Noise barriers will be installed at a number of locations along the duplicated Southern Expressway to manage additional traffic noise generated as a result of the project.

These barriers are being installed to ensure that noise levels from the expressway do not exceed acceptable limits as outlined in the *Road Traffic Noise Guidelines* and are based on results of noise modelling.

**What process was followed to determine where noise barriers are required?**

Noise modelling was undertaken in accordance with the Australian Calculation of Road Traffic Noise Prediction method. Data on existing noise levels was collected at several locations along the expressway and used to calibrate noise levels for the full length of the expressway. This then determined where noise levels would exceed the thresholds set in the guidelines.

The modelling considered:
> properties within 500m of the duplicated expressway
> distance of properties and location compared to road level

> current and predicted traffic volumes (predicted volumes are modelled up until 2031)
> percentage of cars and heavy vehicles during day and night periods
> road geometry and surrounding topography of the existing and new expressway
> gradient of the road and traffic speed
> deflection of sound against hard surfaces
> type of road pavement used
> weather conditions at the time of monitoring

Based on the modelling outcomes, noise mitigation measures will be implemented at various locations along the expressway where noise levels exceed the thresholds set in the guidelines.

**What are the noise limits?**

The *Road Traffic Noise Guidelines* are used to assess and treat the impacts of road traffic noise from infrastructure projects involving new roads or major upgrades of existing roads. They set the desirable range of outdoor and indoor noise levels at receivers such as residential dwellings.

The noise criteria are generally 60-65 decibels during day time (7am – 10pm) and 55-60 decibels at night time (10pm – 7am).

Where noise modelling shows that these noise criteria will be exceeded, noise management treatments will be incorporated. Treatments will
only be provided to noise sensitive receivers (i.e. residential properties, childcare centres, kindergartens and nursing homes).

What type of noise reduction measures will be installed?

Road Surface
To assist in reducing a large percentage of road noise which is generated by tyres on the road, open graded asphalt will be used on the surface of the duplicated expressway. It provides a quieter road surface than normal, denser asphalt.

Noise barriers
One of the best ways to reduce traffic noise to nearby properties is to interrupt the path of the noise by building a barrier between the source of the noise and the receiver.

Approximately 7.5 kilometres of noise barriers will be installed between the duplicated expressway and neighbouring properties. Some of these noise barriers will be placed along property boundaries while others will be positioned closer to the road itself. The placement of the barriers will depend on the effect on noise, the alignment of the road, physical site constraints and consideration of public safety design principles. The outcome looks to find a solution that balances all of these considerations.

Types of noise barriers
The noise barriers will be Colorbond or Corten steel and will range in height from 2.4 to 4.5 metres, depending on the level of noise reduction required. They will be installed at the following locations along the Southern Expressway corridor:

> between Marion Road and Seacombe Road (Corten steel)
> between Seacombe Road and Darlington Escarpment (Corten steel)
> between Adams Road and Lander Road (Colorbond)
> between Moore Road Bridge and Sherriffs Road (Colorbond)
> between Christies Creek and Honeypot Road (Colorbond)
> south of Honeypot Road (Colorbond)

Corten barriers
Corten noise barriers will be installed at the northern end of the project site (between Seacombe Road and the Darlington escarpment) as an urban design feature signifying the entrance to the expressway and the inner metropolitan area. They will range in height from 3 to 4 metres and have a natural and anti-graffiti finish that will readily blend with the surrounding landscape and is easy to clean. For Corten noise barriers on property boundaries the rear face will be clad with Colorbond sheets.

Colorbond barriers
Colorbond barriers of a defined colour palette will be used to construct the majority of the noise barriers. The height of the barriers will range from 2.4 to 4.5 metres and the cladding will be either single or double-sided depending on the location and level of noise reduction required.

The image below shows examples of 3.5 metre Colorbond and Corten steel barriers that have been installed at the Southern Expressway site office to provide the community with an idea of what the barriers will look like. Feel free to drop into the office at 3 Majors Road, O'Halloran Hill, during business hours to view the fencing. If you would like a member of the project team to be present please contact the enquiry line on 1300 626 097 to arrange a time.