

## **A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment**

### **1 Introduction**

- 1.1.1 This appendix provides information to support the assessment of construction noise in Chapter 15 of the ES.
- 1.1.2 Section 2 presents predicted noise levels at receptors for the various construction scenarios. Six scenarios were modelled. For ease of presentation, this information is split into three tables; Table 1 provides Scenarios 1-3, Table 2 provides Scenarios 4-6, and Table 3 provides Scenarios 7-8.
- 1.1.3 Section 3 (page 11 onwards) details the likely plant and equipment that was assumed for various construction scenarios within the noise assessment.

## A9 Dualling: Luncarty to Pass of Birnam

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### Appendix A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment

## 2 Predicted Construction Noise Levels

Table 1: Construction Noise Predictions (Scenarios 1-3)

Receptor	Existing (dB)	Scenario								
		1			2			3		
		Phase 1 - Earthworks			Phase 1 - Drainage			Phase 1 - Formation		
		LAeq,T dB								
		Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase
A9 (Anvil Cottage), Bankfoot	66.9	65.0	69.1	2.2	59.1	67.6	0.7	63.4	68.5	1.6
A9 (Barn House), Bankfoot	66.3	62.4	67.8	1.5	56.8	66.8	0.5	59.5	67.1	0.8
A9 (Beach Lea House), Stanley	55.1	62.8	63.5	8.4	59.2	60.6	5.5	60.8	61.8	6.7
A9 (Bellfield), Bankfoot	64.6	72.8	73.4	8.8	73.3	73.9	9.3	75.9	76.2	11.6
A9 (Holm Cottage), Bankfoot	67.4	66.5	70.0	2.6	60.0	68.1	0.7	64.8	69.3	1.9
A9 (Loak), Bankfoot	50.9	55.6	56.9	6.0	54.6	56.2	5.3	52.6	54.9	4.0
A9 (Loakmill Farm), Bankfoot	59.5	66.2	67.0	7.5	63.0	64.6	5.1	64.2	65.5	6.0
A9 (Loakmill Steading), Bankfoot	58.3	64.7	65.6	7.3	61.4	63.1	4.8	62.7	64.1	5.8
A9 (Marlehall Farm Cottage), Luncarty	55.9	58.0	60.1	4.2	49.3	56.7	0.8	56.1	59.0	3.1
A9 (Newmill), Stanley	64.3	63.5	66.9	2.6	60.4	65.8	1.5	62.0	66.3	2.0
A9 (Northleys), Luncarty	49.7	62.7	62.9	13.2	55.3	56.4	6.7	56.8	57.6	7.9
A9 (Rosevale House), Stanley	54.9	62.8	63.5	8.6	59.1	60.5	5.6	60.6	61.6	6.7
A9 (Westwood), Bankfoot	62.1	66.8	68.1	6.1	63.7	66.0	4.0	64.4	66.4	4.4
B9099 (Brownlands Park Bungalow), Luncarty	52.9	59.0	60.0	7.1	53.8	56.4	3.5	57.2	58.6	5.7
B9099 (Cherry Cottage), Luncarty	45.6	51.3	52.3	6.7	47.1	49.4	3.8	48.9	50.6	5.0
B9099 (The Holdings 01), Luncarty	50.6	55.1	56.4	5.8	52.8	54.8	4.2	53.1	55.0	4.4
B9099 (The Holdings 01a), Luncarty	53.3	58.2	59.4	6.1	55.2	57.4	4.1	56.0	57.9	4.6
B9099 (The Holdings 02), Luncarty	51.2	56.5	57.6	6.4	53.5	55.5	4.3	54.6	56.2	5.0
B9099 (The Holdings 02a), Luncarty	51.1	56.3	57.5	6.4	53.3	55.4	4.3	54.4	56.1	5.0
B9099 (The Holdings 03), Luncarty	52.6	57.8	58.9	6.4	55.1	57.0	4.5	56.0	57.6	5.1
B9099 (The Holdings 04), Luncarty	53.3	58.2	59.4	6.1	55.2	57.4	4.1	56.0	57.9	4.6
B9099 Main Road (01), Luncarty	52.9	58.2	59.3	6.4	48.9	54.4	1.5	54.2	56.6	3.7
B9099 Main Road (02), Luncarty	53.2	57.9	59.2	6.0	49.0	54.6	1.4	53.5	56.4	3.2
B9099 Main Road (03), Luncarty	53.2	59.1	60.1	6.9	51.4	55.4	2.2	55.2	57.3	4.1
B9099 Main Road (04), Luncarty	53.7	60.2	61.1	7.4	52.8	56.3	2.6	56.2	58.1	4.4
B9099 Main Road (05), Luncarty	55.6	56.2	58.9	3.3	49.5	56.5	0.9	52.4	57.3	1.7
B9099 Main Road (06), Luncarty	55.9	56.1	59.0	3.1	48.8	56.7	0.8	52.1	57.4	1.5

## A9 Dualling: Luncarty to Pass of Birnam

DMRB Stage 3 Environmental Statement

### Appendix A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment

Receptor	Existing (dB)	Scenario								
		1			2			3		
		Phase 1 - Earthworks			Phase 1 - Drainage			Phase 1 - Formation		
		LAeq,T dB								
		Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase
B9099 Main Road (07), Luncarty	56.3	54.9	58.6	2.3	51.9	57.6	1.3	55.0	58.7	2.4
B9099 Main Road (Dalbruach), Luncarty	50.9	65.1	65.3	14.4	52.9	55.0	4.1	61.8	62.1	11.2
B9099 Main Road (Glen Helenbank), Luncarty	53.2	65.6	65.8	12.6	53.5	56.4	3.2	62.6	63.1	9.9
B9099 Main Road (Glengaur), Luncarty	52.3	63.5	63.8	11.5	54.4	56.5	4.2	60.7	61.3	9.0
B9099 Main Road (Highfield), Luncarty	52.6	64.5	64.8	12.3	55.5	57.3	4.8	63.3	63.7	11.2
B9099 Main Road (Howe Cottage), Luncarty	51.5	62.3	62.6	11.1	53.2	55.4	3.9	58.6	59.4	7.9
B9099 Main Road (Tigh-na-Reilichear), Luncarty	53.1	59.0	60.0	6.9	49.0	54.5	1.4	54.1	56.6	3.5
B9099 Slip Road (Glenordie), Luncarty	55.7	59.8	61.2	5.5	58.7	60.5	4.8	58.9	60.6	4.9
B9099 Slip Road (Ordie Cottage), Luncarty	56.4	61.7	62.8	6.4	59.9	61.5	5.1	59.5	61.2	4.8
B9099 Slip Road (Ordie House), Luncarty	55.5	60.1	61.4	5.9	58.3	60.1	4.6	58.6	60.3	4.8
B9099 Slip Road (Ordie View), Luncarty	61.7	63.7	65.8	4.1	61.5	64.6	2.9	61.9	64.8	3.1
B9099 Slip Road (Unknown Property), Luncarty	56.7	67.3	67.7	11.0	61.5	62.7	6.0	63.6	64.4	7.7
Broompark Road (03), Bankfoot	49.3	59.5	59.9	10.6	57.1	57.8	8.5	57.3	57.9	8.6
Broompark Road (04), Bankfoot	51.3	60.8	61.3	10.0	57.4	58.4	7.1	58.1	58.9	7.6
Cairneyhill Road (Coltrannie), Bankfoot	48.7	55.2	56.1	7.4	50.1	52.4	3.7	52.5	54.0	5.3
Cairneyhill Road (Highbury), Bankfoot	50.2	60.2	60.6	10.4	55.5	56.6	6.4	58.3	58.9	8.7
Cairneyhill Road (Unknown Property), Bankfoot	49.5	56.1	57.0	7.5	51.1	53.4	3.9	53.7	55.1	5.6
Highfield Place (Etive Mor), Bankfoot	54.8	62.7	63.4	8.6	58.5	60.1	5.3	59.4	60.7	5.9
Highfield Place (Lynreen), Bankfoot	56.7	63.5	64.3	7.6	58.9	61.0	4.3	60.1	61.7	5.0
Highfield Place (Mandaya), Bankfoot	50.9	62.0	62.3	11.4	57.4	58.3	7.4	58.3	59.0	8.1
Highfield Place (Tailwinds), Bankfoot	56.1	62.9	63.7	7.6	58.3	60.3	4.2	59.3	61.0	4.9
Highfield Place (The Rowans), Bankfoot	56.4	63.3	64.1	7.7	58.2	60.4	4.0	59.2	61.0	4.6
Highfield Place (Tummel), Bankfoot	52.1	62.0	62.4	10.3	58.2	59.1	7.0	59.0	59.8	7.7
Innewan Gardens (13), Bankfoot	58.1	66.1	66.7	8.6	59.4	61.8	3.7	61.6	63.2	5.1
Innewan Gardens (15), Bankfoot	60.4	66.1	67.1	6.7	58.7	62.7	2.3	60.4	63.4	3.0
Innewan Gardens (17), Bankfoot	60.1	66.0	67.0	6.9	59.0	62.6	2.5	60.7	63.4	3.3
Innewan Gardens (31), Bankfoot	56.8	66.4	66.9	10.1	62.3	63.4	6.6	65.8	66.3	9.5
Innewan Gardens (33), Bankfoot	60.7	64.7	66.2	5.5	57.5	62.4	1.7	59.0	63.0	2.3
Innewan Gardens (35), Bankfoot	61.3	62.4	64.9	3.6	56.3	62.5	1.2	57.6	62.8	1.5
Innewan Gardens (37), Bankfoot	62.0	63.6	65.9	3.9	60.2	64.2	2.2	62.1	65.0	3.0
Innewan Gardens (47), Bankfoot	62.9	63.0	66.0	3.1	58.7	64.3	1.4	59.7	64.6	1.7
Innewan Gardens (49), Bankfoot	63.6	63.1	66.4	2.8	59.1	64.9	1.3	60.5	65.3	1.7

## A9 Dualling: Luncarty to Pass of Birnam

DMRB Stage 3 Environmental Statement

### Appendix A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment

Receptor	Existing (dB)	Scenario								
		1			2			3		
		Phase 1 - Earthworks			Phase 1 - Drainage			Phase 1 - Formation		
		LAeq,T dB								
		Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase
Innewan Gardens (51), Bankfoot	63.8	62.9	66.4	2.6	59.1	65.0	1.2	60.5	65.4	1.6
Innewan Gardens (53), Bankfoot	64.6	62.7	66.8	2.2	59.9	65.9	1.3	61.5	66.3	1.7
Innewan Gardens (55), Bankfoot	65.3	62.7	67.2	1.9	60.4	66.5	1.2	61.9	66.9	1.6
Innewan Gardens (57), Bankfoot	65.6	64.7	68.2	2.6	62.3	67.2	1.6	64.0	67.9	2.3
Innewan Gardens (59), Bankfoot	65.9	64.7	68.4	2.5	62.5	67.6	1.7	64.0	68.1	2.2
Innewan Gardens (61), Bankfoot	66.0	63.6	68.0	2.0	62.0	67.5	1.5	62.8	67.7	1.7
Innewan Gardens (63), Bankfoot	65.9	65.7	68.8	2.9	63.5	67.9	2.0	64.1	68.1	2.2
Innewan Gardens (65), Bankfoot	66.7	73.2	74.1	7.4	73.0	73.9	7.2	73.1	74.0	7.3
Innewan Gardens (67), Bankfoot	66.7	73.2	74.1	7.4	73.1	74.0	7.3	73.1	74.0	7.3
Innewan Gardens (69), Bankfoot	66.9	73.1	74.0	7.1	72.9	73.9	7.0	73.0	74.0	7.1
Innewan Gardens (71), Bankfoot	66.7	71.4	72.7	6.0	71.1	72.4	5.7	71.3	72.6	5.9
Kirkhill Drive (03), Luncarty	51.6	62.1	62.5	10.9	51.3	54.5	2.9	62.2	62.6	11.0
Kirkhill Drive (04), Luncarty	51.7	63.2	63.5	11.8	53.4	55.6	3.9	64.1	64.3	12.6
Kirkhill Drive (05), Luncarty	52.3	63.5	63.8	11.5	55.0	56.9	4.6	62.3	62.7	10.4
Kirkhill Drive (06), Luncarty	52.2	63.6	63.9	11.7	55.4	57.1	4.9	62.6	63.0	10.8
Kirkhill Drive (07), Luncarty	52.3	63.2	63.5	11.2	54.2	56.3	4.0	62.1	62.5	10.2
Kirkhill Drive (08), Luncarty	53.0	62.9	63.3	10.3	54.1	56.6	3.6	61.7	62.3	9.3
Kirkhill Drive (09), Luncarty	52.0	62.0	62.4	10.4	55.4	57.0	5.0	61.5	62.0	10.0
Kirkhill Drive (10), Luncarty	51.1	65.4	65.6	14.5	54.4	56.1	5.0	63.3	63.6	12.5
Kirkhill Drive (11), Luncarty	53.9	62.9	63.4	9.5	53.9	56.9	3.0	60.9	61.7	7.8
Kirkhill Drive (12), Luncarty	54.2	62.6	63.2	9.0	54.2	57.2	3.0	60.3	61.2	7.0
Perth Road (Hilton Bungalow), Bankfoot	65.5	62.6	67.3	1.8	56.4	66.0	0.5	58.5	66.3	0.8
Perth Road (Hilton Cottage), Bankfoot	63.6	63.6	66.6	3.0	58.4	64.7	1.1	62.1	65.9	2.3
Unknown Road (Gelly), Bankfoot	55.5	55.4	58.5	3.0	54.5	58.0	2.5	54.9	58.2	2.7
Unknown Road, (Ardonachie), Bankfoot	50.3	62.8	63.0	12.7	50.4	53.3	3.0	52.5	54.5	4.2
Unknown Road, (Atholl Cottage), Luncarty	56.4	60.1	61.7	5.3	54.4	58.6	2.2	55.9	59.2	2.8
Unknown Road, (Broompark Cottage), Bankfoot	58.7	68.9	69.3	10.6	67.5	68.0	9.3	67.9	68.4	9.7
Unknown Road, (Den Cottage), Bankfoot	52.0	59.0	59.8	7.8	52.1	55.1	3.1	53.3	55.7	3.7
Unknown Road, (Newmill Cottages 01), Stanley	52.1	60.9	61.4	9.3	56.5	57.8	5.7	58.9	59.7	7.6
Unknown Road, (Ordiebank), Luncarty	56.0	61.2	62.3	6.3	55.3	58.7	2.7	57.0	59.5	3.5

## A9 Dualling: Luncarty to Pass of Birnam

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### Appendix A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment

Table 2: Construction Noise Predictions (Scenarios 4-6)

Receptor	Existing (db)	Scenario								
		4			5			6		
		Phase 1 - Surfacing			Phase 3 - Earthworks			Phase 3 - Drainage		
		LAeq,T dB								
		Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase
A9 (Anvil Cottage), Bankfoot	66.9	65.1	69.1	2.2	48.0	67.0	0.1	39.5	66.9	0.0
A9 (Barn House), Bankfoot	66.3	62.3	67.8	1.5	45.3	66.4	0.1	40.5	66.3	0.0
A9 (Beach Lea House), Stanley	55.1	63.3	63.9	8.8	56.9	59.1	4.0	51.6	56.7	1.6
A9 (Bellfield), Bankfoot	64.6	72.7	73.3	8.7	55.9	65.2	0.6	51.7	64.8	0.2
A9 (Holm Cottage), Bankfoot	67.4	66.3	69.9	2.5	50.9	67.5	0.1	41.0	67.4	0.0
A9 (Loak), Bankfoot	50.9	56.1	57.3	6.4	50.7	53.8	2.9	44.0	51.7	0.8
A9 (Loakmill Farm), Bankfoot	59.5	68.2	68.7	9.2	60.2	62.9	3.4	54.8	60.8	1.3
A9 (Loakmill Steading), Bankfoot	58.3	66.6	67.2	8.9	51.9	59.2	0.9	40.2	58.4	0.1
A9 (Marlehall Farm Cottage), Luncarty	55.9	58.4	60.3	4.4	62.6	63.4	7.5	58.4	60.3	4.4
A9 (Newmill), Stanley	64.3	64.5	67.4	3.1	55.7	64.9	0.6	54.0	64.7	0.4
A9 (Northleys), Luncarty	49.7	61.5	61.8	12.1	58.8	59.3	9.6	46.3	51.3	1.6
A9 (Rosevale House), Stanley	54.9	63.2	63.8	8.9	55.9	58.5	3.6	51.9	56.7	1.8
A9 (Westwood), Bankfoot	62.1	67.2	68.4	6.4	55.2	62.9	0.9	43.7	62.1	0.1
B9099 (Brownlands Park Bungalow), Luncarty	52.9	61.8	62.3	9.4	57.9	59.1	6.2	44.6	53.5	0.6
B9099 (Cherry Cottage), Luncarty	45.6	51.2	52.3	6.7	50.1	51.4	5.8	39.9	46.6	1.0
B9099 (The Holdings 01), Luncarty	50.6	56.6	57.6	7.0	52.3	54.5	3.9	47.7	52.4	1.8
B9099 (The Holdings 01a), Luncarty	53.3	58.2	59.4	6.1	55.9	57.8	4.5	50.4	55.1	1.8
B9099 (The Holdings 02), Luncarty	51.2	57.3	58.3	7.1	54.4	56.1	4.9	48.3	53.0	1.8
B9099 (The Holdings 02a), Luncarty	51.1	57.2	58.2	7.1	54.3	56.0	4.9	48.3	52.9	1.8
B9099 (The Holdings 03), Luncarty	52.6	58.9	59.8	7.3	55.5	57.3	4.8	49.7	54.4	1.9
B9099 (The Holdings 04), Luncarty	53.3	58.3	59.5	6.2	56.5	58.2	4.9	50.2	55.0	1.7
B9099 Main Road (01), Luncarty	52.9	53.0	56.0	3.1	57.5	58.8	5.9	35.6	53.0	0.1
B9099 Main Road (02), Luncarty	53.2	54.0	56.6	3.4	57.0	58.5	5.3	37.3	53.3	0.1
B9099 Main Road (03), Luncarty	53.2	54.2	56.7	3.5	57.1	58.6	5.4	39.5	53.4	0.2
B9099 Main Road (04), Luncarty	53.7	55.2	57.5	3.8	58.0	59.4	5.7	38.2	53.8	0.1
B9099 Main Road (05), Luncarty	55.6	53.8	57.8	2.2	56.5	59.1	3.5	34.7	55.6	0.0
B9099 Main Road (06), Luncarty	55.9	52.1	57.4	1.5	55.9	58.9	3.0	34.7	55.9	0.0
B9099 Main Road (07), Luncarty	56.3	55.2	58.8	2.5	58.1	60.3	4.0	34.3	56.3	0.0
B9099 Main Road (Dalbruach), Luncarty	50.9	56.9	57.9	7.0	56.8	57.8	6.9	40.9	51.3	0.4
B9099 Main Road (Glen Helenbank), Luncarty	53.2	59.2	60.2	7.0	61.9	62.5	9.3	40.1	53.4	0.2
B9099 Main Road (Glengaur), Luncarty	52.3	60.3	60.9	8.6	62.2	62.6	10.3	42.4	52.7	0.4

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### Appendix A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment

Receptor	Existing (db)	Scenario								
		4			5			6		
		Phase 1 - Surfacing			Phase 3 - Earthworks			Phase 3 - Drainage		
		LAeq,T dB								
		Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase
B9099 Main Road (Highfield), Luncarty	52.6	60.1	60.8	8.3	61.8	62.3	9.8	43.7	53.1	0.6
B9099 Main Road (Howe Cottage), Luncarty	51.5	58.4	59.2	7.7	59.7	60.3	8.8	41.8	51.9	0.4
B9099 Main Road (Tigh-na-Reilichear), Luncarty	53.1	53.1	56.1	3.0	55.3	57.4	4.3	35.7	53.2	0.1
B9099 Slip Road (Glenordie), Luncarty	55.7	60.3	61.6	5.9	60.2	61.5	5.8	59.4	60.9	5.2
B9099 Slip Road (Ordie Cottage), Luncarty	56.4	61.2	62.5	6.1	59.4	61.2	4.8	57.4	60.0	3.6
B9099 Slip Road (Ordie House), Luncarty	55.5	60.7	61.8	6.3	59.8	61.2	5.7	58.1	60.0	4.5
B9099 Slip Road (Ordie View), Luncarty	61.7	63.5	65.7	4.0	62.5	65.1	3.4	60.5	64.1	2.4
B9099 Slip Road (Unknown Property), Luncarty	56.7	64.1	64.8	8.1	59.4	61.3	4.6	47.1	57.2	0.5
Broompark Road (03), Bankfoot	49.3	57.9	58.5	9.2	43.3	50.3	1.0	36.5	49.5	0.2
Broompark Road (04), Bankfoot	51.3	59.0	59.7	8.4	50.8	54.1	2.8	43.6	52.0	0.7
Cairneyhill Road (Coltrannie), Bankfoot	48.7	54.2	55.3	6.6	53.0	54.4	5.7	48.9	51.8	3.1
Cairneyhill Road (Highbury), Bankfoot	50.2	59.5	60.0	9.8	52.7	54.6	4.4	45.6	51.5	1.3
Cairneyhill Road (Unknown Property), Bankfoot	49.5	55.0	56.1	6.6	53.5	55.0	5.5	49.4	52.5	3.0
Highfield Place (Etive Mor), Bankfoot	54.8	61.2	62.1	7.3	52.3	56.8	2.0	43.6	55.1	0.3
Highfield Place (Lynreen), Bankfoot	56.7	62.9	63.8	7.1	52.1	58.0	1.3	44.3	57.0	0.3
Highfield Place (Mandaya), Bankfoot	50.9	59.3	59.9	9.0	49.9	53.5	2.6	40.3	51.3	0.4
Highfield Place (Tailwinds), Bankfoot	56.1	61.9	62.9	6.8	52.3	57.6	1.5	43.6	56.3	0.2
Highfield Place (The Rowans), Bankfoot	56.4	63.7	64.4	8.0	52.0	57.8	1.4	45.4	56.8	0.4
Highfield Place (Tummel), Bankfoot	52.1	60.0	60.6	8.5	50.5	54.4	2.3	40.9	52.4	0.3
Innewan Gardens (13), Bankfoot	58.1	61.7	63.3	5.2	39.6	58.1	0.0	31.6	58.1	0.0
Innewan Gardens (15), Bankfoot	60.4	61.8	64.2	3.8	41.2	60.5	0.1	34.1	60.4	0.0
Innewan Gardens (17), Bankfoot	60.1	62.3	64.3	4.2	40.1	60.1	0.0	31.4	60.1	0.0
Innewan Gardens (31), Bankfoot	56.8	65.3	65.9	9.1	38.0	56.9	0.1	29.6	56.8	0.0
Innewan Gardens (33), Bankfoot	60.7	61.5	64.1	3.4	41.0	60.8	0.1	33.3	60.7	0.0
Innewan Gardens (35), Bankfoot	61.3	61.0	64.2	2.9	38.8	61.3	0.0	31.9	61.3	0.0
Innewan Gardens (37), Bankfoot	62.0	61.7	64.8	2.8	42.5	62.0	0.0	34.7	62.0	0.0
Innewan Gardens (47), Bankfoot	62.9	62.2	65.6	2.7	47.7	63.0	0.1	39.8	62.9	0.0
Innewan Gardens (49), Bankfoot	63.6	63.0	66.3	2.7	47.7	63.7	0.1	39.5	63.6	0.0
Innewan Gardens (51), Bankfoot	63.8	62.9	66.4	2.6	47.1	63.9	0.1	38.7	63.8	0.0
Innewan Gardens (53), Bankfoot	64.6	63.6	67.1	2.5	47.6	64.7	0.1	39.5	64.6	0.0
Innewan Gardens (55), Bankfoot	65.3	64.0	67.7	2.4	47.9	65.4	0.1	38.8	65.3	0.0
Innewan Gardens (57), Bankfoot	65.6	66.6	69.1	3.5	48.4	65.6	0.0	38.9	65.6	0.0

## A9 Dualling: Luncarty to Pass of Birnam

DMRB Stage 3 Environmental Statement

### Appendix A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment

Receptor	Existing (db)	Scenario								
		4			5			6		
		Phase 1 - Surfacing			Phase 3 - Earthworks			Phase 3 - Drainage		
		L <sub>Aeq,T</sub> dB								
		Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase
Innewan Gardens (59), Bankfoot	65.9	66.3	69.1	3.2	50.2	66.1	0.2	41.6	66.0	0.1
Innewan Gardens (61), Bankfoot	66.0	64.6	68.4	2.4	48.3	66.1	0.1	39.5	66.0	0.0
Innewan Gardens (63), Bankfoot	65.9	66.9	69.5	3.6	48.0	66.0	0.1	39.8	66.0	0.1
Innewan Gardens (65), Bankfoot	66.7	73.4	74.2	7.5	51.9	66.8	0.1	42.5	66.7	0.0
Innewan Gardens (67), Bankfoot	66.7	73.4	74.2	7.5	51.4	66.8	0.1	42.5	66.7	0.0
Innewan Gardens (69), Bankfoot	66.9	73.3	74.2	7.3	51.1	67.0	0.1	42.8	66.9	0.0
Innewan Gardens (71), Bankfoot	66.7	71.4	72.7	6.0	50.4	66.8	0.1	43.2	66.7	0.0
Kirkhill Drive (03), Luncarty	51.6	58.9	59.6	8.0	60.9	61.4	9.8	32.3	51.7	0.1
Kirkhill Drive (04), Luncarty	51.7	59.5	60.2	8.5	61.8	62.2	10.5	40.0	52.0	0.3
Kirkhill Drive (05), Luncarty	52.3	64.5	64.8	12.5	62.0	62.4	10.1	40.9	52.6	0.3
Kirkhill Drive (06), Luncarty	52.2	63.2	63.5	11.3	62.0	62.4	10.2	42.9	52.7	0.5
Kirkhill Drive (07), Luncarty	52.3	64.0	64.3	12.0	61.9	62.3	10.0	43.0	52.8	0.5
Kirkhill Drive (08), Luncarty	53.0	64.5	64.8	11.8	61.8	62.3	9.3	44.5	53.6	0.6
Kirkhill Drive (09), Luncarty	52.0	65.3	65.5	13.5	61.7	62.1	10.1	43.7	52.6	0.6
Kirkhill Drive (10), Luncarty	51.1	65.3	65.5	14.4	64.0	64.2	13.1	41.9	51.6	0.5
Kirkhill Drive (11), Luncarty	53.9	66.2	66.4	12.5	62.0	62.6	8.7	39.4	54.0	0.1
Kirkhill Drive (12), Luncarty	54.2	66.7	66.9	12.7	61.8	62.5	8.3	43.0	54.5	0.3
Perth Road (Hilton Bungalow), Bankfoot	65.5	62.9	67.4	1.9	73.1	73.8	8.3	67.6	69.7	4.2
Perth Road (Hilton Cottage), Bankfoot	63.6	62.8	66.2	2.6	59.1	64.9	1.3	49.2	63.7	0.1
Unknown Road (Gelly), Bankfoot	55.5	55.5	58.5	3.0	51.6	57.0	1.5	50.8	56.8	1.3
Unknown Road, (Ardonachie), Bankfoot	50.3	54.9	56.2	5.9	53.0	54.9	4.6	45.8	51.6	1.3
Unknown Road, (Atholl Cottage), Luncarty	56.4	61.0	62.3	5.9	65.6	66.1	9.7	57.7	60.1	3.7
Unknown Road, (Broompark Cottage), Bankfoot	58.7	68.4	68.8	10.1	59.0	61.9	3.2	41.8	58.8	0.1
Unknown Road, (Den Cottage), Bankfoot	52.0	53.5	55.8	3.8	48.8	53.7	1.7	39.3	52.2	0.2
Unknown Road, (Newmill Cottages 01), Stanley	52.1	61.2	61.7	9.6	52.1	55.1	3.0	49.0	53.8	1.7
Unknown Road, (Ordiebank), Luncarty	56.0	62.4	63.3	7.3	64.8	65.3	9.3	57.5	59.8	3.8

## A9 Dualling: Luncarty to Pass of Birnam

DMRB Stage 3 Environmental Statement

### Appendix A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment

Table 3: Construction Noise Predictions (Scenarios 7-8)

Receptor	Existing (db)	Scenario					
		7			8		
		Phase 3 - Formation			Phase 3 - Surfacing		
		LAeq,T dB					
Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase		
A9 (Anvil Cottage), Bankfoot	66.9	41.5	66.9	0.0	48.0	67.0	0.1
A9 (Barn House), Bankfoot	66.3	41.8	66.3	0.0	45.9	66.4	0.1
A9 (Beach Lea House), Stanley	55.1	53.2	57.3	2.2	55.5	58.3	3.2
A9 (Bellfield), Bankfoot	64.6	53.5	64.9	0.3	57.2	65.3	0.7
A9 (Holm Cottage), Bankfoot	67.4	42.6	67.4	0.0	50.6	67.5	0.1
A9 (Loak), Bankfoot	50.9	45.8	52.1	1.2	51.2	54.1	3.2
A9 (Loakmill Farm), Bankfoot	59.5	57.4	61.6	2.1	61.0	63.3	3.8
A9 (Loakmill Steading), Bankfoot	58.3	41.6	58.4	0.1	51.7	59.2	0.9
A9 (Marlehall Farm Cottage), Luncarty	55.9	60.8	62.0	6.1	63.5	64.2	8.3
A9 (Newmill), Stanley	64.3	54.5	64.8	0.5	55.5	64.9	0.6
A9 (Northleys), Luncarty	49.7	46.4	51.4	1.7	58.3	58.9	9.2
A9 (Rosevale House), Stanley	54.9	53.8	57.4	2.5	54.5	57.7	2.8
A9 (Westwood), Bankfoot	62.1	45.3	62.1	0.1	55.2	62.9	0.9
B9099 (Brownlands Park Bungalow), Luncarty	52.9	45.1	53.6	0.7	53.2	56.1	3.2
B9099 (Cherry Cottage), Luncarty	45.6	40.0	46.7	1.1	44.0	47.9	2.3
B9099 (The Holdings 01), Luncarty	50.6	48.0	52.5	1.9	50.4	53.5	2.9
B9099 (The Holdings 01a), Luncarty	53.3	50.7	55.2	1.9	53.8	56.6	3.3
B9099 (The Holdings 02), Luncarty	51.2	48.5	53.1	1.9	51.2	54.2	3.0
B9099 (The Holdings 02a), Luncarty	51.1	48.5	53.0	1.9	51.2	54.2	3.1
B9099 (The Holdings 03), Luncarty	52.6	49.9	54.4	1.9	52.9	55.7	3.2
B9099 (The Holdings 04), Luncarty	53.3	50.4	55.1	1.8	53.7	56.5	3.2
B9099 Main Road (01), Luncarty	52.9	35.6	53.0	0.1	49.9	54.7	1.8
B9099 Main Road (02), Luncarty	53.2	37.3	53.3	0.1	49.6	54.8	1.6
B9099 Main Road (03), Luncarty	53.2	39.5	53.4	0.2	50.0	54.9	1.7
B9099 Main Road (04), Luncarty	53.7	38.2	53.8	0.1	50.2	55.3	1.6
B9099 Main Road (05), Luncarty	55.6	34.7	55.6	0.0	48.1	56.3	0.7
B9099 Main Road (06), Luncarty	55.9	34.7	55.9	0.0	48.2	56.6	0.7
B9099 Main Road (07), Luncarty	56.3	34.3	56.3	0.0	48.6	56.9	0.6
B9099 Main Road (Dalbruach), Luncarty	50.9	40.9	51.3	0.4	56.3	57.4	6.5
B9099 Main Road (Glen Helenbank), Luncarty	53.2	40.8	53.5	0.3	56.4	58.1	4.9
B9099 Main Road (Glengaur), Luncarty	52.3	42.9	52.7	0.4	54.5	56.5	4.2
B9099 Main Road (Highfield), Luncarty	52.6	44.1	53.1	0.6	55.7	57.4	4.9



## A9 Dualling: Luncarty to Pass of Birnam

DMRB Stage 3 Environmental Statement

### Appendix A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment

Receptor	Existing (db)	Scenario					
		7			8		
		Phase 3 - Formation			Phase 3 - Surfacing		
		LAeq,T dB					
		Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase
B9099 Main Road (Howe Cottage), Luncarty	51.5	42.2	52.0	0.5	54.5	56.3	4.8
B9099 Main Road (Tigh-na-Reilichear), Luncarty	53.1	35.7	53.2	0.1	49.8	54.8	1.7
B9099 Slip Road (Glenordie), Luncarty	55.7	59.4	60.9	5.2	59.8	61.2	5.5
B9099 Slip Road (Ordie Cottage), Luncarty	56.4	57.4	60.0	3.6	58.6	60.7	4.3
B9099 Slip Road (Ordie House), Luncarty	55.5	58.1	60.0	4.5	58.8	60.5	5.0
B9099 Slip Road (Ordie View), Luncarty	61.7	60.6	64.2	2.5	62.1	64.9	3.2
B9099 Slip Road (Unknown Property), Luncarty	56.7	48.2	57.3	0.6	58.1	60.5	3.8
Broompark Road (03), Bankfoot	49.3	38.0	49.6	0.3	43.1	50.2	0.9
Broompark Road (04), Bankfoot	51.3	44.5	52.1	0.8	50.8	54.1	2.8
Cairneyhill Road (Coltrannie), Bankfoot	48.7	50.4	52.6	3.9	53.3	54.6	5.9
Cairneyhill Road (Highbury), Bankfoot	50.2	46.3	51.7	1.5	52.8	54.7	4.5
Cairneyhill Road (Unknown Property), Bankfoot	49.5	50.9	53.3	3.8	53.9	55.2	5.7
Highfield Place (Etive Mor), Bankfoot	54.8	44.5	55.2	0.4	52.3	56.8	2.0
Highfield Place (Lynreen), Bankfoot	56.7	45.6	57.1	0.4	52.2	58.0	1.3
Highfield Place (Mandaya), Bankfoot	50.9	41.4	51.4	0.5	49.8	53.4	2.5
Highfield Place (Tailwinds), Bankfoot	56.1	44.7	56.4	0.3	52.3	57.6	1.5
Highfield Place (The Rowans), Bankfoot	56.4	46.5	56.9	0.5	52.1	57.8	1.4
Highfield Place (Tummel), Bankfoot	52.1	42.1	52.5	0.4	50.5	54.4	2.3
Innewan Gardens (13), Bankfoot	58.1	32.3	58.1	0.0	39.3	58.1	0.0
Innewan Gardens (15), Bankfoot	60.4	35.1	60.4	0.0	40.6	60.5	0.1
Innewan Gardens (17), Bankfoot	60.1	32.5	60.1	0.0	39.6	60.1	0.0
Innewan Gardens (31), Bankfoot	56.8	30.4	56.8	0.0	37.7	56.9	0.1
Innewan Gardens (33), Bankfoot	60.7	34.3	60.7	0.0	40.5	60.8	0.1
Innewan Gardens (35), Bankfoot	61.3	32.6	61.3	0.0	38.4	61.3	0.0
Innewan Gardens (37), Bankfoot	62.0	35.9	62.0	0.0	41.8	62.0	0.0
Innewan Gardens (47), Bankfoot	62.9	41.0	62.9	0.0	46.9	63.0	0.1
Innewan Gardens (49), Bankfoot	63.6	40.7	63.6	0.0	46.8	63.7	0.1
Innewan Gardens (51), Bankfoot	63.8	39.9	63.8	0.0	46.8	63.8	0.0
Innewan Gardens (53), Bankfoot	64.6	40.5	64.6	0.0	47.1	64.7	0.1
Innewan Gardens (55), Bankfoot	65.3	40.0	65.3	0.0	47.4	65.4	0.1
Innewan Gardens (57), Bankfoot	65.6	40.1	65.6	0.0	48.0	65.6	0.0
Innewan Gardens (59), Bankfoot	65.9	42.9	66.0	0.1	49.5	66.0	0.1
Innewan Gardens (61), Bankfoot	66.0	40.7	66.1	0.1	47.6	66.1	0.1

## A9 Dualling: Luncarty to Pass of Birnam

DMRB Stage 3 Environmental Statement

### Appendix A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment

Receptor	Existing (db)	Scenario					
		7			8		
		Phase 3 - Formation			Phase 3 - Surfacing		
		LAeq,T dB					
		Construction Noise	Total Noise	Noise Increase	Construction Noise	Total Noise	Noise Increase
Innewan Gardens (63), Bankfoot	65.9	41.0	66.0	0.1	47.1	66.0	0.1
Innewan Gardens (65), Bankfoot	66.7	43.8	66.7	0.0	51.2	66.8	0.1
Innewan Gardens (67), Bankfoot	66.7	43.9	66.7	0.0	50.7	66.8	0.1
Innewan Gardens (69), Bankfoot	66.9	44.2	66.9	0.0	50.4	67.0	0.1
Innewan Gardens (71), Bankfoot	66.7	44.6	66.7	0.0	51.2	66.8	0.1
Kirkhill Drive (03), Luncarty	51.6	32.5	51.7	0.1	54.2	56.1	4.5
Kirkhill Drive (04), Luncarty	51.7	40.9	52.0	0.3	54.9	56.6	4.9
Kirkhill Drive (05), Luncarty	52.3	41.1	52.6	0.3	55.6	57.3	5.0
Kirkhill Drive (06), Luncarty	52.2	43.2	52.7	0.5	55.2	57.0	4.8
Kirkhill Drive (07), Luncarty	52.3	43.2	52.8	0.5	55.4	57.1	4.8
Kirkhill Drive (08), Luncarty	53.0	44.8	53.6	0.6	55.9	57.7	4.7
Kirkhill Drive (09), Luncarty	52.0	43.8	52.6	0.6	56.9	58.1	6.1
Kirkhill Drive (10), Luncarty	51.1	41.9	51.6	0.5	57.7	58.6	7.5
Kirkhill Drive (11), Luncarty	53.9	39.8	54.0	0.1	57.5	59.1	5.2
Kirkhill Drive (12), Luncarty	54.2	43.6	54.5	0.3	58.0	59.5	5.3
Perth Road (Hilton Bungalow), Bankfoot	65.5	69.7	71.1	5.6	71.9	72.8	7.3
Perth Road (Hilton Cottage), Bankfoot	63.6	50.3	63.8	0.2	58.8	64.8	1.2
Unknown Road (Gelly), Bankfoot	55.5	51.1	56.8	1.3	51.8	57.0	1.5
Unknown Road, (Ardonachie), Bankfoot	50.3	47.2	52.0	1.7	52.8	54.7	4.4
Unknown Road, (Atholl Cottage), Luncarty	56.4	58.1	60.4	4.0	60.9	62.2	5.8
Unknown Road, (Broompark Cottage), Bankfoot	58.7	42.3	58.8	0.1	59.0	61.9	3.2
Unknown Road, (Den Cottage), Bankfoot	52.0	40.3	52.3	0.3	48.5	53.6	1.6
Unknown Road, (Newmill Cottages 01), Stanley	52.1	49.0	53.8	1.7	51.1	54.6	2.5
Unknown Road, (Ordiebank), Luncarty	56.0	57.7	59.9	3.9	61.2	62.3	6.3

## A9 Dualling: Luncarty to Pass of Birnam

DMRB Stage 3 Environmental Statement

### Appendix A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment

## 3 Assumed Construction Plant and Equipment

3.1.1 The following table details the assumed plant and equipment for various construction scenarios within the noise model. SPL is 'sound pressure level' and PWL is 'sound power level'.

**Table 4: Assumed Plant and Equipment**

Plant and equipment	No.	BS 5228 Ref	% On Time	Duration (weeks)	SPL @10m dB(A)	PWL dB(A)	Octave Band Levels dB							
							63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
<b>Earthworks and Ponds</b>														
Tracked Excavator - 35T	3	C2.14	100	90	79	107	85	78	77	77	73	71	68	63
Wheeled Excavator - 18T	2	C4.10	100	90	66	94	64	60	63	64	62	57	51	45
Tracked excavator	2	C2.3	100	90	78	106	80	83	76	73	72	70	69	66
Articulated dump truck drive by	10	C2.33	100	90	81	109	85	87	77	75	76	73	69	62
Articulated dump truck tipping fill	10	C2.32	100	90	74	102	80	76	73	70	69	66	63	58
Tracked Excavator - 25T	3	C2.19	100	90	77	105	95	84	79	73	70	68	64	57
Twin drum vibrating roller	8	C5.20	100	90	75	103	90	82	73	72	70	65	59	54
<b>Drainage</b>														
Tracked Excavator	2	C2.14	100	90	79	107	85	78	77	77	73	71	68	63
Site dumper idling	6	C2.32	100	90	74	102	80	76	73	70	69	66	63	58
Trench compactor	2	C5.28	100	90	77	105	82	80	76	73	70	70	63	59
<b>Formation</b>														
D6 Dozer	4	C2.12	100	45	81	107	85	74	76	73	72	78	62	56
Tracked Excavator	2	C2.14	100	45	79	102	85	78	77	77	73	71	68	63
Twin drum vibrating roller drive by	2	C5.20	100	45	75	105	90	82	73	72	70	65	59	54
<b>Surfacing, Planing and Pavement</b>														
Road Planer (1.5m wide)	2	C5.7	100	10	82	110	81	87	79	77	77	74	70	67
Wheeled Excavator	2	C4.10	100	90	66	94	64	60	63	64	62	57	51	45
Backhoe loader (JCB type)	3	C4.66	100	90	69	97	72	63	67	67	63	62	56	50
Twin drum vibrating roller (1.4m wide)	2	C5.25	100	90	75	103	80	75	72	75	69	66	62	57
Twin drum vibrating roller (2m wide)	4	C5.20	100	90	75	103	90	82	73	72	70	65	59	54

## A9 Dualling: Luncarty to Pass of Birnam

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### Appendix A15.4: Construction Noise Predictions and Assumed Construction Plant/Equipment

Plant and equipment	No.	BS 5228 Ref	% On Time	Duration (weeks)	SPL @10m dB(A)	PWL dB(A)	Octave Band Levels dB							
							63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Articulated dump truck drive by	2	C2.33	100	90	81	109	85	87	77	75	76	73	69	62
Articulated dump truck idling	2	C2.32	100	90	74	102	80	76	73	70	69	66	63	58
Bitumen spreader	4	C5.13	100	10	82	110	82	84	76	75	78	76	70	62
<b>Shochie Burn/Ordie Burn (Mainline) Culvert</b>														
B250 Tracked Rotary Rig	1	C3.14	100	2	83	111	84	92	81	80	78	76	68	61
Tracked mobile crane	1	C3.28	100	4	67	95	81	77	66	62	59	57	51	46
Tracked Excavator	1	C2.19	100	12	77	105	95	84	79	73	70	68	64	57
Concrete pump	1	C3.25	100	2	78	106	84	76	70	71	73	73	66	58
<b>Pitlandie Farm / TullyBelton/Coltrannie/Gelly Overbridge</b>														
Tracked mobile crane	1	C3.28	100	16	67	95	81	77	66	62	59	57	51	46
Tracked Excavator	1	C2.19	100	16	77	105	95	84	79	73	70	68	64	57
Concrete pump	1	C3.25	100	2	78	106	84	76	70	71	73	73	66	58
<b>Ordie Burn Culvert (Side Road)</b>														
Tracked mobile crane	1	C3.28	100	12	67	95	81	77	66	62	59	57	51	46
Tracked Excavator	1	C2.19	100	12	77	105	95	84	79	73	70	68	64	57
Concrete pump	1	C3.25	100	2	78	106	84	76	70	71	73	73	66	58
<b>Ardonachie Burn Culvert/Broom Park Retaining Wall/ Gelly Burn Culvert</b>														
B250 Tracked Rotary Rig	1	C3.14	100	4	83	111	84	92	81	80	78	76	68	61
Tracked mobile crane	1	C3.28	100	4	67	95	81	77	66	62	59	57	51	46
Tracked Excavator	1	C2.19	100	4	77	105	95	84	79	73	70	68	64	57
Concrete pump	1	C3.25	100	2	78	106	84	76	70	71	73	73	66	58
<b>Hunters Lodge Underbridge</b>														
B250 Tracked Rotary Rig	1	C3.14	100	4	83	111	84	92	81	80	78	76	68	61
Tracked mobile crane	1	C3.28	100	4	67	95	81	77	66	62	59	57	51	46
Tracked Excavator	1	C2.19	100	4	77	105	95	84	79	73	70	68	64	57
Concrete pump	1	C3.25	100	2	78	106	84	76	70	71	73	73	66	58