PACIFIC HIGHWAY UPGRADE
OXLEY HIGHWAY TO KEMPSEY
NOISE & VIBRATION WORKING PAPER

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VERSION D

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PREPARED FOR

GHD PTY LTD
PO BOX 5403
HUNTER REGIONAL MAIL CENTRE NSW 2310

Wilkinson Murray Pty Limited
ABN 41 192 548 112 • Level 2, 123 Willoughby Road, Crows Nest NSW 2065, Australia • **Asian Office: Hong Kong**
t +61 2 9437 4611 • **f** +61 2 9437 4393 • **e** acoustics@wilkinsonmurray.com.au • **w** www.wilkinsonmurray.com.au

5 MODEL VALIDATION

Noise levels were calculated using the existing model inputs for locations where noise loggers had been left during the ambient noise survey. It should be noted that only those loggers within 350 metres of the existing highway have been used for the model validation as other non-traffic noise sources will become dominant at greater distances.

The results from both noise measurements and model prediction rounded to 0.5 dB(A) are shown and compared in Table 5-2. For ease of reference, the measurements of traffic noise levels summarised in Table 2-4 are reinserted in this section in Table 5-1.

Table 5-1 Summary of measured traffic noise levels

Site	Day $L_{eq,\ 15hr}$ (dB(A))	Night $L_{eq,\ 9hr}$ (dB(A))
1	58	56
2	56	55
3	52	50.5
4	55	49
5	63.5	63
6	53.5	51
7	58	57.5
8	63.5	61
9	54	48
10	55	51
11	61.5	56
12	58.5	58
13	64	62.5

Table 5-2 Model validation results

Site	Location	Day (7am–10pm) $L_{Aeq,15hr}$ (dB(A))		Night (10pm-7am) $L_{Aeq,9hr}$ (dB(A))	
		Measured	Predicted	Measured	Predicted
1	81 Scrubby Creek Road	58	58.5	56	56.5
2	100 Ravenswood Road, Kundabung (1)	60	59.5	59	58.5
3	35 Kundabung Road, Kundabung (2)	55	53	53.5	52.5
5	890 Cooperabung Drive, Telegraph Point	63.5	64.5	63	62.5
6	3 Wyndell Close, Telegraph Point	53.5	54	51	51.5
7	1 Haydons Wharf Road, Telegraph Point	58	60	57.5	59.5
8	5 Cooperabung Drive, Telegraph Point	63.5	64.5	61	62
11	15 Glen Ewan Road (3)	64.5	62.5	59	60.5
12	Cassegrain Winery, 764 Fernbank Creek Road	58.5	60.5	58	59
13	South of Billabong Koala Park (4)	66.5	68	65	66.5

Notes
1) 1.5 dB(A) added to measured levels for angle of view correction and 2.5 dB(A) added to account for façade reflections
2) 3 dB(A) added to measured levels for angle of view correction
3) 3 dB(A) added to measured levels for angle of view correction
4) 2.5 dB(A) added to measured levels for façade reflections

Agreement to within 2 dB(A) is generally considered acceptable given the expected accuracy of standard noise modelling procedures, and also week-to-week variability in traffic volumes and measured noise levels. Predicted noise levels are within this range during both day and night periods.

Since predicted noise levels generally show good agreement with measured levels, no Proposal-specific adjustment of the computer model was considered necessary.