



Woombye Community Reference Group South East Queensland Stabling Program

10 May 2016

Noise modelling

Scope of works

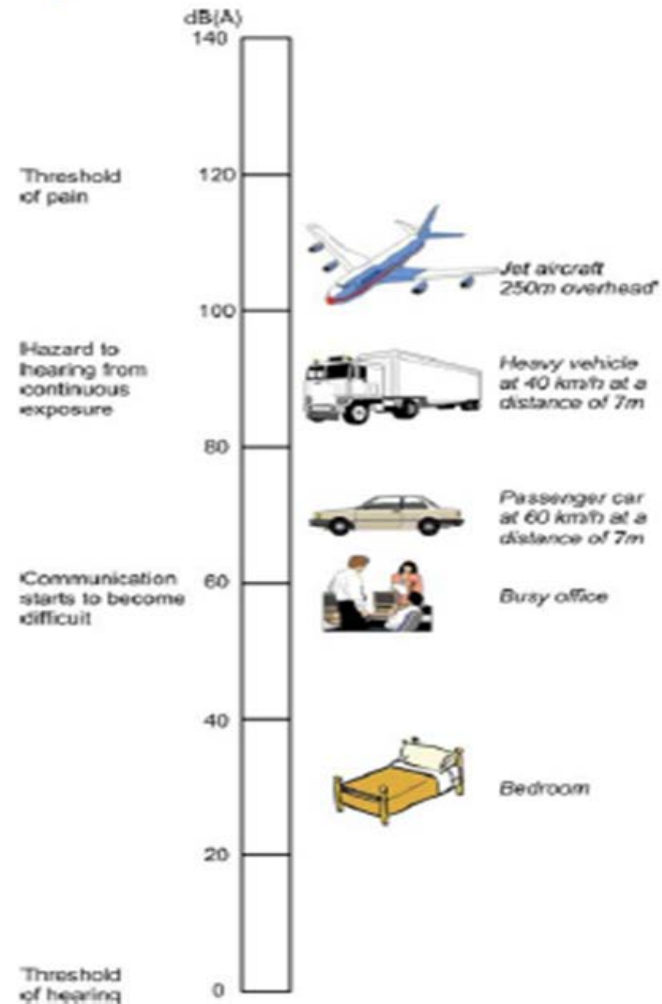
- The purpose of the noise modelling undertaken at Woombye was to predict noise impacts in the vicinity of the new infrastructure (100 metres from the stabling facility boundary on all sides)
- This 100 metre distance from a noise source is standard across all Queensland Rail noise modelling
- This modelling will determine if additional noise mitigation measures (such as noise barriers) are required
- All noise generated by railway operations (excluding klaxons) is required to be taken into account as part of the noise modelling process
- In Woombye, this included existing noise from the North Coast line as well as any new noise generated in the operation of the Woombye stabling facility.

Requirements

Where possible, rail noise should not exceed the Rail Noise Planning Levels which are:

- 87 dBA single event maximum level
- 65 dBA LAeq(24hour)

The level of common sounds on the dB(A) scale



Noise modelling outcomes

Cumulative noise from the stabling yard and the North Coast line is not predicted to give rise to new or more pronounced exceedances of the Rail Noise Planning Levels

Noise modelling outcomes cont. . .

Modelling shows that noise generated from the stabling facility, on top of the existing noise from the North Coast Line is **not expected to be noticeable**.

Specifically, it has been identified as a **0 to 2dB(A) increase** over existing noise currently experienced by the Woombye community.

What is considered ‘noticeable’?

| Increase over existing noise level dB(A) | Change in subjective loudness | Significance of change |
|---|--------------------------------------|-------------------------------|
| <3 | Nil | Insignificant |
| 3-5 | Noticeable | Marginal |
| 10 | About Double | Significant |
| 15 or more | At Least Triple | Very Significant |

A change in noise level of 1 to 2 dB(A) is difficult for most people to detect. A 3 to 5 dB(A) change corresponds to a small but noticeable change in loudness when noise samples are presented without a significant time break between them.

Noise modelling outcomes cont. . .

- Noise modelling considers all existing rail noise (including the North Coast Line)
- Modelling shows that existing operational noise from the North Coast line, on its own, exceeds the Rail Noise Planning Levels in some locations
- As such, despite the limited noise impact expected from the stabling yard; noise mitigation is being proposed as a result of noise modelling
- Noise mitigation is expected to reduce noise levels below that currently being experienced
- In line with Queensland Rail policy, noise mitigation is justified for some receptors within the 100 metre zone modelled
- The proposed mitigation is a noise barrier, located within the existing rail corridor.

Noise modelling outcomes cont. . .

Modelled noise levels:

| Location | LAeq(24h) dB(A) levels | | | SEM levels | | |
|---|------------------------|------------------|--------------|-------------------|------------------|--------------|
| | Stabling facility | North Coast Line | Combined | Stabling facility | North Coast Line | Combined |
| Summary of predicted noise impacts without treatments | 52-58 | 56-65 | 57-65 | 74-86 | 82-94 | 83-94 |

Red text shows where the Rail Noise Planning Levels are **exceeded**

LAeq(24h) dB(A) levels



SEM Noise Levels



Next steps

There are four key activities that must be undertaken before the decision to construct a noise wall is finalised:

1. CPB Contractors has contracted AECOM, who completed the noise modelling, to undertake ground and building eave surveys to determine optimal barrier locations and heights
2. Queensland Rail will meet with directly affected property owners about their preference for construction of a noise barrier on their property boundary
3. Final design of the barriers will be subject to engineering design eg. constructability
4. Directly affected stakeholders will then be provided with detailed information. The future construction of a noise barrier will be dependent on the majority preference by individual property owners.

Noise wall benefits

- The noise barrier will ensure residents within the vicinity of the Woombye stabling facility (100 metres from the project boundary) do not experience noise which exceeds the Rail Noise Planning Levels.

Noise wall construction

- Any mitigation measures, such as a noise wall will be installed prior to the facility becoming operational.

Reporting back to the Woombye community

- Consultation and construction of any proposed mitigation for existing noise is being managed by Queensland Rail as part of its 'business as usual' activities
- Queensland Rail will share the final outcome with the Woombye Community Reference Group and the Woombye community.

Community feedback updates

Reducing noise for the Woombye community

- Where possible, Queensland Rail has identified other ways to reduce noise along the corridor that will benefit the broader Woombye community
- Following community feedback and further Queensland Rail investigations, we can confirm that the whistle board, located near the Queensland Rail maintenance access gate on Taintons Road, will be removed.

The removal of the whistle board will reduce the number of klaxon soundings by approximately 52 – 71 per day.

Whistle boards

Whistle boards are strategically located within the rail corridor on the approach to high risk locations such as level and pedestrian crossings, bridges and tunnels.

When a train passes a whistle board, the train driver must sound the horn so pedestrians, motorists and track workers know a train is coming.

Because people use our crossings during both day and night, train drivers need to sound the horn at whistle boards regardless of the time of day.

Location of whistle board



Improving the visual amenity for the Woombye community

- Queensland Rail is committed to further landscape planting to provide additional screening of the Woombye stabling facility for local residents
- Queensland Rail continues to work with Barung Landcare and the Project Team has been advised that this is an optimal time to plant tubestock
- Acting on feedback from the WCRG and Woombye community members, additional planting will take place in the next few weeks.



Improving the visual amenity for the Woombye community

Location of planting

The second planting will extend the existing vegetation screen planted along Taintons Road to the facility's property boundary to provide an additional 925m² of screening. This equates to approximately 570 trees in an area the size of around three and a half tennis courts.

Further planting

As advised from project commencement, when construction is complete, there will be further consultation with the community to identify sight lines where further vegetation screening may be required.



Site lines during earthworks phase

- Currently, the Woombye stabling facility is in the earthworks phase of the project which will continue until the middle of 2016
- Throughout this phase, topsoil has been removed and stockpiled in preparation for the stabling facility construction
- Some residents may be able to see the red soil from their property
- Once the construction phase of the facility is complete, the surrounding area will be revegetated which will conceal the red soil.