

## Appendix 13.1 Baseline Noise Measurement Results

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## Appendix 13.1 Baseline Noise Measurement Results

### LOCATION N1

#### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N1 (24 Hour Location) & associated short term monitoring locations

24 Hour Measurements - 06/01/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Dominant Noise Sources
N1 (24 Hour Location)	Ref: 127 William O'Connor			Bungalow	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	
L <sub>day</sub>	7:00:00	62	62	62	Constant N20 traffic audible dominant, regular traffic from the adjacent local road audible, regular birdsong and occasional dog barking audible
	8:00:00	64			
	9:00:00	62			
	10:00:00	60			
	11:00:00	60			
	12:00:00	60			
	13:00:00	60			
	14:00:00	62			
	15:00:00	62			
	16:00:00	62			
L <sub>evening</sub>	17:00:00	63	58	62	
	18:00:00	62			
	19:00:00	60			
	20:00:00	58			
L <sub>night</sub>	21:00:00	56	53	62	
	22:00:00	56			
	23:00:00	54			
	0:00:00	52			
	1:00:00	51			
	2:00:00	51			
	3:00:00	49			
	4:00:00	51			
5:00:00	53				
6:00:00	57				
					Comments

Note 1:  $L_{den} = 10 \times \log_{10} \left( \frac{1}{24} \left( 12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10} \right) \right)$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 06/01/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)</sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference		Property Type	Description of Noise Sources/ Comments
N1 (24 Hour Location)	Ref: 127 William O'Connor	10:00:00	64	62	63	63481	75797	Bungalow	Constant N20 traffic audible dominant, regular traffic from the adjacent local road audible, regular birdsong and occasional dog barking audible
		11:03:00	62						
		12:00:00	62						
N2	N/A	10:21:00	58	56	58	76752	61780	Bungalow	Constant N20 traffic audible, regular traffic from the adjacent local road audible, regular birdsong audible
		11:21:00	58						
		12:15:00	55						
N3	N/A	10:40:00	56	53	56	61650	77095	Bungalow	Constant N20 traffic audible, regular traffic from the adjacent local road audible, regular birdsong audible
		11:40:00	54						
		12:34:00	53						
N4	N/A	13:30:00	56	57	59	60469	78229	Bungalow	Constant N20 traffic audible, regular traffic from the adjacent local road audible, regular birdsong audible
		14:30:00	60						
		15:30:00	59						
N5	N/A	14:10:00	55	55	57	60496	78481	Bungalow	Constant N20 traffic audible, regular traffic from the adjacent local road audible, regular birdsong audible
		15:07:00	54						
		16:00:00	59						
N6	N/A	13:53:00	47	48	51	60450	78611	Bungalow	Constant N20 traffic audible, regular traffic from the adjacent local road audible, regular birdsong audible
		14:50:00	50						
		15:45:00	50						

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION N7**  
**M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N7 (24 Hour Location)**

24 Hour Measurements - 26/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Dominant Noise Sources
N7 (24 Hour Location)	(Ref: 109) Patrick Roche			Bungalow	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	51	55	55	
	8:00:00	49			
	9:00:00	48			
	10:00:00	48			
	11:00:00	49			
	12:00:00	60			
	13:00:00	61			
	14:00:00	-			
	15:00:00	-			
	16:00:00	-			
L <sub>evening</sub>	17:00:00	-	52	55	
	18:00:00	59			
	19:00:00	57			
	20:00:00	50			
L <sub>night</sub>	21:00:00	41	43	55	
	22:00:00	38			
	23:00:00	35			
	0:00:00	27			
	1:00:00	28			
	2:00:00	35			
	3:00:00	38			
	4:00:00	40			
5:00:00	46				
	6:00:00	50			

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor  
 Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*  
 N/A = Not applicable or details are unknown at this time

### LOCATION N10

#### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N10 (24 Hour Location) & associated short term monitoring locations

24 Hour Measurements - 07/01/2009

NSR Location Reference	NSR Location Details			Property Type
N10 (24 Hour Location 2)	(Ref: 94) Patrick Rogers			Bungalow
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>
L <sub>day</sub>	7:00:00	68	66	68
	8:00:00	68		
	9:00:00	68		
	10:00:00	66		
	11:00:00	65		
	12:00:00	65		
	13:00:00	64		
	14:00:00	65		
	15:00:00	65		
	16:00:00	68		
L <sub>evening</sub>	17:00:00	67	63	68
	18:00:00	67		
	19:00:00	65		
	20:00:00	64		
L <sub>night</sub>	21:00:00	62	59	68
	22:00:00	61		
	23:00:00	60		
	0:00:00	57		
	1:00:00	55		
	2:00:00	56		
	3:00:00	55		
	4:00:00	58		
5:00:00	61			
6:00:00	64			

Description of Dominant Noise Sources
Constant N20 traffic dominant
Comments

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 07/01/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)</sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N10(24 Hour Location)	(Ref: 94) Patrick Rogers	10:01:00	71	71	71	59737_84623	bungalow	Constant N20 traffic dominant
		11:00:00	72					
		12:00:00	72					
N9	N/A	10:19:00	84	83	81	59752_84444	bungalow	Constant N20 traffic dominant
		11:17:00	84					
		12:11:00	83					
N8	(Ref: 100) John O'Regan	10:37:00	69	68	68	59789_84401	bungalow	Constant N20 traffic dominant
		11:34:00	70					
		12:28:00	68					
N12	(Ref: 80) Fred & Sheila Gilbert	13:00:00	82	81	80	59398_85498	two-storey	Constant N20 traffic dominant
		14:01:00	81					
		15:00:00	83					
N11	(Ref 88) Arthur Keating	13:18:00	78	77	76	55628_85093	bungalow	Constant N20 traffic dominant
		14:18:00	77					
		15:17:00	78					
N13	(Ref 90) Katleen O'Sullivan	13:36:00	80	70	70	59675_85018	bungalow	Constant N20 traffic dominant
		14:37:00	67					
		15:35:00	67					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

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N/A = Not applicable or details are unknown at this time

### LOCATION N17

#### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N17 (24 Hour Location) & associated short term monitoring locations

24 Hour Measurements - 08/01/2009

NSR Location Reference	NSR Location Details			Property Type
N17 (24 Hour Location)	(Ref 48) Irene Dorgan			Bungalow
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>
L <sub>day</sub>	7:00:00	68	69	69
	8:00:00	69		
	9:00:00	69		
	10:00:00	67		
	11:00:00	67		
	12:00:00	67		
	13:00:00	67		
	14:00:00	67		
	15:00:00	68		
	16:00:00	69		
L <sub>evening</sub>	17:00:00	68	65	69
	18:00:00	73		
	19:00:00	66		
	20:00:00	65		
L <sub>night</sub>	21:00:00	66	60	69
	22:00:00	62		
	23:00:00	60		
	0:00:00	58		
	1:00:00	56		
	2:00:00	56		
	3:00:00	57		
	4:00:00	59		
5:00:00	61			
	6:00:00	65		

Description of Dominant Noise Sources
Typical noise sources include: N20 traffic noise and dominant, distant chainsaw audible during set-up, birdsong
Comments
None

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 08/01/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N17 (24 Hour Location)	(Ref 48) Irene Dorgan	10:04	69	65	66	58116_91564	two-storey	N20 traffic noise and dominant, distant chainsaw audible, birdsong
		11:00	64					
		12:05	66					
N19	N/A	10:23	56	54	56	58122_91978	bungalow	Distant N20 traffic audible, occasion car passing on local road, farm animals audible in surrounding farm
		11:22	55					
		12:22	54					
N18	(Ref 50) Patrick, William & Loan Jones	10:39	55	55	57	58058_91794	two-storey	Distant N20 traffic audible, occasion car passing on local road, farm animals audible in surrounding farm
		11:38	56					
		12:39	56					
N16	N/A	13:03	59	54	57	58008_90942	two-storey	Distant N20 traffic audible, occasion car passing on local road, bird song, distant train movement audible
		14:00	52					
		15:00	55					
N15	N/A	13:21	54	53	55	58030_90701	bungalow	Distant N20 traffic audible, occasion car passing on local road, bird song, distant train movement audible
		14:16	52					
		15:16	56					
N14	N/A	13:37	52	53	55	58078_90507	bungalow	Distant N20 traffic audible, occasion car passing on local road, bird song, distant train movement audible
		14:34	53					
		15:31	56					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

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N/A = Not applicable or details are unknown at this time

**LOCATION N20****M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N20 (24 Hour Location) & associated short term monitoring locations**

24 Hour Measurements - 20/01/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Dominant Noise Sources
N20 (24 Hour Location)	(Ref: 40) Conor Hurlihy			Two storey	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	52	50	53	
	8:00:00	52			
	9:00:00	53			
	10:00:00	52			
	11:00:00	49			
	12:00:00	47			
	13:00:00	49			
	14:00:00	47			
	15:00:00	48			
	16:00:00	50			
L <sub>evening</sub>	17:00:00	51	47		
	18:00:00	52			
	19:00:00	49			
	20:00:00	48			
L <sub>night</sub>	21:00:00	47	45		
	22:00:00	44			
	23:00:00	44			
	0:00:00	41			
	1:00:00	41			
	2:00:00	43			
	3:00:00	41			
	4:00:00	44			
5:00:00	48				
6:00:00	50				

Distant N20 traffic noise (constant) &amp; birdsong dominant, occasional passing car on local road, rustling of leaves.

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)where : L<sub>day</sub> = 07:00 to 19:00 hours  
L<sub>evening</sub> = 19:00 to 23:00 hours  
L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 20/01/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N20 (24 Hour Location)	(Ref: 40) Conor Hurlihy	10:01	51	48	51	57904_93400	two-storey	Distant N20 traffic noise (constant) & birdsong dominant, occasional passing car on local road, rustling of leaves.
		11:01	49					
		12:00	47					
N21	N/A (New property not shown on landowner map)	10:19	50	48	51	58065_93394	bungalow	Distant N20 traffic noise (constant) & birdsong dominant, occasional passing car on local road, rustling of leaves.
		11:18	53					
		12:17	45					
N22	N/A (New property not shown on landowner map)	10:38	49	47	50	58080_93393	bungalow	Distant N20 traffic noise (constant) & birdsong dominant, occasional passing car on local road, rustling of leaves.
		11:35	48					
		12:35	47					
N23	(Ref: 39) Denis Noel Cahill	13:00	49	49	52	57932_93412	bungalow	Distant N20 traffic noise (constant) & birdsong dominant, occasional passing car on local road, rustling of leaves.
		14:07	46					
		15:00	54					
N24	(Ref: 41) Billy Cahill	13:16	49	48	51	57674_93418	bungalow	Distant N20 traffic noise (constant) & birdsong dominant, occasional passing car on local road, rustling of leaves.
		14:23	47					
		15:16	52					
N25	(Ref: 33) Tadgh Griffin	13:32	53	50	53	57481_93397	bungalow	Distant N20 traffic noise (constant) & birdsong dominant, occasional passing car on local road, rustling of leaves.
		14:40	46					
		15:30	55					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION N19****M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N19 (24 Hour Location 4) & associated short term monitoring locations**

24 Hour Measurements - 26/01/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Dominant Noise Sources
N26 (24hr location)	Patrick & Anne Lane (ref. 23)			Two storey	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	52	50	53	
	8:00:00	52			
	9:00:00	53			
	10:00:00	52			
	11:00:00	49			
	12:00:00	47			
	13:00:00	49			
	14:00:00	47			
	15:00:00	48			
	16:00:00	50			
L <sub>evening</sub>	17:00:00	51	47	53	
	18:00:00	52			
	19:00:00	49			
	20:00:00	48			
L <sub>night</sub>	21:00:00	47	45	53	
	22:00:00	44			
	23:00:00	44			
	0:00:00	41			
	1:00:00	41			
	2:00:00	43			
	3:00:00	41			
	4:00:00	44			
5:00:00	48				
6:00:00	50				

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 26/01/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N26 (24hr location)	Patrick & Anne Lane (ref. 23)	11:06	62	61	62	58654_98096	two-storey	Regular traffic on local road dominant
		12:00	63					
		13:00	62					
N27	N/A	11:23	64	64	65	58589_98041	bungalow	Regular traffic on local road dominant
		12:17	66					
		13:16	65					
N28	N/A	11:41	65	68	68	58402_98019	bungalow	Regular traffic on local road dominant
		12:32	66					
		13:33	75					
N29	Michael Lynch (ref 20)	14:00	64	68	69	58805_98219	bungalow	Regular traffic on local road dominant
		15:00	71					
		16:00	73					
N30	Tim O'Regan (ref 19)	14:16	70	70	70	58885_98222	bungalow	Regular traffic on local road dominant
		15:19	72					
		16:16	72					
N31	N/A	14:33	75	72	72	59010_98246	bungalow	Regular traffic on local road dominant
		15:35	69					
		16:31	75					

Note 2:  $L_{A10 (18hour)} = (\text{average of three } L_{10} \text{ measurements}) - 1$

Note 3:  $L_{den} = 0.86 \times L_{A10(18hr)} + 9.86\text{dB}$

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION N32****M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N32 (24 Hour Location) & associated short term monitoring locations**

24 Hour Measurements - 27/01/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Dominant Noise Sources
N32 (24hr location)	Denis & Mary O'Keeffe (ref 14)			Bungalow	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	60	61	61	
	8:00:00	62			
	9:00:00	60			
	10:00:00	60			
	11:00:00	60			
	12:00:00	59			
	13:00:00	60			
	14:00:00	60			
	15:00:00	61			
	16:00:00	62			
L <sub>evening</sub>	17:00:00	62	58	61	
	18:00:00	61			
	19:00:00	59			
	20:00:00	58			
L <sub>night</sub>	21:00:00	59	49	61	
	22:00:00	53			
	23:00:00	53			
	0:00:00	50			
	1:00:00	39			
	2:00:00	44			
	3:00:00	44			
	4:00:00	38			
5:00:00	49				
6:00:00	54				

Note 1:  $L_{den} = 10 \times \log_{10} \left( \frac{1}{24} \left( 12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10} \right) \right)$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 27/01/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)</sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N32 (24hr location)	Denis & Mary O'Keeffe (ref 14)	10:00	62.40	62	63	58194_99834	Bungalow	Regular N72 & N73 traffic dominant. Birdsong
		11:00	64.50					
		12:01	61.50					
N33	N/A	10:16	73.00	72	72	58089_99808	Bungalow	Regular N72 & N73 traffic dominant. Birdsong
		11:17	74.20					
		12:19	73.10					
N34	N/A	10:37	65.20	69	69	58037_99781	Bungalow	Regular N72 & N73 traffic dominant. Birdsong
		11:35	75.10					
		12:35	70.00					
N35	N/A	13:00	71.90	71	71	58007_99909	Bungalow	Regular N72 & N73 traffic dominant. Birdsong
		14:02	70.40					
		15:00	72.50					
N36	N/A	13:16	72.60	72	72	57934_99835	Bungalow	Regular N72 & N73 traffic dominant. Birdsong
		14:17	75.40					
		15:15	70.70					
N37	N/A	13:33	72.10	71	71	58630_99937	Bungalow	Regular N72 & N73 traffic dominant. Birdsong
		14:35	69.50					
		15:31	73.70					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION N39****M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N39 (24 Hour Location) & associated short term monitoring locations**

24 Hour Measurements - 26/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N39 (24hr Location)	Ref 165: Michael & Margret O'Donovan			Bungalow	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	46	54	56	
	8:00:00	51			
	9:00:00	54			
	10:00:00	52			
	11:00:00	47			
	12:00:00	50			
	13:00:00	57			
	14:00:00	55			
	15:00:00	53			
	16:00:00	58			
L <sub>evening</sub>	17:00:00	56	52	56	
	18:00:00	57			
	19:00:00	52			
	20:00:00	56			
L <sub>night</sub>	21:00:00	46	48	56	
	22:00:00	45			
	23:00:00	46			
	0:00:00	42			
	1:00:00	41			
	2:00:00	40			
	3:00:00	32			
	4:00:00	47			
5:00:00	39				
6:00:00	56				

Occasional passing cars, leaves rustling, House dog barking regularly.

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)where : L<sub>day</sub> = 07:00 to 19:00 hours  
L<sub>evening</sub> = 19:00 to 23:00 hours  
L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 26/03/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N38	Ref 162: William O'Connor	10:00	42	46	49	-	Bungalow	Occasional passing cars, leaves rustling, House dog barking regularly.
		11:00	50					
		12:00	49					
N39 (24hr Location)	Ref 165: Michael & Margret O'Donovan	10:17	51	50	53	56936_00656	Bungalow	Occasional passing cars, leaves rustling, birdsong
		11:16	56					
		12:22	47					
N40	N/A	10:37	50	51	54	-	Bungalow	Occasional passing cars, leaves rustling, birdsong
		11:38	51					
		12:38	56					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

## LOCATION MALLOW

### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Mallow (24 Hour Location)

24 Hour Measurements - 26/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N41	Mallow Town Reference Point			two storey	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	62.20	66	68	
	8:00:00	63.50			
	9:00:00	66.00			
	10:00:00	67.30			
	11:00:00	66.60			
	12:00:00	66.30			
	13:00:00	66.40			
	14:00:00	66.00			
	15:00:00	65.60			
	16:00:00	65.70			
L <sub>evening</sub>	17:00:00	65.20	64	68	
	18:00:00	64.80			
	19:00:00	65.60			
	20:00:00	64.90			
L <sub>night</sub>	21:00:00	64.00	59	68	
	22:00:00	62.40			
	23:00:00	61.20			
	0:00:00	61.10			
	1:00:00	59.80			
	2:00:00	58.20			
	3:00:00	56.60			
	4:00:00	57.10			
5:00:00	57.40				
	6:00:00	58.60			

Regular N20 traffic passing dominant noise source

Monitoring was undertaken at the Cork County Council - Annabella Office.

Note 1:  $L_{den} = 10 \times \log_{10} \left( \frac{1}{24} \left( 12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10} \right) \right)$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

### LOCATION N42

#### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N42 (24 Hour Location) & associated short term monitoring locations

24 Hour Measurements - 28/01/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N42 (24hr Location)	(Ref: 2) Gertrude Hayes			Bungalow	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	61	61	62	
	8:00:00	63			
	9:00:00	63			
	10:00:00	62			
	11:00:00	60			
	12:00:00	57			
	13:00:00	55			
	14:00:00	60			
	15:00:00	62			
	16:00:00	62			
L <sub>evening</sub>	17:00:00	61	58	62	
	18:00:00	61			
	19:00:00	61			
	20:00:00	57			
L <sub>night</sub>	21:00:00	57	52	62	
	22:00:00	56			
	23:00:00	56			
	0:00:00	53			
	1:00:00	47			
	2:00:00	46			
	3:00:00	44			
	4:00:00	45			
5:00:00	49				
6:00:00	57				

Description of Noise Sources
Regular traffic on R581 road, dog barking, birdsong
Comments

Note 1:  $L_{den} = 10 \times \log_{10} \left( \frac{1}{24} \left( 12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10} \right) \right)$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 28/01/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N42 (24hr Location)	(Ref: 2) Gertrude Hayes	10:01	66	64	65	56635_04905	bungalow	Regular traffic on R581 road, dog barking, birdsong
		11:00	63					
		12:00	66					
N43	N/A	10:19	54	55	57	56518_04586	bungalow	Regular traffic on R581 road, dog barking, birdsong
		12:17	60					
		12:11	53					
N44	N/A	10:37	60	60	61	56571_04835	bungalow	Regular traffic on R581 road, dog barking, birdsong
		11:34	59					
		12:28	63					
N46	N/A	13:00	68	69	69	56403_04756	two-storey	Regular traffic on R581 road, dog barking, birdsong
		14:01	71					
		15:00	70					
N45	N/A	13:18	71	72	72	-	bungalow	Regular traffic on R581 road, dog barking, birdsong
		14:18	73					
		15:17	75					
N47	N/A	13:36	71	71	71	-	bungalow	Regular traffic on R581 road, dog barking, birdsong
		14:37	73					
		15:35	72					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION N48****M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N48 (24 Hour Location) & associated short term monitoring locations***24 Hour Measurements - 23/03/2009*

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N48 (24hr location)	Padraig Curtin (ref 7046)			Two storey	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	49	52	49	
	8:00:00	51			
	9:00:00	50			
	10:00:00	50			
	11:00:00	49			
	12:00:00	48			
	13:00:00	49			
	14:00:00	54			
	15:00:00	52			
	16:00:00	53			
L <sub>evening</sub>	17:00:00	56	44	49	
	18:00:00	51			
	19:00:00	49			
	20:00:00	43			
L <sub>night</sub>	21:00:00	39	28	49	
	22:00:00	31			
	23:00:00	29			
	0:00:00	28			
	1:00:00	28			
	2:00:00	28			
	3:00:00	28			
	4:00:00	28			
5:00:00	28				
6:00:00	27				

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 10/02/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N48 (24hr location)	Padraig Curtin (ref 7046)	10:00	44	44	48	56494_07889	2-storey	Occasional local traffic. Farm machinery movement
		11:25	44					
		12:15	49					
N49	N/A	10:20	47	48	51	-	2-storey	Occasional local traffic. Farm machinery movement
		11:42	47					
		12:31	52					
N50	N/A	10:40	55	56	58	56516_07833	2-storey	Occasional local traffic. Farm machinery movement
		11:58	62					
		12:46	53					
N51	N/A	13:06	47	49	52	55725_07621	2-storey	Occasional local traffic. Dog barking
		14:15	53					
		15:17	50					
N52	N/A	13:23	72	68	68	55815_07593	2-storey	Occasional local traffic. Dog barking
		14:32	46					
		15:34	88					
N53	N/A	13:55	48	46	49	55515_07708	2-storey	Occasional local traffic. Dog barking
		14:56	44					
		15:53	48					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION BUTTEVANT**  
**M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Buttevant (24 Hour Location)**

24 Hour Measurements - 27/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N54	Buttevant Town Reference Point			N/A	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	66	68	70	
	8:00:00	68			
	9:00:00	68			
	10:00:00	68			
	11:00:00	68			
	12:00:00	68			
	13:00:00	68			
	14:00:00	67			
	15:00:00	67			
	16:00:00	70			
L <sub>evening</sub>	17:00:00	70	67	70	
	18:00:00	70			
	19:00:00	68			
	20:00:00	67			
L <sub>night</sub>	21:00:00	66	61	70	
	22:00:00	65			
	23:00:00	63			
	0:00:00	61			
	1:00:00	61			
	2:00:00	59			
	3:00:00	59			
	4:00:00	60			
5:00:00	60				
6:00:00	64				

Note 1:  $L_{den} = 10 \times \log_{10} \left( \frac{1}{24} \left( 12 \times 10^{\frac{L_{day}}{10}} + 4 \times 10^{\frac{5 + L_{evening}}{10}} + 8 \times 10^{\frac{10 + L_{night}}{10}} \right) \right)$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

### LOCATION N59

#### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N59 (24 Hour Location) & associated short term monitoring locations

24 Hour Measurements - 23/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N59 (24hr location)	Debbie Fodder/ Martin Buckley (ref 7180)			Two storey	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	47	47	49	
	8:00:00	44			
	9:00:00	44			
	10:00:00	44			
	11:00:00	47			
	12:00:00	47			
	13:00:00	48			
	14:00:00	47			
	15:00:00	47			
	16:00:00	54			
L <sub>evening</sub>	17:00:00	50	42	49	
	18:00:00	48			
	19:00:00	44			
	20:00:00	43			
L <sub>night</sub>	21:00:00	41	42	49	
	22:00:00	39			
	23:00:00	38			
	0:00:00	36			
	1:00:00	35			
	2:00:00	35			
	3:00:00	36			
	4:00:00	41			
5:00:00	45				
6:00:00	48				

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor  
 Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*  
 N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 11/02/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N59 (24hr location)	Debbie Fodder/ Martin Buckley (ref 7180)	10:04	53.40	47	51	554665_10099	2-story	Occasional traffic on local road. Birdsong
		11:01	46.40					
		12:06	45.50					
N58	N/A	10:24	52.30	46	50	55361_09994	2-story	Occasional traffic on local road. Birdsong
		11:22	45.20					
		12:24	44.60					
N60	N/A	10:41	43.40	54	57	55531_10189	2-story	Occasional traffic on local road. Birdsong
		11:42	85.50					
		12:44	37.10					
N57	N/A	13:17	93.60	73	72	55749_09165	Bungalow	Occasional traffic on local road. Birdsong
		14:19	70.30					
		15:12	57.20					
N55	N/A	13:37	68.90	54	56	55505_09068	2-story	Occasional traffic on local road. Birdsong
		14:36	51.40					
		15:31	43.70					
N56	N/A	14:01	85.10	69	69	55328_09220	2-story	Occasional traffic on local road. Birdsong
		14:54	60.60					
		15:48	62.90					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION N61****M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N61 (24 Hour Location) & associated short term monitoring locations**

24 Hour Measurements - 23/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N61 (24hr location)	Michelle & Ger Hallihan			Two storey	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	52	56	57	
	8:00:00	55			
	9:00:00	56			
	10:00:00	56			
	11:00:00	53			
	12:00:00	52			
	13:00:00	54			
	14:00:00	54			
	15:00:00	56			
	16:00:00	60			
L <sub>evening</sub>	17:00:00	60	54	57	
	18:00:00	59			
	19:00:00	56			
	20:00:00	55			
L <sub>night</sub>	21:00:00	52	48	57	
	22:00:00	50			
	23:00:00	47			
	0:00:00	48			
	1:00:00	46			
	2:00:00	41			
	3:00:00	47			
	4:00:00	44			
5:00:00	50				
6:00:00	53				

Note 1:  $L_{den} = 10 \times \log_{10} \left( \frac{1}{24} \left( 12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10} \right) \right)$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 12/02/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N61 (24hr location)	Michelle & Ger Hallihan	10:04	47	49	52	54911_11284	Dormer bungalow	Occasional traffic on local access road. Distant N20 traffic audible. Birdsong.
		11:06	50					
		12:05	52					
N62	N/A	10:23	49	49	52	54656_11281	Bungalow	Occasional traffic on local access road. Distant N20 traffic audible. Birdsong.
		11:23	50					
		12:23	52					
N63	N/A	10:45	59	59	60	54956_11270	2-storey	Occasional traffic on local access road. Distant N20 traffic audible. Birdsong. Construction machinery in operation in nearby house.
		11:44	58					
		12:46	63					
N64	N/A	13:06	46	49	52	54986_11380	Bungalow	Occasional traffic on local access road. Distant N20 traffic audible. Birdsong.
		14:03	52					
		15:07	53					
N65	N/A	13:24	48	50	53	55032_11584	Bungalow	Occasional traffic on local access road. Distant N20 traffic audible. Birdsong.
		14:24	51					
		15:24	53					
N66	N/A	13:43	46	49	52	55046_11678	Bungalow	Occasional traffic on local access road. Distant N20 traffic audible. Birdsong.
		14:43	51					
		15:42	52					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

### LOCATION N67

#### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N67 (24 Hour Location) & associated short term monitoring locations

24 Hour Measurements - 24/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N67 (24hr location)	William Meaney (ref 7178)			Two storey	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	55	57	61	
	8:00:00	55			
	9:00:00	56			
	10:00:00	57			
	11:00:00	59			
	12:00:00	56			
	13:00:00	55			
	14:00:00	55			
	15:00:00	55			
	16:00:00	62			
L <sub>evening</sub>	17:00:00	57	52	61	
	18:00:00	54			
	19:00:00	52			
	20:00:00	51			
L <sub>night</sub>	21:00:00	53	54	61	
	22:00:00	53			
	23:00:00	55			
	0:00:00	56			
	1:00:00	54			
	2:00:00	55			
	3:00:00	54			
	4:00:00	51			
5:00:00	52				
6:00:00	55				

Regular N20 traffic noise & occasional local road traffic

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor  
 Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*  
 N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 13/02/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N67 (24hr location)	William Meaney (ref 7178)	10:05	58	55	57	54143_14299	2-storey	Regular N20 traffic noise & occasional local road traffic
		11:06	55					
		12:04	56					
N68	N/A	10:25	63	62	63	54518_13866	Bungalow	Regular N20 traffic noise & occasional local road traffic
		11:28	62					
		12:28	65					
N69	N/A	10:47	64	64	65	54191_13943	Bungalow	Regular N20 traffic noise & occasional local road traffic
		11:45	65					
		12:46	65					
N70	N/A	13:05	50	50	53	-	2-storey	Regular N20 traffic noise & occasional local road traffic
		14:06	51					
		15:06	51					
N71	N/A	13:26	54	50	53	54697_14219	Dormer bungalow	Regular N20 traffic noise & occasional local road traffic
		14:25	50					
		15:25	48					
N72	N/A	13:46	48	47	50	54618_14486	2-storey	Regular N20 traffic noise & occasional local road traffic
		14:45	49					
		15:43	47					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

### LOCATION N76

#### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N76 (24 Hour Location) & associated short term monitoring locations

24 Hour Measurements - 26/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N76 (24hr location)	Anita Codd			Bungalow	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	53	56	57	
	8:00:00	58			
	9:00:00	52			
	10:00:00	53			
	11:00:00	55			
	12:00:00	57			
	13:00:00	58			
	14:00:00	57			
	15:00:00	54			
	16:00:00	54			
L <sub>evening</sub>	17:00:00	57	52	57	
	18:00:00	55			
	19:00:00	53			
	20:00:00	54			
L <sub>night</sub>	21:00:00	50	48	57	
	22:00:00	49			
	23:00:00	49			
	0:00:00	45			
	1:00:00	44			
	2:00:00	41			
	3:00:00	42			
	4:00:00	43			
5:00:00	50				
6:00:00	53				

Constant N20 traffic audible. Occasional/ regular traffic on local road. Birdsong. Occasional dog barking

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements 17/02/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)</sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N76 (24hr location)	Anita Codd	10:00	57.20	55	57	54347_17786	Bungalow	Constant N20 traffic audible. Occasional/ regular traffic on local road. Birdsong. Occasional dog barking
		11:00	56.70					
		12:00	54.70					
N77	Ref 7181	10:18	54.10	53	55	53999_17845	2-storey	Constant N20 traffic audible. Occasional/ regular traffic on local road. Birdsong. Occasional dog barking
		11:18	58.00					
		12:17	49.20					
N78	Eileen Buick	10:38	51.50	51	54	54007_17846	Bungalow	Constant N20 traffic audible. Occasional/ regular traffic on local road. Birdsong. Occasional dog barking
		11:34	51.00					
		12:35	53.40					
N75	Ref 7206	13:01	52.10	50	53	-	Bungalow	Distant N20 traffic audible. Occasional/ regular traffic on local road. Birdsong. Occasional dog barking
		14:00	53.50					
		15:00	48.40					
N74	N/A	13:17	51.20	50	52	54884_16766	2-storey	Distant N20 traffic audible. Occasional/ regular traffic on local road. Birdsong. Occasional dog barking
		14:17	51.80					
		15:16	48.70					
N73	N/A	13:36	50.20	48	51	-	Bungalow	Distant N20 traffic audible. Occasional/ regular traffic on local road. Birdsong. Occasional dog barking
		14:33	50.00					
		15:32	47.70					

Note 2:  $L_{A10 (18hour)} = (\text{average of three } L_{10} \text{ measurements}) - 1$

Note 3:  $L_{den} = 0.86 \times L_{A10(18hr)} + 9.86\text{dB}$

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

### LOCATION N82

#### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N82 (24 Hour Location) & associated short term monitoring locations

24 Hour Measurements - 25/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N82 (24hr location)	Derek Curtain (Ref: 7175)			Two storey	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	58	59	59	
	8:00:00	60			
	9:00:00	58			
	10:00:00	57			
	11:00:00	57			
	12:00:00	58			
	13:00:00	61			
	14:00:00	57			
	15:00:00	60			
	16:00:00	60			
L <sub>evening</sub>	17:00:00	57	52	59	
	18:00:00	56			
	19:00:00	55			
	20:00:00	52			
L <sub>night</sub>	21:00:00	51	50	59	
	22:00:00	50			
	23:00:00	46			
	0:00:00	53			
	1:00:00	41			
	2:00:00	42			
	3:00:00	42			
	4:00:00	46			
5:00:00	49				
6:00:00	56				

Description of Noise Sources
Occasional traffic on local road, distant traffic noise audible from the N20 dominant. Birdsong
Comments

Note 1:  $L_{den} = 10 \times \log_{10} \left( \frac{1}{24} \left( 12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10} \right) \right)$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements 18/02/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N82 (24hr location)	Derek Curtain (Ref: 7175)	10:07	48	46	49	52994 20617	dormer bungalow	Occasional traffic on local road, distant traffic noise audible from the N20 dominant. Birdsong
		11:08	47					
		12:06	45					
N83	N/A	10:28	49	49	52	52981 2084	2-storey	Occasional traffic on local road, occasional farm equipment in operation. Birdsong, dog barking occasionally
		11:27	50					
		12:25	50					
N84	N/A	10:50	47	43	46	52575 20488	bungalow	Occasional traffic on local road, occasional farm equipment in operation. Birdsong, dog barking occasionally
		11:47	42					
		12:44	42					
N81	N/A	13:10	55	57	59	53087 19557	bungalow	Regular traffic on local road dominant. Birdsong
		14:06	55					
		15:02	64					
N80	N/A	13:27	65	58	60	53373 19613	bungalow	Regular traffic on local road dominant. Birdsong
		14:24	54					
		15:21	60					
N79	N/A	13:47	57	58	60	53471 19604	bungalow	Regular traffic on local road dominant. Birdsong
		14:42	58					
		15:41	63					

Note 2:  $L_{A10(18hour)} = (\text{average of three } L_{10} \text{ measurements}) - 1$

Note 3:  $L_{den} = 0.86 \times L_{A10(18hr)} + 9.86\text{dB}$

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

### LOCATION N85

#### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N85 (24 Hour Location) & associated short term monitoring locations

24 Hour Measurements - 25/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N85 (24 Hour Location)	(Ref: 7104) Sean Quinn			Two storey	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	57	58	60	
	8:00:00	58			
	9:00:00	56			
	10:00:00	56			
	11:00:00	57			
	12:00:00	59			
	13:00:00	60			
	14:00:00	57			
	15:00:00	61			
	16:00:00	59			
L <sub>evening</sub>	17:00:00	59	54	60	
	18:00:00	57			
	19:00:00	56			
	20:00:00	55			
L <sub>night</sub>	21:00:00	53	52	60	
	22:00:00	53			
	23:00:00	50			
	0:00:00	53			
	1:00:00	49			
	2:00:00	45			
	3:00:00	47			
4:00:00	50				
5:00:00	53				
6:00:00	56				

Regular R515 traffic, birdsong

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor  
 Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*  
 N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 19/02/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N85 (24 Hour Location)	(Ref: 7104) Sean Quinn	10:00	70	73	72	51295_22295	Two-storey	Regular R515 traffic, birdsong
		11:00	76					
		12:00	75					
N86	N/A	10:19	78	78	77	51260_22234	Bungalow	Regular R515 traffic, birdsong, occasional dog barking
		11:16	79					
		12:16	79					
N87	N/A	10:41	75	73	72	51391_22322	Two-storey	Regular R515 traffic, birdsong
		11:34	73					
		12:35	73					
N88	N/A	13:06	76	75	74	51547_22400	Bungalow	Regular R515 traffic, birdsong
		14:09	75					
		15:05	77					
N89	N/A	13:28	63	62	63	51722_22472	Dormer bungalow	Regular R515 traffic, birdsong, distant machinery operating between 2 & 4pm
		14:27	63					
		15:23	64					
N90	N/A	13:48	76	75	74	51929_22556	Dormer bungalow	Regular R515 traffic, birdsong
		14:47	75					
		15:39	76					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

## LOCATION CHARLEVILLE

### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Charleville (24 Hour Location)

24 Hour Measurements - 27/02/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N91(24hr Location)	Charleville Town Reference Point			N/A	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	48.60	51	51	
	8:00:00	48.10			
	9:00:00	48.30			
	10:00:00	48.70			
	11:00:00	59.80			
	12:00:00	50.00			
	13:00:00	47.00			
	14:00:00	48.00			
	15:00:00	46.30			
	16:00:00	46.30			
L <sub>evening</sub>	17:00:00	49.90	43	51	
	18:00:00	47.30			
	19:00:00	43.60			
	20:00:00	43.20			
L <sub>night</sub>	21:00:00	42.60	42	51	
	22:00:00	42.30			
	23:00:00	43.10			
	0:00:00	41.50			
	1:00:00	39.60			
	2:00:00	41.30			
	3:00:00	41.90			
	4:00:00	39.80			
5:00:00	41.00	45.30	51		
6:00:00	45.30				

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION N92****M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N92 (24 Hour Location) & associated short term monitoring locations**

24 Hour Measurements - 25/02/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N92 (24 Hour Location)	John Meade			Bungalow	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	55	56	57	
	8:00:00	57			
	9:00:00	55			
	10:00:00	56			
	11:00:00	55			
	12:00:00	56			
	13:00:00	59			
	14:00:00	56			
	15:00:00	58			
	16:00:00	59			
L <sub>evening</sub>	17:00:00	54	50		
	18:00:00	56			
	19:00:00	53			
	20:00:00	48			
L <sub>night</sub>	21:00:00	50	49		
	22:00:00	47			
	23:00:00	42			
	0:00:00	52			
	1:00:00	40			
	2:00:00	41			
	3:00:00	42			
	4:00:00	43			
5:00:00	51				
6:00:00	55				

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 25/02/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N92 (24 Hour Location)	John Meade	10:01	41.7	47	50	-	Bungalow	Occasional passing traffic, rustling of leaves, birdsong
		11:00	51.3					
		12:00	49.7					
N93	John O'Donnell	10:21	49.9	51	54	-	Bungalow	Occasional passing traffic, rustling of leaves, birdsong
		11:19	55.5					
		12:21	50.6					
N94	ref 7198	10:40	48.7	50	52	-	Bungalow	Occasional passing traffic, rustling of leaves, birdsong
		11:37	46.5					
		12:39	56.3					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION N95**

**M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N95 (24 Hour Location) & associated short term monitoring locations**

24 Hour Measurements - 25/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N95 (24hr Location)	Denis O'Connor (ref: 7070)			2 storey	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	55	54	56	
	8:00:00	54			
	9:00:00	55			
	10:00:00	53			
	11:00:00	54			
	12:00:00	55			
	13:00:00	55			
	14:00:00	54			
	15:00:00	52			
	16:00:00	54			
L <sub>evening</sub>	17:00:00	56	52	56	
	18:00:00	54			
	19:00:00	54			
	20:00:00	50			
L <sub>night</sub>	21:00:00	52	47	56	
	22:00:00	50			
	23:00:00	46			
	0:00:00	46			
	1:00:00	41			
	2:00:00	40			
	3:00:00	38			
	4:00:00	45			
5:00:00	51				
6:00:00	52				

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

**Short-term Measurements - 25/03/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N95 (24hr Location)	Denis O'Connor (ref: 7070)	13:00	51	51	54	51657 26158	2 storey	Occasional traffic on local road, leaves rustling
		13:45	51					
		14:00	55					
N96	N/A	11:00	51	55	57	-	bungalow	Occasional traffic on local road, general farmyard noise, leaves rustling
		11:15	65					
		11:30	50					
N97	N/A	12:00	50	57	59	51231 31158	bungalow	regular passing traffic on local road R518
		12:15	72					
		12:30	52					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION N99****M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N99 (24 Hour Location) & associated short term monitoring locations****24 Hour Measurements - 24/03/2009**

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N99 (24 Hour Location)	Liam Herlihy (Ref 7020)			Bungalow	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	52	57	63	
	8:00:00	55			
	9:00:00	58			
	10:00:00	59			
	11:00:00	57			
	12:00:00	58			
	13:00:00	57			
	14:00:00	54			
	15:00:00	53			
	16:00:00	63			
L <sub>evening</sub>	17:00:00	52	52	63	
	18:00:00	54			
	19:00:00	50			
	20:00:00	48			
L <sub>night</sub>	21:00:00	51	57	63	
	22:00:00	56			
	23:00:00	58			
	0:00:00	57			
	1:00:00	55			
	2:00:00	56			
	3:00:00	55			
	4:00:00	58			
5:00:00	57				
6:00:00	57				

Occasional local road traffic, occasion farmyard machinery in operation, occasional dogs barking

Note 1:  $L_{den} = 10 \times \log_{10} \left( \frac{1}{24} \left( 12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10} \right) \right)$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 10/03/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N99 (24 Hour Location)	Liam Herlihy (Ref 7020)	09:59	45	46	49	51078_33893	Bungalow	Occasional local road traffic, occasion farmyard machinery in operation, occasional dogs barking
		11:00	49					
		11:59	46					
N98	N/A	10:20	50	50	53	-	Bungalow	Occasional/ regular local road traffic, occasional dogs barking
		11:22	60					
		12:20	43					
N100	N/A	10:40	50	46	50	-	Bungalow	Occasional/ regular local road traffic, occasional dogs barking
		11:43	51					
		12:37	41					
N101	N/A	13:06	49	47	50	-	Bungalow	Occasional/ regular local road traffic, occasional dogs barking
		13:59	49					
		14:53	47					
N102	N/A	13:21	47	46	49	-	Bungalow	Occasional/ regular local road traffic, occasional dogs barking
		14:20	47					
		15:11	47					
N103	N/A	13:37	47	46	50	-	Bungalow	Occasional/ regular local road traffic, occasional dogs barking
		14:36	49					
		15:27	46					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION N107****M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N107 (24 Hour Location 4) & associated short term monitoring locations****24 Hour Measurements - 24/03/2009**

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N107 (24 Hour Location)	Patrick O'Leary (ref: 8062)			Bungalow	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	61	63	63	
	8:00:00	62			
	9:00:00	61			
	10:00:00	60			
	11:00:00	59			
	12:00:00	59			
	13:00:00	59			
	14:00:00	59			
	15:00:00	66			
	16:00:00	67			
L <sub>evening</sub>	17:00:00	66	57	63	
	18:00:00	65			
	19:00:00	59			
	20:00:00	58			
L <sub>night</sub>	21:00:00	56	53	63	
	22:00:00	56			
	23:00:00	54			
	0:00:00	51			
	1:00:00	49			
	2:00:00	49			
	3:00:00	49			
	4:00:00	51			
5:00:00	53				
6:00:00	58				

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 26/02/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N104	Rectory	10:18	78	77	76	-	Bungalow	Regular traffic on N20 dominant
		11:15	78					
		12:26	76					
N105	N/A	10:41	79	77	76	51433 39859	Bungalow	Regular traffic on N20 dominant
		11:32	78					
		12:42	77					
N106	N/A	13:01	78	77	76	-	Bungalow	Regular traffic on N20 dominant
		14:00	78					
		15:01	78					
N107 (24 Hour Location)	Patrick O'Leary (ref: 8062)	10:00	78	77	76	51453 39641	Bungalow	Regular traffic on N20 dominant
		11:00	77					
		12:00	78					
N108	N/A	13:18	78	77	76	-	2 storey	Regular traffic on N20 dominant
		14:16	77					
		15:16	78					
N109	N/A	13:34	78	77	76	-	Bungalow	Regular traffic on N20 dominant
		14:37	79					
		15:33	78					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION CROOM**  
**M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Croom (24 Hour Location)**

24 Hour Measurements - 24/03/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N110 (24hr Location)	Croom Town Reference Point			N/A	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	52.00	60	65	
	8:00:00	51.90			
	9:00:00	61.00			
	10:00:00	61.60			
	11:00:00	60.30			
	12:00:00	56.80			
	13:00:00	56.30			
	14:00:00	53.70			
	15:00:00	51.00			
	16:00:00	61.40			
L <sub>evening</sub>	17:00:00	61.40	64	65	
	18:00:00	64.60			
	19:00:00	63.60			
	20:00:00	49.10			
L <sub>night</sub>	21:00:00	64.60	57	65	
	22:00:00	65.80			
	23:00:00	60.10			
	0:00:00	62.30			
	1:00:00	50.20			
	2:00:00	49.30			
	3:00:00	45.80			
	4:00:00	47.70			
5:00:00	57.60				
6:00:00	53.90				

Description of Noise Sources
Regular N20 traffic passing dominant noise source
Comments

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor  
 Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*  
 N/A = Not applicable or details are unknown at this time

**LOCATION N111****M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N111 (24 Hour Location) & associated short term monitoring locations****24 Hour Measurements - 02/03/2009**

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N111 (24 Hour Location)	Eithne & Conor Meehan			2 Storey	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	57	54	55	
	8:00:00	58			
	9:00:00	57			
	10:00:00	51			
	11:00:00	51			
	12:00:00	51			
	13:00:00	51			
	14:00:00	51			
	15:00:00	52			
	16:00:00	52			
L <sub>evening</sub>	17:00:00	53	48	55	
	18:00:00	51			
	19:00:00	49			
	20:00:00	48			
L <sub>night</sub>	21:00:00	47	47	55	
	22:00:00	45			
	23:00:00	44			
	0:00:00	42			
	1:00:00	41			
	2:00:00	42			
	3:00:00	43			
	4:00:00	46			
5:00:00	49				
6:00:00	53				

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 02/03/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N111 (24 Hour Location)	Eithne & Conor Meehan	10:01	54	52	55	504624_43135	2 Storey	Local road & N20 traffic audible. Birdsong regular
		11:00	52					
		12:00	54					
N113	N/A	10:21	61	62	63	50453_43264	Bungalow	Occasional traffic on local road & N20 traffic audible. Birdsong regular. Farm machinery in operation during survey
		11:19	66					
		12:21	63					
N112	N/A	10:40	63	62	63	50859_43162	2 Storey	Occasional traffic on local road & N20 traffic audible. Birdsong regular
		11:37	63					
		12:39	63					
N115	N/A	12:59	61	59	61	50831_43162	Dormer bungalow	Occasional traffic on local road & N20 traffic audible. Birdsong regular
		14:00	61					
		14:59	60					
N116	N/A	13:18	69	71	71	50748_44133	2 Storey	Regular traffic on local road & N20 traffic audible. Birdsong regular
		14:17	73					
		15:17	74					
N114	N/A	13:38	50	48	51	50567_43452	Bungalow	Occasional traffic on local road & N20 traffic audible. Birdsong regular
		14:37	48					
		15:36	49					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**LOCATION N117**  
**M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ N117 (24 Hour Location)**

**24 Hour Measurements**

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N117 (24hr Location)	John & Patrick Higgins (Ref: 8045)			Chicken Farm	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	46.10	46	50	
	8:00:00	49.20			
	9:00:00	48.80			
	10:00:00	-			
	11:00:00	-			
	12:00:00	-			
	13:00:00	-			
	14:00:00	-			
	15:00:00	-			
	16:00:00	53.30			
L <sub>evening</sub>	17:00:00	49.30	48	50	
	18:00:00	44.70			
	19:00:00	50.60			
	20:00:00	49.40			
L <sub>night</sub>	21:00:00	44.10	41	50	
	22:00:00	42.70			
	23:00:00	43.60			
	0:00:00	41.80			
	1:00:00	40.60			
	2:00:00	37.40			
	3:00:00	36.70			
	4:00:00	39.20			
5:00:00	40.10				
6:00:00	41.90				

Quite rural setting. Rustling leaves & birdsong

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor  
 Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*  
 N/A = Not applicable or details are unknown at this time

### LOCATION N118

#### M20 Blarney to Patrickswell Noise Monitoring - Results of monitoring @ Location N118 (24 Hour Location) & associated short term monitoring locations

24 Hour Measurements - 25/02/2009

NSR Location Reference	NSR Location Details			Property Type	Description of Noise Sources
N118 (24hr Location)	(Ref: 7127) Ingo & Helen Biggs			Bungalow	
Survey Time Period	Survey Time	L <sub>Aeq 1h</sub> (dB)	L <sub>Aeq 1h</sub> (dB) Average	L <sub>den</sub> (dB) <sup>Note 1</sup>	Comments
L <sub>day</sub>	7:00:00	49	48	48	
	8:00:00	49			
	9:00:00	48			
	10:00:00	48			
	11:00:00	48			
	12:00:00	46			
	13:00:00	48			
	14:00:00	46			
	15:00:00	47			
	16:00:00	45			
L <sub>evening</sub>	17:00:00	49	44	48	
	18:00:00	47			
	19:00:00	45			
	20:00:00	43			
L <sub>night</sub>	21:00:00	45	39	48	
	22:00:00	41			
	23:00:00	37			
	0:00:00	34			
	1:00:00	33			
	2:00:00	33			
	3:00:00	32			
	4:00:00	44			
5:00:00	37				
6:00:00	43				

Description of Noise Sources
Occasional passing traffic on local road. Faint distant traffic from N20 & N21. birdsong. Occasional Dog barking
Comments

Note 1:  $L_{den} = 10 \times \log_{10}(1/24)(12 \times 10^{L_{day}/10} + 4 \times 10^{(5 + L_{evening})/10} + 8 \times 10^{(10 + L_{night})/10})$  dB(A)

where : L<sub>day</sub> = 07:00 to 19:00 hours  
 L<sub>evening</sub> = 19:00 to 23:00 hours  
 L<sub>night</sub> = 23:00 to 07:00 hours

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

**Short-term Measurements - 25/02/2009**

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)<sub>2</sub></sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N118 (24hr Location)	(Ref: 7127) Ingo & Helen Biggs	10:00	51	51	53	50398_46760	Bungalow	Occasional passing traffic on local road. Faint distant traffic from N20 & N21. Birdsong. Occasional Dog barking
		10:57	54					
		12:00	51					
N119	N/A	10:17	55	53	56	-	Bungalow	Occasional passing traffic on local road. Faint distant traffic from N20 & N21. Birdsong. Farm machinery in operation
		11:16	54					
		12:22	54					
N120	N/A	10:37	54	55	57	-	Bungalow	Occasional passing traffic on local road. Faint distant traffic from N20 & N21. Birdsong. Farm machinery in operation audible
		11:38	58					
		12:38	55					
N121	N/A	13:00	51	55	57	50542_46800	Bungalow	Occasional passing traffic on local road. Faint distant traffic from N20 & N21. Birdsong. Farm machinery in operation audible
		13:58	56					
		14:59	61					
N122	N/A	13:15	48	53	55	50660_46815	2-storey	Occasional passing traffic on local road. Faint distant traffic from N20 & N21. Birdsong. Farm machinery in operation audible
		14:15	57					
		15:15	56					
N123	N/A	13:32	56	54	56	-	Bungalow	Occasional passing traffic on local road. Faint distant traffic from N20 & N21. Birdsong. Farm machinery in operation audible
		14:32	57					
		15:31	52					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time

## M20 Blarney to Patrickswell Noise Monitoring - Short Term Monitoring Locations

Short-term Measurements - 20/07/2009

NSR Noise Reference	NSR Location Details	Monitoring Times	L <sub>A10 15min</sub> (dB)	L <sub>A10 (18hour)</sub> (dB) <sup>Note 2</sup>	L <sub>den</sub> (dB) <sup>Note 3</sup>	GPS Reference	Property Type	Description of Noise Sources/ Comments
N124	N/A	10:00	36	37	42	556122 605643	Bungalow	Rural setting. Leaves rustling. Birdsong. Occasional passing car
		10:57	38					
		12:00	41					
N125	N/A	10:17	33	38	43	557608 603078	Bungalow	Rural setting. Leaves rustling. Birdsong. Occasional passing car
		11:16	41					
		12:22	45					
N126	N/A	10:37	47	49	52	557148 602559	Bungalow	Rural setting. Leaves rustling. Birdsong. Occasional passing car
		11:38	52					
		12:38	50					
N127	N/A	13:00	40	43	46	558290 597169	Bungalow	Rural setting. Leaves rustling. Birdsong. Occasional passing car
		13:58	49					
		14:59	42					
N128	N/A	13:15	52	51	54	-	Bungalow	Rural setting. Leaves rustling. Birdsong. Occasional passing car
		14:15	52					
		15:15	53					

Note 2: L<sub>A10 (18hour)</sub> = (average of three L10 measurements) - 1

Note 3: L<sub>den</sub> = 0.86 x L<sub>A10(18hr)</sub> + 9.86dB

NSR = Noise Sensitive Receptor

Noise measurements were taken in accordance with the *National Roads Authority: Guidelines for the Treatment of Noise and Vibration in National Road Schemes*

N/A = Not applicable or details are unknown at this time