

# Noise/Screen Walls

Approximately five kilometres of noise/screen walls will be installed to reduce traffic noise and provide privacy screening for local residents.

## Where will the noise/screen walls be located?

Noise/screen walls will be installed between the freeway and identified residential properties. The location of the walls has been based on extensive noise modelling, which takes into consideration a range of factors including predicted traffic volumes on the freeway to the year 2031. Refer overleaf for maps illustrating the expected location of the walls.

The distance of the walls from residential properties is dependent on the road design and the available space in the road reserve. Many of the walls are expected to be installed next to property boundaries. However, some walls will be built further away. The walls and their footings will always be located within the road reserve.

## How are the location and height of the walls determined?

The location and height of the noise/screen walls are determined by a noise model. The noise model takes into account factors such as the proposed traffic speed, the landscaping surface and the distance to residents. Existing traffic volumes and future traffic volumes in 2021 and 2031 are also considered.

The noise/screen walls are designed in accordance State Planning Policy 5.4 Road and Rail Transport Noise and Freight Considerations in Landuse Planning.

## How high will the noise/screen walls be?

The heights of the new walls on the freeway side will vary between 2.4 metres and 3.6 metres depending on the predicted future noise levels and the proximity of the property to the freeway.

We will also be installing additional walls next to the existing freeway on the southern side of Burns Beach Road. Where required, the height of the walls in this area will vary between 4.2 metres and 4.8 metres.

## What will the noise/screen walls look like?

The walls will be mainly built of limestone blocks.

A small number of walls, located along the freeway near Burns Beach Road, will be made of concrete panels and steel posts.

All walls will have an anti-graffiti coating applied to them on the freeway side.



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### **How do the walls reduce traffic noise?**

By positioning the walls between the road and residential properties, sound waves emanating from traffic is forced to diffract around the edges of the walls, reducing the direct sound noise.

Typically noise walls can reduce road traffic noise by approximately 5 to 10 decibels, halving the perceived noise level.

The level of noise reduction achieved by installation of the noise walls is dependent on a number of factors including the length and height of the walls.

Monitoring will be undertaken at project completion to confirm that the average noise levels of 60dBA during the day and 55dBA at night have been achieved.

### **When will the noise/screen walls be installed?**

We will install the walls as early as possible in the construction program to mitigate construction related noise. Construction of the walls is expected to commence in late 2015/early 2016.

In some locations the noise/screen walls will not be able to be installed until later in the construction program due to the road design and existing road infrastructure.

### **How will the walls be constructed?**

Construction depends on the positioning of the noise/screen walls.

In locations where the wall is built next to the boundary of a residential property, the owner will be given the option to remove the existing boundary fence and replace it with the wall. We will contact owners of these properties directly to

discuss the proposed works and will work closely with them during construction.

In some locations the noise/screen walls will be offset from property boundaries, so the boundary fence will be retained.

### **Will the area be secured where the walls are located further away from properties?**

Security fences will be installed at locations where the noise/screen walls are located further away from properties to prevent unauthorised access to these areas. Gates will be provided to provide Main Roads with access to these areas to carry out maintenance activities.



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## LEGEND

- Mitchell Freeway Extension design
- Modelled noise wall
- Noise wall height change



SCALE  
0 500 1000 1500 2000  
Metres (at A3)

MAP PROJECTION: Transverse Mercator  
HORIZONTAL DATUM: Geocentric Datum of Australia (GDA)  
GRID: Map Grid of Australia 1994, Zone 50  
DATA SOURCE: MetroCentre2012\_LGATE\_MGASO\_20130513

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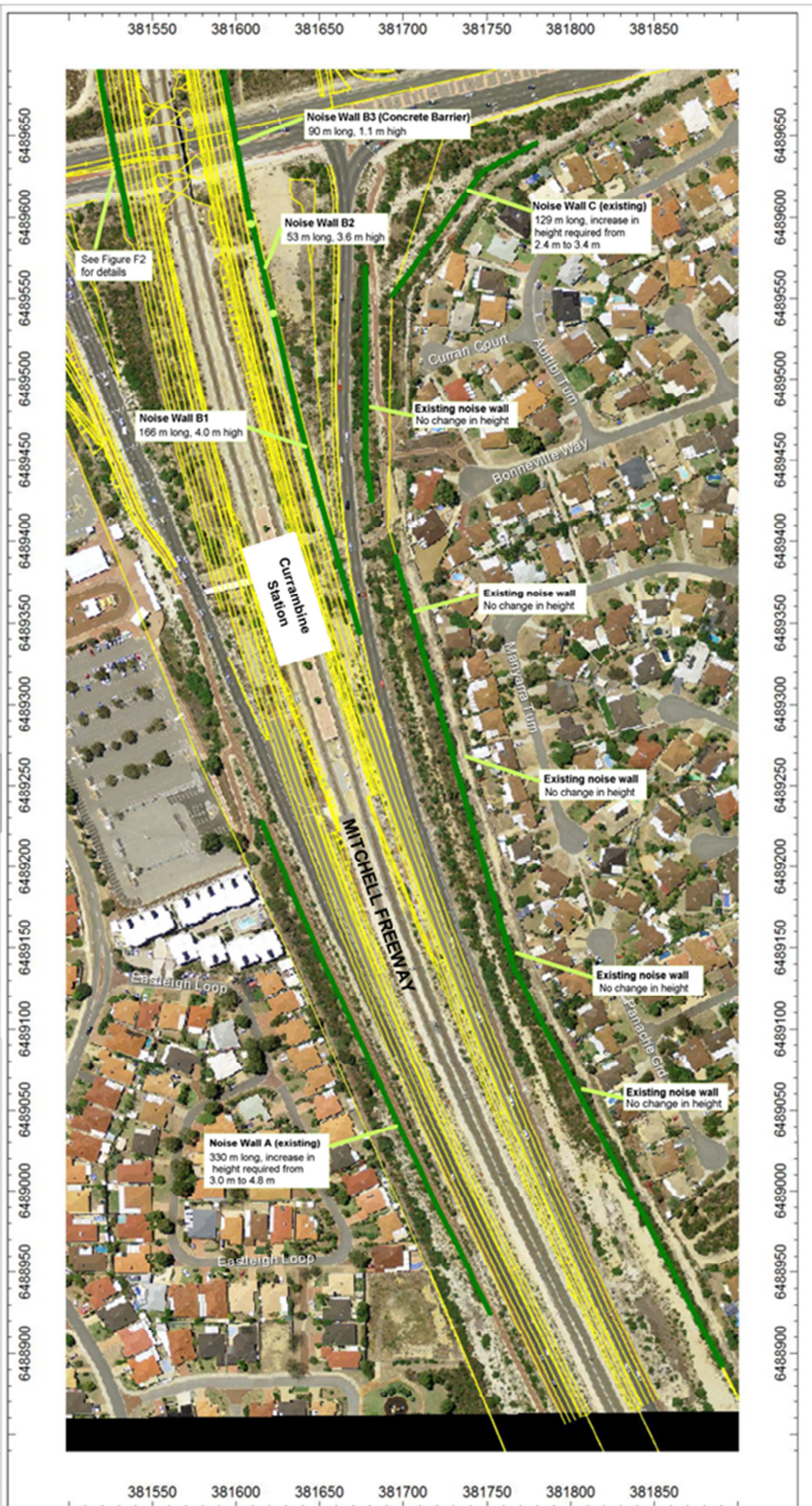


Main Roads WA  
Mitchell Freeway Extension  
Package 3 - Noise Modelling

**FIGURE F1**  
Noise mitigation  
requirements - Currumbine  
and Joondalup residential  
areas

CREATED	CHECKED	APPROVED	DATE	REVISION
LC	JF	JF	12.10.2015	0

FILE LOCATION	DRAWING NO.
G:\61\32114\Noise Assessment	Figure F1.srf



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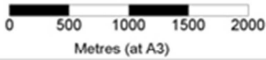


# LEGEND

- Mitchell Freeway Extension design
- Modelled noise wall
- Noise wall height change



SCALE



MAP PROJECTION: Transverse Mercator  
HORIZONTAL DATUM: Geocentric Datum of Australia (GDA)  
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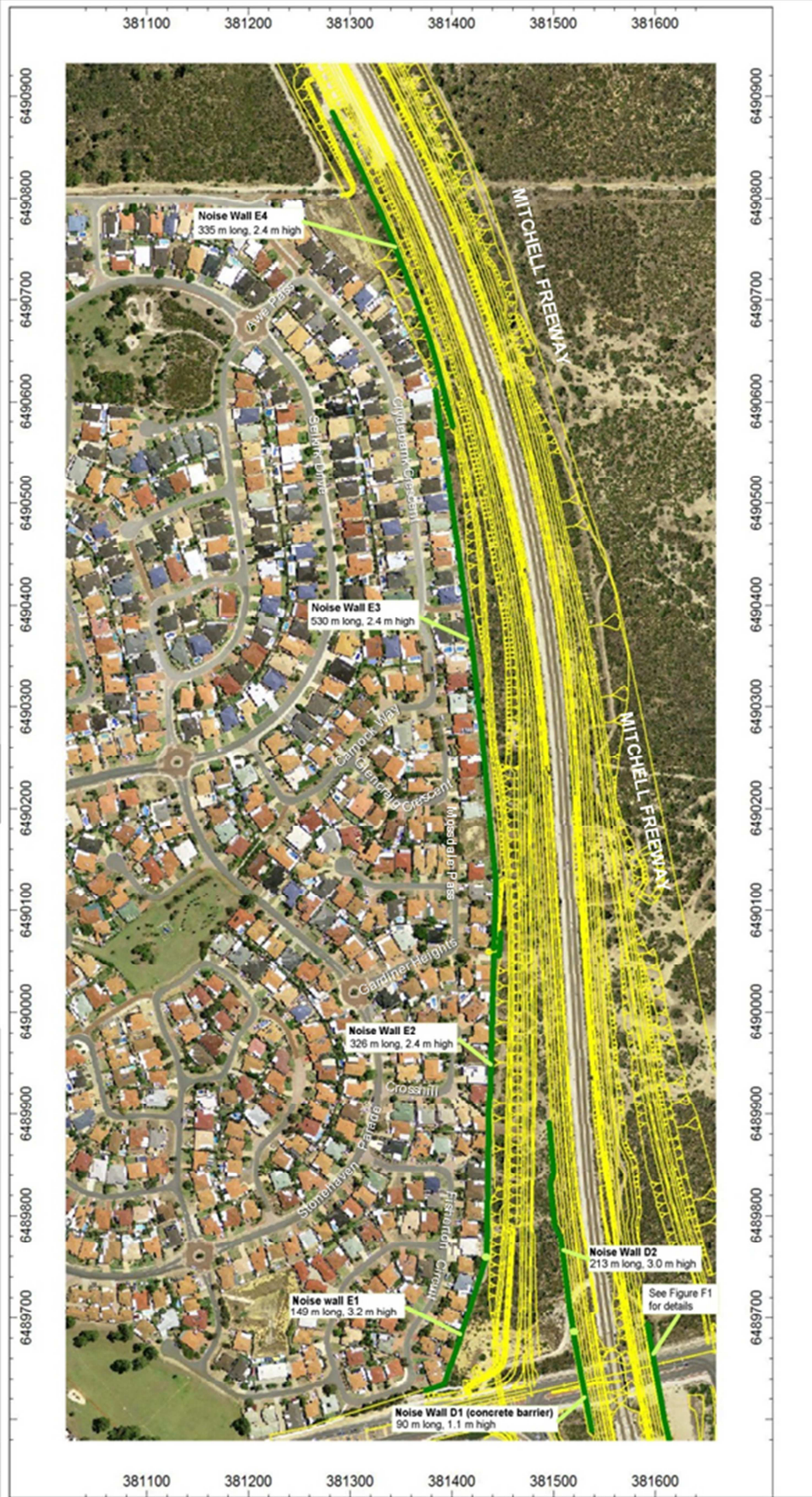


Main Roads WA  
Mitchell Freeway Extension  
Package 3 - Noise Modelling

**FIGURE F2**  
Noise mitigation  
requirements - Kinross  
residential area

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FILE LOCATION: G:\6132114\Noise Assessment  
DRAWING NO.: Figure F2.srf



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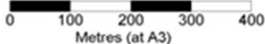


# LEGEND

- Mitchell Freeway Extension design
- Modelled noise wall
- Noise wall height change



SCALE



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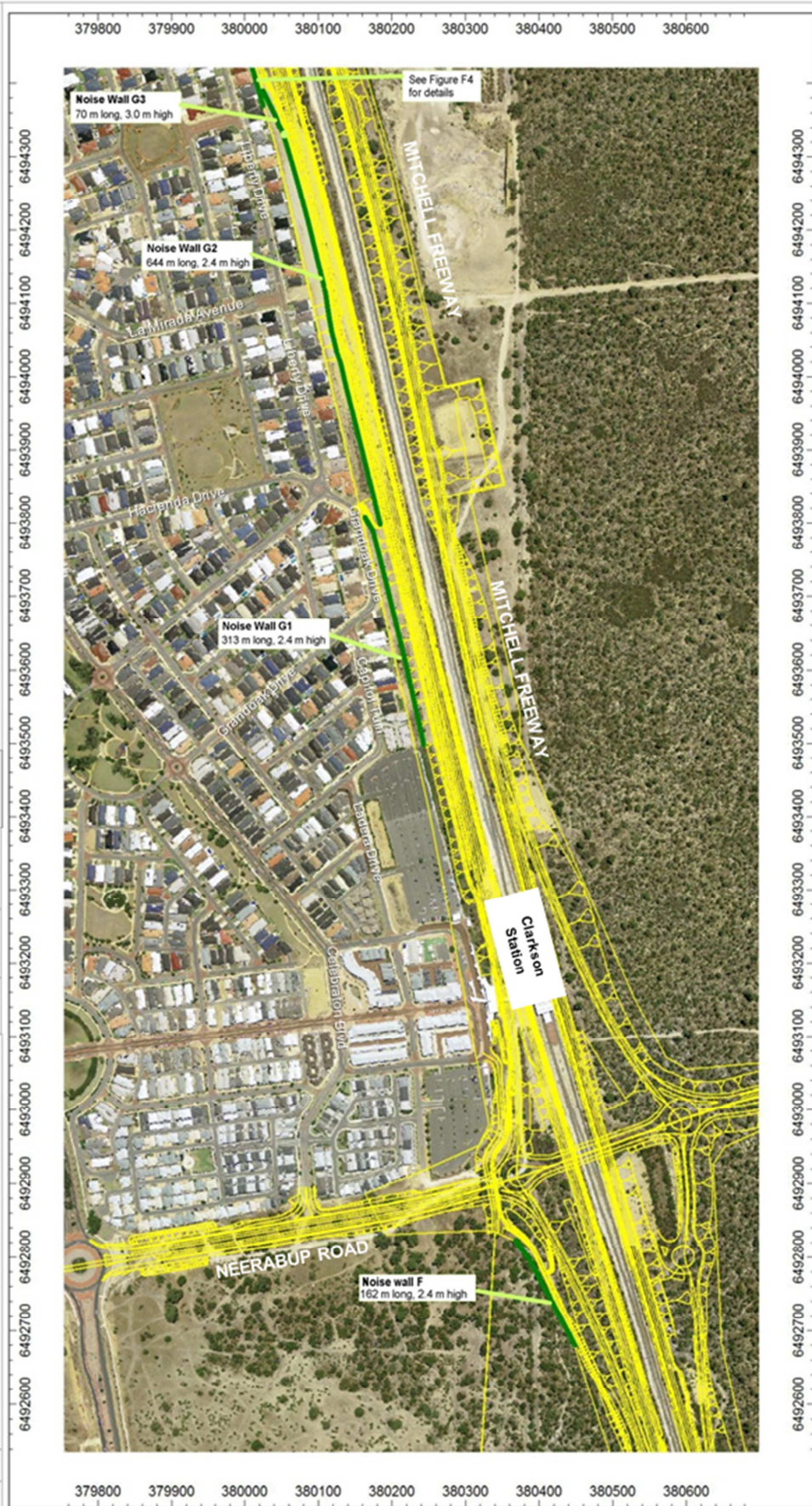
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Main Roads WA  
Mitchell Freeway Extension  
Package 3 - Noise Modelling

**FIGURE F3**  
Noise mitigation  
requirements - Calista and  
Clarkson (south) residential  
areas

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FILE LOCATION		DRAWING NO.		
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