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**TEMPORARY SPEED
REDUCTION SIGNS
INSTALLATION –
CONSTRUCTION NOISE AND
VIBRATION IMPACT
STATEMENT**

A21 | Albury to Illabo


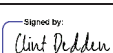
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
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A21 | ALBURY TO ILLABO
TEMPORARY SPEED REDUCTION SIGNS INSTALLATION – CONSTRUCTION NOISE AND VIBRATION IMPACT STATEMENT

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GLOSSARY

Specific terms and acronyms used throughout this plan are listed and described in Table 1 below.

TABLE 1: DEFINITIONS

TERM	DEFINITION
A2I	Albury to Illabo section of the Inland Rail project
AMMM	Additional Mitigation Measures Matrix
ARTC	Australian Rail Track Corporation
CA	Consistency Assessment
CoA	Condition of Approval
CNVF	Construction Noise and Vibration Framework
CNVMP	Construction Noise and Vibration Management Plan
CNVIS	Construction Noise and Vibration Impact Statement
EWP	Elevated work platform
km	Kilometres
m	Metres
NML	Noise Management Level
OOH	Out-of-hours
Project	Albury to Illabo project approved under section 5.19 of the EP&A Act on 8 October 2024, as modified on 13 August 2025
RBL	Rating Background Level
SLR Predict	A2I noise and vibration management tool
T	Tonnes
TfNSW CNVG-PTI	Transport for NSW's Construction Noise and Vibration Guideline Public Transport Infrastructure (September 2023)
TSR	Temporary Speed Reduction

1 INTRODUCTION

1.1 Purpose of this CNVIS

This Construction Noise and Vibration Impact Statement (CNVIS) has been prepared to identify and assess the additional work area required to support the installation of Temporary Speed Reduction (TSR) signage across work areas along the Albury to Illabo (A21) rail alignment (the 'Project').

The installation of Temporary Speed Reduction (TSR) signage is required across multiple current and future work sites across the A21 project site. TSR signs are an ARTC rail safety requirement to signal trains to slow down as they cannot run at full speed on a range of future temporary track arrangements, particularly following rail possession events as part of construction for the A21 Project. The location of the TSR signage is expected to be at the edge of the rail ballast and/or at toe of batter of rail formation.

1.2 Hours of Work

In accordance with the Construction Noise and Vibration Management Plan (CNVMP) and Condition of Approval (CoA) E69 construction work must be undertaken within the approved standard construction hours:

- a) 7:00am to 6:00pm Monday to Friday, inclusive;
- b) 7:00am to 6:00pm Saturday and
- c) At no time on Sundays or public holidays.

1.2.1 Variation to Work Hours

Notwithstanding CoA E69, work may be undertaken outside the hours specified in the CoA E71 circumstances (a, b, or c):

- a) Safety and Emergencies
- b) Work, that meets specific criteria
- c) By Approval, including where different construction hours, such as those for a rail possession, are permitted under an EPL.

The proposed TSR signage works are expected to occur during the daytime period. Following or during rail possessions, works may also be required during daytime OOHW periods.

2 NOISE CRITERIA

The nominated LAeq(15 minute) Noise Management Levels (NML) for the proposed TSR signage installation are presented in Table 2.

TABLE 2: NOISE MANAGEMENT LEVELS

Receiver Type	Assumed Daytime Background Noise Level RBL (dBA)	Noise Management Level LAeq(15minute) dBA		Example Receiver Areas
		Approved Daytime (RBL + 10 dB)	Daytime OOH (RBL + 5 dB)	
Urban	40	50	45	Larger regional cities such as Albury and Wagga Wagga
Rural	35	45	40	Rural areas with scattered residences or isolated receivers along the rail alignment

3 NOISE ASSESSMENT

Based on information provided by the Martinus construction team, the equipment and associated sound power levels for the assumed worst-case TSR signage installation work scenario is described in Table 3.

TABLE 3: WORK SCENARIO DESCRIPTION AND EQUIPMENT

ID	Scenario	Equipment	Sound Power Level (dBA)	Number in Operation	Assumed Operational Time	Total Lw (dBA) LAeq (15 minute)
W.001	TSR Signage Installation	Hand tools	105	1	2.5 minutes	99
		Petrol post driver	105	1	1 minute	
		Light vehicles	95	2	2 minutes	

The predicted noise levels, at 10 m intervals, and a comparison to the nominated NMLs are presented in Table 4. The noise levels have been predicted using the ISO 9613-2024 algorithm using the following assumptions:

- Ground Factor - 0.7
- Temp – 10°C
- Humidity – 70%

TABLE 4: PREDICTED NOISE LEVELS

Distance from Works (m)	Noise Management Level LAeq(15minute) dBA				Predicted Noise Levels (dBA) LAeq (15minute)	Exceedance (dB)			
	Approved Hours (RBL + 10 dB)		Daytime OOH (RBL + 5 dB)			Approved Hours		Daytime OOH	
	Urban	Rural	Urban	Rural		Urban	Rural	Urban	Rural
10	50	45	45	40	68	18	23	23	28
20					62	12	17	17	22
30					58	8	13	13	18
40					55	5	10	10	15
50					53	3	8	8	13
60					51	1	6	6	11
70					50	0	5	5	10
80					49	0	4	4	9
90					48	0	3	3	8
100					47	0	2	2	7
110					46	0	1	1	6
120					45	0	0	0	5
130					44	0	0	0	4
140					44	0	0	0	4
150					43	0	0	0	3
160					42	0	0	0	2
170					42	0	0	0	2
180					41	0	0	0	1
190					41	0	0	0	1
≥200					40	0	0	0	0

The above assessment indicates that for the proposed TSR signage, exceedances of the NMLs during approved daytime hours are not likely at residences situated ≥ 70 m from the work locations in urban areas and ≥ 120 m from the work locations in rural areas. During daytime OOHWs, exceedances of the NMLs are not likely at residences situated ≥ 120 m from the work locations in urban areas and ≥ 200 m from the work locations in rural areas.

4 MITIGATION AND MANAGEMENT MEASURES

Noise from the TSR signage works may be apparent at the nearest receivers at certain times. The Project should apply all feasible and reasonable mitigation measures to minimise the impacts.

In accordance with Condition E74 of the Conditions of Approval, works that exceed the noise management levels must be managed in accordance with the A21 Construction Noise and Vibration Management Plan (CNVMP).

The Inland Rail NSW Construction Noise and Vibration Framework (CNVF) outlines a hierarchy of work practices and mitigation measures to minimise the impact of construction noise and vibration on the community. This hierarchy is shown in Figure 1.

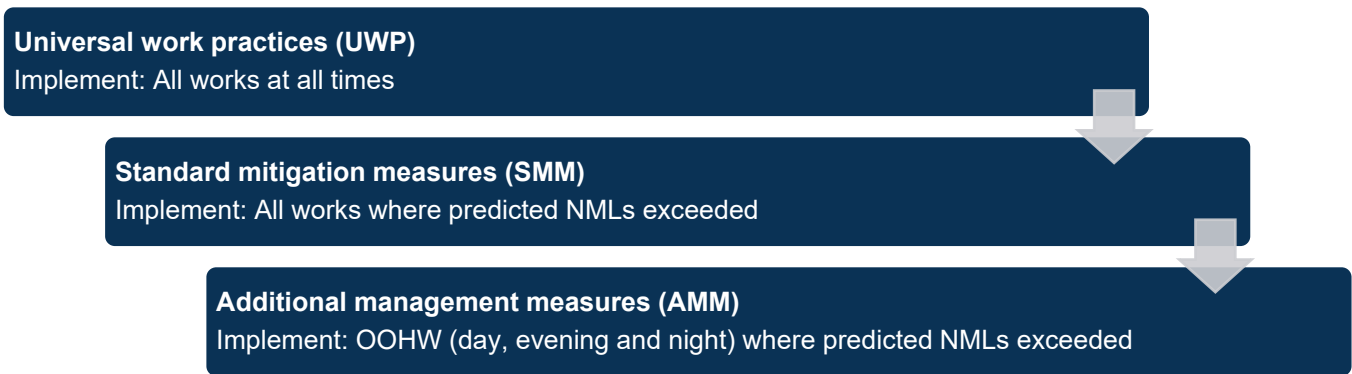


FIGURE 1: HIERARCHY OF WORK PRACTICES AND MITIGATION MEASURES

The universal work practices (UWP) and standard mitigation measures (SMM) for the overall A21 project are outlined in the CNVMP. All mitigation and management measures outlined in the CNVMP will be adopted, where applicable, in accordance with CoA E74.

5 ADDITIONAL MITIGATION MEASURES

As outlined in Section 1.2.1, TSR signage works are expected to occur during daytime and daytime OOHW periods only. Where works are required during Out of Hours Works (OOHW) periods, the Additional Mitigation Measures Matrix (AMMM) adapted from the CNVF and CNVMP is to be implemented and is shown in Figure 2. Based on the predicted exceedances of the nominated urban and rural NMLs for the daytime TSR signage works (see Table 4), the mitigation measures would comprise of communication with affected sensitive receivers. The minimum distances to residential receivers where the project-related communication measures would be applicable are shown in Table 5.

These communication measures have been adopted based on the AMMM in the CNVF. Further clarification on the measures is provided below:

- Communication (Category 1), i.e. CO1, is communication to provide information on works via methods such as letter box drop, email, newsletter, media advertisements and/ or website prior to the works commencing.
- Communication (Category 2), i.e. CO2, is personalised communication such as door knock, meeting, telephone call, etc. Contact should commence early to enable feedback to be considered by the proposal.

TABLE 5: MINIMUM WORKING DISTANCES FOR ADDITIONAL MEASURES – TSR SIGNAGE WORKS

Additional Mitigation Matrix Measure ¹	Minimum Distance to Residential Receivers Above Noise Management Level			
	Urban		Rural	
	Approved Hours	Daytime OOHW	Approved Hours	Daytime OOHW
CO1 ²	≤70 m	≤120 m	≤120 m	≤200 m
CO2 ²	≤10 m	≤20 m	≤20 m	≤30 m

Note 1: As outlined in the CNVF, additional mitigation measures are only applicable to works occurring during OOHW periods (i.e. daytime OOHW)

Note 2: As outlined in the CNVF, CO1 is Communication - Category 1 and CO2 is Communication - Category 2. CO1 would be applicable in conjunction with CO2 at residential receivers within this distance.

Table 5 shows the distances from the TSR signage works where communication measures would be applicable. These measures are applicable to works conducted during the OOHW daytime period only. It should be noted that communication measures are not likely to be required for residential receivers situated ≥125 m from the work location in urban areas and ≥205 m from the work location in rural areas.

6 VIBRATION ASSESSMENT

Due to the limited scope of work, vibration impacts from the works are not anticipated as vibration intensive items of equipment are not expected to be required during TSR signage installation works.

In the event that additional work is undertaken which requires the use of vibration intensive items of plant, such as those identified in the CNVMP, a vibration impact assessment must be conducted prior to the commencement of work.

7 CONCLUSION

A Construction Noise and Vibration Impact assessment for TSR signage works associated with the A2I Project has been conducted.

Noise and vibration impacts from the works were assessed to determine the potential impact to receivers along the A2I alignment. As vibration intensive items of equipment are not expected to be required, vibration impacts are not anticipated during these works.

The assessment identified the minimum working distances for the TSR signage works where communication measures would be applicable for noise impacts during daytime OOHW periods. As per CoA E74, the universal work practices (UWP) and standard mitigation measures (SMM) for the overall A2I project, as outlined in the CNVMP, will be adopted for the proposed works.

Airborne Noise - Additional Mitigation Measures Matrix				
Time Period	Exceedance of NML	Perception	Duration	Communication Category/Management Measure
OOHW Daytime Period Sunday 7am - 6pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
OOHW Evening Period Monday - Sunday 6pm - 10pm (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
	>25	Highly intrusive	Any	CO1, CO2
			>2 consecutive rest periods	CO1, CO2, RO
OOHW Night Period Monday - Sunday 10pm - 7am (including public holidays)	<5	Noticeable	Any	CO1
	5 - 15	Clearly audible	Any	CO1
	16 - 25	Moderately intrusive	Any	CO1, CO2
			>2 consecutive sleep periods	CO1, CO2, RO, AO
	>25	Highly intrusive	Any	CO1, CO2, RO
			>2 consecutive sleep periods	CO1, CO2, RO, AO, AltA

FIGURE 2: ADDITIONAL MITIGATION MEASURES MATRIX – NOISE