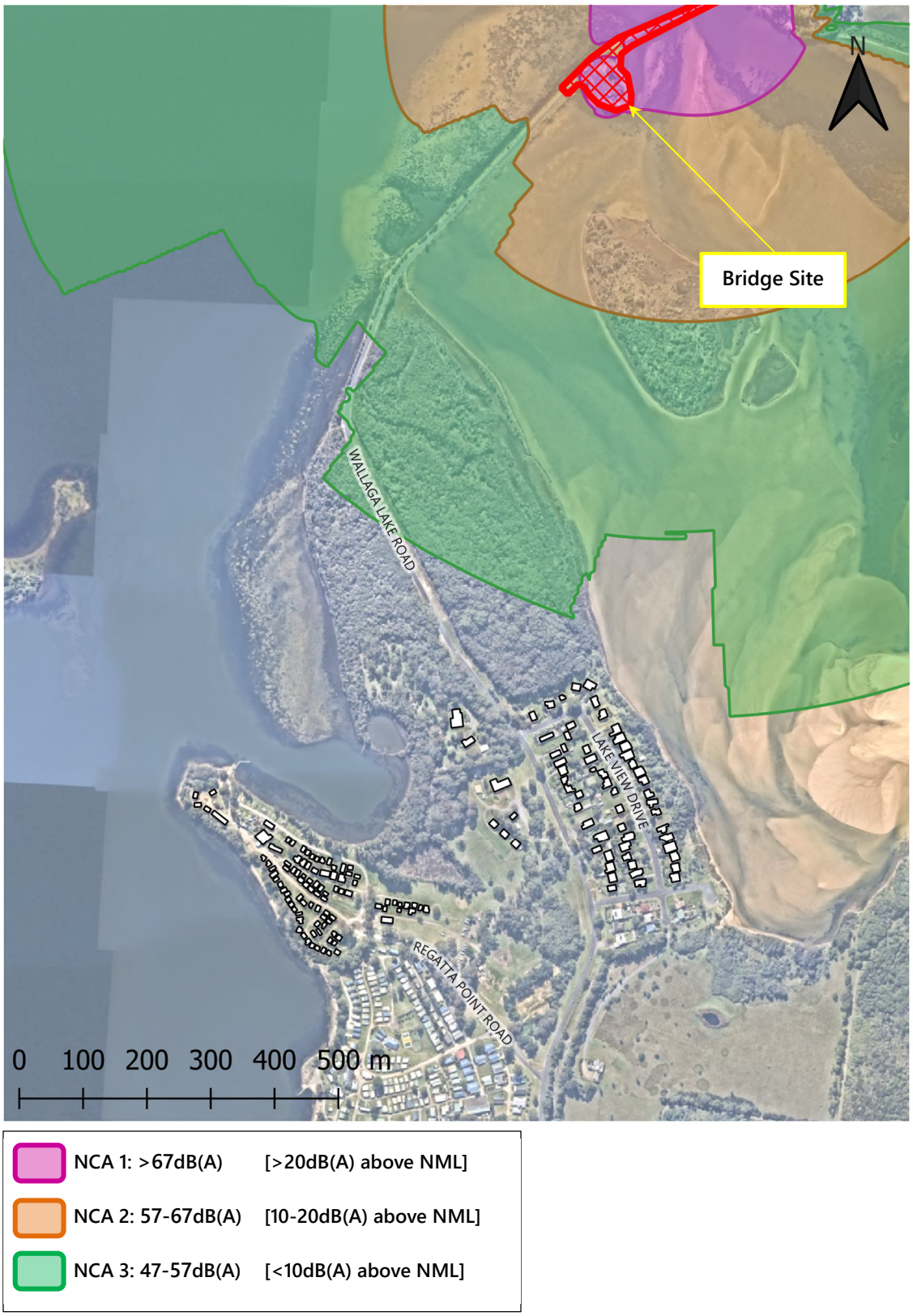


Figure 6 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Methodology 1 Works – Wallaga Lake (Day)



4.3.2 Methodology 2 – Repair Abutments

The Methodology 2 works are expected to take place during daytime hours (between 7:00am and 6:00pm). Based on the proposed construction plant and equipment presented in Table 4.4, noise impacts from Methodology 2 works (repairing of abutments) have been predicted to different noise sensitive areas based on their corresponding NMLs.

Figure 7, Figure 8 and Figure 9 present the predicted noise impacts to the Akolele, Merriman's LALC and Wallaga Lake noise sensitive areas, respectively, and the corresponding NCAs as described in Table 2.1 for Methodology 2 works.

Figure 7 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Methodology 2 Works – Akolele (Day)

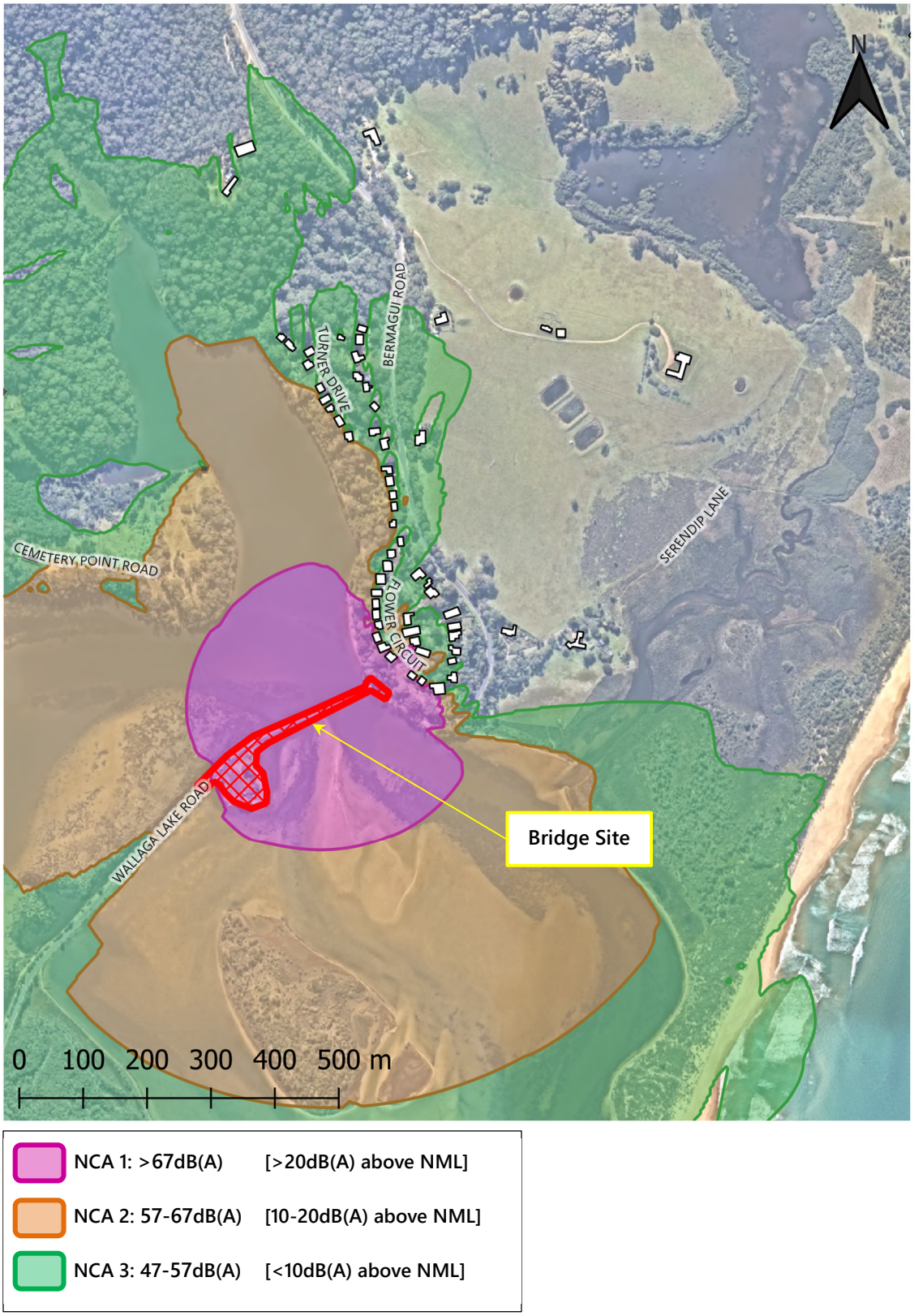


Figure 8 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Methodology 2 Works – Merriman's LALC (Day)

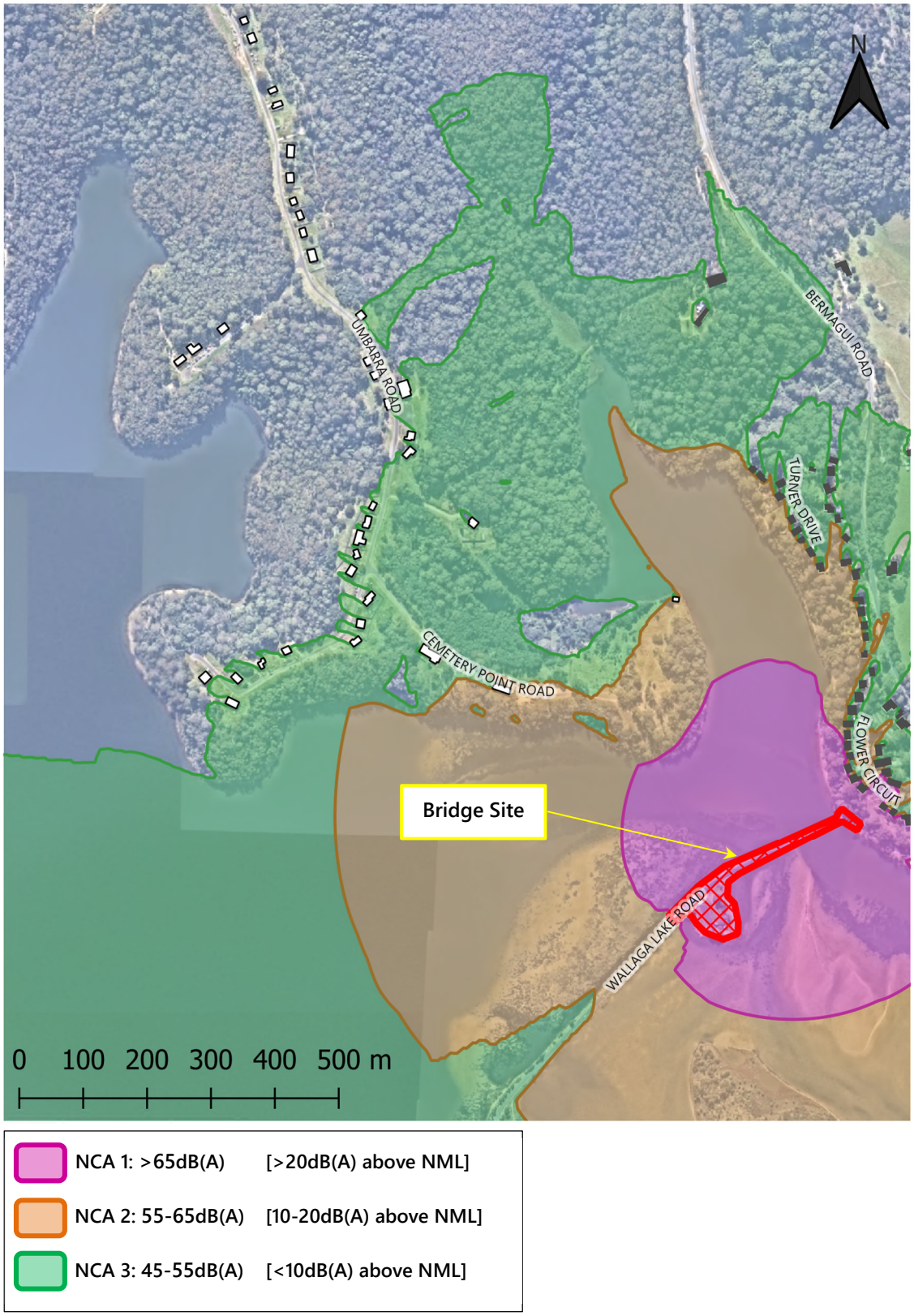
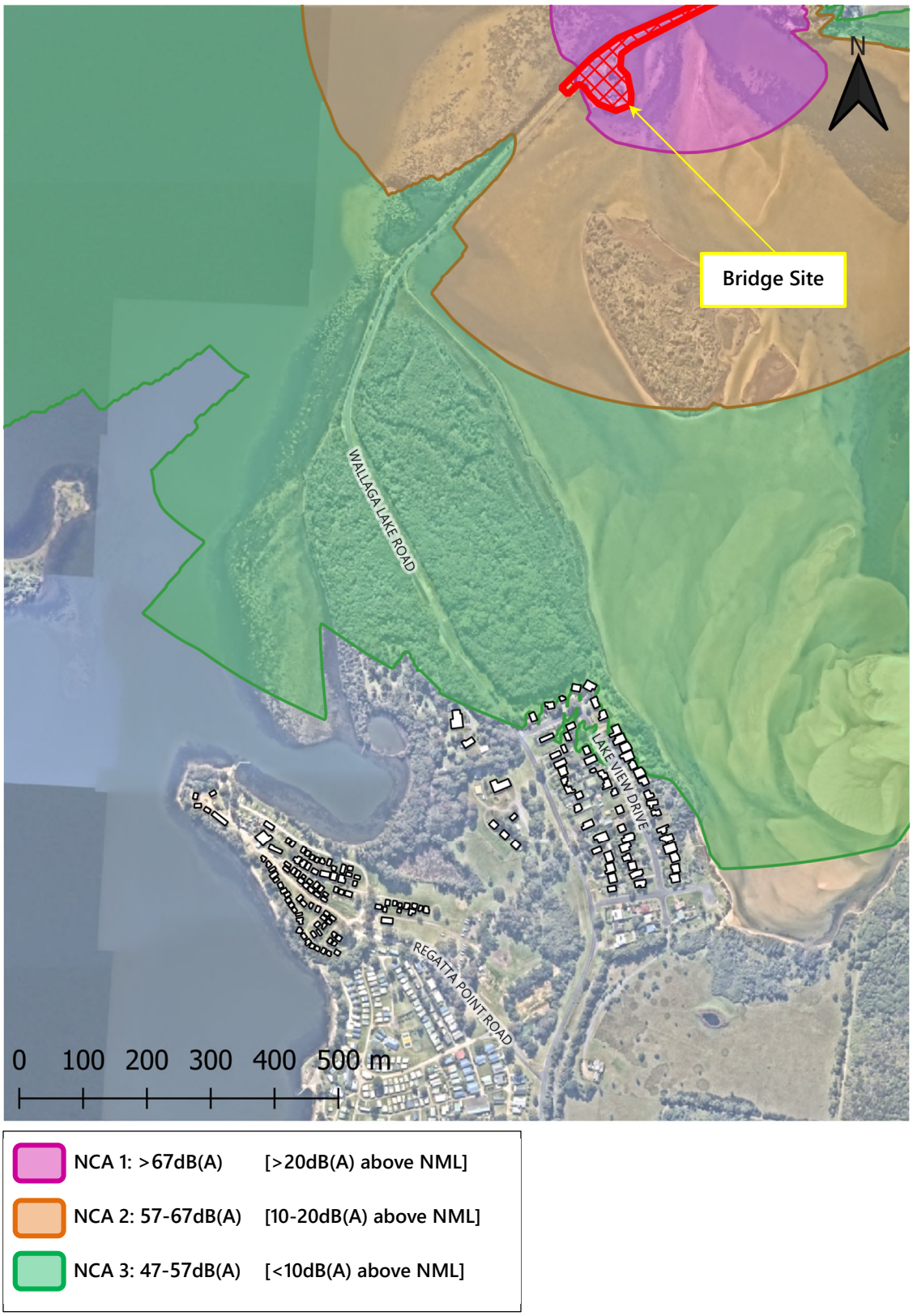


Figure 9 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Methodology 2 Works – Wallaga Lake (Day)



4.3.3 Methodology 3 – Replace Bridge Superstructure

The Methodology 3 works are expected to take place 24 hours a day; therefore, for a conservative assessment, the night time period has been assessed. Based on the proposed construction plant and equipment presented in Table 4.4, noise impacts from Methodology 3 works (replacing the bridge superstructure) have been predicted to different noise sensitive areas based on their corresponding NMLs for the night time period.

Figure 10, Figure 11 and Figure 12 present the predicted night time noise impacts to the Akolele, Merriman's LALC and Wallaga Lake noise sensitive areas, respectively, and the corresponding NCAs as described in Table 2.1 for Methodology 3 works.

Figure 10 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Methodology 3 Works - Akolele (Night)

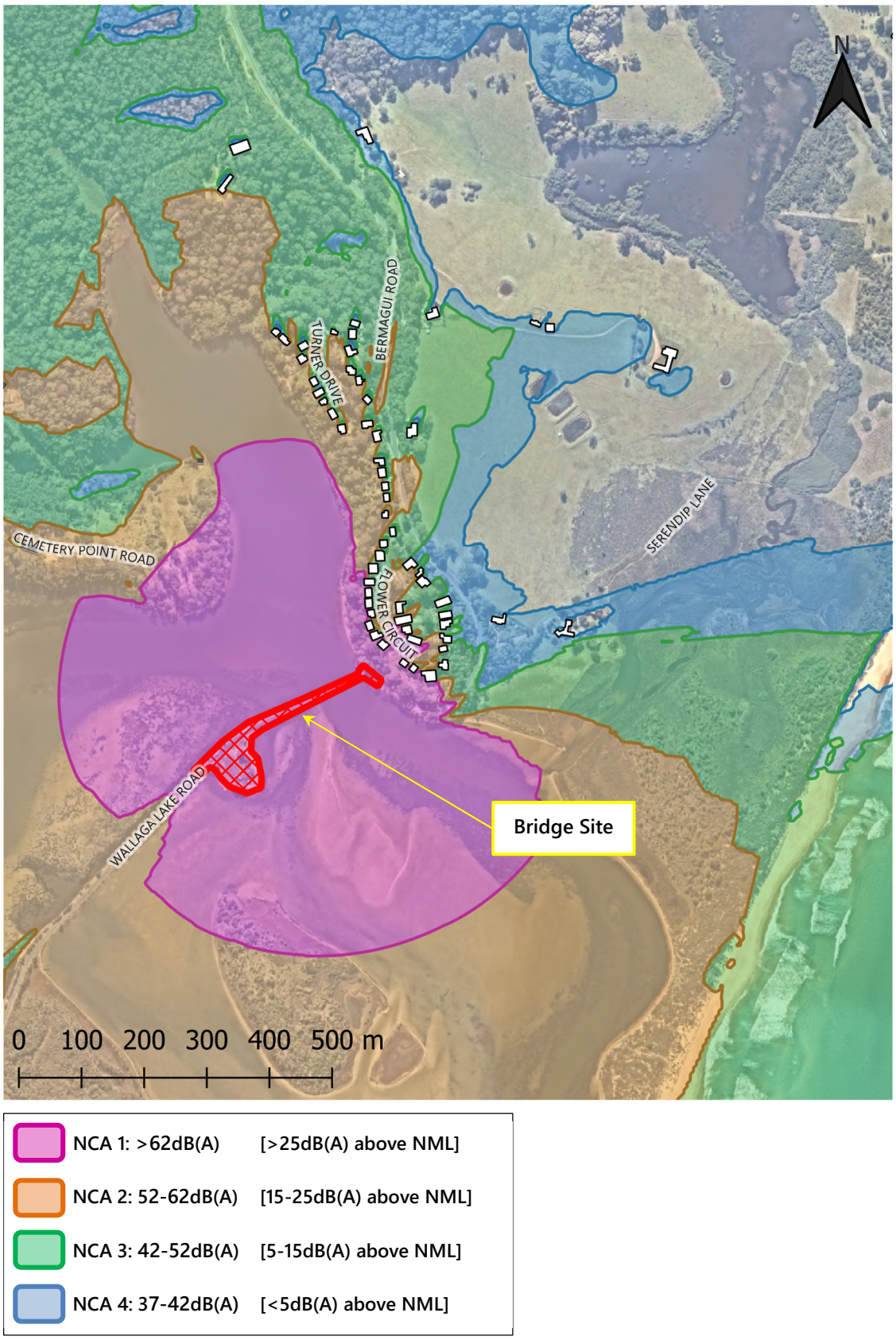


Figure 11 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Methodology 3 Works – Merriman's LALC (Night)

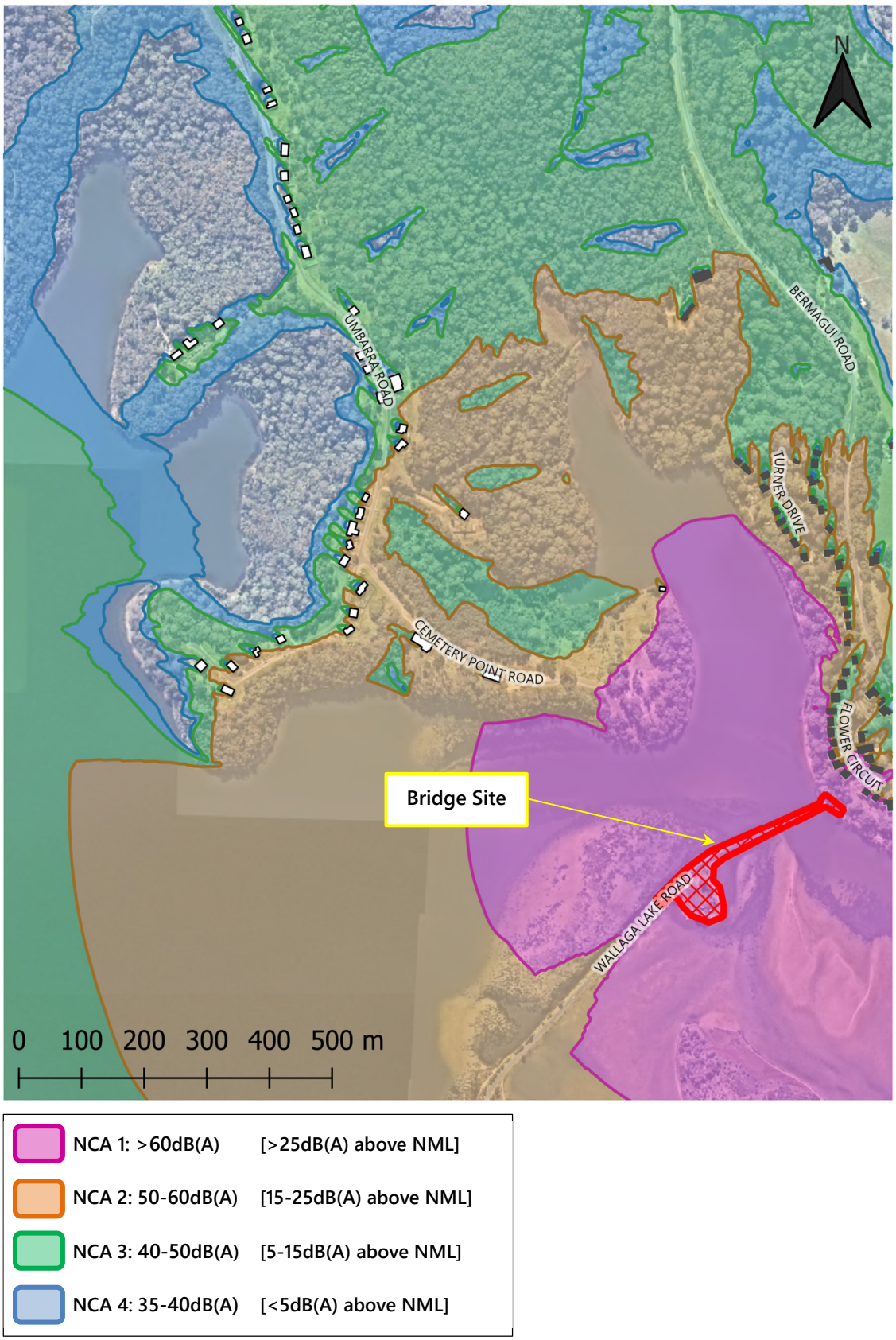
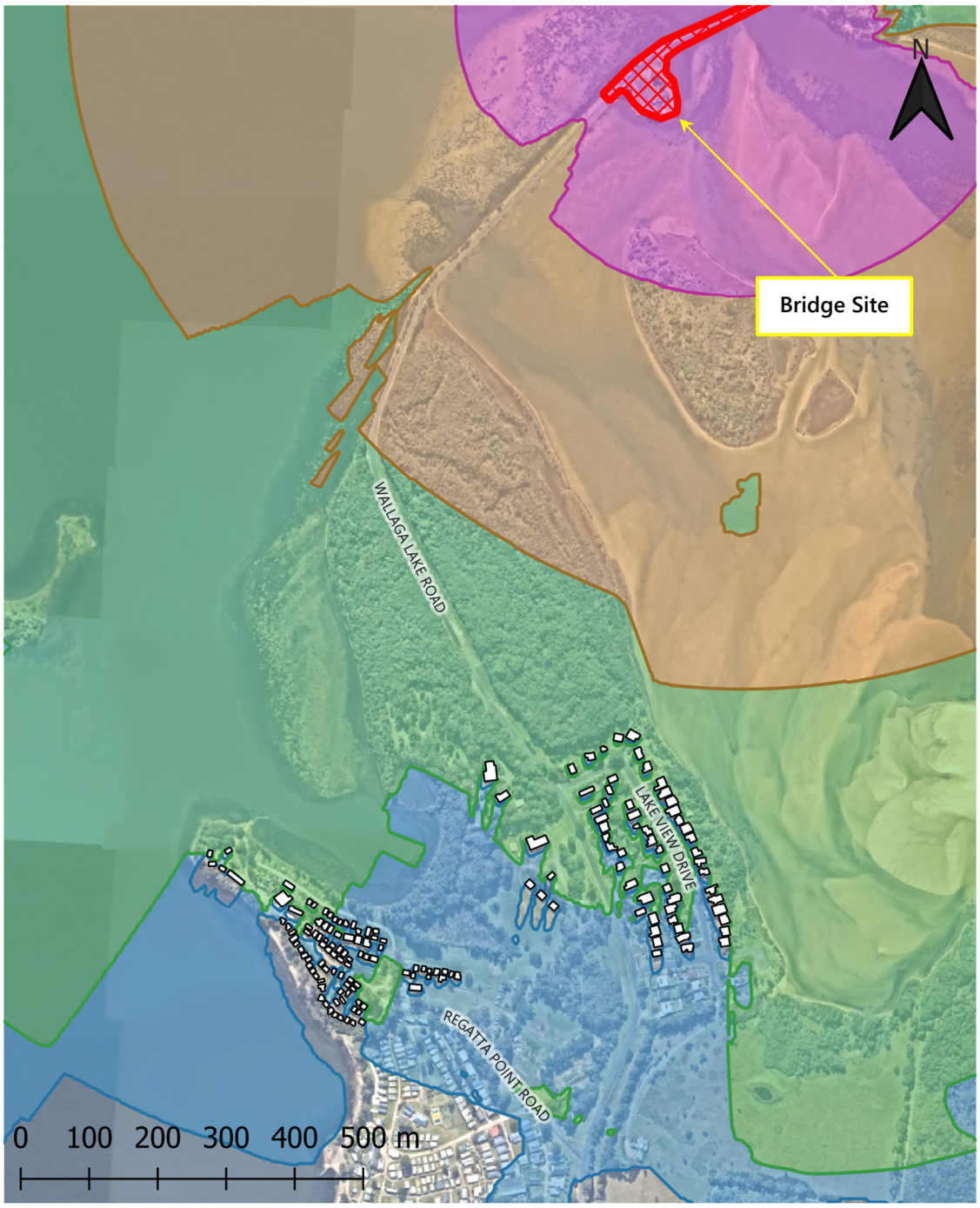


Figure 12 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Methodology 3 Works – Wallaga Lake (Night)



NCA 1: >62dB(A)	[>25dB(A) above NML]
NCA 2: 52-62dB(A)	[15-25dB(A) above NML]
NCA 3: 42-52dB(A)	[5-15dB(A) above NML]
NCA 4: 37-42dB(A)	[<5dB(A) above NML]

4.3.4 Finishing Works

Finishing works are expected to take place during daytime hours (between 7:00am and 6:00pm). Based on the proposed construction plant and equipment presented in Table 4.4, noise impacts from finishing works have been predicted to different noise sensitive areas based on their corresponding NMLs.

Figure 13, Figure 14 and Figure 15 present the predicted noise impacts to the Akolele, Merriman's LALC and Wallaga Lake noise sensitive areas, respectively, and the corresponding NCAs as described in Table 2.1 for finishing works.

Figure 13 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Finishing Works – Akolele (Day)

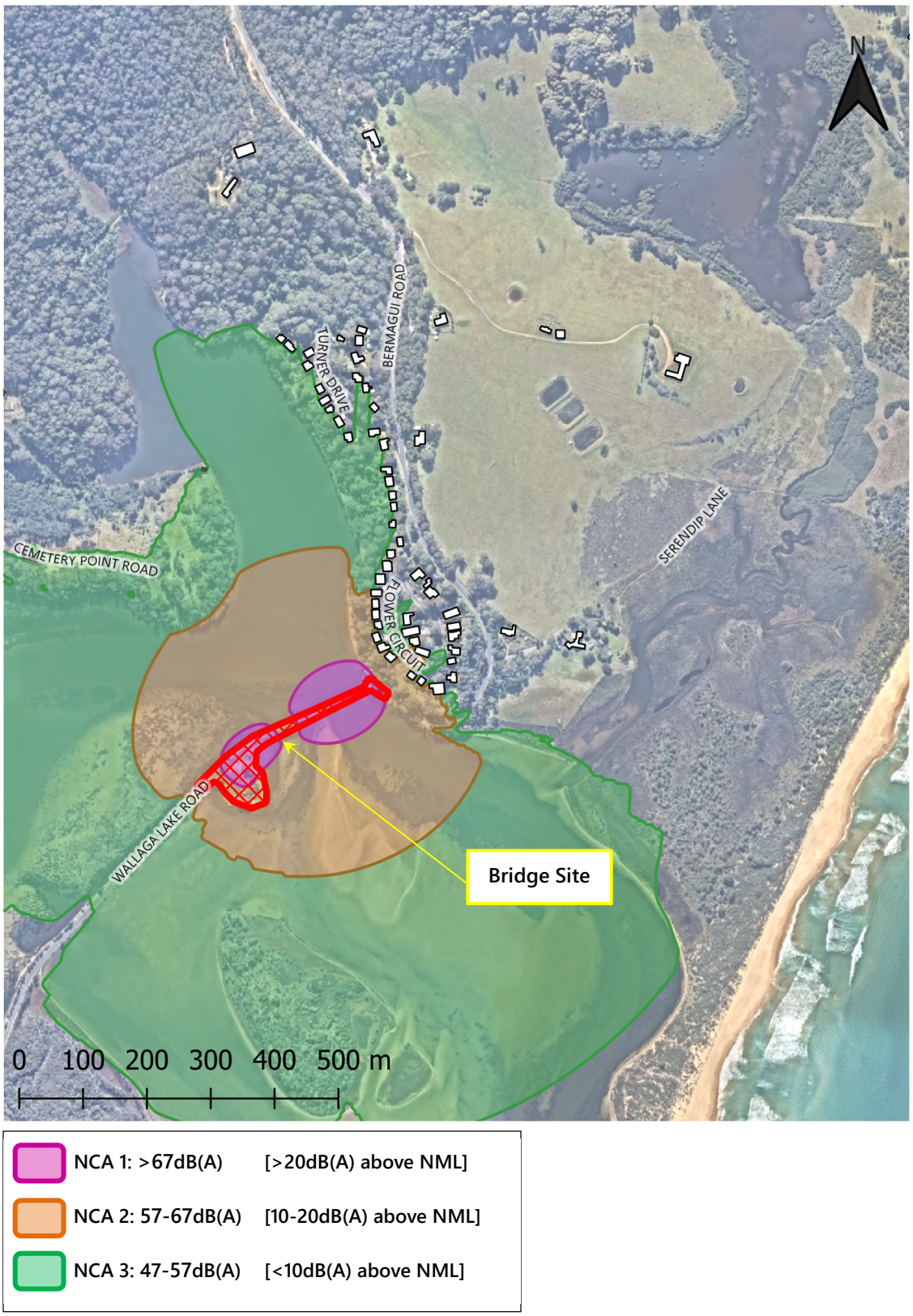


Figure 14 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Finishing Works – Merriman's LALC (Day)

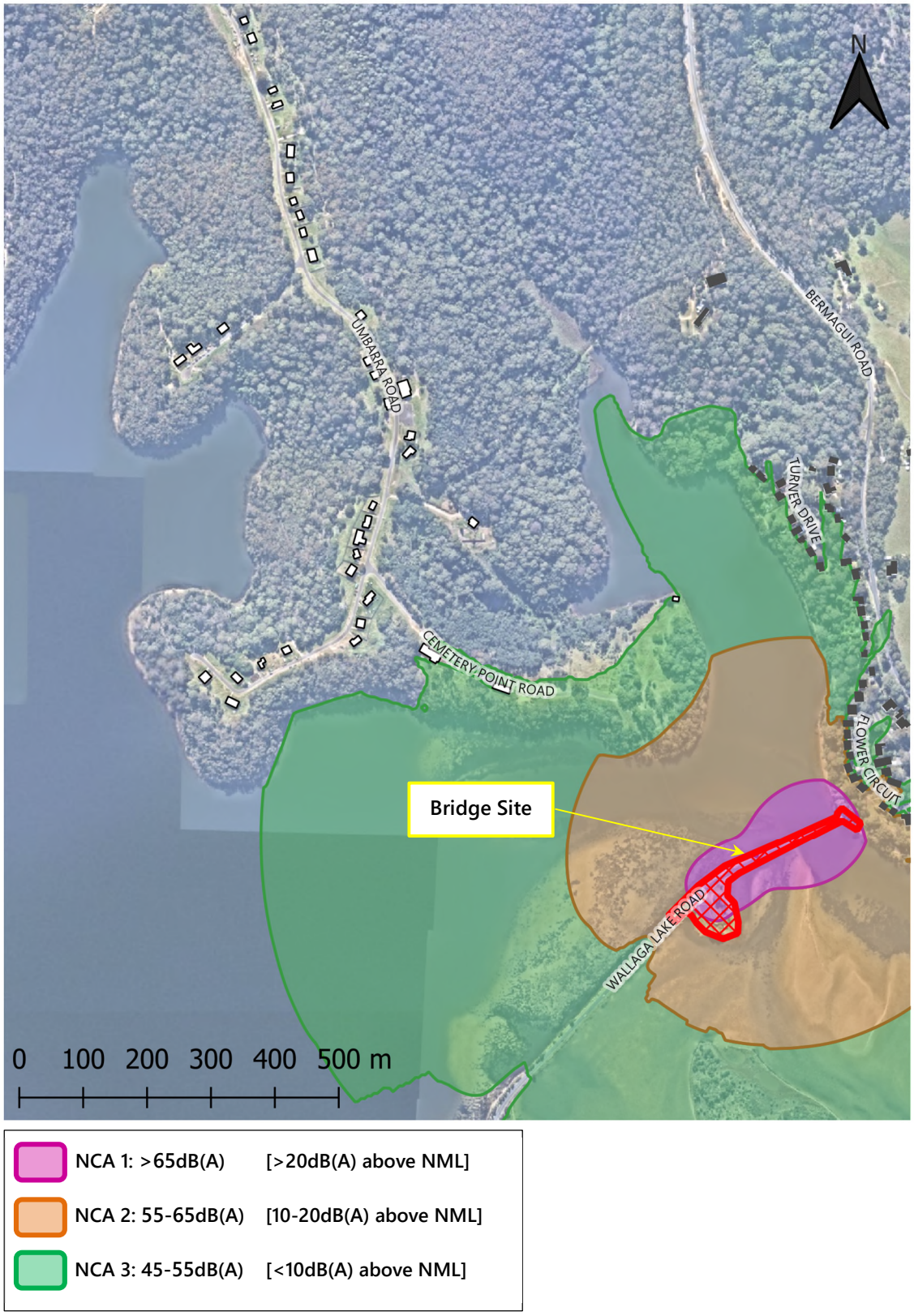


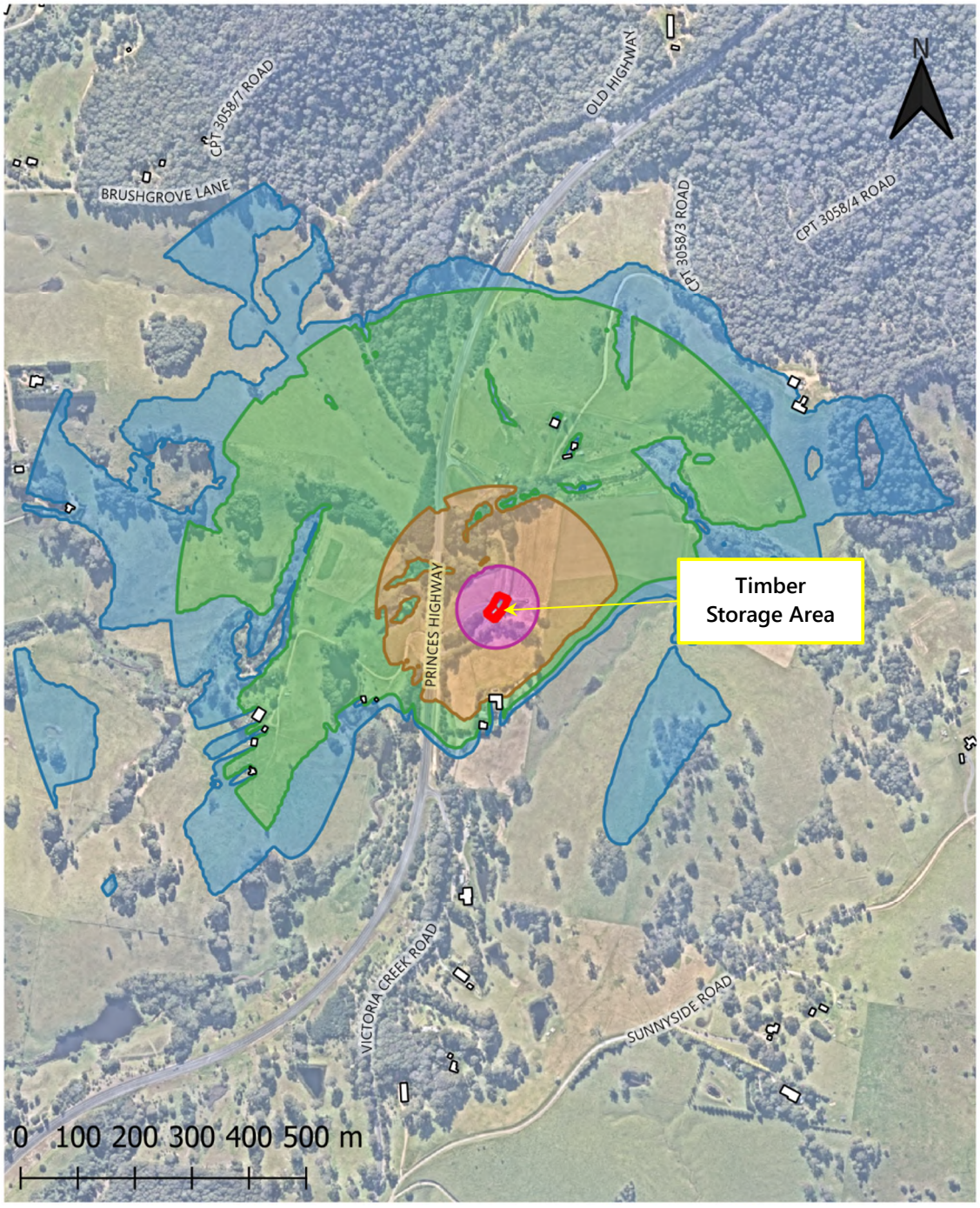
Figure 15 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Finishing Works – Wallaga Lake (Day)

4.3.5 Timber Storage Area

Construction activities at the timber storage area in Central Tilba are expected to take place 24 hours a day; therefore, for a conservative assessment, the night time period has been assessed. Based on the proposed construction plant and equipment presented in Table 4.4, noise impacts from activities at the timber storage area have been predicted to the noise sensitive areas surrounding the site based on the established NML for the night time period.

Figure 16 presents the predicted night time noise impacts to the noise sensitive areas surrounding the timber storage area and the corresponding NCAs as described in Table 2.1.

Figure 16 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Timber Storage Area (Night)



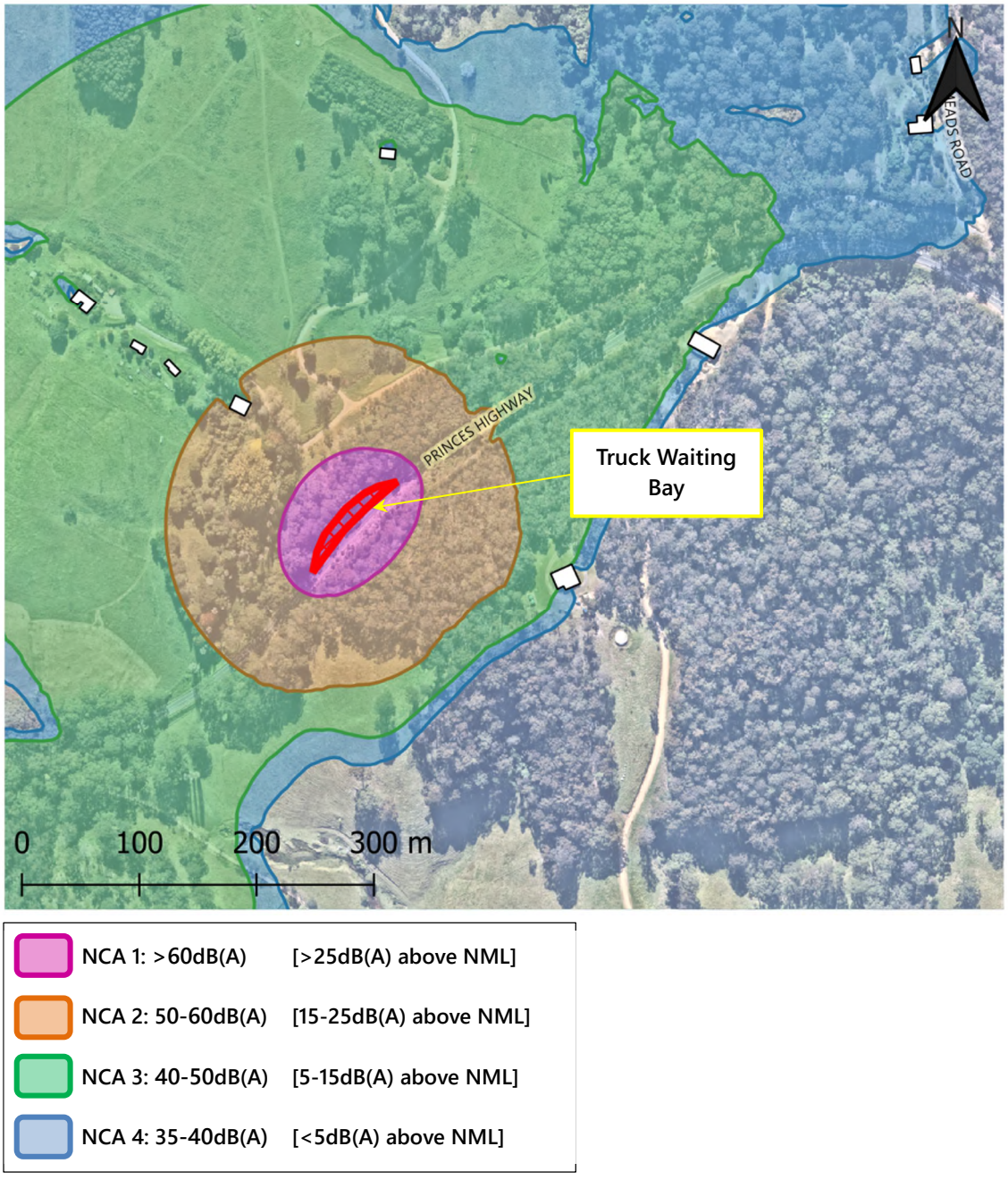
NCA 1: >60dB(A)	[>25dB(A) above NML]
NCA 2: 50-60dB(A)	[15-25dB(A) above NML]
NCA 3: 40-50dB(A)	[5-15dB(A) above NML]
NCA 4: 35-40dB(A)	[<5dB(A) above NML]

4.3.6 Truck Waiting Bay

Activities at the truck waiting bay at Tilba Tilba are expected to occur at any time, 24 hours a day; therefore, for a conservative assessment, the night time period has been assessed. Based on semi-trailers using the waiting bay, as presented in Table 4.4, noise impacts from activities at the truck waiting bay have been predicted to the noise sensitive areas surrounding the site based on the established NML for the night time period.

Figure 16 presents the predicted night time noise impacts to the noise sensitive areas surrounding the truck waiting bay and the corresponding NCAs as described in Table 2.1.

Figure 17 – NCAs Based on $L_{Aeq\ (15min)}$ Noise Levels – Truck Waiting Bay (Night)



Based on predicted construction noise levels and the corresponding NCAs, a feasible and reasonable approach towards noise management measures is to be applied to reduce noise levels as much as possible to manage the impact from construction noise.

Further details on construction noise mitigation and management measures are provided in Section 4.5 below.

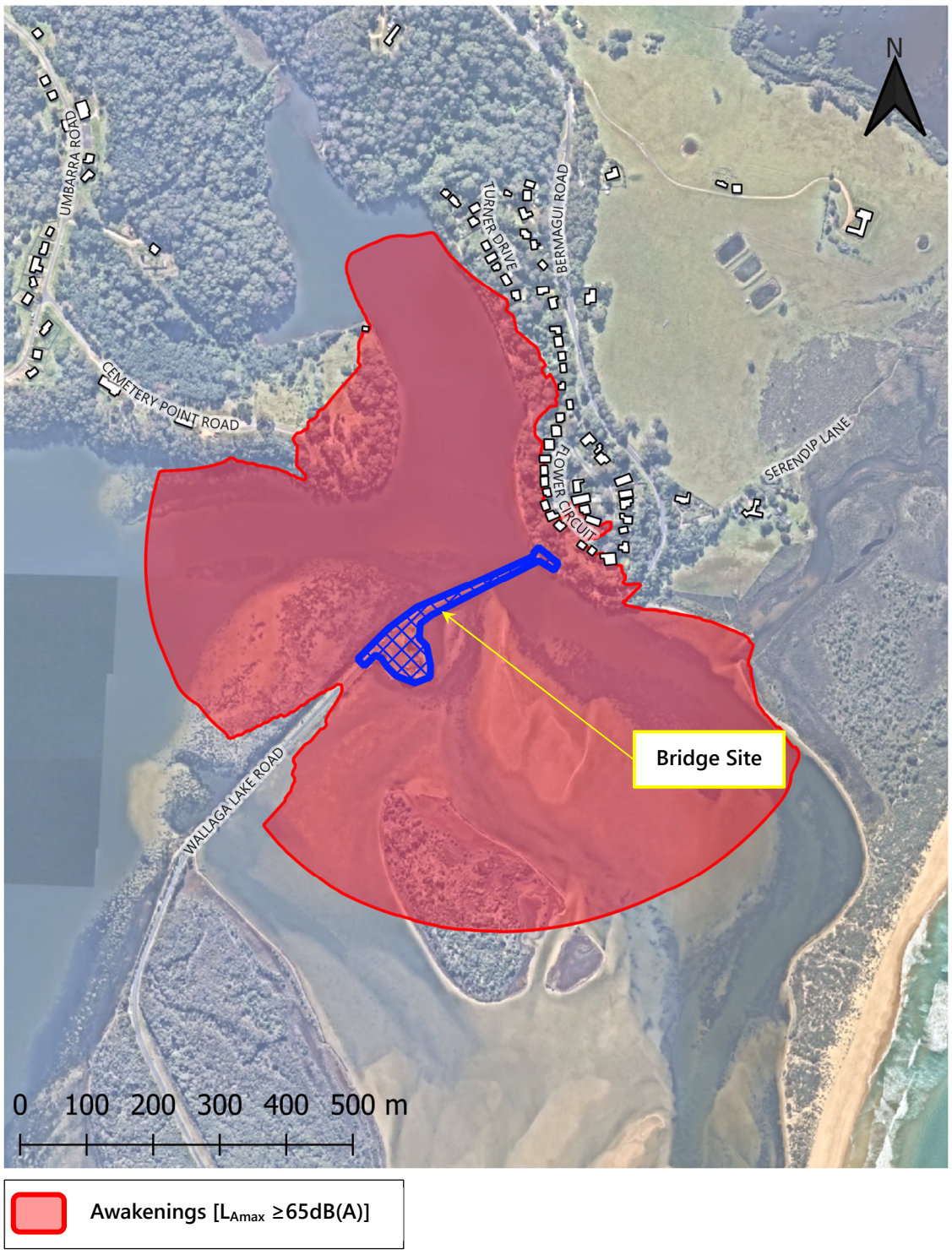
4.4 Sleep Disturbance Assessment

In addition to above predicted $L_{Aeq\ (15min)}$ noise levels for the corresponding NCAs for each construction activity, areas where the L_{Amax} noise levels at residential receivers during night time works (ie. Methodology 3, timber storage area and truck waiting bay) could cause sleep disturbance and awakening reactions [i.e. ≥65dB(A)] are presented in the following sections. As discussed previously, in accordance with the ICNG the sleep disturbance assessment is only applicable where construction works are planned to extend over more than two consecutive nights.

4.4.1 Methodology 3 – Replace Bridge Superstructure

Based on the proposed construction activities for Methodology 3 (replacing the bridge superstructure), as presented in Table 4.4, maximum noise level predictions during the night period have been based on the L_{Amax} noise source levels for the associated plant and equipment. Figure 18 presents the predicted L_{Amax} noise levels that could cause awakenings [i.e. ≥65dB(A)] at the residential receivers surrounding the bridge site during Methodology 3 construction works.

Figure 18 – Areas Impacted by Maximum Noise Levels (L_{Amax}) – Methodology 3 Works



4.4.2 Timber Storage Area

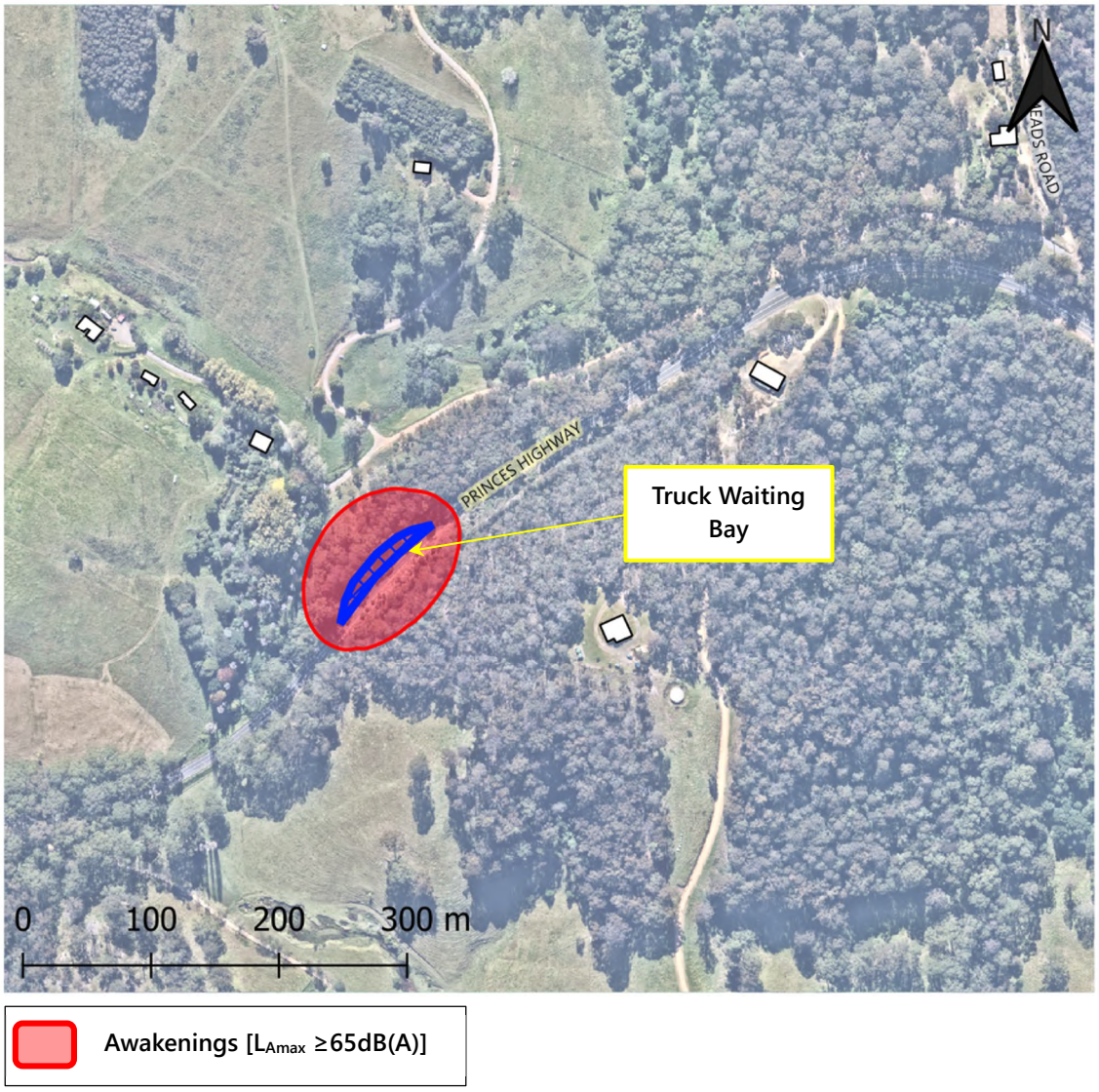
Maximum noise level predictions for activities at the timber storage area have been based on the proposed construction plant and equipment to be used during the night, as presented in Table 4.4. The highest L_{Amax} noise source level during the night time activities at the timber storage area was used to predict the maximum noise level impacts and provide a conservative assessment. Figure 19 presents the predicted L_{Amax} noise levels that could cause awakenings [i.e. ≥65dB(A)] at residential receivers during the night time activities at the timber storage area.

Figure 19 – Areas Impacted by Maximum Noise Levels (L_{Amax}) – Timber Storage Area

4.4.3 Truck Waiting Bay

Maximum noise level predictions for activities at the truck waiting bay have been based on the proposed semi-trailer using the waiting bay at night, as presented in Table 4.4. The L_{Amax} noise source level for a semi-trailer at the truck waiting bay was used to predict the maximum noise level impacts and provide a conservative assessment. Figure 20 presents the predicted L_{Amax} noise levels that could cause awakenings [ie. ≥65dB(A)] at residential receivers during the night time operation of the truck waiting bay.

Figure 20 – Areas Impacted by Maximum Noise Levels (L_{Amax}) – Truck Waiting Bay



It is recommended that attended noise measurements be undertaken at the nearest affected receivers once the equipment is introduced on site at the beginning of night works to establish and quantify actual L_{Amax} noise levels on site. Where L_{Amax} noise levels are measured to exceed the sleep disturbance limit, then a reasonable and feasible approach towards noise management measures should be considered to reduce noise levels as much as possible to manage the impact from construction noise during night time periods. For example, noisier works should be undertaken before 12am (midnight) and the quieter works be undertaken after 12am (midnight).

4.5 Construction Noise Mitigation

The following recommendations provide in-principle noise control solutions in accordance with the CNVG to reduce construction noise impacts to the affected residential receivers. Where actual construction activities and/or plant and equipment differ from those assessed in this report, more detailed design of noise control measures may be required.

The advice provided here is in respect of noise only. Supplementary professional advice may need to be sought in respect of fire ratings, structural design, buildability, fitness for purpose and the like.

4.5.1 General Noise Management Measures

Appendix B of the CNVG presents standard noise mitigation measures, which are reproduced in Table 4.5 below.

Table 4.5 – Standard Noise Mitigation Measures

Action Required	Details
Management Measures	
Implementation of any project specific mitigation measures required	Implementation of any project specific mitigation measures required
Implement community consultation or notification measures	Notification detailing work activities, dates and hours, impacts and mitigation measures, indication of work schedule over the night period and contact telephone number. Notification should be a minimum of 7 calendar days prior to the start of works. For projects other than maintenance works more advanced consultation or notification may be required. Website Contact telephone number for community Email distribution list

Action Required	Details
Site inductions	All employees, contractors and subcontractors are to receive an environmental induction. The induction must at least include: • all project specific and relevant standard noise and vibration mitigation measures • relevant licence and approval conditions • permissible hours of work • any limitations on high noise generating activities • location of nearest sensitive receivers • construction employee parking areas • designated loading/unloading areas and procedures • site opening/closing times (including deliveries) • environmental incident procedures.
Behavioural practices	No swearing or unnecessary shouting or loud stereos/radios on site. No dropping of materials from height where practicable, throwing of metal items and slamming of doors.
Update Construction Environmental Management Plans	The CEMP must be regularly updated to account for changes in noise management issues and strategies
Source Controls	
Construction hours and scheduling	Where feasible and reasonable, construction should be carried out during the standard daytime working hours. Work generating high noise levels should be scheduled during less sensitive time periods.
Equipment selection	Use quieter and less noise emitting construction methods where feasible and reasonable. Ensure plant including the silencer is well maintained.
Plant noise levels	The noise levels of plant and equipment must have operating Sound Power or Sound Pressure Levels compliant with the criteria in Appendix F of the CNVG. Implement a noise monitoring audit program to ensure equipment remains within the more stringent of the manufacturers specifications or Appendix F of the CNVG.
Rental plant and equipment	The noise levels of plant and equipment items are to be considered in rental decisions and in any case cannot be used on site unless compliant with the criteria in the CNVG
Use and siting of plant	The offset distance between noisy plant and adjacent sensitive receivers is to be maximised. Plant used intermittently to be throttled down or shut down. Noise-emitting plant to be directed away from sensitive receivers. Only have necessary equipment on site.
Plan worksites and activities to minimise noise	Plan traffic flow, parking and loading/unloading areas to minimise reversing movements within the site. Where additional activities or plant may only result in a marginal noise increase and speed up works, consider limiting duration of impact by concentrating noisy activities at one location and move to another as quickly as possible. Very noisy activities should be scheduled for normal working hours where safe and practicable to do so. If the work cannot be undertaken during the day, it should be completed before 12am. If programmed night works is postponed the work should be re-programmed and the approaches in the CNVG apply again.
Reduced equipment power	Use only the necessary size and power for equipment required for the work

Action Required	Details
Non-tonal and ambient sensitive reversing alarms	Non-tonal reversing beepers (or an equivalent mechanism) must be fitted and used on all construction vehicles and mobile plant regularly used on site and for out of hours work. Consider the use of ambient sensitive alarms that adjust output relative to the ambient noise level.
Minimise disturbance arising from delivery of goods to construction sites	Loading and unloading of material/deliveries is to occur as far as possible from sensitive receivers. Select site access points and roads as far as possible away from sensitive receivers. Dedicated loading/unloading areas to be shielded if close to sensitive receivers. Delivery vehicles to be fitted with straps rather than chains for unloading, wherever possible. Avoid or minimise these out of hours movements where possible.
Engine compression braking	Limit the use of engine compression brakes at night and in residential areas. Ensure vehicles are fitted with a maintained Original Equipment Manufacturer exhaust silencer or a silencer that complies with the National Transport Commission's 'in-service test procedure' and standard.
Path Controls	
Shield stationary noise sources such as pumps, compressors, fans etc.	Stationary noise sources should be enclosed or shielded where feasible and reasonable whilst ensuring that the occupational health and safety of workers is maintained. Appendix D of AS 2436:2010 lists materials suitable for shielding.
Shield sensitive receivers from noisy activities	Use structures to shield residential receivers from noise such as site shed placement; earth bunds; fencing; erection of operational stage noise barriers (where practicable); noise curtains and consideration of site topography when situating plant.

4.5.2 Additional Noise Mitigation Measures

Appendix C of the CNVG provides details of additional noise mitigation measures to be applied when there are still exceedances of the NMLs after all the appropriate standard mitigation measures from Section 4.5.1 have been applied. Based on the NCAs established for each construction activity and each noise sensitive area, presented in Figure 4 to Figure 17, the appropriate additional mitigation measures for each NCA as specified in Appendix C.1 and Table C.1 of the CNVG has been reproduced in Table 4.6 below.

Table 4.6 – Additional Noise Mitigation Measures for NCAs

Noise Catchment Area	Predicted Noise Levels Above NML, dB(A)	Recommended Additional Mitigation Measures
Day (standard hours) – Methodology 1, Methodology 2 & Finishing Works		
NCA 1	>20	N, V
NCA 2	10 to 20	N, V
NCA 3	<10	-

Noise Catchment Area	Predicted Noise Levels Above NML, dB(A)	Recommended Additional Mitigation Measures
Night (out of hours) – Methodology 3, Timber Storage Area & Truck Waiting Bay		
NCA 1	>25	AA, V, IB, N, PC, SN, R2, DR
NCA 2	15 to 25	V, IB, N, PC, SN, R2, DR
NCA 3	5 to 15	V, N, R2, DR
NCA 4	<5	N

Notes: 1. AA = Alternative Accommodation; R1 = Respite Period 1; N = Notification
V = Verification; R2 = Respite Period 2; PC = Phone Calls
IB = Individual Briefings; DR = Duration Respite; SN = Specific Notifications

2. Recommended additional mitigation measures as specified and detailed in Appendix C.1 and Table C.1 of the CNVG

4.5.3 Recommendations

The following additional mitigation measures are considered to be feasible and reasonable to implement in addition to the standard measures for the proposed night time works, namely Methodology 3 works, works at the timber storage area and activities at the truck waiting bay.

1. Letterbox drop (**N = Notification**) for receivers within NCA1, NCA2, NCA3 and NCA4. Notifications should be detailing work activities, dates and hours, impacts and mitigation measures, indication of work schedule over the night time period and contact telephone number. Notification will be sent a minimum of seven (7) calendar days prior to the start of works.

   Notifications are also recommended for works during the day period.

2. Works are unlikely to comply with **Respite Condition 2 (R2)** which implies that works should be limited to two consecutive nights except for where there is a **Duration Respite (DR)**. It is considered beneficial to apply Duration Respite, which would increase the number of night time work shifts per week, but works would be completed more quickly. Consultation with the community should be undertaken to confirm and demonstrate support for Duration Respite.

3. **Verification (V)** measurements should be undertaken at the start of high noise generating activities and to assist in managing complaints. Predicted noise levels from the proposed works should be verified by measuring construction noise and background noise levels when high noise generating activities are undertaken or where complaints are received.

   Verification measurements should also be considered for works during the day period.

4. **Alternative Accommodation (AA)** may be offered to receivers within NCA 1 that are likely to experience highly intrusive noise levels (i.e. >25dB(A) above the NML) during the night time construction works.

5 Construction Vibration

5.1 Vibration Criteria

Construction vibration is associated with three main types of impact:

- disturbance to building occupants;
- potential damage to buildings; and
- potential damage to sensitive equipment in a building.

Generally, if disturbance to building occupants is controlled, there is limited potential for structural damage to buildings.

Vibration amplitude may be measured as displacement, velocity, or acceleration.

- **Displacement** (x) measurement is the distance or amplitude displaced from a resting position. The SI unit for distance is the meter (m), although common industrial standards include mm.
- **Velocity** ($v=\Delta x/\Delta t$) is the rate of change of displacement with respect to change in time. The SI unit for velocity is meters per second (m/s), although common industrial standards include mm/s. The Peak Particle Velocity (PPV) is the greatest instantaneous particle velocity during a given time interval. If measurements are made in 3-axis (x, y, and z) then the resultant PPV is the vector sum (i.e. the square root of the summed squares of the maximum velocities) regardless of when in the time history those occur.
- **Acceleration** ($a=\Delta v/\Delta t$) is the rate of change of velocity with respect to change in time. The SI unit for acceleration is meters per second squared (m/s2).

Construction vibration goals are summarised below.

5.1.1 Disturbance to Building Occupants

Assessment of potential disturbance from vibration on human occupants of buildings is made in accordance with the DECC 'Assessing Vibration; a technical guideline' (DECC, 2006). The guideline provides criteria which are based on the British Standard BS 6472-1992 'Evaluation of human exposure to vibration in buildings (1-80Hz)'. Sources of vibration are defined as either 'Continuous', 'Impulsive' or 'Intermittent'. Table 5.1 provides definitions and examples of each type of vibration.

Table 5.1 – Types of Vibration

Type of Vibration	Definition	Examples
Continuous vibration	Continues uninterrupted for a defined period (usually throughout the day-time and/or night-time)	Machinery, steady road traffic, continuous construction activity (such as tunnel boring machinery).

Type of Vibration	Definition	Examples
Impulsive vibration	A rapid build-up to a peak followed by a damped decay that may or may not involve several cycles of vibration (depending on frequency and damping). It can also consist of a sudden application of several cycles at approximately the same amplitude, providing that the duration is short, typically less than 2 seconds	Infrequent: Activities that create up to 3 distinct vibration events in an assessment period, e.g. occasional dropping of heavy equipment, occasional loading and unloading.
Intermittent vibration	Can be defined as interrupted periods of continuous or repeated periods of impulsive vibration that varies significantly in magnitude	Trains, nearby intermittent construction activity, passing heavy vehicles, forging machines, impact pile driving, jack hammers. Where the number of vibration events in an assessment period is three or fewer, this would be assessed against impulsive vibration criteria.

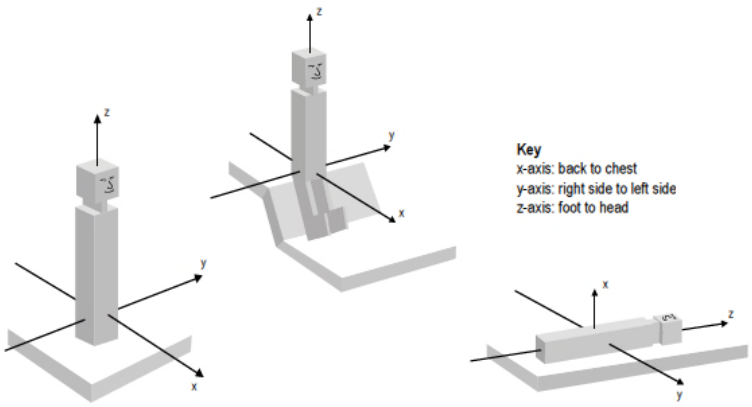
Source: Assessing Vibration; a technical guideline, Department of Environment & Climate Change, 2006

The vibration criteria are defined as a single weighted root mean square (rms) acceleration source level in each orthogonal axis. Section 2.3 of the guideline states:

> *"Evidence from research suggests that there are summation effects for vibrations at different frequencies. Therefore, for evaluation of vibration in relation to annoyance and comfort, overall weighted rms acceleration values of the vibration in each orthogonal axis are preferred (BS 6472)."*

When applying the criteria, it is important to note that the three directional axes are referenced to the human body; ie. x-axis (back to chest), y-axis (right side to left side) or z-axis (foot to head). Vibration may enter the body along different orthogonal axes and affect it in different ways. Therefore, application of the criteria requires consideration of the position of the people being assessed, as illustrated in Figure 21. For example, vibration measured in the horizontal plane is compared with x- and y-axis criteria if the concern is for people in an upright position, or with the y- and z- axis criteria if the concern is for people in the lateral position.

Figure 21 – Orthogonal Axes for Human Exposure to Vibration



The preferred and maximum values for continuous and impulsive vibration are defined in Table 2.2 of the guideline and values for the residential receivers surrounding the sites are reproduced in Table 5.2.

Table 5.2 – Preferred and Maximum Levels for Human Comfort

Location	Assessment Period[1]	Preferred Values		Maximum Values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Continuous Vibration (Weighted RMS Acceleration, m/s^2, 1-80Hz)					
Residences	Daytime	0.010	0.0071	0.020	0.014
	Night-time	0.007	0.005	0.014	0.010
Impulsive Vibration (Weighted RMS Acceleration, m/s^2, 1-80Hz)					
Residences	Daytime	0.30	0.21	0.60	0.42
	Night-time	0.10	0.071	0.20	0.14

Notes: 1. Daytime is 7:00am to 10:00pm and night time is 10:00pm to 7:00am

The acceptable vibration dose values (VDV) for intermittent vibration are defined in Table 2.4 of the guideline and values for the residential receivers surrounding the sites are reproduced in Table 5.3.

Table 5.3 – Acceptable Vibration Dose Values for Intermittent Vibration ($m/s^{1.75}$)

Location	Daytime[1]		Night-time[1]	
	Preferred Value	Maximum Value	Preferred Value	Maximum Value
Residences	0.20	0.40	0.13	0.26

Notes: 1. Daytime is 7:00am to 10:00pm and night time is 10:00pm to 7:00am

5.1.2 Building Damage

Potential structural damage of buildings as a result of vibration is typically managed by ensuring vibration induced into the structure does not exceed certain limits and standards, such as British Standard 7385 Part 2 and German Standard DIN4150-3. Currently, there is no existing Australian Standard for assessment of structural building damage caused by vibration energy.

Within British Standard 7385 Part 1: 1990, different levels of structural damage are defined:

- **Cosmetic** – The formation of hairline cracks on drywall surfaces, or the growth of existing cracks in plaster or drywall surfaces; in addition, the formation of hairline cracks in mortar joints of brick / concrete block construction.
- **Minor** – The formation of large cracks or loosening of plaster or drywall surfaces, or cracks through bricks / concrete blocks.
- **Major** – Damage to structural elements of the building, cracks in supporting columns, loosening of joints, splaying of masonry cracks, etc.

The vibration limits in Table 1 of British Standard 7385 Part 2 (1993) are for the protection against cosmetic damage; however, guidance on limits for minor and major damage is provided in Section 7.4.2 of the Standard:

"7.4.2 Guide values for transient vibration relating to cosmetic damage

Limits for transient vibration, above which cosmetic damage could occur are given numerically in Table 1 and graphically in Figure 1. In the lower frequency region where strains associated with a given vibration velocity magnitude are higher, the guide values for the building types corresponding to line 2 are reduced. Below a frequency of 4 Hz, where a high displacement is associated with a relatively low peak component particle velocity value a maximum displacement of 0.6 mm (zero to peak) should be used.

Minor damage is possible at vibration magnitudes which are greater than twice those given in Table 1, and major damage to a building structure may occur at values greater than four times the tabulated values."

Within DIN4150-3, damage is defined as "*any permanent consequences of an action that reduces the serviceability of a structure or one of its components*" (cl. 3.2). The Standard also outlines:

"*For buildings as in lines 2 and 3 of Table 1, 4 or B1, the serviceability is considered to have been reduced if, for example*

- *cracks form in plastered or rendered surfaces of walls;*
- *existing cracks in a structure are enlarged;*
- *partitions become detached from load-bearing walls or floors slabs.*

These effects are deemed 'minor damage." *(DIN4150-3:2016, p.6)*

While the DIN Standard defines the above damage as 'minor', based on the definitions provided in BS7385, the DIN standard is considered to deal with cosmetic issues rather than major structural failures.

It is noted that British Standard 7385 Part 2 does not provide vibration limits to prevent structural damage to heritage structures. Instead, DIN4150-3 is referred to for vibration limits applicable to heritage type structures.

British Standard

British Standard 7385: Part 2 'Evaluation and measurement of vibration in buildings', is used as a guide to assess the likelihood of damage from ground vibration to industrial, commercial and residential type buildings. BS 7385 suggests levels at which 'cosmetic', 'minor' and 'major' categories of damage might occur.

The cosmetic damage levels set by BS 7385 are considered 'safe limits' up to which no damage due to vibration effects has been observed for certain particular building types. Damage comprises minor non-structural effects such as hairline cracks on drywall surfaces, hairline cracks in mortar joints and cement render, enlargement of existing cracks and separation of partitions or intermediate walls from load bearing walls. 'Minor' damage is considered possible at vibration magnitudes which are twice those

given and 'major' damage to a building structure may occur at levels greater than four times those values.

BS 7385 is based on peak particle velocity and specifies damage criteria for frequencies within the range 4Hz to 250Hz, being the range usually encountered in buildings. At frequencies below 4Hz, a maximum displacement value is recommended. The values set in the Standard relate to transient vibrations and to low-rise buildings. Continuous vibration can give rise to dynamic magnifications due to resonances and may need to be reduced by up to 50%. Table 5.4 sets out the BS7385 criteria for cosmetic, minor and major damage.

Regarding heritage buildings, British Standard 7385 Part 2 (1993) notes that "a building of historical value should not (unless it is structurally unsound) be assumed to be more sensitive" (p.5). However, BS 7385 does not specify any vibration limits for heritage type buildings.

Table 5.4 – BS 7385 Structural Damage Criteria for Residential Buildings

Group	Type of Structure	Damage Level	Peak Component Particle Velocity[1], mm/s		
			4Hz to 15Hz	15Hz to 40Hz	40Hz and above
2	Un-reinforced or light framed structures Residential or light commercial type buildings	Cosmetic	15 to 20	20 to 50	50
		Minor[2]	30 to 40	40 to 100	100
		Major[2]	60 to 80	80 to 200	200

Notes: 1. Peak Component Particle Velocity is the maximum Peak particle velocity in any one direction (x, y, z) as measured by a tri-axial vibration transducer.

2. Minor and major damage criteria established based on British Standard 7385 Part 2 (1993) Section 7.4.2

German Standard

As discussed previously, German Standard DIN 4150 - Part 3 'Vibration in buildings - Effects on structures' (DIN 4150-3:2016) has been referred to for recommended maximum levels of vibration that reduce the likelihood of damage caused by vibration to heritage type structures.

DIN 4150-3 presents the recommended maximum limits over a range of frequencies (Hz), measured in any direction, and at the foundation or in the plane of the uppermost floor of a heritage building or structure. The vibration limits increase as the frequency content of the vibration increases. The criteria applicable to heritage type structures or buildings surrounding the site are presented in Table 5.5.

Table 5.5 – DIN 4150-3 Structural Damage Criteria for Heritage Structures / Buildings

Line	Type of Structure	Vibration Velocity, mm/s				
		Foundation, all directions (x, y, z) at a frequency of			Topmost floor, horizontal direction (x, y)	Floor slabs, vertical direction (z)
		1Hz to 10Hz	10Hz to 50Hz	50Hz to 100Hz	All frequencies	All frequencies
3	Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 **and** are of great intrinsic value (e.g. listed buildings)	3	3 to 8	8 to 10	8	20

It is understood that there are no heritage buildings / structures within the vicinity of the bridge site, timber storage area or truck waiting bay. Therefore, the assessment of vibration impacts to heritage buildings / structures will not be required from herein.

5.2 Potential Vibration Impacts

Based on the proposed plant items presented in Section 4.2, vibration generated by construction plant was estimated and potential vibration impacts are summarised in Table 5.6 below. The assessment is relevant to the identified residential type buildings surrounding the sites based on the BS 7385 and the DECC vibration guideline. The vibration impacts have been determined based on a worst-case scenario of utilising piling rigs for the project. The assessment has been based on information sourced from data libraries and previous projects worked on by Renzo Tonin & Associates.

Furthermore, there are no heritage buildings or structures located in proximity to the proposed works location and thus, the German Standard DIN 4150-3 is not applicable in this circumstance.

Table 5.6 – Potential Vibration for Residential and Commercial Properties

Approx. distance to nearest buildings from works	Type of nearest sensitive buildings	Assessment on potential vibration impacts	
		Structural damage risk	Human disturbance
50 – 70m	Residential	Low risk of structural damage from pile driving activities. Very low risk of structural damage from other construction activities.	Medium risk of adverse comment as a result of pile driving activities. Very low risk of adverse comment as a result of other construction activities.
>70m	Residential	Very low risk of structural damage from all construction activities.	Very low risk of adverse comment as a result of all construction activities.

5.3 Vibration Mitigation

5.3.1 Recommended Minimum Buffer Distances

The pattern of vibration radiation is very different to the pattern of airborne noise radiation and is very site specific as final vibration levels are dependent on many factors including the actual plant used, its operation and the intervening geology between the activity and the receiver. Accordingly, based on a database containing vibration measurements from past projects and library information, Table 5.7 below presents the recommended minimum working distances for high vibration generating plant based on the BS 7385 for cosmetic damage and the DECC vibration guideline for human response.

Table 5.7 – Recommended Minimum Working Distances for Vibration Intensive Plant

Plant item	Rating / description	Minimum working distance	
		Cosmetic damage (BS 7385)	Human response (DECC)
Piling Rig (driven piles)[1]	12 tonne down force	15 m	50 m
Truck Movements[2]	-	-	10 m

Notes: 1. Transport for NSW 'Construction Noise and Vibration Strategy' (April 2019)
2. Renzo Tonin & Associates project files, databases & library

Site specific buffer distances should be determined once vibration emission levels are measured from each plant item prior to the commencement of their regular use on site. Where construction activity occurs in close proximity to sensitive receivers, minimum buffer distances for building damage should be determined by site measurements and maintained.

The appropriate machinery / works would need to be planned accordingly such that the vibration requirements are met (e.g. carry out bored piling instead of impact piling).

5.3.2 Vibration Management Measures

The following vibration management measures are provided to minimise vibration impact from construction activities to the nearest affected receivers and to meet the relevant human comfort and building damage vibration limits:

- A management procedure should be implemented to deal with vibration complaints. Each complaint should be investigated and where vibration levels are established as exceeding the set limits, appropriate amelioration measures should be put in place to mitigate future occurrences. An example of a construction vibration complaints management procedure is presented in APPENDIX C.
- Where vibration is found to be excessive, management measures should be implemented to ensure vibration compliance is achieved. Management measures may include modification / substitution of construction methods such as using smaller equipment, establishment of safe buffer zones as mentioned above, and if necessary, time restrictions for the most excessive vibration activities. Time restrictions are to be negotiated with affected receivers.

- Where construction activity occurs in close proximity to sensitive receivers, vibration testing of actual equipment on site would be carried out prior to their commencement of site operations to determine acceptable buffer distances to the nearest affected receiver locations.
- Building condition assessments should be conducted at receivers determined, by the contractor (through a vibration risk assessment), to be sensitive to vibration impacts. These measures are to address potential community concerns that perceive vibration may cause damage to property.

5.3.3 Additional Vibration Mitigation Measures

Appendix C of the CNVG provides details of additional vibration mitigation measures to be applied when predicted vibration levels at receivers exceed the criteria for human comfort after all the appropriate standard mitigation measures from Section 5.3.2 have been applied. The additional mitigation measures to be applied for this project are shown in Table 5.8.

Table 5.8 – Additional Vibration Mitigation Measures

Predicted vibration level VDV, $m/s^{1.75}$ at receiver	Additional mitigation measures
Standard hours: Mon - Fri (7am - 6pm), Sat (8am - 1pm), Sun/Public Holiday (Nil)	
Predicted vibration exceeds maximum levels	V, N, RO
OOHW Period 1: Mon - Fri (6pm - 10pm), Sat (7am - 8am & 1pm - 10pm), Sun/Public Holiday (8am - 6pm)	
Predicted vibration exceeds maximum levels	V, IB, N, RO, PC, R1, SN
OOHW Period 2: Mon - Fri (10pm - 7am) Sat (10pm - 8am), Sun/Public Holiday (6pm - 7am)	
Predicted vibration exceeds maximum levels	AA, V, IB, N, PC, R2, SN

Notes: 1. AA = Alternative Accommodation
V = Verification
IB = Individual Briefings
N = Notification
RO = Project specific respite offer
PC = Phone Calls
SN = Specific Notifications

2. Recommended additional mitigation measures as specified and detailed in Appendix C.1 and Table C.3 of the CNVG

Prior to the commencement of work, receivers around the site would be notified to advise that vibration from the works may at times be perceptible. Building condition assessments may be conducted prior to construction works to determine the condition of surrounding sensitive receivers. All potentially impacted receivers would be kept informed of the nature of works to be carried out, the expected vibration levels and duration, and be given contact details for enquiries and complaints.

5.4 Minimum Buffer Distances

Site specific minimum working distances should be determined whenever significant vibration generating plant will be working close to or within the CNVG recommended minimum working distances listed in Table 5.7. Based on the nearest buildings and structures being at distances further than the distances listed in Table 5.7, it is not expected that these buildings will be impacted by vibration levels that may cause structural damage.

Nevertheless, building condition assessments and further attended vibration monitoring should be considered whenever significant vibration generating plant items are operating close to or within the determined minimum working distances. Locations for vibration monitoring during particular works would be determined by the construction contractor based on the advice of a suitable qualified person.

6 Conclusion

Renzo Tonin & Associates has completed a construction noise and vibration assessment for the proposed major rehabilitation of Wallaga Lake Bridge.

Noise emissions from construction activities associated with the proposed rehabilitation works are predicted to potentially exceed the applicable noise management levels at the nearest affected receivers. Furthermore, maximum noise levels for the assessment of sleep disturbance may exceed the applicable sleep disturbance upper limit [i.e. ≥65dB(A)] at the nearest affected residences.

Therefore, in-principle feasible and reasonable noise mitigation measures have been provided in accordance with the CNVG to aid in reducing construction noise impacts.

There is a very low to medium risk that construction vibration would impact nearby residential receivers. In particular, there is a medium risk of adverse comments from occupants of the nearest residential receivers as a result from piling activities. Therefore, minimum working distances were recommended based on the proposed construction plant and equipment to be used. Additional vibration management measures recommended include activity-specific vibration risk assessments, vibration monitoring and building condition assessments to address potential concerns of damage to property.

APPENDIX A Glossary of Terminology

The following is a brief description of the technical terms used to describe noise to assist in understanding the technical issues presented.

Adverse weather	Weather effects that enhance noise (particularly wind and temperature inversions) occurring at a site for a significant period of time. In the NSW INP this occurs when wind occurs for more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of nights in winter.		
Air-borne noise	Noise which is fundamentally transmitted by way of the air and can be attenuated by the use of barriers and walls placed physically between the noise source and receiver.		
Ambient noise	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.		
Amenity	A desirable or useful feature or facility of a building or place.		
AS	Australian Standard		
Assessment period	The time period in which an assessment is made. e.g. Day 7am-10pm & Night 10pm-7am.		
Assessment Point	A location at which a noise or vibration measurement is taken or estimated.		
Attenuation	The reduction in the level of sound or vibration.		
Audible Range	The limits of frequency which are audible or heard as sound. The normal hearing in young adults detects ranges from 20 Hz to 20 kHz, although some people can detect sound with frequencies outside these limits.		
A-weighting	A filter applied to the sound recording made by a microphone to approximate the response of the human ear.		
Background noise	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation. It is described as the average of the minimum noise levels measured on a sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety percent of a sample period. This is represented as the LA90 noise level if measured as an overall level or an L90 noise level when measured in octave or third-octave bands.		
Barrier (Noise)	A natural or constructed physical barrier which impedes the propagation of sound and includes fences, walls, earth mounds or berms and buildings.		
Berm	Earth or overburden mound.		
Buffer	An area of land between a source and a noise-sensitive receiver and may be an open space or a noise-tolerant land use.		
Bund	A bund is an embankment or wall of brick, stone, concrete or other impervious material, which may form part or all of the perimeter of a compound.		
BS	British Standard		
CoRTN	United Kingdom Department of Environment entitled "Calculation of Road Traffic Noise (1988)"		
Decibel [dB]	The units that sound is measured in. The following are examples of the decibel readings of common sounds in our environment:		
	threshold of hearing	0 dB	The faintest sound we can hear, defined as 20 micro Pascal
		10 dB	Human breathing
	almost silent	20 dB	
		30 dB	Quiet bedroom or in a quiet national park location
	generally quiet	40 dB	Library

		50 dB	Typical office space or ambience in the city at night
	moderately loud	60 dB	CBD mall at lunch time
		70 dB	The sound of a car passing on the street
	loud	80 dB	Loud music played at home
		90 dB	The sound of a truck passing on the street
	very loud	100 dB	Indoor rock band concert
		110 dB	Operating a chainsaw or jackhammer
	extremely loud	120 dB	Jet plane take-off at 100m away
	threshold of pain	130 dB	
		140 dB	Military jet take-off at 25m away
dB(A)	A-weighted decibel. The A- weighting noise filter simulates the response of the human ear at relatively low levels, where the ear is not as effective in hearing low frequency sounds as it is in hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter is denoted as dB(A). Practically all noise is measured using the A filter.		
dB(C)	C-weighted decibels. The C-weighting noise filter simulates the response of the human ear at relatively high levels, where the human ear is nearly equally effective at hearing from mid-low frequency (63Hz) to mid-high frequency (4kHz), but is less effective outside these frequencies. The dB(C) level is not widely used but has some applications.		
Diffraction	The distortion of sound waves caused when passing tangentially around solid objects.		
DIN	German Standard		
ECRTN	Environmental Criteria for Road Traffic Noise, NSW, 1999		
ENMM	Environmental Noise Management Manual, Roads and Maritime Services (Transport for NSW)		
EPA	Environment Protection Authority		
Flanking	Flanking is the transfer of sound through paths around a building element rather than through the building element material directly. For example, sound travelling through a gap underneath a door or a gap at the top of a wall.		
Fluctuating Noise	Noise that varies continuously to an appreciable extent over the period of observation.		
Free-field	An environment in which there are no acoustic reflective surfaces. Free field noise measurements are carried out outdoors at least 3.5m from any acoustic reflecting structures other than the ground.		
Frequency	Frequency is synonymous to pitch. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.		
Ground-borne noise	Vibration propagated through the ground and then radiated as noise by vibrating building elements such as wall and floor surfaces. This noise is more noticeable in rooms that are well insulated from other airborne noise. An example would be vibration transmitted from an underground rail line radiating as sound in a bedroom of a building located above.		
Habitable Area	Includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom. Excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.		
Heavy Vehicle	A truck, transporter or other vehicle with a gross weight above a specified level (for example: over 8 tonnes).		
IGANRIP	Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects, NSW DEC 2007		

Impact Noise	The noise in a room, caused by impact or collision of an object onto the walls or the floor. Typical sources of impact noise are footsteps on the floor above a tenancy and the slamming of doors on cupboards mounted on the common wall between tenancies.
Impulsive noise	Having a high peak of short duration or a sequence of such peaks. A sequence of impulses in rapid succession is termed repetitive impulsive noise.
INP	NSW Industrial Noise Policy, EPA 1999
Intermittent noise	The level suddenly drops to that of the background noise several times during the period of observation. The time during which the noise remains at levels different from that of the ambient is one second or more.
Intrusive noise	Refers to noise that intrudes above the background level by more than 5 dB(A).
ISEPP	State Environmental Planning Policy (Infrastructure), NSW, 2007
ISEPP Guideline	Development Near Rail Corridors and Busy Roads - Interim Guideline, NSW Department of Planning, December 2008
L1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L10	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
L10(1hr)	The L10 level measured over a 1 hour period.
L10(18hr)	The arithmetic average of the L10(1hr) levels for the 18 hour period between 6am and 12 midnight on a normal working day.
L90	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L90 noise level expressed in units of dB(A).
LAeq or Leq	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time, which would produce the same energy as a fluctuating sound level. When A-weighted, this is written as the LAeq.
LAeq(1hr)	The LAeq noise level for a one-hour period. In the context of the NSW EPA's Road Noise Policy it represents the highest tenth percentile hourly A-weighted Leq during the period 7am to 10pm, or 10pm to 7am (whichever is relevant).
LAeq(8hr)	The LAeq noise level for the period 10pm to 6am.
LAeq(9hr)	The LAeq noise level for the period 10pm to 7am.
LAeq(15hr)	The LAeq noise level for the period 7am to 10pm.
LAeq (24hr)	The LAeq noise level during a 24 hour period, usually from midnight to midnight.
Lmax	The maximum sound pressure level measured over a given period. When A-weighted, this is usually written as the LAmax.
Lmin	The minimum sound pressure level measured over a given period. When A-weighted, this is usually written as the LAmin.
Ln,w	Weighted Normalised Impact Sound Pressure Level A measure of the sound level transmitted from impacts on a floor to a tenancy below. It is measured in very controlled conditions in a laboratory and is characterised by how much sound reaches the receiving room from a standard tapping machine. A lower value indicates a better performing floor.
LnT,w	Weighted Standardised Field Impact Sound Pressure Level As for Ln,w but measured in-situ and therefore subject to the inherent accuracies involved in such a measurement. The equivalent measurement in a laboratory is the Ln,w. A lower value indicates a better performing floor.

Laboratory Test	The performance of a building element when measured in a laboratory. The sound insulation performance of a building element installed in a building however can differ from its laboratory performance for many reasons including the quality of workmanship, the size and shape of the space in which the measurement is conducted, flanking paths and the specific characteristics of the material used which may vary from batch to batch.
Loudness	A rise of 10 dB in sound level corresponds approximately to a doubling of subjective loudness. That is, a sound of 85 dB is twice as loud as a sound of 75 dB which is twice as loud as a sound of 65 dB and so on. That is, the sound of 85 dB is four times or 400% the loudness of a sound of 65 dB.
Microphone	An electro-acoustic transducer which receives an acoustic signal and delivers a corresponding electric signal.
NCA	Noise Catchment Area. An area of study within which the noise environment is substantially similar.
NCG	Noise Criteria Guideline, Roads and Maritime Services (Transport for NSW)
NMG	Noise Mitigation Guideline, Roads and Maritime Services (Transport for NSW)
Noise	Unwanted sound
Normalised	A method of adjusting the measured noise indices in a laboratory so that they are independent of the measuring space. The noise level in a room is affected by reverberation in the room. For example, the Ln,w impact sound pressure level measured in a laboratory is dependent upon the amount of absorptive material in the receiving room. The value is adjusted to what would be measured if the sound absorption in the receiving room is set at 10m2. This enables all laboratories to report the same value when measured under slightly different conditions. See also 'Standardised'.
NPfI	Noise Policy for Industry, NSW EPA 2017
Pre-construction	Work in respect of the proposed project that includes design, survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys, minor clearing (except where threatened species, populations or ecological communities would be affected), establishing ancillary facilities such as site compounds, or other relevant activities determined to have minimal environmental impact (e.g. minor access roads).
RBL	Rating Background Level is the representative LA90 background noise level for a period, as defined in the NSW EPA's noise ploicies.
Reflection	Sound wave reflected from a solid object obscuring its path.
RING	Rail Infrastructure Noise Guideline, NSW, May 2013
RMS	Root Mean Square value representing the average value of a signal.
Rw	Weighted Sound Reduction Index A measure of the sound insulation performance of a building element. It is measured in very controlled conditions in a laboratory. The term supersedes the value STC which was used in older versions of the Building Code of Australia. Rw is measured and calculated using the procedure in ISO 717-1. The related field measurement is the DnT,w. The higher the value the better the acoustic performance of the building element.
R'w	Weighted Apparent Sound Reduction Index. As for Rw but measured in-situ and therefore subject to the inherent accuracies involved in such a measurement. The higher the value the better the acoustic performance of the building element.
RNP	Road Noise Policy, NSW, March 2011
SEL	Sound Exposure Level (SEL) is the constant sound level which, if maintained for a period of 1 second would have the same acoustic energy as the measured noise event. SEL noise measurements are useful as they can be converted to obtain Leq sound levels over any period of time and can be used for predicting noise at various locations.
Sole-occupancy Unit	An area within a building for the exclusive use of the owner or occupier.
Sound	A fluctuation of air pressure which is propagated as a wave through air.

Sound absorption	The ability of a material to absorb sound energy by conversion to thermal energy.
Sound Insulation	Sound insulation refers to the ability of a construction or building element to limit noise transmission through the building element. The sound insulation of a material can be described by the Rw and the sound insulation between two rooms can be described by the DnT,w.
Sound level meter	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
Sound power level	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 pico watt.
Sound pressure level	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone referenced to 20 mico Pascal.
Spoil	Soil or materials arising from excavation activities.
Standardised	A method of adjusting the measured noise indices in-situ so that they are independent of the measuring space. The noise level in a room is affected by reverberation in the room. For example, the L'n,w impact sound pressure level measured in a room is dependent upon the amount of absorptive material in the receiving room. The value is adjusted to what would be measured if the reverberation time in the receiving room is set at 0.5 seconds. This enables the same value to be reported independent of whether the room contains carpet and furnishings and the like. See also 'Normalised'.
Structure-borne Noise	Audible noise generated by vibration induced in the ground and/or a structure. Vibration can be generated by impact or by solid contact with a vibrating machine. Structure-borne noise cannot be attenuated by barriers or walls but requires the isolation of the vibration source itself. This can be achieved using a resilient element placed between the vibration source and its support such as rubber, neoprene or springs or by physical separation (using an air gap for example). Examples of structure-borne noise include the noise of trains in underground tunnels heard to a listener above the ground, the sound of footsteps on the floor above a listener and the sound of a lift car passing in a shaft. See also 'Impact Noise'.
Tonal Noise	Sound containing a prominent frequency and characterised by a definite pitch.
Transmission Loss	The sound level difference between one room or area and another, usually of sound transmitted through an intervening partition or wall. Also the vibration level difference between one point and another. For example, if the sound level on one side of a wall is 100dB and 65dB on the other side, it is said that the transmission loss of the wall is 35dB. If the transmission loss is normalised or standardised, it then becomes the Rw or R'w or DnT,w.
Vibration	A mechanical phenomenon whereby oscillations occur about an equilibrium point; a periodic back-and-forth motion of an elastic body or medium, commonly resulting when almost any physical system is displaced from its equilibrium condition.

APPENDIX B Specification for Construction Noise Monitoring

B.1 Scope

This document specifies methods for undertaking noise monitoring during the construction phase of the project.

B.2 Referenced Standards and Guidelines

- Australian Standard AS IEC 61672.1 2004 '*Electroacoustics - Sound Level Meters - Specifications*'
- Australian Standard AS 1259.2-1990 '*Acoustics - Sound Level Meters*'
- Australian Standard AS 1055-1997 '*Acoustics - Description and Measurement of Environmental Noise*'
- NSW '*Interim Construction Noise Guideline*' (Department of Environment and Climate Change 2009)
- NSW '*Noise Policy for Industry*' (Environment Protection Authority 2017)

B.3 Testing Procedures

The following procedures are to be followed by personnel suitably qualified and experienced in undertaking acoustic measurements.

All noise monitoring equipment used must be at least Type 2 instruments as described in AS 1259.2-1990 and calibrated to standards that are traceable to Australian Physical Standards held by the National Measurement Laboratory (CSIRO Division of Applied Physics). The calibration of the monitoring equipment shall also be checked in the field before and after the noise measurement period, and in the case of long-term noise monitoring, calibration levels shall be checked at minimum weekly intervals.

Long-term noise monitoring equipment or Noise Loggers, consist of sound level meters housed in weather resistant enclosures. The operator may retrieve the data at the conclusion of each monitoring period in person or remotely if the logger is fitted with mobile communications.

All environmental noise measurements shall be taken with the following meter settings:

- Time constant: FAST (i.e. 125 milliseconds)
- Frequency weightings: A-weighting
- Sample period: 15 minutes

All outdoor noise measurements shall be undertaken with a windscreen over the microphone. Windscreens reduce wind noise at the microphones.

Measurements of noise should be disregarded when it is raining and/or the wind speed is greater than 5m/s (18km/h).

B.4 Long-Term (Unattended) Monitoring

Noise monitoring shall be undertaken in accordance with the environmental noise measurement requirements stipulated in the reference standards and documents listed above.

Noise monitoring equipment shall be placed at positions which have unobstructed views of general site activities, while acoustically shielded as much as possible from non-construction site noise (e.g. road traffic, rail noise and other surrounding noise).

Noise levels are to be recorded at a minimum rate of 10 samples per second. Every 15 minutes, the data is to be processed statistically and stored in memory. The minimum range of noise metrics to be stored in memory for later retrieval is the following A-weighted noise levels: L_{min}, L_{90}, L_{eq}, L_{10}, L_1 and L_{max}.

Where the noise monitors are placed within 3.5 metres of building facades, walls or cliffs, then a reflection correction of up to -2.5dB(A) shall be applied to remove the effect of increased noise due to sound reflections from such structures.

Meteorological conditions including wind velocity, wind direction and rainfall shall be monitored over the entire noise monitoring period, either on site or recorded from the nearest weather station to the project site.

B.5 Short-Term (Attended) Monitoring

Where noise complaints or requests from relevant authorities are received, attended short-term noise monitoring shall also be conducted at the requested outdoor location (unless the issue is related to regenerated noise from tunnelling and driveage works) and at any other relevant noise receiver location with closest proximity to the construction activities.

Short-term noise monitoring shall be used to supplement long-term noise monitoring undertaken at nearby locations, and to establish whether noise levels measured by the long-term noise monitors are determined by construction activities carried out on site.

All attended short-term noise monitoring shall be recorded over 15 minute sample intervals. Noise levels are to be recorded at a minimum rate of 10 samples per second. Every 15 minutes, the data is to be processed statistically and stored in memory. The minimum range of noise metrics to be stored in memory and reported is the following A-weighted noise levels: L_{min}, L_{90}, L_{eq}, L_{10}, L_1 and L_{max}.

In addition to measuring and reporting overall A-weighted noise levels, statistical L_{90}, L_{eq}, L_{10} noise levels shall be measured and reported in third-octave band frequencies from 31.5Hz to 8kHz.

Where the noise monitors are placed within 3.5m of building facades, walls or cliffs, then a reflection correction of up to -2.5dB(A) shall be applied to remove the effect of increased noise due to sound reflections from such structures.

Outdoor noise monitoring is to be undertaken with the microphone at a height of 1.2m to 1.5m from the ground, unless noise measurements are taken from a balcony or veranda, in which case the same microphone height shall apply off the floor.

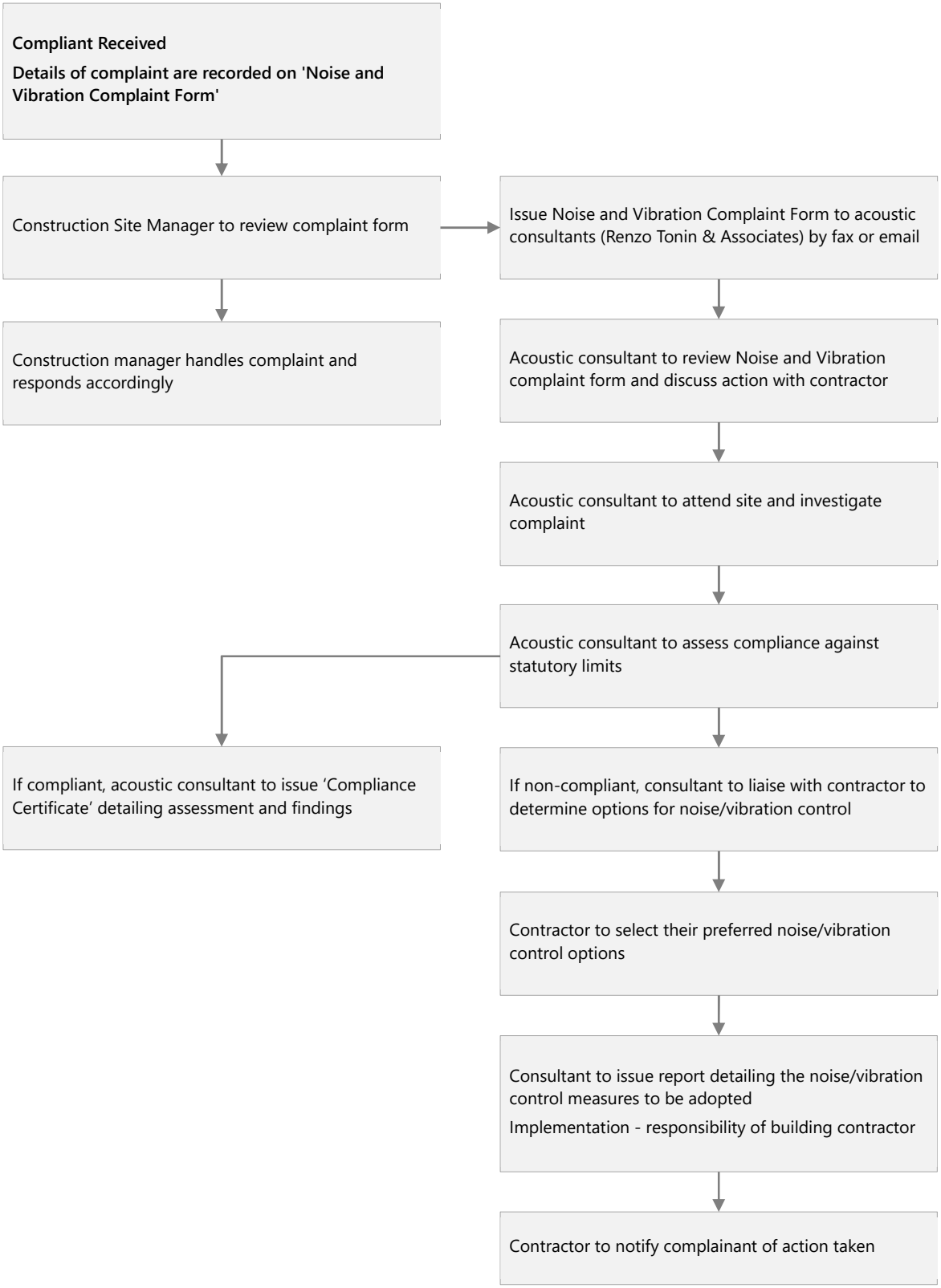
Noise measurements inside buildings should be at least 1m from the walls or other major reflecting surfaces, 1.2m to 1.5m above the floor, and 1.5m from windows.

Noise monitoring shall be undertaken in accordance with the environmental noise measurement requirements stipulated in the reference standards and documents listed above.

The following information shall be recorded:

- Date and time of measurements;
- Type and model number of instrumentation;
- Results of field calibration checks before and after measurements;
- Description of the time aspects of each measurement (i.e. sample times, measurement time intervals and time of day);
- Sketch map of area;
- Measurement location details and number of measurements at each location;
- Weather conditions during measurements, including wind velocity, wind direction, temperature, relative humidity and cloud cover
- Operation and load conditions of the noise sources under investigation
- Any adjustment made for presence or absence of nearby reflecting surfaces; and
- Noise due to other sources (e.g. traffic, aircraft, trains, dogs barking, insects etc).

APPENDIX C Noise / Vibration Complaint Management Procedure



NOISE / VIBRATION COMPLAINT FORM

Project title: _____ **Date:** _____

Site contractor: _____ **Phone:** _____

Site contact: _____ **Email:** _____

Complaint Details

Received by (circle): Phone / Email / In person / Other: _____

Name: _____ H Ph: _____

Address: _____ W Ph _____

Email: _____ M Ph _____

Describe when the problem occurred (date and time), what equipment caused the complaint (if known) and where person was standing when he/she experienced the noise/vibration:

Investigation

Question foreman responsible on site and obtain information on what equipment or processes would most likely have caused the complaint:

Following approval from the Project Manager, email/fax this form to Renzo Tonin & Associates

APPENDIX D Noise Monitoring Results

RENZO TONIN & ASSOCIATES
inspired to achieve

Acoustics
Vibration
Structural Dynamics

sydney@renzotonin.com.au
www.renzotonin.com.au

Dates of Survey: 19/10/2023 - 02/11/2023
Monitoring ID: Location M1
Address: 15 Flower Circuit, Akolele
Description: Rearyard

Background & Ambient Noise Monitoring Results						
	L_{A90} Background Noise Levels			L_{Aeq} Ambient Noise Levels		
	Day[1]	Evening[2]	Night[3]	Day[1]	Evening[2]	Night[3]
Representative Week[4]	37	34	32	52	50	44

Notes:

1. Day: 7.00am to 6.00pm Monday to Saturday and 8.00am to 6.00pm Sundays & Public Holidays
2. Evening: 6.00pm to 10.00pm Monday to Sunday & Public Holidays
3. Night: 10.00pm to 5.00am Monday to Sunday & Public Holidays
4. Rating Background Level (RBL) for LA90 and logarithmic average for LAeq

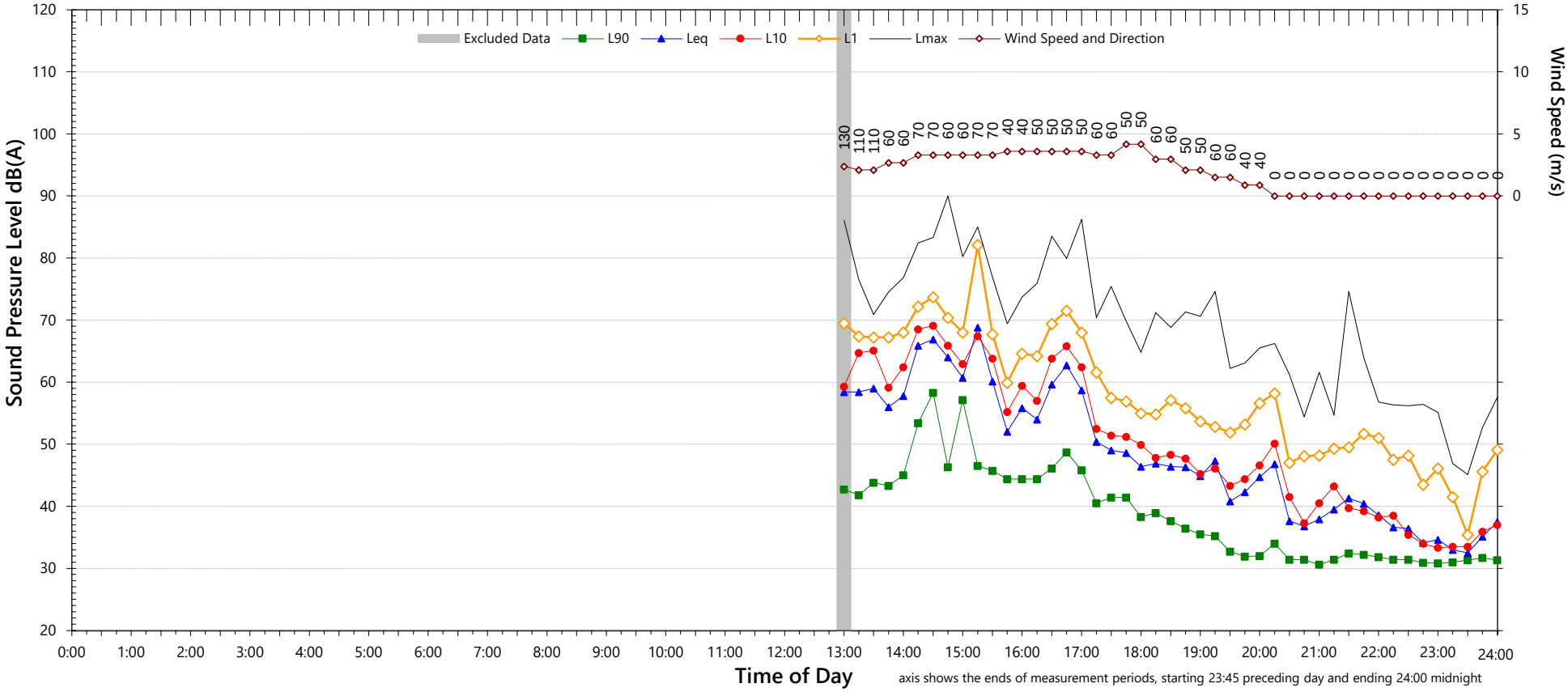
Logger location photograph

Logger location map

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Thursday, 19 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	-	31	31
L_{Aeq}	-	44	43

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	72	to	72
L_{AFMax} - L_{Aeq} (Range)	20	to	28

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	-	45
$L_{Aeq\ 1hr}$ upper 10 percentile	-	49
$L_{Aeq\ 1hr}$ lower 10 percentile	-	37

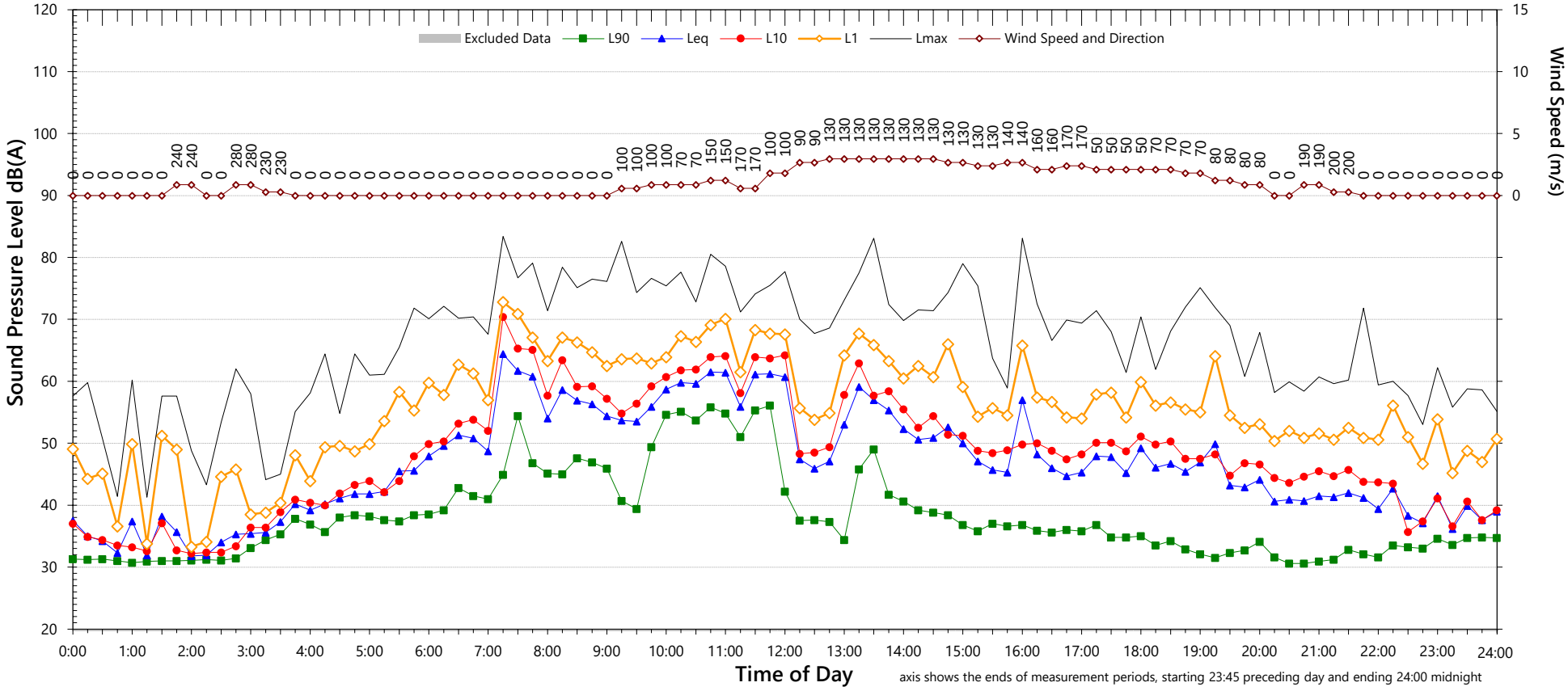
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Friday, 20 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	36	31	33
L_{Aeq}	57	44	42

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	75	to	76
L_{AFMax} - L_{Aeq} (Range)	18	to	30

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	58	45
$L_{Aeq\ 1hr}$ upper 10 percentile	63	48
$L_{Aeq\ 1hr}$ lower 10 percentile	46	39

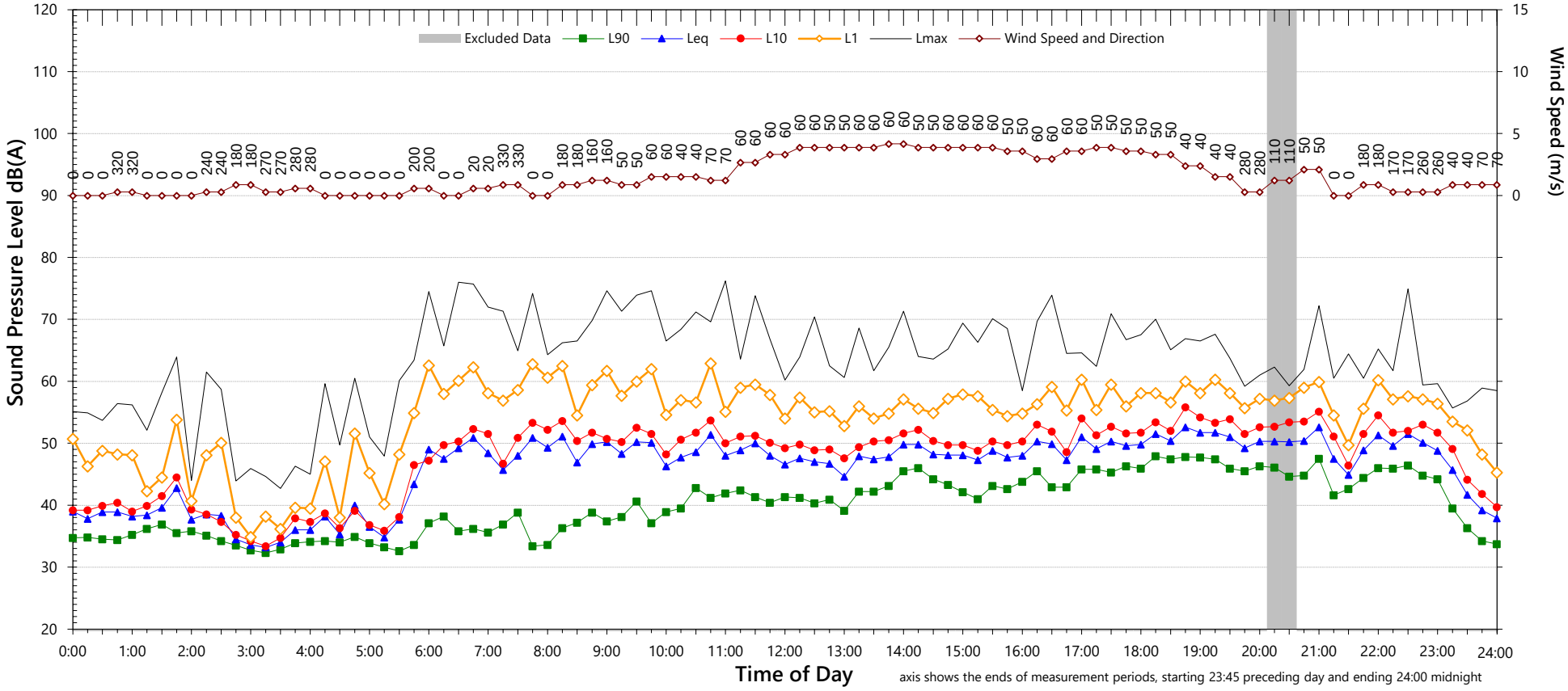
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Saturday, 21 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	37	43	31
L_{Aeq}	49	51	46

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	74	to	77
L_{AFMax} - L_{Aeq} (Range)	17	to	29

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	52	48
$L_{Aeq\ 1hr}$ upper 10 percentile	54	52
$L_{Aeq\ 1hr}$ lower 10 percentile	51	38

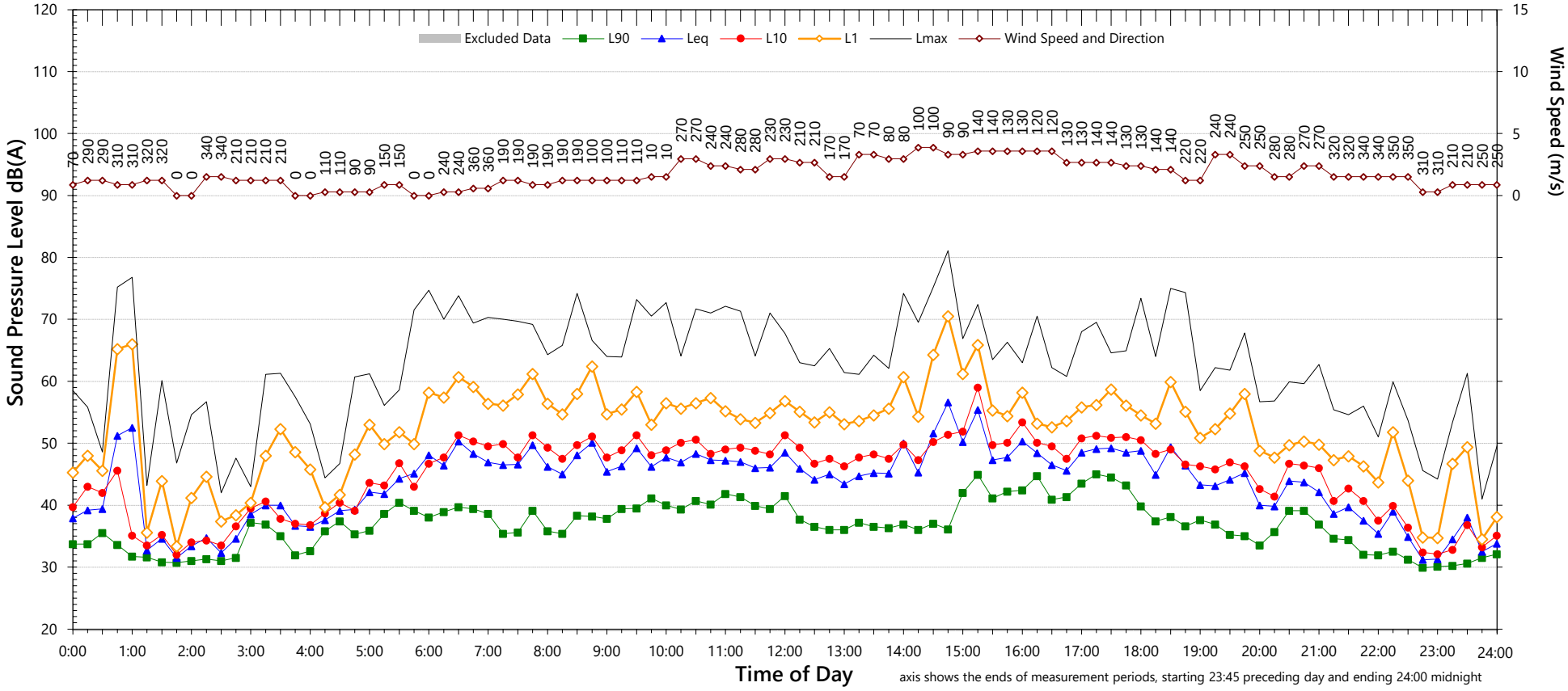
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Sunday, 22 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	36	33	30
L_{Aeq}	49	44	41

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	73	to	74
L_{AFMax} - L_{Aeq} (Range)	17	to	28

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	50	43
$L_{Aeq\ 1hr}$ upper 10 percentile	53	48
$L_{Aeq\ 1hr}$ lower 10 percentile	45	35

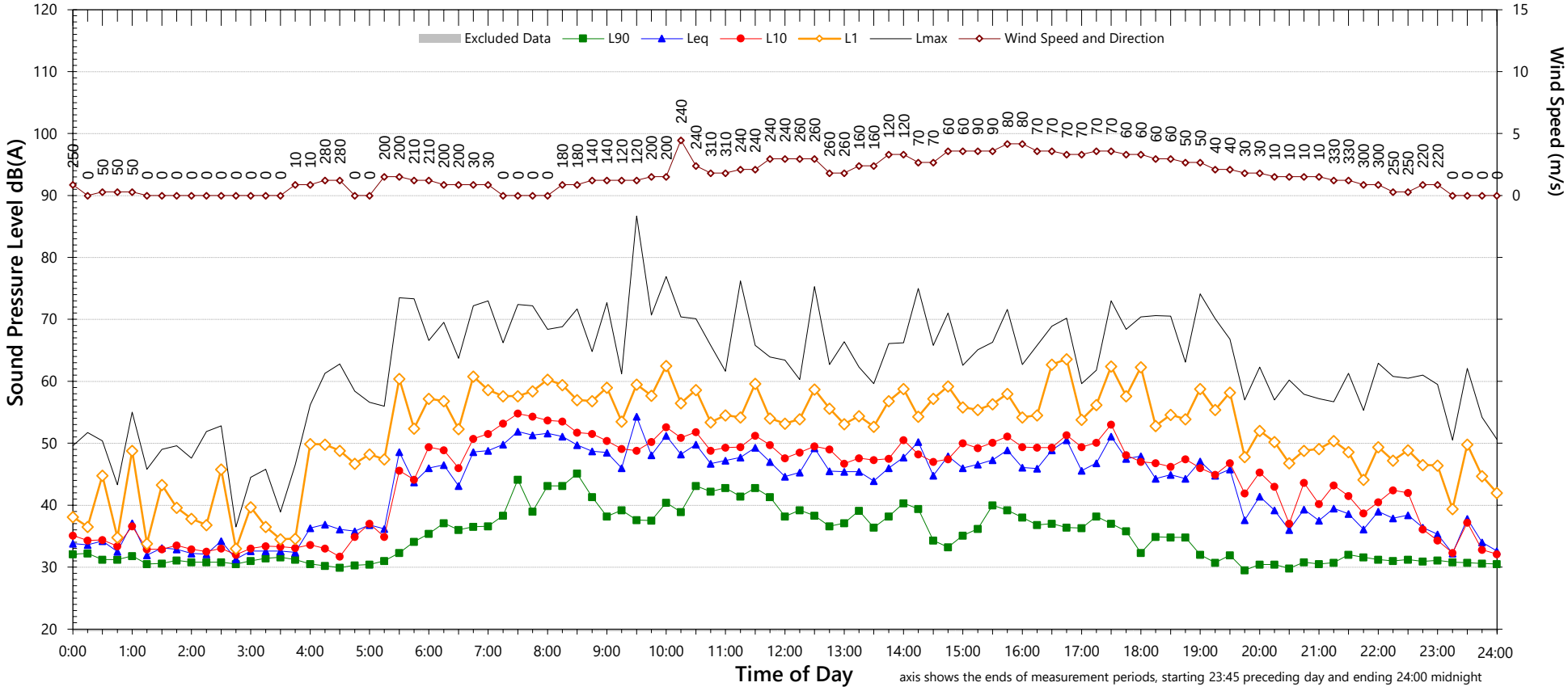
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Monday, 23 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	36	30	30
L_{Aeq}	49	42	41

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	68	to	73
L_{AFMax} - L_{Aeq} (Range)	23	to	27

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	50	44
$L_{Aeq\ 1hr}$ upper 10 percentile	53	46
$L_{Aeq\ 1hr}$ lower 10 percentile	43	35

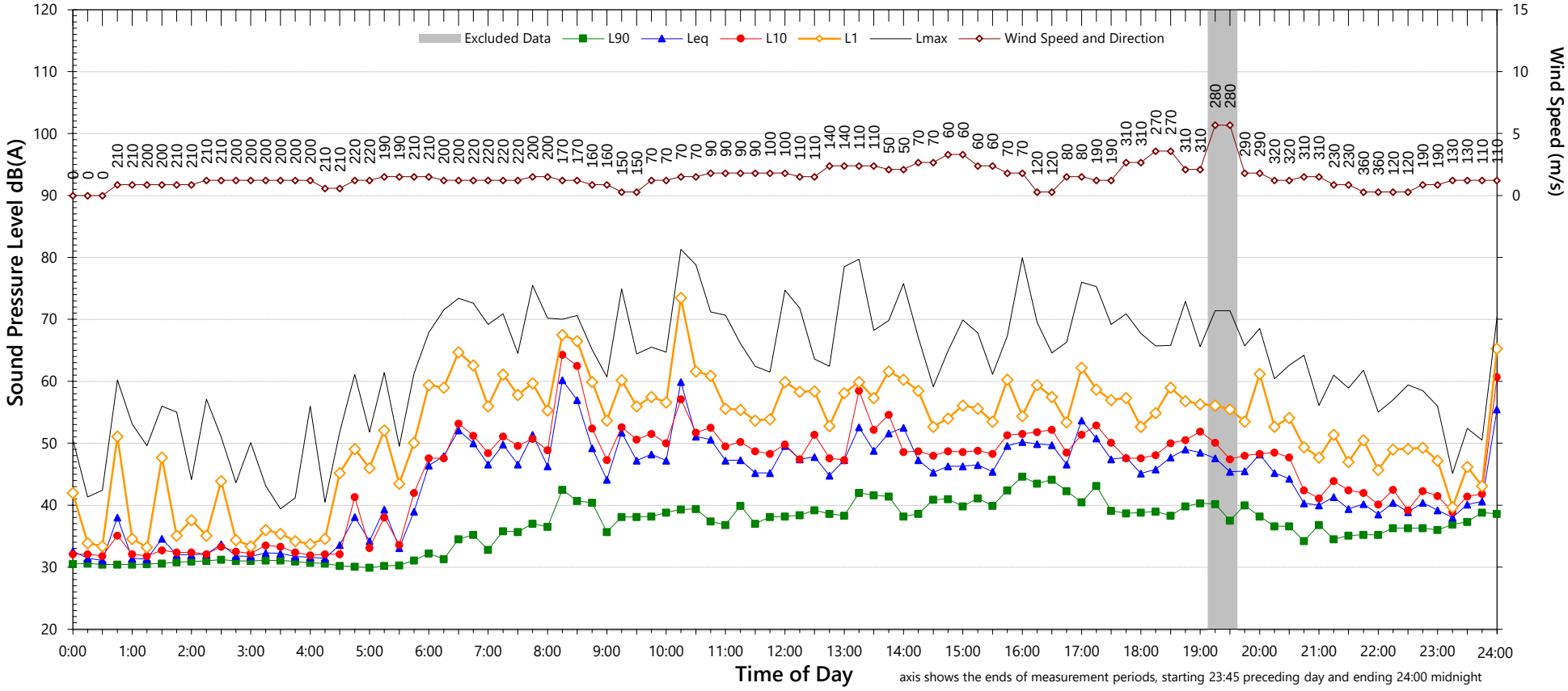
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Tuesday, 24 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	37	35	36
L_{Aeq}	51	45	47

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	69	to	75
L_{AFMax} - L_{Aeq} (Range)	20	to	27

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	53	49
$L_{Aeq\ 1hr}$ upper 10 percentile	56	53
$L_{Aeq\ 1hr}$ lower 10 percentile	47	44

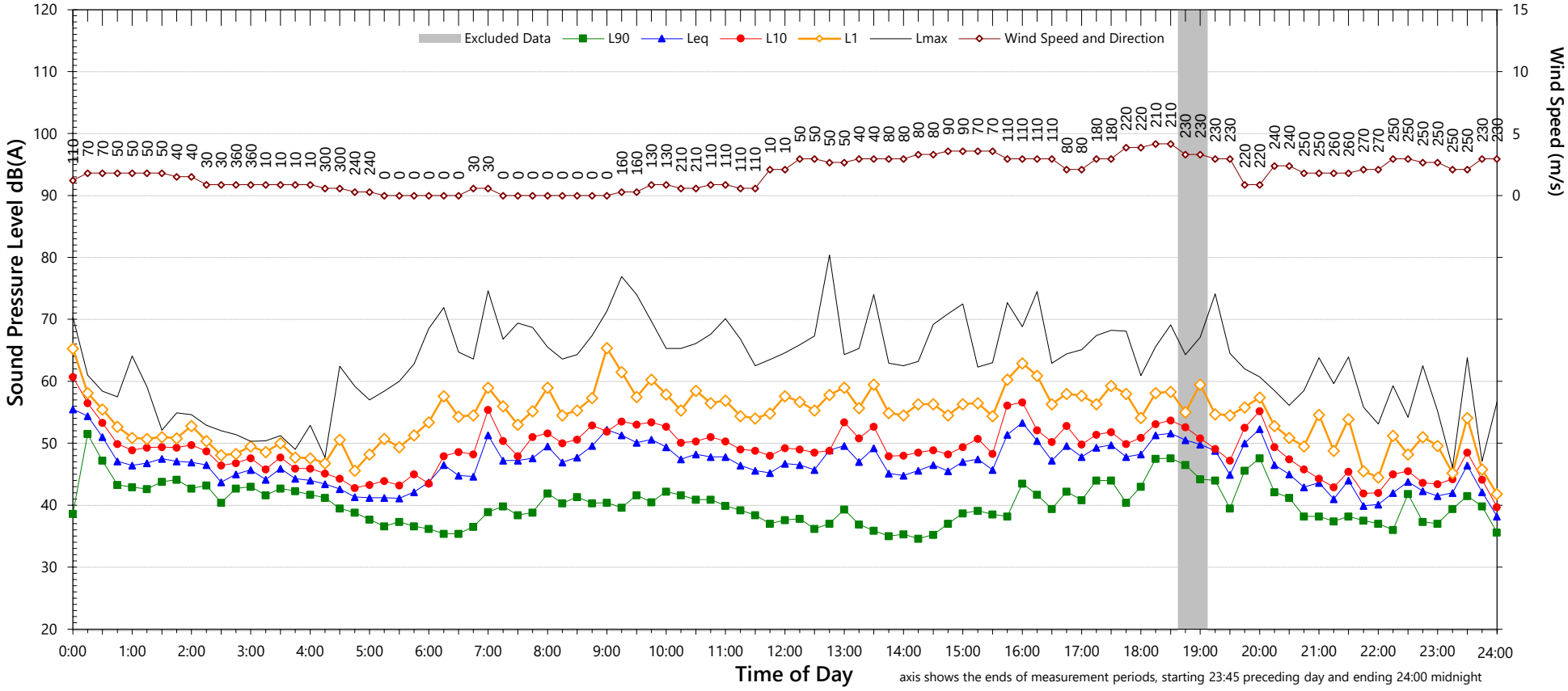
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Wednesday, 25 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	36	37	31
L_{Aeq}	49	48	43

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	74	to	75
L_{AFMax} - L_{Aeq} (Range)	18	to	28

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	51	46
$L_{Aeq\ 1hr}$ upper 10 percentile	53	49
$L_{Aeq\ 1hr}$ lower 10 percentile	48	36

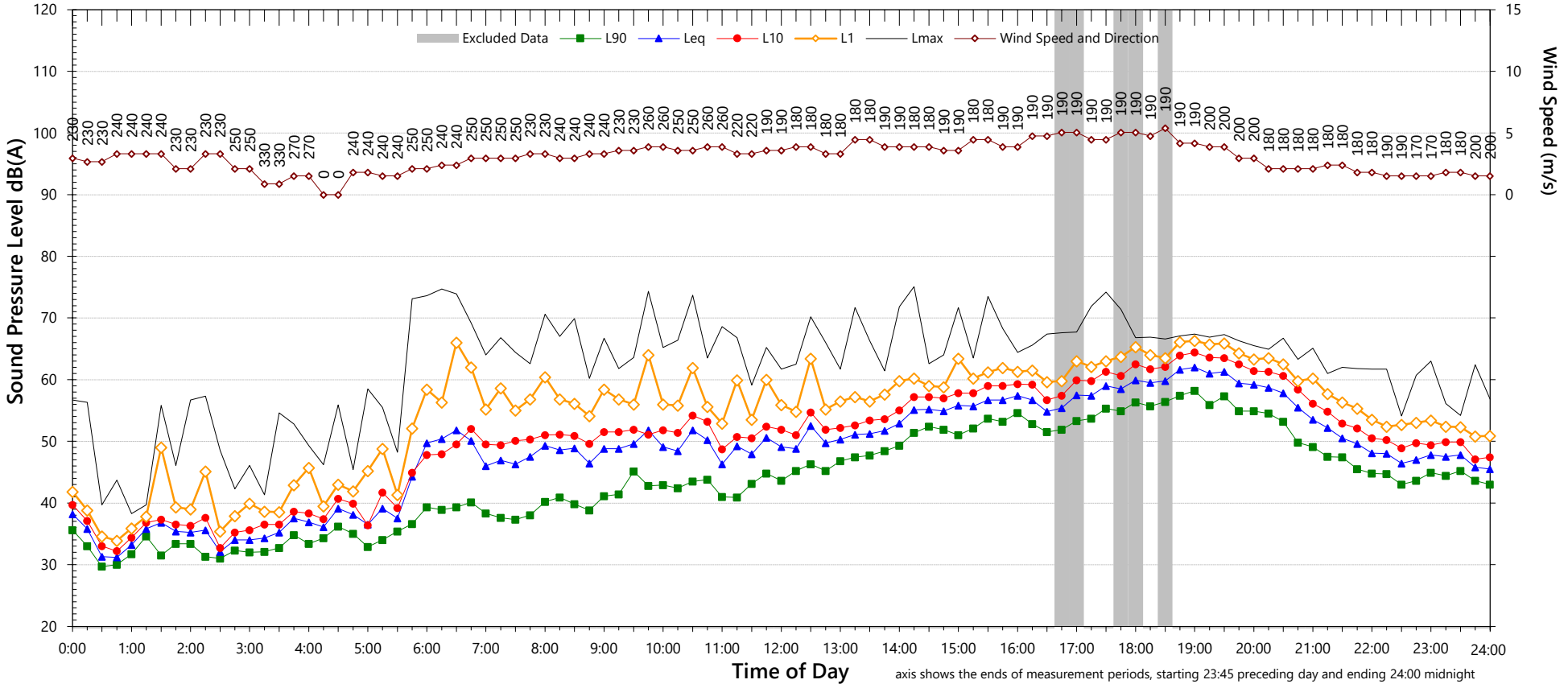
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Thursday, 26 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	40	46	41
L_{Aeq}	53	58	47

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	67	to	76
L_{AFMax} - L_{Aeq} (Range)	16	to	28

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	58	49
$L_{Aeq\ 1hr}$ upper 10 percentile	62	51
$L_{Aeq\ 1hr}$ lower 10 percentile	51	47

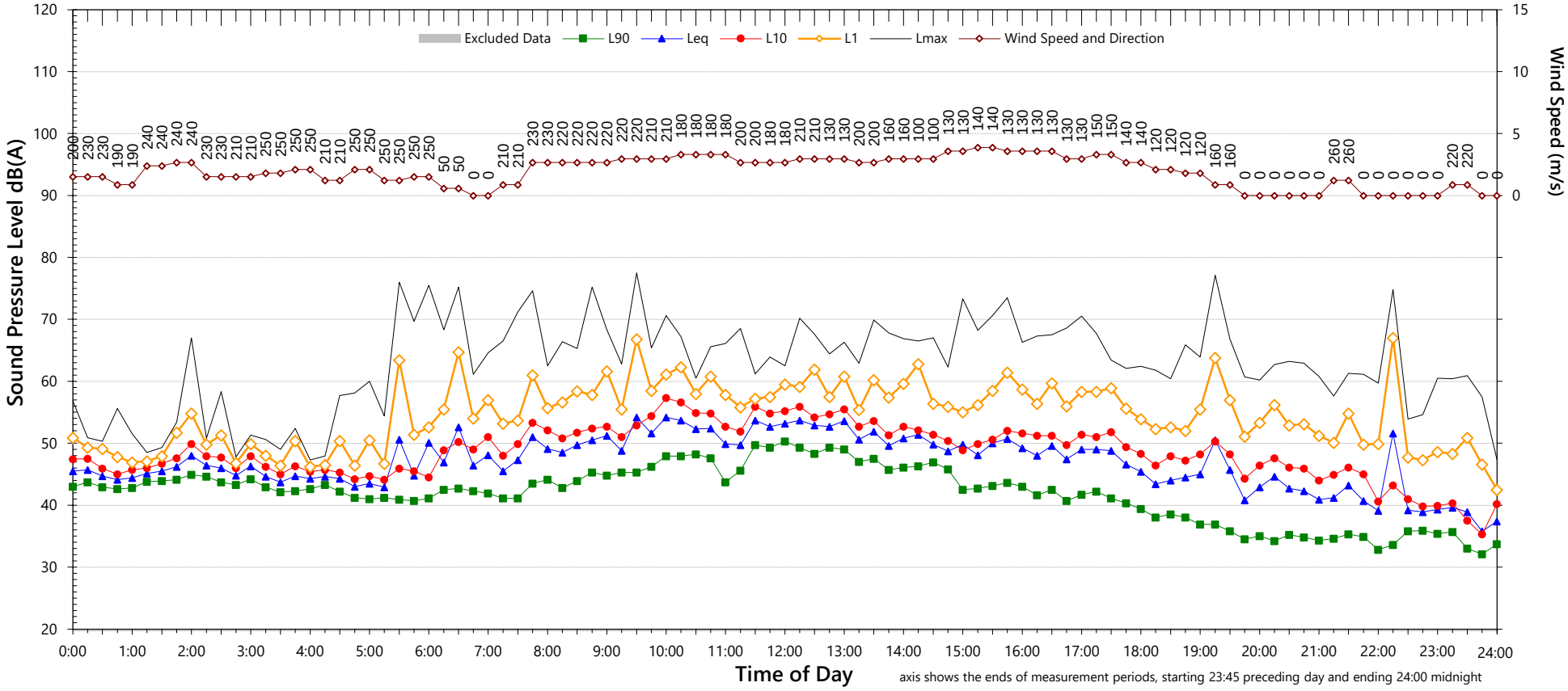
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Friday, 27 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	41	34	32
L_{Aeq}	51	44	42

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	75	to	77
L_{AFMax} - L_{Aeq} (Range)	20	to	30

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	52	44
$L_{Aeq\ 1hr}$ upper 10 percentile	55	49
$L_{Aeq\ 1hr}$ lower 10 percentile	46	38

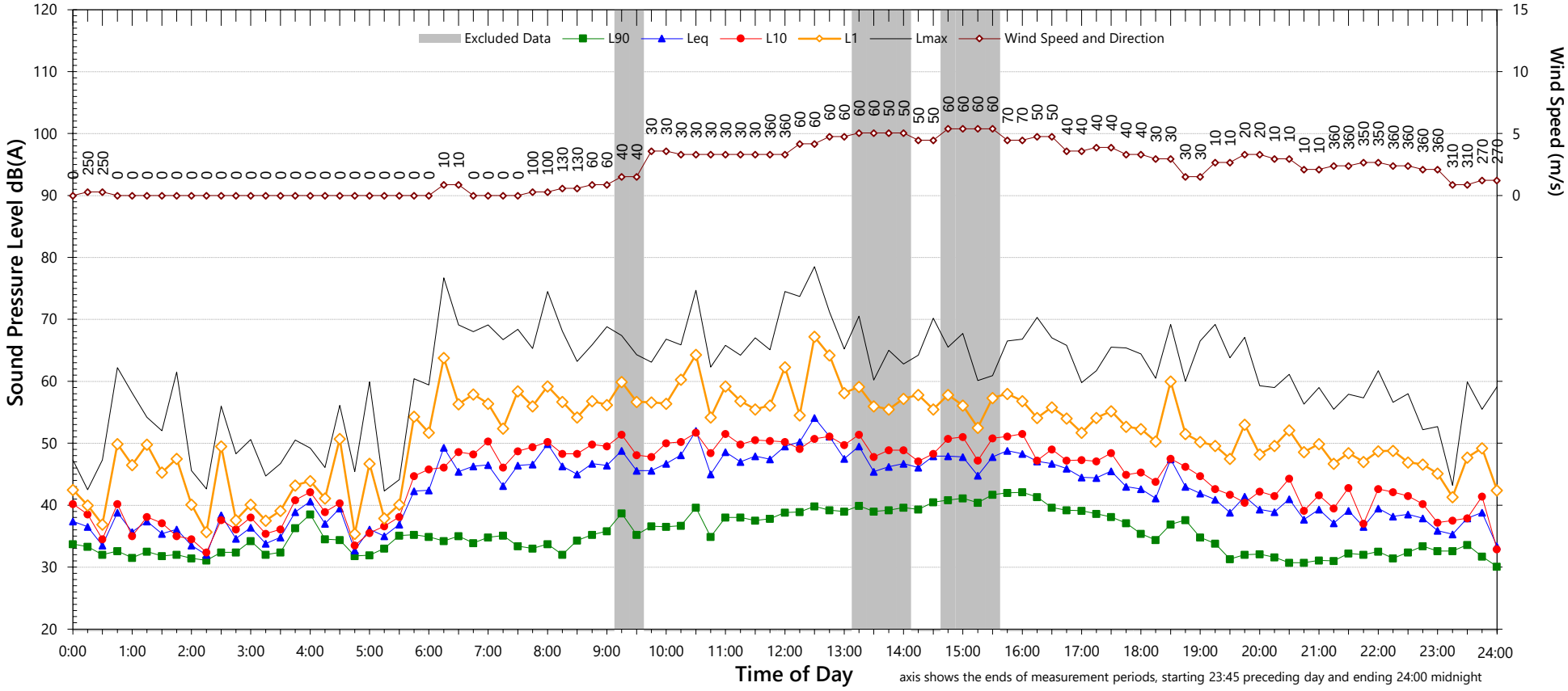
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Saturday, 28 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	-	31	32
L_{Aeq}	-	41	44

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	68	to	73
L_{AFMax} - L_{Aeq} (Range)	16	to	25

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	49	46
$L_{Aeq\ 1hr}$ upper 10 percentile	51	49
$L_{Aeq\ 1hr}$ lower 10 percentile	42	39

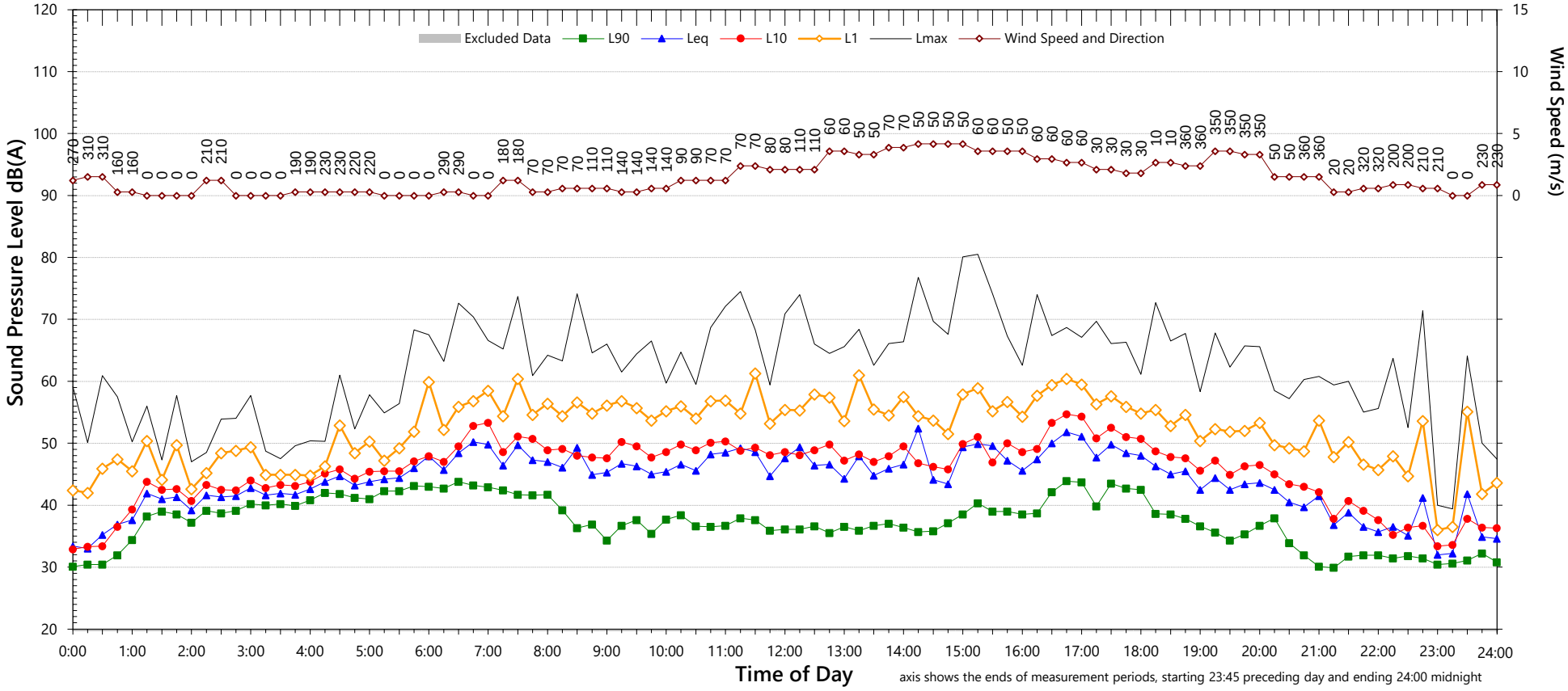
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Sunday, 29 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	36	31	31
L_{Aeq}	48	43	41

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	70	to	74
L_{AFMax} - L_{Aeq} (Range)	15	to	34

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	50	44
$L_{Aeq\ 1hr}$ upper 10 percentile	51	47
$L_{Aeq\ 1hr}$ lower 10 percentile	45	37

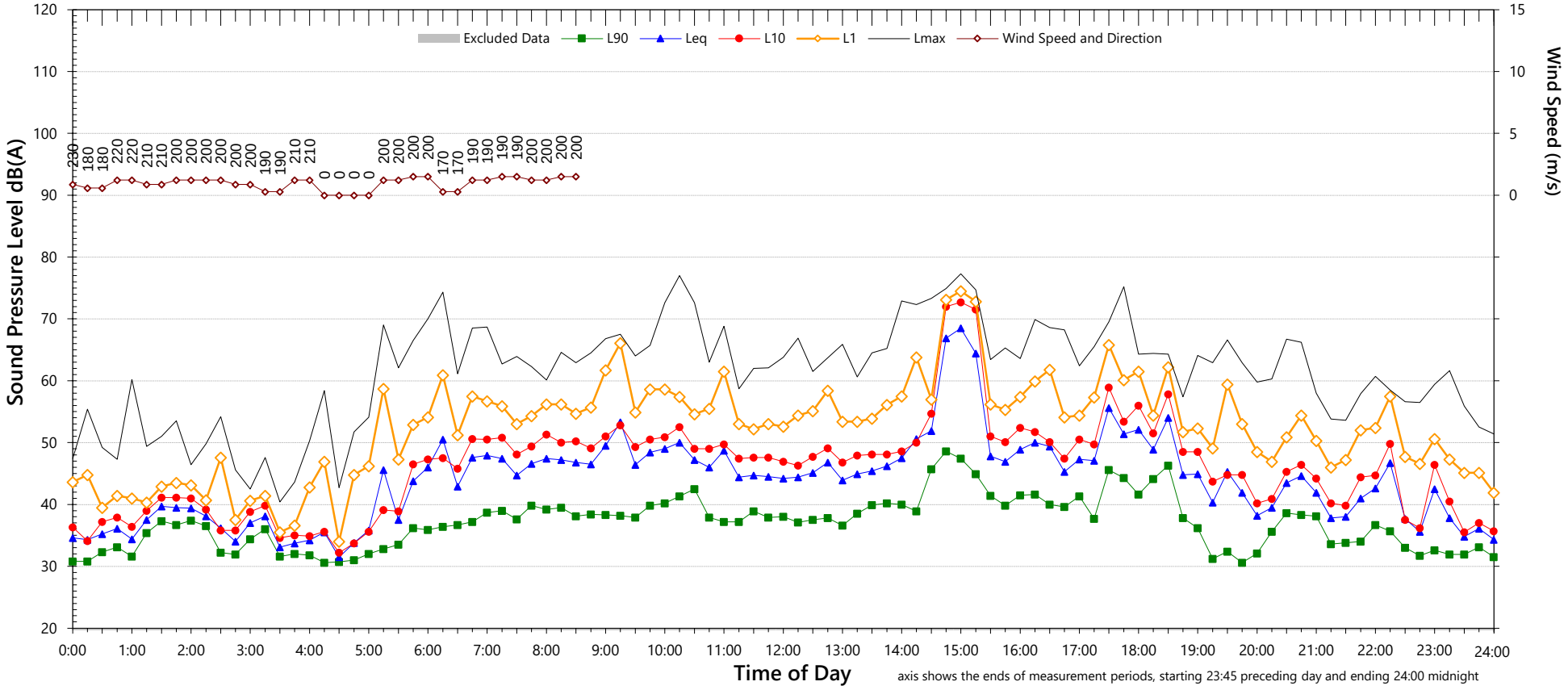
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Monday, 30 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	38	32	32
L_{Aeq}	56	46	43

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	73	to	74
L_{AFMax} - L_{Aeq} (Range)	17	to	28

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	57	45
$L_{Aeq\ 1hr}$ upper 10 percentile	59	48
$L_{Aeq\ 1hr}$ lower 10 percentile	45	39

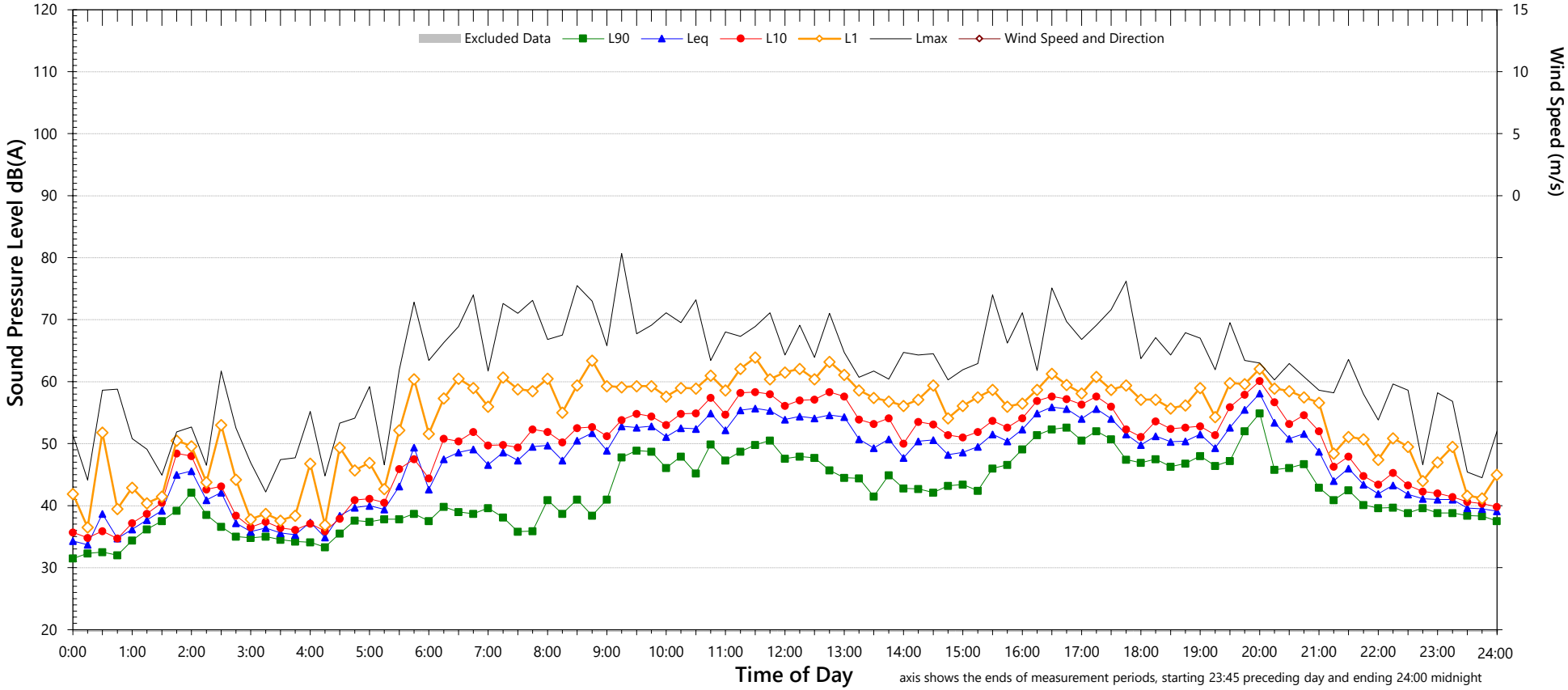
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Tuesday, 31 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	39	41	36
L_{Aeq}	53	52	42

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	68	to	73
L_{AFMax} - L_{Aeq} (Range)	17	to	27

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	55	45
$L_{Aeq\ 1hr}$ upper 10 percentile	58	48
$L_{Aeq\ 1hr}$ lower 10 percentile	52	40

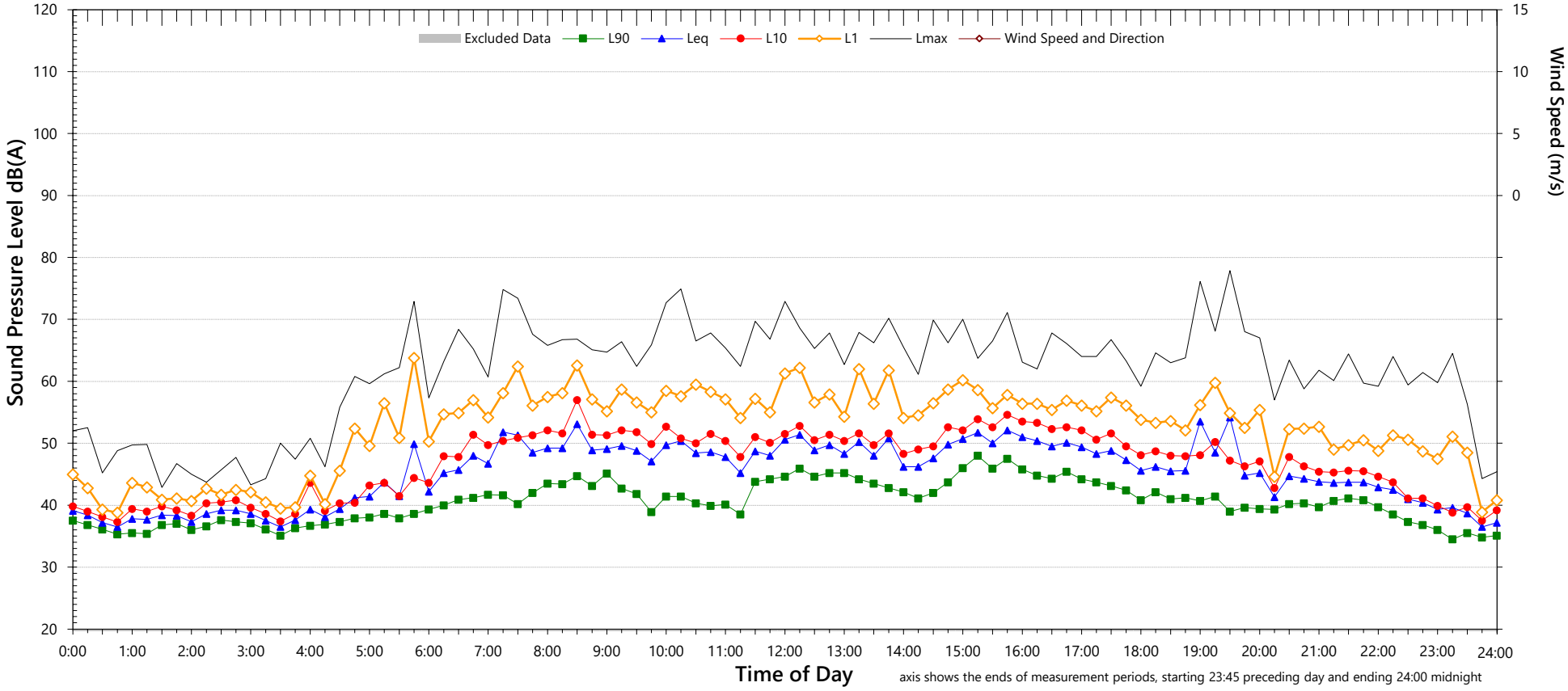
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Wednesday, 1 November 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	40	39	35
L_{Aeq}	50	48	43

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	71	to	72
L_{AFMax} - L_{Aeq} (Range)	16	to	29

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	52	45
$L_{Aeq\ 1hr}$ upper 10 percentile	53	46
$L_{Aeq\ 1hr}$ lower 10 percentile	48	43

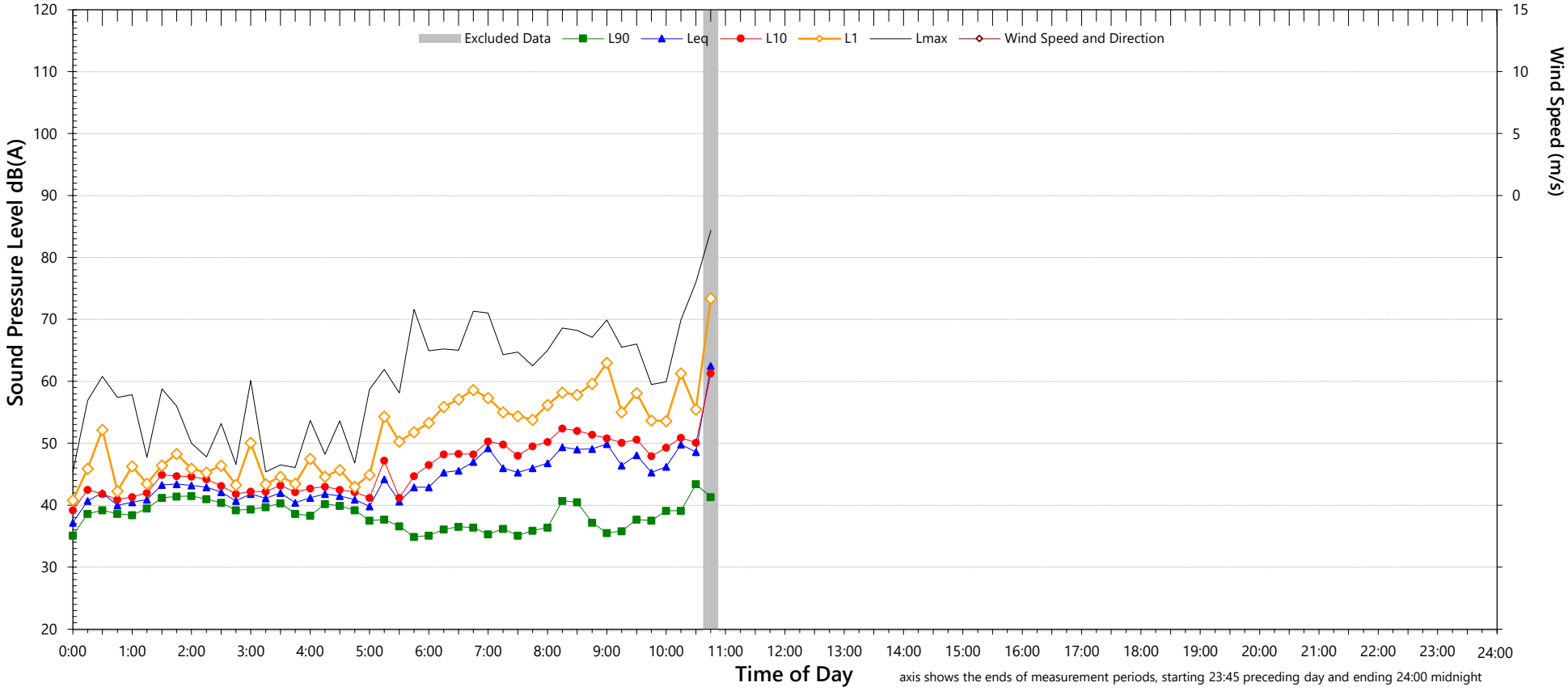
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

15 Flower Circuit, Akolele - Rearyard

Thursday, 2 November 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	-	-	-
L_{Aeq}	-	-	-

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	-	to	-
L_{AFMax} - L_{Aeq} (Range)	-	to	-

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	-	-
$L_{Aeq\ 1hr}$ upper 10 percentile	-	-
$L_{Aeq\ 1hr}$ lower 10 percentile	-	-

Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

RENZO TONIN & ASSOCIATES
inspired to achieve

Acoustics
Vibration
Structural Dynamics

sydney@renzotonin.com.au
www.renzotonin.com.au

Dates of Survey: 19/10/2023 - 02/11/2023
Monitoring ID: Location M2
Address: Merriman's Local Aboringial Land Council
Description: Frontyard

Background & Ambient Noise Monitoring Results						
	L_{A90} Background Noise Levels			L_{Aeq} Ambient Noise Levels		
	Day[1]	Evening[2]	Night[3]	Day[1]	Evening[2]	Night[3]
Representative Week[4]	35[7] (33)	32	30[7] (29)	52	53	42

Notes:

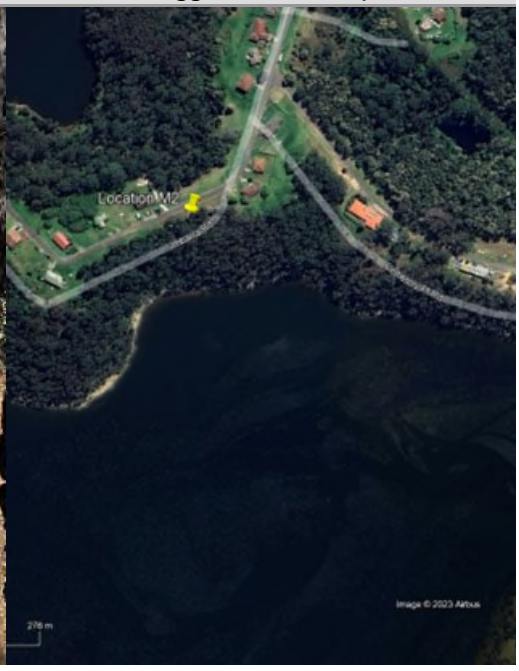
1. Day: 7.00am to 6.00pm Monday to Saturday and 8.00am to 6.00pm Sundays & Public Holidays

2. Evening: 6.00pm to 10.00pm Monday to Sunday & Public Holidays

3. Night: 10.00pm to 5.00am Monday to Sunday & Public Holidays

4. Rating Background Level (RBL) for LA90 and logarithmic average for LAeq

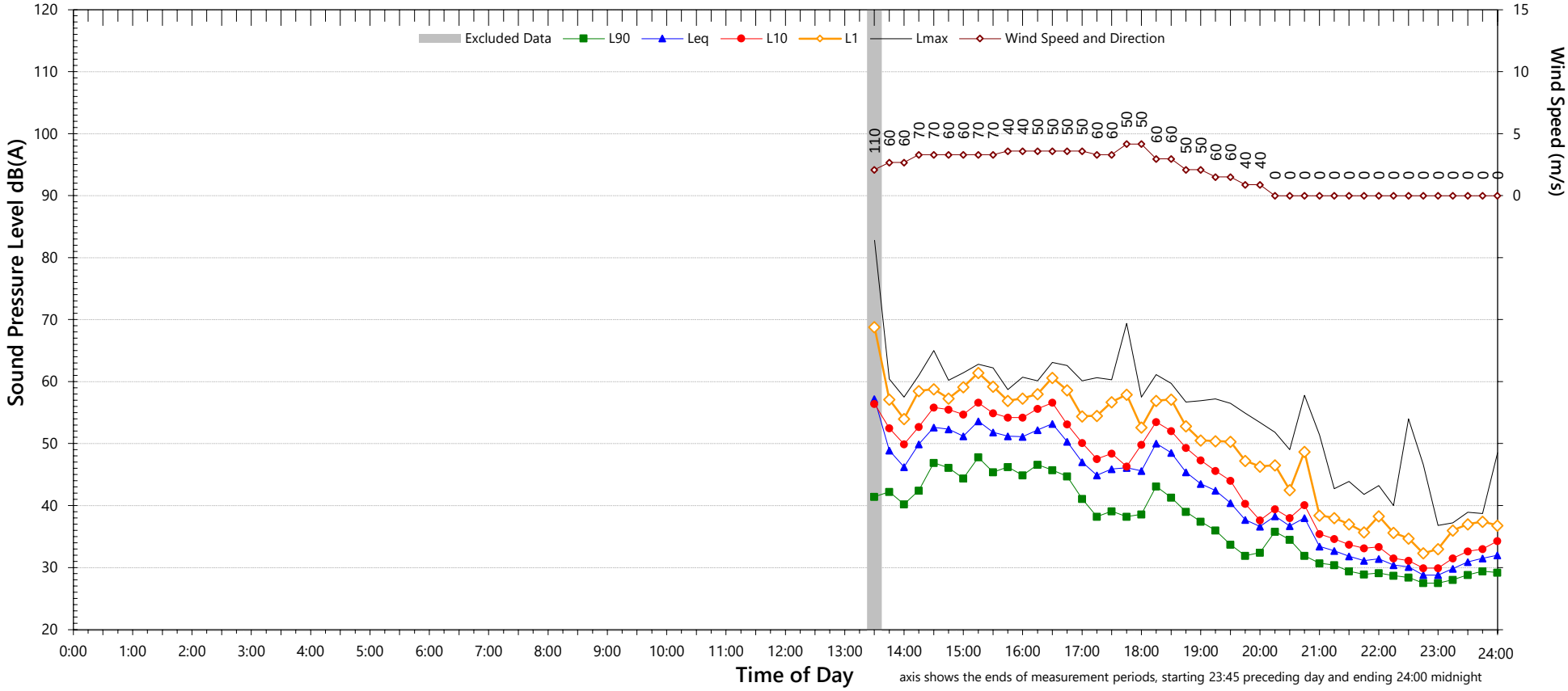
Logger location photograph	Logger location map



Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Thursday, 19 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	-	29	27
L_{Aeq}	-	43	39

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	-	to	-
L_{AFMax} - L_{Aeq} (Range)	16	to	28

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	-	41
$L_{Aeq\ 1hr}$ upper 10 percentile	-	46
$L_{Aeq\ 1hr}$ lower 10 percentile	-	32

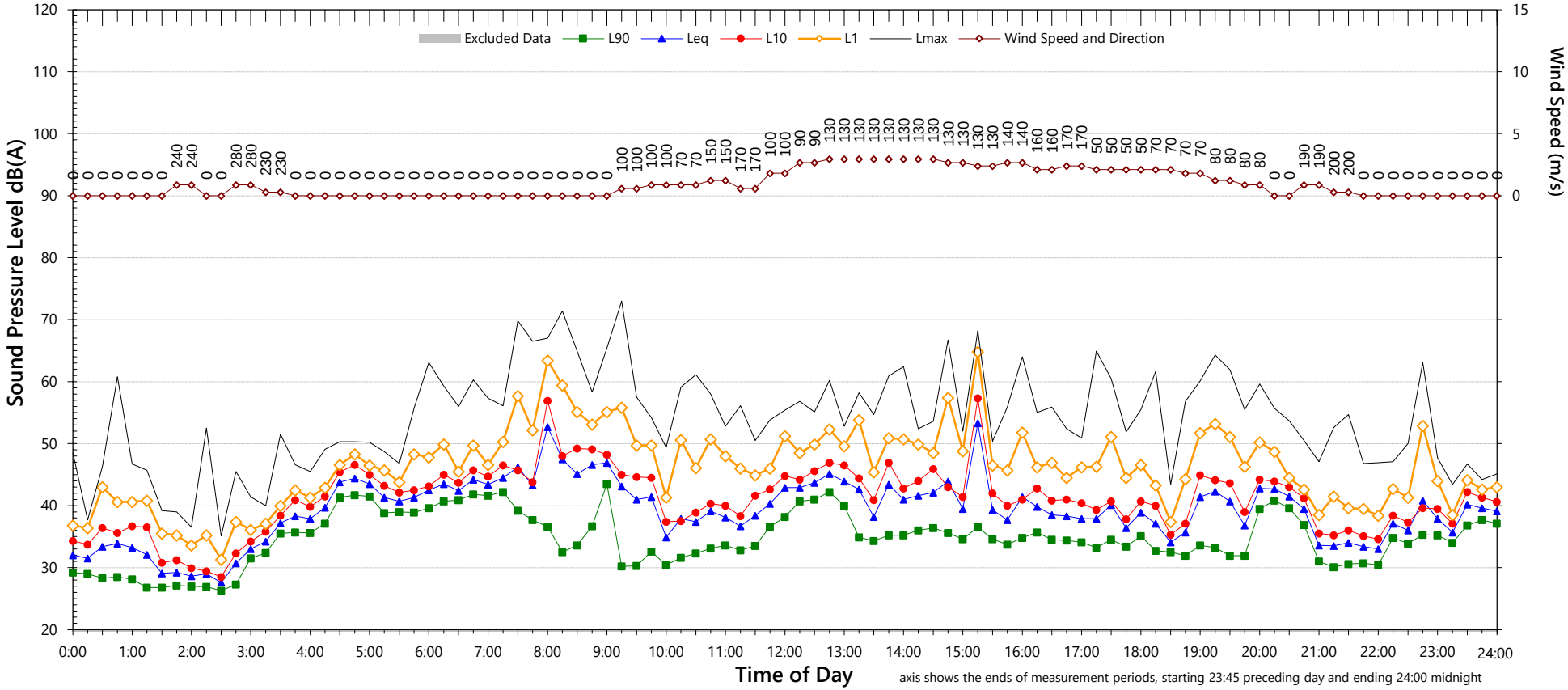
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Friday, 20 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	32	31	34
L_{Aeq}	44	39	39

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	46	41
$L_{Aeq\ 1hr}$ upper 10 percentile	50	43
$L_{Aeq\ 1hr}$ lower 10 percentile	41	40

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	67	to	67
L_{AFMax} - L_{Aeq} (Range)	16	to	26

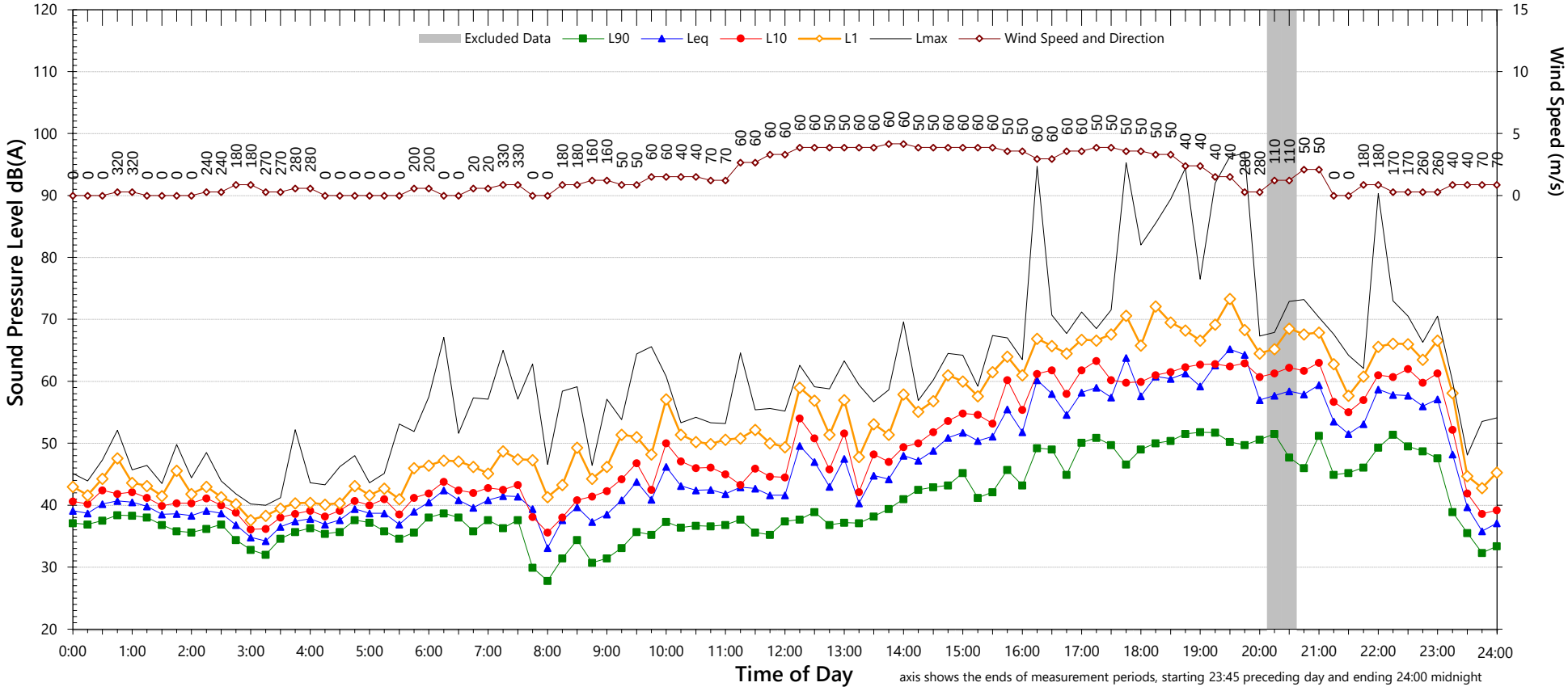
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Saturday, 21 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	32	45	28
L_{Aeq}	53	60	48

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	66	to	73
L_{AFMax} - L_{Aeq} (Range)	16	to	34

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	59	51
$L_{Aeq\ 1hr}$ upper 10 percentile	63	49
$L_{Aeq\ 1hr}$ lower 10 percentile	43	36

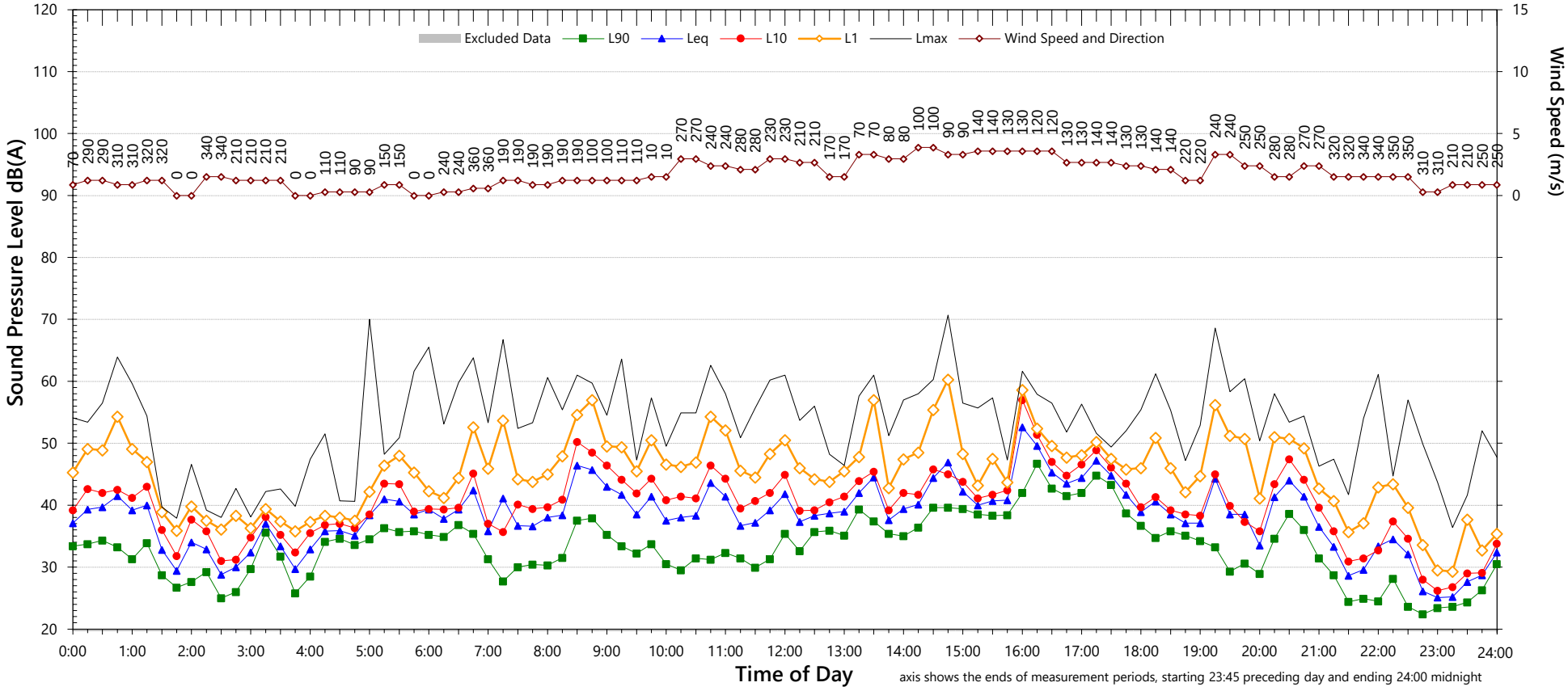
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Sunday, 22 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	31	25	23
L_{Aeq}	44	39	33

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	45	35
$L_{Aeq\ 1hr}$ upper 10 percentile	48	36
$L_{Aeq\ 1hr}$ lower 10 percentile	41	29

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	68	to	68
L_{AFMax} - L_{Aeq} (Range)	16	to	29

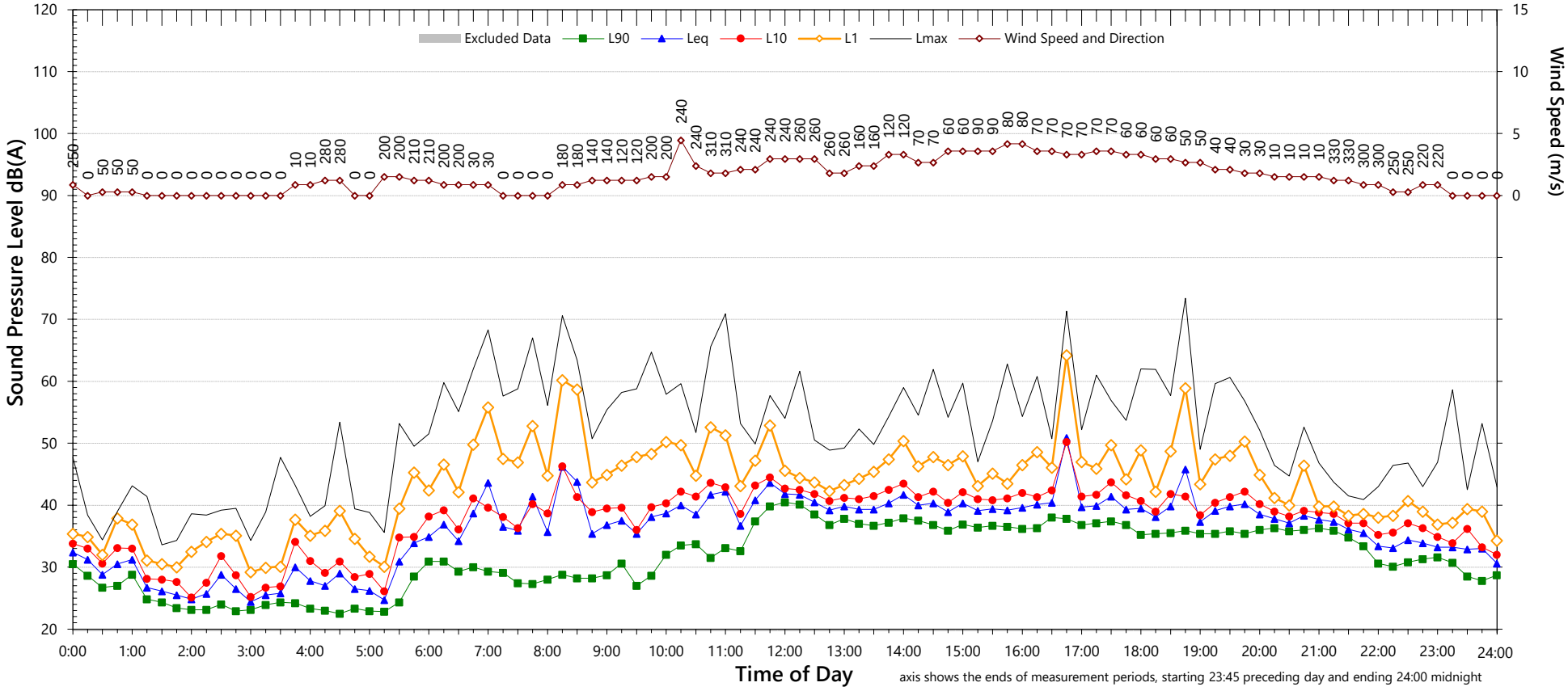
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Monday, 23 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	28	34	27
L_{Aeq}	41	39	33

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	-	to	-
L_{AFMax} - L_{Aeq} (Range)	18	to	29

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	43	35
$L_{Aeq\ 1hr}$ upper 10 percentile	45	38
$L_{Aeq\ 1hr}$ lower 10 percentile	40	33

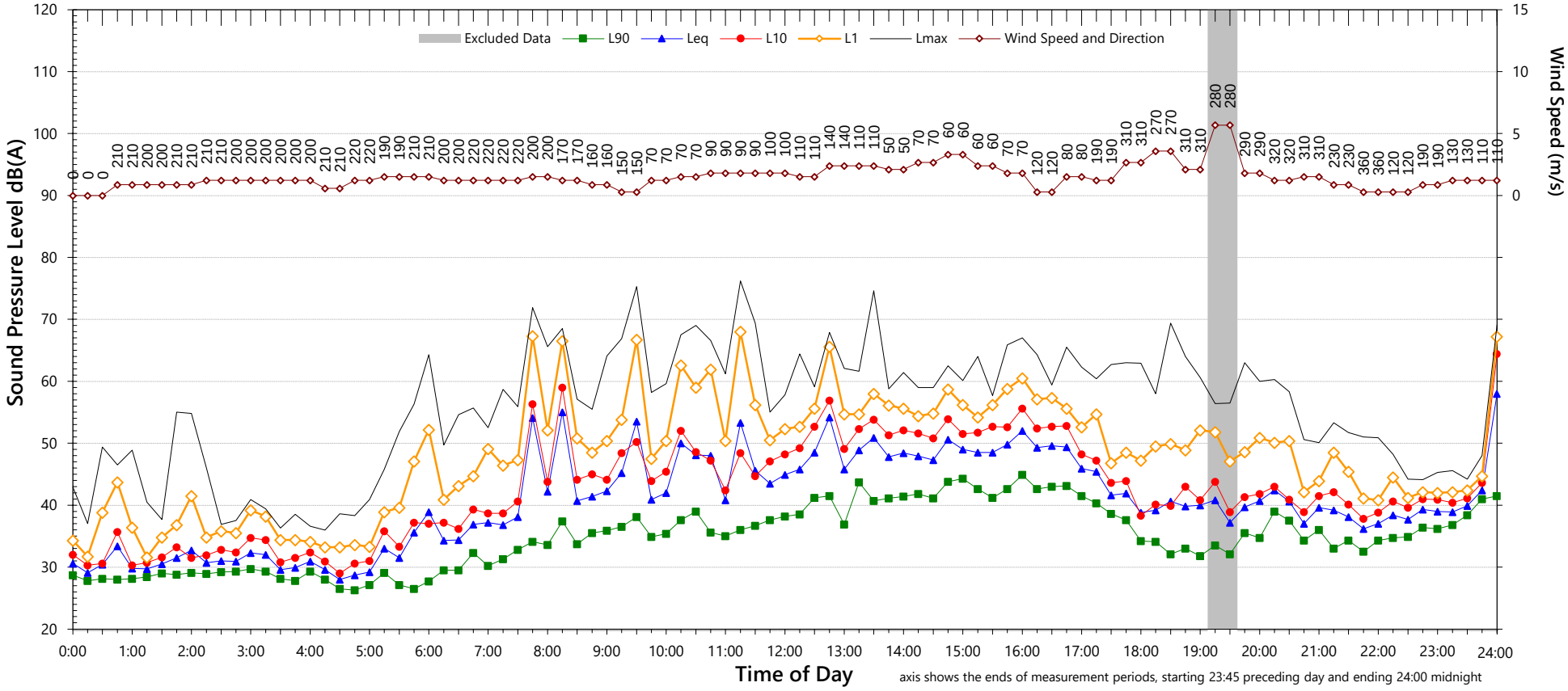
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Tuesday, 24 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	34	32	35
L_{Aeq}	49	40	48

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	50	50
$L_{Aeq\ 1hr}$ upper 10 percentile	52	55
$L_{Aeq\ 1hr}$ lower 10 percentile	43	41

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	69	to	72
L_{AFMax} - L_{Aeq} (Range)	17	to	26

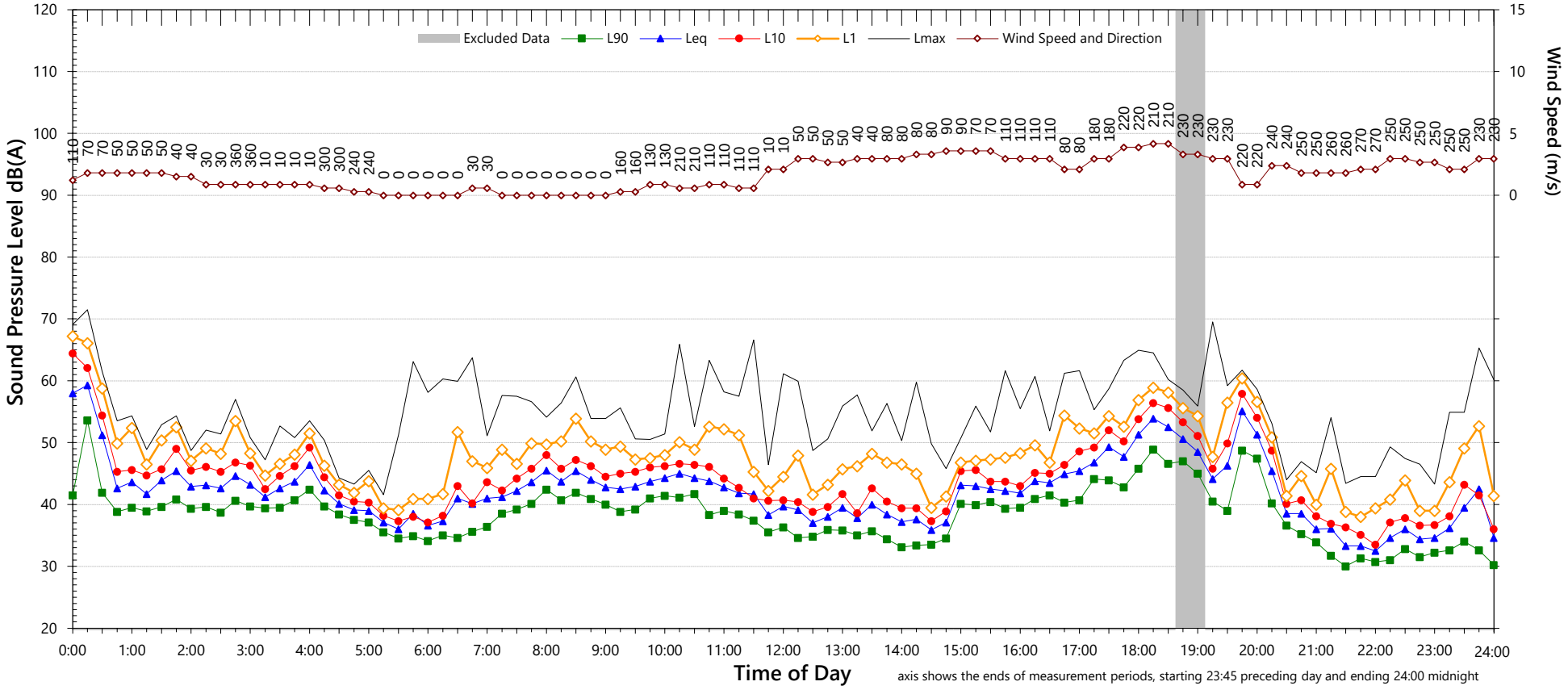
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Wednesday, 25 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	35	31	26
L_{Aeq}	44	49	37

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	65	to	71
L_{AFMax} - L_{Aeq} (Range)	17	to	30

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	48	40
$L_{Aeq\ 1hr}$ upper 10 percentile	53	44
$L_{Aeq\ 1hr}$ lower 10 percentile	41	33

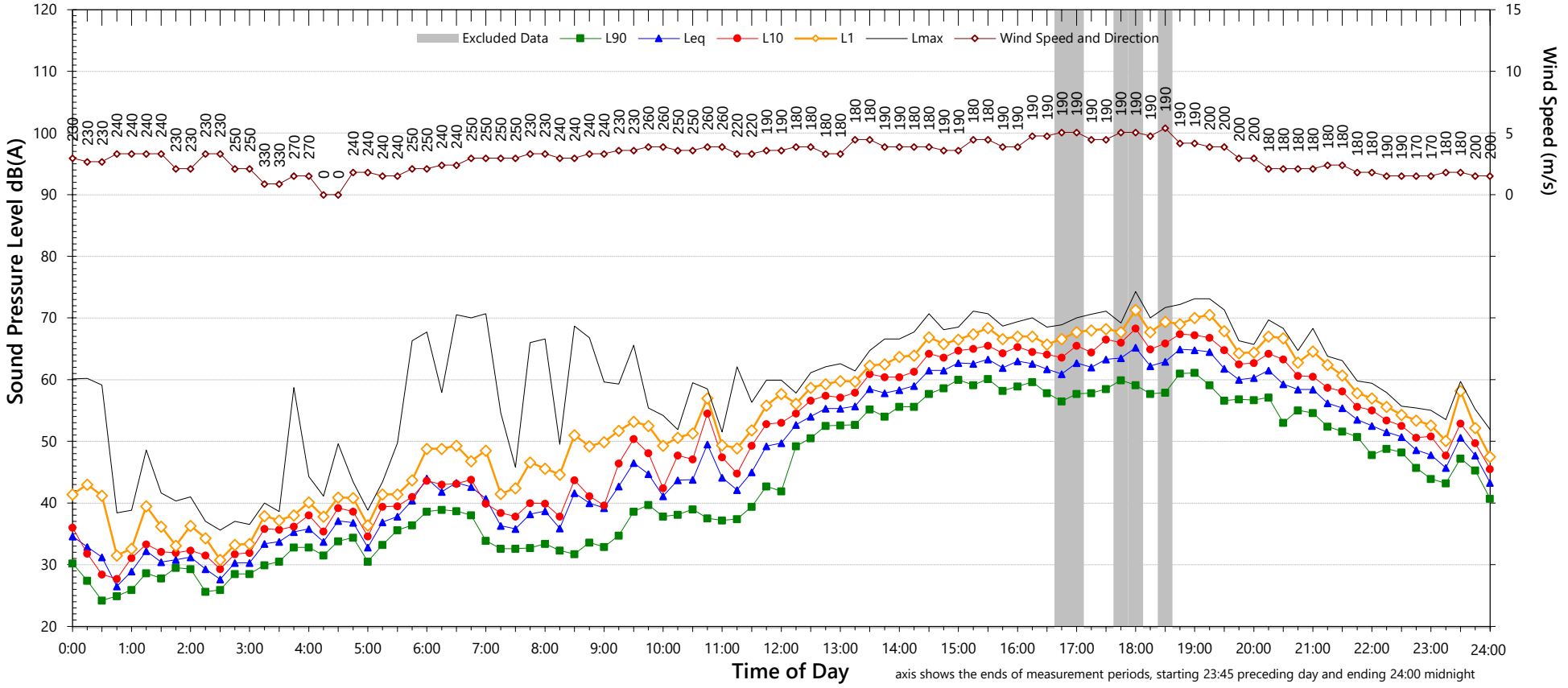
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Thursday, 26 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	33	51	39
L_{Aeq}	58	61	45

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	61	47
$L_{Aeq\ 1hr}$ upper 10 percentile	65	51
$L_{Aeq\ 1hr}$ lower 10 percentile	44	44

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	-	to	-
L_{AFMax} - L_{Aeq} (Range)	20	to	22

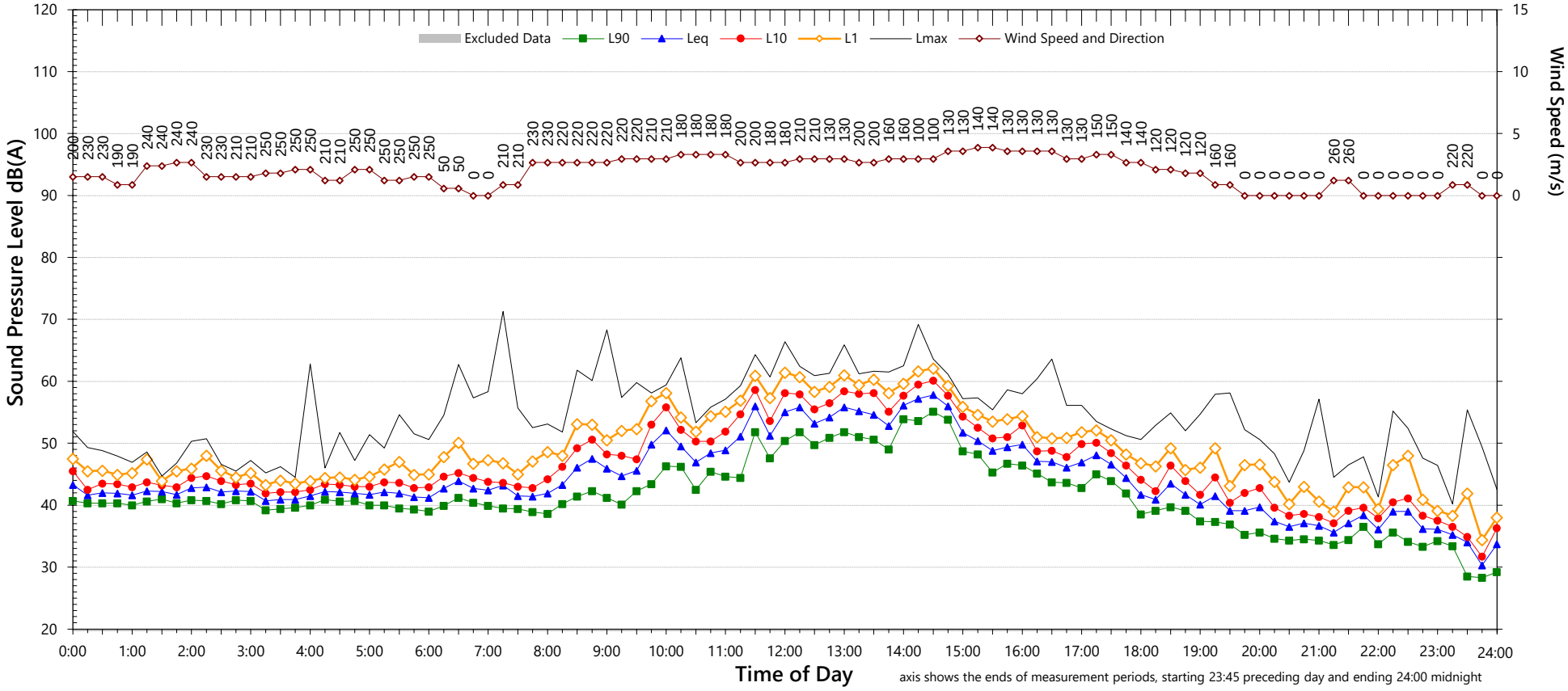
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Friday, 27 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	40	34	28
L_{Aeq}	52	39	38

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	-	to	-
L_{AFMax} - L_{Aeq} (Range)	16	to	30

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	53	40
$L_{Aeq\ 1hr}$ upper 10 percentile	57	42
$L_{Aeq\ 1hr}$ lower 10 percentile	41	34

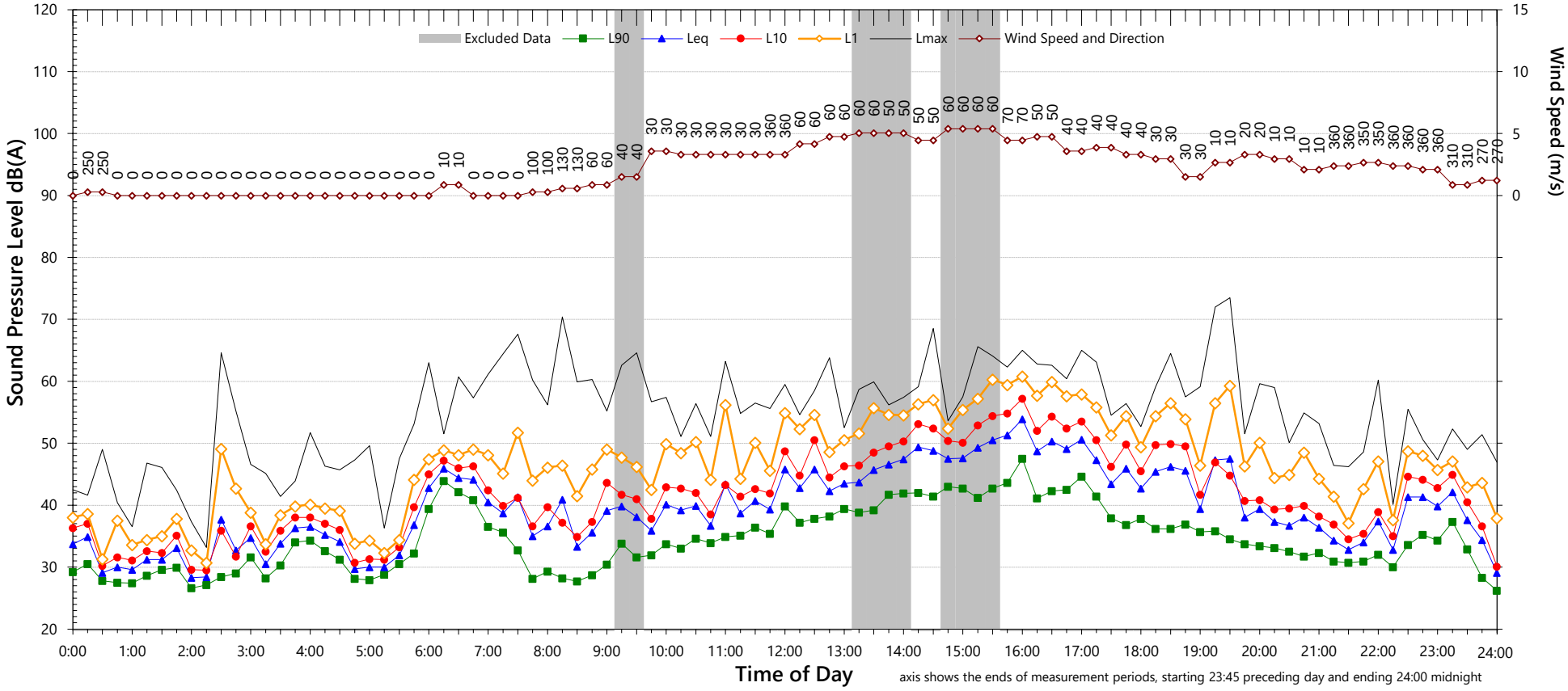
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Saturday, 28 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	-	31	30
L_{Aeq}	-	42	45

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	67	to	69
L_{AFMax} - L_{Aeq} (Range)	16	to	21

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	48	47
$L_{Aeq\ 1hr}$ upper 10 percentile	52	51
$L_{Aeq\ 1hr}$ lower 10 percentile	40	40

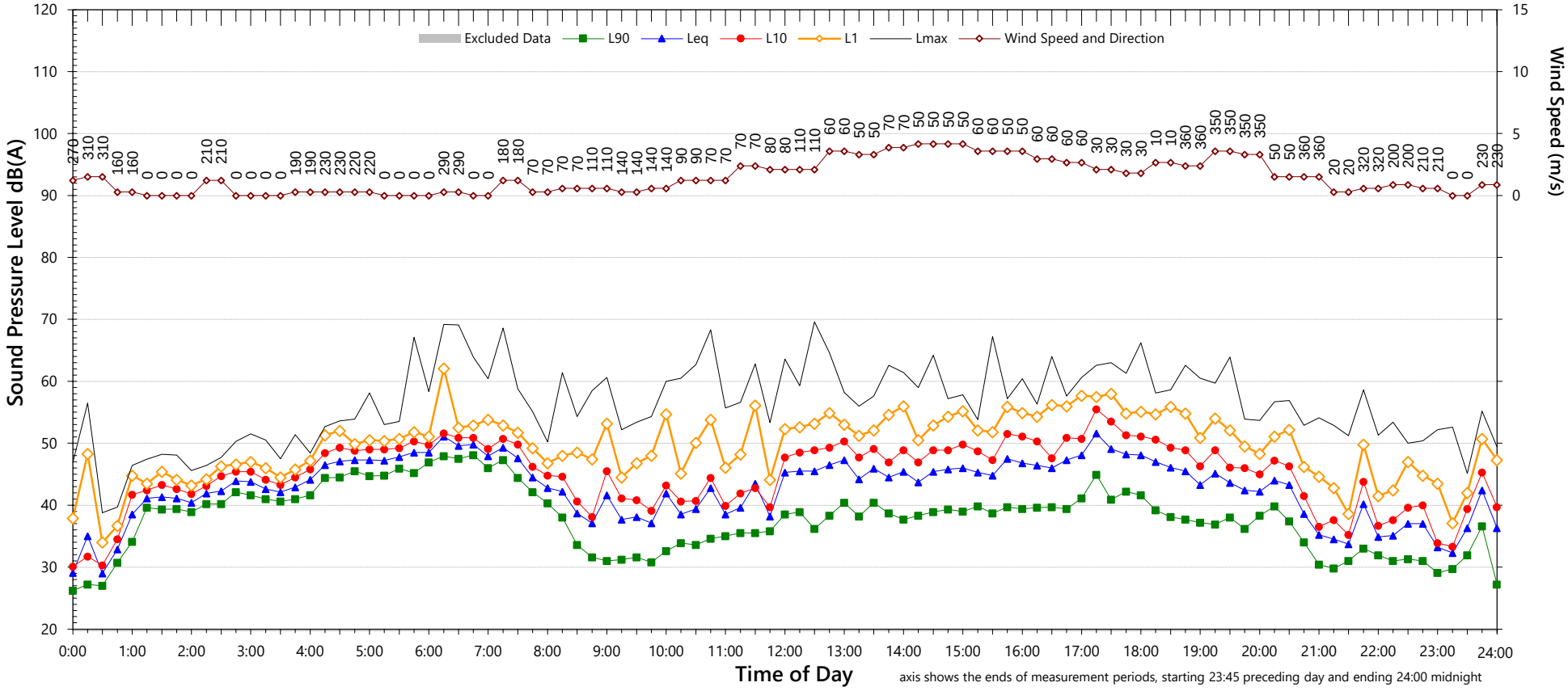
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Sunday, 29 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	32	31	30
L_{Aeq}	45	43	40

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	47	43
$L_{Aeq\ 1hr}$ upper 10 percentile	49	47
$L_{Aeq\ 1hr}$ lower 10 percentile	42	37

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	68	to	68
L_{AFMax} - L_{Aeq} (Range)	17	to	24

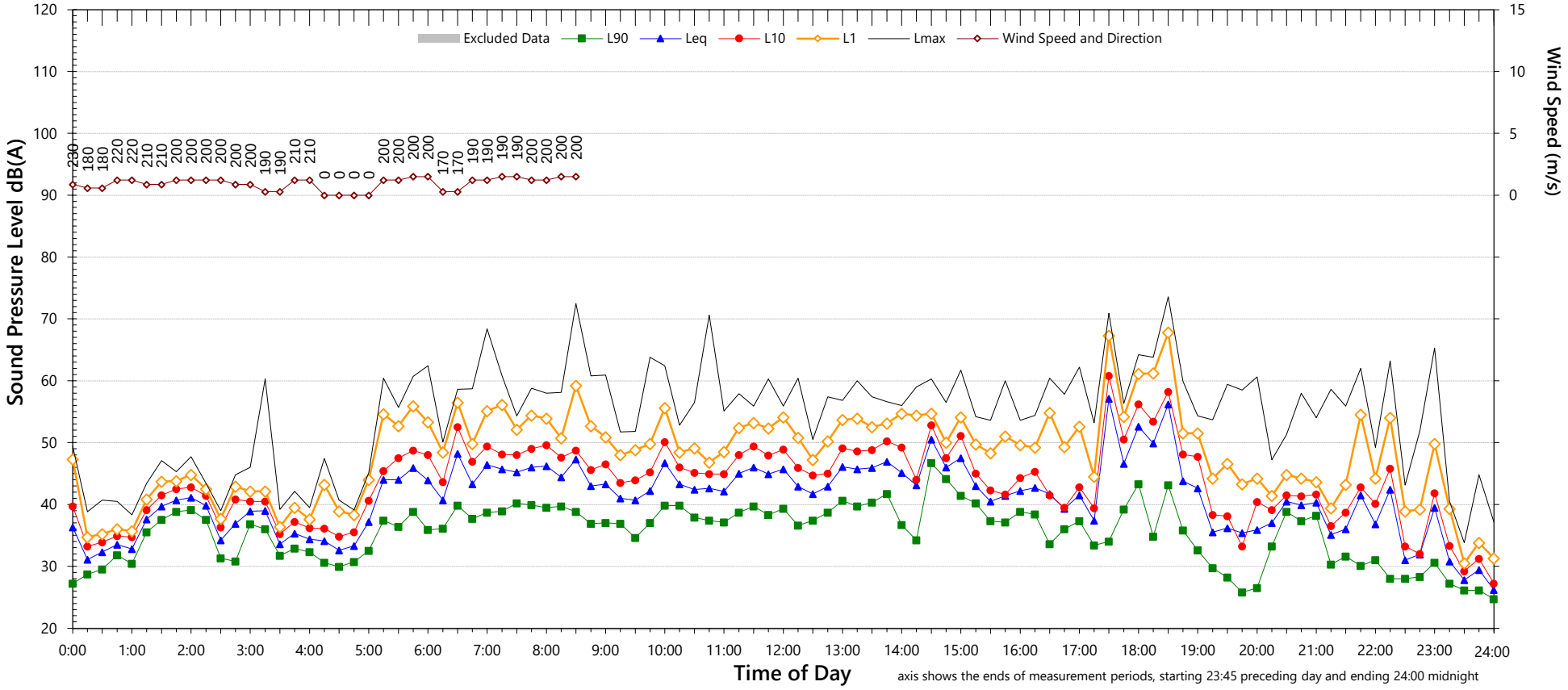
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Monday, 30 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	35	27	26
L_{Aeq}	46	46	39

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	65	to	69
L_{AFMax} - L_{Aeq} (Range)	16	to	27

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	49	41
$L_{Aeq\ 1hr}$ upper 10 percentile	52	44
$L_{Aeq\ 1hr}$ lower 10 percentile	41	32

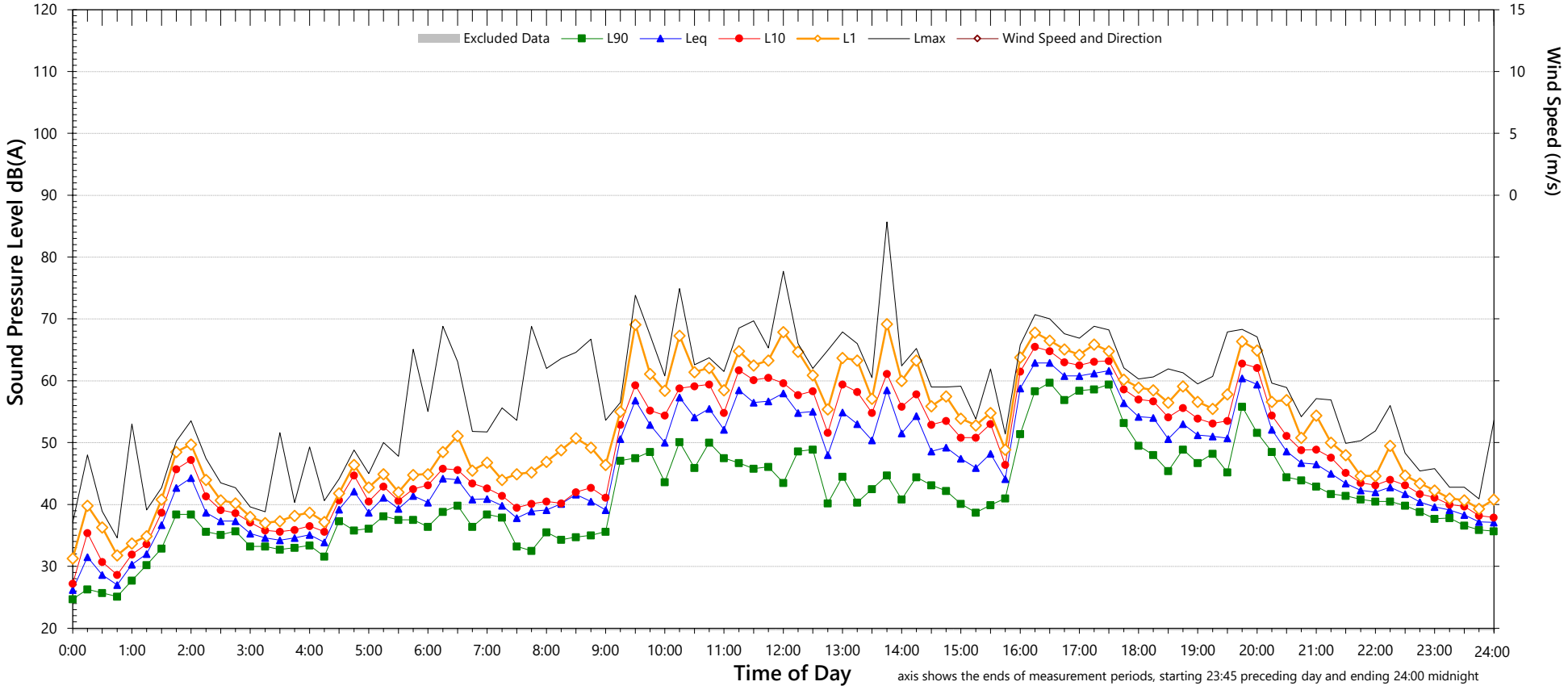
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Tuesday, 31 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	35	41	31
L_{Aeq}	56	53	38

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	66	to	66
L_{AFMax} - L_{Aeq} (Range)	16	to	27

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	58	40
$L_{Aeq\ 1hr}$ upper 10 percentile	61	43
$L_{Aeq\ 1hr}$ lower 10 percentile	44	36

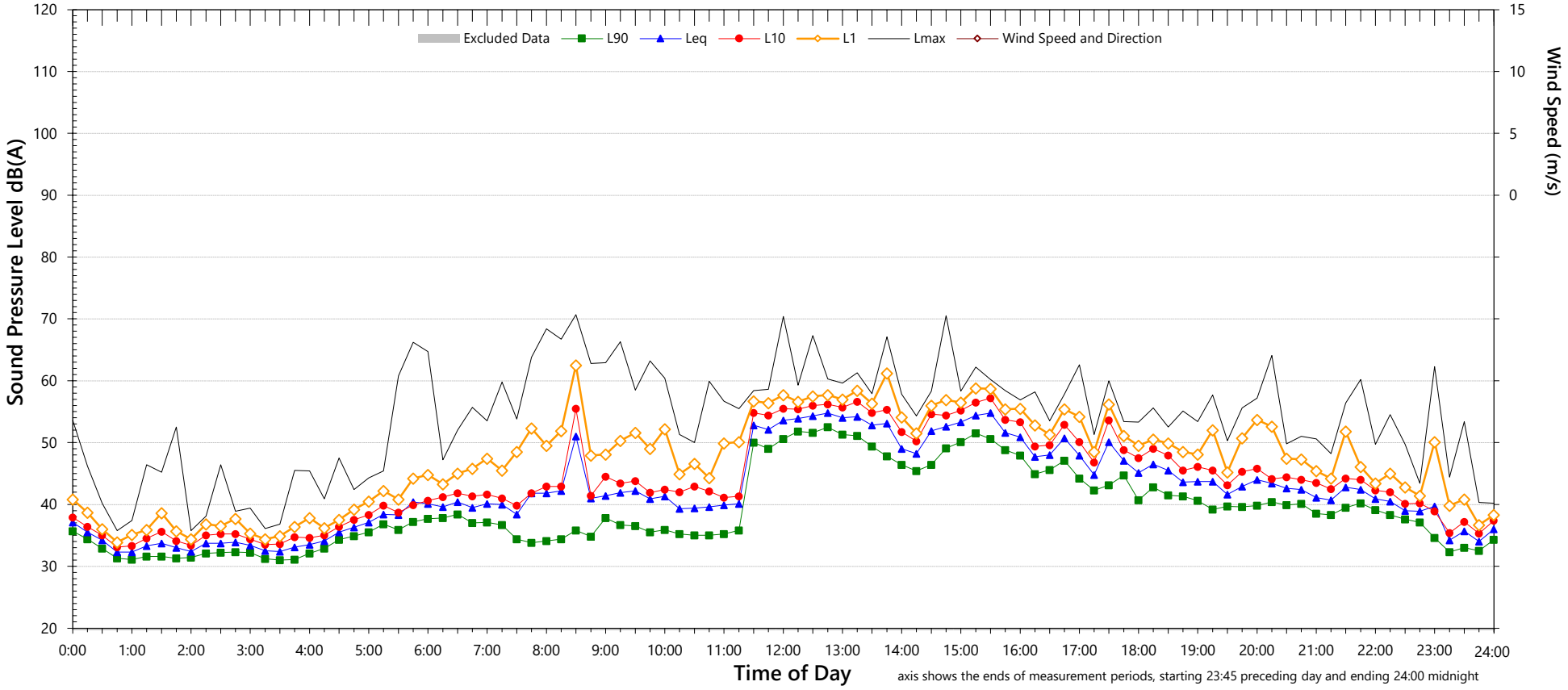
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Wednesday, 1 November 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	35	39	33
L_{Aeq}	50	43	41

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	65	to	72
L_{AFMax} - L_{Aeq} (Range)	18	to	30

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	52	43
$L_{Aeq\ 1hr}$ upper 10 percentile	56	46
$L_{Aeq\ 1hr}$ lower 10 percentile	44	40

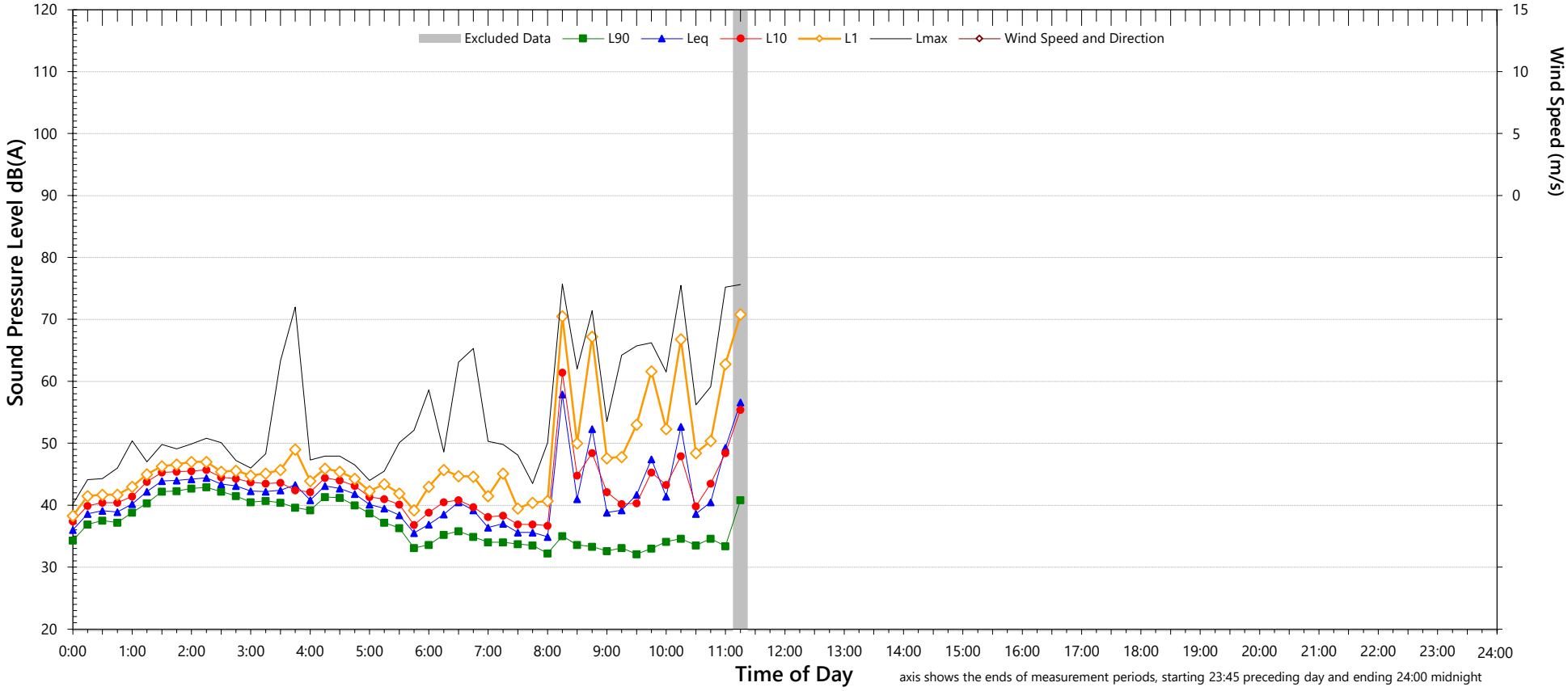
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

Merriman's Local Aboringial Land Council - Frontyard

Thursday, 2 November 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	-	-	-
L_{Aeq}	-	-	-

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	-	to	-
L_{AFMax} - L_{Aeq} (Range)	-	to	-

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	-	-
$L_{Aeq\ 1hr}$ upper 10 percentile	-	-
$L_{Aeq\ 1hr}$ lower 10 percentile	-	-

Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

RENZO TONIN & ASSOCIATES
inspired to achieve

Acoustics
Vibration
Structural Dynamics

sydney@renzotonin.com.au
www.renzotonin.com.au

Dates of Survey: 19/10/2023 - 02/11/2023
Monitoring ID: Location M3
Address: 8217 Princes Highway, Central Tilba
Description: Front Yard

Background & Ambient Noise Monitoring Results						
	L_{A90} Background Noise Levels			L_{Aeq} Ambient Noise Levels		
	Day[1]	Evening[2]	Night[3]	Day[1]	Evening[2]	Night[3]
Representative Week[4]	37	32	30[7] (28)	53	51	46

Notes:

1. Day: 7.00am to 6.00pm Monday to Saturday and 8.00am to 6.00pm Sundays & Public Holidays

2. Evening: 6.00pm to 10.00pm Monday to Sunday & Public Holidays

3. Night: 10.00pm to 5.00am Monday to Sunday & Public Holidays

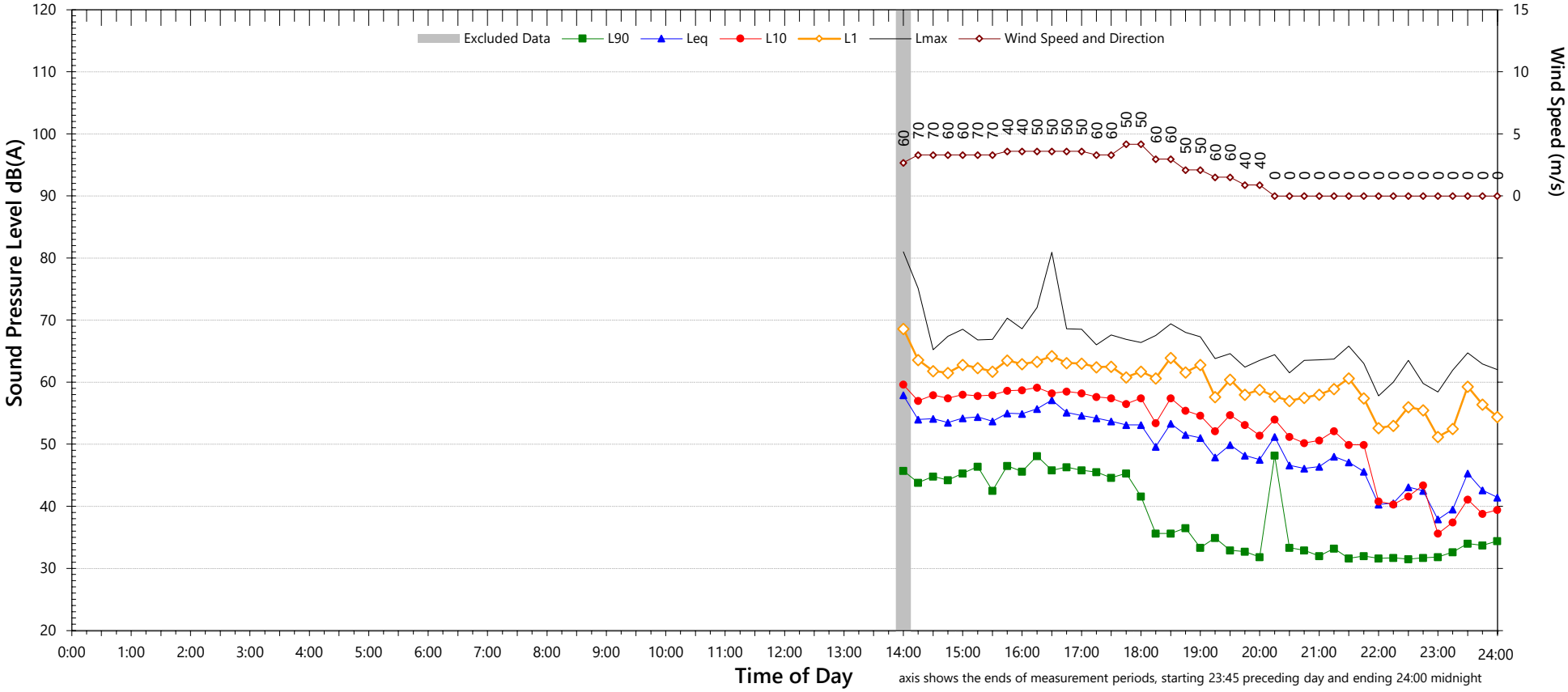
4. Rating Background Level (RBL) for LA90 and logarithmic average for LAeq

Logger location photograph	Logger location map
	

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Thursday, 19 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	-	32	28
L_{Aeq}	-	49	46

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	66	to	72
L_{AFMax} - L_{Aeq} (Range)	17	to	26

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	-	49
$L_{Aeq\ 1hr}$ upper 10 percentile	-	53
$L_{Aeq\ 1hr}$ lower 10 percentile	-	44

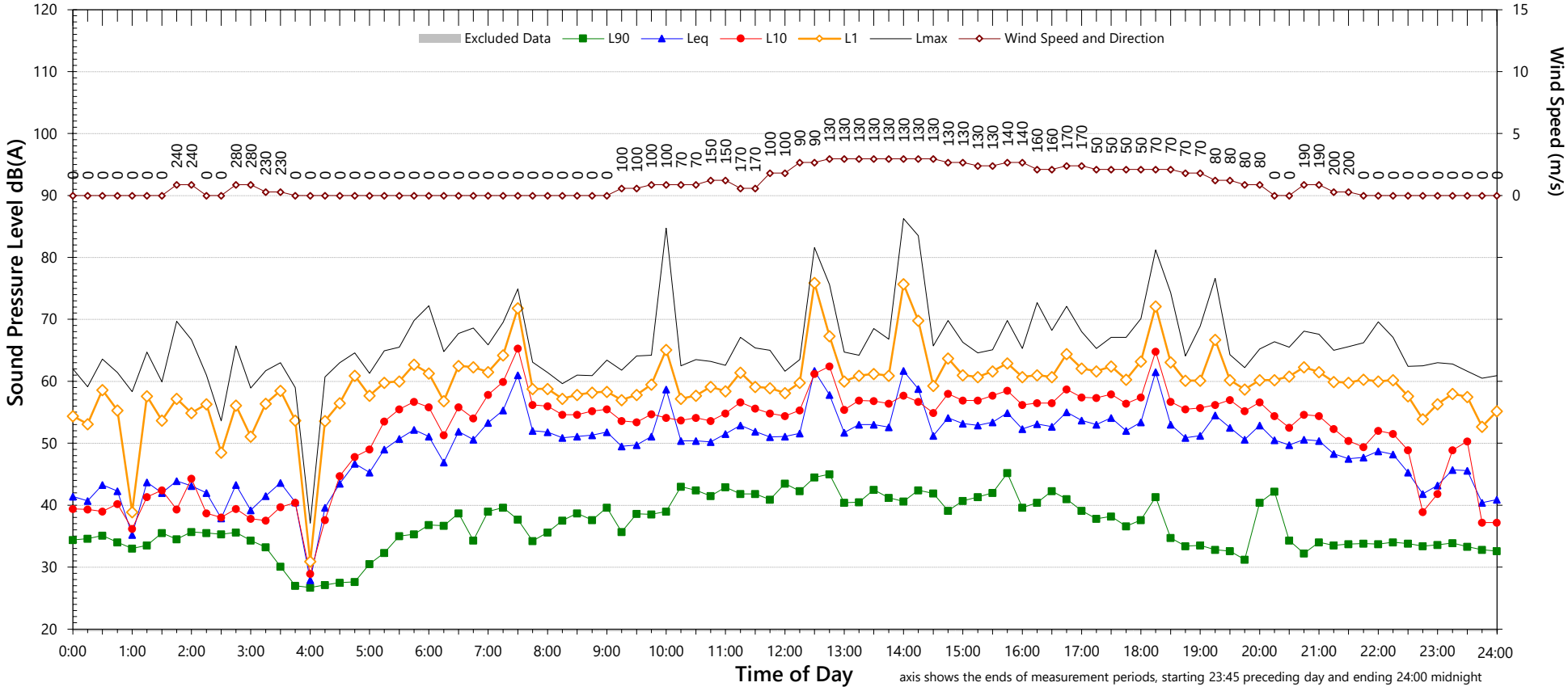
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Friday, 20 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	38	32	29
L_{Aeq}	55	53	48

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	67	to	77
L_{AFMax} - L_{Aeq} (Range)	19	to	28

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	57	50
$L_{Aeq\ 1hr}$ upper 10 percentile	59	54
$L_{Aeq\ 1hr}$ lower 10 percentile	53	41

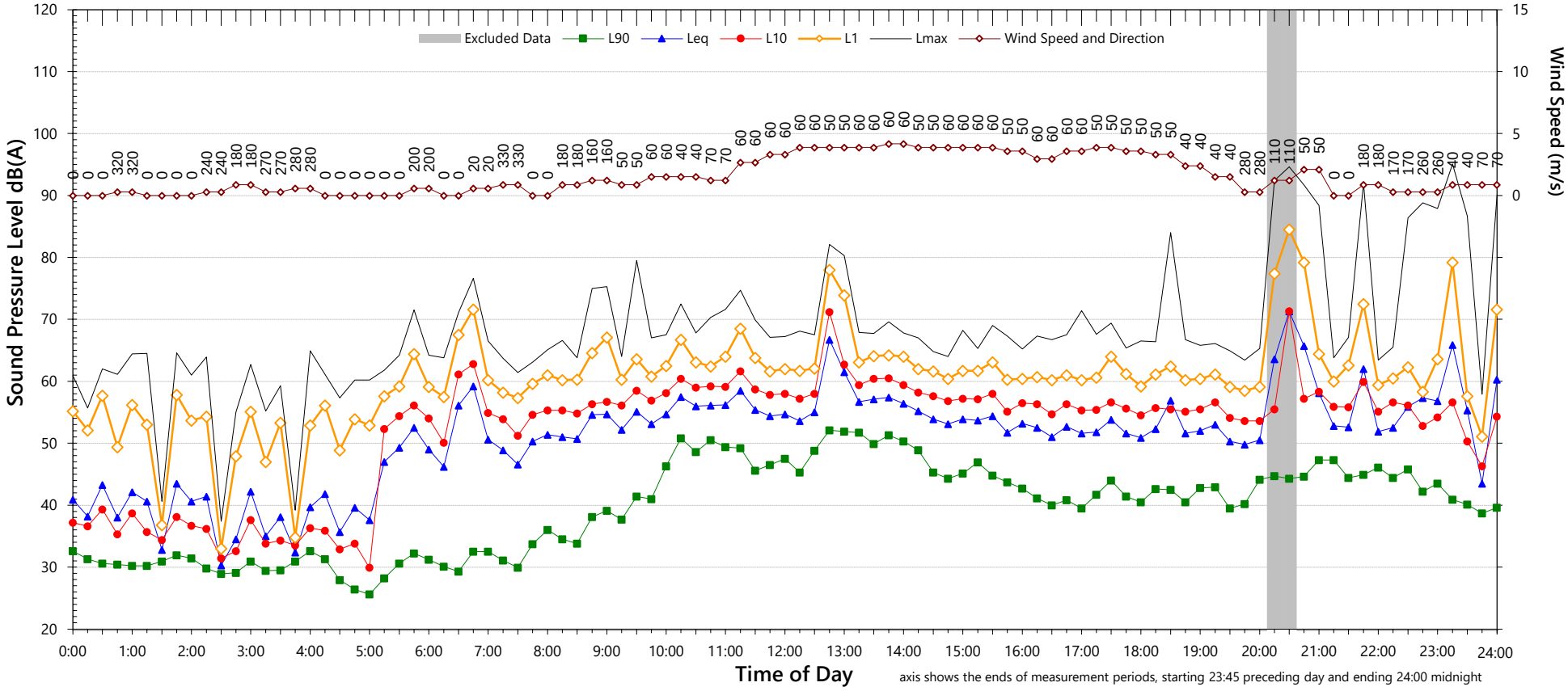
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Saturday, 21 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	35	40	25
L_{Aeq}	56	58	53

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	68	to	95
L_{AFMax} - L_{Aeq} (Range)	22	to	34

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	59	56
$L_{Aeq\ 1hr}$ upper 10 percentile	63	60
$L_{Aeq\ 1hr}$ lower 10 percentile	54	41

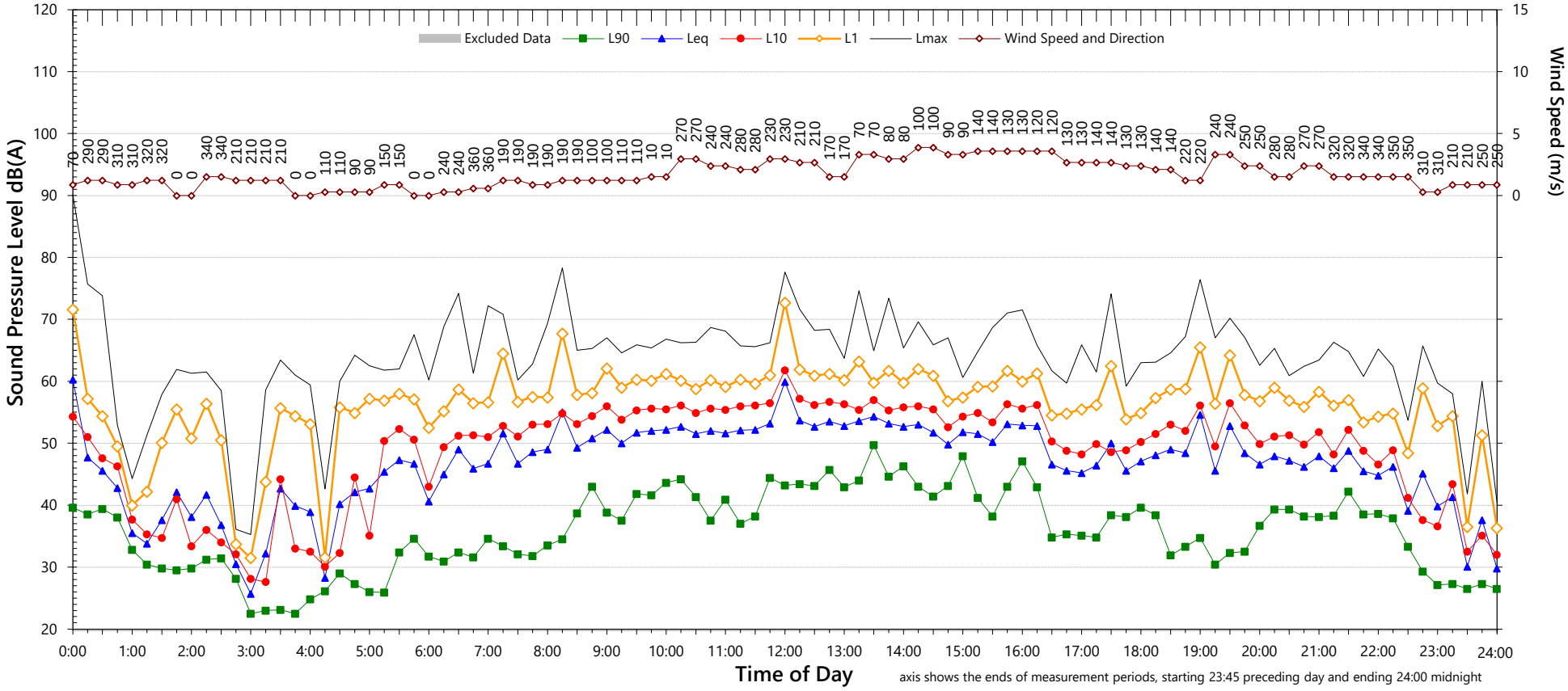
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Sunday, 22 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	35	32	26
L_{Aeq}	52	49	46

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	65	to	72
L_{AFMax} - L_{Aeq} (Range)	19	to	25

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	54	49
$L_{Aeq\ 1hr}$ upper 10 percentile	56	52
$L_{Aeq\ 1hr}$ lower 10 percentile	50	40

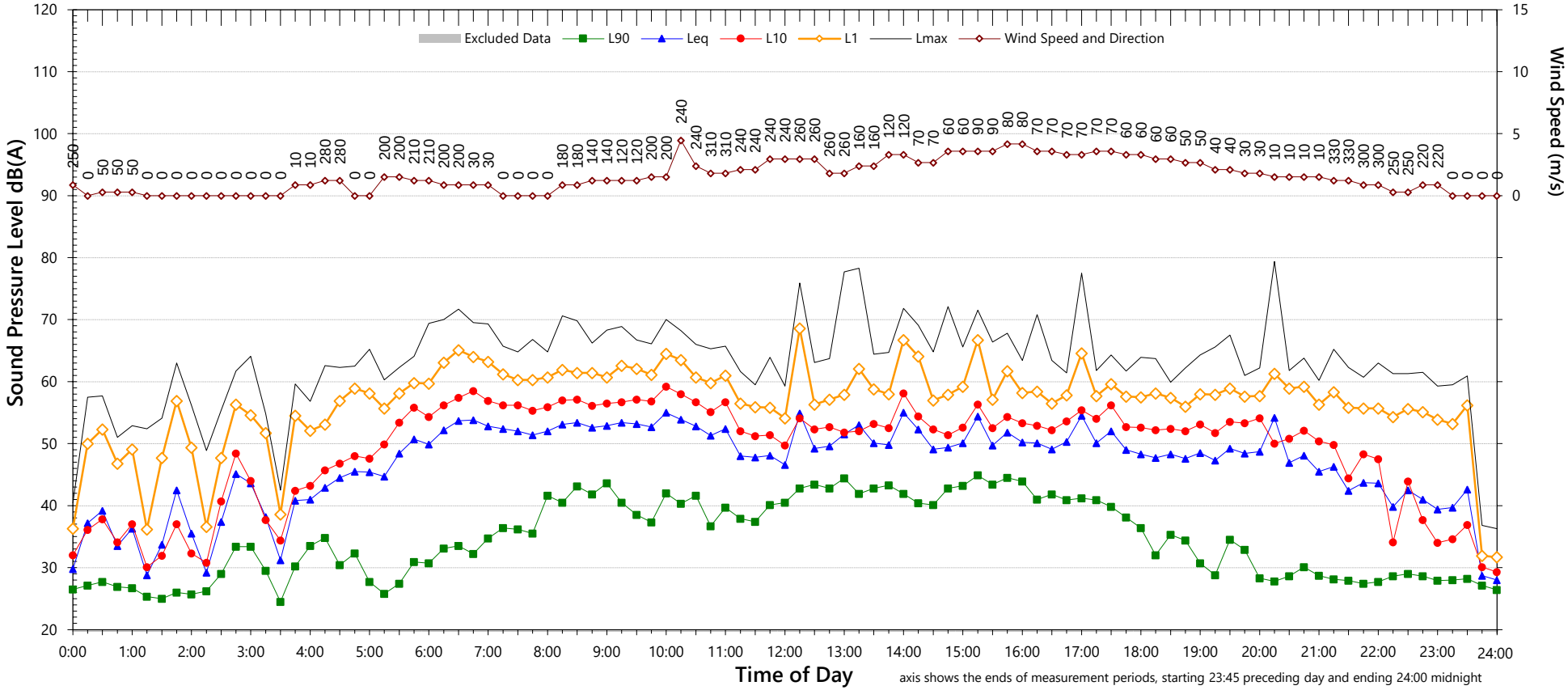
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Monday, 23 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	37	28	26
L_{Aeq}	52	48	45

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	66	to	68
L_{AFMax} - L_{Aeq} (Range)	15	to	25

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	54	48
$L_{Aeq\ 1hr}$ upper 10 percentile	55	52
$L_{Aeq\ 1hr}$ lower 10 percentile	50	42

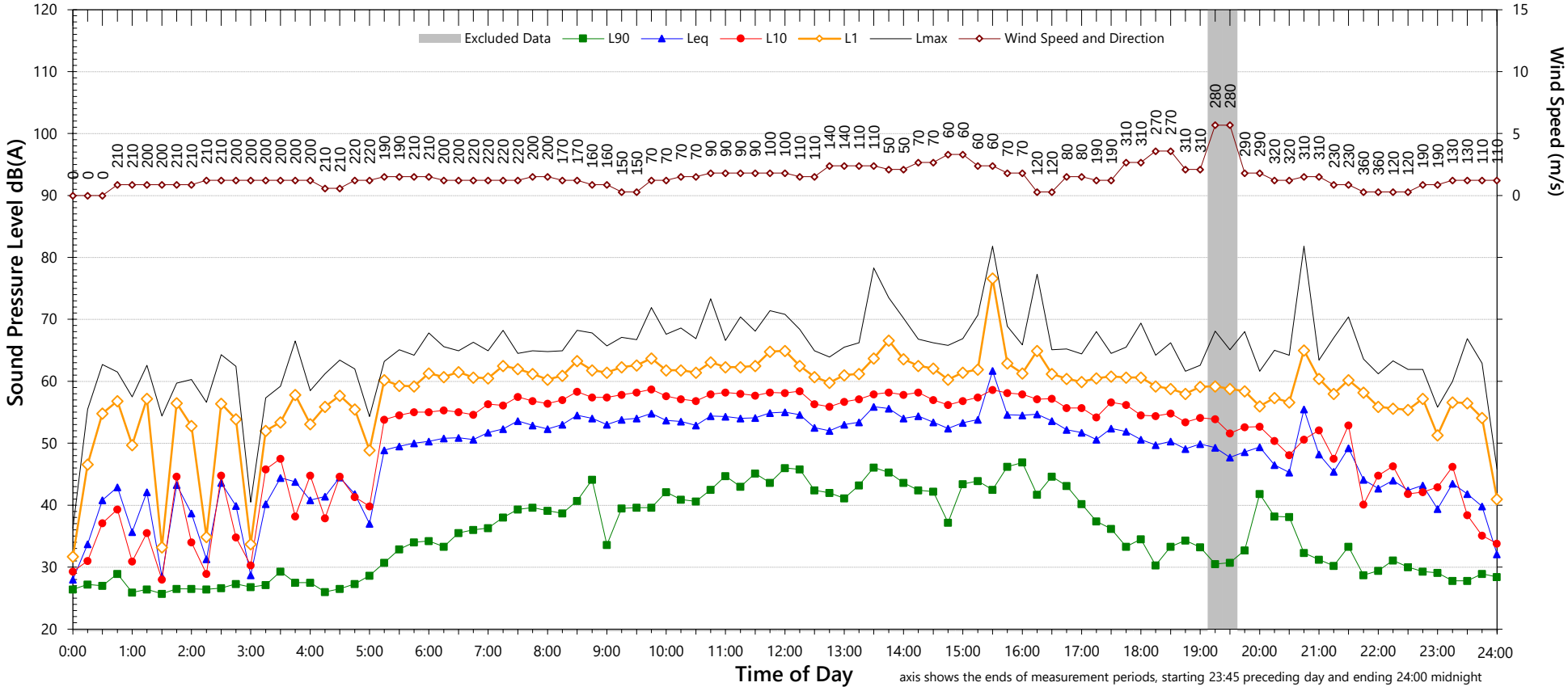
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Tuesday, 24 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	37	30	29
L_{Aeq}	54	49	44

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	65	to	67
L_{AFMax} - L_{Aeq} (Range)	15	to	26

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	56	46
$L_{Aeq\ 1hr}$ upper 10 percentile	57	49
$L_{Aeq\ 1hr}$ lower 10 percentile	52	43

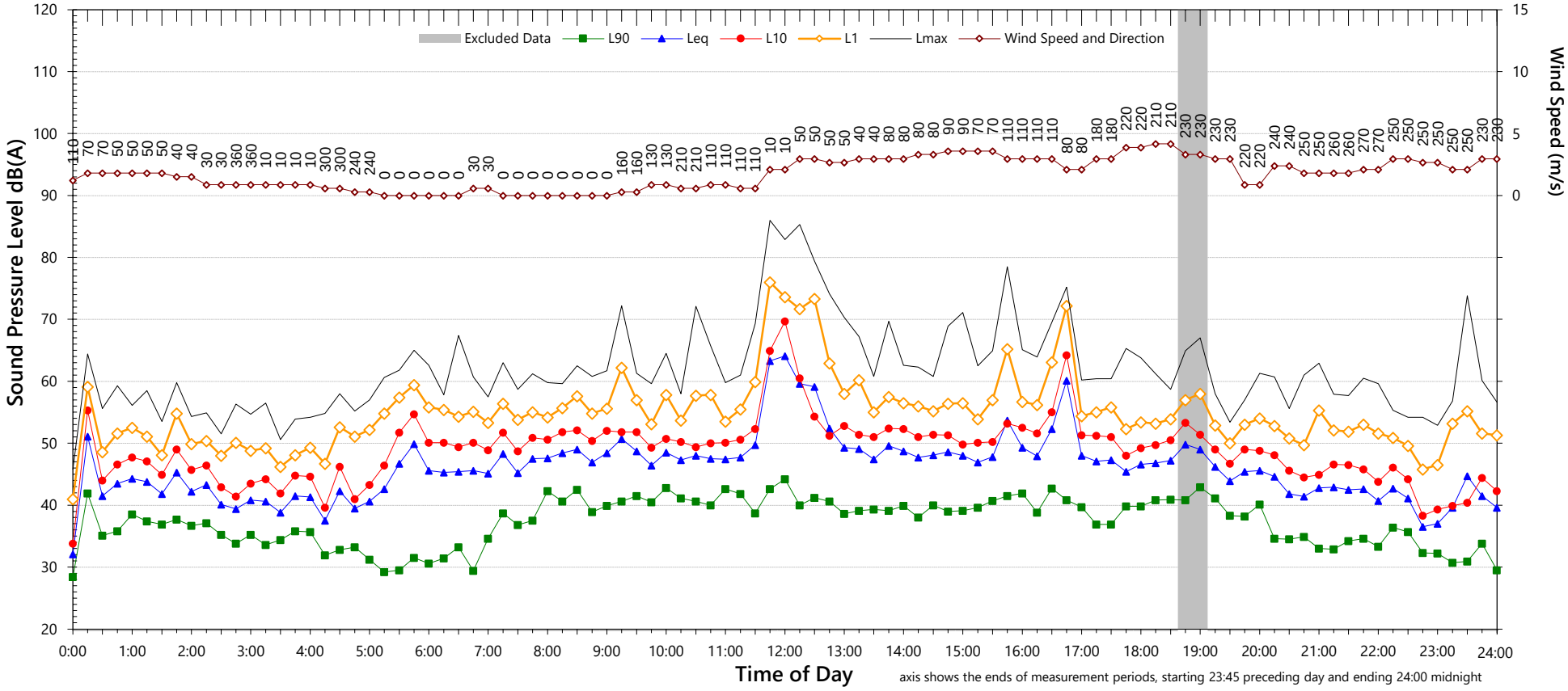
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Wednesday, 25 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	38	33	23
L_{Aeq}	54	44	44

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	67	to	74
L_{AFMax} - L_{Aeq} (Range)	15	to	32

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	55	46
$L_{Aeq\ 1hr}$ upper 10 percentile	59	50
$L_{Aeq\ 1hr}$ lower 10 percentile	46	38

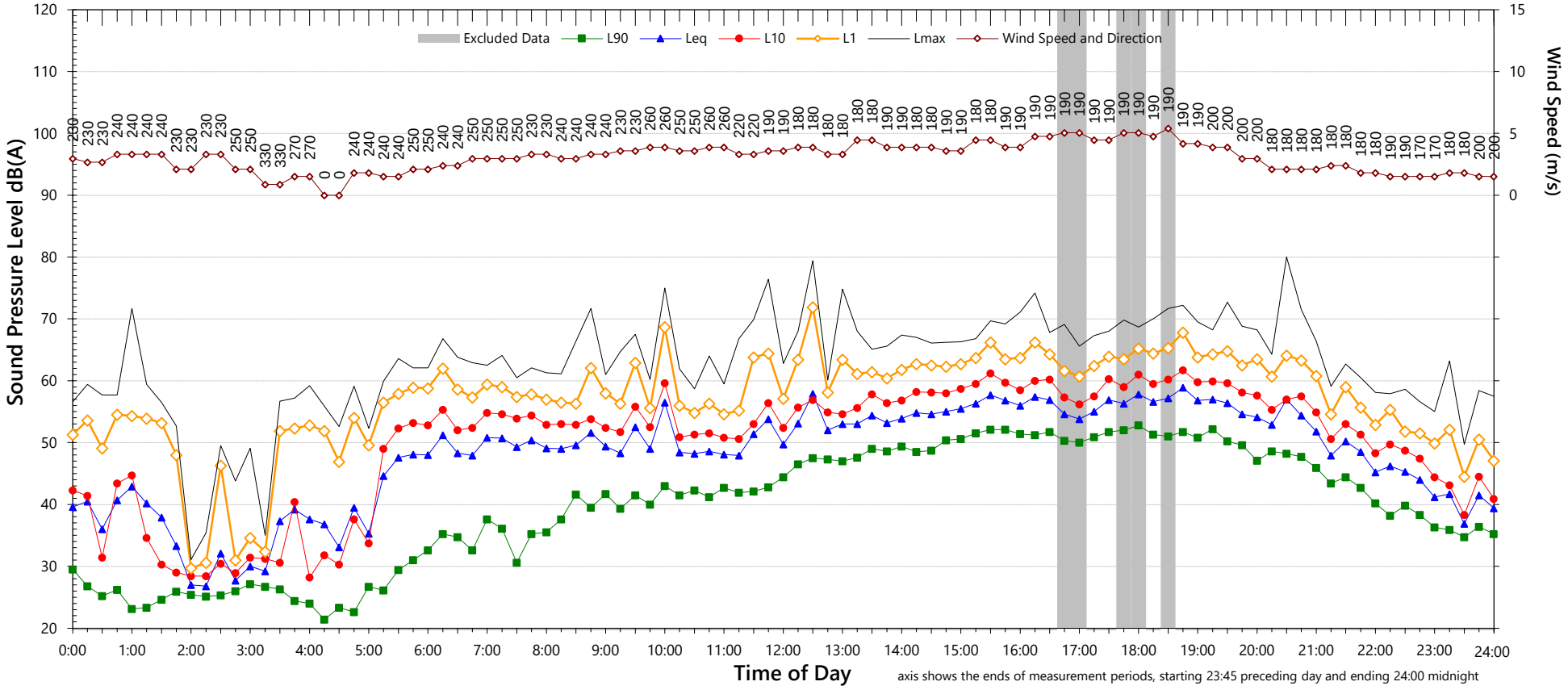
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Thursday, 26 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	37	43	35
L_{Aeq}	54	55	44

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	66	to	69
L_{AFMax} - L_{Aeq} (Range)	17	to	23

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	57	47
$L_{Aeq\ 1hr}$ upper 10 percentile	59	50
$L_{Aeq\ 1hr}$ lower 10 percentile	51	41

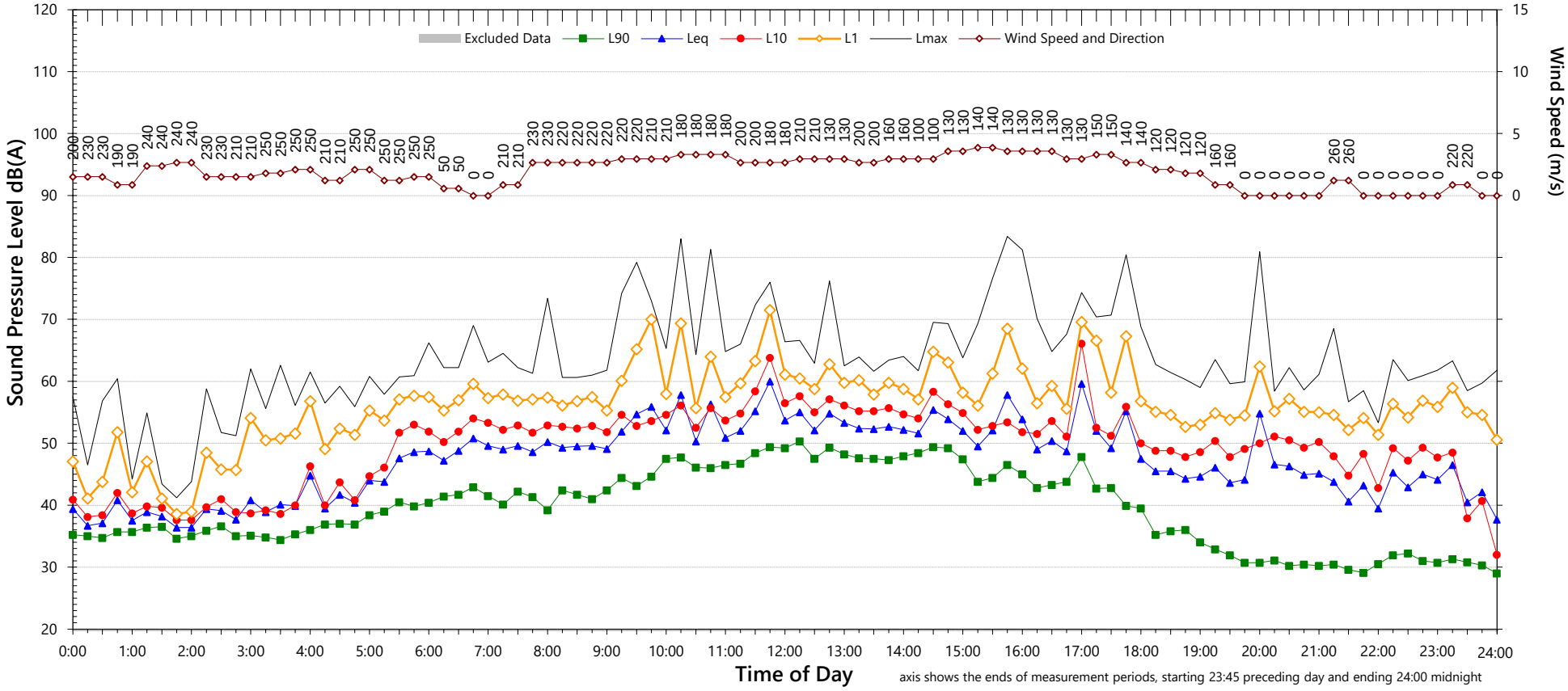
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Friday, 27 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	**Day[2]**	**Evening[3]**	**Night[4 5]**
L_{A90} ABL	41	30	29
L_{Aeq}	54	47	44

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	**Day**	**Night[5]**
	7am-10pm	**10pm-7am**
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	55	47
$L_{Aeq\ 1hr}$ upper 10 percentile	57	51
$L_{Aeq\ 1hr}$ lower 10 percentile	48	39

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	68	to	68
L_{AFMax} - L_{Aeq} (Range)	19	to	23

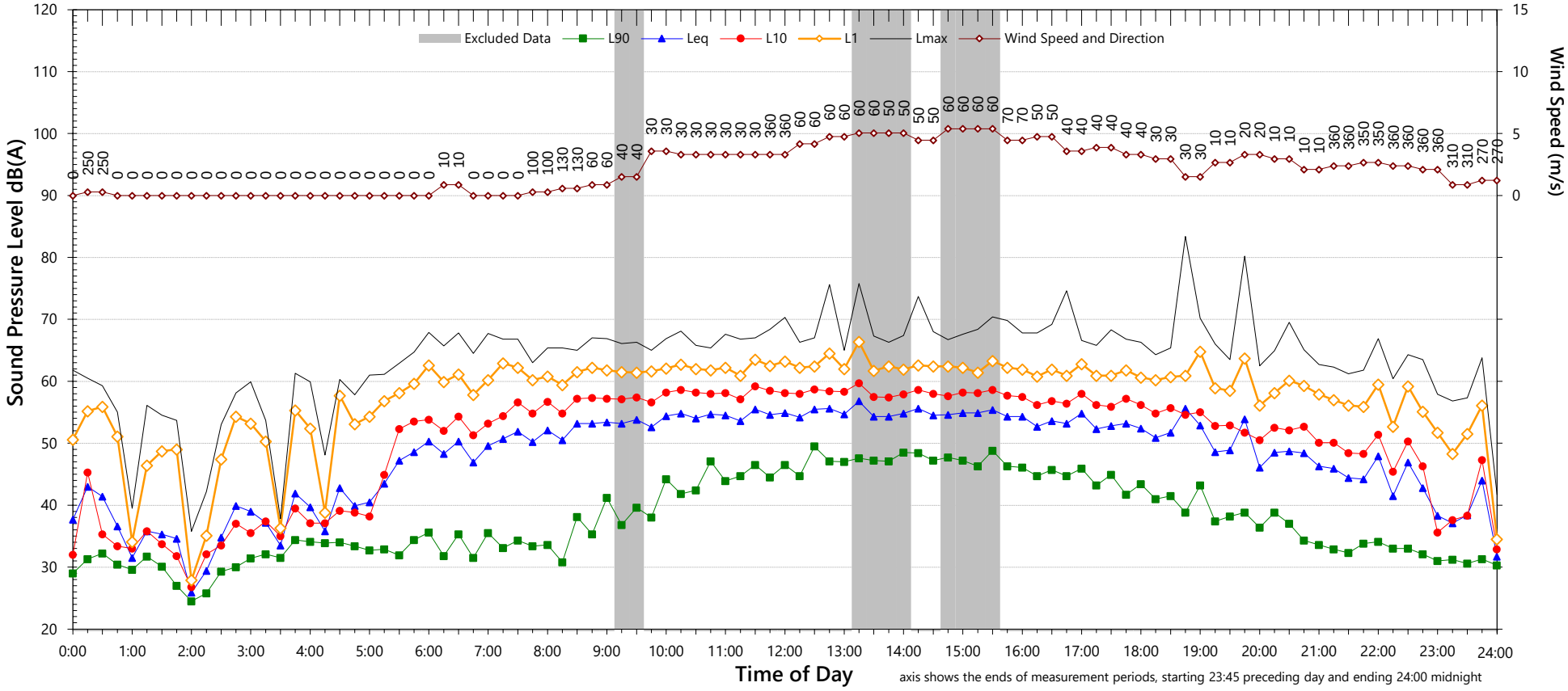
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Saturday, 28 October 2023



axis shows the ends of measurement periods, starting 23:45 preceding day and ending 24:00 midnight

NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	-	33	27
L_{Aeq}	-	50	45

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	65	to	71
L_{AFMax} - L_{Aeq} (Range)	18	to	25

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	55	46
$L_{Aeq\ 1hr}$ upper 10 percentile	57	50
$L_{Aeq\ 1hr}$ lower 10 percentile	51	40

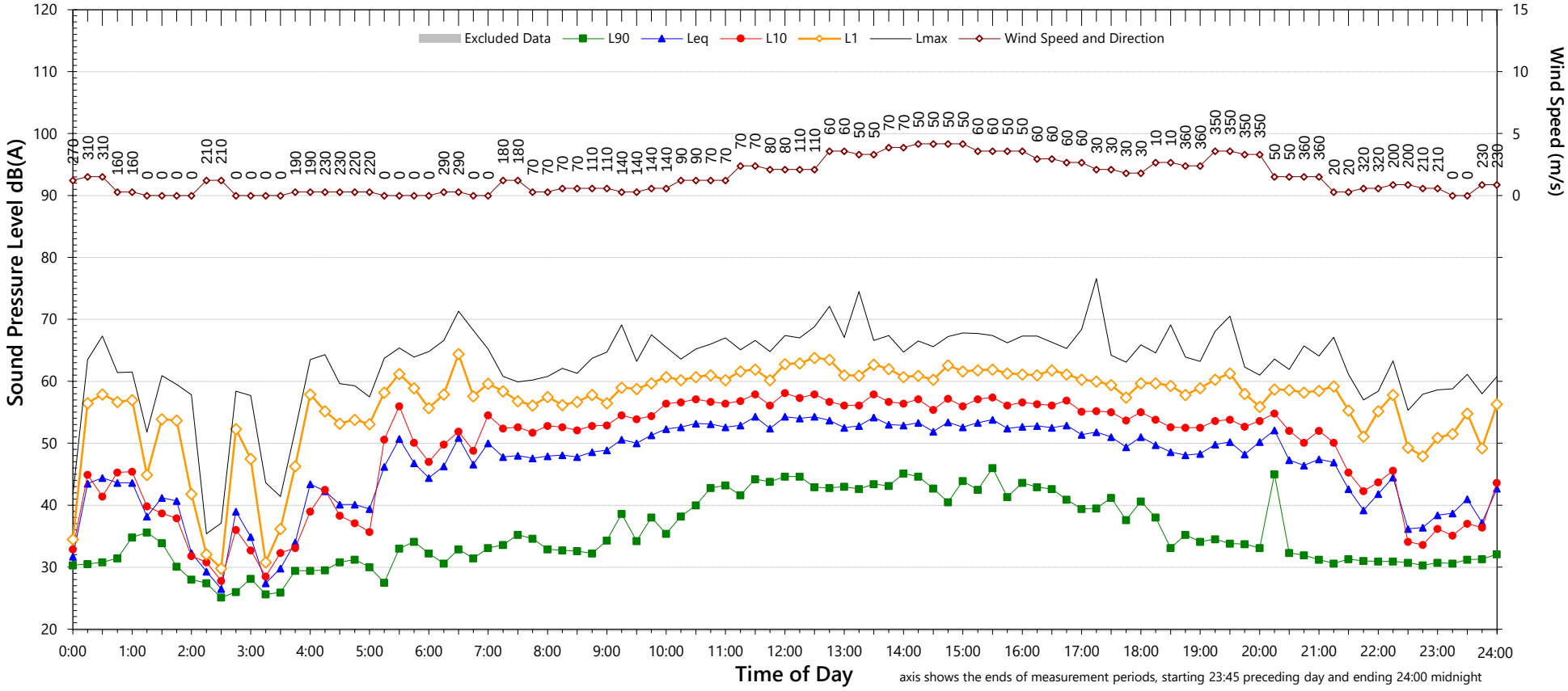
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Sunday, 29 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	34	31	29
L_{Aeq}	52	48	45

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	66	to	67
L_{AFMax} - L_{Aeq} (Range)	15	to	26

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	54	47
$L_{Aeq\ 1hr}$ upper 10 percentile	56	51
$L_{Aeq\ 1hr}$ lower 10 percentile	51	42

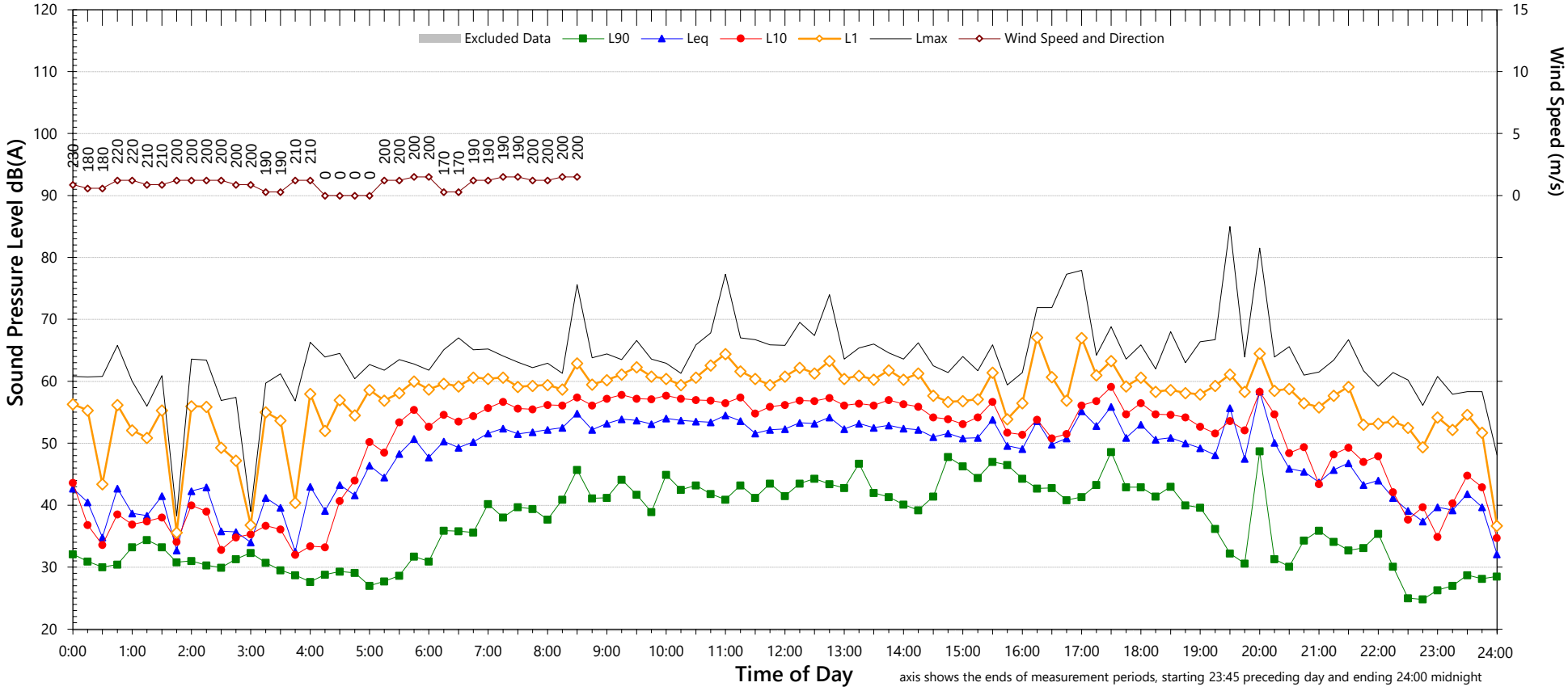
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Monday, 30 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	39	31	26
L_{Aeq}	53	51	44

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	65	to	72
L_{AFMax} - L_{Aeq} (Range)	18	to	23

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	55	46
$L_{Aeq\ 1hr}$ upper 10 percentile	56	50
$L_{Aeq\ 1hr}$ lower 10 percentile	51	40

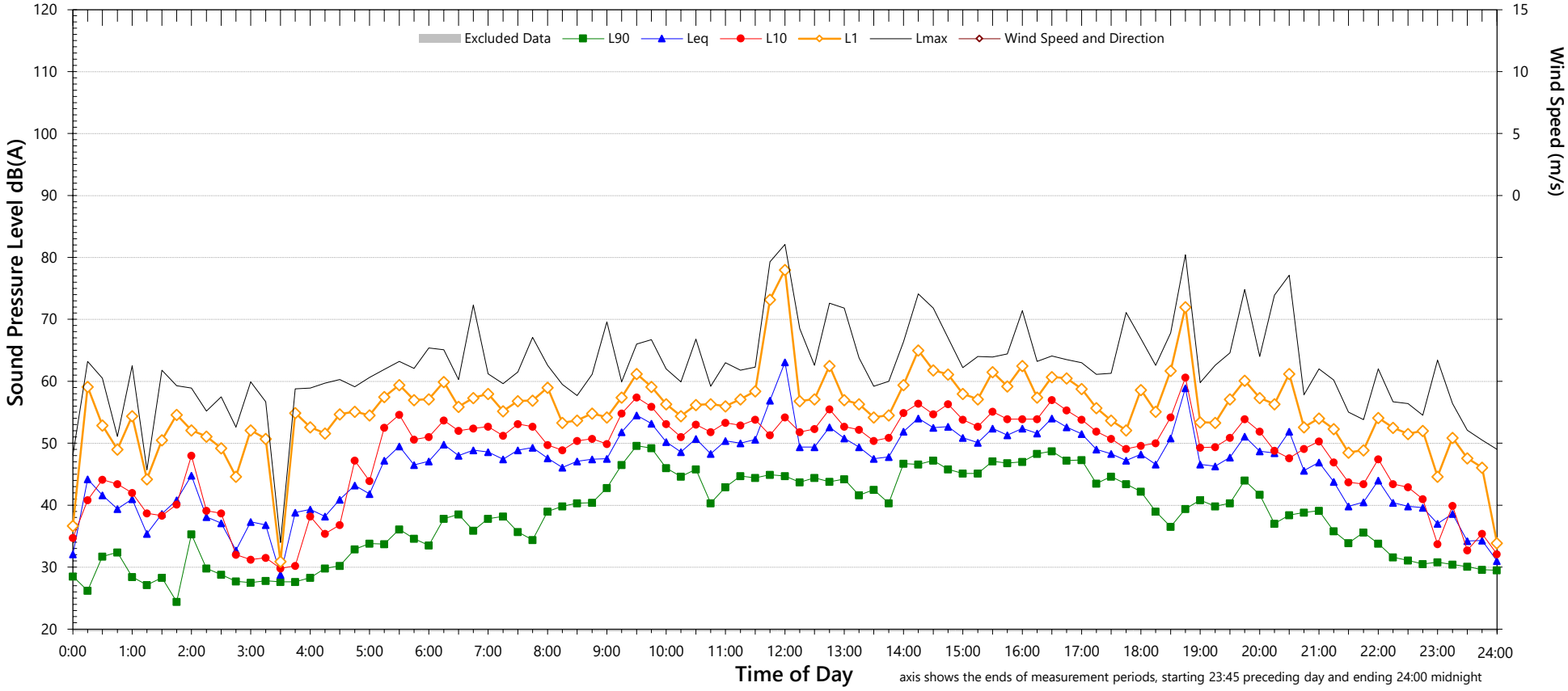
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Tuesday, 31 October 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	40	35	29
L_{Aeq}	52	50	42

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	65	to	65
L_{AFMax} - L_{Aeq} (Range)	16	to	24

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	54	45
$L_{Aeq\ 1hr}$ upper 10 percentile	56	49
$L_{Aeq\ 1hr}$ lower 10 percentile	50	36

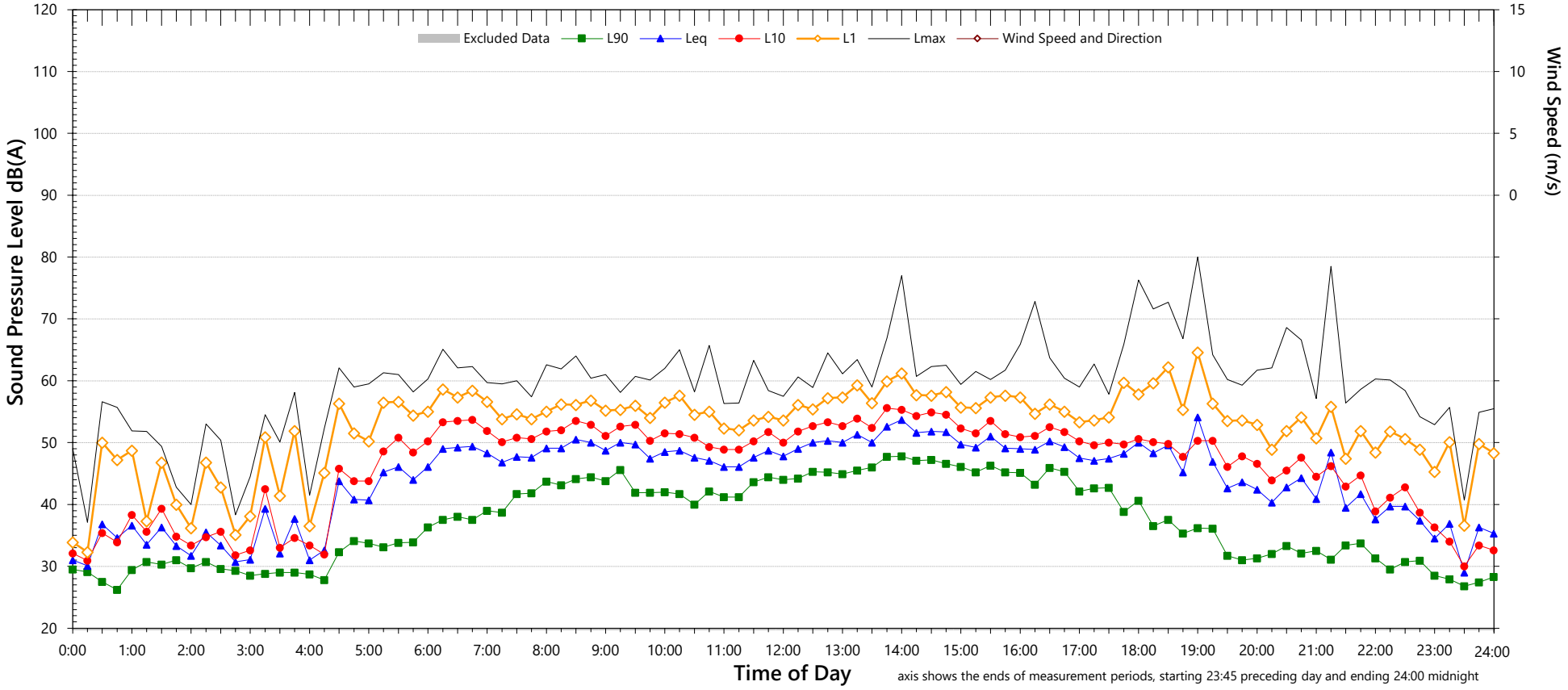
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Wednesday, 1 November 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	41	31	28
L_{Aeq}	50	47	43

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	70	to	70
L_{AFMax} - L_{Aeq} (Range)	17	to	24

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	51	46
$L_{Aeq\ 1hr}$ upper 10 percentile	53	49
$L_{Aeq\ 1hr}$ lower 10 percentile	47	39

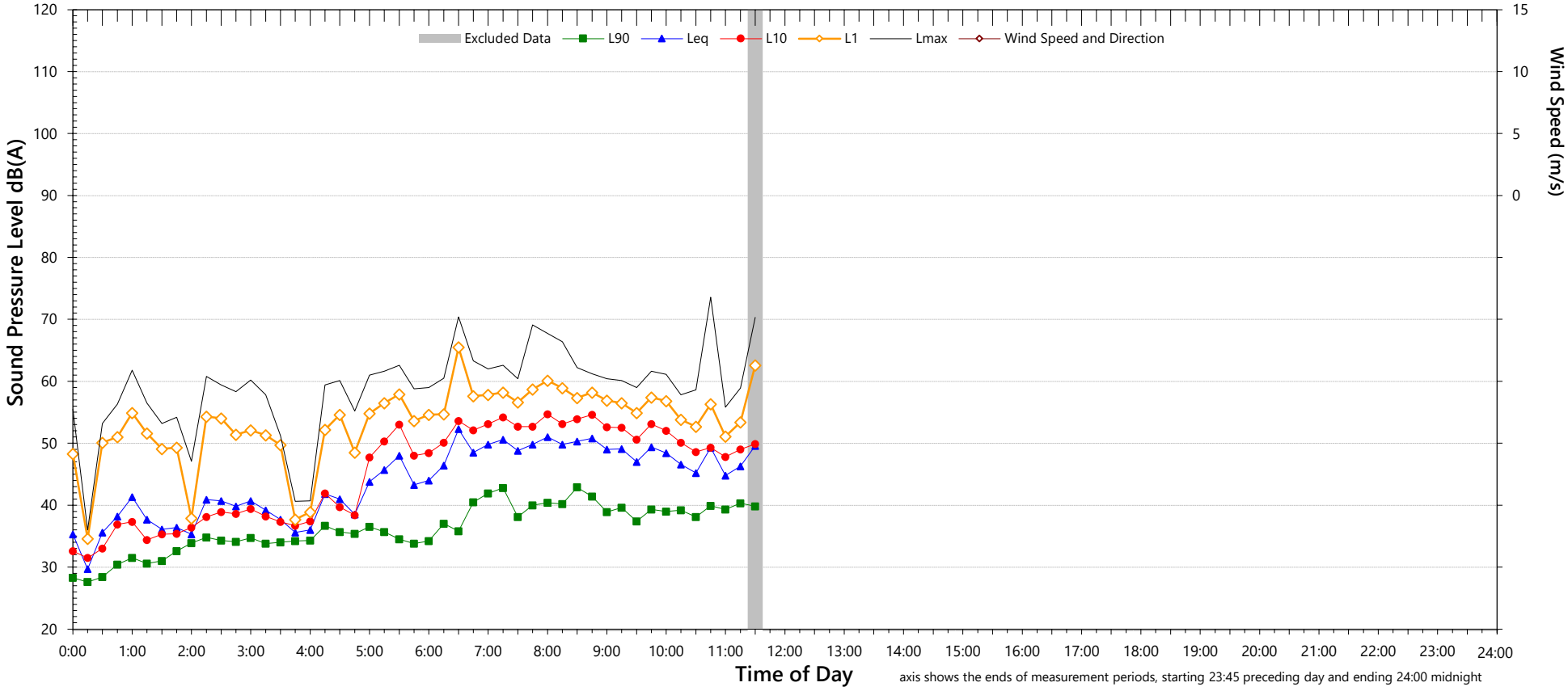
Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Unattended Noise Monitoring Results

8217 Princes Highway, Central Tilba - Front Yard

Thursday, 2 November 2023



NSW Noise Policy for Industry (Free Field)			
Descriptor	Day[2]	Evening[3]	Night[4 5]
L_{A90} ABL	-	-	-
L_{Aeq}	-	-	-

Night Time Maximum Noise Levels			(see note 7)
L_{AFMax} (Range)	-	to	-
L_{AFMax} - L_{Aeq} (Range)	-	to	-

NSW Road Noise Policy (1m from facade)		(see note 6)
Descriptor	Day	Night[5]
	7am-10pm	10pm-7am
$L_{Aeq\ 15\ hr}$ and $L_{Aeq\ 9\ hr}$	-	-
$L_{Aeq\ 1hr}$ upper 10 percentile	-	-
$L_{Aeq\ 1hr}$ lower 10 percentile	-	-

Notes:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Day" is the period from 8am till 6pm on Sundays and 7am till 6pm on other days
3. "Evening" is the period from 6pm till 10pm
4. "Night" relates to the remaining periods
5. "Night" relates to period from 10pm on this graph to morning on the following graph.
6. Graphed data measured in free-field; tabulated results facade corrected
7. 1-hour values for L_{AFMax} are shown only where L_{AFMax} >65dB(A) and where L_{AFMax}- L_{Aeq} ≥15dB(A)

Appendix H PACHCI

30/10/2023

[redacted]
Project Engineer
Project Services South | Network & Assets
Regional and Outer Metropolitan
Transport for NSW

Dear [redacted],

Wallaga Lake Bridge Project under the *Procedure for Aboriginal cultural heritage consultation and investigation* (the procedure).

The project, as described in the Stage 1 assessment was assessed as being unlikely to have an impact on Aboriginal cultural heritage.

If the scope of your project changes, you must contact me and your regional environmental staff Tabatha Cann to reassess any potential impacts on Aboriginal cultural heritage.

If any potential Aboriginal objects (including skeletal remains) are discovered during the course of the project, all works in the vicinity of the find must cease. Follow the steps outlined in the Roads and Maritime Services' *Unexpected Archaeological Finds Procedure*.

For further assistance in this matter do not hesitate to contact me.

Kind Regards

[redacted]
Aboriginal Cultural Heritage Officer
Aboriginal Engagement
Customer Strategy & Experience, Customer, Strategy & Technology
Southern Region
Transport for NSW
[redacted]

Appendix I Consultation letters

6 September 2022

Bega Valley Shire Council
PO Box 492
BEGA, NSW, 2550

Dear [redacted],

Consultation regarding proposed bridge rehabilitation works at Wallaga Lake Bridge, 11km north of Bermagui

I refer to my letter dated 1 September 2022 and wish to consult further with regard to heritage and the proposed repairs to the existing timber piles.

Under section 2.11 of SEPP (Transport and Infrastructure), Transport for NSW is required to undertake consultation with Council where proposed activities are likely to have more than a minor or inconsequential affect on the heritage significance of a local heritage item. It has been identified that the proposal may have an impact on the heritage nature of Wallaga Lake Bridge, which is listed in Schedule 5 of Bega Valley Local Environment Plan 2013 (item 1126).

Transport for NSW is proposing to use a product called “PileMedic” to repair timber piles. “PileMedic” is wrapped around the pile to repair vertical cracks and splits. The annular space is then filled with epoxy resin. The length of “PileMedic” will be from the capwales to say 1.5m below. “PileMedic” is white in colour. A brochure is attached for your reference.

Transport for NSW does not envisage any other potential affect on the heritage nature of this bridge as it will be a like for like replacement of all other bridge elements.

It would be appreciated if you could provide any comments on this proposal by COB Friday 23 September 2022.

Transport for NSW would be pleased to provide further information if required. In this regard the undersigned may be contacted on [redacted] or by email [redacted]@transport.nsw.gov.au.

Yours faithfully,

[redacted]

[redacted]
Project/Contract Manager
Regional and Outer Metropolitan
Transport for NSW
[redacted] **email** [redacted]@transport.nsw.gov.au
153 Auckland Street, BEGA, NSW, 2550

From: [redacted]
Cc: [redacted]
Subject: Consultation regarding proposed bridge rehabilitation works at Wallaga Lake Bridge, 11km north of Bermagui
Date: Tuesday, 20 September 2022 1:42:52 PM
Attachments: Letter to BVSC - Wallaga Lake Bridge - Heritage.pdf
Importance: High

Hello [redacted],

Bega Council has no issues with our proposed works. Read below.

Thank you.

Regards, [redacted]

From: [redacted]begavalley.nsw.gov.au>
Sent: Tuesday, 20 September 2022 1:30 PM
To: [redacted]transport.nsw.gov.au>
Cc: [redacted]begavalley.nsw.gov.au>; [redacted]
<[redacted]s@begavalley.nsw.gov.au>; [redacted]begavalley.nsw.gov.au>; [redacted]
[redacted]begavalley.nsw.gov.au>
Subject: Consultation regarding proposed bridge rehabilitation works at Wallaga Lake Bridge, 11km north of Bermagui
Importance: High

Dear [redacted]
Thankyou for your consultation regarding the proposed rehabilitation works to Wallaga Lake Bridge.
Bega Valley Shire Council does not have any concerns with the works proposed in terms of the potential impact on the bridge which is listed in Schedule 5 of Bega Valley Local Environment Plan 2013.
I note from our conversation that the “PileMedic” product that will be applied is grey not white as specified in the letter.
Bega Valley Shire thanks you and Transport for NSW for your attention to detail in this project and effort to preserve the character of the heritage bridge in the extensive rehabilitation works planned.
Please contact me if you have any further questions regarding this aspect of the project.
Regards, [redacted]

[redacted]
Strategic Planning Coordinator

PO Box 492, Bega NSW 2550
M. [redacted]
E. [redacted]@begavalley.nsw.gov.au

www.begavalley.nsw.gov.au

We wish to acknowledge the Traditional Custodians of the lands and waters of the Shire
- the people of the Yuin nation and show our respect to elders past and present.

From: [redacted]transport.nsw.gov.au>
Sent: Tuesday, 6 September 2022 7:43 AM
To: RecordsMailbox <RecordsMailbox@begavalley.nsw.gov.au>
Subject: Wallaga Lake Bridge

Hello [redacted],

Please find attached a second consultation letter for your consideration for a proposed works at Wallaga Lake Bridge (B6168), Bega to Tilba Road (MR272), 11km north of Bermagui.

I have added an additional consultation relating to heritage at the bridge.

If you have any questions then please do not hesitate to contact me.

Regards, [redacted]

[redacted]
Project/Contract Manager
Project Services South | Network and Assets
Regional and Outer Metropolitan
Transport for NSW

[redacted] | [redacted]@transport.nsw.gov.au
153 Auckland Street, BEGA, NSW, 2550

OFFICIAL

OFFICIAL

Our Reference: 4885251

5 September 2022

[redacted]
[redacted] Manager
Project Services South/Network and Assets
Regional and Outer Metropolitan
Transport for NSW
By [redacted]transport.nsw.gov.au

Dear [redacted]

Bermagui Road – Wallaga Lake bridge and Princes Highway Resilience

Thank you for your letter outlining the major refurbishment of Wallaga Lake bridge to be undertaken in early 2023.

Wallaga Lake bridge

As you may be aware, we have advocated for the bridge to be restored or replaced with a new structure to ensure transport resilience and capability. This route provides a key regional transport route. Additionally, this route proved critical for the mass evacuation during the bushfires and for the re-supply of food and fuel to the south coast region.

We are therefore pleased to support the work proposed to restore the bridge to carry 42.5 tonne general mass vehicles in the short to medium term. We also agree to the use of the sites under our care as outlined in your letter during the bridge refurbishment subject to the appropriate management of safety and environmental aspects remaining the responsibility of Transport for NSW.

In the medium term, we would encourage Transport for NSW to develop plans for the replacement of this bridge with a more resilient concrete bridge to provide greater surety of transport access for the entire south coast region. This route will be a critical bypass route during future natural disasters and it does offer an alternate route when major crashes occur closing the Princes Highway.

Princes Highway – Bermagui turnoff to Quaama

The recommendations from the NSW Bushfire Inquiry (recommendations 31 and 32) sought to have the NSW Government improve the resilience of our highways. We appreciate that some good work has been done to date within the budget allocations available to the Bega team.

However, more is needed, and we continue to advocate for this to occur in a more thorough way along the full length of the Princes Highway.

Our own observations are that the segment of the Princes Highway requiring the most work to establish appropriate vegetation management, and then to maintain that to ensure resilience, lies between the Bermagui turnoff and south of Quaama.

As you know this highway route was severely impacted during the bushfires and has been since even in modest windstorms. The work required on and over the hinge of steep batters is critical, as is the control of the intense wattle regrowth along this entire length.

We would appreciate an understanding of the works Transport for NSW proposes to address the lack of highway resilience and the timeframe for this work to be undertaken. We are happy to meet to discuss these works and prepared to advocate for additional funding to be made available to the south coast region for this purpose.

Should you wish to discuss the above matters in the first instance please contact me on 0409 398 358.

Yours sincerely

[redacted]

[redacted]
Director Infrastructure Services

89 vulcan street Moruya
po box 99 moruya nsw 2537
t 02 4474 1000 | f 02 4474 1234
council@esc.nsw.gov.au | www.esc.nsw.gov.au

From: [redacted]
To: [redacted]
Subject: Wallaga Lake Bridge - Temporary Channel Closure
Date: Friday, 8 December 2023 12:13:39 PM
Attachments: image002.png
image003.png
image004.png

Hello J[redacted],

This is the email trail for the temporary closure of the channel.

Regards,[redacted]

OFFICIAL

From: [redacted]transport.nsw.gov.au>
Sent: Wednesday, 8 November 2023 3:44 PM
To: [redacted]transport.nsw.gov.au>
Subject: FW: Wallaga Lake - Temporary Channel Closure

Reply re channel access Wallaga Lake Bridge

OFFICIAL

From: Manager Operations South <mosouth@transport.nsw.gov.au>
Sent: Wednesday, 8 November 2023 1:49 PM
To: [redacted]transport.nsw.gov.au>
Cc: [redacted]transport.nsw.gov.au>; [redacted]@transport.nsw.gov.au>; [redacted]@transport.nsw.gov.au>
Subject: RE: Wallaga Lake - Temporary Channel Closure

Hi [redacted]

The Team and I have reviewed and we can't see an issue with closing the entire channel for the duration of the works, citing the existing constraints of this low bridge, the vessel profile and use we see here and the winter period that will impacted.

We can progress further and provide any specific requirements once you have drafted TMP's etc.

Regards,

N[redacted]

[redacted] - South Maritime
Transport for NSW

[redacted] [redacted] E [redacted]@transport.nsw.gov.au

transport.nsw.gov.au

18 Waterworks Road
Albury NSW 2640

Please consider the environment before printing this email.

From: [redacted]transport.nsw.gov.au>
Sent: Wednesday, 1 November 2023 10:52 AM
To: [redacted]transport.nsw.gov.au>
Cc: [redacted]transport.nsw.gov.au>; [redacted]
<[redacted]@transport.nsw.gov.au>; [redacted]
<[redacted]@transport.nsw.gov.au>
Subject: Wallaga Lake - Temporary Channel Closure

Hi [redacted],

Just touching base on a project we have coming up in 2024.

We're doing a major rehab/rebuild at Wallaga Lake Bridge in a couple of stages around May-August next year. Part of this work involves a full superstructure replacement of the bridge.

In order to complete this work, we need to have a floating scaffold installed along the length of the bridge for some time. Ideally, it would be great if we're able to install the scaffold in one go along the length of the bridge, including the navigable mid-span of the bridge from approx. mid/end May through to the end of August. The lake is not generally open to the ocean and the bridge is extremely low lying, the marine traffic is typically limited to recreational vessels and kayaks.

We'll be doing all of our comms, marine TMP's etc. Do you have any immediate concerns or issues associated with the above proposal? Happy to work with you and any relevant members of the Maritime team moving forward if any modifications to the proposal are required in order to reduce the time period the channel is closed.

Please feel free to give me a call if you'd like to discuss anything further.

Regards,

[redacted]
Project Engineer
Bridge Works Bega
Regional and Outer Metropolitan
Transport for NSW

[redacted] E [redacted]@transport.nsw.gov.au

Russell Vale Works Depot
21 York Place
Russell Vale NSW 2517

OFFICIAL

19 August 2022

DPI Fisheries
NSW Department of Primary Industries
Narooma, NSW, 2546.

Consultation regarding proposed bridge rehabilitation works at Wallaga Lake Bridge, 11 km north of Bermagui

Transport for NSW (TfNSW) is proposing to undertake bridge rehabilitation works at B6168 Wallaga Lake Bridge, MR272 Bega to Tilba Road, 11km North of Bermagui.

Works include replacing timber elements as follows:

- Abutments A and B - Replace abutment gravel boards on both abutments. Additional rock armour to be placed along the road embankment at both abutments.
- Headstocks - Pier 5 and 6 headstocks have rot and crushing visible.
- Cross beams - Replace badly cracked cross beams supporting the pier headstocks at piers 1, 2, 3, 4 and 8.
- Corbels - Replace corbels on piers 3,4,5,6, 7 and 8.
- Girders - Replace girders in span 2, 3, 4, 5, 6, 7 & 8.
- Longitudinal Sheeting / Decking - Replace of longitudinal sheeting / decking at spans 2, 5, 6, 7 and 8.
- Piles – Vertical cracks and splits need to be repaired.
- Walers / Bracing - Pier 3, 4 and 8 bottom walers are badly rotten or missing and need to be replaced.
- Railing and Kerbs – replace various timber elements. Rails and kerbs to be painted white.

A map image is provided below to assist with the identity of the location of the works. All works will be located within the road reserve or from property owned by Bega Valley Shire Council.

Under Section 199 of the *Fisheries Management Act 1994*, TfNSW is required to consult with the Minister of Primary Industries (DPI Fisheries) on the proposal. TfNSW would consider any matters concerning the proposed work raised by the Minister within 21 days after the giving of the notice.

TfNSW is implementing appropriate safeguards to make sure there is minimal impact to the waterway. The water passage shall not be fully blocked at any point in time. Pontoons will be used to support timber elements whilst they are being removed and replaced at the bridge. If nothing was done and the works where not to occur, the bridge may collapse in the future. This may consequently cause damage to the marine environment aside from the

potentially irreparable damage to the bridge asset. A bridge collapse would close the Bega to Tilba road to traffic at this site.
Works are planned to commence from February 2023 and take approximately 6 months to complete. Due to the replacement of significant members such as girders, the bridge will have to be closed to traffic for up to 3 months. Other timber elements can be replaced under traffic, but with the bridge lane width reduced to accommodate vehicles and workers.

It would be appreciated if you could provide any comments about this proposal by 9 September 2022.

Should you require further information then please do not hesitate to contact the undersigned.

Yours faithfully,

[redacted]

[redacted]
Project/Contract Manager
Regional and Outer Metropolitan
Transport for NSW

[redacted] **email** [redacted]@transport.nsw.gov.au
153 Auckland Street, BEGA, NSW, 2550

Wallaga Lake Bridge – View looking towards the Bermagui abutment

Locality Plan

Department of Primary Industries
Department of Regional NSW

C22/508
13 October 2022

[redacted]
Transport for NSW
Email: [redacted]@transport.nsw.gov.au

Re: s.199 FM Act notification – bridge repair works – Wallaga Lake Bridge

Dear [redacted],

Thank you for your referral dated 19 August 2022 and additional requested information received 10 October 2022 regarding the above stated matter. This notification complies with s.199(1)(a) of the *Fisheries Management Act* (FM Act) concerning the proposed dredging and reclamation activities.

DPI Fisheries is responsible for ensuring that fish stocks are conserved and that there is no net loss of key fish habitats upon which they depend. To achieve this, DPI Fisheries ensures that developments comply with the requirements of the FM Act (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act, respectively), and the associated *Policy and Guidelines for Fish Habitat Conservation and Management (2013)*. DPI Fisheries is also responsible for ensuring the sustainable management of commercial, recreational and Aboriginal cultural fishing, aquaculture, marine parks and aquatic reserves in NSW.

DPI Fisheries has reviewed these works in light of those provisions and has no objections to the proposed works. Please ensure the following mitigation measures are used during these works:

1. Environmental safeguards (silt curtains, booms etc) are to be used during the works to ensure that there is no escape of turbid plumes into the adjacent aquatic environment;
2. Any material removed from the waterway that is to be temporarily deposited or stockpiled on land is to be located well away from the waterway and to be contained by appropriate erosion and sediment control devices; and
3. DPI Fisheries (1800 043 536) and the Environment Protection Authority (EPA) (131 555) are to be notified immediately if any fish kills occur in the vicinity of the works. In this situation, all works other than emergency response procedures are to cease until the issue is rectified and approval is given by DPI Fisheries and/or the EPA for the works to proceed.

Note that as these works are occuring within the Batemans Marine Park, you will be required to obtain a permit from Marine Parks prior to conducting these works. I understand Sham Eichmann has emailed some directrion to you on how to apply for this permit.

For any further information, please contact me on [redacted] or [redacted]@dpi.nsw.gov.au.

[redacted]

[redacted]

Senior Fisheries Manager, Coastal Systems

DPI Fisheries

From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: Proposed works - Wallaga bridge - site visit outcomes 19-12-22
Date: Tuesday, 20 December 2022 1:31:23 PM
Attachments: image001.png
Site notes - SE - 19-12-22.pdf
marine parks permit application form memr 2017 - organised research - educational program.doc
PASS and marine veg map - Wallaga.png
MP zones - Wallaga bridge HPZ.png

Hi [redacted]

It was good to meet both of you on site yesterday. Please see my site notes, they are just my hand written notes at this point as I don't have the time to type them up, however they do provide an overview of the discussion, work methods and controls. The key outcomes will be to avoid or mitigate potential impacts to the waterway and adjacent environments through adequate containment measures. These should seek to prevent foreign materials such as sediment, grout, bitumen, timber shavings etc entering the waterway.

The use of extensive rock extending in front of the Tilba abutment is not ideal due to possible hydrological changes to the lake channel and we strongly support the alternative work method and possible use of sheet piling behind the current timber abutment wall. Due to the deeper water and stronger current there may also be a risk that the rock material is shifted downstream particularly if the lake should open and flood conditions occur at that point of the works.

The works on the Bermagui abutment need to fall within the existing scour rock footprint. I did mention this work to [redacted] from HD Civil his email is [redacted] and their abutment system that is used for the 'in-quick' concrete bridges would also work for a timber bridge. These abutments can be placed behind the existing structure which can limit the need for dewatering etc and therefore the site is easier to manage. [redacted] is happy for you to contact him directly to discuss further.

The pre-works survey of the current bridge should provide an overview of what algae, seagrass, fish and invertebrates are present with particular attention to threatened species (Sygnathids and Black Cod). This can be covered by a permit to the consultant engaged to do this work and an application form is attached.

I've also included our marine vegetation and PASS risk map, the site is high risk for PASS so this will need to be covered by a PASSMP for the abutment works. There's also a zoning plan map and the site lies within a habitat protection zone of the marine park. The works will be assessed under Cl 9 of the Marine Estate Management Regulation 2017 - NSW Legislation and this link will take you to the assessment criteria.

Please also ensure the proposal is sent to the Native Title Service Corp for their review and this aspect is captured within the REF. The general contact email is information@ntscorp.com.au We can re-convene in January and go from there. [redacted] or [redacted] who also both sit

within Transport would also be good contacts when considering the best environmental controls for this site.

Kind regards and have a safe and happy Christmas, [redacted]

[redacted]
Marine Park Ranger - Marine Operations
Aboriginal Fishing & Marine & Coastal Environments | Batemans Marine Park
Department of Regional NSW

[redacted] [redacted] **E** [redacted]@dpi.nsw.gov.au

regional.nsw.gov.au

Department of Regional NSW

We stand on Country that always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for Elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work.

Appendix J Community Response Plan

Transport for NSW

Wallaga Lake Bridge essential maintenance

Community Response Plan

November 2023

NSW GOVERNMENT

Table of Contents

Transport
for NSW

Acknowledgment of Country

Transport pays respects to Elders past and present, and recognises and celebrates the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of NSW.

Introduction

Major work will be carried out on Wallaga Lake Bridge to repair the local icon which has been operating since the 1890s.

The bridge forms a strong part of the area's history, spanning multiple generations. This essential maintenance work will ensure the bridge is safe well into the future for the local community and everyone who uses it.

While the crossing is still safe, work is required to repair and strengthen the structure to ensure its continued use into the future. This includes replacing and strengthening the girders and piles, repairing the bridge deck and upgrading abutments.

Engineers will also investigate the best strategies for managing and maintaining the bridge, with the overall goal of enhancing safety.

Community consultation was held to gather feedback about aspects of the work that will impact the community. This report outlines community impacts and mitigations Transport for NSW will consider implementing to minimise disruption to the community as much as possible while the essential work is carried out.

Purpose of this plan

With the information gathered during consultation activities carried out from Monday 29 May to Friday 23 June 2023, and during drop-in sessions held on Monday 4 December 2023, we have gained a strong understanding of the key areas of interest and impacts the work will have on the community.

The essential maintenance work is required to be carried out in 2024 and the team has reassessed their methodology to ensure the final option minimises impacts on the community.

This updated work methodology and schedule minimises the duration of the bridge closure and implements strategies to support the community while the necessary closures are in place.

The purpose of this plan is to outline the support measures Transport for NSW are investigating in response to community concerns regarding transport options and access during the bridge closure periods.

Community consultation

Summary of consultation

Transport consulted with the community on two proposed construction options to carry out essential maintenance work on Wallaga Lake Bridge. Feedback was invited over four weeks from 29 May 2023 to 23 June 2023. The objectives of the consultation were to:

- Inform the community and stakeholders of the upcoming work and provide detailed information to allow for informed feedback.
- Understand how the community and stakeholders felt about the two proposed options for carrying out the work.
- Manage community expectations on what is feasible and not feasible for mitigating the impacts of the work.
- Obtain specific feedback on the impacts a bridge closure will have on the community.

The options presented

Transport carried out an options assessment before identifying two feasible options that were presented to the community during the consultation period.

Option one proposed carrying out the repairs from September 2023 to May 2024. During this time, the bridge was proposed to be closed for four and a half months and under traffic control and a reduced speed limit for two months.

Alternatively, option two proposed the repairs be carried out from September 2023 to August 2024. Traffic control would be in place for one month, followed by six and a half months of day closures between 9am and 3pm, and two-month full bridge closure to complete the repairs.

What we heard

During consultation the community were asked their preferred option. 80% of the community preferred option two with an extended construction duration and shorter full bridge closure period.

Despite the support for option two, we assured the community the final option was open for change and their feedback would help determine the final construction option.

Key themes and issues raised by the community during the consultation:

- Build a temporary bridge while work is carried out on the existing bridge
- Replace the existing bridge with a new bridge
- Carry out work at night
- Maintain pedestrian access throughout the period of work
- Provide alternate transport options during closure periods
- Considerations for students and families travelling to school
- Emergency services access and response times
- Loss of business/tourism
- Protection of the bridge and load limits
- Improving road safety
- Consideration of bushfire session and keeping communities connected
- Wallaga Lake causeway

A report summarising the consultation was prepared and distributed in September 2023. The report outlines the communication and consultation activities carried out by Transport and the feedback received. The report summarises survey results, comments and ideas received during consultation which informed the actions Transport are investigating to reduce impacts to the community.

How community feedback informed the new approach

Through community consultation, we gained a strong understanding of the key areas of interest and impacts the work will have on the community.

This has resulted in an updated work methodology and schedule that minimises the duration of the bridge closure and implements strategies to support the community while the necessary closures are in place.

Using the community's feedback to set our priorities for revising the methodology, we committed to:

- Minimising impacts on local business, tourism and local events by scheduling the work outside peak season
- Investigating alternate, innovative delivery approaches to reduce the full bridge closure periods
- Investigating ways we can maintain pedestrian access during a full closure period
- Exploring ways we can reduce impacts on school children by scheduling full closure period during school holidays, maintaining pedestrian access and working closely with school bus providers
- Improving road safety on the detour route
- Working closely with emergency service operators to maintain access during full closure periods
- Alleviating cost associated with the detour by exploring a shuttle bus service for the community during the full closure periods
- Identifying ways we can protect the bridge into the future
- Exploring ways we can promote that a bridge closure does not mean a town closure
- Looking at long term future planning for Wallaga Lake Bridge

Announcing the new approach

In November 2023, the revised methodology and schedule was released to the community. Transport distributed information about the revised approach via media release, letterbox drop, social media, local newspapers and radio, the project website, and emails to subscriber list.

Community drop-in sessions

Community drop-in sessions were held on 4 December 2023 at Bermagui Country Club. Representatives of Transport for NSW were available to answer any questions about the revised approach, and throughout the day heard from community members and representatives of key stakeholder groups.

During these discussions, Transport for NSW also sought local insights which will inform the development of community support strategies during the bridge closure periods.

Transport for NSW also visited local businesses and community organisations on 4 and 5 December 2023 to better understand the needs of their customers and communities during the closure periods, including the medical centre, local pharmacy, supermarket, and Merrimans Local Aboriginal Land Council.

Transport for NSW received positive feedback from the community on the revised methodology and timing of work, and also received suggestions on what measures could be put in place to support the local communities during the closure periods.

Project approach and timing

Following community consultation, Transport revisited the work methodology and committed to starting work in 2024 to avoid the peak tourist season. An updated work methodology and schedule has been developed to minimise the duration of the bridge closure and implement strategies to support the community while the necessary closures are in place.

We heard the community preferred an option with a shorter full bridge closure

Under this new approach there will be two full closure periods with a total duration of seven weeks. The closure periods will be split to allow the community respite from the inconvenience the detour causes.

Finding a way to carry out some of the work safely at night

Transport initially deemed night work unsafe due to the nature of the work and the unique low-lying characteristics of the bridge. We have since developed a plan which allows crews to safely carry out some of the work at night, allowing for work to be done safely from the bridge deck after hours to reduce the time the bridge needs to be closed.

During the second closure period work will be carried out during the day and night. Transport will work closely with nearby residents and sensitive noise receivers to mitigate impacts of construction noise.

Proposed timeline of work

Early works

During this eight-week period, work will involve setting up temporary boundary fencing around the construction site, setting up the site office, taking deliveries of materials and installing pontoons under the bridge. Intermittent traffic control in place during work hours.

Dates:	Monday 4 March to Sunday 28 April
Working hours:	Weekdays: 7am to 6pm Saturdays: 8am to 5pm Sundays: 8am to 1pm

First closure of the bridge

This four-week closure will be in place while work is carried out on the bridge abutments and piles. Detour via Cobargo.

Dates:	Monday 29 April to Sunday 26 May
Working hours:	Weekdays: 7am to 6pm Saturdays: 8am to 5pm Sundays: 8am to 1pm

Preparations for the next closure

Teams prepare for the next stage of work. During this six-week period, scaffolding will be installed around the bridge and utilities on the bridge will be temporarily relocated. Traffic control will be in place during work hours.

Dates: Monday 27 May to Sunday 7 July

Working hours: Weekdays: 7am to 6pm
Saturdays: 8am to 5pm
Sundays: 8am to 1pm

Second closure of the bridge

During this three-week closure, teams will work to replace the timber elements of the bridge including the girders, corbels and bridge deck. Detour via Cobargo.

Dates: Monday 8 July to Sunday 28 July

Working hours: Weekdays: 24 hour work
Saturdays: 24 hour work
Sundays: 24 hour work

Finishing work

The bridge will reopen with stop/slow traffic arrangements in place from Monday 29 July for five weeks, weather permitting, while teams install handrails and complete finishing works.

Dates: Monday 29 July to Sunday 1 September

Working hours: Weekdays: 7am to 6pm
Saturdays: 8am to 5pm
Sundays: 8am to 1pm

Notes:

- The dates included in this timeline are weather permitting and may change. The community will be kept informed as the project progresses.
- While work on Saturdays and Sundays are not permanent workdays, there will be stages of the project that requires work to be carried out seven days a week in order to meet timeline targets.
- Night work will be required during the second closure of the bridge in order to meet timeline targets.

Support for the community

We are committed to supporting the community while we carry out this essential work.

Community buses and travelling to school

Transport will support the community with a shuttle bus service during the full closure periods. The service will consider access for Wallaga Lake, Akolele, Bermagui, Cobargo, Tilba, and Narooma. This will ensure the community remains connected during this time. We will work with local bus operators and the community to develop a service that will provide a suitable alternative to the detour route.

We are working closely with local school bus operators to develop solutions to minimise impacts on school children commuting to and from school. During the full closure period alternate routes and changes to the timetable will be in place. The largest impact will be during the full closure periods of the bridge and alternate routes are being established.

Pedestrian access

Pedestrian access will be maintained throughout the project. Access by bicycle, with prams or wheelchairs will not be available due to the constraints of the work area and to ensure the safety of community and workers.

Pedestrians may experience a short delay to their journey as access will be dependent on the work being carried out on the bridge at the time and when the path can be made clear and safe for pedestrians. Project staff and traffic controllers will be onsite to ensure the crossing is safe and an escort is available.

Pedestrian access will be maintained to the eastern side of Payne's Island.

Support for local businesses and events

We have considered local events, business peak season and tourism in the revised timing and approach to complete the work.

Additionally, we are committed to working with event organisers and local businesses to identify opportunities to promote that Bermagui and surrounding communities are still accessible and "open for business" during the closures. Variable message boards will be in place advising motorists of the changed traffic conditions.

Road safety

As normal planning for a project of this nature, a traffic management plan is being developed.

It is anticipated that temporary speed reductions will be in place at the intersection of Wallaga Lake Road and Cobargo/ Bermagui Road for the safety of road users during the project.

Temporary speed reductions will also be considered at the intersections of the Princes Highway and Bermagui Road, and the Princes Highway and Cobargo/ Bermagui Road for the safety of road users.

The impacts of the detour on Cobargo will also be considered as part of this work. Transport will investigate whether further traffic management, such as temporary traffic signals or traffic control, is required during periods when the detour is in place.

Construction noise impacts

Transport has carried out background noise monitoring to inform a noise assessment for the Wallaga Lake Bridge essential maintenance work.

The purpose of this noise assessment is to determine the noise impacts associated with the work, and what impacts the work may have on nearby residents and businesses.

Transport will work closely with nearby residents and businesses to mitigate impacts associated with construction noise.

Vegetation maintenance

Transport will carry out trimming of vegetation as part of its standard maintenance activities to improve sight distance for road users travelling the detour.

Protection of the bridge

Upgrades to load limit signage will be investigated to help support the protection of the bridge into the future.

Reducing the disruption of construction

Transport is piloting a new process to develop plans to reduce disruption during our construction projects by designing a short-term solutions in collaboration with local communities.

After meeting with impacted businesses and community members in 2023, it was clear from the feedback we heard there was a complex transport problem which required an innovative solution.

In addition to the changes Transport is making to the way we will deliver the essential maintenance work, we are working on a new process to develop tailored short-term transport solutions when a community tells us a project is likely to impact the way people can travel for extended periods of time.

Within Transport, the Community & Place team is partnering with the Customer Service Experience & Planning team to develop a new way of working called Community Disruption Response (CDR) planning. This is a short-term solution which can be rolled out in response to projects like the Wallaga Lake Bridge essential maintenance work where there may be significant impacts to communities in regional NSW.

The Wallaga Lake Bridge CDR planning will be a pilot for the development of a future contracting and service delivery model which will be deployable in scenarios where short-term transport solutions are required.

Transport for NSW is committed to ongoing engagement with the community, council, road users and key stakeholders as the project progresses.

Community Disruption Response plan for Wallaga Lake Bridge essential maintenance work

An initial draft has been prepared which outlines the Community Disruption Response (CDR) planning work that has been carried out to date, as well as the actions planned to ensure a tailored transport solution is developed for the Wallaga Lake Bridge essential maintenance work.

Purpose of Community Disruption Response planning

The purpose of CDR planning is to minimise the impact of construction projects on regional communities by co-designing short-term transport solutions, seeking to use existing resources where possible, and focusing on continued outcome delivery.

Transport's Customer Service Experience & Planning Branch (CSEP ROM) will take a lead role in developing this concept. This project is a pilot for the development of a future contracting and service delivery model, deployable in scenarios where a short-term CDR approach is required.

Initial actions identified:

- Engage with Transport Partnerships team within Transport's Regional and Outer Metropolitan Division in seeking to deploy contract delivery options
- Engage with BusNSW to outline industry approach
- Development of project plan encompassing contract and procurement activities following funding approval and or in seeking funding approval before engagement with the industry
- Customer insight development based on available data and known metrics, extending to wider engagement where funding has been approved.

Transport for NSW will continue to develop the CDR plan to mitigate impacts to community during the closure periods. The community will be kept informed as planning progresses.

NSW GOVERNMENT

Appendix K Community Consultation Report

Transport for NSW

Wallaga Lake Bridge essential maintenance

Community consultation report

September 2023

NSW GOVERNMENT

Table of contents

Transport
for NSW

Acknowledgment of Country

Transport pays respects to Elders past and present, and recognises and celebrates the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of NSW.

Introduction

Wallaga Lake Bridge has been operating since the 1890s and this local icon requires major work to repair, upgrade and strengthen the structure to ensure its continued use into the future.

The bridge connects residents of Wallaga Lake and Bermagui to Narooma and the small community of Akolele, and forms a strong part of the area's history, spanning multiple generations. This essential maintenance work will make the bridge safer for the local community and everyone who uses it.

While the bridge is still safe, work is required to repair and strengthen the structure to ensure its continued use into the future. This includes replacing and strengthening the girders and piles, repairing the bridge deck and upgrading the connection between the road and the bridge on both sides (abutments).

Engineers will also investigate the best strategies for managing and maintaining the bridge into the future, with the overall goal of enhancing safety.

The community was consulted and invited to provide feedback on aspects of the work that will impact the local community. The feedback in this report will help plan the timing and duration of the work. The aim is to minimise disruption to the community as much as possible while the essential work is carried out.

Aerial view of Wallaga Lake Bridge. Picture taken April 2023.

Purpose of this summary report

Community consultation was carried out between Monday 29 May and Tuesday 25 July 2023 for upcoming essential maintenance work on Wallaga Lake Bridge.

The community was invited to provide feedback through an online survey between Monday 29 May and Friday 23 June 2023. Meetings with key community and business groups were also carried out in July 2023, including a community forum organised by the Member for Bega, Dr Michael Holland MP.

This report outlines communication and consultation activities carried out by Transport for NSW for the purpose of seeking community feedback and outlines the feedback received.

This report also provides a summary of the survey results, comments and ideas received during consultation. Feedback received from the community, stakeholders, visitors, and transport customers will help inform the best approach and timing of the work.

Summary of consultation

Objectives of consultation

Transport for NSW (Transport) consulted with the community on two proposed construction methods to carry out essential maintenance work on Wallaga Lake Bridge between Monday 29 May and Tuesday 25 July 2023.

The objectives of the consultation were to:

- Inform the community and stakeholders of the upcoming work and provide detailed information to allow for informed feedback
- Understand how the community and stakeholders felt about the two proposed options for carrying out the work
- Manage community expectations on what is feasible and not feasible for mitigating the impacts of the work
- Obtain specific feedback on the impacts a bridge closure would have on the community.

Target audience

Our target audience included:

- Communities and residents in Wallaga Lake, Beauty Point, Fairhaven, Cuttagee, Bermagui, Cobargo, Akolele, Central Tilba, Tilba Tilba, and Narooma
- Local businesses
- Transport customers
- Visitors and tourists to the area
- Community interest groups
- Eurobodalla Shire Council and Bega Valley Shire Council
- Merrimans Local Aboriginal Land Council and the local Aboriginal community
- Emergency services
- Schools
- Bus operators
- Other key stakeholder groups with an interest in the project.

Consultation method

An online survey was prepared to allow the community and stakeholders to easily provide feedback. This was the primary feedback tool and was available from Monday 29 May to Friday 23 June 2023.

The community and stakeholders were able to submit feedback via mail, email, phone and face-to-face. The survey was promoted in all communication materials about the project and via a media release. A link to the survey was featured on the project webpage, and participants were also able to access the survey via direct link in an email blast and Facebook post.

The survey was also accessible from printed material by scanning a QR code, such as the project notification which was distributed via mail.

In addition, hard copies of the survey were available at a face-to-face information session on Payne's Island, where interested community members were invited to come along and speak to the project team.

Transport also met with key community groups on Tuesday 25 July at Bermagui Country Club, and attended an open community forum that night where further feedback was received.

Engagement activities & participation

Transport for NSW received a total of 501 written responses from the community during the consultation period.

A range of communication tools and activities were used to encourage participation from a wide audience and enable the community and stakeholders to give informed feedback. Communication activities included media announcements, letterbox drops, social media and email campaigns, door knocking local businesses, information sessions and face-to-face engagements.

Details of the consultation and communication activities carried out are listed below. Examples of collateral distributed are available in the Appendix.

Community engagement

- Media announcement on Monday 29 May.
- Distribution of 7,561 project notifications to residents living in Wallaga Lake, Beauty Point, Fairhaven, Cuttagee, Bermagui, Cobargo, Akolele, Central Tilba, Tilba Tilba, and Narooma.
- New project webpage with project specific information including FAQs and a link to the online survey.
- Email campaign sent on Monday 29 May to registered stakeholders.
- Social media campaign ran from Monday 29 May to Sunday 4 June:
    - Engagement rate of 12.37 per cent which was above the industry standard of 4.4 per cent.
    - Click rate of 3.04 per cent which was above the industry standard of 0.9 per cent.
- An online survey was the primary tool for collecting feedback between Monday 29 May and Friday 23 June. During this period, we received:
    - 420 online survey responses
    - 68 email enquiries/submissions
    - 13 written submissions via Member for Bega, Dr Michael Holland.

Face-to-face engagement

- Meeting with Merrimans Local Aboriginal Land Council on Wednesday 14 June.
- Door knocking local businesses on Thursday 15 and Friday 16 June.
- Face-to-face information session on Payne's Island Reserve at Wallaga Lake on Saturday 17 June between 10am – 2pm. Around 100 community members attended the session where Transport staff were available to answer questions and receive feedback.
- Meeting with Local Emergency Management Committee on Thursday 6 July hosted by Bega Valley Shire Council (Transport attended via MS Teams).
- Meetings with other key stakeholders.

Key community group meetings

Transport representatives met with several key community groups on Tuesday 25 July at Bermagui Country Club. This included:

- Bermagui Chamber of Commerce and Tourism Inc
- Local business owners
- Board member from Merrimans Local Aboriginal Land Council
- Mayor and Acting General Manager from Bega Valley Shire Council
- Bermagui Historical Society and Montreal Goldfields
- Event organisers from Sculpture Bermagui and Four Winds Festivals
- Principal from Bermagui Public School.

Community forum

A community forum was held in Bermagui on Tuesday 25 July, hosted by Dr Michael Holland, Member for Bega and the Hon Kristy McBain, Member for Eden-Monaro.

Transport provided an overview of the project at the forum, listened to personal statements from community members, answered questions and recorded feedback.

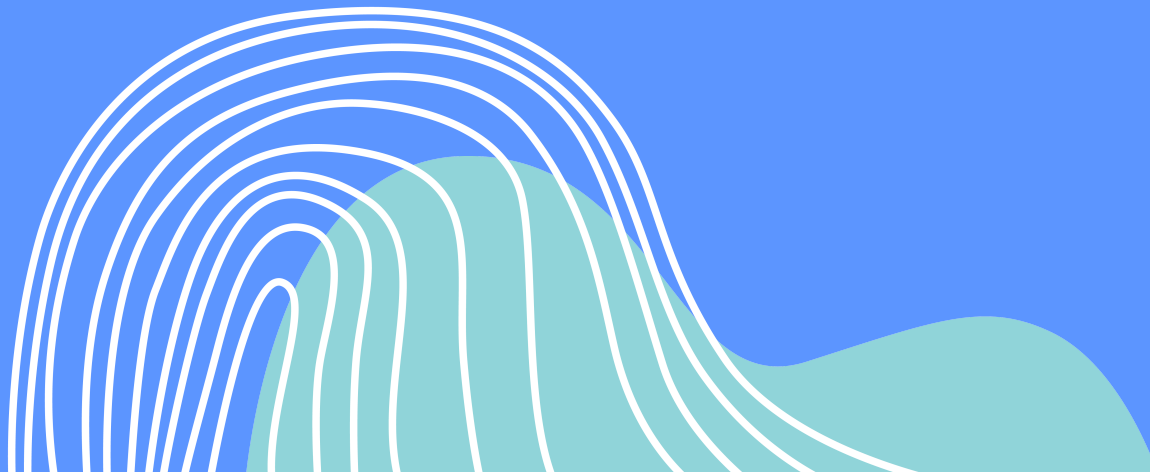
All feedback received has been considered in this report.

Looking west towards Wallaga Lake Bridge. Picture taken April 2023.

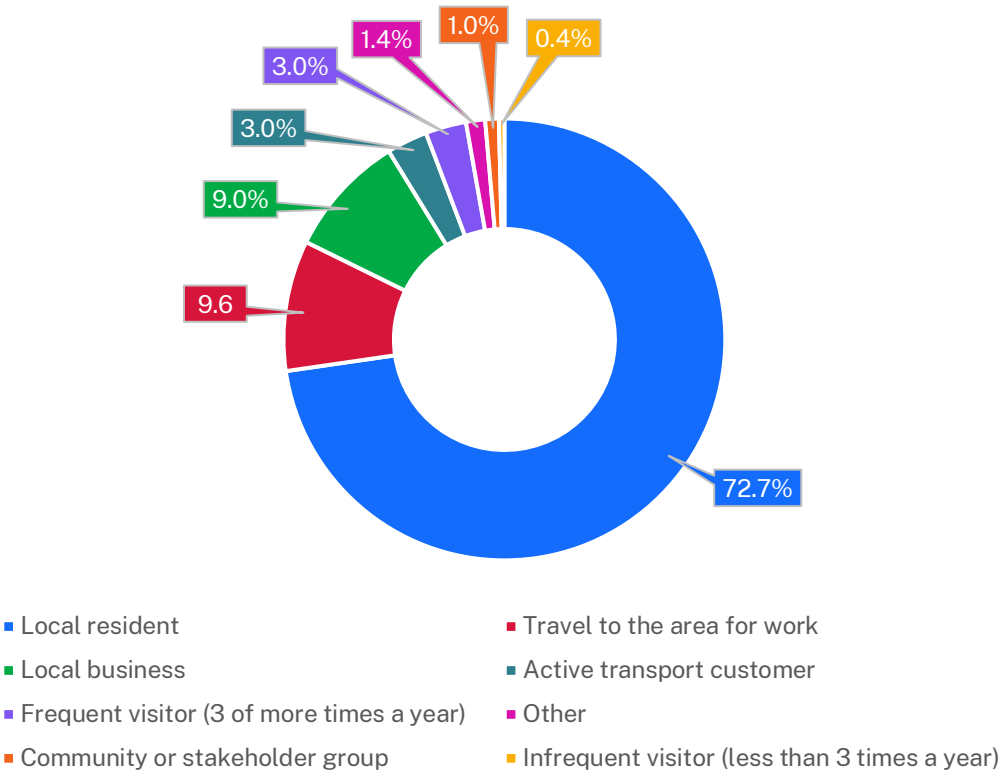
Transport
for NSW

What we heard

The following pages cover a summary of community feedback to each question.

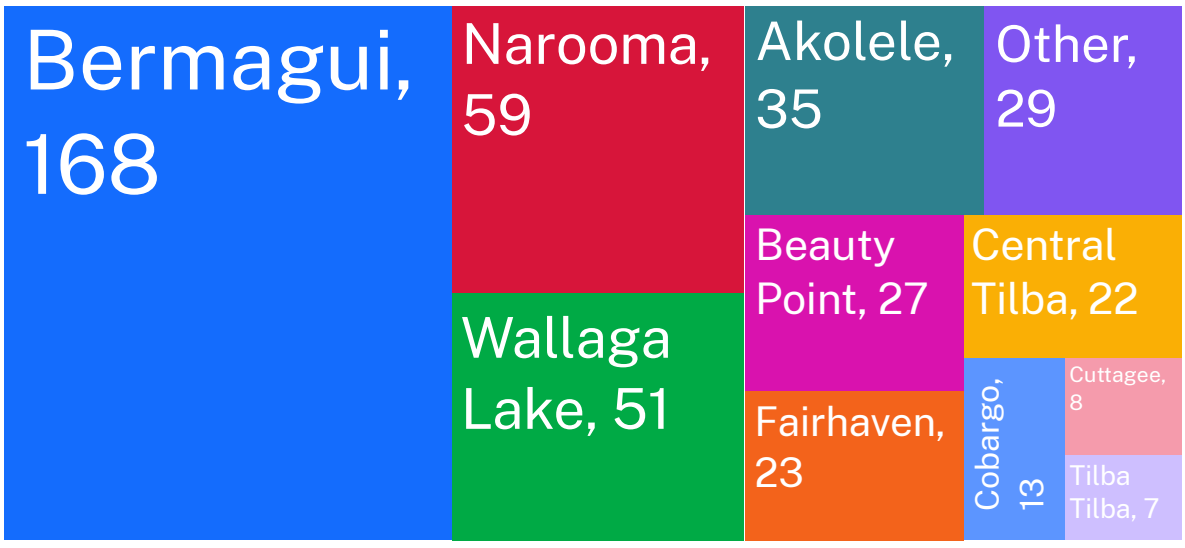


Question 1: Which best describes you?



72.7 per cent of people who completed the survey were local residents, followed by people who travel to the area for work (9.6 per cent) and local businesses (9 per cent).

Question 2: Which suburb are you in?



442 people completed the online survey. The above image provides a breakdown of the suburbs that they live in.

Question 3: Looking at the two construction options, which do you prefer?

Transport carried out a comprehensive options assessment before identifying two feasible options that were presented to the community. The two viable options would allow us to carry out the repairs in a way that is safe for our workers and minimises impacts to the community.

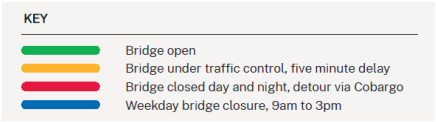
We asked for feedback on these two construction options. These options can change as we better understand views of the community in the assessment and determination of a final option.

Option 1:

The bridge will be closed for four and a half months allowing crews to work safely and efficiently by eliminating live traffic. This proposal includes two months of work under traffic control with a total construction duration of around eight months, weather permitting.

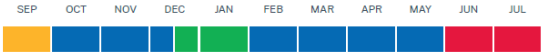
Key points:

- Bridge will be closed day and night for four and a half months, detour via Princes Highway, Cobargo (up to 45 minutes).
- Bridge will be under traffic control for two months, delays of up to five minutes.
- No construction over Christmas and summer holiday period.
- Safest option for workers.
- Shortest period of disruption to the community with the project completed in around eight months, weather permitting.



Option 2:

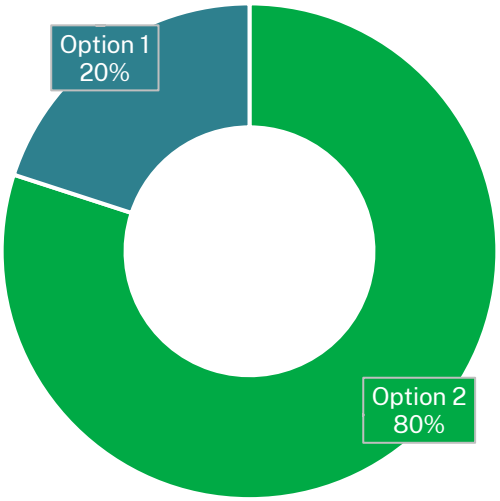
The bridge will operate under three different arrangements for a duration of around 11 months. The extended duration allows connectivity to schools to be maintained with a shorter full closure period, but will have a longer period of disruption to the community.



Key points:

- Bridge will be closed between 9am and 3pm, Monday to Friday for around six months. Detour via Princes Highway, Cobargo (up to 45 minutes).
- Bridge will be closed day and night for two months, detour via Princes Highway Cobargo.
- Bridge will be under traffic control for one month, delays of up to five minutes.
- No construction over Christmas and summer holiday period.
- Not as efficient.
- Longer period of disruption to the community with the project completed in around 11 months, weather permitting.

Based on the feedback received, 80% of respondents preferred Option 2 over Option 1 (20%)



Question 4: Will the extended bridge closure affect any community programs?

A number of community programs were mentioned in response to this question. This included the below following themes:

- After school sport, e.g. AFL, cricket
- Community programs held at Umbarra Cultural Centre
- Homework club at Wallaga Lake Koori Village and PCYC activities.

A sample of comments received:

> *"Travel long distance and children won't get off school buses in time for after school activities."*
>
> *"Children travel in the bus home from Bermagui Primary School to participate in the Wallaga Lake Homework Centre on Mondays after school and PCYC activities."*

Question 5: Will the extended bridge closure affect any community events or festivals?

This question was specific to Option 1 with an extended bridge closure period. The community identified the following events as most likely to be affected by an extended bridge closure:

- Sculpture Bermagui (9 to 17 March 2024)
- Fishing competitions
- Four Winds Festival (Major festival over Easter, 29 to 3 March 2024)
- Tilba Festival (July 2024)
- Reboot (September/October long weekend)
- Markets
- Coast Dog Show
- Cobargo Folk Festival (March 2024)
- Wanderer Festival (September/October 2024)
- NAIDOC week events (July 2024)

Transport met with event organisers from Sculpture Bermagui and Four Winds Festivals on Tuesday 25 July. We are committed to working with all event organisers in the lead up to events, to identify opportunities to promote that a bridge closure at any time does not mean Bermagui is inaccessible or "closed for business". We will consider the timing of local events as we continue to explore the best approach and timing to complete the work.

Question 6: In the case of Option 2, how do you feel about us extending the daily closure times over the Spring (September/October) school holiday period?

Question 6 was specific to Option 2 which proposed a daily bridge closure from 9am to 3pm, Monday to Friday for a period of around six months. Respondents who voted negatively towards extending the daily closure times over the Spring school holidays generally felt:

- The bridge is used more in school holiday periods as it is an important time for businesses
- Extended hours would affect the community using the bridge to commute to work
- Changing the hours would cause confusion.

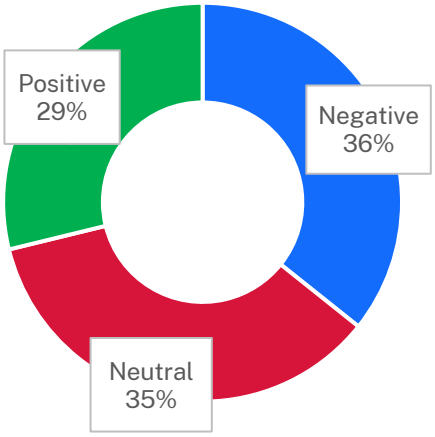
A sample of comments from respondents:

"Holiday period is when the bridge requires most use."

"People still need to work through school holidays."

"School holidays are always important for local businesses, like the September/October school holidays and October long weekend."

"I think it needs to be consistent, so people know what's going on."



Question 7: In the case of Option 2, how do you feel about daytime bridge closures on a Saturday?

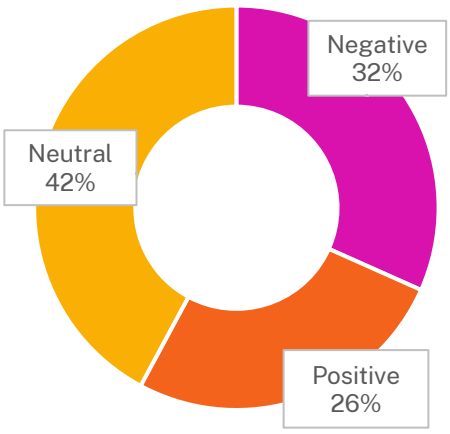
Question 7 was specific to Option 2 which proposes a daily bridge closure from 9am to 3pm, Monday to Friday for a period of around six months. The community was asked whether they would support Saturday closures of the bridge during this period.

A sample of quotes from respondents opposed to Saturday closures:

"Peak time for my business."

"Definitely not! The children will not be able to get to community sports on a Saturday, cricket in the summer months and footy over winter."

"People need to do their shopping out of town on Saturdays."



Question 8: On a scale of 0-10, where 0 is 'not at all' and 10 is 'very much', how much will you be impacted by the extended bridge closure of Wallaga Lake Bridge on a daily basis?

Responses to Question 8 told us the following:

- Respondents who are affected daily by the bridge closure prefer Option 2.
- Respondents who aren't affected daily by the bridge closure prefer Option 2.
- 26 per cent of respondents said they would be highly affected by the bridge closure on a daily basis, responding 10 'very much'.

Question 9: Will you require assistance with transport as a result of the extended bridge closure?

24 respondents stated they would require assistance with transport as a result of the extended bridge closure. The theme throughout the responses was the additional cost of fuel incurred from the detour.

> *"Funds to cover the additional costs! I'm an early childhood educator, lowest paid 'essential' worker in Australia."*

Question 10: Do you have any ideas and initiatives you would like to share with us?

A summary of the key themes that emerged from the community's feedback to this question have been considered in the 'Key Themes' section of this report. Where applicable, a response from Transport for NSW has been provided.

Themes included:

- Building a temporary bridge
- Building a new bridge
- Carrying out work at night
- Maintaining pedestrian and cyclist access
- Providing alternative transport options.

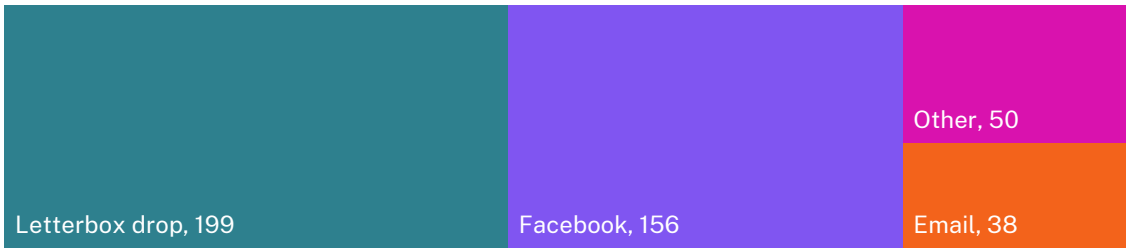
Question 11: Join our mailing list to keep up to date with the project.

225 community members subscribed to the email distribution list through the survey.

61 community members requested to be added to the distribution list at the community forum or by email.

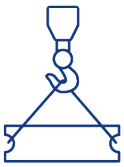
Question 12: How did you hear about the survey?

45 per cent of the community heard about the survey via letterbox drop notification, followed by 35 per cent via Facebook advertising. Those that selected 'Other' said they heard via word of mouth.



Key themes

A summary of key themes raised by the community through this consultation process.



Build a temporary bridge

The community has suggested putting a temporary bridge in place while work on Wallaga Lake Bridge is carried out to alleviate the impacts of the closure.

Transport acknowledges the community would like a temporary bridge to limit construction impacts, however building a temporary bridge requires the same degree of planning and approval as a new structure, including environmental, heritage and geotechnical investigations.

This includes various types of temporary bridges, including a pontoon bridge which was suggested by the community. A pontoon bridge requires similar levels of engineering development and environmental approvals which would cause significant delays to the project and the required works.

Transport considered this option carefully but has determined this option is not feasible. The essential maintenance work needs to be delivered in a timeframe much shorter than a temporary bridge would be able to be developed and delivered.

We are exploring alternate approaches to deliver the work with the aim of reducing the partial and full closure periods, and the overall impacts on the community.

Build a new bridge

Some of the community is keen to see the current bridge replaced, with 12 per cent of survey respondents suggesting a new bridge be constructed. Transport has no plans to replace the bridge at this time. Transport will continue to monitor the bridge to ensure it remains safe and trafficable, and will continue to prioritise maintenance to ensure connectivity is maintained in the immediate future.

Transport will work with other government agencies to seek funds to investigate the future of the bridge connection. In the meantime, we can work with Eurobodalla Shire Council, Bega Valley Shire Council and the community on what this may look like.

Carry out work at night

The community suggested that maintenance work could be carried out at night, as seen on other bridge projects. Under the initial scope of work,

Transport investigated this option and due to the nature of the work, it was determined to be unsafe to carry out at night.

Wallaga Lake Bridge is a unique, low lying, single lane structure. The nature of the work is intricate and unsafe to be carried out under 'day maker' lighting due to the risk of shadowing and blinding from using lights strong enough to illuminate areas adequately for night works.

The majority of the maintenance work will be carried out from the water using barges, and from above the deck where possible. Divers will also work in the water to carry out work to the piles. Managing these risks is significantly greater at night.

We are committed to minimising impacts to the community where possible by continuing to explore alternate approaches that may allow us to safely incorporate night works into the delivery of some work.

Maintain pedestrian access

We heard the community is keen to stay connected. Transport is investigating opportunities where pedestrians and dismounted cyclists can safely cross the bridge during periods when the bridge is closed.

Provide alternative transport options

The community expressed interest in alternate transport options being offered during the period when the bridge will be closed.

Transport acknowledges it may be difficult for some community members to travel during this period. We are committed to working on ways to mitigate the impacts by exploring options like shuttle bus services and boats for school students and the broader community.

The community will be kept informed as we continue to plan for this project, and how we can keep the community connected during this time.

Travelling to school

During the consultation period, we heard travel to and from school and daycare arrangements are key priorities for the community. Community members expressed concern about the impacts additional travel time would have on children and the disruptions caused to before and after school arrangements.

Transport will work closely with bus operators to plan the best approach for travelling to and from school, and we will take into consideration feedback from schools and families when planning for a full closure.

We will explore opportunities for students with special circumstances to cross the bridge under supervision.

Emergency services access and response times

We heard the community is concerned about first responders' access and response times while the bridge is closed.

A full bridge closure is required to replace large structural elements of the bridge. While this work is being carried out, the bridge cannot be used as it will not safely hold the weight of vehicles with key structural elements removed.

Outside this period, access for first responders in an emergency will be maintained.

We will continue to investigate opportunities where access can be maintained during full closure periods. We are working closely with emergency service operators as we continue to plan for the work, and we will continue to liaise with them throughout the delivery of the project.

Loss of business/tourism

Local businesses and the Bermagui Area Chamber of Commerce and Tourism Inc. expressed concerns the bridge closure would impact local businesses.

Key concerns raised:

- Access from the north via Wallaga Lake Bridge is the main arterial link for tourists to enter the area. Businesses are concerned tourists will not follow the detour to visit Bermagui and surrounds
- Businesses will experience staff shortages due to the detour time and cost
- Peak season for business extends from October long weekend to Easter
- Businesses depend on tourism during peak season to survive
- Businesses are just getting back on track after bushfires and impacts from COVID-19
- The closure will impact deliveries
- Increase in operational costs for those businesses that service households/businesses on both sides of the bridge.

Transport met with the Bermagui Chamber of Commerce and Tourism Inc and key businesses to further understand these impacts on Tuesday 25 July. We are committed to working with businesses to minimise impacts by revisiting the timing of the full bridge closure period. Further, we are looking at alternative, innovative delivery methods to reduce the partial and full closure periods.

Protection of the bridge

We heard questions from the community regarding the current load limit and whether this would remain in place once the maintenance work is complete.

Transport will reassess the structure's capacity following the works, along with the community and industry requirements, before determining if the 22.5 tonne weight restriction will remain.

In the meantime, we will continue ongoing monitoring and inspections of the bridge to ensure it remains safe for crossing. Transport is working with the National Heavy Vehicle Regulator (NHVR) on enforcement of the 22.5 tonne load limit to help prevent further deterioration of the bridge. If further deterioration is identified, urgent work may be required, which may include closures.

Road safety

Transport acknowledges there will be additional traffic volumes on the detour route and intersections of Cobargo Bermagui Road, Wallaga Lake Road, and the Princes Highway.

We are working on ways to improve safety along the detour route including short term improvements at key intersections and temporary speed limit reductions. We are also working with Bega Valley Shire Council and Eurobodalla Shire Council to ensure a collaborative response to other road safety concerns raised by the community.

Bushfires

We heard the community is concerned about bridge closures over the warmer months due to the potential impact of bushfires. Transport acknowledges this concern and will take this feedback into consideration as we continue to plan for this essential work.

Transport has been liaising with emergency services and will continue to do so throughout the planning and delivery of the project to ensure emergency situations are managed collaboratively.

A Natural Disaster Plan and Emergency Response Plan will be developed prior to work starting.

Wallaga Lake Causeway

We have heard the community is concerned about the Wallaga Lake causeway. Maintenance of the causeway is the responsibility of Bega Valley Shire Council. Council is aware of these concerns and will continue to monitor water levels and the entrance to the ocean.

Consultation outcomes and next steps

Community feedback on this project is helping to develop the preferred option for carrying out this essential maintenance work to Wallaga Lake Bridge.

With the information gathered in the survey and further consultation activities, we understand the views and concerns of the community. We heard that neither option was fitting for the community, and the community would like more time to plan for the closures.

Work will now start in 2024 as we continue to explore the best approach and timing to complete the work which is safe for our workers, minimises impacts and provides the community with sufficient advance notice.

In the meantime, we will continue ongoing monitoring and inspections of the bridge to ensure it remains safe for crossing. Enforcement of the 22.5 tonne load limit will also be ramped up to help prevent further deterioration of the bridge. If further deterioration is identified, urgent work may be required, which may include closures.

We are investigating:

- Alternative, innovative delivery approaches to reduce the partial and full closure periods
- Ways to keep community connected during a full closure period
- Maintaining pedestrian and cyclist access across the bridge during the partial bridge closure
- Ways to minimise impacts on students travelling to and from school
- Ways we can promote that a bridge closure does not mean a town closure
- Improving road safety along the detour route
- Maintaining emergency service access across the bridge during closures
- Ways we can protect the bridge into the future
- Long term future planning for Wallaga Lake Bridge.

The community will be kept informed as the project progresses.

Transport for NSW is committed to ongoing engagement with the community, councils, transport customers and key stakeholders as the project planning progresses.

Appendix

Example of collateral distributed to community.

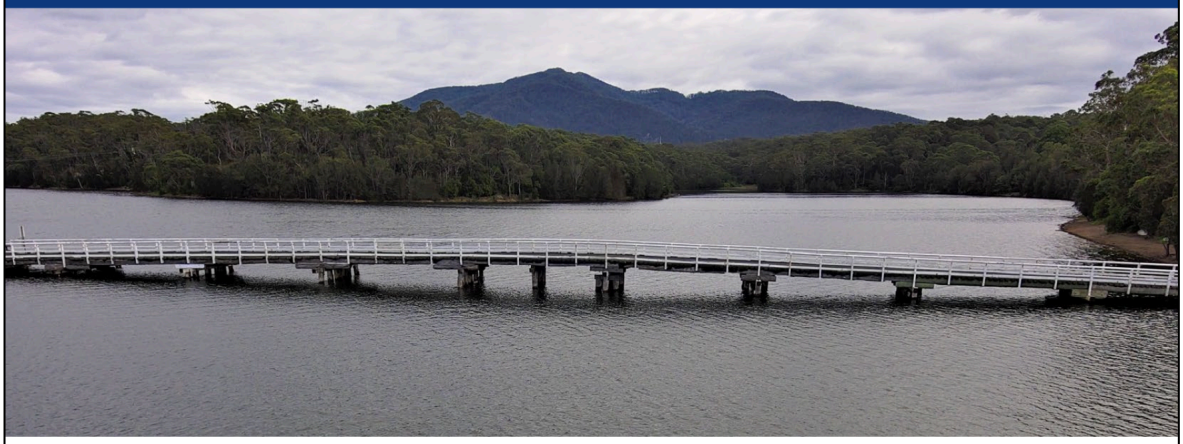
1. Two-page notification distributed via letterbox drop, email and published on the Transport website.

Transport for NSW

Have your say

Wallaga Lake Bridge essential maintenance work

NSW GOVERNMENT



Transport for NSW is seeking your feedback on upcoming Wallaga Lake Bridge essential maintenance work.

Transport for NSW is planning essential maintenance work to repair and strengthen Wallaga Lake Bridge. This work will ensure its continued use into the future.

As we plan for these essential works, we want to hear from the community, stakeholders, businesses, Transport customers and visitors to help inform the best approach and timing of the work.

What are we doing now?

Ongoing monitoring and a recent inspection of Wallaga Lake Bridge indicated deterioration of the timber structure.

A load limit of 22.5 tonnes was put in place to protect the structure, and now essential maintenance work on the bridge is required to improve its serviceability, longevity and durability.

While the crossing is still safe, this work will ensure the bridge remains safe and operational for the local community and travelling public well into the future.

Engineers have investigated the best strategies for managing and maintaining the bridge, with the overall goal of enhancing safety. They have determined that essential work to maintain the bridge will include replacing and strengthening the girders and piles, repairing the bridge deck, and upgrading abutments.

In order to replace the girders and repair the piles and abutments, we will need to close the bridge while work is carried out to protect the safety of the community and our workers.

We understand the bridge is a vital connection for locals day to day and for summer tourism, and that there is no ideal time to close the bridge. We are committed to working with the community to help guide us on how we can minimise the impact while we deliver this essential work.

transport.nsw.gov.au/wallaga-lake-bridge

Wallaga Lake Bridge

How will this affect you?

We have developed two proposals to carry out this essential work and we'd like feedback on which is preferable to the community.

Option 1:

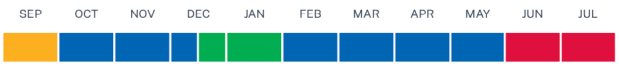
The bridge will be closed for four and a half months allowing crews to work safely and efficiently by eliminating live traffic. This proposal includes two months of work under traffic control with a total construction duration of around eight months, weather permitting.

Key points:

- Bridge will be closed day and night for four and a half months, detour via Princes Highway, Cobargo (approximately 45 minutes).
- Bridge will be under traffic control for two months, delays of up to five minutes.
- No construction over Christmas and summer holiday period.
- Safest option for workers.
- Shortest period of disruption to the community with the project completed in around eight months, weather permitting.

Option 2:

The bridge will operate under three different arrangements for a duration of around 11 months. The extended duration allows connectivity to schools to be maintained with a shorter full closure period, but will have a longer period of disruption to the community.



Key points:

- Bridge will be closed between 9am and 3pm, Monday to Friday for around six months. Detour via Princes Highway, Cobargo (approximately 45 minutes).
- Bridge will be closed day and night for two months, detour via Princes Highway Cobargo.
- Bridge will be under traffic control for one month, delays of up to five minutes.
- No construction over Christmas and summer holiday period.
- Not as efficient.
- Longer period of disruption to the community with the project completed in around 11 months, weather permitting.

KEY

- Bridge open
- Bridge under traffic control, five minute delay
- Bridge closed day and night, detour via Cobargo
- Weekday bridge closure, 9am to 3pm

How to have your say

Complete the survey at **yoursay.transport.nsw.gov.au/wallaga-lake-bridge-consultation** or scan the QR code below. You can also email or write to us on the contact details below.

Want to meet the team and ask questions?

Drop in to meet the team on Payne's Island on Saturday 17 June between 10am and 2pm.

Scan to provide feedback

Feedback closes 23 June 2023

How will a preferred option be selected?

Our preferred option will achieve the best overall outcome for the community while allowing us to complete the essential maintenance work with minimal impact.

A decision will be made by considering:

- Feedback received from community during this consultation process.
- Outcomes of further investigations on physical impacts of these options in relation to economic, environment, safety and community issues.

The community will be notified of the outcome prior to work starting.

If you would like to be notified directly and kept up to date with the project as it progresses, you can join our email distribution list by emailing: wallaga.lake.bridge@transport.nsw.gov.au

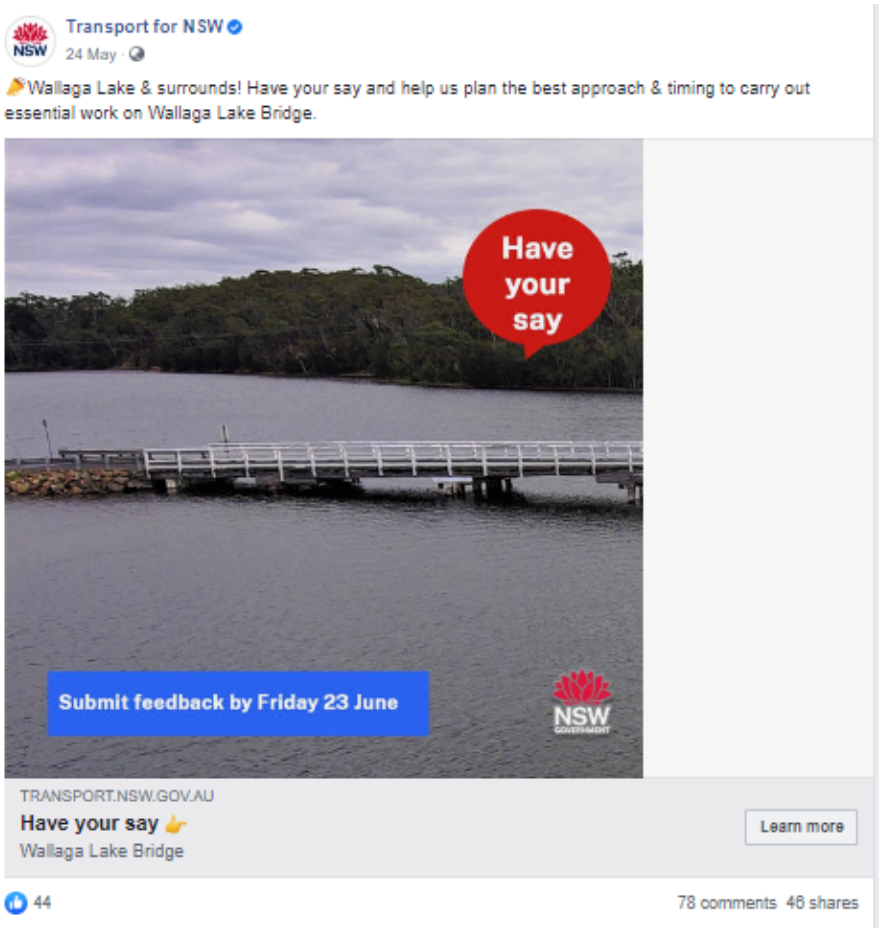
Contact us

1800 015 379
Wallaga.Lake.Bridge@transport.nsw.gov.au
transport.nsw.gov.au/wallaga-lake-bridge
Wallaga Lake Bridge
PO Box 477 Wollongong NSW 2520

If you need help understanding this information, please contact the Translating and Interpreting Service on 131 450 and ask them to call us on 1800 015 379.

Transport for NSW

2. Social media targeted to the local community.



How to have your say

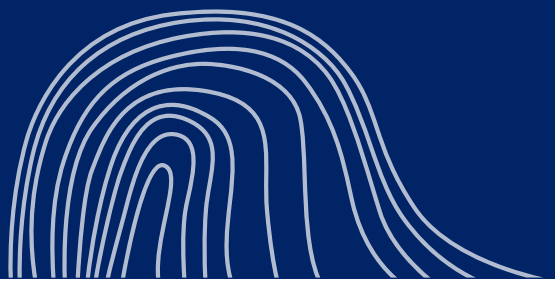
Complete the survey at **yoursay.transport.nsw.gov.au/wallaga-lake-bridge-consultation** or scan the QR code below. You can also email or write to us on the contact details below.

Want to meet the team and ask questions?

Drop in to meet the team on Payne's Island on Saturday 17 June between 10am and 2pm.

Scan to provide feedback

Feedback closes 23 June 2023



NSW GOVERNMENT

Appendix L Wallaga Lake Bridge Heritage Review

[redacted]
Project/Contract Manager
Maintenance and Delivery South Bridges- Networks and Assets
M: [redacted]
E: [redacted]

29 November 2023

Dear [redacted],

RE: Reconstruction of Wallaga Lakes Bridge including pier and abutment modification

1/ Background

Wallaga Lake is a coastal lake north of Bermagui on New South Wales' south coast. It is partly surrounded by the Gulaga National Park, through which runs Dignams and Narira Creeks which drain into the lake. Wallaga Lake Bridge is a timber beam bridge of nine spans built in 1894 that carries Main Road 272 part way across the lake, joining a causeway which carries traffic the remaining distance. This road runs from the Princes Highway at Bega northwards via Tathra and Bermagui and rejoins the highway south of Tilba.

The original owners of the Bermagui area were the Dyiringanj group of the Yuin people, whose lands stretched from Narooma, south to Bega and west to the top of the range. Bermagui is said to be an Aboriginal word for "canoe with paddles". The name Wallaga is also likely to derive from an Aboriginal word. The Geographical Names Board entry for the lake states that it is "important to Aboriginal cosmology". An Aboriginal mission was established at Wallaga Lake Station in the late nineteenth century, and this remained in use until the 1990s. In 2006 following the recognition of a Native Title claim, Wallaga Lake was included in a handover of the Gulaga and Biamanga Parks to the Yuin people to be jointly managed by the traditional owners and the NSW National Parks and Wildlife Service.

European settlement of the south coast occurred from the 1830s, as settlers sought new pastures for their cattle and sheep. Massive clearing of woodland was undertaken for the dairy industry and the timber was utilized locally and also milled and shipped to the Sydney market. Mills sprang up around Narooma, Mogo, Batemans Bay and elsewhere through the 1880s; and the wagons carting logs to and from the mills took a heavy toll on the coastal roads into the 1920s.

The poor state of the coastal roads meant that shipping remained the main mode for long distance communication, dairy and timber transport into the twentieth century. No railway was built to the south coast. A regular steamer service between the south coast and Sydney was established in 1857-8 when several smaller companies amalgamated to form the Illawarra and South Coast Steam Navigation Company, which remained in service until 1948. The steamers operated through Eden, Merimbula and Bermagui, and later the wharf constructed at Tathra. Roads were important, chiefly for access to the ports.

The Wallaga Lake Bridge was built by the Roads and Bridges Branch of the Department of Public Works in 1894 to a design by John A. McDonald to improve access to ports as noted above. It was opened 19th April, 1894, the opening having been delayed for a month so that dignitaries from

Sydney, prevented by bad weather from travelling in March, could attend by steamer. Local pioneer John Jauncey prepared a speech for the opening, which was reprinted in the local paper for the bridge's centenary.

The bridge's importance in facilitating access to the port, as well as local transport links, has continued well into the twentieth century, with the Australian Encyclopedia of 1963 describing Bermagui as "the outlet for the dairy and timber production of Cobargo, Central Tilba and other local centres" with "shipping facilities for vessels drawing up to 18 feet". From the 1930s Bermagui, along with Narooma, had become a tourist resort, known for big game fishing. The improvements to the coastal roads, in particular the Princes Highway, carried out from this time and the growth in use in private motor vehicle usage have contributed much to the tourist industry in the area.

Providing a crossing of Wallaga Lake on the main route south into Bermagui, this single lane bridge is set low to the lake, but with a gentle vertical arch. It connects the northern shoreline to a causeway which in turn curves to a raised area originally an island, and then carries the roadway to the southern shore.

Figure 1: Profile view of bridge structure looking west in 2020.

Figure 2: View of the bridge looking south detailing the subtle arch of the deck and superstructure along with attached services.

2/ Heritage integrity and significance

The bridge is a nine-span timber beam bridge, originally built in 1894.The maintenance records for the Wallaga Lake Bridge between 1894 and 1930 cannot be located but subsequent records indicate the high level of maintenance characteristic of timber bridges. Major repairs, with the replacement of many members, appear to have been carried out in the mid-1930s, 1960s and 1990s with ongoing maintenance at other times. The works of the 1990s were delayed due to the impending possibility of a new bridge and in 1993 the western side of the bridge dropped by 100mm leaving a girder end unsupported before repairs were undertaken. Also, following flooding in 1992, the northern abutment collapsed and urgent repairs were carried out by council staff.

In 1936 the long causeway which forms the southern approach to the bridge was raised (**figure 3**). The periodic submergence of this roadway by the lake's waters, for at times as long as two months, had been the cause of much local inconvenience. The contract for the raising of the causeway by two feet was let to contractor G.A. Armstrong of Bega, with work funded by the Unemployment Relief Council.

Figure 3: View looking north showing causeway and bridge.

Wallaga Lake Bridge is listed in Schedule 5 of *Bega Valley Local Environment Plan* 2013 (item 1126). The bridge was the subject of a detailed comparative assessment in a *Study of heritage significance of a group of pre-1950 and LEP listed RTA controlled bridges in NSW*, HAAH and Worley Parsons, 2010 and the following Statement of significance prepared:
The Wallaga Lake Bridge has Local historical, aesthetic, social and representative significance. On construction, the bridge was a key component in the regional road network allowing access to Bermagui port when shipping remained the region's primary form of long-haul transport. The bridge is a local landmark and appealing rustic structure in the scenic locale of Wallaga Lake. The bridge is recognised as a significant historic structure by the contemporary local community, as demonstrated by the enthusiastic celebration of the bridge's centenary in 1994. The bridge is a rare representative example of a low style timber beam bridge retaining the essential characteristics of the pre-1894 trestle design concept.

While the Bridge as a whole has been assessed as fulfilling the criteria for Local significance listing, the individual elements that comprise the Bridge are of varying levels of significance. While each of these elements contribute to the overall significance of the Bridge, it is a useful management tool to separate the Bridge into its components and examine the heritage significance of each. This process allows for more informed analysis of what constitutes significant form and fabric, or what fabric is of little significance, or intrusive.

Exceptional significance	Retain all fabric. Like for like replacement only for items that require periodic renewal. If adaptation is necessary for the continued functioning of the Bridge, minimise changes, removal and obscuring of significant fabric and give preference to changes that are reversible.
High significance	Aim to retain all fabric. Like for like replacement only for items that require periodic replacement. If adaptation is necessary for the continued functioning of the Bridge, minimise changes, removal and obscuring of significant fabric and give preference to changes that are reversible.
Moderate significance	Aim to retain most fabric. If adaptation is necessary, more changes are permissible than for fabric of high significance though the same principles apply.
Low significance	Fabric of low significance may be retained or removed as required for the future use of the Bridge, provided that its removal would cause no damage to more significant fabric.
Intrusive	Intrusive fabric should be removed or altered to reduce intrusion when the opportunity arises, whilst minimising damage to adjacent significant fabric.

2.1 Headstocks

The most distinct construction detail from the period of 1840 to 1894 is the manner in which the timber piles were capped directly over their tops by a single 12-inch x 12-inch (300 x 300mm) headstock (see **figure 4a**). These were attached to the tops of the piles by a combination of internal mortise and tenons, and external strap bolts. This has proved to be something of a design flaw however, as their routine replacement requires the whole superstructure of the bridge had to be raised by the height of the tenon so the headstock could be raised and taken out; a typically expensive maintenance task which accounts for the very small number of road and rail bridges of this type remaining. On Wallaga Lake Bridge the original early capwale design, which involved this horizontal member attached to the timber members by a mortise and tenon joint has been modified over time. The current capwales sit directly on the top of the piles are held in place by steel straps (**figure 4b**).

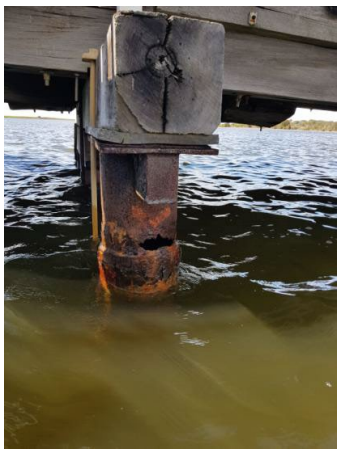


***Figure 4a**: Typical early headstock detail at top of pier. **Figure 4b:** Same headstock detail in place on Wallaga Lakes Bridge.*

In 1894 Percy Allan, a prominent Public Works Department engineer undertook a redesign of timber beam bridges; his purpose was to greatly simplify construction and maintenance and to minimise the amount of timber used. Focusing on the headstock problem, Allan changed the design to a pair of half-headstocks or capwales checked into the piles at their tops, one on each side, and cross-bolted. They could be replaced without raising the superstructure. The time-consuming carpentry required to make the mortise and tenons, and the use of the strap bolts in use for the single headstock design were eliminated. This design feature was adopted in standard drawings for timber beam road bridges and rail trestles from 1894 onwards. The builders of Wallaga Lake Bridge, working with a set of older plans drawn by Allan's predecessor John A. McDonald, completed the structure with the older headstock design, making it amongst the last of this type to be built. The preservation of this technical detail sets Wallaga Lake Bridge apart from the majority of other timber beam bridges still extant on the road network. The headstocks are therefore assessed as being of **Exceptional** significance.

2.2 Deck and superstructure

Beyond the headstocks the form of construction follows the standardized designs in use for timber beam bridges of the period with the separate components labelled in **figure 5a**. The headstocks support lateral corbel members which in turn carry the main longitudinal timbers which are round. The deck consists of transverse planks with longitudinal planks forming the running surface. Timber kerbs are raised to allow drainage and there is a two-rail traditional timber rail. The bridge carries a utility pipe on its western side. There have been no substantial modifications to the deck and superstructure and these are assessed as being of **High** significance.

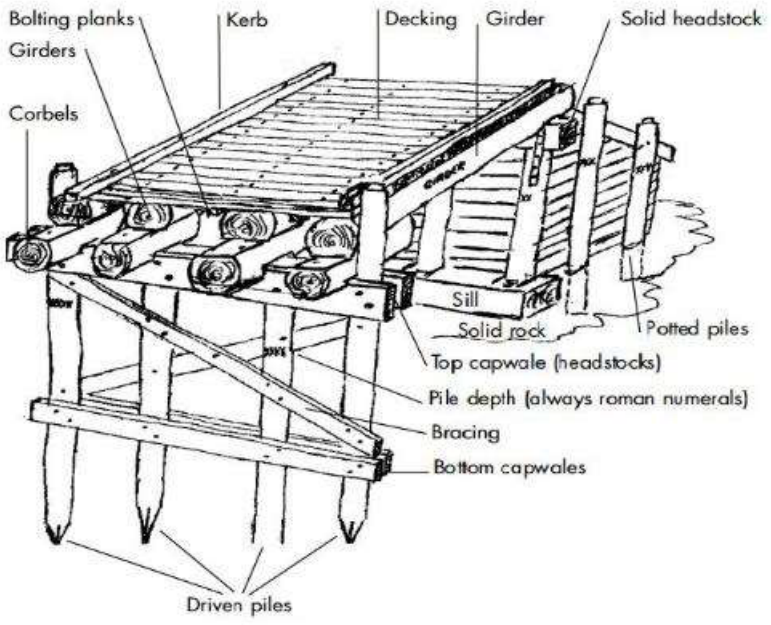


Figure 5a: Typical arrangement of a post-1894 timber beam design detailing the bridge components described in the text. **Figure 5b**: Allan's improved headstock design featuring two capwales.

2.3 Piers

Since the completion of the bridge in 1894, the original form of the piers has been extensively modified as pile deterioration has required additional piles to be driven. The original drawings show that the bridge was designed with four piles per pier, but over the years there has been repair, replacement and addition; some piers now consist of up to fourteen timbers instead of the original

four. These have been driven both outside the line of the bridge and to each side of the original line of piles. They have been tied together with horizontal members both at pilecap level and underwater. Given the extent of rot noted in some of the piles outside the original configuration (**figure 6a**) it is unlikely that any of the piles currently in place are original. Some of the newer timber piles have been wrapped in a protective tape (**figure 6b**) to give them improved resistance to marine borer attack which is in turn encapsulated in Denso 100 Series HDPE jackets (**figure 6c**), or more rarely steel jackets, some in deteriorated condition (**figure 4b**). The piles require regular inspection to remove accretions from jackets and rewrap piles.

The pier elements of piles and bracing (excluding headstocks) have been modified extensively over time and those elements that conform to the original pile arrangement of four piles per pier would be considered of **Moderate** significance. Additional piles driven outside the line of the bridge would be considered **Intrusive** elements for the perspective of heritage management.

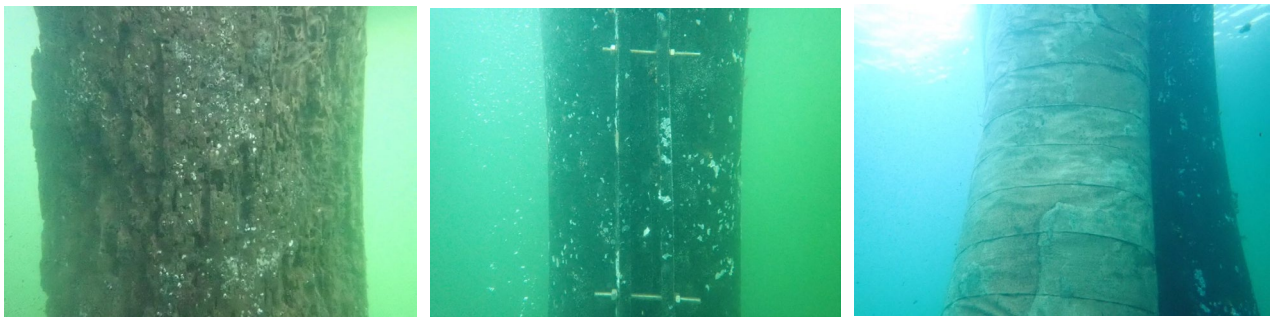


Figure 6a: Typical condition of timber pile recorded in 2018 dive report. **Figure 6b**: Bolted seem of a Denso 100 Series HDPE jacket fitted to pile with protective tape underneath **figure 6c**.

2.3 Abutments

The abutments consist of stone pitched at a 1:1 slope surmounted by timber sheeting. In the Work As Executed (WAE) drawings (**Attachment 1**) these are shown supported by four timber piles which remains the current arrangement. As with the piers, modifications have taken place over time. Some steel piles have been driven on the northern abutment as part of ongoing maintenance and one of these can be seen at the centre of **figure 7a**. A 2008 inspection noted a “loss of approach fill from behind the timber wing wall on the southern abutment” which was rectified through the addition of stones consistent with the sizing used elsewhere on the causeway. The abutments are of a standard design for low-level timber beam bridges and given their low-lying nature are largely inconspicuous. The abutments are assessed as being of **Low** significance.

Figure 7a: Northern abutment face and eastern wingwall. **Figure 7b**: Southern abutment.

In each instance the configuration of the abutments is partly obscured by an existing deck support structure consisting of white steel tubular piles and a white steel girder headstock. This component would be considered an **Intrusive** component.

3/ Proposed works

Transport NSW proposes to carry out work to repair the structure to ensure its continued use into the future. This includes replacing and strengthening the girders and piles, repairing the bridge deck and upgrading abutment, as detailed on the project page: Wallaga Lake Bridge essential maintenance work | Transport for NSW

The components of the superstructure such as the deck, girders and railing are to be replaced in a like-for-like manner thus preserving the essential defining components of the bridge. Similarly, the headstocks, identified as being of **Exceptional** significance as a rare evolutionary feature would be replaced like-for-like. The most substantial works would involve permanent modifications to the abutments and piles which have been assessed as **Low** and **Moderate** significance respectively.

3.1 Abutment upgrade

In order to increase capacity of the abutments it is proposed that the current configuration of four driven timber piles (including some later steel piles on the northern abutment) would be supplemented by an additional six timber piles. This new arrangement is shown in **Attachment 2** in which the four existing piles are shown hatched while the new proposed piles are drawn in solid outline.

The original stone pitching which has failed in part would be reinstated through the use of Riprap of 450mm at 1:1 slope to support the timber sheeting. The existing deck structures would remain in place following completion of these works to further support the abutments.

3.2 Timber pile repair using "Pilemedic"

As noted in **figure 6a** the timber piles are subject to rot and marine borer infestation in an aggressive maritime environment. Considerable effort has been expended in the past to arrest this deterioration involving protective tape and HDPE jackets which, while a reversible addition, require regular inspection and intervention works to remain effective in this task.

Transport for NSW is proposing to use the proprietary product "PileMedic" to repair the timber piles. The product website notes the following:

PileMedic® *is a patented engineered solution developed for repairing and strengthening columns and piles on land and below water . It is used worldwide by the US military and many other organizations for its versatility, ease of installation, and unique structural strengthening features . Conventional HDPE jackets are bulky and allow moisture to pass through the seams so corrosion of the piling will continue.*
Source: Piles and Piling - PileMedic®

The repair process begins by securing the required number of spacers around the pile at 2 to 3 feet on center. These spacers are typically 1 to 2.5 inches long to create a 1 to 2.5 inch thick annular space around the piling. When strengthening is required, a new ring of reinforced concrete shell is created around the existing piling [2].

Works would involve the removal of the existing HDPE jackets and wraps from all piles. “PileMedic” is a fibre reinforced polymer laminate available in any colour including “white” (**figure 8a**) and “grey”; consultation with Bega Council has confirmed a preference for the use of grey laminate at Wallaga Lakes Bridge.

“PileMedic” is wrapped around the pile to repair vertical cracks and splits and a low viscosity resin or non-shrink grout is then pumped into the void space creating a tight seal (**figure 8b**). All piles on the bridge would be subject to this treatment and the length of “PileMedic” will be from the headstocks up to 1.5m below.

Figure 8a: Laminate being cut to size- note while white is shown, grey would be used at Wallaga Lakes Bridge. **Figure 8b**: Side and top views of works once completed.

4/ Conclusions and Recommendations

The works are selective and in-line with current industry practice. While on one hand the use of the PileMedic system constitutes a permanent modification to the piles as distinct from the current removable HDPE jackets in place on the bridge, the noted deficiency of the latter that allows moisture to pass through the seems demonstrates their inefficiency. Given the aggressive maritime environment in place the shift to the permanent, and more effective, solution is justified to ensure the longevity and safe management of the bridge into the future. The utilization of a grey laminate would ensure that these modifications are visually recessive.

Regarding the abutment upgrade the use of new timber piles for this purpose is informed by the original design and is thus considered a more heritage sensitive modification than the steel piles noted in place. As can be appreciated from **figures 1** and **2** the views to the piers and abutments are in any case limited meaning their collective visual impact is negligible.

The works would result in no discernible change to the deck, superstructure and headstocks which have been identified as the components of highest technical value on the bridge. The works are needed to address the condition of the fabric on the structure and to upgrade and maintain the substructure in a manner consistent with its current level of usage. The works are considered acceptable and would not result in a reduction in the identified heritage values of the bridge.

The Wallaga Lake Bridge is listed in Schedule 5 of *Bega Valley Local Environment Plan* 2013 (item 1126). It is recommended that it be included on the Transport NSW section 170 register also to ensure the continued conservation of a pre-1894 timber beam bridge in the Agency’s portfolio.

The bridge has been of considerable importance to the lives of local residents, traders and travelers across the broader region. The 130th anniversary of the Bridge will be reached on 19 April, 2024 – consideration should be given to marking the occasion with a joint Bega Valley Council and Transport for NSW event either on the river banks or another appropriate location. The project team should approach the Community and Customer Engagement Manager for the region to explore the

possibilities. Centenary events for historic railway stations managed by Transport for NSW may serve as a possible guide.

The proposal has been assessed by a Transport for NSW Heritage Specialist and is considered to have no adverse impacts on the heritage significance of the place. Thus, Transport is not required to obtain external heritage approval from Heritage NSW (the office of the Heritage Council of New South Wales).

- In the event of discovery of any unexpected heritage item/s, Transport's *Unexpected Heritage Items Procedure* which must be followed.
- Due care must be taken in the vicinity of identified heritage structures and fabric. No construction materials are to be stockpiled or stored against heritage items or trees.
- Any accidental damage caused to heritage items/fabric must be reported immediately. Damage is to be made good in accordance with specialist heritage advice.
- Any proposed changes beyond the approved scope of works may require further assessment and approval.
- On completion of work, photos of the works—both before and after, suitably captioned or identified—must be submitted to [redacted]ransport.nsw.gov.au for updating the S170 Register (once the bridge is added).

Please do not hesitate to make contact if you have any questions.

Kind regards,

[redacted]
Heritage Specialist
Transport for NSW

[redacted] Environment and Regulation
7 Harvest Street, Macquarie Park NSW 2113
www.transport.nsw.gov.au

Attachment 1:

Wallaga Lake Bridge- WAE drawings

Attachment 2:

Concept design for abutment upgrades

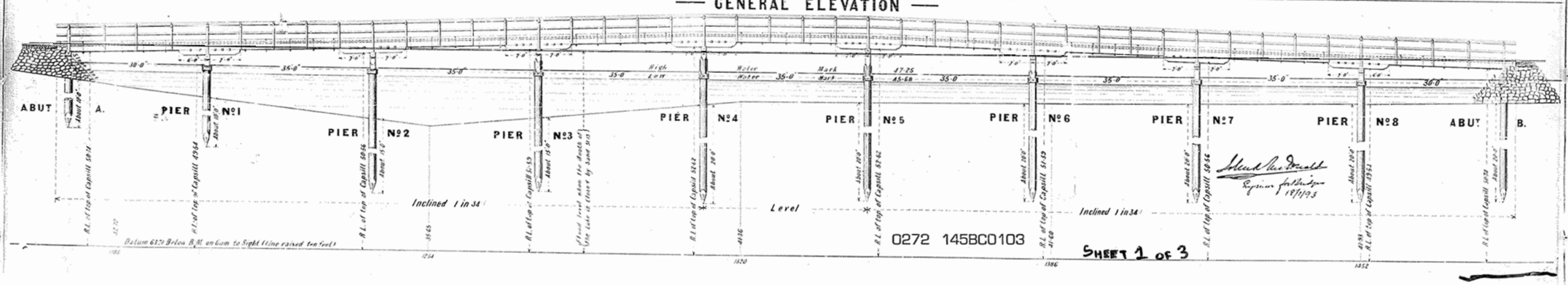
DEPARTMENT OF PUBLIC WORKS
ROADS & BRIDGES & SEWERAGE BRANCH

— BRIDGE OVER WALLAGA LAKE —

— Road Bermagui to Tilba Tilba —

Flood Level (June 1925) 12'-0" above datum at abut.

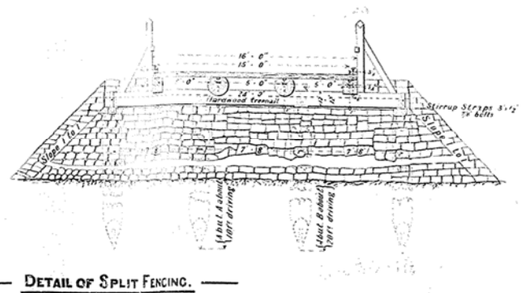
— GENERAL ELEVATION —



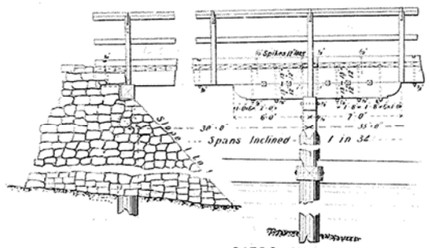
0272 145BC0103

SHEET 1 OF 3

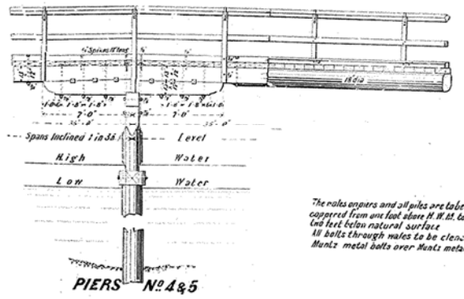
ABUTMENTS



ELEVATION



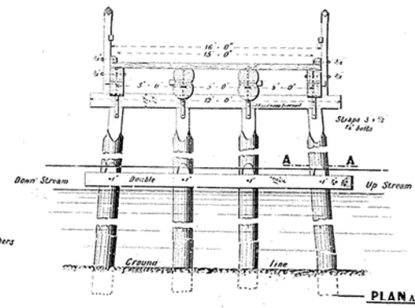
PIERS Nº 1. AND 8



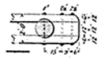
PIERS Nº 4&5

The nuts appears and all spikes are tobe coppered from one foot above H.W.M.St. to two feet below natural surface
All bolts through nuts to be clenched
Muntz metal bolts over Muntz metal washers

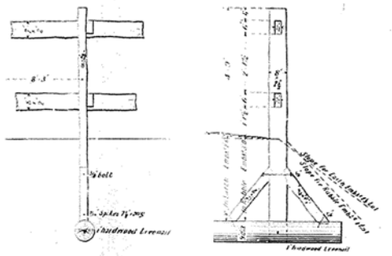
PIERS



PLAN AT A. A.



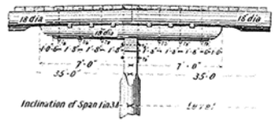
DETAIL OF SPLIT FENCING.



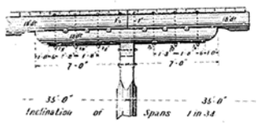
SECTION AT R. R.

INNER JOINT

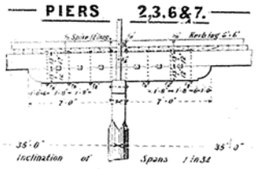
INNER JOINT



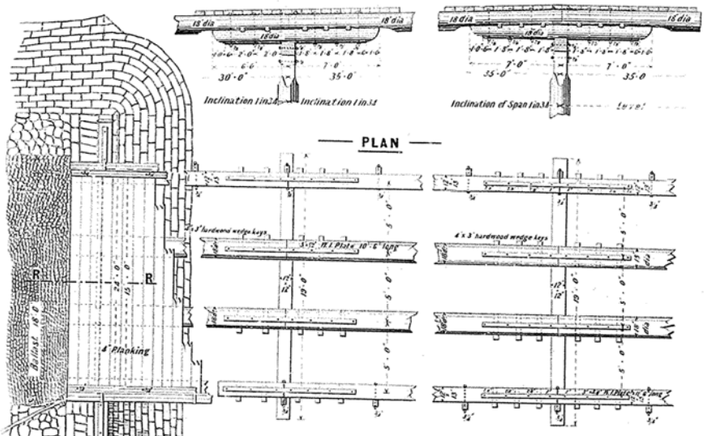
INNER JOINT
PIERS 2,3,6&7.



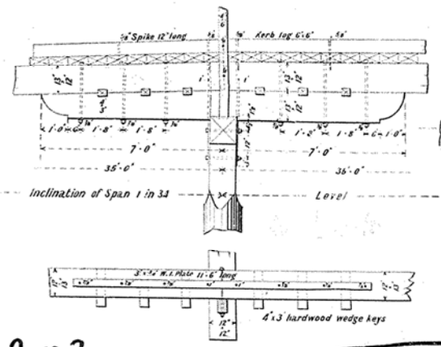
OUTER JOINT
PIERS 2,3,6&7.



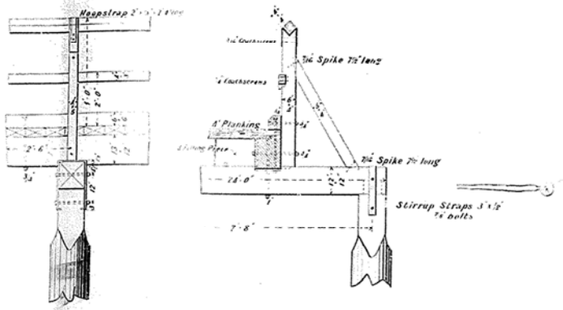
PLAN



PIERS 4&5
OUTER JOINT



DETAIL OF HANDRAIL



PILE SHOE

SCALES

General Elevation	8	feet	to 1 inch
Working Drawings	1	do.	do. do.
Enlarged Details	2	do.	do. do.

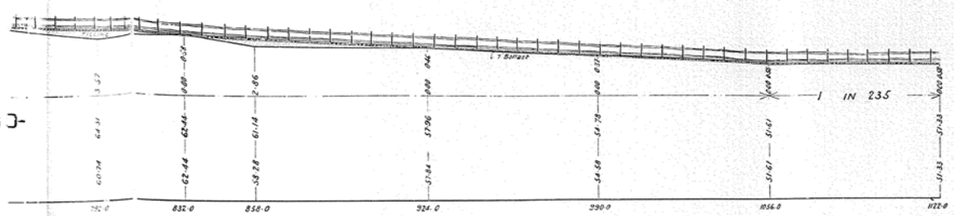
0272 145BC0103

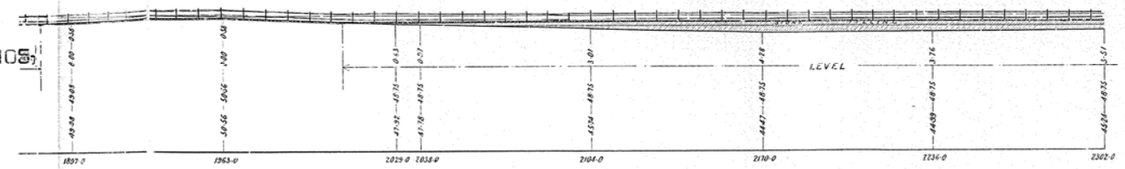
SHEET 2 OF 3

OACHES TO

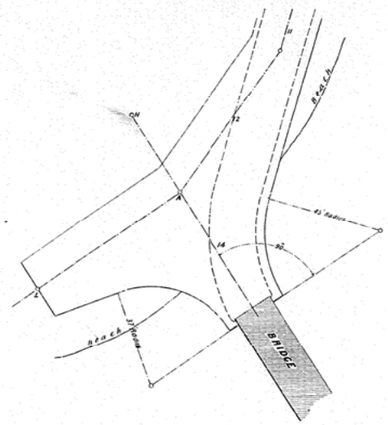
R WALLAGA LAKE

igui to Tilba Tilba

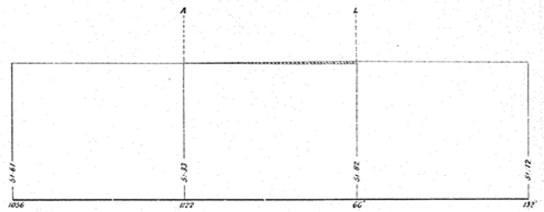




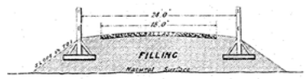
DETAIL of APPROACH
NORTHERN ABUTMENT
Scale 20' to an inch

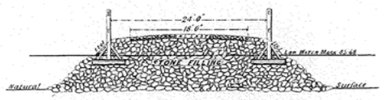


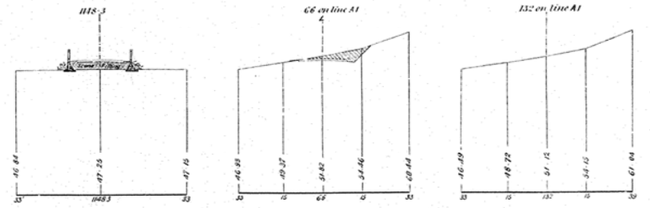
SECTION ON LINE A L

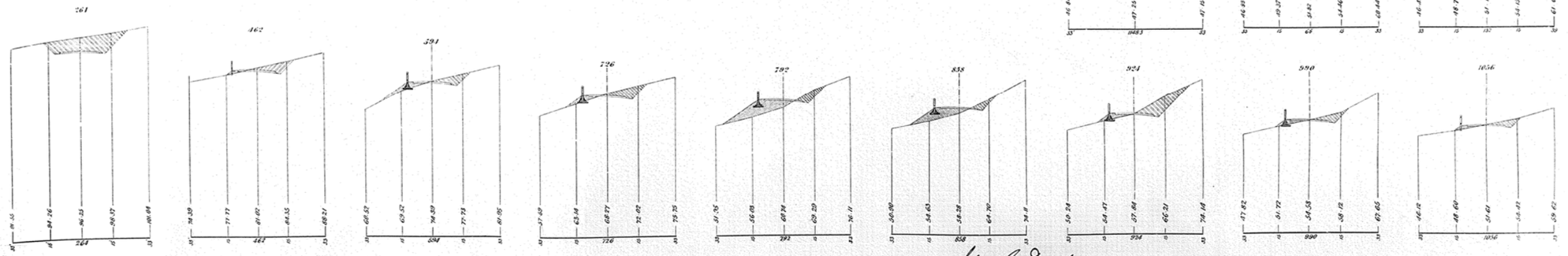


ENLARGED DETAILS OF APPROACHES









0272 145BC0103

SHEET 3 OF 3

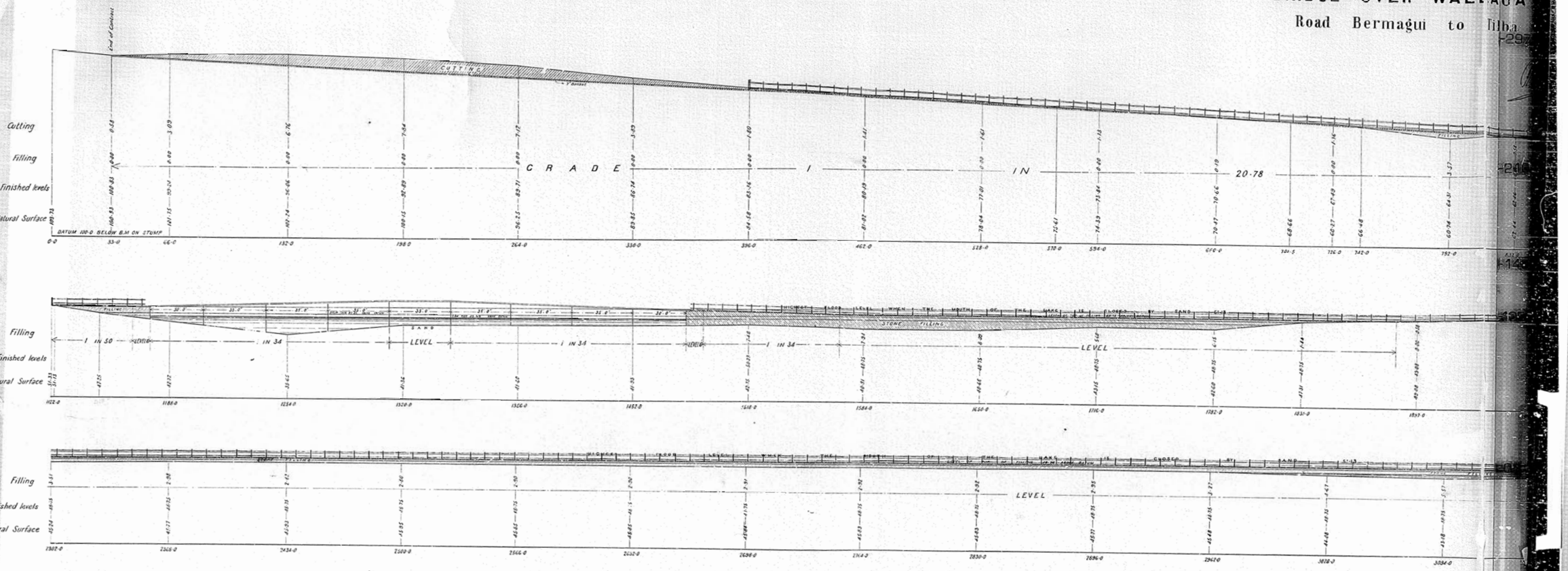
FRAME 1 OF 2

DEPARTMENT OF PUBLIC WORKS.

Roads and Bridges and Sewerage Branch.

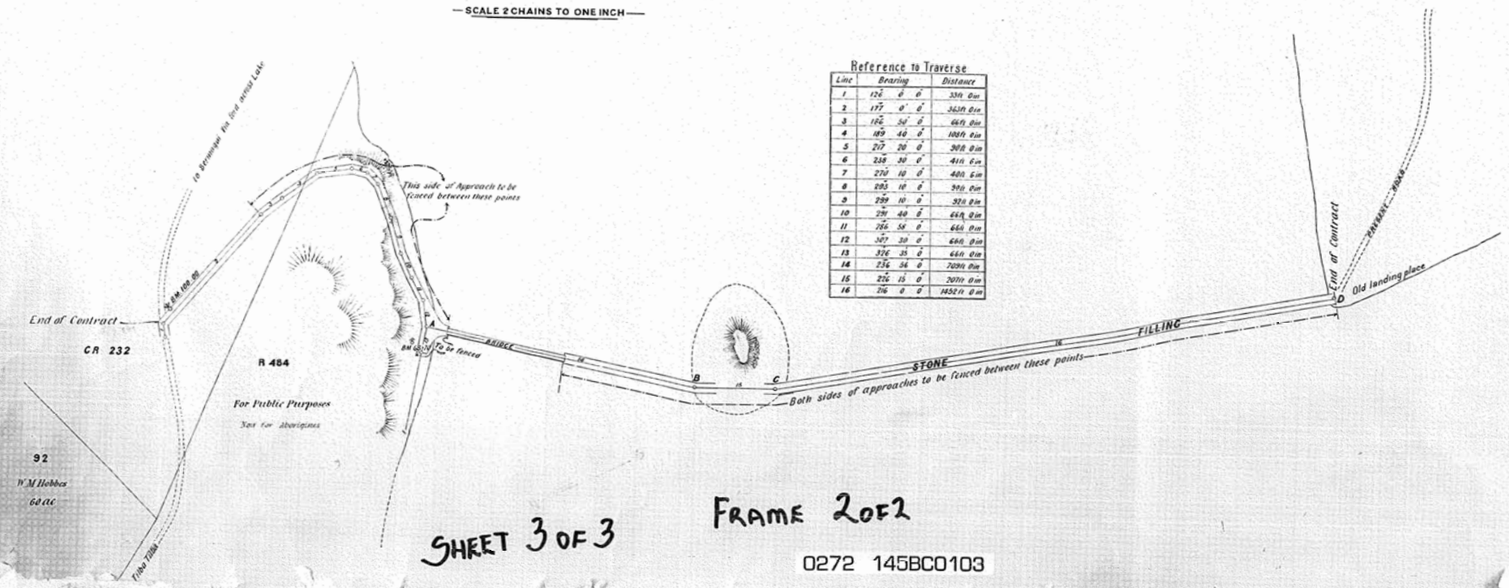
APPROACHES TO BRIDGE OVER WALLACA

Road Bermagui to Tilba



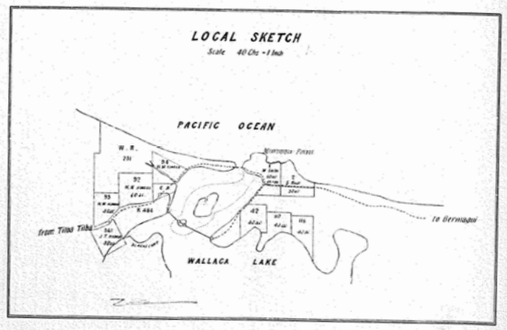
PLAN OF SITE

— SCALE 2 CHAINS TO ONE INCH —



Reference to Traverse

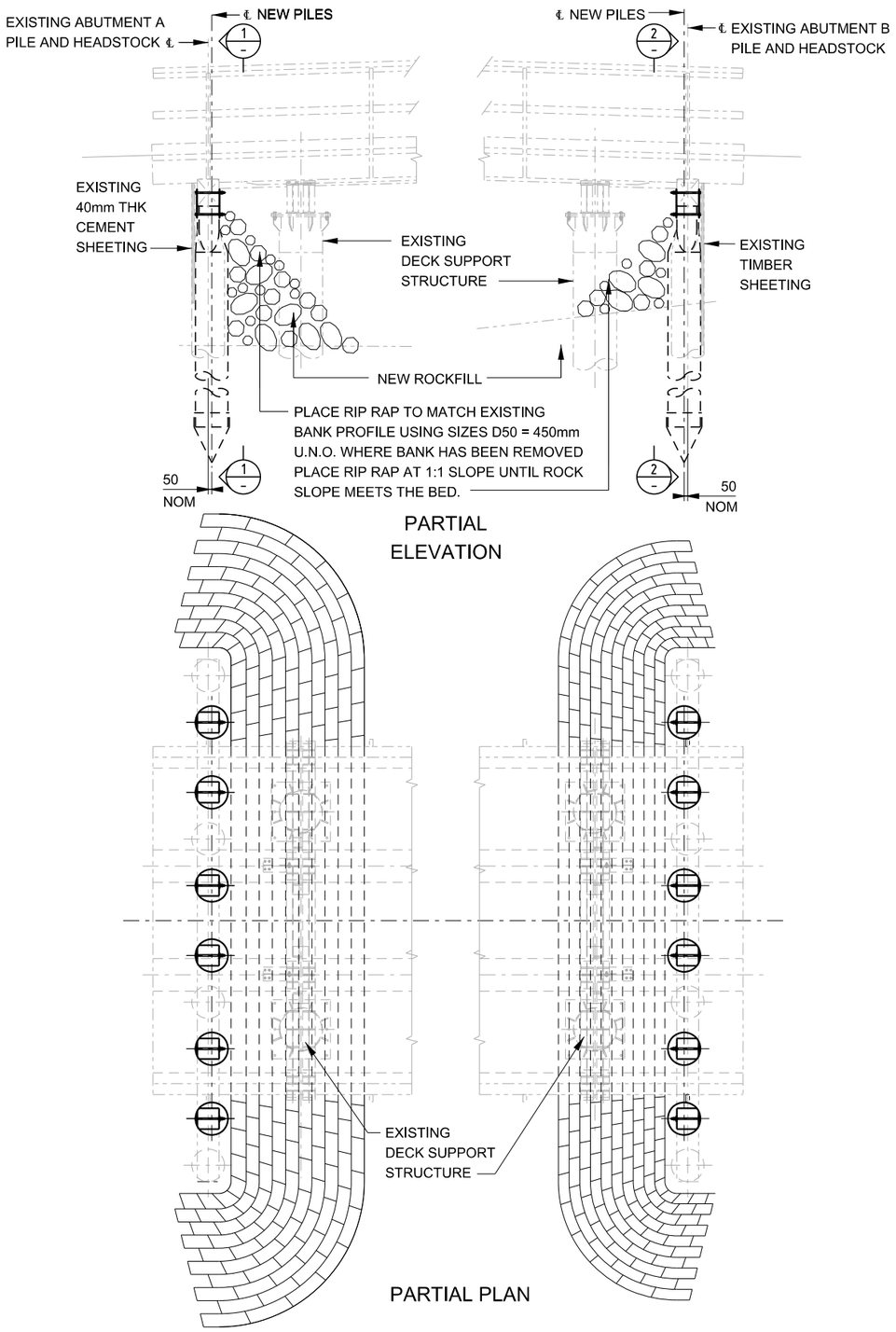
Line	Bearing	Distance
1	126° 0' 0"	33½ 0 m
2	177° 0' 0"	363ft 0 in
3	182° 54' 0"	66ft 0 in
4	189° 46' 0"	198ft 0 in
5	217° 20' 0"	308 0 in
6	238° 30' 0"	411ft 0 in
7	270° 10' 0"	400 5 in
8	285° 10' 0"	396 0 in
9	299° 10' 0"	321 0 in
10	296° 44' 0"	660 0 in
11	286° 58' 0"	660 0 in
12	307° 30' 0"	660 0 in
13	326° 35' 0"	660 0 in
14	256° 54' 0"	7039ft 0 in
15	226° 15' 0"	2071ft 0 in
16	216° 0' 0"	1452ft 0 in

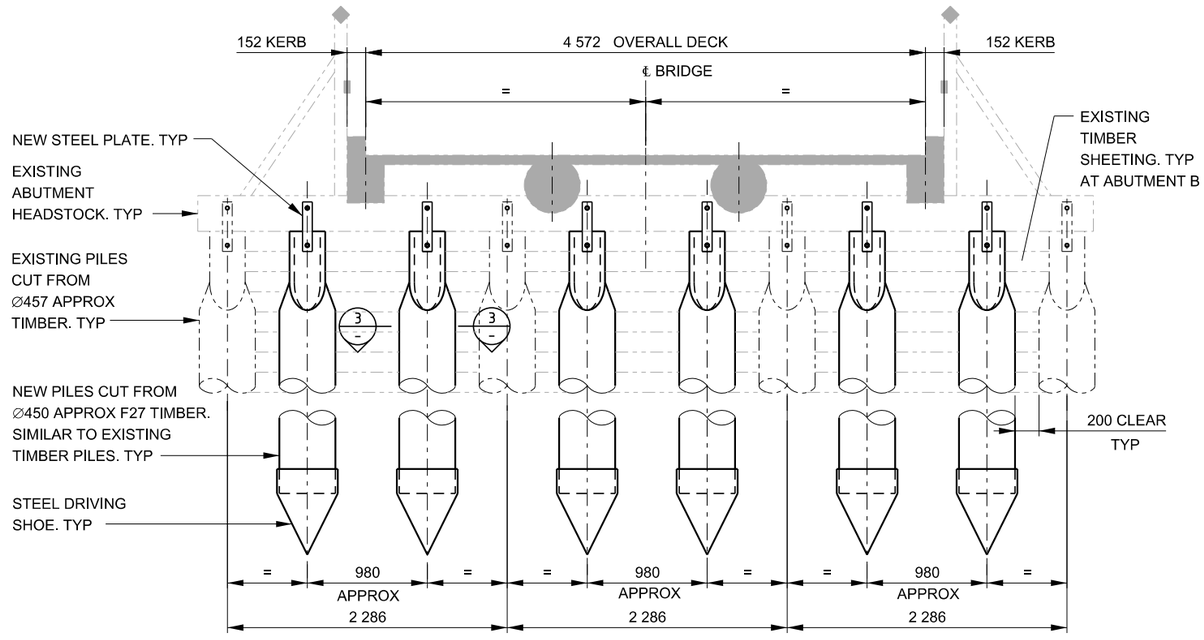


SHEET 3 OF 3

FRAME 2 OF 2

0272 145BC0103





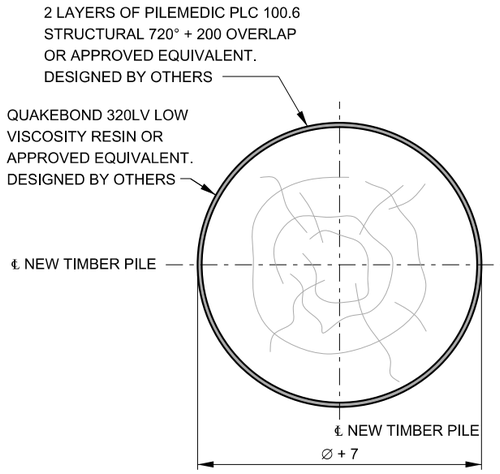
SECTION 1 2

SECTION 1 SHOWN.

SECTION 2 SIMILAR.

0 500 1 000 1 500mm

500 250



SECTION 3

0 100 200 300mm

100 50

GENERAL NOTES

SCALE 0 400 1200 2000mm

400 200

OR AS SHOWN.

DIMENSIONS ARE IN MILLIMETRES.
EXISTING BRIDGE DIMENSIONS HAVE BEEN ADOPTED
FROM THE ORIGNAL BRIDGE DRAWINGS (1893),
REGISTRATION NUMBER OF PLANS: 0272 145 BC 0103.

15/11/2023 9:24:22 AM C:\Data\Current_Projects\Asset\A1167\A1167GA.dgn

REFERENCES:	THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.				SCALE:
	REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
	COORDINATE SYSTEM: GDA2020		HEIGHT DATUM:		DESIGN LOT CODE:

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR:
REGIONAL TECHNICAL SERVICES
BRIDGES & STRUCTURES (NORTH)
INFRASTRUCTURE & PLACE

DRAWN GB
DESIGNED
DRG CHECK
DESIGN CHECK
APPROVED

BRIDGE OVER WALLAGA LAKE AT WALLAGA LAKE REHABILITATION OF ABUTMENTS CONCEPT PROPOSAL

SKETCH No: KA1167	PART:	SHEET: 1 OF 1	
STATUS: NOT FOR CONSTRUCTION	BRIDGE No: B06168		©
DRG No.	REV: 1	VER	EDMS No. / AMD No.

NSW GOVERNMENT