Flagstone Development, Precinct 1

Transport Noise Intrusion Assessment, Stages 3G, 3Fi, 3H, 5Ai, 5Aii, 5Bi, 5Bii, 5C, 5D, 5Ei, 5Eii, 5Eiii, 5F, 5G, 5H, 5Ki, 5Kii, 5L, 5M, 5Qii, 5R, 5S

Peet Flagstone City Pty Ltd

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SLR Project No.: 620.v10512.02000

Client Reference No.: NA

24 November 2023

Revision: 1.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.0	24 November 2023	Rodrigo Olavarria	Jennifer Walker	Rodrigo Olavarria

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Peet Flagstone City Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) was commissioned by Peet Flagstone City Pty Ltd to conduct a revised noise assessment for the revised Plan of Subdivision for the Flagstone Precinct 1.

This report addresses the transportation (railway and road traffic) noise intrusion onto the following project Stages:

- 3G, 3Fi, 3H, 5Ai, 5Aii, 5Bi, 5Bii, 5C, 5D, 5Ei, 5Eii, 5Eiii, 5F, 5G, 5H, 5Ki, 5Kii, 5L, 5M, 5Qii, 5R, 5S

Stages 5I and 5J are approved at the time of issue of this report; therefore, the noise intrusion onto these stages has not been assessed further.

The purpose of this assessment is to present an updated set of noise prediction results and applicable Queensland Development Code Mandatory Part 4.4 (QDC MP4.4), as Conditioned by Economic Development Queensland (EDQ), following recalculation of the transportation noise intrusion for the latest plan of subdivision (reproduced in **Appendix B**) and elevation model for the site and adjoining transport routes.

The road traffic noise predictions are based on the road traffic forecasts previously applied in SLR report 620.10512-R09-v5.1, dated 14 June 2021.

The forecast future rail operations with the Inland Rail and Salisbury to Beaudesert projects have been adopted for this assessment.

Other previous assumptions, such as the location and height of noise barriers have been preserved in the current assessment. Noise levels were calculated for the updated topography and QDC MP4.4 Categories were updated for the residual noise intrusion after the implementation of the noise barriers.

The following documents are relevant to this assessment:

- Department of Transport and Main Roads (TMR) Transport Management Code of Practice Volume 1: Road traffic noise (CoP Vol 1)
- Department of Transport and Main Roads (TMR) Transport Management Code of Practice Volume 3: Operational railway noise and vibration (CoP Vol 3) (Interim Guideline).
- AS 1055:2018 - Acoustics - Description and measurement of environmental noise (AS 1055)
- AS 3671:1989 – Acoustics Road Traffic Noise Intrusion – Building Siting and Construction (AS 3671)

Supporting material:

- UK Department of Transport Welsh Office Calculation of Road Traffic Noise 1988 (CoRTN)
- Ringheim, M 1984, 'Background Material for the Nordic Rail Traffic Noise Prediction Method', Kilde Report 130, KILDE, Norway (Kilde)

This report is to be read as an addendum to the SLR report 620.10512-R09-v5.1.

A glossary of terms used in this report are detailed in **Appendix A**.

2.0 Noise Assessment Requirements

Economic Development Queensland (EDQ) has approved the Priority Development Area (PDA) development application for Greater Flagstone Stages 2-5, subject to PDA development conditions set out in the PDA Decision Notice (dated 10 Dec 2020).

Condition 35 is relevant to Acoustic Compliance and is reproduced below as per the EDQ PDA Decision Notice – Approval.

> ***Condition 35 – Compliance Assessment – Acoustic Treatment (Noise Barrier)***
>
> *a) Submit to EDQ Development Assessment DSDMIP for compliance assessment a Noise Mitigation Report, certified by a RPEQ, for all lots within 100m from Flagstonian Drive Extension, the future North South Arterial road and 200m from the railway corridor achieving a ≤ 35dBA for 1 hour max, over a 24 hour period for all habitable rooms.*
>
> *Where a ≤ 35dBA for 1 hour max, over a 24 hour period for all habitable rooms cannot be achieved, the Noise Mitigation Report is to provide the proposed noise mitigation measures generally in accordance with QDC MP4.4 – Buildings in a Noise Transport Corridor. If any noise barriers are proposed, the detailed design/construction plans certified by a RPEQ are to be provided including how passive surveillance of the streetscape can be maintained.*
>
> *b) For lots fronting Flagstonian Drive, the acoustic fence must be no higher than that specified in the approved plan of development.*

EDQ considered the application of QDC MP4.4 at residential lots to achieve the acoustic requirements of Condition 35. Whilst MP4.4 does not provide internal noise limits or targets, the minimum building constructions in MP4.4 would typically achieve an internal transport noise level of approximately 35 dBA within habitable rooms.

MP4.4 applies to residential buildings that are constructed within designated Transport Noise Corridors.

EDQ also considered for the purpose of assessing transport noise, the North-South Arterial Road, Flagstonian Drive and the Sydney to Brisbane rail line to be Transport Noise Corridors applicable to the Flagstone City Development.

Under the QDC MP4.4, when building in a Transport Noise Corridor, the residential building needs to achieve certain levels of noise reduction, dependent upon the highest Noise Category in which all or any part of the building sits. The noise reduction can be achieved through incorporating appropriate building materials to the building envelope to achieve the required noise reduction in habitable rooms.

Reproduced from QDC MP4.4, the Noise Categories and associated minimum noise reduction requirements and minimum Sound Reduction Index (Rw) for external building elements are shown in **Table 1**. The Rw is a measure of the sound insulation properties of a specific building material element.

QDC MP4.4 provides acceptable forms of construction for the external elements of the building to assist in achieving a building design and construction which meets the required noise reduction for each Noise Category. The acceptable forms of construction in MP4.4 are reproduced in **Appendix C** of this report, noting that other forms of construction <u>are acceptable</u> where they achieve the required Rw rating.

Table 1 QDC MP4.4 Noise Categories and Minimum Noise Reduction for Road Transport Noise

Noise Category	Transport Noise Level, Facade Corrected	Minimum Transport Noise Reduction for Habitable Rooms	Building External Envelope Component	Minimum Rw Required for Each Component	
4	Road traffic noise ≥73 dBA $L_{A10(18hour)}$ Rail traffic noise ≥85 dBA SEM	40 dBA	Glazing	43	
			External Walls	52	
			Roof	45	
			Floors	51	
			Entry doors	35	
3	Road traffic noise 68 – 72 dBA $L_{A10(18hour)}$ Rail traffic noise 80 – 84 dBA SEM	35 dBA	Glazing	38	where total area of glazing for a habitable room is greater than 1.8 m^2
				35	where total area of glazing for a habitable room is less than or equal to than 1.8 m^2
			External walls	47	
			Roof	41	
			Floors	45	
			Entry doors	33	
2	Road traffic noise 63 – 67 dBA $L_{A10(18hour)}$ Rail traffic noise 75 – 79 dBA SEM	30 dBA	Glazing	35	where total area of glazing for a habitable room is greater than 1.8 m^2
				32	where total area of glazing for a habitable room is less than or equal to than 1.8 m^2
			External walls	41	
			Roof	38	
			Floors	45	
			Entry doors	33	
1	Road traffic noise 58 – 62 dBA $L_{A10(18hour)}$ Rail traffic noise 70 – 74 dBA SEM	25 dBA	Glazing	27	where total area of glazing for a habitable room is greater than 1.8 m^2
				24	where total area of glazing for a habitable room is less than or equal to than 1.8 m^2
			External walls	35	
			Roof	35	
			Entry doors	28	
0	Road traffic noise ≤57 dBA $L_{A10(18hour)}$ Rail traffic noise ≤69 dBA SEM	No additional acoustic treatment required – standard building assessment provisions apply.			

3.0 Noise Assessment Methodology

The existing three-dimensional noise model of the Flagstone Area was updated to incorporate the updated Flagstone Stage 1 subdivision and road elevation model. The model was developed within SoundPLAN v8.1 acoustic software to predict transportation noise intrusion.

The computer model was created as a representation of the future noise intrusion, which incorporates the following inputs:

- Calculation algorithms. SoundPLAN implementation of the following accepted standards and methodologies:
  - Ringheim, M 1984, 'Background Material for the Nordic Rail Traffic Noise Prediction Method', Kilde Report 130, KILDE, Norway (Kilde). KILDE is widely accepted in Australia for the calculation of road traffic noise and its use is recommended in the CoP Vol 3.
  - UK Department of Transport Welsh Office Calculation of Road Traffic Noise 1988 (CoRTN). CoRTN is widely accepted in Australia for the calculation of road traffic noise and its use is recommended in the CoP Vol 1.
- Terrain elevation. Digital Elevation Model (DEM) built from
  - Earthworks model supplied by Colliers in file *MGA94 super design ascon.dxf*, and
  - 3D LiDAR file representing existing contours outside the study area.
- Noise barriers. At the locations and 2.0 m height above DEM, as defined in the previous acoustic report:
  - 3D noise barrier alignments provided by Colliers for the noise barrier pertaining Stages 5F, 5G, 5Qi, 5R and 5S (*Acoustic top strings Flagstonian Drive.dxf*). The noise barrier was extended with a 2.0 m return on Lot 2042
  - 3D noise barrier alignment provided by Colliers for the noise barrier pertaining Stages 5C, 5Bi and 4P (*Acoustic top bottom strings New Beith Road.dxf*). The noise barriers were extended from Lot 2296 to Lot 2320.
- Ground surface corrections – Areas of soft (absorptive) and hard (reflective) ground.
- Sensitive receptors – Locations where the transportation noise levels are to be assessed.

3.1 Railway Noise Modelling

The KILDE 130 rail noise prediction methodology was applied to calculate railway noise levels. The methodology was used to predict the $L_{Aeq(24hour)}$ and Single Event Maximum (SEM) rail noise levels[1] for daily rail traffic and referenced noise emissions specific for Queensland's rolling stock. The noise modelling also referenced guidelines on the prediction of railway noise from Queensland Department of Transport and Main Roads (TMR).

Railway noise levels were predicted at 1.8 m and 4.6 m height above ground level to represent typical building heights of single and two storey buildings.

A +2.5 dBA facade correction has been applied to all railway noise predictions unless otherwise stated.

[1] Only the SEM is relevant to this noise assessment.

Rail noise contours were generated from noise predictions using a grid spacing of 0.5 m.

The QDC MP4.4 Noise Categories were determined from the noise contour maps calculated at 1.8m and 4.6m for ground floor and first floor of two storey dwellings assumed for the development, respectively. The highest Noise Category observed per lot is reported.

There are no buildings in the noise prediction model, the calculated road traffic noise levels were adjusted by +2.5 dBA to account for the reflected sound at 1 m from a building facade.

3.1.1 Railway Model Validation

The measured railway noise levels monitored in 2022 (detailed in **Appendix D**) were referenced to verify the accuracy of the rail noise prediction model. The daily rail movements used to validate the model are detailed in **Table 2**.

Table 2 Daily Railway Movements

Train Type	Noise Emission	Modelled Speed	Train per 24-hour
XPT	95 dBA SEL, 87 dBA L_{Amax} at 25 m	100 km/h	2
Locomotive (notch 8)	86 dBA SEL, 84 dBA L_{Amax} at 25m	80 km/h	6
Freight wagons (1,000 m)	92 dBA SEL, 88 dBA L_{Amax} at 25m	80 km/h	6

The noise model verification results are detailed in **Table 3**, which shows the predicted rail noise levels are within ±2 dBA of the measured rail noise levels; therefore, the model is considered valid according to CoP Vol 3.

Table 3 Verification of Railway Noise Model

Measured Rail Noise Levels		Predicted Rail Noise Levels		Verification of Predicted Levels	
$L_{Aeq(24hour)}$	SEM	$L_{Aeq(24hour)}$	SEM	$L_{Aeq(24hour)}$	SEM
49	80	49	80	0	0

Railway noise levels were measured in the free-field at 1.5 m above ground and 55 m from a straight section of track with no signals, cross overs or other acoustically-significant features.

3.1.2 Future Rail Operations

In the future, the Inland Rail project and proposed Salisbury to Beaudesert rail corridor could substantially increase passenger and freight rail operations adjacent to the Flagstone development and the Project.

The Inland Rail project will increase existing freight train operations as well as introduce new super-freighter train services. Rail data for the Inland Rail project has been referenced from the Inland Rail Environmental Impact Statement (EIS). Additionally, the Environmental Impact Statement (EIS) for the Cross River Rail project includes forecast future passenger services for the proposed Salisbury to Beaudesert corridor of up to 148 passenger trains per day.

The forecast future rail operations, with the Inland Rail and Salisbury to Beaudesert projects adopted for this assessment, are summarised in **Table 4**.

It is important to note that, as the Inland Rail and Salisbury to Beaudesert projects continue to be developed the daily rail operations modelled in this assessment may be subject to change. Notwithstanding this, SLR has applied the best available data to forecast potential peak railway operations to provide a suitably conservative assessment of railway noise.

In this regard, the predicted noise levels may not be experienced everyday due to variability in timetabled railway operations and the variability of other parameters which influence noise emissions such as train speeds, train length, locomotive types.

Table 4 Forecast Future Daily Rail Movements

Train Type	Noise Emission	Modelled Speed	Trains per 24-hour
SMU passenger	90 dBA SEL at 25m 84 dBA LAmax at 25m	100 km/h	148
XPT	95 dBA SEL at 25 m 87 dBA LAmax at 25 m	100 km/h	2
Locomotive (notch 8)	86 dBA SEL at 25m 84 dBA LAmax at 25m	80 km/h	36
Inland Rail freight NR class	85 dBA SEL at 15m 90 dBA LAmax at 15m	100 km/h	4
Inland Rail super-freighter	85 dBA SEL at 15m 90 dBA LAmax at 15m	100 km/h	11
Freight wagons (1,000 m)	90 dBA SEL at 25m 85 dBA LAmax at 25m	80 km/h	36
Inland Rail wagons (1,000 m)	92 dBA SEL at 25m 88 dBA LAmax at 25m	100 km/h	15

3.2 Road Traffic Noise Modelling

Road traffic noise was modelled following general guidance from the TMR CoP Vol 1.

Road traffic volumes have been extracted from SLR report 620.10512-R09-v5.1, dated 14 June 2021. Traffic forecasts for the Year 2036 have been used, which are adopted as a 10-year planning horizon from the anticipated year of construction (refer **Table 5**).

All road surfaces were assumed to be dense grade asphalt (DGA). On this basis, a road surface correction factor of 0 dBA was applied for all road traffic noise predictions, in accordance with CoP Vol 1.

A further -0.7 dBA (free field) or -1.7 dBA (facade)correction was applied, where applicable, in accordance with the CoP Vol 1.

The QDC MP4.4 Noise Categories were determined from the noise contour maps calculated at 1.8 m and 4.6 m above the DEM, for ground floor and first floor of two storey dwellings assumed for the development, respectively. The highest Noise Category observed per lot is reported.

Road traffic noise contours were generated from noise predictions using a grid spacing of 0.5 m.

Table 5 2036 Road Traffic Forecasts

Road	Segment	18-hr volume	% Heavy Vehicles	Posted Speed, Km/h
Flagstonian Drive	Northern end	9,282	2.5	60
	Middle Section	6,760	2.6	60
	Southern End	11,169	2.6	60
North-South Arterial Road	N of Flagstonian Drive	14,046	2.7	70
	S of Flagstonian Drive	13,146	2.5	70

4.0 Noise Assessment Results

4.1 Railway Noise

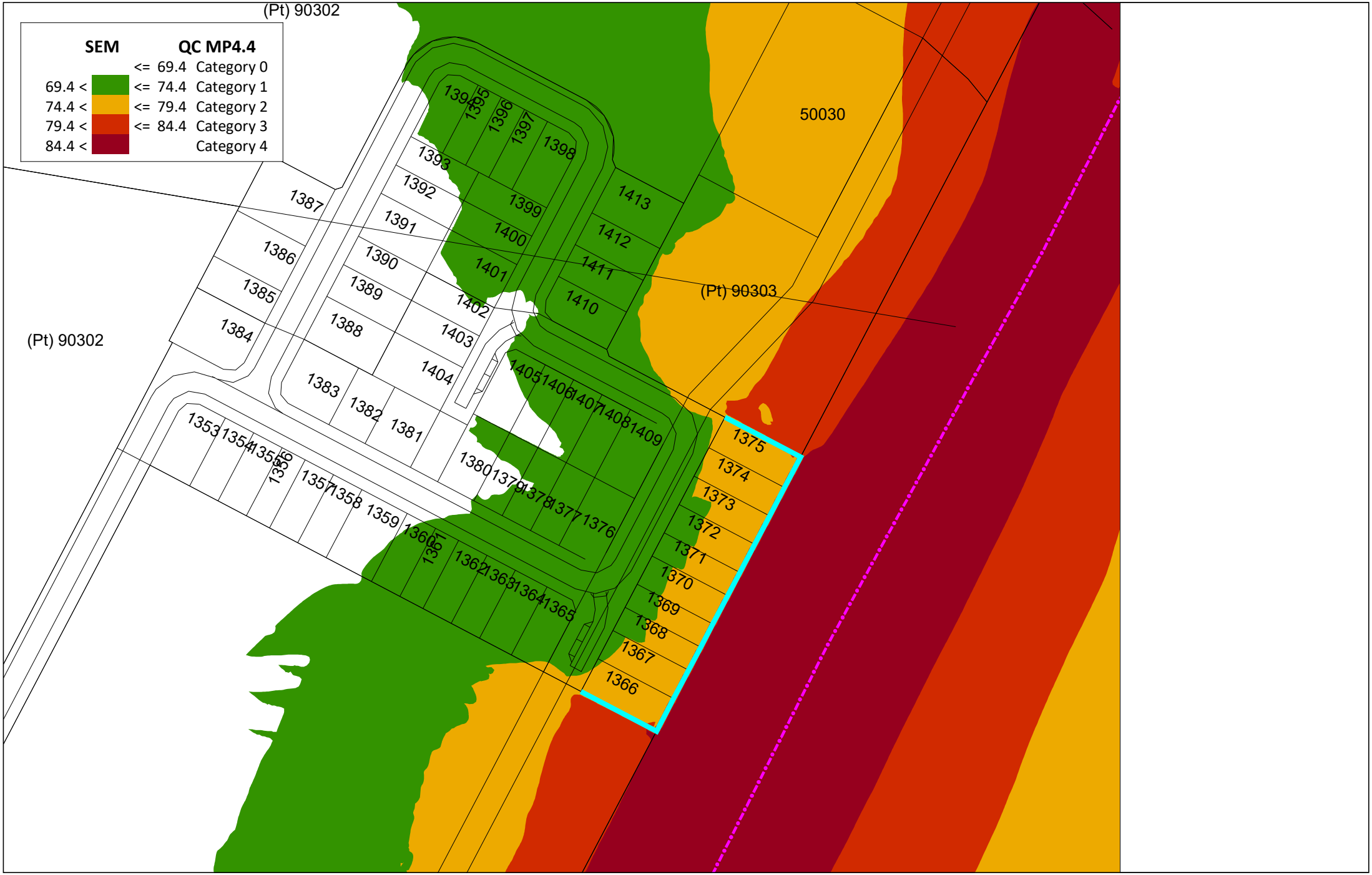
The noise contours in **Figure 1** and **Figure 2** present the results of noise predictions of the SEM noise descriptor and relevant QDC MP4.4 Noise Category applicable to railway noise for Ground Floor and First Floor receptors after the incorporation of 2.0 m noise barriers at the front of the railway fronting Stage 3H.

The QDC MP4.4 Categories applicable to all lots of stages 3G, 3Fi, 3H, related to railway noise, are presented in **Appendix E.** The results present the lot number, stage, modelled ground elevation at the (approximate) centre of the lot and the QDC MP4.4 Noise Category for Ground Floor and First Floor noise levels.

Table 6 presents a summary of noise predictions on lots with an adjacent noise barrier. The modelled elevation of the approximate centre of the lot, midpoint of the noise barrier facing the noise source and the approximate elevation of the railway section immediately in front are also presented for information.

Table 6 Railway Noise Predictions on :ots with a Noise Barrier

Lot	Stage	Floor	QDC MP4.4 Noise Category	Approximate Ground Elevation at Centre of Lot, m			Elevation at Base of Barrier (mid span), m	Approximate Elevation of Railway in Facing the Lot, m	Lot in Cut /Fill
				Easting	Northing	Elevation			
1366	3H	GF	2	495546.78	6925830.02	48.4	48.5	45.0	Fill
1366	3H	FF	3						
1367	3H	GF	2	495552.33	6925842.22	48.3	48.5	44.6	Fill
1367	3H	FF	3						
1368	3H	GF	2	495557.48	6925852.47	48.0	48.3	44.5	Fill
1368	3H	FF	3						
1369	3H	GF	2	495562.05	6925860.92	47.8	48.1	44.2	Fill
1369	3H	FF	3						
1370	3H	GF	2	495567.63	6925871.12	47.7	47.9	43.9	Fill
1370	3H	FF	3						
1371	3H	GF	2	495573.17	6925880.79	47.5	47.7	43.8	Fill
1371	3H	FF	3						
1372	3H	GF	2	495578.66	6925890.98	47.4	47.6	43.5	Fill
1372	3H	FF	3						
1373	3H	GF	2	495584.53	6925902.21	47.3	47.4	43.5	Fill
1373	3H	FF	3						
1374	3H	GF	2	495590.09	6925913.06	47.2	47.3	43.5	Fill
1374	3H	FF	3						
1375	3H	GF	2	495595.93	6925923.95	47.1	47.3	43.0	Fill
1375	3H	FF	3						



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SCALE :1303

0 5 10 20 30 40 50 m

ORIENTATION

N

LEGEND

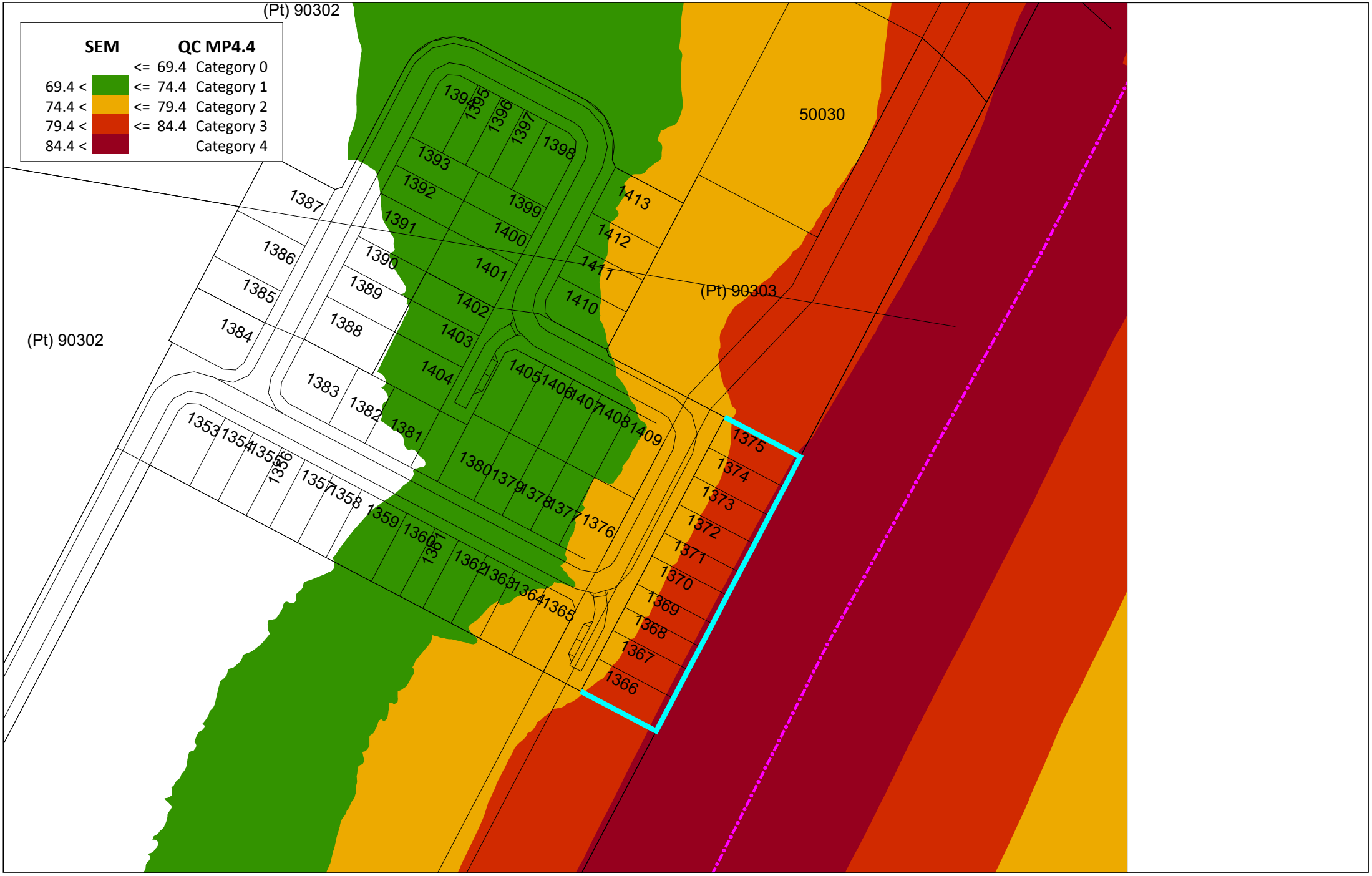
Assessed 2.0m Noise Barriers

Railway

PROJECT	Flagstone City Development
CLIENT	PEET Flagstone City Pty Ltd
DESCRIPTION	QDC MP4.4 Category, Ground Floor Railway Traffic Noise Map at 1.8m Above the Ground

Date: 24/11/2023
Project No.: 620.10512
Report No.: 620.10512-R10-v1.0
Prediction Method: Kilde 130
Prepared By: RO
Prediction Height:1.8 m

Figure 1



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SCALE :1303

0 5 10 20 30 40 50 m

ORIENTATION

N

LEGEND

Assessed 2.0m Noise Barriers

Railway

PROJECT	Flagstone City Development
CLIENT	PEET Flagstone City Pty Ltd
DESCRIPTION	QDC MP4.4 Category, First Floor Railway Traffic Noise Map at 4.6m Above the Ground

Date:	24/11/2023
Project No.:	620.10512
Report No.:	620.10512-R10-v1.0
Prediction Method:	Kilde 130
Prepared By:	RO
Prediction Height:	4.6 m

Figure 2

4.2 Road Traffic Noise

The noise contours in **Figure 3** and **Figure 4** present the results of noise predictions of the $L_{A10(18hour)}$ noise descriptor and relevant QDC MP4.4 Noise Category relevant to road traffic noise for Ground Floor and First Floor receptors of Stages 5Ai, 5Aii, 5Bi, 5Bii, 5C, 5D, 5Ei, 5Eii, 5Eiii, 5F, 5G, 5H, 5Ki, 5Kii, 5L, 5M, 5Qii, 5R, 5S.

Results include a 2.0 m noise barrier at the front of Stages 4P, 5Bi, 5C, 5S, 5R, 5Qi, 5F and 5G.

The QDC MP4.4 Categories applicable to all lots, related to road traffic noise, are presented in **Appendix E.** The results present the lot number, stage, modelled ground elevation at the (approximate) centre of the lot and the QDC MP4.4 Noise Category for Ground Floor and First Floor noise levels.

Table 7 presents a summary on noise predictions on lots with the 2.0m high noise barrier. The modelled elevation of the approximate centre of the lot, midpoint of the noise barrier facing the noise source and the approximate elevation of the road section immediately in front are also presented for information.

Table 7 Road Traffic Noise Predictions on Lots with a Noise Barrier

Lot	Stage	Floor	QDC MP4.4 Noise Category	Approximate Ground Elevation at Centre of Lot, m			Elevation at Base of Barrier (mid span), m	Approximate Elevation of Road in Front of Lot, m	Lot in Cut /Fill
				Easting	Northing	Elevation			
2000	5S	GF	0	494305.62	6925684.13	61.8	64.0	63.3	Cut
2000	5S	FF	1						
2001	5S	GF	0	494292.62	6925689.43	62.1	64.1	63.4	Cut
2001	5S	FF	2						
2002	5S	GF	0	494281.07	6925693.79	62.3	64.2	63.5	Cut
2002	5S	FF	2						
2003	5S	GF	0	494268.58	6925698.75	62.4	64.3	63.5	Cut
2003	5S	FF	2						
2004	5S	GF	0	494258.83	6925702.43	62.7	64.3	63.6	Cut
2004	5S	FF	2						
2005	5S	GF	0	494249.25	6925705.42	63.1	64.4	63.7	Cut
2005	5S	FF	2						
2006	5S	GF	0	494237.36	6925710.04	63.4	64.5	63.8	Cut
2006	5S	FF	2						
2007	5S	GF	0	494225.48	6925714.32	63.6	64.5	63.9	Cut
2007	5S	FF	2						
2008	5S	GF	1	494213.62	6925718.64	63.9	64.6	64.0	Cut
2008	5S	FF	2						
2009	5S	GF	1	494160.42	6925737.02	64.2	66.4	65.6 (SEA)	Cut
2009	5S	FF	2					64.9 (Flagstonian)	Cut

Lot	Stage	Floor	QDC MP4.4 Noise Category	Approximate Ground Elevation at Centre of Lot, m			Elevation at Base of Barrier (mid span), m	Approximate Elevation of Road in Front of Lot, m	Lot in Cut /Fill
				Easting	Northing	Elevation			
2010	5S	GF	0	494157.85	6925718.58	64.0	66.0	65.2	Cut
2010	5S	FF	2						
2011	5S	GF	0	494155	6925705.63	63.7	65.7	64.9	Cut
2011	5S	FF	2						
2012	5S	GF	0	494153.02	6925694.37	63.5	65.5	64.7	Cut
2012	5S	FF	2						
2013	5S	GF	0	494150.08	6925683.47	63.1	65.1	64.4	Cut
2013	5S	FF	2						
2014	5R	GF	0	494147.63	6925670.14	62.4	64.8	64.1	Cut
2014	5R	FF	2						
2015	5R	GF	0	494145.34	6925657.45	61.9	64.4	63.8	Cut
2015	5R	FF	2						
2016	5R	GF	0	494142.9	6925645.19	61.5	64.1	63.4	Cut
2016	5R	FF	2						
2017	5R	GF	0	494138.83	6925631.49	61.8	63.7	62.9	Cut
2017	5R	FF	3						
2018	5R	GF	0	494136.24	6925618.62	61.9	63.2	62.5	Cut
2018	5R	FF	3						
2019	5R	GF	0	494133.23	6925605.56	61.6	62.8	62.1	Cut
2019	5R	FF	3						
2020	5R	GF	1	494129.63	6925592.69	61.4	62.4	61.6	Cut
2020	5R	FF	3						
2021	5R	GF	1	494126.44	6925581.66	61.2	62.0	61.2	Cut
2021	5R	FF	3						
2022	5R	GF	1	494123.55	6925571.01	60.9	61.7	60.9	Cut
2022	5R	FF	3						
2023	5Qi	GF	1	494119.02	6925558.34	60.6	61.4	60.5	Fill
2023	5Qi	FF	2						
2024	5Qi	GF	1	494115.02	6925545.36	60.4	61.0	60.1	Fill
2024	5Qi	FF	2						
2025	5Qi	GF	1	494110.34	6925534.44	60.1	60.6	59.7	Fill
2025	5Qi	FF	2						
2026	5Qi	GF	1	494106.7	6925525.27	59.9	60.3	59.5	Fill
2026	5Qi	FF	2						

Lot	Stage	Floor	QDC MP4.4 Noise Category	Approximate Ground Elevation at Centre of Lot, m			Elevation at Base of Barrier (mid span), m	Approximate Elevation of Road in Front of Lot, m	Lot in Cut /Fill
				Easting	Northing	Elevation			
2027	5Qi	GF	1	494101.41	6925513.78	59.6	59.9	59.1	Fill
2027	5Qi	FF	2						
2028	5Qi	GF	1	494093.6	6925501.59	59.2	59.5	58.2	Fill
2028	5Qi	FF	2						
2029	5Qi	GF	1	494085.88	6925489.62	58.9	59.0	58.2	Fill
2029	5Qi	FF	2						
2030	5Qi	GF	2	494079.5	6925479.29	58.7	58.6	57.8	Fill
2030	5Qi	FF	3						
2031	5F	GF	2	494065.34	6925462.82	57.9	57.8	57.2	Fill
2031	5F	FF	3						
2032	5F	GF	2	494056.97	6925454.12	57.6	57.3	56.8	Fill
2032	5F	FF	3						
2033	5F	GF	2	494047.75	6925444.06	56.9	56.8	56.3	Fill
2033	5F	FF	3						
2034	5G	GF	1	494033.99	6925429.86	55.9	56.1	55.7	Fill
2034	5G	FF	3						
2035	5G	GF	1	494024.56	6925419.42	55.0	55.6	55.2	Cut
2035	5G	FF	3						
2036	5G	GF	1	494016.16	6925410.27	54.5	55.1	54.7	Cut
2036	5G	FF	3						
2037	5G	GF	1	494007.68	6925401.2	53.9	54.7	54.3	Cut
2037	5G	FF	3						
2038	5G	GF	1	493998.15	6925391.05	53.6	54.2	53.8	Cut
2038	5G	FF	3						
2039	5G	GF	1	493989.38	6925381.47	53.3	53.6	53.2	Fill
2039	5G	FF	3						
2040	5G	GF	2	493980.84	6925372.44	53.1	53.2	52.8	Fill
2040	5G	FF	3						
2041	5G	GF	2	493972.03	6925363.22	52.9	52.6	52.2	Fill
2041	5G	FF	3						
2042	5G	GF	2	493962.86	6925353.22	52.8	52.1	51.6	Fill
2042	5G	FF	3						
2133	5S	GF	1	494199.3	6925724.57	63.9	64.7	64.1	Cut
2133	5S	FF	2						

Lot	Stage	Floor	QDC MP4.4 Noise Category	Approximate Ground Elevation at Centre of Lot, m			Elevation at Base of Barrier (mid span), m	Approximate Elevation of Road in Front of Lot, m	Lot in Cut /Fill
				Easting	Northing	Elevation			
2289	5C	GF	1	494345.3	6925668.42	61.5	63.7	63.0	Cut
2289	5C	FF	1						
2290	5C	GF	0	494364.97	6925660.72	61.1	63.6	62.9	Cut
2290	5C	FF	1						
2291	5C	GF	0	494383.95	6925653.43	60.7	63.5	62.8	Cut
2291	5C	FF	1						
2292	5C	GF	0	494399.77	6925647.52	60.6	63.3	62.6	Cut
2292	5C	FF	1						
2293	5C	GF	0	494412.84	6925642.56	60.7	63.3	62.5	Cut
2293	5C	FF	1						
2294	5C	GF	0	494425.63	6925637.61	60.9	63.2	62.5	Cut
2294	5C	FF	1						
2295	5C	GF	0	494437.32	6925632.94	61.0	63.1	62.3	Cut
2295	5C	FF	1						
2296	5Bi	GF	0	494454.87	6925624.03	60.6	62.9	62.2	Cut
2296	5Bi	FF	1						
2320	5Bi	GF	1	494489.73	6925604.47	60.3	62.6	61.9	Cut
2320	5Bi	FF	1						

L16 / 175 EAGLE STREET
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AUSTRALIA
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www.slrconsulting.com

SCALE :3000

0 15 30 60 90 120 150 m

ORIENTATION

N

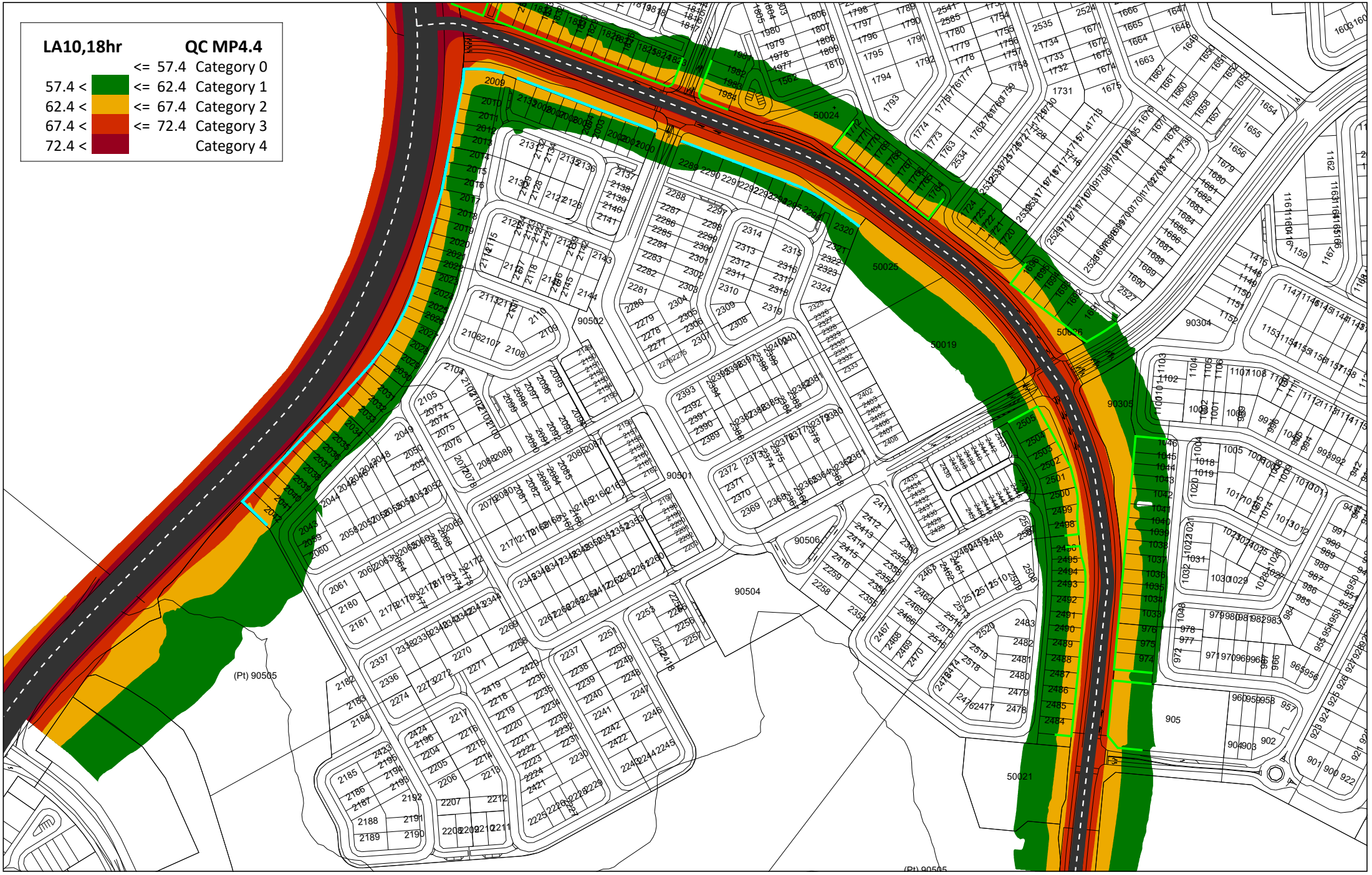
LEGEND

- Other Noise Barriers
- Roads
- Assessed 2.0m Noise Barriers

PROJECT	Flagstone City Development
CLIENT	PEET Flagstone City Pty Ltd
DESCRIPTION	QDC MP4.4 Category, Ground Floor Road Traffic Noise Map at 1.8m Above the Ground

Date:	24/11/2023
Project No.:	620.10512
Report No.:	620.10512-R10-v1.0
Prediction Method:	CoRTN
Prepared By:	RO
Prediction Height:	1.8 m

Figure 3



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SCALE :3000

0 15 30 60 90 120 150 m

ORIENTATION

N

LEGEND

- Other Noise Barriers
- Roads
- Assessed Noise Barriers

PROJECT	Flagstone City Development
CLIENT	PEET Flagstone City Pty Ltd
DESCRIPTION	QDC MP4.4 Category, First Floor Road Traffic Noise Map at 4.6m Above the Ground

Date:	24/11/2023
Project No.:	620.10512
Report No.:	620.10512-R10-v1.0
Prediction Method:	CoRTN
Prepared By:	RO
Prediction Height:	4.6 m

Figure 4

5.0 Recommendations

5.1 Noise Barriers

For the external noise levels to meet the predicted noise categories detailed in **Section 4.0**, noise barriers are recommended to be built as follows:

- The location of the modelled 2.0 m high noise barriers is shown in **Figure 5** and **Figure 6**.
- The noise barriers must be built on top of any retailing walls. This applies regardless of whether the lot is in a cut or in fill (ie lot a at a lower elevation than the assessed road immediately adjoining, and vice versa).

  Table 6 and **Table 7** show the approximate ground elevation at the base of the barrier at mid span, the ground elevation at the approximate centre of the lot and the approximate elevation of the closest road lane.
- The barriers must be installed without gaps between concrete panels and posts, or between timber panels and posts.
- Small gaps between the bottom of the noise fences are permissible if required for drainage. However, these must be minimised.
- The noise barriers must have a minimum surface density of 12.5 kg/m² (excluding structural components).
- Overlapped timber barriers are suitable. Brisbane City Council drawings BSD-7021 and Moreton Bay Regional Council drawings SF-1520 are provided for reference (also reproduced in **Appendix F**). Note the noise barriers must be built to a minimum 2.0 m in height.

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SCALE :1000

0 5 10 20 30 40 50 m

ORIENTATION

N

LEGEND

- Assessed Noise Barriers
- Railway

PROJECT	Flagstone City Development
CLIENT	PEET Flagstone City Pty Ltd
DESCRIPTION	Assessed Noise Barriers

Date:	24/11/2023
Project No.:	620.10512
Report No.:	620.10512-R10-v1.0
Prediction Method:	Kilde 130
Prepared By:	RO
Prediction Height:	1.8 m

Figure **5**

SLR
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QLD 4000
AUSTRALIA
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www.slrconsulting.com

SCALE :1751

0 10 20 40 60 80 100 m

ORIENTATION

N

LEGEND

- Assessed Roads
- Assessed Noise Barriers

PROJECT	Flagstone City Development
CLIENT	PEET Flagstone City Pty Ltd
DESCRIPTION	QDC MP4.4 Category, First Floor Assessed Noise Barriers

Date: 24/11/2023
Project No.: 620.10512
Report No.: 620.10512-R10-v1.0
Prediction Method: CoRTN
Prepared By: RO
Prediction Height:1.8 m

Figure 6

5.2 QDC MP4.4 Noise Category requirements

The minimum QDC MP4.4 noise categories applicable to the construction of a dwelling with a 2.0 m high noise barrier are presented in **Section 4.1** (**Table 6**) and **Section 4.2** (**Table 7**).

The applicable QDC MP4.4 categories on these lots are summarised as follows:

- Railway noise levels
  - Ground Floor – Noise Category 2
  - First Floor – Noise Category 3
- Road traffic noise levels
  - Ground Floor – Noise Category 0 to Noise Category 2
  - First Floor – Noise Category 0 to Noise Category 3

QDC MP4.4 Categories applicable to all the lots pertaining the assessed Precinct 1 stages (after the implementation of the 2.0 m high noise barriers) are presented in **Appendix E**.

The Rw rating applicable to the dwelling facade elements for each of the QDC MP4.4 Categories are presented in **Table 1**. Acceptable forms of construction are reproduced from Schedule 2 of QDC MP4.4 in **Appendix C**, noting that other forms of construction are acceptable where they meet the required Rw rating.

The noise attenuation provided by the dwelling facade will be largely controlled by the window elements; therefore, it is recommended that facade glazing systems (window + frame + seals) required to achieve a minimum Rw performance are supplied with an acoustic test report conducted in Australia by a qualified consultant who is a member of the Australian Acoustical Society (AAS), or an acoustic consultant who works for a member firm of the Association of Australasian Acoustical Consultants (AAAC). The acoustic test report should address the requirements in the following standards:

- AS 1191-2002 *Acoustics - Method for laboratory measurement of airborne sound transmission insulation of building elements*
- ISO 717-1:2013 *Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation*

It should be noted that as stated in QDC MP4.4, *"the part applies to building work for the construction or renovation of a residential building in a designated transport noise corridor"*; therefore, it is only relevant at the Building Application stage of the individual lots being the building owner responsible for obtaining certification.

A lower Noise Category should be acceptable at specific facades of the future dwellings depending on the layout of these within the lots, pending demonstration of the railway or road traffic noise levels onto specific habitable spaces within a dwelling via a lot specific noise assessment based on architectural drawings, presented by the lot owner.

6.0 Conclusion

SLR Consulting Pty Ltd (SLR) have completed a road traffic noise assessment of the proposed Flagstone Precinct 1.

This report addresses the transportation (railway and road traffic) noise intrusion onto the following project Stages:

- 3G, 3Fi, 3H, 5Ai, 5Aii, 5Bi, 5Bii, 5C, 5D, 5Ei, 5Eii, 5Eiii, 5F, 5G, 5H, 5Ki, 5Kii, 5Qii, 5L, 5M, 5R, 5S

The assessment was conducted following guidance from the Queensland Department of Transport and Main Roads (DTMR) – Transport Noise Management: Code of Practice Volume 1 - Road Traffic Noise, dated November 2013 (CoP Vol 1) and the Code of Practice Volume 3 - Operational railway noise and vibration (CoP Vol 3) (Interim Guideline).

A computational noise model was used to predict the noise levels from the future roads to be built as part of the development, as well as future railway noise levels.

Noise monitoring previously conducted in 2022 as part of the Flagstone City Centre Masterplan noise assessment was used to verify the railway noise model.

For the external noise levels to meet the predicted noise categories detailed in this report, noise barriers are recommended to be built as follows:

- 2.0 m high noise barriers at the locations shown in **Figure 5** and **Figure 6**.
- The noise barriers must be built on top of any retailing walls.
- This applies regardless of whether the lot is in a cut or in fill (ie lot a at a lower elevation than the assessed road immediately adjoining, and vice versa).
- **Table 6** and **Table 7** show the approximate ground elevation at the base of the barrier at mid span, the ground elevation at the approximate centre of the lot and the approximate elevation of the closest road lane.
- The barriers must be installed without gaps between concrete panels and posts, or between timber panels and posts.
- Small gaps between the bottom of the noise fences are permissible if required for drainage. However, these must be minimised.
- The noise barriers must have a minimum surface density of 12.5 kg/m² (excluding structural components).
- Overlapped timber barriers are suitable. Brisbane City Council drawings BSD-7021 and Moreton Bay Regional Council drawings SF-1520 are provided for reference (also reproduced in **Appendix F**). Note the noise barriers must be built to 2.0 m in height.

The residual noise levels after the implementation of 2.0 m high noise barriers were assessed against noise criteria derived from the Queensland Development Code Mandatory Part 4.4 (QDC MP4.4).

QDC MP4.4 Categories applicable to all the lots pertaining to the assessed Precinct 1 stages (after the implementation of the 2.0 m high noise barriers) are presented in **Appendix E**.

The Rw rating applicable to the dwelling facade elements are presented in **Table 1**. Acceptable forms of construction are reproduced from Schedule 2 of QDC MP4.4 in

Appendix C, noting that other forms of construction are acceptable where they meet the required Rw rating.

The predicted QDC MP4.4 Noise Categories presented in this report represent the highest Noise Category for any part of the Lot (rather than only the building envelope). A lower Noise Category may be applicable depending on the position and layout of the building on the Lot. Buildings may also screen road and rail noise. For these reasons, the Noise Categories are considered a conservative assessment of transport noise.

The building design and construction can apply materials other than those presented in MP4.4, where they achieve the minimum Rw value for the relevant building component and applicable Noise Category.

A lower Noise Category should be acceptable at specific facades of the future dwellings depending on the layout of these within the lots, pending demonstration of the road traffic noise levels onto specific habitable spaces within a dwelling via a lot-specific noise assessment based on architectural drawings, presented by the lot owner.

Appendix A Glossary of terms

Flagstone Development, Precinct 1

Transport Noise Intrusion Assessment, Stages 3G, 3Fi, 3H, 5Ai, 5Aii, 5Bi, 5Bii, 5C, 5D, 5Ei, 5Eii, 5Eiii, 5F, 5G, 5H, 5Ki, 5Kii, 5L, 5M, 5Qii, 5R, 5S

Peet Flagstone City Pty Ltd

SLR Project No.: 620.v10512.02000

24 November 2023

Sound Level (or Noise Level)

The terms sound and noise are almost interchangeable, except that in common usage noise is often used to refer to unwanted sound.

Sound (or noise) consists of minute fluctuations in atmospheric pressure capable of evoking the sense of hearing. The human ear (and those of other species) responds to changes in sound pressure over a very wide range. The loudest sound pressure to which the human ear responds is ten million times greater than the softest. The decibel (dB or dBL) scale reduces this ratio to a more manageable size by the use of logarithms.

A-weighted Sound Pressure Level

The overall level of a sound is usually expressed in terms of dBA, which is measured using a sound level meter with an 'A-weighting' filter. This is an electronic filter having a frequency response corresponding approximately to human hearing.

Change in Sound Pressure Levels

For human perception, a change of 1 dBA or 2 dBA in the level of a sound is considered to be indiscernible, while a 3 dBA to 5 dBA change corresponds to a small but noticeable change in loudness. A 10 dBA change corresponds to an approximate doubling or halving in loudness. As noted in Section 2.4 of the TMR CoP Vol 1, while the above noted changes in sound pressure level are *not precisely verifiable for road traffic noise, it is useful in understanding the significance of change in environmental noise exposure*.

Additional facts about road traffic noise as stated in Section 2.4 of the TMR CoP Vol 1:

- A 3 dBA change in noise level is equivalent to halving or doubling the traffic volumes.
- A 10 dBA change in noise level is equivalent to halving or doubling the subjective or perceived loudness or a tenfold increase or decrease in traffic volume.
- A 10 km/h increase in speed will increase the noise level by approximately 1 dBA.
- A 3.5% compound annual growth rate in traffic will increase the noise level by approximately 1.5 dBA over a 10-year horizon.
- An 8% compound annual growth rate in traffic will increase the noise level by approximately 3.0 dBA over a 10-year horizon.

Typical Sound Pressure Levels

The table below lists examples of typical sound pressure levels.

Table A-1 Examples of Perceived Sound Pressure Levels

Sound pressure level (dBA)	Typical Example
130	Threshold of pain
120	Metal hammering
110	Grinding on steel
100	Loud car horn at 3 metres (m)
90	Dog bark at 1 m
80	Cicadas at 1 m
70	Noise level directly adjacent to a busy main road
60	Ambient noise level in urban area close to main roads

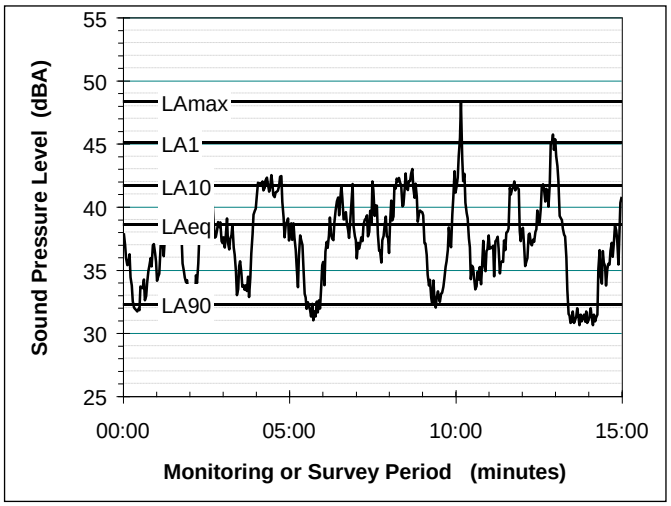
Sound pressure level (dBA)	Typical Example
50	Day time in a quiet suburban environment with background or distant road traffic noise
40	Night-time in a quiet suburban environment with background or distant road traffic noise Ambient noise level in rural to semi-rural environments with light breezes and some noise from insects, birds and distant traffic
30	Ambient noise level in a typical rural noise environment in the absence of insect noise and wind. Inside bedroom
20	Ambient noise level in remote rural environment away from main roads with no wind and no insect noise

Statistical Noise Levels

Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels (LAN), where LAN is the A-weighted sound pressure level exceeded for N% of a given measurement period. For example, the LA1 is the noise level exceeded for 1% of the time and LA10 the noise exceeded for 10% of the time.

Figure A-1 below presents a hypothetical 15-minute noise measurement, illustrating various common statistical indices of interest.

Figure A-1 Hypothetical 15-minute Noise Measurement



Of particular relevance to this study, are:

- L_{A10}: The A-weighted noise level exceeded for 10% during any given measurement period. This is commonly referred to as the average maximum noise level.

Additionally;

- $L_{A10(18hour)}$ Road Traffic Noise Level: the level exceeded for 10% of any measurement period; the usual period of measurement is 1 hour. The hourly L_{A10} level, therefore, is the traffic noise level exceeded for 6 minutes in the hour. The 18-

hour L_{A10} level ($L_{A10(18hour)}$) is the arithmetic average of 18, hourly L_{A10} traffic noise levels measured in consecutive hours between 6:00 am and 12:00 midnight.

- $L_{A10(12hour)}$ Road Traffic Noise Level – is the arithmetic average of 12 hourly L_{A10} traffic noise levels measured in consecutive hours between 6:00 am and 6:00 pm.
- $L_{A1(1hour)}$ Road Traffic Noise Level – the level exceeded for n% of a 1-hour period.

Noise Propagation

Provided the receptor is in the far-field of the noise source, noise levels will reduce as a receptor moves further away from the source. This is due to spreading of the noise source energy over distance. For a simple point source (for example, a motor) the theoretical reduction in noise levels is 6 dBA per doubling of distance. For a line source (for example, a busy road) the theoretical reduction is 3 dBA per doubling of distance. In reality however other factors affect noise propagation. These include ground absorption, air absorption, acoustic screening, and meteorological effects.

Facade Corrected versus Free field

A ‘facade corrected’ measurement/monitoring location is a location which is influenced by facade reflections. Measurements at facades are typically taken at a distance of 1 m away and the measured noise level generally regarded as being +2.5 dB higher than in the ‘free field’.

A ‘free field’ measurement/monitoring location is a location where the microphone is positioned sufficiently far from nearby surfaces for the measured data to not be influenced by reflected noise. This is typically regarded as a position 3.5 m or greater from a reflective surface.

Appendix B Plan of Subdivision, Stages 2-5

Flagstone Development, Precinct 1

Transport Noise Intrusion Assessment, Stages 3G, 3Fi, 3H, 5Ai, 5Aii, 5Bi, 5Bii, 5C, 5D, 5Ei, 5Eii, 5Eiii, 5F, 5G, 5H, 5Ki, 5Kii, 5L, 5M, 5Qii, 5R, 5S

Peet Flagstone City Pty Ltd

SLR Project No.: 620.v10512.02000

24 November 2023

Land Budget Stages 2 – 5

Land Use	Stage 2 Area	Stage 3 Area	Stage 4 Area	Stage 5 Area	Overall Area	Overall %
Area of Subject Site	**16.883 ha**	**45.912 ha**	**301.998 ha**	**52.172 ha**	**416.965 ha**	**100.0%**
Saleable Area						
Residential Allotments	9.636 ha	10.219 ha	22.160 ha	19.984 ha	61.999 ha	14.9%
Medium Density Allotment	—	—	—	0.666 ha	0.666 ha	0.2%
Commercial Allotment	—	—	1.324 ha	—	1.324 ha	0.3%
Community Facility Allotment	—	—	0.500 ha	—	0.500 ha	0.1%
Potential Child Care Allotment	0.628 ha	—	—	—	0.628 ha	0.2%
Manufactured Home Estate Allotment	—	12.038 ha	—	—	12.038 ha	2.9%
Balance Super Allotments	1.581 ha	2.919 ha	246.810 ha	—	251.310 ha	60.3%
Total Area of Allotments	**11.845 ha**	**25.176 ha**	**270.794 ha**	**20.650 ha**	**328.465 ha**	**78.8%**
Utilities						
Sewer Pump Station	—	0.508 ha	—	—	0.508 ha	0.1%
Total Area of Utilities	**—**	**0.508 ha**	**—**	**—**	**0.508 ha**	**0.1%**
Road						
Collector Road	1.502 ha	3.065 ha	4.559 ha	3.529 ha	12.655 ha	3.0%
Local Road	3.465 ha	4.511 ha	9.665 ha	8.671 ha	26.312 ha	6.3%
Linear Connections	0.071 ha	0.412 ha	0.390 ha	0.429 ha	1.302 ha	0.3%
Existing Road	—	0.063 ha	—	—	0.063 ha	0.0%
Entry Statements	—	—	—	—	—	0.0%
Total Area of New Road	**5.038 ha**	**8.051 ha**	**14.614 ha**	**12.629 ha**	**40.332 ha**	**9.7%**
Open Space						
Corridor Park	—	3.660 ha	14.787 ha	17.812 ha	36.259 ha	8.7%
Conservation Park (Within Corridor Park)	—	*2.650 ha*	*6.357 ha*	—	*9.007 ha*	
District Recreation Park	—	5.648 ha	—	—	5.648 ha	1.4%
Neighbourhood Recreation Park	—	2.346 ha	1.803 ha	0.627 ha	4.776 ha	1.1%
Local Recreation Park	—	0.523 ha	—	0.088 ha	0.611 ha	0.1%
Local Linear Recreation Park	—	—	—	0.366 ha	0.366 ha	0.1%
Stormwater Detention	—	—	—	—	—	0.0%
Total Open Space	**—**	**12.177 ha**	**16.590 ha**	**18.893 ha**	**47.660 ha**	**11.4%**

Yield Breakdown Stages 2 – 5

Residential Allotments	Typical Size	Typical Area	Stage 2	Stage 3	Stage 4	Stage 5	Overall	%
Urban & Nano Allotments Product								
Urban Loft	4.7 x 11.5m	50m²	—	—	—	—	—	0%
Urban Allotments	7.5 x 16m	120m²	—	—	—	—	—	0%
Urban Terrace	7.5 x 27.5m	170m²	—	—	—	16	16	1%
Subtotal			**—**	**—**	**—**	**16**	**16**	**1%**
16m Deep Product								
Squat Allotment	14 x 16m	220m²	—	4	4	10	18	1%
Subtotal			**—**	**4**	**4**	**10**	**18**	**1%**
25m Deep Product								
Mode Allotment	8.5 x 25m	213m²	—	—	—	4	4	0%
Villa Allotment	10 x 25m	250m²	29	10	3	20	62	4%
Courtyard Allotment	14 x 25m	350m²	41	16	27	26	110	7%
Premium Courtyard Allotment	16 x 25m	400m²	17	6	6	11	40	3%
Premium Traditional Allotment	20 x 25m	500m²	—	4	—	1	5	0%
Possible Multiple Residential Allotment	—	—	2	3	—	2	7	0%
Subtotal			**89**	**39**	**36**	**64**	**228**	**15%**
28m - 30m Deep Product								
Terrace 4.5m Allotment	4.5 x 28m	126m²	—	—	—	—	—	0%
Terrace 6.6m Allotment	6.6 x 28m	185m²	—	—	—	—	—	0%
Terrace 7.5m Allotment	7.5 x 28m	210m²	8	—	5	33	46	3%
Terrace 9.5m Allotment	9.5 x 28m	265m²	4	—	2	12	18	1%
Subtotal			**12**	**—**	**7**	**45**	**64**	**4%**
30m Deep Product								
Villa Allotment	10 x 30m	300m²	32	35	91	72	230	16%
Premium Villa Allotment	12.5 x 30m	375m²	33	66	155	123	377	26%
Courtyard Allotment	14 x 30m	420m²	51	53	156	124	384	26%
Traditional Allotment	20 x 30m	600m²	19	27	55	43	144	10%
Premium Traditional Allotment	25 x 30m	720m²	—	7	5	2	14	1%
Possible Multiple Residential Allotment	—	—	1	2	—	—	3	0%
Subtotal			**136**	**190**	**462**	**364**	**1152**	**78%**
Total Residential Allotments			**237**	**233**	**509**	**499**	**1478**	**100%**
Residential Net Density			**18.0 dw/ha**	**12.9 dw/ha**	**15.0 dw/ha**	**16.5 dw/ha**	**15.5 dw/ha**	
Super Lots			**Lots**	**Lots**	**Lots**	**Lots**	**Lots**	
Medium Density Allotment			—	—	—	1	1	
Commercial Allotment			—	—	1	—	1	
Community Facility Allotment			—	—	1	—	1	
Potential Child Care Allotment			1	—	—	—	1	
Manufactured Home Estate Allotment			—	1	—	—	1	
Balance Super Allotments			1	2	4	—	7	
Sub Total			**2**	**3**	**6**	**1**	**12**	
Utilities								
Sewer Pump Station			—	2	—	—	**2**	
Sub Total			**—**	**2**	**—**	**—**	**2**	
Total Allotments			**239**	**238**	**515**	**500**	**1492**	
Maximum Potential Residential Dwellings (Includes Multiple Residential Allotments)			**240**	**242**	**509**	**501**	**1492**	
Maximum Potential Net Residential Density			**18.2 dw/ha**	**13.4 dw/ha**	**15.0 dw/ha**	**16.6 dw/ha**	**15.6 dw/ha**	

Legend

- Site Boundary
- Proposed Stage Boundary
- Proposed Sub Stage Boundary
- Existing Q100
- Residential Allotment (Max. no. of dwellings)
- Entry Statements - Lease
- 10m Wide Existing Sewer Easement
- SPS Access EMT
- STF Temporary Sewage Tankering Facility

Note:
All dimensions and areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

Scale 1 : 3000 @ A1
0 15 30 60 90 120 150 180

Road linemarkings and turn slots are indicative only and subject to detailed design.

Source Information:
Site boundaries: Registered Survey Plans / Veris.
Adjoining information: DCDB.
Contours: Bradlees.

REVISION
Y: 12/05/2022 Stage 5 Layout Change
Z: 08/06/2022 Entry Statement Lease Areas
AA: 16/06/2022 Temporary STF Notation
AB: 20/09/2022 Stage 3 & 5 Layout Changes
AC: 14/11/2022 Stage 5 Boundary Changes
AD: 10/01/2023 Stage 3 & 4 Layout Changes
AE: 24/02/2023 Stage 3 & 5 Layout Changes
AF: 20/03/2023 Stage 3 & 5 Layout Changes
AG: 13/04/2023 Stage 3 & 5 Layout Changes
AH: 04/07/2023 Stage 4 Layout Changes

PROJECT **Flagstone Precinct 1**

Job Ref.	110056	Date.	04 July 2023
Comp By.	NF	DWG Name.	Precinct 1 Stages 2-5
Chk'd By.	MD	Locality.	Flagstone
Local Authority.	Economic Development Queensland		

CLIENT **PEET**

Plan of Subdivision
Stages 2 – 5
Overall Allotment Layout - Sub - Staging

URBAN DESIGN
Level 4 HQ South
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Fortitude Valley QLD 4006
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Scale	Sheet	Plan Ref	Rev
1 : 3000	A1	**110056 – 481**	**AH**

Appendix C Schedule 2 of QDC MP4.4

Flagstone Development, Precinct 1

Transport Noise Intrusion Assessment, Stages 3G, 3Fi, 3H, 5Ai, 5Aii, 5Bi, 5Bii, 5C, 5D, 5Ei, 5Eii, 5Eiii, 5F, 5G, 5H, 5Ki, 5Kii, 5L, 5M, 5Qii, 5R, 5S

Peet Flagstone City Pty Ltd

SLR Project No.: 620.v10512.02000

24 November 2023

Table C-1 Schedule 2 of QDC MP4.4

Component of Building's External Envelope	Minimum R_w	Acceptable Forms of Construction
Glazing	43	Double glazing consisting of two panes of minimum 5mm thick glass with at least 100mm air gap and full perimeter *acoustically rated seals*.
	38	Minimum 14.38mm thick laminated glass, with full perimeter *acoustically rated seals*; or Double glazing consisting of one pane of minimum 5mm thick glass and one pane of minimum 6mm thick glass with at least 44mm air gap, and full perimeter *acoustically rated seals*
	35	Minimum 10.38mm thick laminated glass, with full perimeter *acoustically rated seals*.
	32	Minimum 6.38mm thick laminated glass with full perimeter *acoustically rated seals*.
	27	Minimum 4mm thick glass with full perimeter *acoustically rated seals*
	24	Minimum 4mm thick glass with standard weather seals
External Walls	52	Two leaves of clay brick masonry, at least 270mm in total, with subfloor vents fitted with noise attenuators.
	47	Two leaves of clay brick masonry at least 110mm thick with: (i) cavity not less than 50mm between leaves; and (ii) 50mm thick mineral insulation or 50mm thick glass wool insulation with a density of 11kg/m3 or 50mm thick polyester insulation with a density of 20kg/m3 in the cavity. or Two leaves of clay brick masonry at last 110mm thick with: (i) cavity not less than 50mm between leaves; and (ii) at least 13mm thick cement render on each face or Single leaf of clay brick masonry at least 110mm thick with: (i) a row of at least 70mm x 35mm timber studs or 64mm steel studs at 600mm centres, spaced at least 20mm from the masonry wall; and (ii) Mineral insulation or glass wool insulation at least 50mm thick with a density of at least 11 kg/m3 positioned between studs; and (iii) One layer of plasterboard at least 13mm thick fixed to outside face of studs. or Single leaf of minimum 150mm thick masonry of hollow, dense concrete blocks, with mortar joints laid to prevent moisture bridging.
	41	Two leaves of clay brick masonry at least 110mm thick with cavity not less than 50mm between leaves

Component of Building's External Envelope	Minimum R_w	Acceptable Forms of Construction
		or Single leaf of clay brick masonry at last 110mm thick with: (i) a row of at least 70mm x 35mm timber studs or 64mm steel studs at 600mm centres, spaced at least 20mm from the masonry wall; and (ii) mineral insulation or glass wool insulation at least 50mm thick with a density of at least 11 kg/m^3 positioned between studs; and (iii) One layer of plasterboard at least 10mm thick fixed to outside face of studs or Single leaf of brick masonry at least 110mm thick with at least 13mm thick render on each face or Concrete brickwork at least 110mm thick or In-situ concrete at least 100mm thick or Precast concrete at least 100mm thick and without joints.
	35	Single leaf of clay brick masonry at least 110mm thick with: (i) a row of at least 70mm x 35mm timber studs or 64mm steel studs at 600mm centres, spaced at least 20mm from the masonry wall; and (ii) One layer of plasterboard at least 10mm thick fixed to outside face of studs or Minimum 6mm thick fibre cement sheeting or weatherboards or plank cladding externally, minimum 90mm deep timber stud or 92mm metal stud, standard plasterboard at least 13mm thick internally.
Roof	45	Concrete or terracotta tile or sheet metal roof with sarking, *acoustically rated plasterboard* ceiling at least 13mm thick fixed to ceiling joists, cellulose fibre insulation at least 100mm thick with a density of at least 45kg/m^3 in the cavity. or Concrete or terracotta tile or sheet metal roof with sarking, 2 layers of *acoustically rated plasterboard* at least 16mm thick fixed to ceiling joists, glass wool insulation at least 50mm thick with a density of at least 11kg/m^3 or polyester insulation at least 50mm thick with a density of at least 20kg/m^3 in the cavity.
	41	Concrete or terracotta tile or metal sheet roof with sarking, plasterboard ceiling at least 10mm thick fixed to ceiling joists, glass wool insulation at least 50mm thick with a density of at least 11kg/m^3 or polyester insulation at least 50mm thick with a density of at least 20kg/m^3 in the cavity. or Concrete suspended slab at least 100mm thick.
	38	Concrete or terracotta tile or metal sheet roof with sarking,

Component of Building's External Envelope	Minimum R_w	Acceptable Forms of Construction
		plasterboard ceiling at least 10mm thick fixed to ceiling cavity, mineral insulation or glass wool insulation at least 50mm thick with a density of at least 11 kg/m^3.
	35	Concrete or terracotta tile or metal sheet roof with sarking, plasterboard ceiling at least 10mm thick fixed to ceiling cavity.
Floors	51	Concrete slab at least 150mm thick.
	45	Concrete slab at least 100mm thick or Tongued and grooved boards at least 19mm thick with: (i) timber joists not less than 175mm x 50mm; and (ii) mineral insulation or glass wool insulation at least 75mm thick with a density of at least 11kg/m^3 positioned between joists and laid on plasterboard at least 10mm thick fixed to underside of joists; and (iii) mineral insulation or glass wool insulation at least 25mm thick with a density of at least 11kg/m^3 laid over entire floor, including tops of joists before flooring is laid; and (iv) secured to battens at least 75mm x 50mm; and (v) the assembled flooring laid over the joists, but not fixed to them, with battens lying between the joists.
Entry Doors	35	Solid core timber not less than 45mm thick, fixed so as to overlap the frame or rebate of the frame by not less than 10mm, with full perimeter acoustically rated seals.
	33	Fixed so as to overlap the frame or rebate of the frame by not less than 10mm, fitted with full perimeter acoustically rated seals and constructed of - (i) solid core, wood, particleboard or blockboard not less than 45mm thick; and/or (ii) acoustically laminated glass not less than 10.38mm thick.
	28	Fixed so as to overlap the frame or rebate of the frame, constructed of - (i) Wood, particleboard or blockboard not less than 33mm thick; or (ii) Compressed fibre reinforced sheeting not less than 9mm thick; or (iii) Other suitable material with a mass per unit area not less than 24.4kg/m^2; or (iv) Solid core timber door not less than 35mm thick fitted with full perimeter *acoustically rated seals*.

Appendix D Noise Monitoring Results

Flagstone Development, Precinct 1

Transport Noise Intrusion Assessment, Stages 3G, 3Fi, 3H, 5Ai, 5Aii, 5Bi, 5Bii, 5C, 5D, 5Ei, 5Eii, 5Eiii, 5F, 5G, 5H, 5Ki, 5Kii, 5L, 5M, 5Qii, 5R, 5S

Peet Flagstone City Pty Ltd

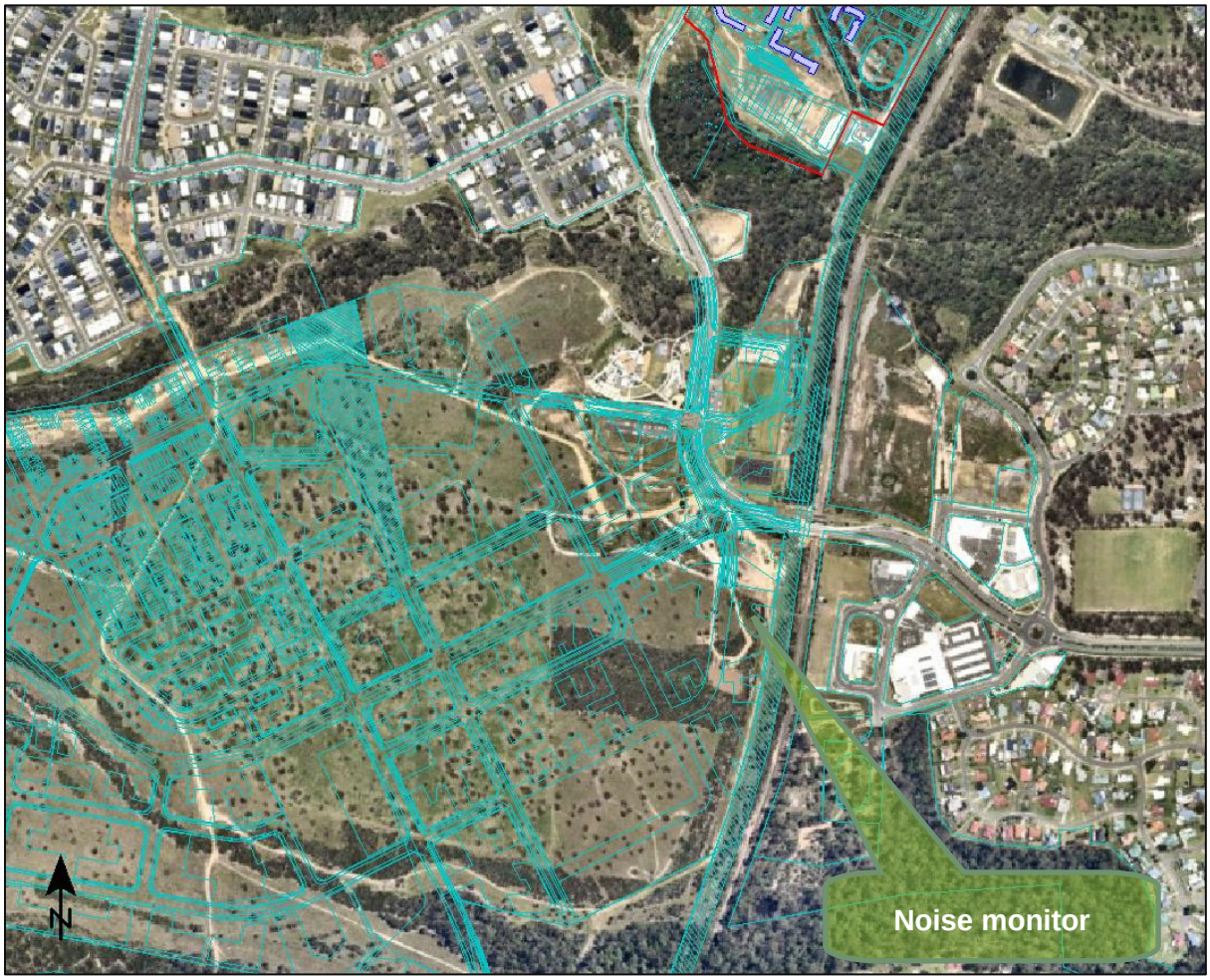
SLR Project No.: 620.v10512.02000

24 November 2023

Unattended noise logging was conducted as part of the Flagstone City Centre Masterplan noise assessment. Noise monitoring was conducted to verify the railway noise model.

Monitoring was undertaken between 30th March and 6th April 2022 at the location shown in **Figure D-1**. The noise logger was placed in the free-field with a microphone height of 1.5 m above the existing ground level.

Figure D-1 Noise Monitoring Location



The instrumentation used is detailed in **Table C-1**. At the time of measurement, all the instrumentation used held a current calibration certificate issued by a National Association of Testing Authorities (NATA) accredited laboratory.

Table D-1 Schedule 2 of QDC MP4.4

Equipment Type	Manufacturer & Type	Serial Number	Pre-Calibration	Post-Calibration
Noise Logger	ARL Ngara	8781CD	94.0 dBA	94.0 dBA
Acoustic calibrator	Svan SV30A	24513	N/A	N/A

The noise loggers were configured to record A-weighted Fast-response statistical noise levels, including the L_{A10}, L_{A90}, L_{Aeq} and L_{Amax} noise levels at 15-minute intervals with 1 second resolution. Calibration of the instrument was checked before and after the monitoring, with the instruments exhibiting a drift less than ±1.0 dB during the course of

monitoring; therefore, measurements are considered valid according to the TMR CoP Vol 3 and AS 1055.

Detailed monitoring results are presented in **Table D-2** and noise level time traces are presented in **Figure D-2**.

A summary of railway noise events captured by the monitor are presented in **Table D-3**.

A summary of weather observations by the Bureau of Meteorology (BoM) during the monitoring period are presented in **Table D-4**. Brief periods of rain were recorded during the monitoring period. The noise data captured during these periods has been excluded from analysis in accordance with CoP Vol 3. However, the overall values were largely unaffected.

Table D-2 Summary of Environmental Noise Levels

Descriptor	Wed 30 Mar 2022	Thu 31 Mar 2022	Fri 1 Apr 2022	Sat 2 Apr 2022	Sun 3 Apr 2022	Mon 4 Apr 2022	Tue 5 Apr 2022	Wed 6 Apr 2022
$L_{A10(18hour)}$	-	47	46	44	45	46	48	-
$L_{Aeq,Day(7am-6pm)}$	-	46	47	46	46	50	48	-
$L_{Aeq,Evening(6pm-10pm)}$	46	54	50	53	52	52	53	-
$L_{Aeq,Night (10pm-7am)}$	40	50	49	49	47	50	46	-
Max $L_{Aeq(1hour)(7am-6pm)}$	-	50	53	53	51	56	53	-
Max $L_{Aeq(1hour)(6pm-10pm)}$	49	57	55	55	55	55	56	-
Max $L_{Aeq(1hour)(10pam-7am)}$	45	57	56	56	54	55	54	-
$L_{A90,Day(7am-6pm)}$	-	41	40	36	38	40	41	-
$L_{A90,Evening(6pm-10pm)}$	41	40	39	41	39	41	42	-
$L_{A90,Night (10pm-7am)}$	36	36	32	33	35	34	35	-

Figure D-2 Noise Level Time Traces

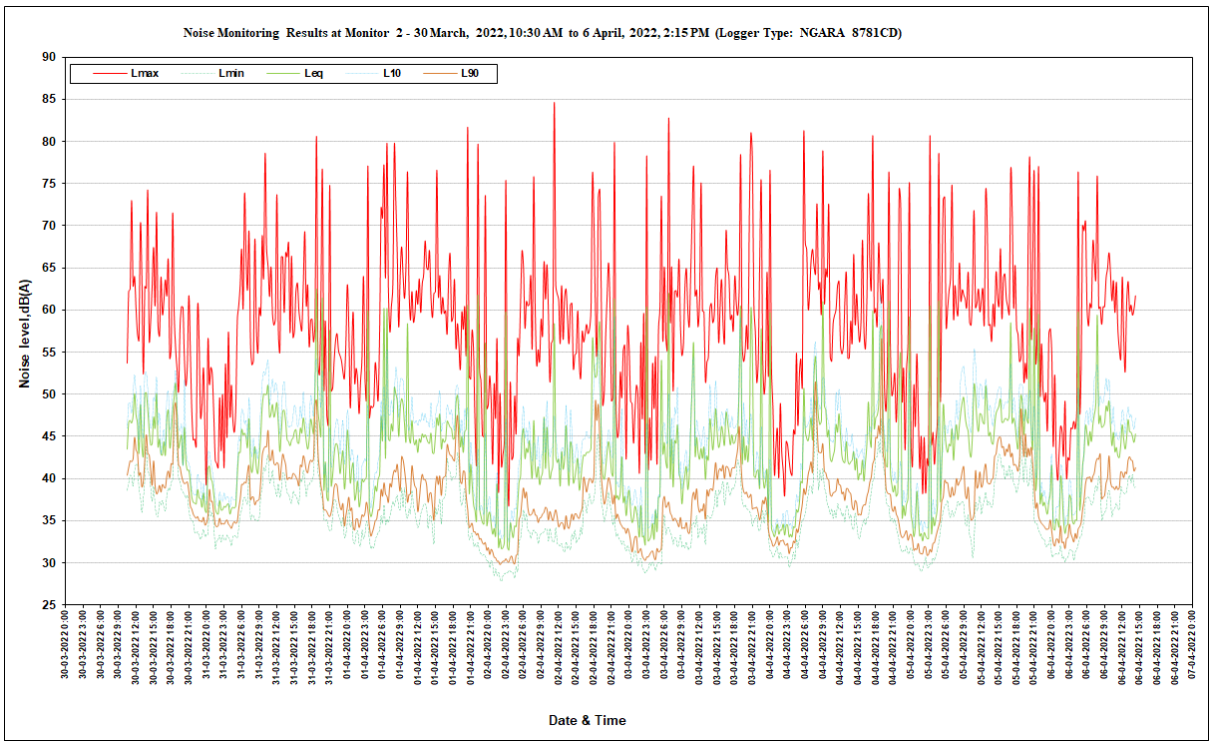


Table D-3 BoM Observations During Monitoring (March 2022)

Date & time	$L_{Aeq,T}$ dBA / duration	L_{Amax} dBA
3/04/2022 06:43	72 dBA / 90 sec	83 dBA
1/04/2022 20:18	71 dBA / 76 sec	82 dBA
03-04-2022 20:45	71 dBA / 86 sec	81 dBA
04-04-2022 17:16	72 dBA / 60 sec	81 dBA
05-04-2022 03:06	72 dBA / 64 sec	81 dBA
31-03-2022 18:38	70 dBA / 147 sec	81 dBA
02-04-2022 21:22	71 dBA / 104 sec	80 dBA
01-04-2022 06:35	70 dBA / 81 sec	80 dBA
01-04-2022 22:03	73 dBA / 76 sec	80 dBA
04-04-2022 08:51	71 dBA / 79 sec	79 dBA
05-04-2022 04:40	72 dBA / 74 sec	79 dBA
03-04-2022 18:48	70 dBA / 83 sec	78 dBA
03-04-2022 02:55	71 dBA / 86 sec	78 dBA
05-04-2022 20:13	70 dBA / 83 sec	78 dBA
01-04-2022 03:24	70 dBA / 86 sec	77 dBA
Average	**71 dBA / 85 sec**	**80 dBA**

Table D-3 BoM Observations During Monitoring (March 2022)

Greenbank (Defence), Queensland
March 2022 Daily Weather Observations

Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C	mm	mm	hours		km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	Tu	18.9	29.8	2.8			E	22	14:08	26.0	75		SSW	6		28.1	67		ESE	9	
2	We	19.6	32.8	0			E	24	17:15	26.4	74		SW	6		30.0	64		ENE	6	
3	Th	19.0	27.7	29.0			SSW	41	06:49	19.5	100		NNW	4		26.4	65		ENE	7	
4	Fr	19.3	27.5	2.4			ENE	15	12:15	23.4	87		SW	6		23.4	96			Calm	
5	Sa	18.0	32.1	29.2			N	19	16:09	25.3	78		W	4		31.6	49		WNW	4	
6	Su	20.7	30.8	0			SSW	35	16:53	27.9	75		NNE	4		30.3	71		NNE	13	
7	Mo	18.7	31.8	20.0			NNE	19	14:58	22.8	87		SSW	4		29.0	49		NE	9	
8	Tu	19.9	34.4	0.2			WSW	28	13:20	26.4	74		NW	4		33.8	38		W	9	
9	We	22.3	35.1	0			NW	22	10:42	27.0	72		NW	6		34.1	44		WNW	9	
10	Th	21.3	27.5	0			ESE	20	15:12	24.1	74		SSW	4		25.2	73		ESE	9	
11	Fr	19.5	26.4	0						23.4	76		SE	6		23.3	75		SE	9	
12	Sa	17.7	26.7	1.4			E	24	14:42	23.4	69		SSW	9		25.0	59		ESE	6	
13	Su	15.8	28.2	0			ESE	30	15:19	23.6	65		SSW	7		25.1	60		SE	11	
14	Mo	16.0	28.5	0.4			SSE	19	11:11	23.9	69		SSE	6		26.4	58		SE	4	
15	Tu	14.8	27.7	0			SSW	24	09:43	23.9	71		SSW	11		25.6	61		SE	7	
16	We	16.2	29.2	0.4			SE	26	15:04	23.3	73		SW	6		28.8	55		ESE	6	
17	Th	15.7	30.5	0.2			SE	22	11:25	24.9	67		S	7		29.7	49		S	6	
18	Fr	17.3	30.1	0			ESE	30	16:15	24.8	69		SSE	9		27.9	57		ESE	9	
19	Sa	15.3	29.4	0			S	26	12:34	24.5	65		S	7		28.5	45		SE	7	
20	Su	17.9	29.2	0			NNE	20	16:46	23.9	61		S	6		28.5	42		ESE	4	
21	Mo	13.3	29.7	0			SSW	20	09:10	22.8	67		SSW	11		28.7	37		S	7	
22	Tu	14.5	30.6	0			NE	20	16:19	24.5	64		S	4		29.3	37		ESE	4	
23	We	14.5	32.4	0			WNW	20	09:18	24.2	70		W	7		31.2	42		W	6	
24	Th	19.3	32.0	0			N	22	15:15	26.0	70		SSW	6		31.0	42		NNE	11	
25	Fr	17.6	31.5	0			SSW	30	16:56	24.6	72		S	4		28.1	62		ESE	9	
26	Sa	17.9	28.4	3.0			S	24	15:25	23.9	76		SW	7		27.8	53		SSW	9	
27	Su	18.9	28.1	0.2			NNE	20	15:57	24.2	74		SSW	6		27.1	58		ENE	7	
28	Mo	19.9	21.9	15.2			SSE	43	22:49	21.2	98			Calm		20.8	98		SE	4	
29	Tu	17.9	24.3	63.0			SSW	30	01:02	21.3	96		S	7		22.9	86		S	6	
30	We	19.3	27.4	2.8			WNW	33	12:58	20.9	91		WNW	9		26.4	64		SW	13	
31	Th	17.7	28.4	0.8			S	41	10:40	25.8	65		WSW	6		26.7	58		SSW	11	
Statistics for March 2022																					
	Mean	17.9	29.4							24.1	74			6		27.8	58			7	
	Lowest	13.3	21.9							19.5	61			Calm		20.8	37			Calm	
	Highest	22.3	35.1	63.0			SSE	43		27.9	100		SSW	11		34.1	98		#	13	
	Total			171.0																	

Observations were drawn from Greenbank (Defence) {station 140009}

IDCJDW4156.202203 Prepared at 13:02 UTC on 21 Apr 2022

Appendix E QDC MP4.4 Noise Categories

Flagstone Development, Precinct 1

Transport Noise Intrusion Assessment, Stages 3G, 3Fi, 3H, 5Ai, 5Aii, 5Bi, 5Bii, 5C, 5D, 5Ei, 5Eii, 5Eiii, 5F, 5G, 5H, 5Ki, 5Kii, 5L, 5M, 5Qii, 5R, 5S

Peet Flagstone City Pty Ltd

SLR Project No.: 620.v10512.02000

24 November 2023

Table E-1 QDC MP4.4 Noise Categories relevant to railway noise

Lot	Stage	Floor	Ground elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
1353	3Fi	GF	495374.1	6925927.84	47.9	0
1353	3Fi	FF				0
1354	3Fi	GF	495387.14	6925921.73	47.8	0
1354	3Fi	FF				0
1355	3Fi	GF	495397.72	6925916.03	47.9	0
1355	3Fi	FF				0
1356	3Fi	GF	495407.9	6925910.74	48.0	0
1356	3Fi	FF				0
1357	3Fi	GF	495418.7	6925905.85	48.4	0
1357	3Fi	FF				0
1358	3Fi	GF	495429.08	6925899.74	48.8	0
1358	3Fi	FF				0
1359	3Fi	GF	495444.56	6925892.41	49.3	1
1359	3Fi	FF				1
1360	3Fi	GF	495458.61	6925884.06	49.6	1
1360	3Fi	FF				1
1361	3Fi	GF	495468.79	6925879.58	49.6	1
1361	3Fi	FF				1
1362	3Fi	GF	495478.77	6925874.29	49.4	1
1362	3Fi	FF				1
1363	3Fi	GF	495489.76	6925869.2	49.1	1
1363	3Fi	FF				2
1364	3Fi	GF	495501.57	6925861.87	48.8	1
1364	3Fi	FF				2
1365	3Fi	GF	495513.38	6925855.56	48.5	2
1365	3Fi	FF				2
1376	3Fi	GF	495535.78	6925900.56	48.3	1
1376	3Fi	FF				2
1377	3Fi	GF	495521.32	6925906.67	48.6	1
1377	3Fi	FF				1
1378	3Fi	GF	495509.92	6925912.16	49.1	1
1378	3Fi	FF				1
1379	3Fi	GF	495499.54	6925917.66	49.3	1
1379	3Fi	FF				1
1380	3Fi	GF	495486.5	6925923.77	49.1	1

Lot	Stage	Floor	Ground elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
1380	3Fi	FF				1
1381	3Fi	GF	495459.42	6925935.99	48.9	0
1381	3Fi	FF				1
1382	3Fi	GF	495443.13	6925944.74	48.4	0
1382	3Fi	FF				1
1383	3Fi	GF	495426.64	6925953.91	47.1	0
1383	3Fi	FF				0
1384	3Fi	GF	495384.28	6925972.44	47.4	0
1384	3Fi	FF				0
1402	3Fi	GF	495476.73	6925983.64	47.0	1
1402	3Fi	FF				1
1403	3Fi	GF	495470.21	6925972.44	47.5	0
1403	3Fi	FF				1
1404	3Fi	GF	495462.68	6925957.98	48.5	0
1404	3Fi	FF				1
1405	3Fi	GF	495499.74	6925946.78	47.0	1
1405	3Fi	FF				1
1406	3Fi	GF	495512.16	6925940.87	47.0	1
1406	3Fi	FF				1
1407	3Fi	GF	495522.54	6925934.77	47.1	1
1407	3Fi	FF				1
1408	3Fi	GF	495533.95	6925929.27	47.1	1
1408	3Fi	FF				1
1409	3Fi	GF	495546.78	6925922.14	47.2	1
1409	3Fi	FF				2
1385	3G	GF	495395.08	6925987.91	46.8	0
1385	3G	FF				0
1386	3G	GF	495401.8	6926002.78	46.4	0
1386	3G	FF				0
1387	3G	GF	495411.16	6926022.53	45.9	0
1387	3G	FF				0
1388	3G	GF	495440.08	6925969.99	46.7	0
1388	3G	FF				0
1389	3G	GF	495447.61	6925984.65	46.3	0
1389	3G	FF				0
1390	3G	GF	495453.52	6925995.24	46.0	0

Lot	Stage	Floor	Ground elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
1390	3G	FF				1
1391	3G	GF	495460.03	6926009.7	45.5	0
1391	3G	FF				1
1392	3G	GF	495468.18	6926024.16	45.2	0
1392	3G	FF				1
1393	3G	GF	495473.06	6926034.54	45.0	1
1393	3G	FF				1
1394	3G	GF	495473.47	6926055.31	44.9	1
1394	3G	FF				1
1395	3G	GF	495484.26	6926051.03	45.0	1
1395	3G	FF				1
1396	3G	GF	495493.22	6926045.74	45.2	1
1396	3G	FF				1
1397	3G	GF	495502.39	6926042.08	45.4	1
1397	3G	FF				1
1398	3G	GF	495513.18	6926036.37	45.6	1
1398	3G	FF				1
1399	3G	GF	495497.91	6926020.49	46.4	1
1399	3G	FF				1
1400	3G	GF	495493.02	6926010.11	46.5	1
1400	3G	FF				1
1401	3G	GF	495485.28	6925996.67	46.7	1
1401	3G	FF				1
1410	3G	GF	495530.08	6925980.58	46.6	1
1410	3G	FF				2
1411	3G	GF	495536.39	6925993.41	46.5	1
1411	3G	FF				2
1412	3G	GF	495543.52	6926005.42	46.3	1
1412	3G	FF				2
1413	3G	GF	495550.85	6926020.08	46.1	1
1413	3G	FF				2
1366	3H	GF	495546.78	6925830.02	48.4	2
1366	3H	FF				3
1367	3H	GF	495552.33	6925842.22	48.3	2
1367	3H	FF				3
1368	3H	GF	495557.48	6925852.47	48.0	2

Lot	Stage	Floor	Ground elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
1368	3H	FF				3
1369	3H	GF	495562.05	6925860.92	47.8	2
1369	3H	FF				3
1370	3H	GF	495567.63	6925871.12	47.7	2
1370	3H	FF				3
1371	3H	GF	495573.17	6925880.79	47.5	2
1371	3H	FF				3
1372	3H	GF	495578.66	6925890.98	47.4	2
1372	3H	FF				3
1373	3H	GF	495584.53	6925902.21	47.3	2
1373	3H	FF				3
1374	3H	GF	495590.09	6925913.06	47.2	2
1374	3H	FF				3
1375	3H	GF	495595.93	6925923.95	47.1	2
1375	3H	FF				3

Table E-2 QDC MP4.4 Noise Categories relevant to road traffic noise

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2000	5S	GF	494305.62	6925684.13	61.8	0
2000	5S	FF				1
2001	5S	GF	494292.62	6925689.43	62.1	0
2001	5S	FF				2
2002	5S	GF	494281.07	6925693.79	62.3	0
2002	5S	FF				2
2003	5S	GF	494268.58	6925698.75	62.4	0
2003	5S	FF				2
2004	5S	GF	494258.83	6925702.43	62.7	0
2004	5S	FF				2
2005	5S	GF	494249.25	6925705.42	63.1	0
2005	5S	FF				2
2006	5S	GF	494237.36	6925710.04	63.4	0
2006	5S	FF				2
2007	5S	GF	494225.48	6925714.32	63.6	0
2007	5S	FF				2

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2008	5S	GF	494213.62	6925718.64	63.9	1
2008	5S	FF				2
2009	5S	GF	494160.42	6925737.02	64.2	1
2009	5S	FF				2
2010	5S	GF	494157.85	6925718.58	64.0	0
2010	5S	FF				2
2011	5S	GF	494155	6925705.63	63.7	0
2011	5S	FF				2
2012	5S	GF	494153.02	6925694.37	63.5	0
2012	5S	FF				2
2013	5S	GF	494150.08	6925683.47	63.1	0
2013	5S	FF				2
2014	5R	GF	494147.63	6925670.14	62.4	0
2014	5R	FF				2
2015	5R	GF	494145.34	6925657.45	61.9	0
2015	5R	FF				2
2016	5R	GF	494142.9	6925645.19	61.5	0
2016	5R	FF				2
2017	5R	GF	494138.83	6925631.49	61.8	0
2017	5R	FF				3
2018	5R	GF	494136.24	6925618.62	61.9	0
2018	5R	FF				3
2019	5R	GF	494133.23	6925605.56	61.6	0
2019	5R	FF				3
2020	5R	GF	494129.63	6925592.69	61.4	1
2020	5R	FF				3
2021	5R	GF	494126.44	6925581.66	61.2	1
2021	5R	FF				3
2022	5R	GF	494123.55	6925571.01	60.9	1
2022	5R	FF				3
2023	5Qi	GF	494119.02	6925558.34	60.6	1
2023	5Qi	FF				2
2024	5Qi	GF	494115.02	6925545.36	60.4	1
2024	5Qi	FF				2
2025	5Qi	GF	494110.34	6925534.44	60.1	1

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2025	5Qi	FF				2
2026	5Qi	GF	494106.7	6925525.27	59.9	1
2026	5Qi	FF				2
2027	5Qi	GF	494101.41	6925513.78	59.6	1
2027	5Qi	FF				2
2028	5Qi	GF	494093.6	6925501.59	59.2	1
2028	5Qi	FF				2
2029	5Qi	GF	494085.88	6925489.62	58.9	1
2029	5Qi	FF				2
2030	5Qi	GF	494079.5	6925479.29	58.7	2
2030	5Qi	FF				3
2031	5F	GF	494065.34	6925462.82	57.9	2
2031	5F	FF				3
2032	5F	GF	494056.97	6925454.12	57.6	2
2032	5F	FF				3
2033	5F	GF	494047.75	6925444.06	56.9	2
2033	5F	FF				3
2034	5G	GF	494033.99	6925429.86	55.9	1
2034	5G	FF				3
2035	5G	GF	494024.56	6925419.42	55.0	1
2035	5G	FF				3
2036	5G	GF	494016.16	6925410.27	54.5	1
2036	5G	FF				3
2037	5G	GF	494007.68	6925401.2	53.9	1
2037	5G	FF				3
2038	5G	GF	493998.15	6925391.05	53.6	1
2038	5G	FF				3
2039	5G	GF	493989.38	6925381.47	53.3	1
2039	5G	FF				3
2040	5G	GF	493980.84	6925372.44	53.1	2
2040	5G	FF				3
2041	5G	GF	493972.03	6925363.22	52.9	2
2041	5G	FF				3
2042	5G	GF	493962.86	6925353.22	52.8	2
2042	5G	FF				3

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2043	5G	GF	494006.58	6925336.24	52.5	1
2043	5G	FF				1
2044	5G	GF	494026.05	6925353.8	53.4	0
2044	5G	FF				1
2045	5G	GF	494040.68	6925365.39	53.9	0
2045	5G	FF				0
2046	5G	GF	494051.54	6925372.56	54.5	0
2046	5G	FF				0
2047	5G	GF	494061.54	6925380.38	55.1	0
2047	5G	FF				0
2048	5G	GF	494072.4	6925387.77	56.0	0
2048	5G	FF				0
2049	5F	GF	494084.01	6925414.35	57.1	0
2049	5F	FF				0
2050	5F	GF	494091.84	6925397.19	57.1	0
2050	5F	FF				0
2051	5F	GF	494098.46	6925386.95	56.9	0
2051	5F	FF				0
2052	5G	GF	494113.96	6925372.37	55.7	0
2052	5G	FF				0
2053	5G	GF	494100.73	6925365.37	55.6	0
2053	5G	FF				0
2054	5G	GF	494088.39	6925358.76	55.4	0
2054	5G	FF				0
2055	5G	GF	494076.69	6925352.27	55.1	0
2055	5G	FF				0
2056	5G	GF	494066.13	6925345.91	54.8	0
2056	5G	FF				0
2057	5G	GF	494054.29	6925339.67	54.3	0
2057	5G	FF				0
2058	5G	GF	494038.64	6925331.91	53.1	0
2058	5G	FF				0
2059	5G	GF	494012.18	6925323.64	52.5	1
2059	5G	FF				1
2060	5G	GF	494017.52	6925313.08	52.4	0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2060	5G	FF				1
2061	5G	GF	494035.59	6925282.29	52.2	0
2061	5G	FF				0
2062	5G	GF	494059.64	6925288.66	52.9	0
2062	5G	FF				0
2063	5G	GF	494074.4	6925295.78	54.2	0
2063	5G	FF				0
2064	5G	GF	494085.08	6925301.38	54.6	0
2064	5G	FF				0
2065	5G	GF	494095.64	6925307.23	55.0	0
2065	5G	FF				0
2066	5G	GF	494107.22	6925314.23	55.4	0
2066	5G	FF				0
2067	5G	GF	494117.53	6925319.06	55.6	0
2067	5G	FF				0
2068	5G	GF	494126.81	6925323.39	55.7	0
2068	5G	FF				0
2069	5G	GF	494137.75	6925330.13	55.7	0
2069	5G	FF				0
2073	5F	GF	494122.25	6925442.05	57.6	0
2073	5F	FF				0
2074	5F	GF	494127.06	6925433.01	57.4	0
2074	5F	FF				0
2075	5F	GF	494133.08	6925422.78	57.1	0
2075	5F	FF				0
2076	5F	GF	494139.41	6925411.94	56.9	0
2076	5F	FF				0
2077	5F	GF	494141.21	6925397.19	56.6	0
2077	5F	FF				0
2078	5F	GF	494148.44	6925384.24	55.9	0
2078	5F	FF				0
2079	5F	GF	494168.31	6925348.11	55.3	0
2079	5F	FF				0
2080	5F	GF	494183.66	6925357.14	54.9	0
2080	5F	FF				0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2081	5F	GF	494194.8	6925363.17	54.5	0
2081	5F	FF				0
2082	5F	GF	494205.94	6925369.19	54.1	0
2082	5F	FF				0
2083	5F	GF	494215.88	6925374.31	53.8	0
2083	5F	FF				0
2084	5F	GF	494224.61	6925379.72	53.4	0
2084	5F	FF				0
2085	5F	GF	494233.94	6925384.54	53.0	0
2085	5F	FF				0
2086	5F	GF	494248.39	6925392.67	52.3	0
2086	5F	FF				0
2087	5F	GF	494262.54	6925401.1	51.7	0
2087	5F	FF				0
2088	5F	GF	494160.48	6925398.39	55.3	0
2088	5F	FF				0
2089	5F	GF	494174.93	6925407.12	54.6	0
2089	5F	FF				0
2090	5F	GF	494199.02	6925420.07	53.8	0
2090	5F	FF				0
2091	5F	GF	494208.35	6925425.49	53.5	0
2091	5F	FF				0
2092	5F	GF	494217.69	6925430.61	53.0	0
2092	5F	FF				0
2093	5F	GF	494228.83	6925436.63	52.6	0
2093	5F	FF				0
2094	5F	GF	494240.27	6925442.35	52.1	0
2094	5F	FF				0
2095	5Qi	GF	494228.21	6925466.01	54.6	0
2095	5Qi	FF				0
2096	5Qi	GF	494216.38	6925460.29	55.0	0
2096	5Qi	FF				0
2097	5Qi	GF	494204.93	6925454.56	55.5	0
2097	5Qi	FF				0
2098	5Qi	GF	494195.01	6925449.47	55.7	0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2098	5Qi	FF				0
2099	5Qi	GF	494185.47	6925445.27	55.7	0
2099	5Qi	FF				0
2100	5Qi	GF	494161.04	6925423.9	55.9	0
2100	5Qi	FF				0
2101	5Qi	GF	494154.17	6925437	56.3	0
2101	5Qi	FF				0
2102	5Qi	GF	494147.42	6925449.98	56.6	0
2102	5Qi	FF				0
2103	5Qi	GF	494141.57	6925463.34	57.4	0
2103	5Qi	FF				0
2104	5Qi	GF	494128.47	6925472.63	58.0	0
2104	5Qi	FF				0
2105	5F	GF	494116.53	6925454.09	57.8	0
2105	5F	FF				0
2106	5Qi	GF	494149.97	6925513.59	58.5	0
2106	5Qi	FF				0
2107	5Qi	GF	494166	6925507.36	56.8	0
2107	5Qi	FF				0
2108	5Qi	GF	494186.86	6925500.11	55.1	0
2108	5Qi	FF				0
2109	5Qi	GF	494212.69	6925505.58	54.1	0
2109	5Qi	FF				0
2110	5Qi	GF	494204.55	6925519.96	55.1	0
2110	5Qi	FF				0
2111	5Qi	GF	494189.41	6925525.17	56.9	0
2111	5Qi	FF				0
2112	5Qi	GF	494178.59	6925530.39	57.9	0
2112	5Qi	FF				0
2113	5Qi	GF	494161.55	6925536.88	58.9	0
2113	5Qi	FF				0
2114	5R	GF	494171.34	6925574.28	60.6	0
2114	5R	FF				0
2115	5R	GF	494175.54	6925587.9	61.1	0
2115	5R	FF				0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2116	5R	GF	494188.26	6925574.41	58.9	0
2116	5R	FF				0
2117	5R	GF	494199.46	6925570.72	58.0	0
2117	5R	FF				0
2118	5R	GF	494210.4	6925566.65	57.0	0
2118	5R	FF				0
2119	5R	GF	494243.23	6925582.43	57.8	0
2119	5R	FF				0
2120	5R	GF	494232.29	6925586.75	58.4	0
2120	5R	FF				0
2121	5R	GF	494220.58	6925590.82	59.3	0
2121	5R	FF				0
2122	5R	GF	494211.93	6925593.49	59.8	0
2122	5R	FF				0
2123	5R	GF	494204.68	6925596.93	60.2	0
2123	5R	FF				0
2124	5R	GF	494196.03	6925600.62	60.6	0
2124	5R	FF				0
2125	5R	GF	494181.39	6925605.71	61.0	0
2125	5R	FF				0
2126	5R	GF	494240.94	6925633.32	59.8	0
2126	5R	FF				0
2127	5R	GF	494226.31	6925638.66	60.3	0
2127	5R	FF				0
2128	5R	GF	494214.73	6925642.6	60.8	0
2128	5R	FF				0
2129	5R	GF	494205.19	6925646.8	61.1	0
2129	5R	FF				0
2130	5R	GF	494191.19	6925652.53	61.4	0
2130	5R	FF				0
2131	5S	GF	494223.25	6925665.89	63.1	0
2131	5S	FF				0
2131	5S	GF	494197.81	6925675.81	63.1	0
2131	5S	FF				0
2132	5S	GF	494213.58	6925669.45	63.3	0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2132	5S	FF				0
2133	5S	GF	494199.3	6925724.57	63.9	1
2133	5S	FF				2
2135	5S	GF	494234.83	6925661.82	62.6	0
2135	5S	FF				0
2136	5S	GF	494249.33	6925656.09	61.8	0
2136	5S	FF				0
2137	5S	GF	494290.94	6925652.15	61.1	0
2137	5S	FF				0
2138	5S	GF	494285.85	6925640.44	60.2	0
2138	5S	FF				0
2139	5S	GF	494281.9	6925630.9	59.3	0
2139	5S	FF				0
2140	5S	GF	494277.45	6925622.25	58.4	0
2140	5S	FF				0
2141	5R	GF	494242.21	6925555.83	55.2	0
2141	5R	FF				0
2141	5S	GF	494273.25	6925610.54	57.6	0
2141	5S	FF				0
2142	5R	GF	494252.26	6925577.85	57.2	0
2142	5R	FF				0
2143	5R	GF	494264.86	6925574.79	56.2	0
2143	5R	FF				0
2144	5R	GF	494254.17	6925550.24	54.7	0
2144	5R	FF				0
2146	5R	GF	494232.79	6925559.27	55.6	0
2146	5R	FF				0
2148	5R	GF	494222.11	6925562.96	56.1	0
2148	5R	FF				0
2149	5Qii	GF	494247.3	6925490.57	54.1	0
2149	5Qii	FF				0
2150	5Qii	GF	494251.5	6925482.04	53.7	0
2150	5Qii	FF				0
2151	5Qii	GF	494254.55	6925475.68	53.3	0
2151	5Qii	FF				0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2152	5Qii	GF	494257.99	6925468.56	52.9	0
2152	5Qii	FF				0
2153	5Qii	GF	494261.93	6925462.58	52.6	0
2153	5Qii	FF				0
2154	5Qii	GF	494265.11	6925455.71	52.2	0
2154	5Qii	FF				0
2155	5Qii	GF	494269.82	6925447.44	51.8	0
2155	5Qii	FF				0
2156	5Eiii	GF	494283.12	6925422.83	51.3	0
2156	5Eiii	FF				0
2157	5Eiii	GF	494288.14	6925414.81	51.1	0
2157	5Eiii	FF				0
2158	5Eiii	GF	494291.15	6925408.28	50.8	0
2158	5Eiii	FF				0
2159	5Eiii	GF	494294.66	6925401.01	50.6	0
2159	5Eiii	FF				0
2160	5Eiii	GF	494297.67	6925395.24	50.3	0
2160	5Eiii	FF				0
2161	5Eiii	GF	494300.93	6925387.97	50.0	0
2161	5Eiii	FF				0
2162	5Eiii	GF	494305.19	6925380.19	49.7	0
2162	5Eiii	FF				0
2163	5Ei	GF	494276.7	6925377.62	50.0	0
2163	5Ei	FF				0
2164	5Ei	GF	494262.54	6925368.59	50.5	0
2164	5Ei	FF				0
2165	5Ei	GF	494247.19	6925360.46	51.3	0
2165	5Ei	FF				0
2166	5Ei	GF	494237.56	6925355.64	51.8	0
2166	5Ei	FF				0
2167	5Ei	GF	494228.22	6925350.52	52.4	0
2167	5Ei	FF				0
2168	5Ei	GF	494218.89	6925344.5	52.7	0
2168	5Ei	FF				0
2169	5Ei	GF	494208.05	6925338.48	53.2	0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2169	5Ei	FF				0
2170	5Ei	GF	494195.71	6925331.85	53.5	0
2170	5Ei	FF				0
2171	5Ei	GF	494180.95	6925323.73	53.8	0
2171	5Ei	FF				0
2172	5H	GF	494151.11	6925305.96	53.6	0
2172	5H	FF				0
2173	5H	GF	494139.79	6925299.34	53.5	0
2173	5H	FF				0
2174	5H	GF	494131.14	6925293.87	53.4	0
2174	5H	FF				0
2175	5H	GF	494121.22	6925289.04	53.3	0
2175	5H	FF				0
2176	5H	GF	494109.38	6925282.68	53.2	0
2176	5H	FF				0
2177	5H	GF	494098.31	6925276.7	53.1	0
2177	5H	FF				0
2178	5H	GF	494088.14	6925271.23	52.9	0
2178	5H	FF				0
2179	5H	GF	494073	6925263.97	52.5	0
2179	5H	FF				0
2180	5H	GF	494045.13	6925265.37	52.0	0
2180	5H	FF				0
2181	5H	GF	494054.29	6925247.94	51.9	0
2181	5H	FF				0
2182	5H	GF	494035.57	6925191.73	50.8	0
2182	5H	FF				0
2183	5H	GF	494040.67	6925172.86	50.7	0
2183	5H	FF				0
2184	5M	GF	494043.5	6925155.14	49.3	0
2184	5M	FF				0
2185	5M	GF	494043.31	6925111.28	47.3	0
2185	5M	FF				0
2186	5M	GF	494051.09	6925096.23	47.3	0
2186	5M	FF				0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2187	5M	GF	494055.35	6925086.2	47.1	0
2187	5M	FF				0
2188	5M	GF	494061.62	6925072.9	46.9	0
2188	5M	FF				0
2189	5M	GF	494064.38	6925055.84	46.3	0
2189	5M	FF				0
2190	5M	GF	494091.72	6925057.6	45.5	0
2190	5M	FF				0
2191	5M	GF	494090.72	6925070.64	45.8	0
2191	5M	FF				0
2192	5M	GF	494087.71	6925086.45	46.4	0
2192	5M	FF				0
2193	5M	GF	494080.69	6925099.49	47.9	0
2193	5M	FF				0
2194	5M	GF	494074.92	6925109.27	48.5	0
2194	5M	FF				0
2195	5M	GF	494069.9	6925119.56	49.0	0
2195	5M	FF				0
2196	5M	GF	494111.79	6925142.64	49.0	0
2196	5M	FF				0
2197	5Eiii	GF	494319.99	6925355.61	49.3	0
2197	5Eiii	FF				0
2198	5Eiii	GF	494325.01	6925347.83	49.0	0
2198	5Eiii	FF				0
2199	5Eiii	GF	494327.52	6925341.06	48.8	0
2199	5Eiii	FF				0
2200	5Eiii	GF	494331.53	6925334.79	48.5	0
2200	5Eiii	FF				0
2201	5Eiii	GF	494335.04	6925328.01	48.3	0
2201	5Eiii	FF				0
2202	5Eiii	GF	494338.56	6925321.49	48.1	0
2202	5Eiii	FF				0
2203	5Eiii	GF	494342.07	6925313.71	47.7	0
2203	5Eiii	FF				0
2204	5M	GF	494117.56	6925131.6	48.6	0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2204	5M	FF				0
2205	5M	GF	494123.83	6925118.81	47.6	0
2205	5M	FF				0
2206	5M	GF	494134.37	6925104.76	46.7	0
2206	5M	FF				0
2207	5M	GF	494137.38	6925086.7	46.1	0
2207	5M	FF				0
2208	5M	GF	494131.86	6925065.63	45.5	0
2208	5M	FF				0
2209	5M	GF	494146.66	6925067.13	45.4	0
2209	5M	FF				0
2210	5L	GF	494159.95	6925067.88	45.3	0
2210	5L	FF				0
2211	5L	GF	494174.75	6925068.89	45.1	0
2211	5L	FF				0
2212	5L	GF	494165.22	6925088.7	45.4	0
2212	5L	FF				0
2213	5L	GF	494163.46	6925106.77	45.7	0
2213	5L	FF				0
2214	5L	GF	494156.69	6925121.82	47.1	0
2214	5L	FF				0
2215	5L	GF	494149.67	6925133.36	48.0	0
2215	5L	FF				0
2216	5L	GF	494142.14	6925145.9	48.8	0
2216	5L	FF				0
2217	5L	GF	494133.61	6925160.2	49.5	0
2217	5L	FF				0
2218	5L	GF	494180.77	6925180.01	49.6	0
2218	5L	FF				0
2219	5L	GF	494186.04	6925167.72	48.7	0
2219	5L	FF				0
2220	5L	GF	494192.31	6925155.43	47.8	0
2220	5L	FF				0
2221	5L	GF	494198.33	6925143.39	47.1	0
2221	5L	FF				0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2222	5L	GF	494204.6	6925134.11	46.5	0
2222	5L	FF				0
2223	5L	GF	494210.37	6925123.32	46.1	0
2223	5L	FF				0
2224	5L	GF	494212.88	6925112.79	45.7	0
2224	5L	FF				0
2225	5L	GF	494210.12	6925077.67	44.7	0
2225	5L	FF				0
2226	5L	GF	494224.67	6925084.44	44.7	0
2226	5L	FF				0
2227	5L	GF	494234.45	6925089.46	44.5	0
2227	5L	FF				0
2228	5L	GF	494243.74	6925094.98	44.5	0
2228	5L	FF				0
2229	5L	GF	494258.54	6925103.5	44.2	0
2229	5L	FF				0
2230	5L	GF	494241.73	6925123.07	45.6	0
2230	5L	FF				0
2231	5L	GF	494233.2	6925136.87	47.5	0
2231	5L	FF				0
2232	5L	GF	494227.68	6925146.9	48.3	0
2232	5L	FF				0
2233	5L	GF	494222.41	6925156.68	49.0	0
2233	5L	FF				0
2234	5L	GF	494215.89	6925168.47	49.7	0
2234	5L	FF				0
2235	5L	GF	494209.37	6925181.27	50.2	0
2235	5L	FF				0
2236	5L	GF	494202.85	6925192.81	50.5	0
2236	5L	FF				0
2237	5L	GF	494244.24	6925221.15	50.6	0
2237	5L	FF				0
2238	5L	GF	494253.02	6925207.36	50.2	0
2238	5L	FF				0
2239	5L	GF	494258.79	6925195.31	49.8	0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2239	5L	FF				0
2240	5L	GF	494265.06	6925183.27	48.9	0
2240	5L	FF				0
2241	5L	GF	494273.34	6925166.97	47.5	0
2241	5L	FF				0
2242	5L	GF	494281.36	6925153.93	46.9	0
2242	5L	FF				0
2243	5L	GF	494290.64	6925122.57	44.2	0
2243	5L	FF				0
2244	5D	GF	494305.44	6925130.35	44.2	0
2244	5D	FF				0
2245	5D	GF	494322.75	6925139.88	44.1	0
2245	5D	FF				0
2246	5D	GF	494308.71	6925162.45	44.6	0
2246	5D	FF				0
2247	5D	GF	494297.17	6925181.52	46.0	0
2247	5D	FF				0
2248	5D	GF	494288.64	6925196.32	47.0	0
2248	5D	FF				0
2249	5D	GF	494281.86	6925208.61	47.7	0
2249	5D	FF				0
2250	5D	GF	494275.84	6925219.9	48.2	0
2250	5D	FF				0
2251	5D	GF	494267.82	6925233.44	48.7	0
2251	5D	FF				0
2252	5D	GF	494320.24	6925232.94	47.4	0
2252	5D	FF				0
2253	5D	GF	494310.46	6925250.5	48.2	0
2253	5D	FF				0
2254	5D	GF	494325.76	6925268.56	47.4	0
2254	5D	FF				0
2255	5D	GF	494331.28	6925256.02	47.2	0
2255	5D	FF				0
2256	5D	GF	494338.31	6925242.72	47.0	0
2256	5D	FF				0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2257	5D	GF	494345.33	6925230.43	46.6	0
2257	5D	FF				0
2258	5Kii	GF	494467.06	6925278.2	47.4	0
2258	5Kii	FF				0
2259	5Kii	GF	494478.37	6925292.8	47.6	0
2259	5Kii	FF				0
2260	5D	GF	494312.97	6925308.2	48.1	0
2260	5D	FF				0
2261	5D	GF	494300.68	6925300.92	48.5	0
2261	5D	FF				0
2262	5D	GF	494288.39	6925294.4	49.0	0
2262	5D	FF				0
2263	5D	GF	494276.6	6925288.13	49.2	0
2263	5D	FF				0
2264	5D	GF	494254.27	6925275.59	50.1	0
2264	5D	FF				0
2265	5D	GF	494241.73	6925269.06	50.5	0
2265	5D	FF				0
2266	5D	GF	494229.19	6925262.79	50.9	0
2266	5D	FF				0
2267	5D	GF	494216.64	6925256.02	51.3	0
2267	5D	FF				0
2268	5D	GF	494186.54	6925224.91	51.9	0
2268	5D	FF				0
2269	5D	GF	494179.02	6925239.71	52.3	0
2269	5D	FF				0
2270	5L	GF	494148.16	6925222.91	51.0	0
2270	5L	FF				0
2271	5L	GF	494161.71	6925211.12	50.6	0
2271	5L	FF				0
2272	5L	GF	494121.32	6925204.09	50.7	0
2272	5L	FF				0
2273	5L	GF	494107.28	6925195.31	50.6	0
2273	5L	FF				0
2274	5M	GF	494089.15	6925180.56	50.3	0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2274	5M	FF				0
2275	5Bi	GF	494337.55	6925490.31	50.7	0
2275	5Bi	FF				0
2276	5Bi	GF	494324.76	6925483.79	50.1	0
2276	5Bi	FF				0
2277	5C	GF	494322.3	6925499.71	51.5	0
2277	5C	FF				0
2278	5C	GF	494317.35	6925509.87	52.1	0
2278	5C	FF				0
2279	5C	GF	494312.93	6925520.8	52.3	0
2279	5C	FF				0
2280	5C	GF	494304.86	6925532.26	52.9	0
2280	5C	FF				0
2281	5C	GF	494305.64	6925548.92	54.3	0
2281	5C	FF				0
2282	5C	GF	494312.67	6925563.5	56.1	0
2282	5C	FF				0
2283	5C	GF	494317.35	6925575.73	56.7	0
2283	5C	FF				0
2284	5C	GF	494322.56	6925587.71	57.3	0
2284	5C	FF				0
2285	5C	GF	494327.25	6925599.17	58.0	0
2285	5C	FF				0
2286	5C	GF	494330.37	6925608.54	58.6	0
2286	5C	FF				0
2287	5C	GF	494333.76	6925618.95	59.3	0
2287	5C	FF				0
2288	5C	GF	494338.18	6925631.19	59.9	0
2288	5C	FF				0
2289	5C	GF	494345.3	6925668.42	61.5	1
2289	5C	FF				1
2290	5C	GF	494364.97	6925660.72	61.1	0
2290	5C	FF				1
2291	5C	GF	494383.95	6925653.43	60.7	0
2291	5C	FF				1

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2292	5C	GF	494399.77	6925647.52	60.6	0
2292	5C	FF				1
2293	5C	GF	494412.84	6925642.56	60.7	0
2293	5C	FF				1
2294	5C	GF	494425.63	6925637.61	60.9	0
2294	5C	FF				1
2295	5C	GF	494437.32	6925632.94	61.0	0
2295	5C	FF				1
2296	5Bi	GF	494454.87	6925624.03	60.6	0
2296	5Bi	FF				1
2297	5C	GF	494362.13	6925622.34	59.4	0
2297	5C	FF				0
2298	5C	GF	494358.49	6925609.32	58.8	0
2298	5C	FF				0
2299	5C	GF	494354.32	6925598.65	58.1	0
2299	5C	FF				0
2300	5C	GF	494351.2	6925589.27	57.5	0
2300	5C	FF				0
2301	5C	GF	494347.03	6925578.34	56.9	0
2301	5C	FF				0
2302	5C	GF	494342.09	6925566.62	56.2	0
2302	5C	FF				0
2303	5C	GF	494336.88	6925554.39	55.6	0
2303	5C	FF				0
2304	5C	GF	494332.97	6925536.68	55.0	0
2304	5C	FF				0
2305	5C	GF	494340.78	6925520.8	54.3	0
2305	5C	FF				0
2306	5C	GF	494345.21	6925512.21	53.8	0
2306	5C	FF				0
2307	5Bi	GF	494354.36	6925498.84	52.6	0
2307	5Bi	FF				0
2308	5Bi	GF	494395.75	6925517.65	53.7	0
2308	5Bi	FF				0
2309	5C	GF	494387.39	6925531.74	54.0	0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2309	5C	FF				0
2310	5C	GF	494388.17	6925549.18	55.6	0
2310	5C	FF				0
2311	5C	GF	494392.85	6925560.63	57.0	0
2311	5C	FF				0
2312	5C	GF	494397.02	6925571.83	57.5	0
2312	5C	FF				0
2313	5C	GF	494401.45	6925583.02	58.1	0
2313	5C	FF				0
2314	5C	GF	494407.17	6925600.21	58.9	0
2314	5C	FF				0
2315	5Bi	GF	494431.12	6925586.64	58.9	0
2315	5Bi	FF				0
2316	5Bi	GF	494425.85	6925571.84	58.3	0
2316	5Bi	FF				0
2317	5Bi	GF	494421.84	6925561.3	57.5	0
2317	5Bi	FF				0
2318	5Bi	GF	494418.58	6925550.77	57.0	0
2318	5Bi	FF				0
2319	5Bi	GF	494413.31	6925535.46	56.4	0
2319	5Bi	FF				0
2320	5Bi	GF	494489.73	6925604.47	60.3	1
2320	5Bi	FF				1
2321	5Bi	GF	494480.54	6925584.88	59.8	0
2321	5Bi	FF				1
2322	5Bi	GF	494476.27	6925574.34	59.5	0
2322	5Bi	FF				0
2323	5Bi	GF	494472.51	6925565.06	58.9	0
2323	5Bi	FF				0
2324	5Bi	GF	494468.24	6925552.52	57.4	0
2324	5Bi	FF				0
2325	5Bii	GF	494466.74	6925535.71	56.9	0
2325	5Bii	FF				0
2326	5Bii	GF	494471	6925528.19	57.0	0
2326	5Bii	FF				0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2327	5Bii	GF	494475.02	6925521.67	57.1	0
2327	5Bii	FF				0
2328	5Bii	GF	494478.28	6925515.14	56.9	0
2328	5Bii	FF				0
2329	5Bii	GF	494482.29	6925508.62	56.8	0
2329	5Bii	FF				0
2330	5Bii	GF	494486.05	6925501.85	56.5	0
2330	5Bii	FF				0
2331	5Bii	GF	494489.57	6925495.58	56.4	0
2331	5Bii	FF				0
2332	5Bii	GF	494493.08	6925489.06	56.1	0
2332	5Bii	FF				0
2333	5Bii	GF	494497.09	6925480.78	55.9	0
2333	5Bii	FF				0
2336	5H	GF	494080.52	6925197.58	50.6	0
2336	5H	FF				0
2337	5H	GF	494072.43	6925214.81	51.0	0
2337	5H	FF				0
2338	5H	GF	494093.11	6925220.5	52.3	0
2338	5H	FF				0
2339	5H	GF	494107.79	6925228.44	52.7	0
2339	5H	FF				0
2340	5H	GF	494123.07	6925236.98	53.1	0
2340	5H	FF				0
2341	5H	GF	494134.76	6925242.38	53.3	0
2341	5H	FF				0
2342	5H	GF	494146.15	6925248.32	53.4	0
2342	5H	FF				0
2343	5H	GF	494157.09	6925254.56	53.5	0
2343	5H	FF				0
2344	5H	GF	494172.11	6925262.06	53.6	0
2344	5H	FF				0
2345	5Ei	GF	494202.63	6925279.47	52.9	0
2345	5Ei	FF				0
2346	5Ei	GF	494215.28	6925287.3	53.4	0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2346	5Ei	FF				0
2347	5Ei	GF	494227.62	6925293.92	53.1	0
2347	5Ei	FF				0
2348	5Ei	GF	494239.96	6925300.54	52.6	0
2348	5Ei	FF				0
2349	5Ei	GF	494251.71	6925306.87	52.0	0
2349	5Ei	FF				0
2350	5Ei	GF	494262.85	6925312.89	51.5	0
2350	5Ei	FF				0
2351	5Ei	GF	494273.68	6925319.21	50.9	0
2351	5Ei	FF				0
2352	5Ei	GF	494287.23	6925326.44	50.3	0
2352	5Ei	FF				0
2353	5Ei	GF	494299.58	6925333.36	49.7	0
2353	5Ei	FF				0
2354	5Ki	GF	494490.96	6925262.33	46.6	0
2354	5Ki	FF				0
2355	5Ki	GF	494500.54	6925275.28	47.1	0
2355	5Ki	FF				0
2356	5Ki	GF	494508.7	6925285.42	48.2	0
2356	5Ki	FF				0
2357	5Ki	GF	494514.9	6925294.15	48.7	0
2357	5Ki	FF				0
2358	5Ki	GF	494521.94	6925303.72	49.6	0
2358	5Ki	FF				0
2359	5Ki	GF	494528.14	6925312.17	50.1	0
2359	5Ki	FF				0
2360	5Ki	GF	494535.18	6925323.72	50.6	0
2360	5Ki	FF				0
2361	5Ai	GF	494492.07	6925405.02	51.4	0
2361	5Ai	FF				0
2362	5Ai	GF	494481.04	6925398.75	50.9	0
2362	5Ai	FF				0
2363	5Ai	GF	494471.76	6925392.48	50.4	0
2363	5Ai	FF				0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2364	5Ai	GF	494460.72	6925385.96	49.4	0
2364	5Ai	FF				0
2365	5Ai	GF	494448.43	6925380.44	48.8	0
2365	5Ai	FF				0
2366	5Ai	GF	494439.65	6925375.17	48.3	0
2366	5Ai	FF				0
2367	5Ai	GF	494429.86	6925371.16	47.8	0
2367	5Ai	FF				0
2368	5Ai	GF	494419.33	6925365.64	47.6	0
2368	5Ai	FF				0
2369	5Ai	GF	494406.54	6925350.59	47.1	0
2369	5Ai	FF				0
2370	5Ai	GF	494398.26	6925363.88	47.5	0
2370	5Ai	FF				0
2371	5Ai	GF	494392.99	6925374.67	47.7	0
2371	5Ai	FF				0
2372	5Ai	GF	494387.22	6925386.71	48.0	0
2372	5Ai	FF				0
2373	5Ai	GF	494407.29	6925390.22	49.3	0
2373	5Ai	FF				0
2374	5Ai	GF	494416.82	6925395.24	50.2	0
2374	5Ai	FF				0
2375	5Ai	GF	494425.85	6925399.25	50.7	0
2375	5Ai	FF				0
2376	5Ai	GF	494435.38	6925404.52	51.2	0
2376	5Ai	FF				0
2377	5Ai	GF	494446.92	6925410.79	51.9	0
2377	5Ai	FF				0
2378	5Ai	GF	494458.46	6925417.06	52.9	0
2378	5Ai	FF				0
2379	5Ai	GF	494468.24	6925422.08	53.4	0
2379	5Ai	FF				0
2380	5Ai	GF	494480.54	6925427.85	53.4	0
2380	5Ai	FF				0
2381	5Ai	GF	494454.7	6925472.5	54.5	0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2381	5Ai	FF				0
2382	5Ai	GF	494443.66	6925466.73	53.5	0
2382	5Ai	FF				0
2383	5Ai	GF	494434.38	6925460.96	53.0	0
2383	5Ai	FF				0
2384	5Ai	GF	494425.6	6925455.44	52.5	0
2384	5Ai	FF				0
2385	5Ai	GF	494415.32	6925449.92	51.5	0
2385	5Ai	FF				0
2386	5Ai	GF	494403.27	6925442.9	50.9	0
2386	5Ai	FF				0
2387	5Ai	GF	494391.74	6925437.38	50.1	0
2387	5Ai	FF				0
2388	5Ai	GF	494382.71	6925432.62	49.6	0
2388	5Ai	FF				0
2389	5Ai	GF	494371.17	6925413.8	48.8	0
2389	5Ai	FF				0
2390	5Bi	GF	494364.39	6925425.84	49.1	0
2390	5Bi	FF				0
2391	5Bi	GF	494359.63	6925434.12	49.4	0
2391	5Bi	FF				0
2392	5Bi	GF	494354.36	6925444.41	49.7	0
2392	5Bi	FF				0
2393	5Bi	GF	494349.09	6925456.2	50.1	0
2393	5Bi	FF				0
2394	5Bi	GF	494367.91	6925458.45	51.6	0
2394	5Bi	FF				0
2395	5Bi	GF	494377.69	6925463.72	52.1	0
2395	5Bi	FF				0
2396	5Bi	GF	494388.98	6925470.49	53.2	0
2396	5Bi	FF				0
2397	5Bi	GF	494401.02	6925476.51	53.7	0
2397	5Bi	FF				0
2398	5Bi	GF	494410.3	6925482.03	54.7	0
2398	5Bi	FF				0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2399	5Bi	GF	494419.08	6925486.8	55.2	0
2399	5Bi	FF				0
2400	5Bi	GF	494429.11	6925492.32	55.7	0
2400	5Bi	FF				0
2401	5Bi	GF	494441.4	6925498.09	56.2	0
2401	5Bi	FF				0
2402	5Aii	GF	494511.39	6925457.2	54.2	0
2402	5Aii	FF				0
2403	5Aii	GF	494515.4	6925449.67	53.7	0
2403	5Aii	FF				0
2404	5Aii	GF	494518.41	6925442.65	53.6	0
2404	5Aii	FF				0
2405	5Aii	GF	494521.93	6925435.88	53.1	0
2405	5Aii	FF				0
2406	5Aii	GF	494525.69	6925429.61	53.0	0
2406	5Aii	FF				0
2407	5Aii	GF	494529.2	6925423.08	52.8	0
2407	5Aii	FF				0
2408	5Aii	GF	494532.71	6925416.06	52.7	0
2408	5Aii	FF				0
2411	5Kii	GF	494520.04	6925350.02	50.7	0
2411	5Kii	FF				0
2412	5Kii	GF	494512.27	6925338.72	49.8	0
2412	5Kii	FF				0
2413	5Kii	GF	494505.45	6925329.3	49.3	0
2413	5Kii	FF				0
2414	5Kii	GF	494499.09	6925320.59	49.0	0
2414	5Kii	FF				0
2415	5Kii	GF	494492.73	6925311.87	48.5	0
2415	5Kii	FF				0
2416	5Kii	GF	494485.67	6925302.46	48.1	0
2416	5Kii	FF				0
2417	5D	GF	494265.81	6925282.36	49.6	0
2417	5D	FF				0
2418	5D	GF	494327.77	6925220.65	47.0	0

Lot number	Stage	Floor	Ground Lot elevation at centre of lot, m			QDC MP4.4 Noise Category
			Easting	Northing	Elevation	
2418	5D	FF				0
2419	5L	GF	494173.75	6925190.8	50.0	0
2419	5L	FF				0
2420	5L	GF	494197.83	6925203.59	50.8	0
2420	5L	FF				0
2421	5L	GF	494216.14	6925103.5	45.2	0
2421	5L	FF				0
2422	5L	GF	494287.38	6925143.39	45.8	0
2422	5L	FF				0
2423	5M	GF	494065.13	6925128.09	48.9	0
2423	5M	FF				0
2424	5M	GF	494107.53	6925152.17	49.4	0
2424	5M	FF				0

Appendix F Reference Noise Barrier Designs

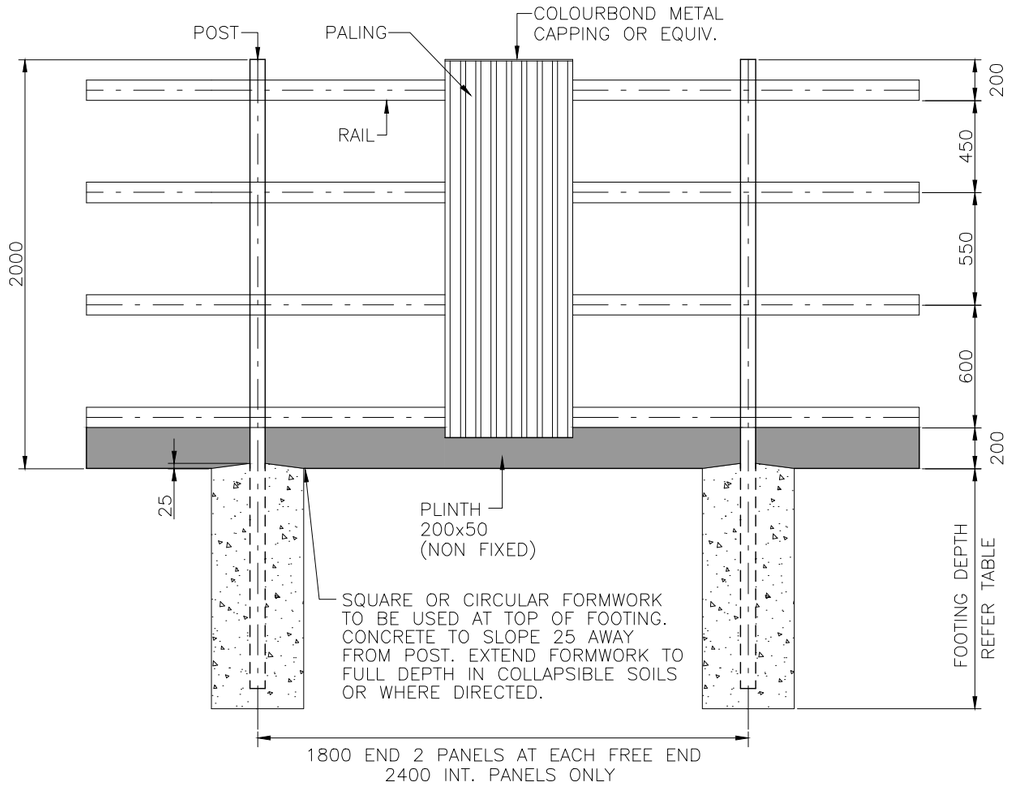
Flagstone Development, Precinct 1

Transport Noise Intrusion Assessment, Stages 3G, 3Fi, 3H, 5Ai, 5Aii, 5Bi, 5Bii, 5C, 5D, 5Ei, 5Eii, 5Eiii, 5F, 5G, 5H, 5Ki, 5Kii, 5L, 5M, 5Qii, 5R, 5S

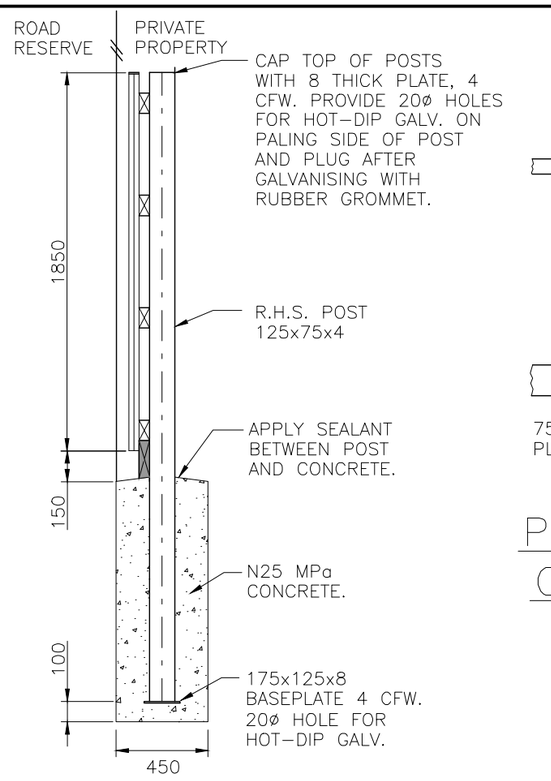
Peet Flagstone City Pty Ltd

SLR Project No.: 620.v10512.02000

24 November 2023



ELEVATION



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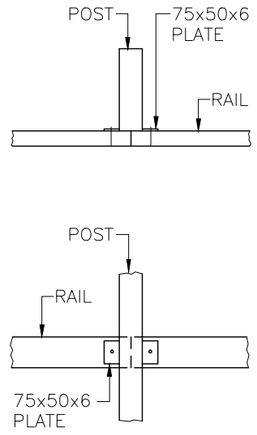
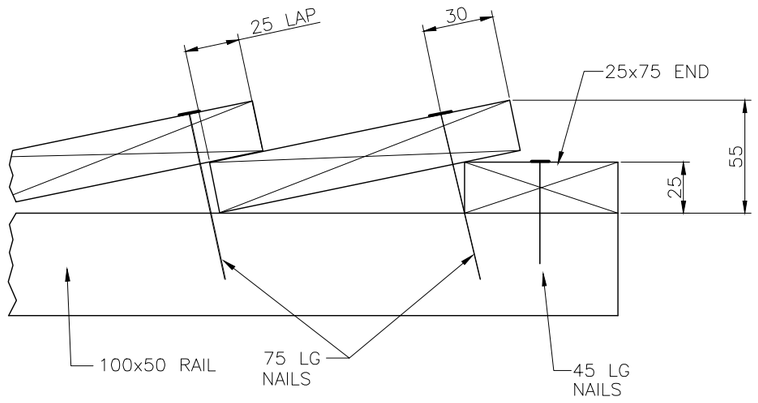


POST & RAIL CONNECTION

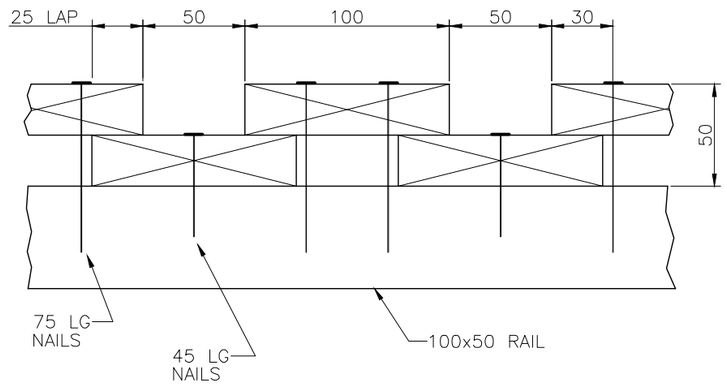
FOOTING DEPTH	
SOIL TYPE	FOOTING DEPTH
SOFT CLAY (Cu = 25 kPa)	1600
FIRM CLAY (Cu = 50 kPa)	1300
STIFF CLAY (Cu = 100 kPa)	1100
MEDIUM DENSE NON-COHESIVE SOIL	1200

NOTES:

1. THIS DRAWING DEPICTS A TYPICAL 2000 HIGH ACOUSTIC BARRIER AND DOES NOT NECESSARILY REPRESENT A NOISE ATTENUATION SOLUTION FOR ALL DEVELOPMENTS. NOISE ATTENUATION SOLUTION FOR EACH DEVELOPMENT IS SITE SPECIFIC AND SHALL BE ADDRESSED IN ACCORDANCE WITH THE "NOISE IMPACT ASSESSMENT PLANNING SCHEME POLICY" OF THE BRISBANE CITY PLAN.
2. MAXIMUM PERMISSIBLE STRESS DESIGN WIND VELOCITY IS 33m/s (W33) WHICH CORRESPONDS TO A SUBURBAN ENVIRONMENT WITH NO EXPOSURE TO OPEN AREAS AND NOT LOCATED IN CLOSE PROXIMITY TO HILLS, RIDGES OR ESCARPMENTS, AS THE NATURAL SURFACE 2m EITHER SIDE OF THE FENCE IS ASSUMED FLAT FOR DESIGN OF FOOTING. IF THESE CONDITIONS ARE NOT MET AN ALTERNATIVE CERTIFIED ENGINEERING DESIGN MUST BE SUBMITTED FOR APPROVAL.
3. FOR NEW SUBDIVISIONS/DEVELOPMENTS, THE ENTIRE FENCE SHALL BE CONTAINED WITHIN THE PRIVATE PROPERTY AND MAINTAINED BY THE PROPERTY OWNER.
4. ALL PALINGS, RAILS AND PLINTH SHALL BE C.C.A TREATED PINE TO H5 LEVEL IN ACCORDANCE WITH AS 1604.
5. ALL FIXINGS SHALL BE HOT-DIP GALVANISED OR EQUIVALENT.
6. CAPPING: COLOURBOND METAL, 30 DEEP WITH OVERFOLDED EDGES FIX WITH No.10 x 12 LONG GALV. TYPE 17 SCREWS AT 300 CRS AND STAGGERED EACH SIDE. CAPPING TO FIT SNUGLY OVER PALINGS.
7. PALINGS: F5 TREATED PINE. REFER PALING DETAILS FOR SIZES. NAILS SHALL BE 2.8ø HOT-DIP GALVANISED FLAT HEAD CLOUTS (OR SIMILAR GUN-DRIVEN NAILS). STAGGER NAIL PATTERN ALONG LENGTH OF PALING TO AVOID SPLITTING AND DRIVE NAILS SQUARE TO FACE OF BOARD. RING SHANK NAILS TO BE USED.
8. RAILS: 100 x 50 F5 TREATED PINE. FIX WITH No.14-10 x 50 GALVANISED HEX HD TYPE 17 SCREW.
9. POSTS: 125 x 75 x 4 R.H.S. HOT-DIP GALVANISED AFTER FABRICATION.
10. PLINTH: 200 x 50 F5 TREATED PINE (NON FIXED).
11. DIMENSIONS IN MILLIMETRES (UNO).



SYSTEM 1 (150x25)



SYSTEM 2 (100x25)

TREATED PINE PALING

ISSUE	AMENDMENT	DRAWN DATE	CHK'D DATE	APPR'D DATE
B	Drawing Title Amended	FEB'16	JUL '16	JUL '16
A	Drawing Converted from UMS Series April 2014	APR '14	APR '14	APR '14

DRAWING AUTHORISED FOR PUBLICATION
B.BALL SIGNATURE ON ORIGINAL
DATED 29/06/01 R.P.E.Q 3852
ASSET ENGINEERING MANAGER
STRATEGIC ASSET MANAGEMENT

DESIGN APPROVED
B.HANSEN SIGNATURE ON ORIGINAL
DATED 27/06/01
PRINCIPAL ASSET OFFICER
ROADS & DRAINAGE

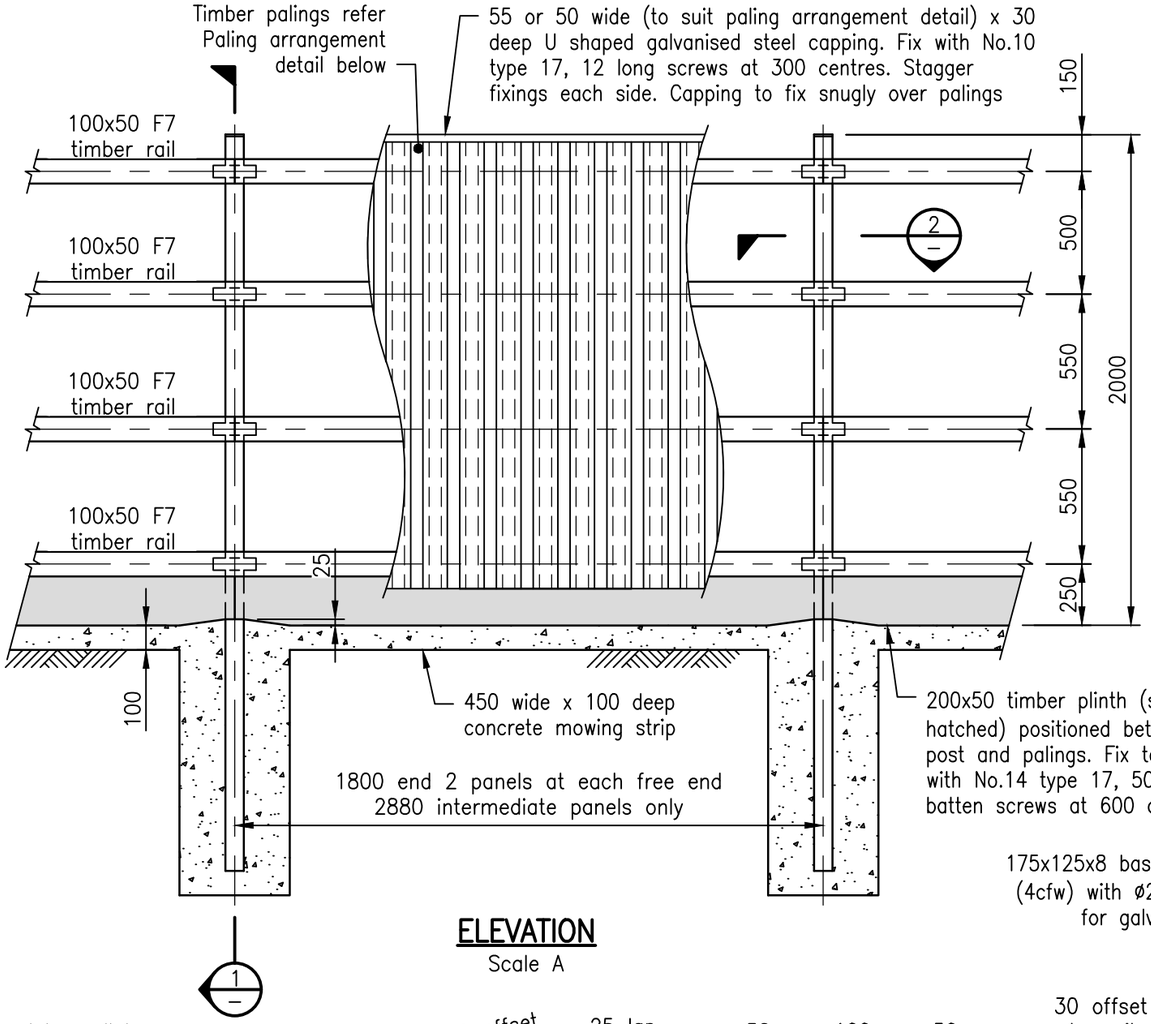
DESIGN	Std Dwgs Group	DATE	APRIL '01
DRAWN	CITY DESIGN	DATE	APRIL '01
CHECKED	M. STEER	DATE	MAY '01
DRAWING FILENAME	BSD-7021 (B) Noise barrier fence 2.0m high - Post and paling.dwg		
ASSOCIATED PLANS	SUPERSEDES UMS-245		

BRISBANE CITY

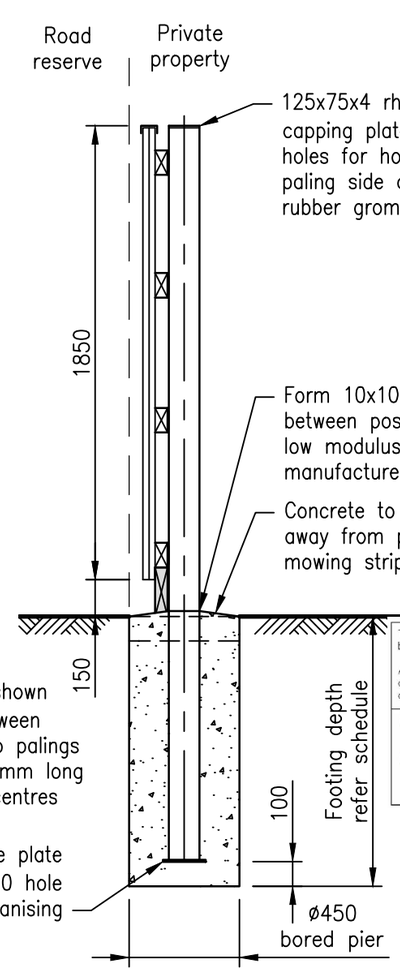
BRISBANE CITY COUNCIL STANDARD DRAWING

NOISE BARRIER FENCE 2.0m HIGH POST AND PALING

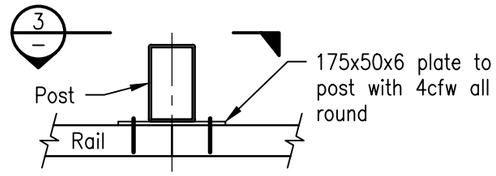
SCALE: NOT TO SCALE
DWG No.: BSD-7021
ORIGINAL SIZE: A3
REVISION: B



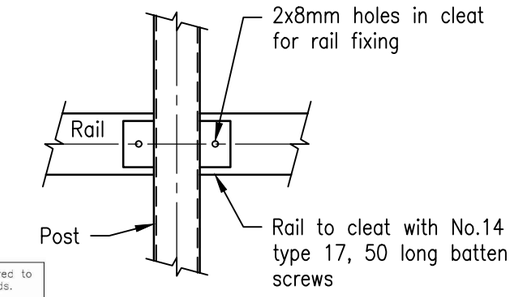
ELEVATION
Scale A



SECTION
Scale A



SECTION
Scale B



SECTION
Scale B

THIS DRAWING IS FOR COUNCIL CONSTRUCTION WORKS WITHIN THE ROAD RESERVE ONLY

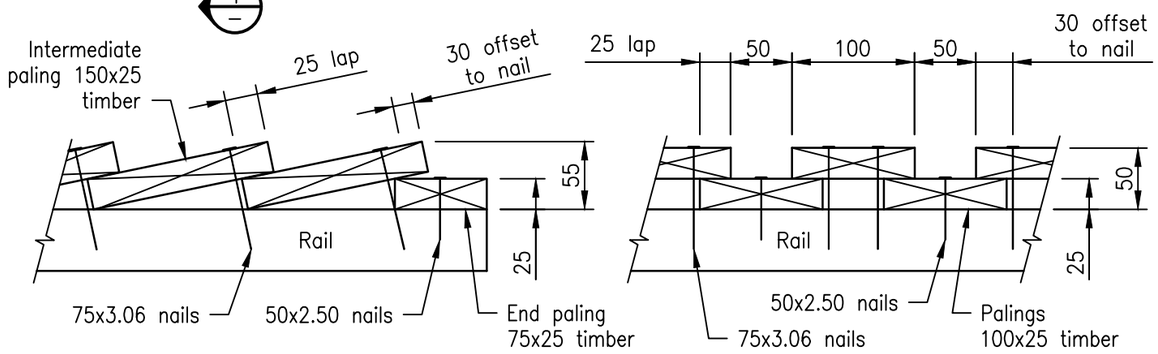
The structural work shown on this drawing is considered to be structurally sound, and suitable for the design loads.

All construction to be as per current Australian Standards and Building Codes, in accordance with MBRC requirements, and in a professional and tradesmanlike manner

IAN BARNES & ASSOCIATES P/Ltd
CONSULTING ENGINEERS
P.O. Box 1378
CABOOLTURE 4510
ABN 70 057802490
Office : 07 5495 8444
Mobile : 0418 873 320
RPEQ 3333 Date : 13/09/2017

NOTES:

1. This drawing depicts a typical 2000 high acoustic barrier and does not necessarily represent a noise attenuation solution for all developments. Noise attenuation solution for each development is site specific and shall be addressed by a qualified acoustic engineer.
2. Maximum permissible stress design wind velocity is 33m/s (w33) which corresponds to a suburban environment with no exposure to open areas and not located in close proximity to hills, ridges or escarpments, as the natural surface 2m either side of the fence Is assumed flat for design of footing. If these conditions are not met an alternative certified engineering design must be submitted for approval.
3. For new subdivisions/developments, the entire fence shall be contained within the private property and maintained by the property owner.
4. All palings, rails and plinths shall be ACQ or CCA treated pine to H5 level in accordance with AS 1604. Rails min. F7 Stress Grade.
5. All fixings (apart from nails) shall be 'Zenith-Tufcote' or 'Buildex-Climacoat' or approved equivalent (unless noted otherwise).
6. All nails shall be ring shank type and hot dipped galvanised.
7. Stagger nail pattern along length of paling to avoid splitting and drive nails square to face of board.
8. Posts shall be hot-dip galvanised after fabrication.
9. Noise barrier fence shall be screened with vegetation.
10. Dimensions are in millimetres unless stated otherwise.



PALING ARRANGEMENT DETAILS
Scale C

FOOTING DEPTH SCHEDULE

SOIL TYPE	FOOTING DEPTH
Soft clay (Cu = 25kPa)	1600
Firm clay (Cu = 50kPa)	1300
Stiff clay (Cu = 100kPa)	1100
Medium dense non-cohesive soil medium	1200

REVISIONS		INIT	DATE
E			
D			
C	Approved by Structural Engineer	TC	7/17
B	Structural Design Note Changed	RH	12/16
A	Add note - For council construction works only, change landscape note	BW	08/16
X	ORIGINAL ISSUE	BW	07/16

SCALES
A 1:25
B 1:10
C 1:5

Drawn	BW	Date	07/16
Coordinator	PP	Date	07/16

AUTHORISED
SYD JERRAM
07/07/16
Manager Integrated Transport Planning & Design
RPEQ 6872

NOISE BARRIER FENCE
2.0m HIGH POST AND PALING

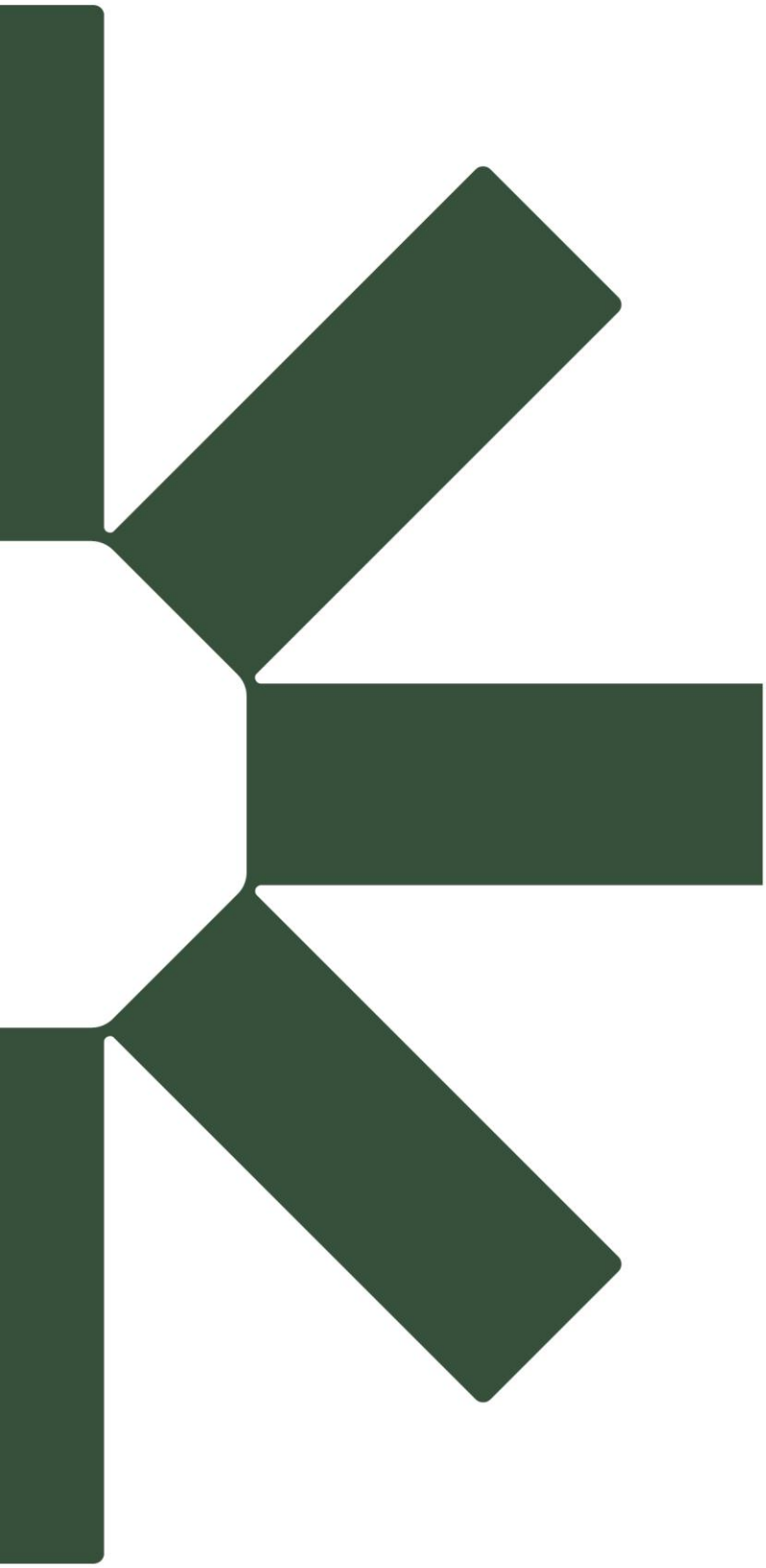
Moreton Bay Regional Council

DRG No. SF-1520

ORIGINAL SIZE A3

REVISION C

File name: I:\User_Group\Design_Services\Projects\MBRC Standard Drawings\AutoCAD Files\04 - Street Furniture Including Fences\SF-1520C - Noise Barrier Fence 2.0m high - Post and Paling.dwg Date: Sep 28, 2017 - 12:02pm



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