

APPENDIX 6. ENVIRONMENTAL NOISE ASSESSMENT REPORT

Port Mall Redevelopment

Environmental Noise Assessment

S8940C1

February 2026

sonus.

Sonus Pty Ltd

17 Ruthven Ave

Adelaide SA 5000

Phone: +61 (8) 8231 2100

Email: info@sonus.com.au

www.sonus.com.au

Document Title : Port Mall Redevelopment
Environmental Noise Assessment
Document Reference : S8940C1
Date : February 2026
Author : Tim Aplin, MAAS
Reviewer : Simon Moore, MAAS

© Sonus Pty Ltd. All rights reserved.

This report may not be reproduced other than in its entirety. The report is for the sole use of the client for the particular circumstances described in the report. Sonus accepts no responsibility to any other party who may rely upon or use this report without prior written consent.

1 INTRODUCTION

An environmental noise assessment has been conducted for the proposed Coles supermarket (the **Development**) at the Port Mall (the **Subject Site**).

The assessment considers noise levels at sensitive receivers in the locality from activity at the site, including:

- Deliveries including truck movements and unloading activity.
- Vehicular activity
- Mechanical plant operation.

The closest noise sensitive receivers are an existing residence to the southeast and an approved future residence to the northeast of the Development. Additional existing residences are located to the south at greater distances. An overview of the subject site and surrounding area is shown in Figure 1.

The assessment has been based on:

- Drawings by *BELL Architecture* for "PORT MALL REDEVELOPMENT", located at "St Vincent Street, Port Adelaide, South Australia", job number "BAA250175", sheets "S1-0000" - "S1-0008", revision "B", dated 12 January 2026.
- Previous noise measurements and sound power data obtained from similar sites for car park, vehicular and delivery activities, and mechanical plant.



Figure 1: Subject site and locality.

2 CRITERIA

2.1 *Planning and Design Code*

The Development is subject to the provisions of the South Australian *Planning and Design Code* (the **Code**) under the *Planning, Development and Infrastructure Act 2016*. The Code has been reviewed and the provisions considered relevant to the assessment are included in Appendix A.

2.1.1 *Zoning*

With reference to the *South Australian Property and Planning Atlas (SAPPA)*, the Subject Site and all nearby (existing and approved future) noise sensitive receivers (residences) are located within the *Port Adelaide Centre* subzone of the *Urban Activity Centre* zone.

2.1.2 *Noise and Air Emissions Overlay*

In accordance with SAPPA, the Subject Site and all nearby existing and approved future sensitive receivers are located within a *Noise Attenuation Area*, as identified by the *Noise and Air Emissions Overlay* (the **Overlay**). In such circumstances, the provisions of *Ministerial Building Standard MBS 010 – Construction requirements for the control of external sound (MBS 10)* apply to residential development¹ at the *Building Rules Consent* stage.

MBS 010 establishes mandatory noise attenuation requirements for building facades to reduce internal noise levels from nearby road and rail corridors, aircraft noise, and mixed-use areas. The level of facade upgrade (above and beyond the minimum *National Construction Code (NCC)* requirements) is determined by the Sound Exposure Category (**SEC**) applicable to the site. Where a site is located within a *Mixed-Use Area*, the minimum SEC (SEC 1) applies.

Therefore, where MBS 010 is applied to residential development at the *Building Rules Consent* stage (such as for the future approved sensitive receiver), a minimum SEC 1 applies. This will result in noise attenuation being applied to the residences (above and beyond the minimum requirements of the NCC), which achieves a facade noise reduction of at least 28 dB(A).

¹ Class 1, 2 or 3 building, a Class 4 part of a building and a Class 9c residential care building.

It is understood that the existing receiver to the southeast was approved before the introduction of MBS 010 and it has therefore been assumed to have been constructed without the noise attenuation provided by SEC 1 of MBS 010.

2.2 *Environment Protection (Commercial and Industrial Noise) Policy 2023*

Performance Outcome (PO) 4.1 of the *Interface between Land Uses* module of the *General Development Policies* of the Code specifically requires that noise from a development “does not unreasonably impact the amenity of sensitive receivers (or lawfully approved sensitive receivers)”. The Deemed-to-Satisfy / Designated Performance Feature (DTS/DPF) for PO 4.1 references the *Environment Protection (Commercial and Industrial Noise) Policy* (the **Policy**).

The Policy provides objective noise criteria to assess the environmental noise emissions from a proposed development. The noise criteria provided by the Policy are based on the *World Health Organisation Guidelines for Community Noise (1999)*² (the **WHO Guidelines**), which provides recommendations for appropriate noise levels to prevent community annoyance, sleep disturbance and adverse impact on the amenity of a locality. Therefore, compliance with the Policy is considered to satisfy the WHO Guidelines and the subjective requirements of the Code relating to environmental noise.

The Policy establishes indicative noise levels to be achieved at sensitive receivers based on the zones in which the noise source (the Development) and sensitive receivers (the residences) are located. For new developments, Part 5 of the Policy provides goal noise levels which are 5 dB(A) more onerous than those which would otherwise apply when assessed at existing (or approved future) noise sensitive receivers.

Under the Policy, where a noise sensitive location (e.g. a residence) has existing noise attenuation installed (as will be the case for the approved future receiver to the northeast to which MBS 010 applies) the measurement place must be inside relevant habitable rooms. This can be converted to an outdoor noise level by adding the facade noise reduction to the internal noise criterion.

² Berglund B, Lindvall T & Schwela DH 1999, *Guidelines for Community Noise*, World Health Organisation (WHO), Geneva, Switzerland.

Based on the above, the following goal noise levels apply to noise from the proposed development:

Noise Sensitive Receiver Location	Assessment Location	Goal Noise Level [dB(A) Leq]	
		Day Period 7am to 10pm	Night Period 10pm to 7am
Existing (southeast)	Outdoors	52	45
Approved future (northeast)	Inside habitable rooms	32	25

Penalties for Noise Character

When predicting noise levels for comparison with the Policy, adjustments may be made to the average noise levels for each “annoying” characteristic of tonality, impulsiveness, low frequency, modulation, and intermittency of the noise source. The characteristic must be dominant in the acoustic environment and therefore the application of penalties can vary depending on the assessment location, time of day, the noise source being assessed, and the predicted noise level. The application of penalties is discussed further in the Assessment section.

3 ASSESSMENT

3.1 Noise Sources

The requirements of the Policy apply to the new noise sources the site. There will be new noise sources associated with the new supermarket building, such as the “click-and-collect” facility, new rooftop mechanical plant and the loading dock area, which have all been considered in the assessment. The car parking area is generally existing, with only the southern portion of the carpark being altered to remove the car parking structure and replace with an at-grade car park. As the noise from the future at-grade car parking area will be lower than that from the existing car parking structure, the noise from the general car parking activities has not been considered further.

The noise levels resulting at sensitive receivers from activity at the site have been predicted based on a range of previous noise measurements and observations at similar facilities, include:

- Truck activity, including forward and reversing movements, idling, and refrigeration components.
- Vehicle movements on site.
- Loading/unloading activity using pallet jacks
- Operation of mechanical plant.

The detailed design of the mechanical plant systems typically takes place after Development Approval is granted. As such, the assessment has considered typical mechanical plant noise data collected from similar facilities to provide an indicative assessment. It is recommended that the assessment be updated if the noise from the selected units or the number of units is greater than those assumed for this assessment. The assessment has been based on the following indicative mechanical plant located on the roof of the building in the designated “PLANT ROOM AREA” on the roof of the building:

- 4x package air conditioning units.
- 6x refrigeration condenser units.

The sound power levels for these noise sources are provided in Appendix B.

3.2 Operational Assumptions

The predictions of noise from the use of the facility have been based on the following operational assumptions for the level of activity in any 15-minute³ period:

- During the day (7am to 10pm)
 - A single delivery by a refrigerated truck to the loading dock on the eastern side of the proposed supermarket.
 - Unloading activity using hand pallet jacks for the duration of the assessment.
 - 15 vehicles using the new click and collect facility on the southern side of the proposed supermarket.
 - Continuous operation of all mechanical plant.
- During the night (10pm to 7am)
 - A single delivery by a refrigerated truck to the loading dock on the eastern side of the proposed supermarket.
 - Unloading activity using hand pallet jacks for the duration of the assessment.
 - Continuous operation of all mechanical plant.

3.3 Noise Model

A noise model of the site and surrounding area has been developed using the *SoundPLANnoise* noise modelling software and the *ISO 9613-2: 2024-01* noise propagation algorithm to predict noise levels at the surrounding sensitive receivers. The model considers the level of activity described, the sound power level and height of each noise source, the distance to receivers, and the effects of barriers such as fences and buildings.

3.4 Recommendations

Based on the noise model, the noise goals under the Policy are predicted to be exceeded at sensitive receivers unless specific treatments are incorporated. Therefore, the following acoustic treatments are recommended.

³ The default assessment period of the Policy.

3.4.1 General Activity

Ensure an operating procedure is in place requiring the reversing alarms of vehicle deliveries to the loading dock to be switched off during the night period of the Policy (10pm to 7am).

3.4.2 Mechanical Plant

Construct a solid mechanical plant screen for the extent shown as **MAGENTA** in Figure 2. The screen should be at least 1000mm taller than the tallest unit and seal airtight at all junctions, noting that a small gap may be required at the roof join for drainage.

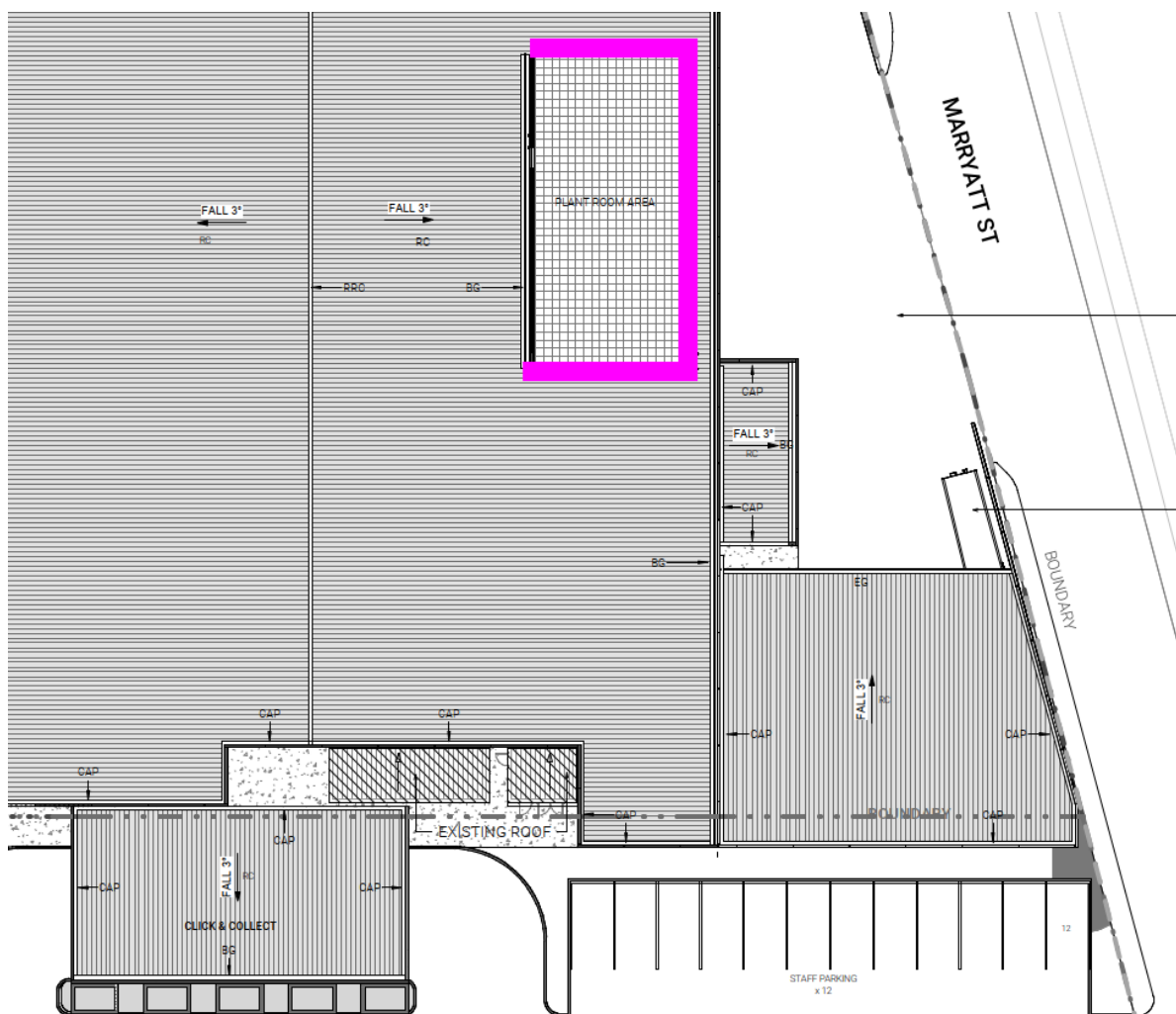


Figure 2: Required extent of mechanical plant screen.

3.4.3 Loading Dock

- Construct a noise barrier on the eastern side of the loading dock as shown in **RED** in Figure 3. The barrier should be at least 6m tall and constructed from a solid material such as 0.35mm BMT sheet steel (*Colorbond* or similar). The barrier should seal airtight at all junctions, including at the ground and at the join to the building.
- Construct a canopy over the loading dock for extent shaded in **BLUE** in Figure 3. The canopy should seal airtight to the building, and to the aforementioned noise barrier.
 - Install acoustic absorption to the underside of the canopy. The absorption material should be a building blanket, such as Anticon 100 HP, or other equivalent absorptive material with minimum noise reduction coefficient (**NRC**) of 0.5.

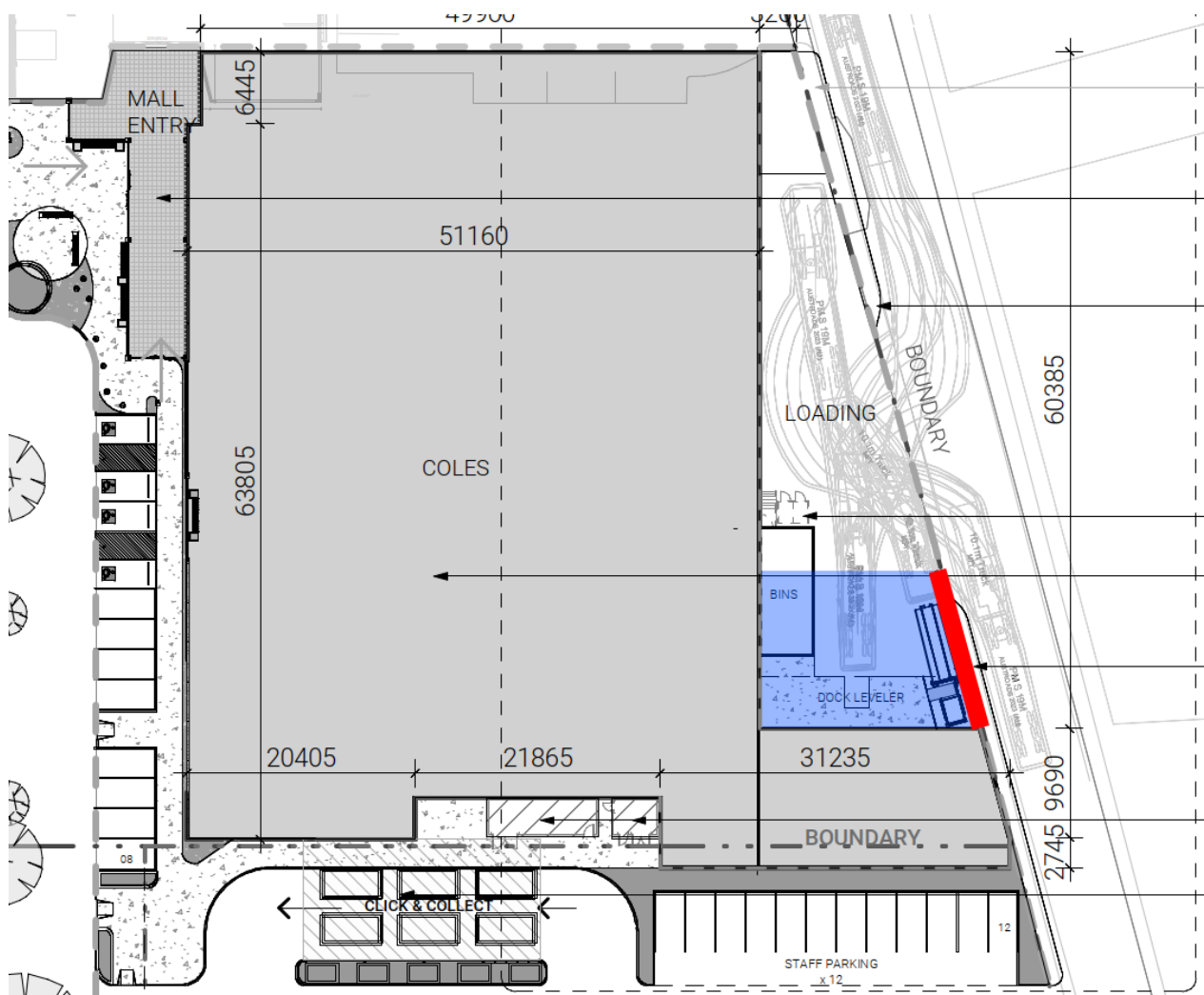


Figure 3: Extent of treatments for loading dock.

3.5 Predicted Noise Levels

Subject to the incorporation of the recommended acoustic treatments, the predicted noise levels at sensitive receivers will be no higher than those shown in Table 1.

Table 1: Comparison of criteria and predicted noise levels.

Sensitive Receiver	Day Period (7am to 10pm)		Night Period (10pm to 7am)	
	Criterion [dB(A) L_{eq}]	Predicted Noise Level [dB(A) L_{eq}]	Criterion [dB(A) L_{eq}]	Predicted Noise Level [dB(A) L_{eq}]
Existing (southeast)	52	47	45	45
Future approved (northeast)	32 (indoors)	25 (indoors)	25 (indoors)	25 (indoors)

Under the Policy, for a character penalty to apply, the characteristic must be fundamental to the nature and impact of the noise when considered in the context of the acoustic environment. The characteristic should dominate the overall acoustic impact, rather than simply be a part of it.

During the day period of the Policy (7am to 10pm), where there likely to be other activity in the vicinity, the noise from a truck reversing alarm while it reverses into the loading bay will not dominate the acoustic environment, especially in the context of a 15-minute assessment period. That is, while the modulation and tonality of the reversing alarm may be noticeable when present, when considering the overall acoustic impact over the 15-minute assessment period, no character penalties are warranted.

On this basis, it is considered that the noise goals under the Policy will be achieved at all sensitive receivers in the locality. Where the Policy is satisfied, it is considered that all relevant Performance Outcomes of the *Planning and Design Code* related to environmental noise will be satisfied.

4 CONCLUSION

An environmental noise assessment has been conducted for the proposed Coles supermarket (the **Development**) at the Port Adelaide Mall (the **Subject Site**).

The assessment considers noise levels at sensitive receivers in the locality from activity at the site, including:

- Deliveries including truck movements and unloading activity.
- Vehicular activity
- Mechanical plant operation.

The predicted noise levels at sensitive receivers will achieve the requirements of the *Environment Protection (Commercial and Industrial Noise) Policy 2023*, subject to the incorporation of the recommended acoustic treatments, comprising:

- Not allowing the use of reversing alarms for all vehicles accessing the loading dock during the night period of the Policy (10pm to 7am).
- Constructing a noise wall and canopy over the loading dock.
- Installing acoustic absorption with minimum NRC of 0.5 to the underside of the canopy over the loading dock.
- Constructing a mechanical plant screen.

Based on the assessment, the facility will “not unreasonably impact the amenity of sensitive receivers (or lawfully approved sensitive receivers)” thereby achieving the relevant provisions of the *Planning and Design Code* related to environmental noise.

APPENDIX A: PLANNING AND DESIGN CODE – RELEVANT PROVISIONS

Part 4 – General Development Policies – Interface between Land Uses

<i>Desired Outcome</i>	
D01	Development is located and designed to mitigate adverse effects on or from neighbouring and proximate land uses.

<i>Performance Outcome</i>	<i>Deemed-to-Satisfy Criteria / Designated Performance Feature</i>
General Land Use Compatibility	
PO 1.2 Development adjacent to a site containing a sensitive receiver (or lawfully approved sensitive receiver) or zone primarily intended to accommodate sensitive receivers is designed to minimise adverse impacts.	DTS/DPF 1.2 None are applicable.
Activities Generating Noise or Vibration	
PO 4.1 Development that emits noise (other than music) does not unreasonably impact the amenity of sensitive receivers (or lawfully approved sensitive receivers).	DTS/DPF 4.1 Noise that affects sensitive receivers achieves the relevant Environment Protection (Commercial and Industrial Noise) Policy criteria.
PO 4.2 Areas for the on-site manoeuvring of service and delivery vehicles, plant and equipment, outdoor work spaces (and the like) are designed and sited to not unreasonably impact the amenity of adjacent sensitive receivers (or lawfully approved sensitive receivers) and zones primarily intended to accommodate sensitive receivers due to noise and vibration by adopting techniques including: (a) locating openings of buildings and associated services away from the interface with the adjacent sensitive receivers and zones primarily intended to accommodate sensitive receivers (b) when sited outdoors, locating such areas as far as practicable from adjacent sensitive receivers and zones primarily intended to accommodate sensitive receivers (c) housing plant and equipment within an enclosed structure or acoustic enclosure (d) providing a suitable acoustic barrier between the plant and / or equipment and the adjacent sensitive receiver boundary or zone.	DTS/DPF 4.2 None are applicable.

APPENDIX B: SOUND POWER DATA

Activity / Equipment		Sound Power Level [dB(A)]
Delivery Activity	Truck forward movement	101
	Truck reverse movement	99
	Truck refrigeration unit idle	94
	Unloading activity	82
Car Park	Vehicular activity	82
Mechanical Plant	Packaged air conditioner (per unit) (2 of)	81
	Packaged air conditioner (per unit) (2 of)	79
	Refrigeration compressor (per unit) (2 of)	72
	Refrigeration compressor (per unit) (2 of)	71
	Refrigeration compressor (per unit) (2 of)	69