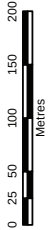


LEGEND

NWRL Tunnel Track



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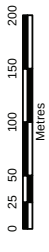
Scale 1:5,000 @ A3 Date 16-Oct-2012

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LEGEND

- Noise Logging Locations
- NWRL Tunnel Track
- Construction Site



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LEGEND

- Noise Logging Locations
- NWRL Tunnel Track
- Construction Site

0 25 50 100 150 200
Metres

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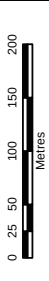
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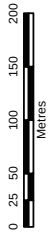
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LEGEND

- Noise Logging Locations
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LEGEND

-  Noise Logging Locations
 NWRL Surface Track
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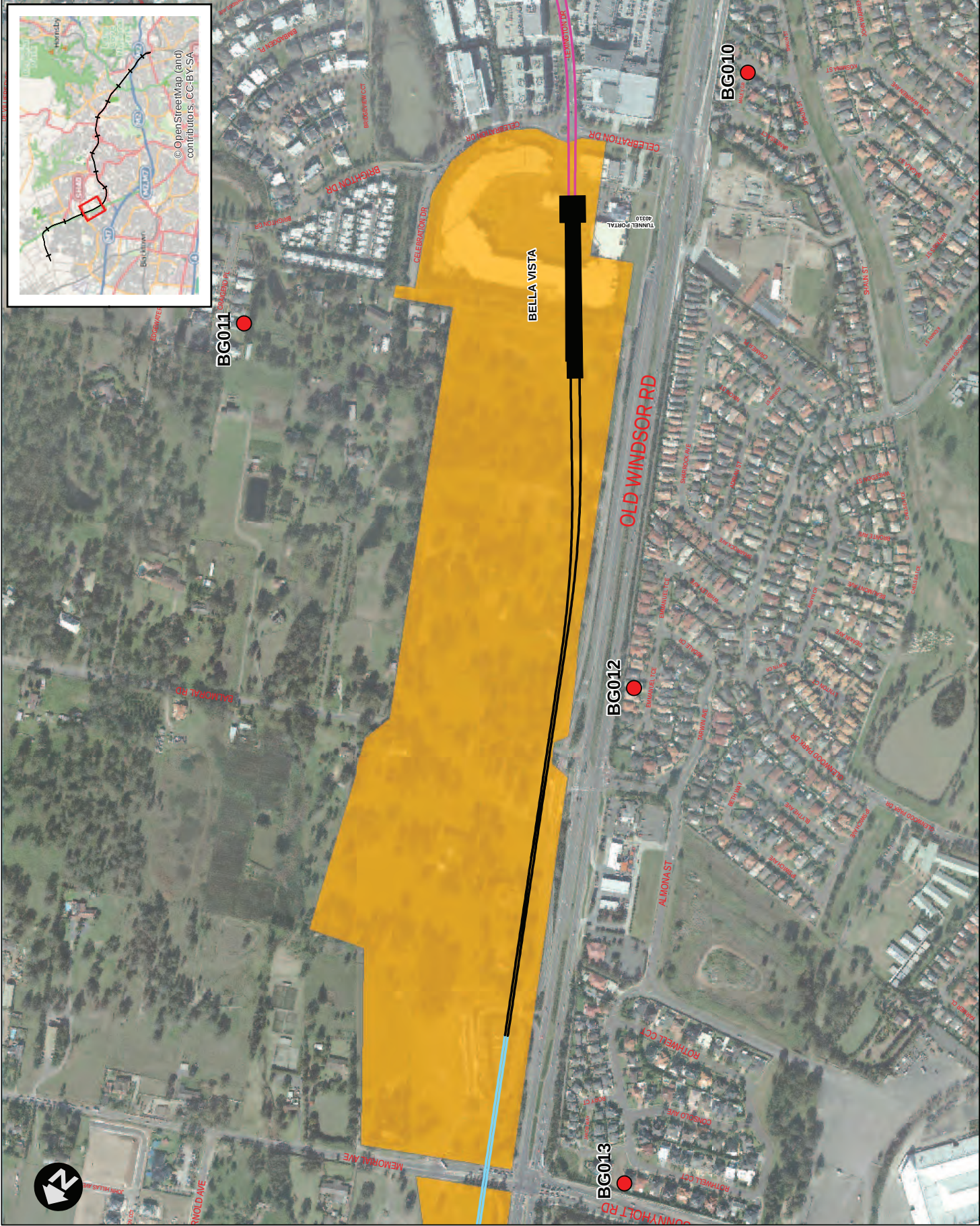
Prepared for: _____

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Project No: 610.10597

Scale	1:5,000 @ A3	Date	16-Oct-2012
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LEGEND

- Noise Logging Locations
- NWRL Surface Track
- NWRL Tunnel Track
- NWRL Viaduct
- Construction Site

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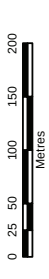


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- Noise Logging Locations
- NWRL Viaduct
- Construction Site



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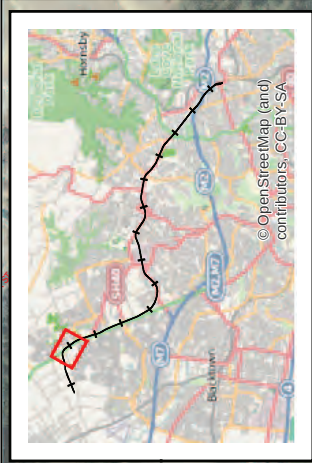
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Noise Logging Locations

NWRL Surface Track

NWRL Viaduct

Construction Site

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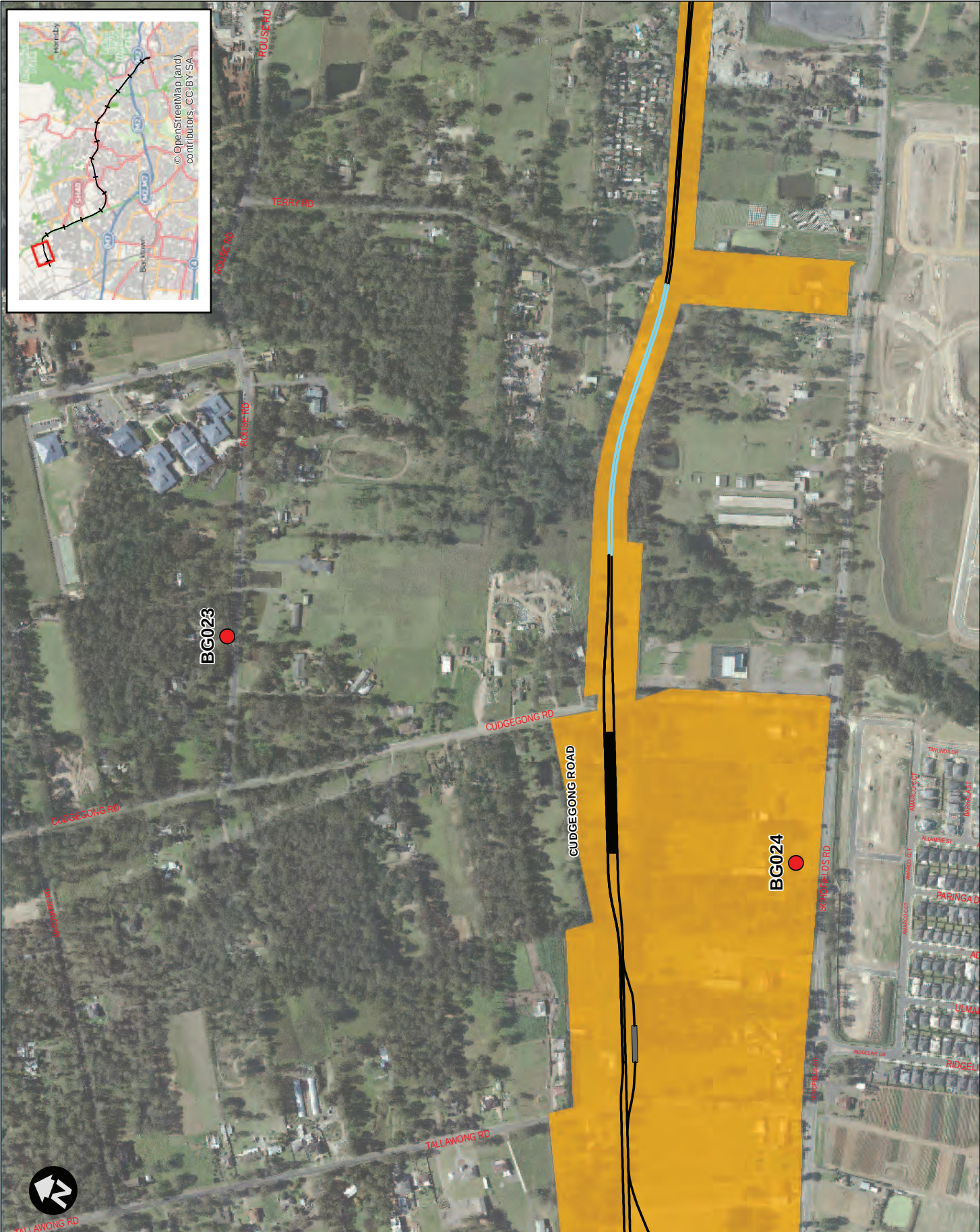
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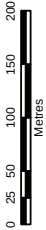
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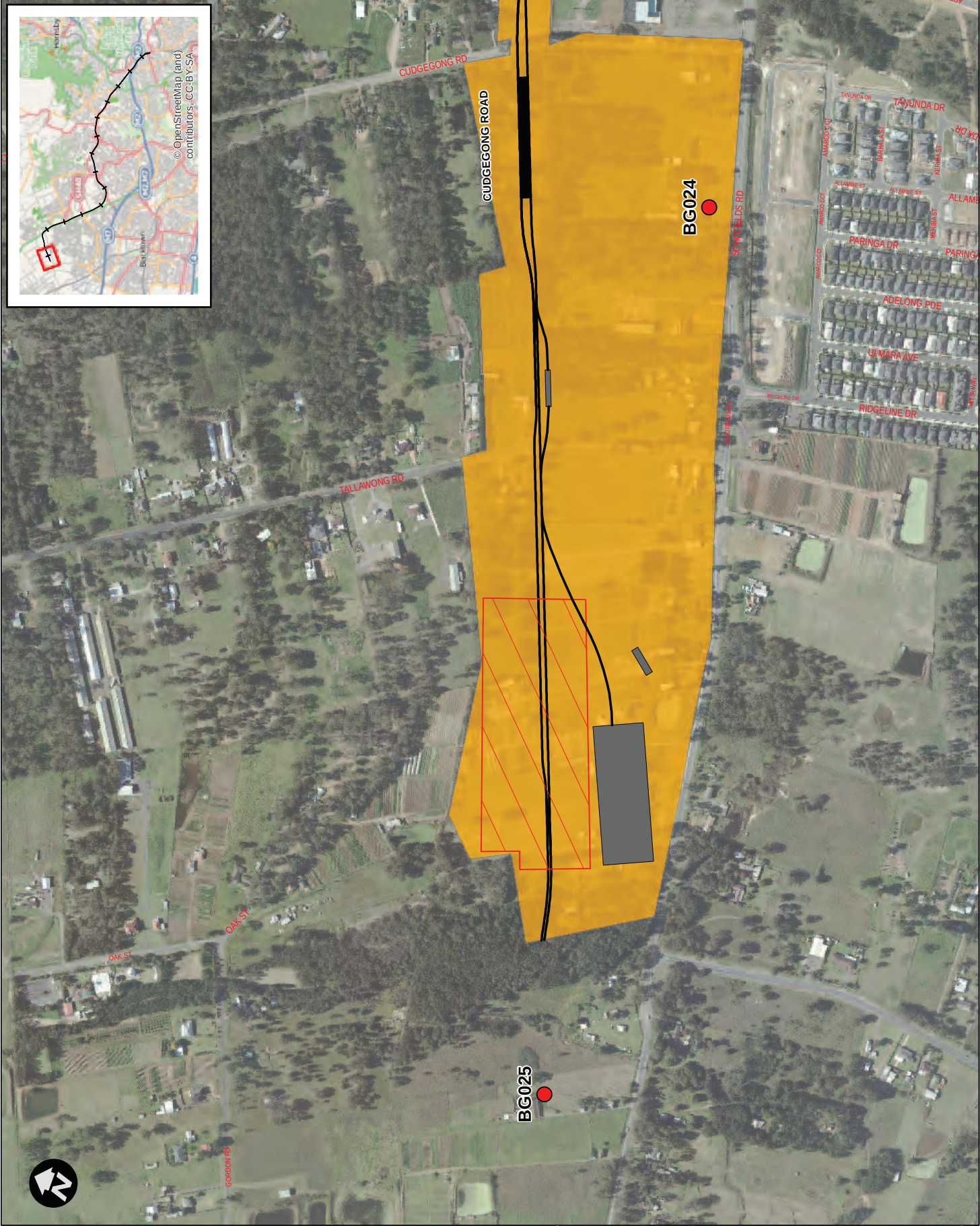
LEGEND	
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	NWRL Surface Track
	NWRL Viaduct
	Construction Site
	Maintenance Facility Buildings



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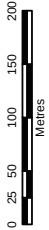
1. Aerial photography © Transport for NSW

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LEGEND

- Noise Logging Locations
- NWRL Surface Track
- Indicative Stabling Area
- Construction Site
- Maintenance Facility Buildings



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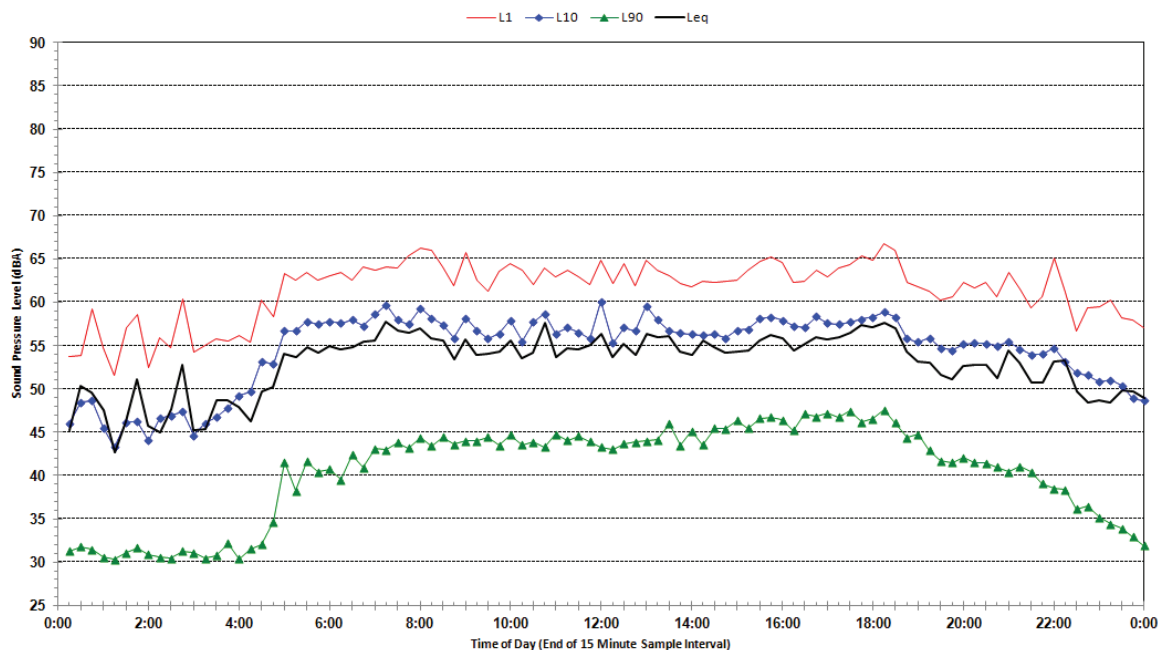
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Project No: **610.10597**

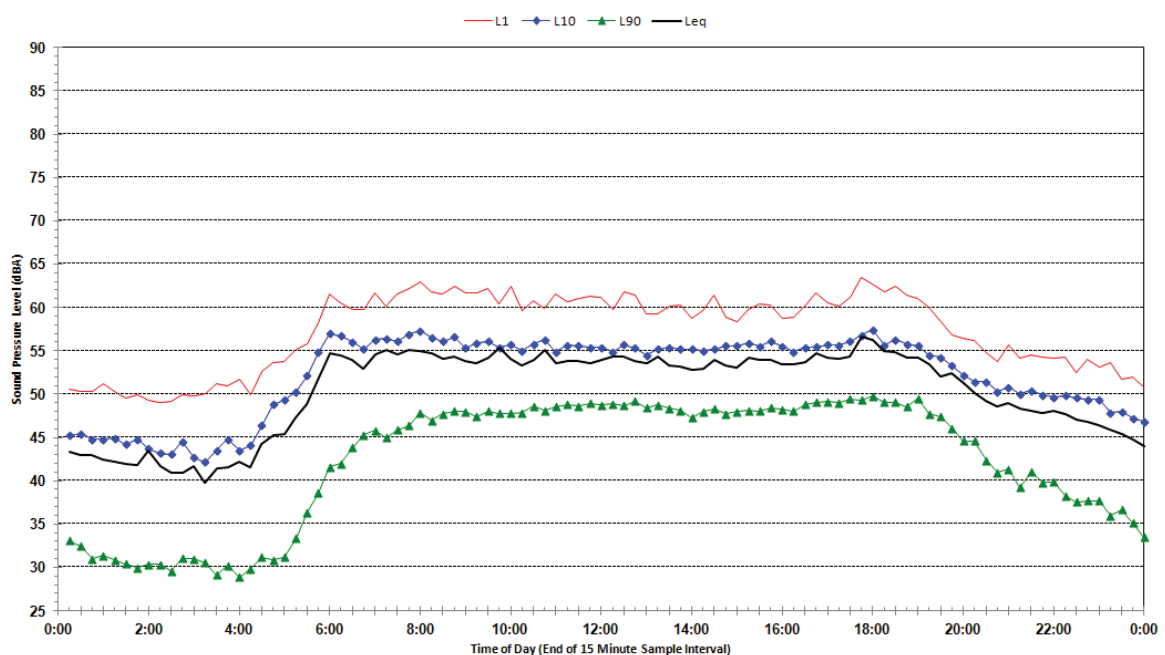
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Version	05			Approved	John Sleeman

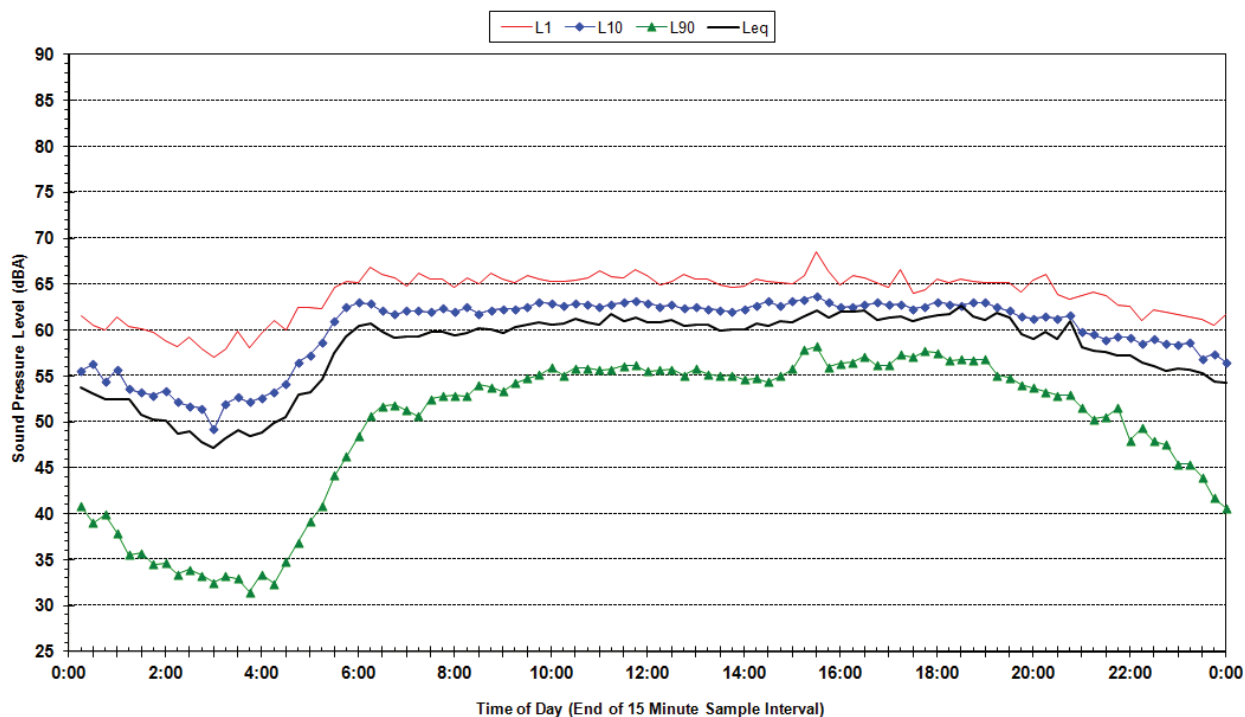
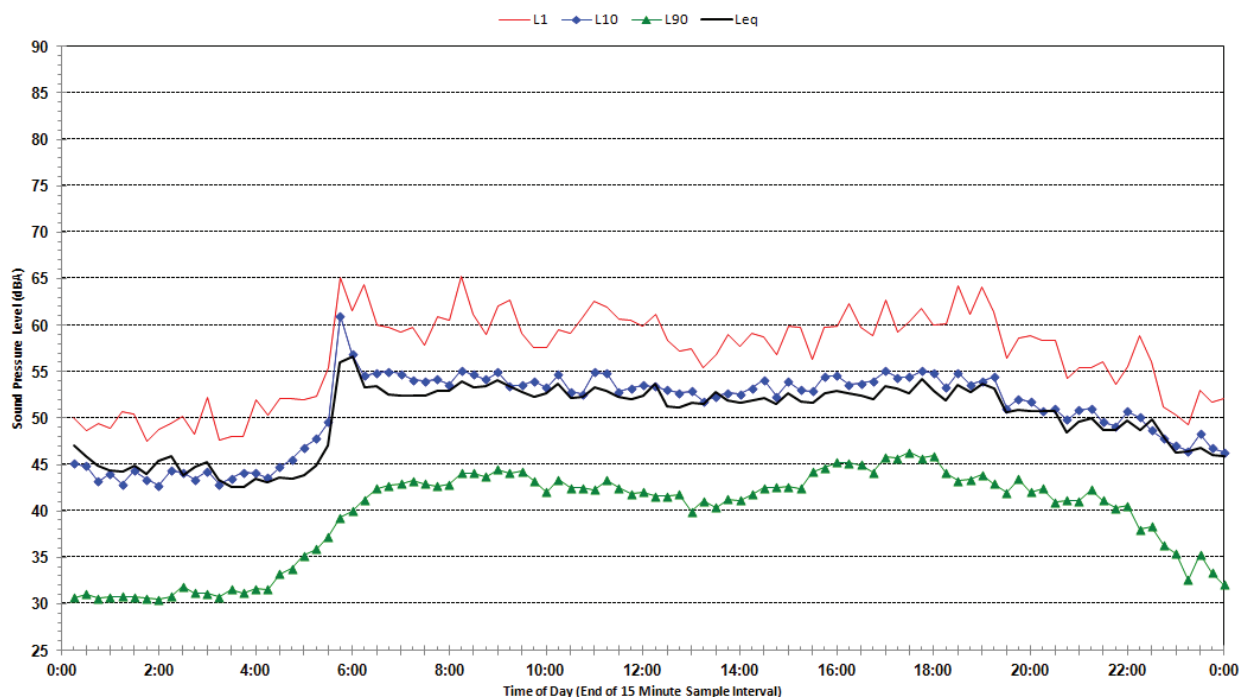
Appendix C Ambient Noise Level Plots

BG01 - 12/10 Edensor Street, Epping - Long-Term Statistical Noise Levels
Monday 17 October 2011 to Tuesday 25 October 2011

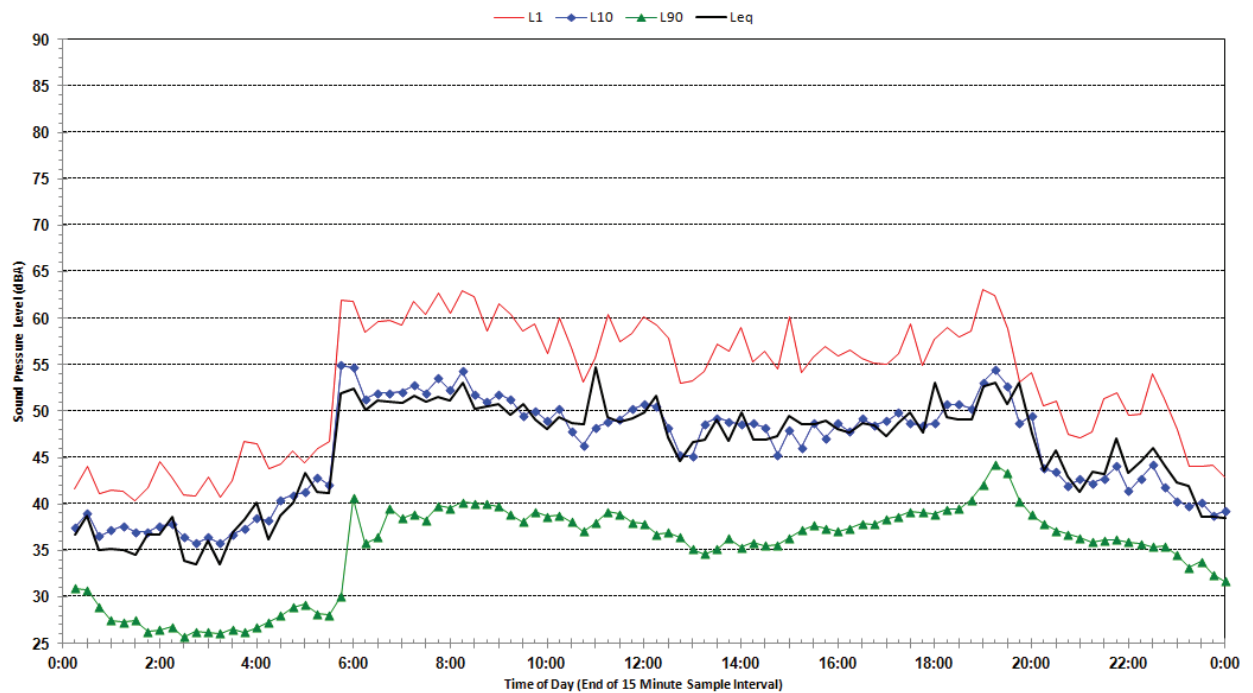


BG02 - 32A Castle Howard Road, Cheltenham - Long-Term Statistical Noise Levels
Monday 17 October 2011 to Tuesday 25 October 2011

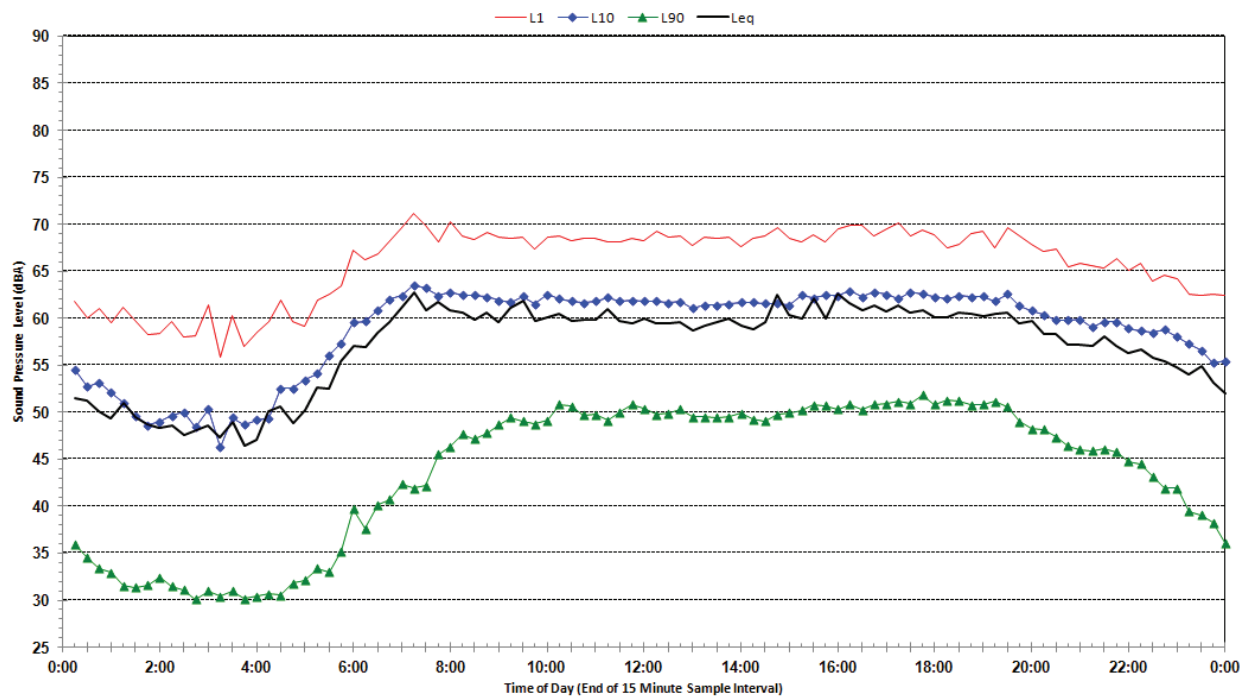


BG03 - 2 Ferndale Road, Beecroft - Long-Term Statistical Noise Levels
Friday 10 December 2010 to Friday 17 December 2010**BG04 - 130 Franklin Road, Cherrybrook - Long-Term Statistical Noise Levels**
Wednesday 3 September 2008 to Tuesday 9 September 2008

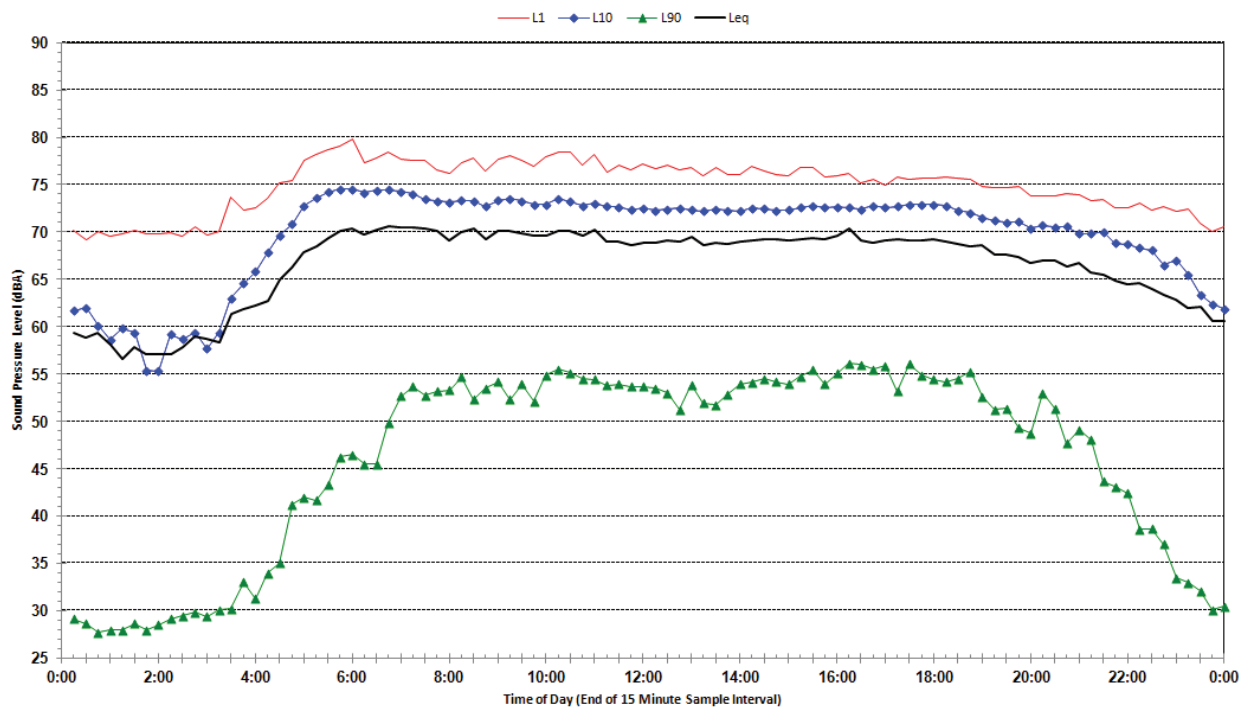
**BG05 - 11 Kayla Way, Cherrybrook - Long-Term Statistical Noise Levels
Tuesday 18 October 2011 to Wednesday 26 October 2011**



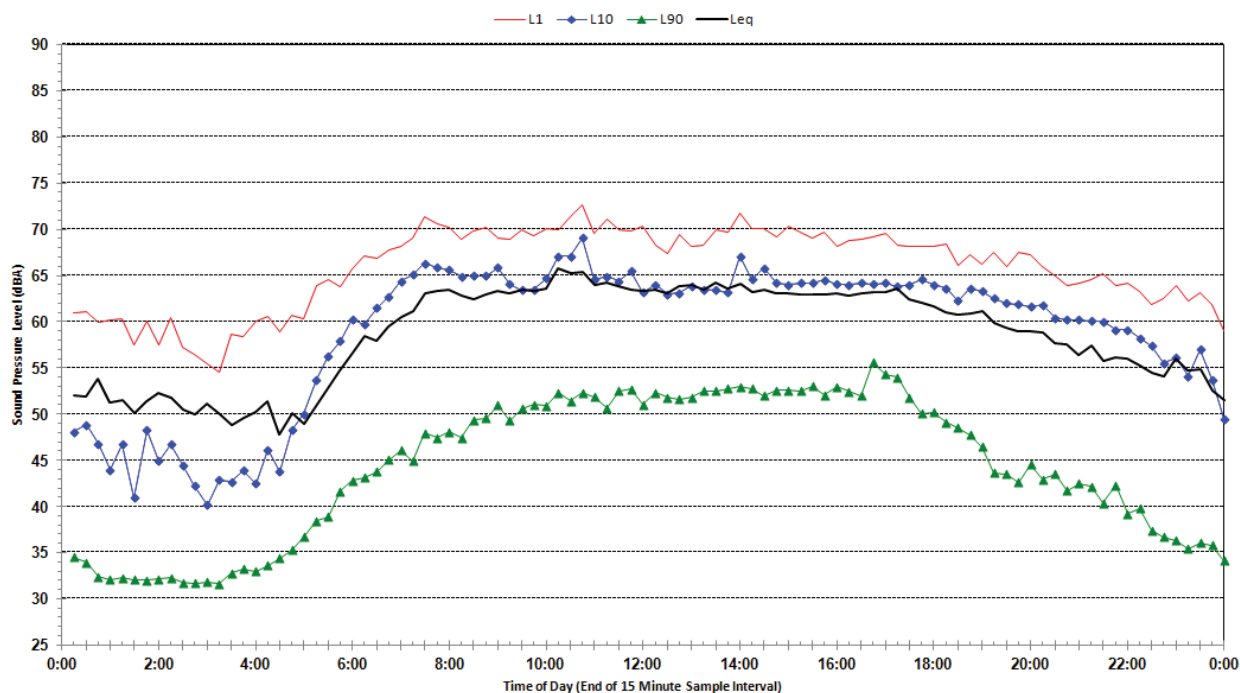
**BG06 - 329 Old Northern Road, Castle Hill - Long-Term Statistical Noise Levels
Tuesday 18 October 2011 to Wednesday 26 October 2011**



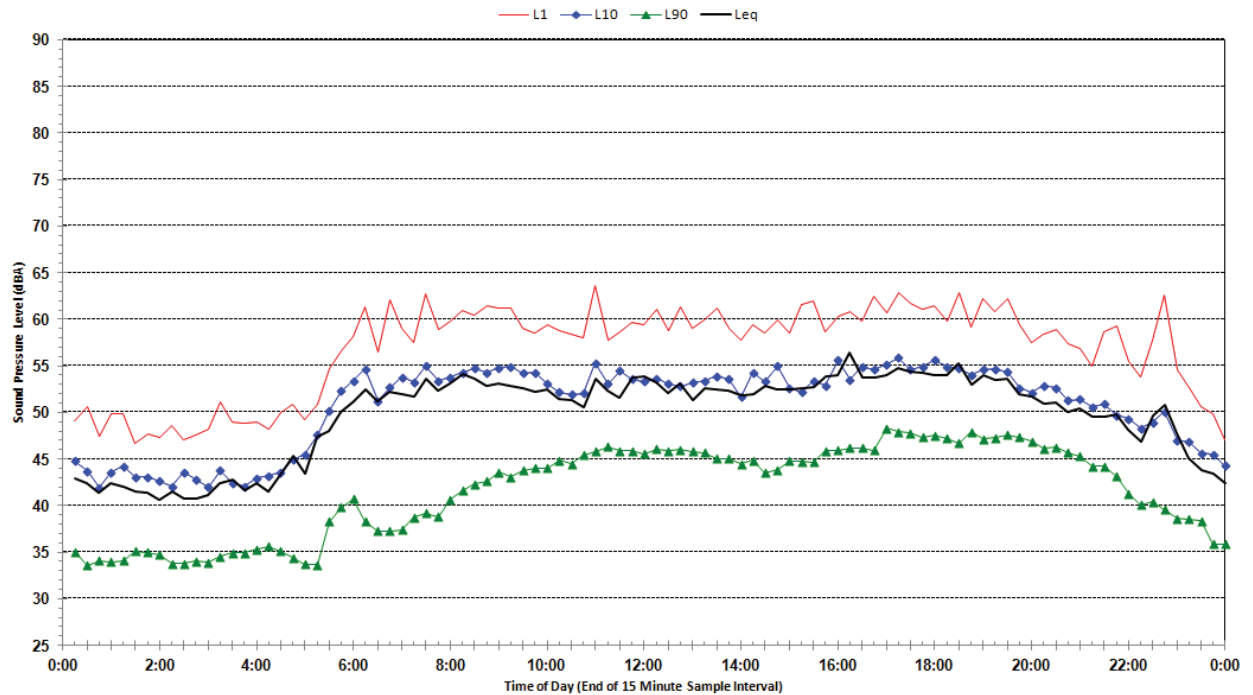
BG07 - 142 Showground Road, Castle Hill - Long-Term Statistical Noise Levels
Tuesday 18 October 2011 to Wednesday 26 October 2011



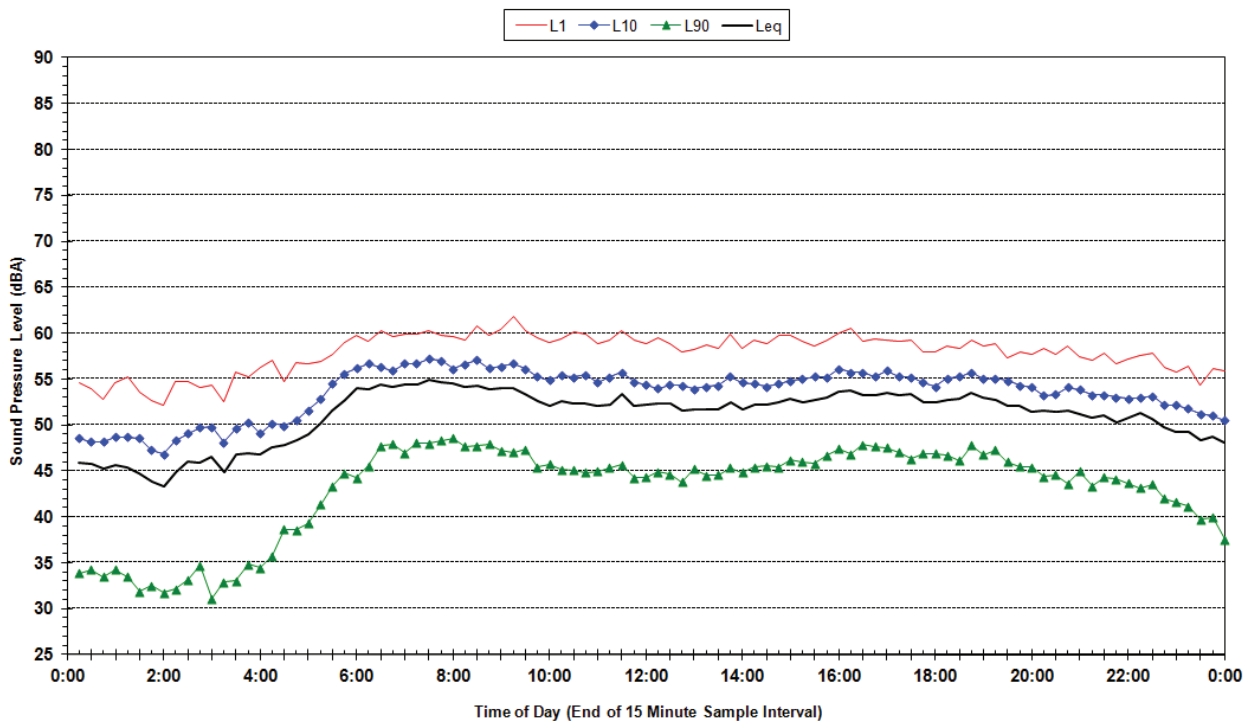
BG08 - 3 Carrington Road, Castle Hill - Long-Term Statistical Noise Levels
Thursday 4 September 2008 to Tuesday 9 September 2008



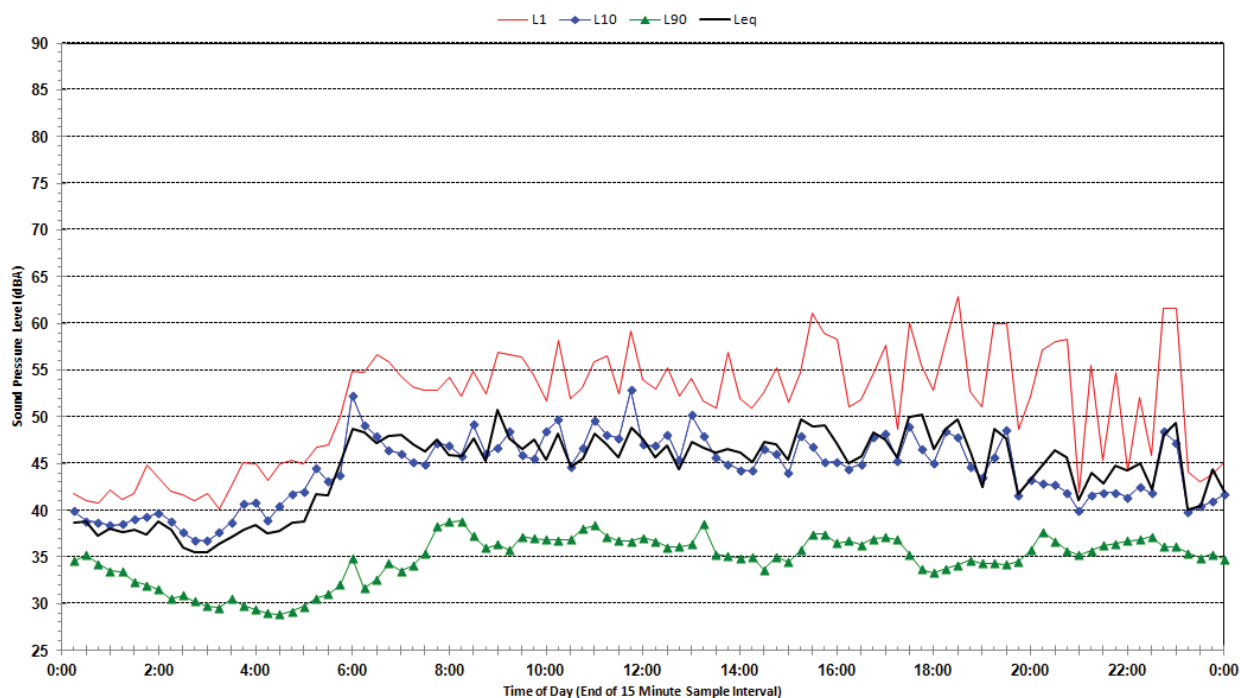
**BG09 - 33 Jacqui Circuit, Baulkham Hills - Long-Term Statistical Noise Levels
Wednesday 19 October 2011 to Wednesday 26 October 2011**



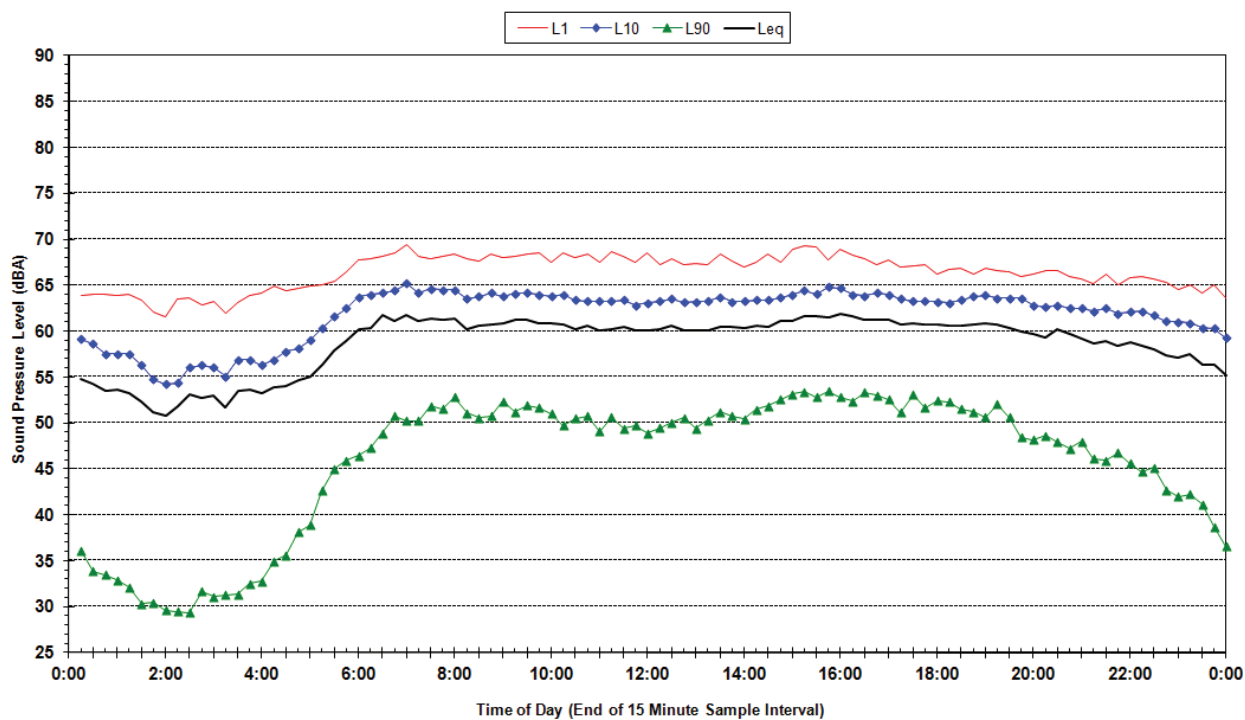
**BG10 - 8 Maley Grove, Glenwood - Long-Term Statistical Noise Levels
Tuesday 17 June 2008 to Thursday 26 June 2008**



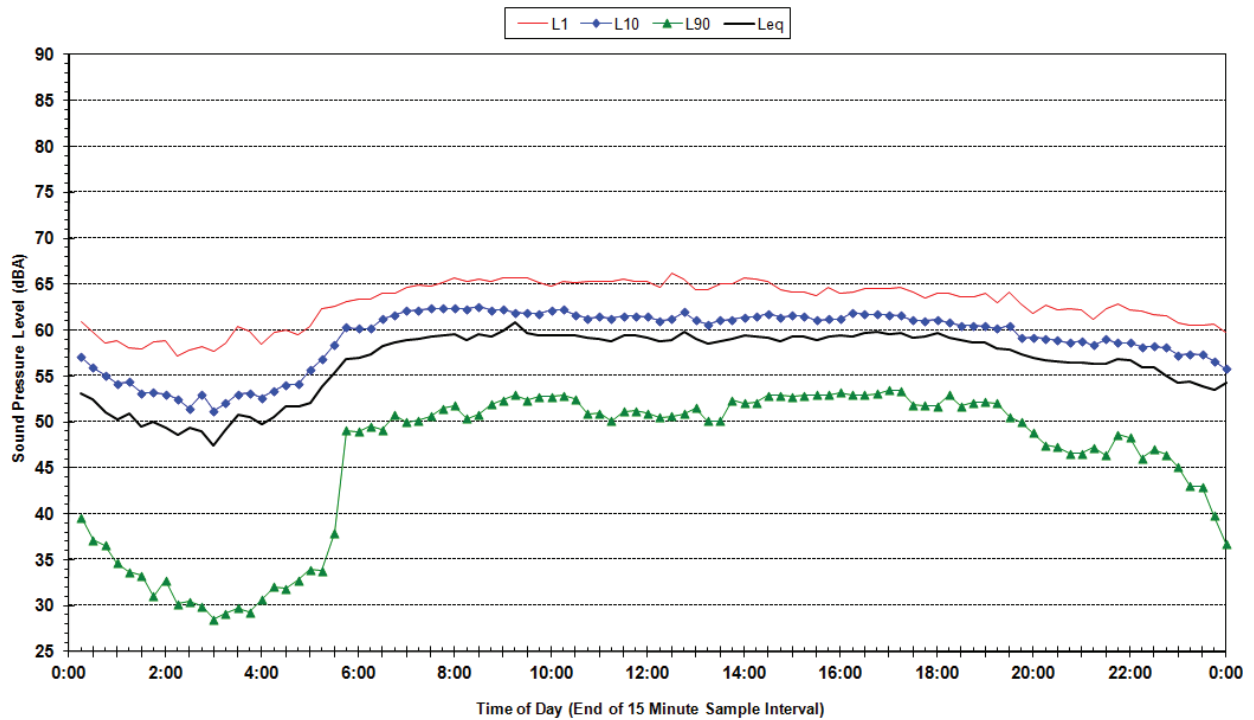
BG11 - 12 Craigend Place, Bella Vista - Long-Term Statistical Noise Levels
Wednesday 19 October 2011 to Wednesday 26 October 2011



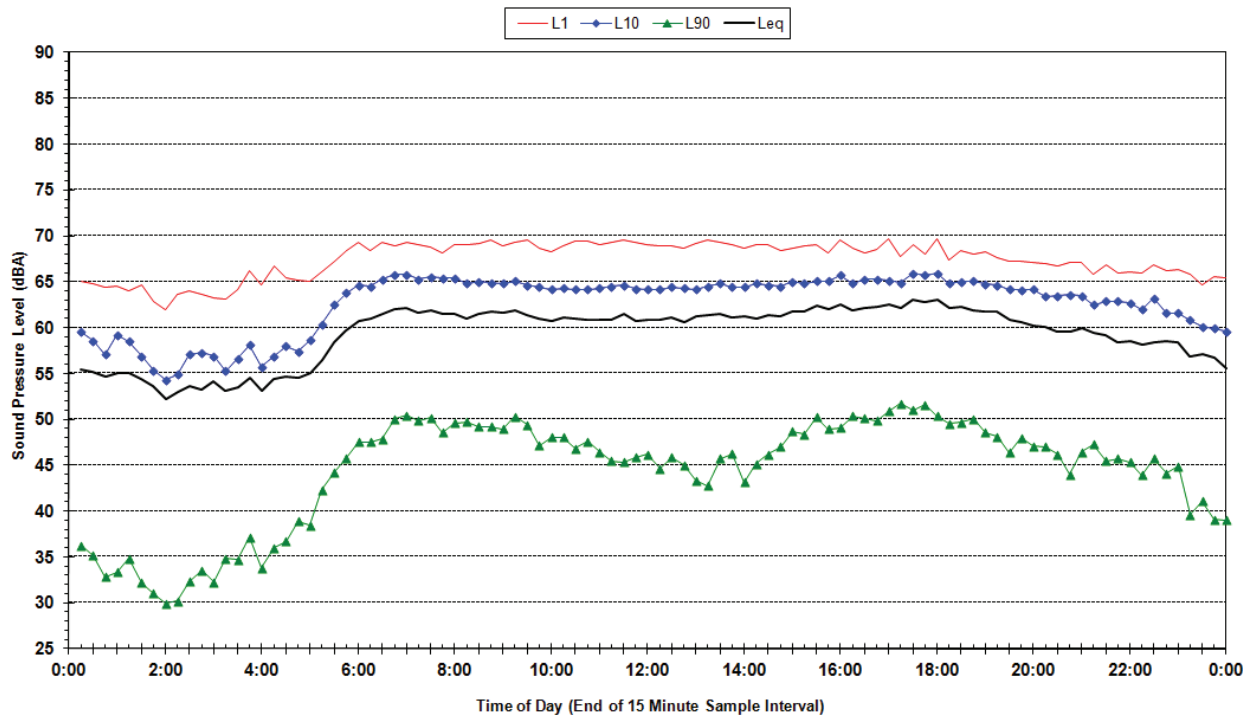
BG12 - 24 Emmanuel Terrace, Glenwood - Long-Term Statistical Noise Levels
Tuesday 17 June 2008 to Thursday 26 June 2008



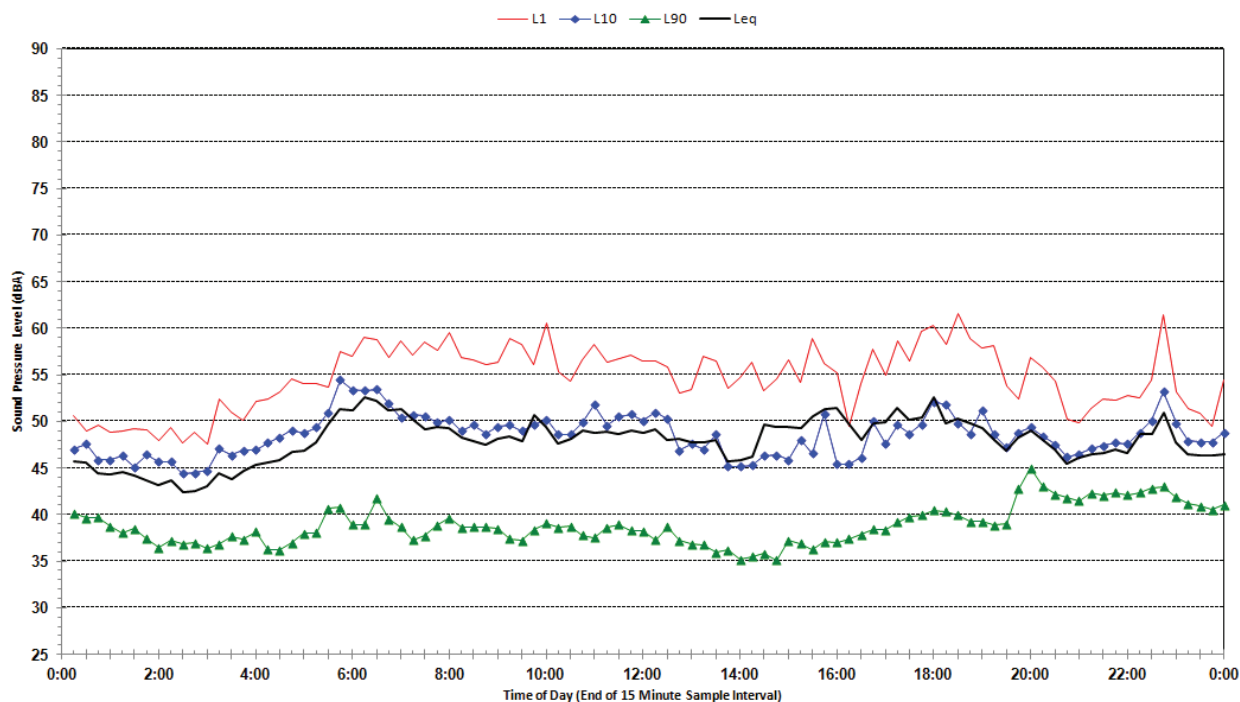
BG13 - 36 Rothwell Circuit, Glenwood - Long-Term Statistical Noise Levels
Tuesday 3 June 2008 to Friday 13 June 2008



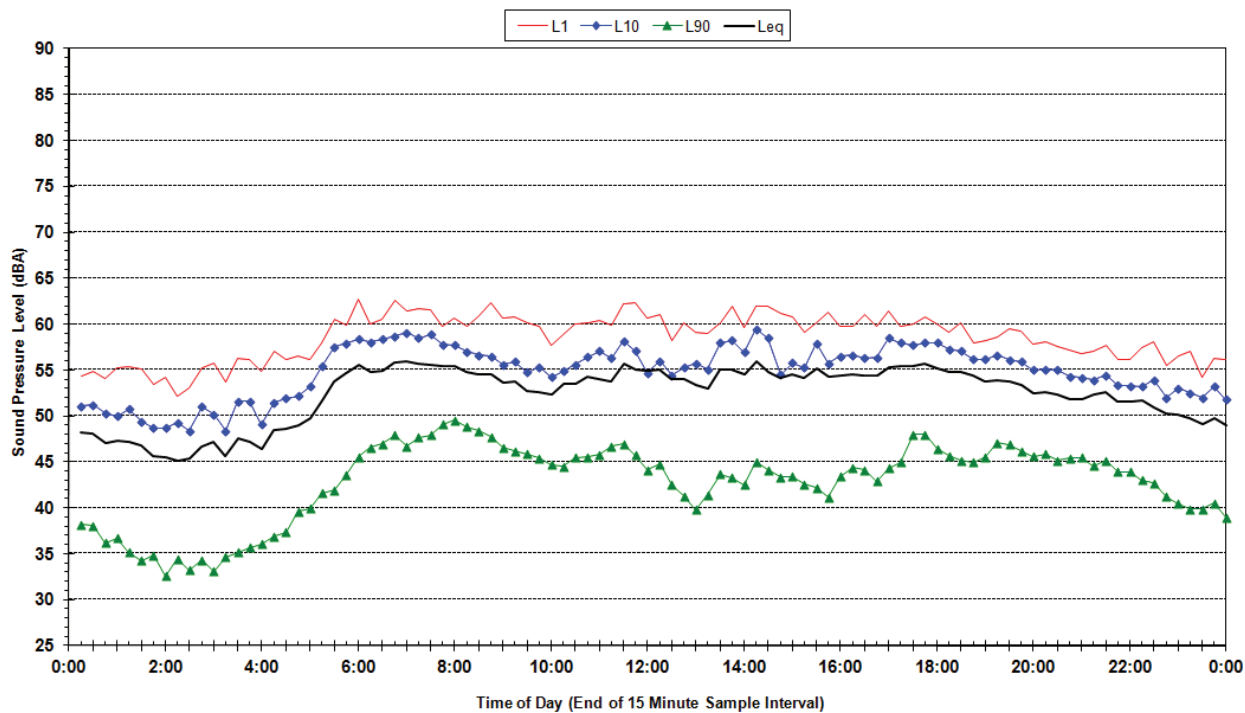
BG14 - 15 Kentwell Street, Stanhope Gardens - Long-Term Statistical Noise Levels
Tuesday 17 June 2008 to Thursday 26 June 2008



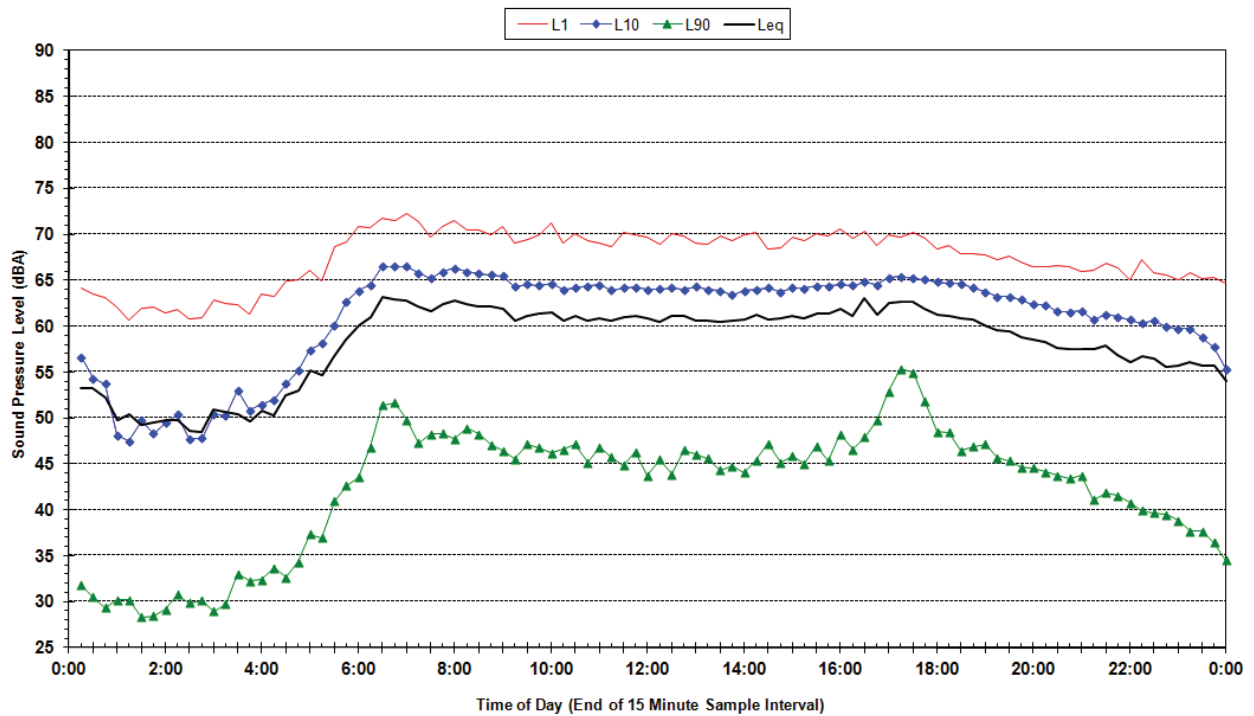
BG15 - 16 Wenden Avenue, Kellyville - Long-Term Statistical Noise Levels
Wednesday 19 October 2011 to Wednesday 26 October 2011



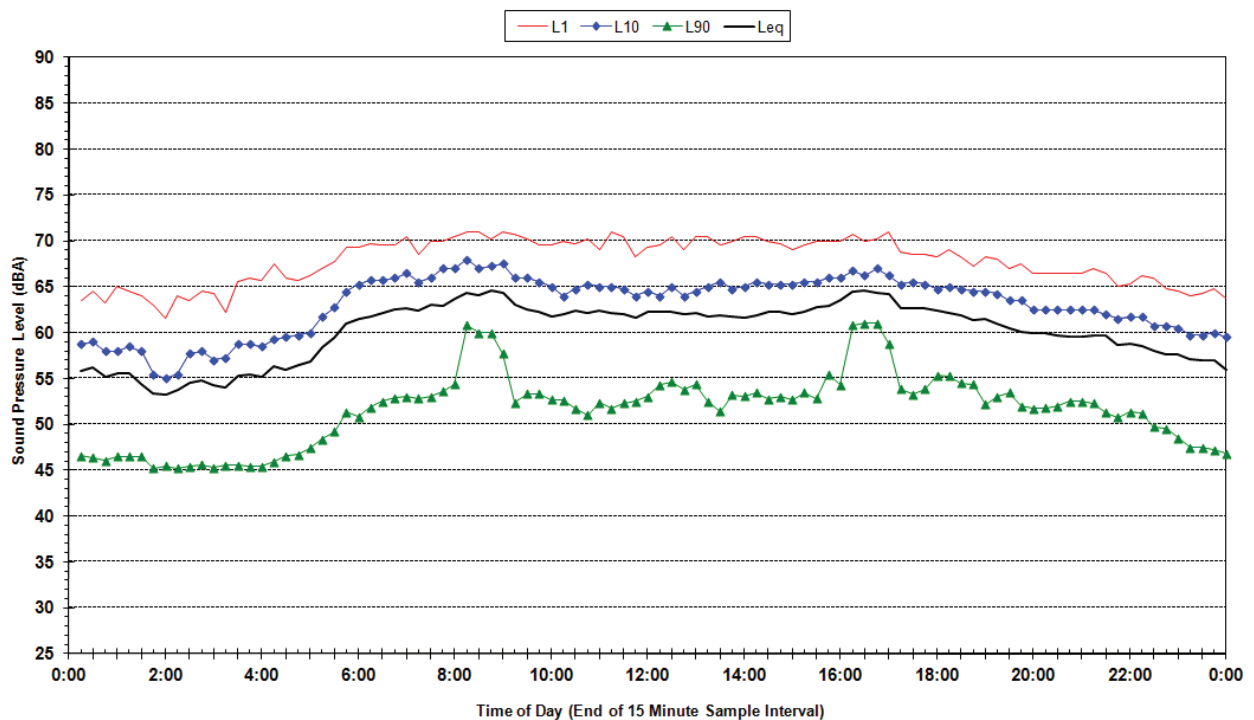
BG16 - 9 Clovelly Circuit, Kellyville - Long-Term Statistical Noise Levels
Wednesday 18 June 2008 to Friday 27 June 2008



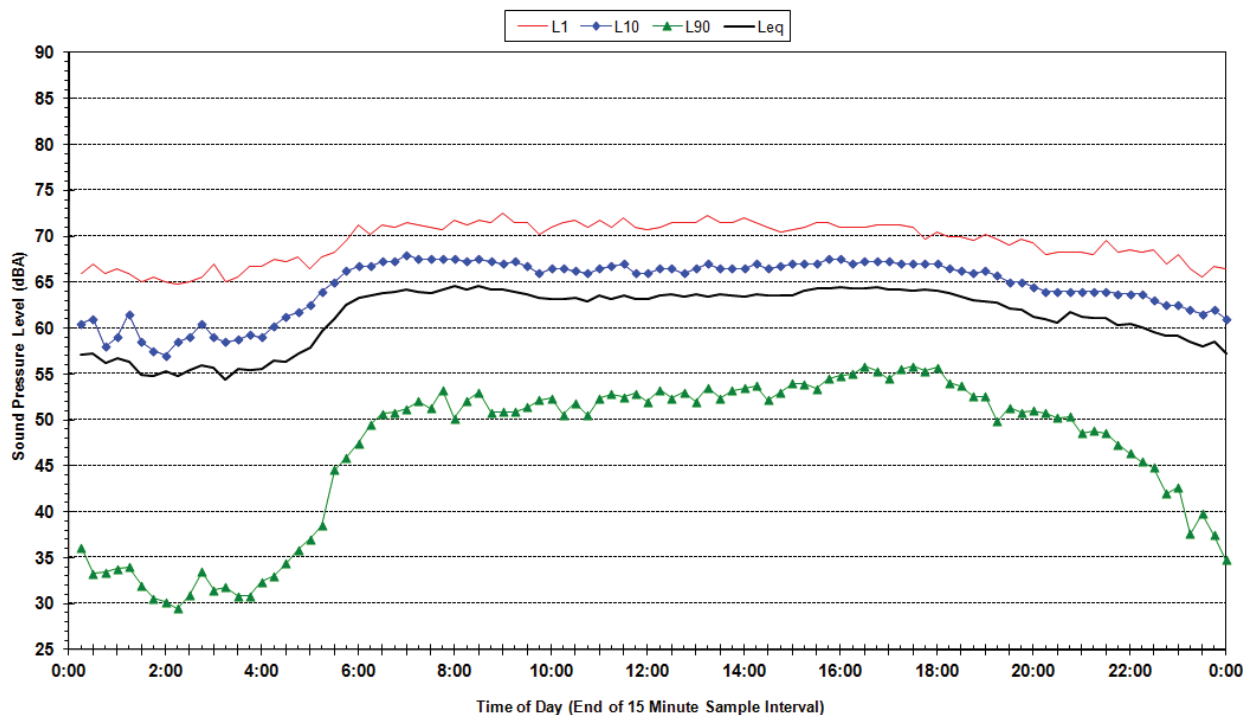
BG17 - 45 Lycett Avenue, Kellyville - Long-Term Statistical Noise Levels
Tuesday 15 July 2008 to Thursday 24 July 2008



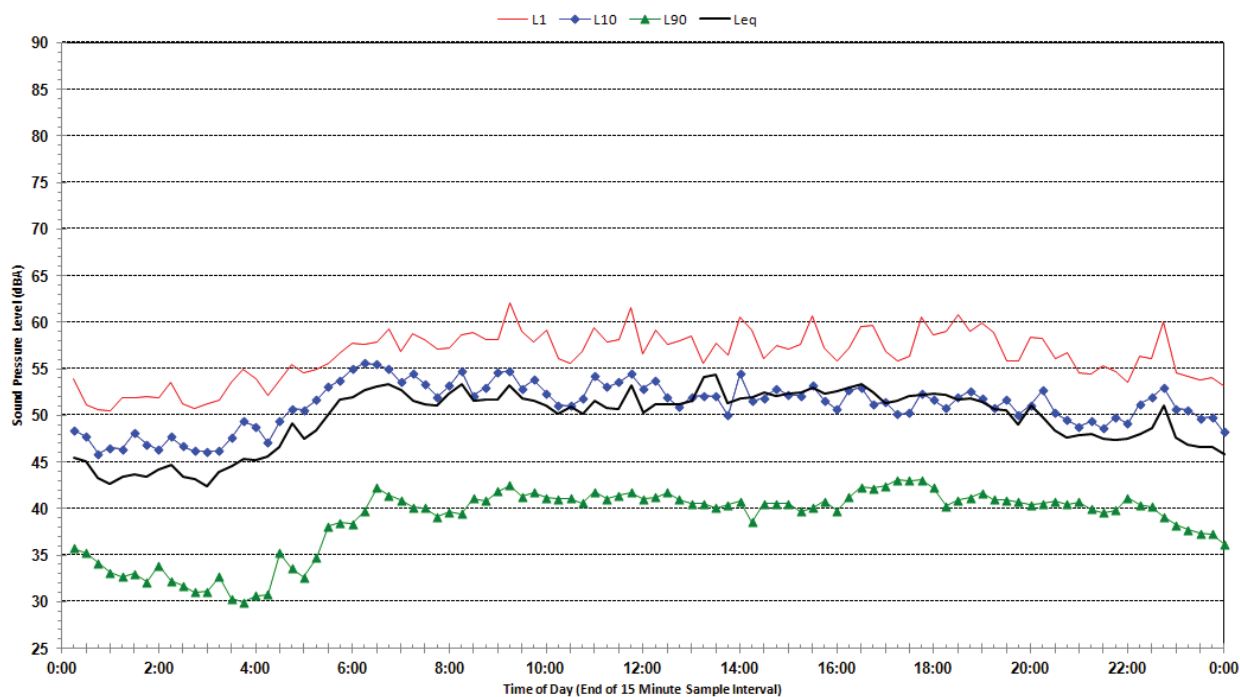
BG18 - 1 Beck Place, Kellyville - Long-Term Statistical Noise Levels
Wednesday 18 June 2008 to Thursday 26 June 2008



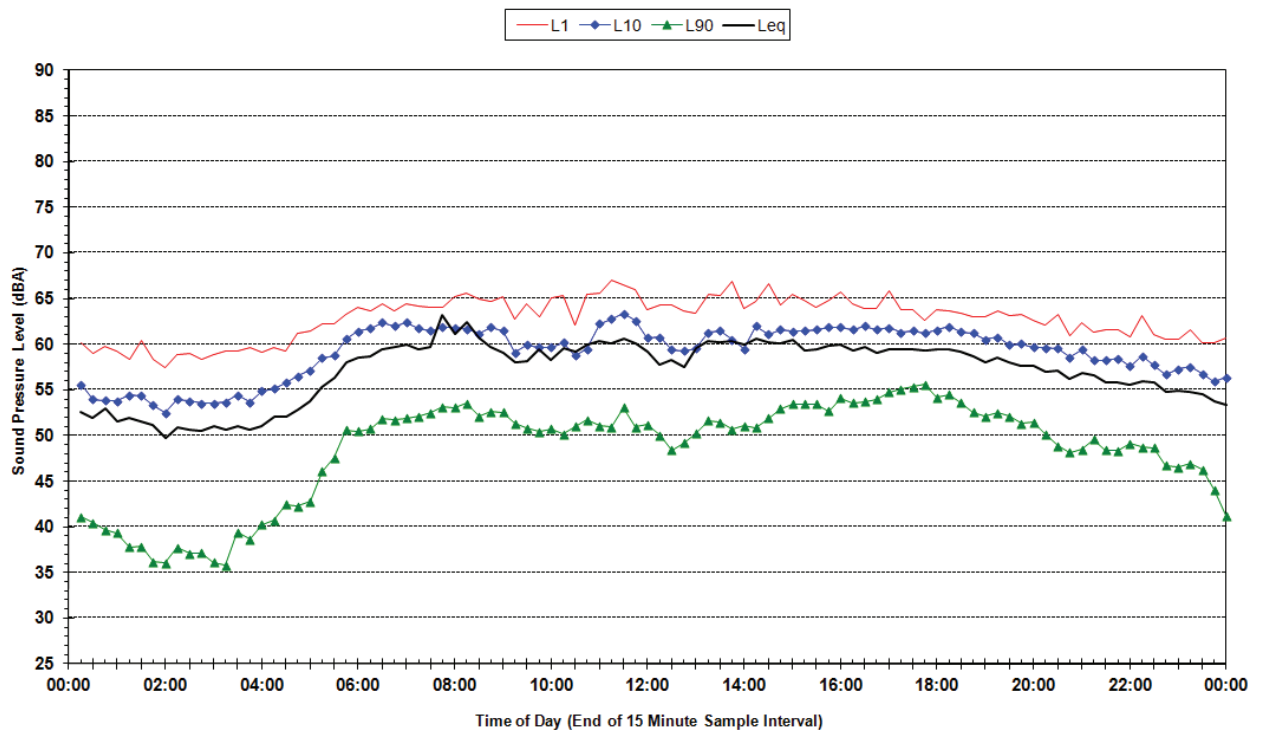
BG19 - 9-19 Kilbenny Street, Kellyville - Long-Term Statistical Noise Levels
Wednesday 18 June 2008 to Thursday 26 June 2008



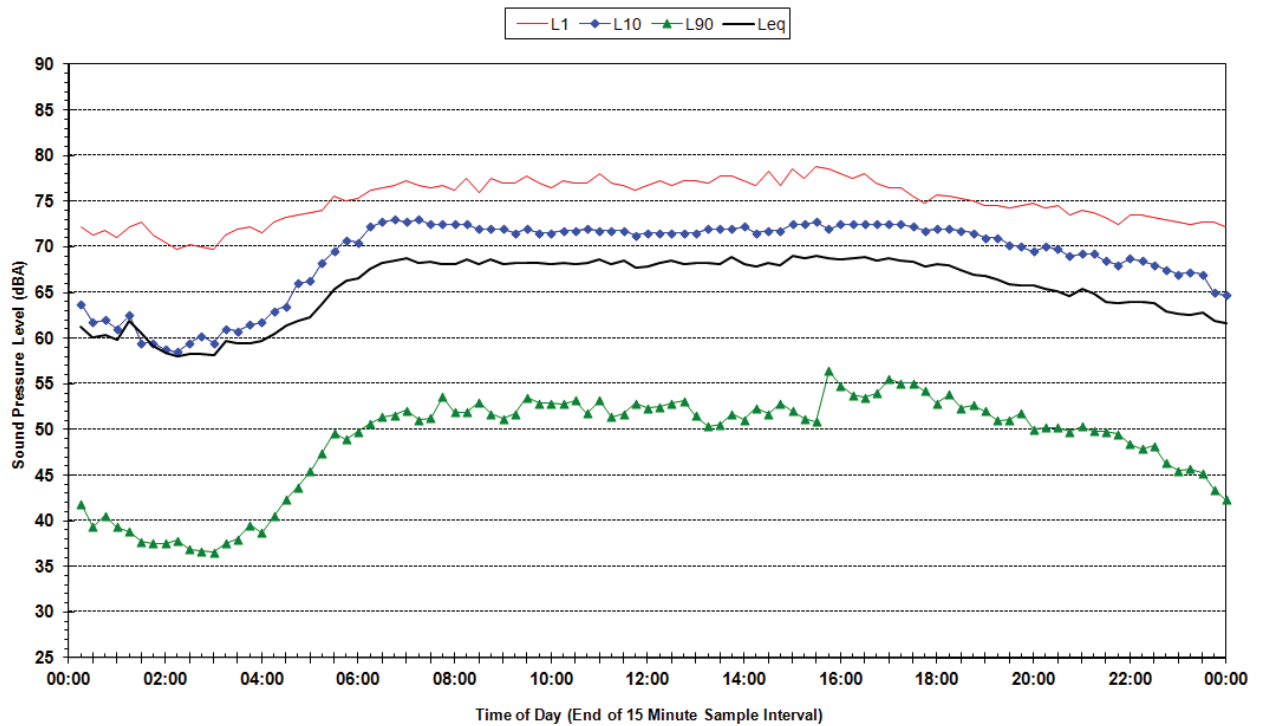
BG20 - 19 Belcast Road, Rouse Hill - Long-Term Statistical Noise Levels
Wednesday 19 October 2011 to Wednesday 26 October 2011

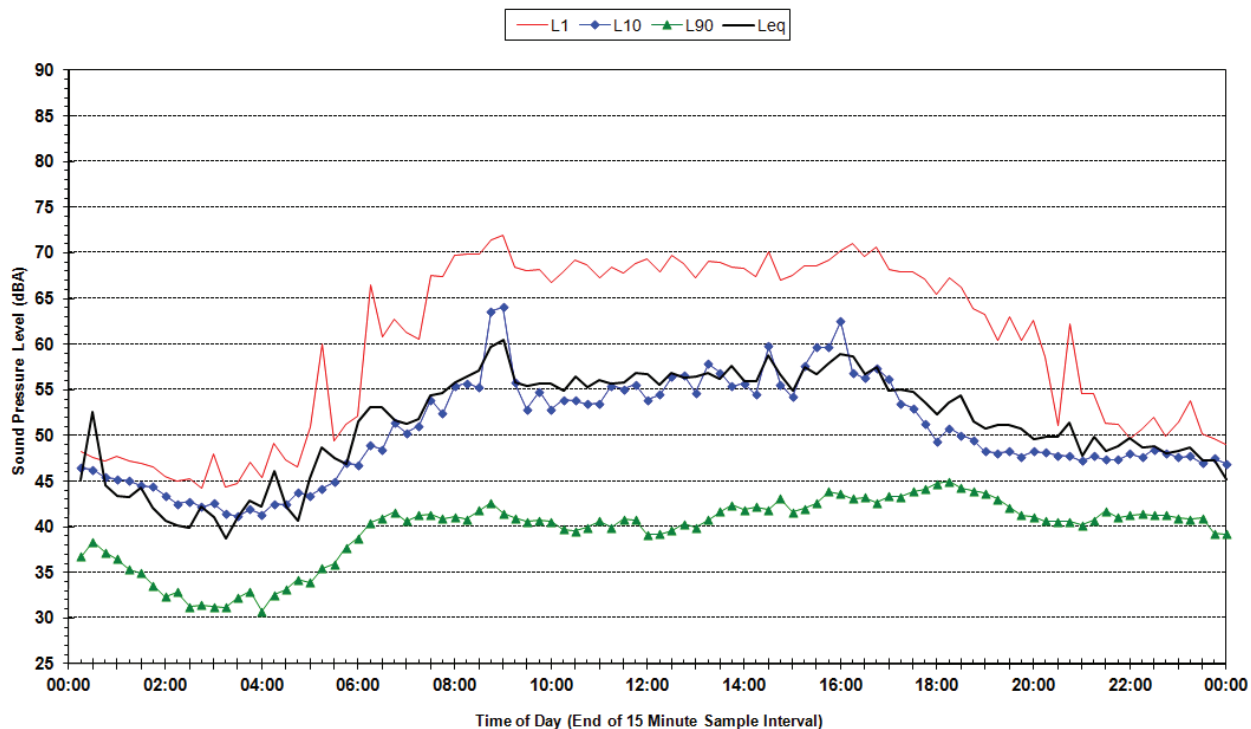
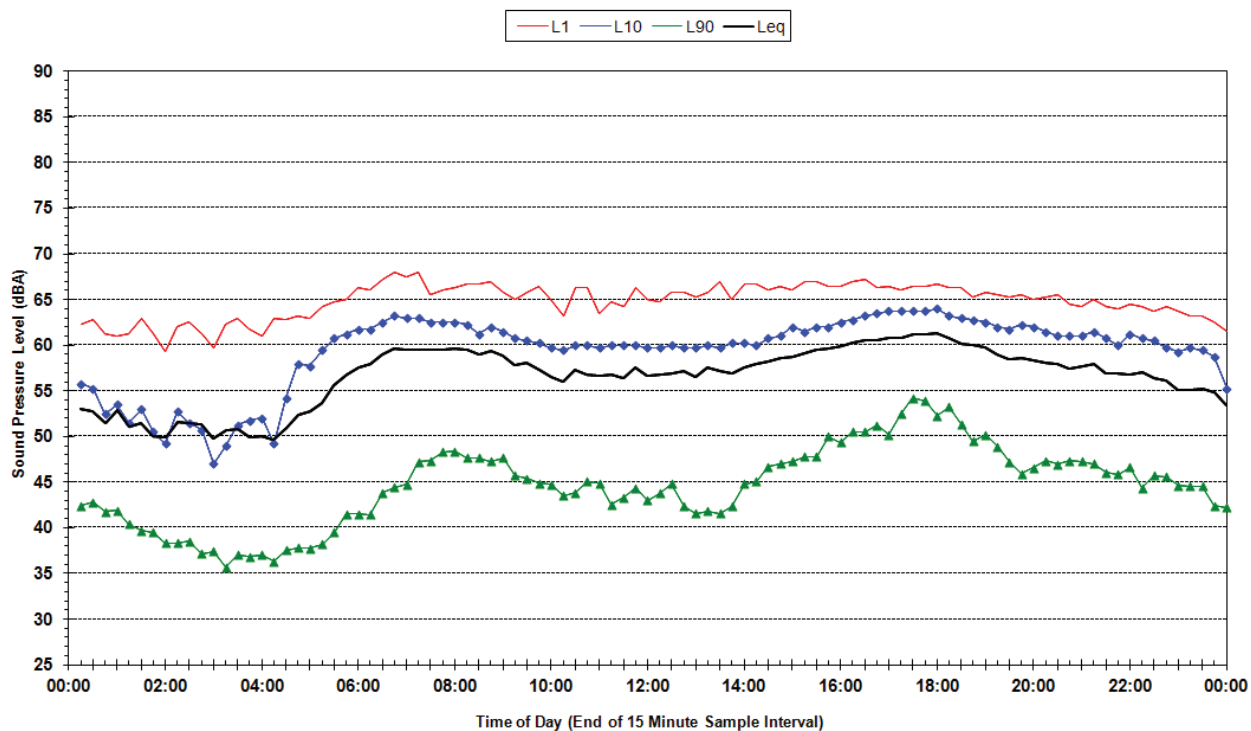


**BG21 - 107 Schofields Road, Rouse Hill - Long-Term Statistical Noise Levels
Wednesday 29 April 2009 to Thursday 7 May 2009**

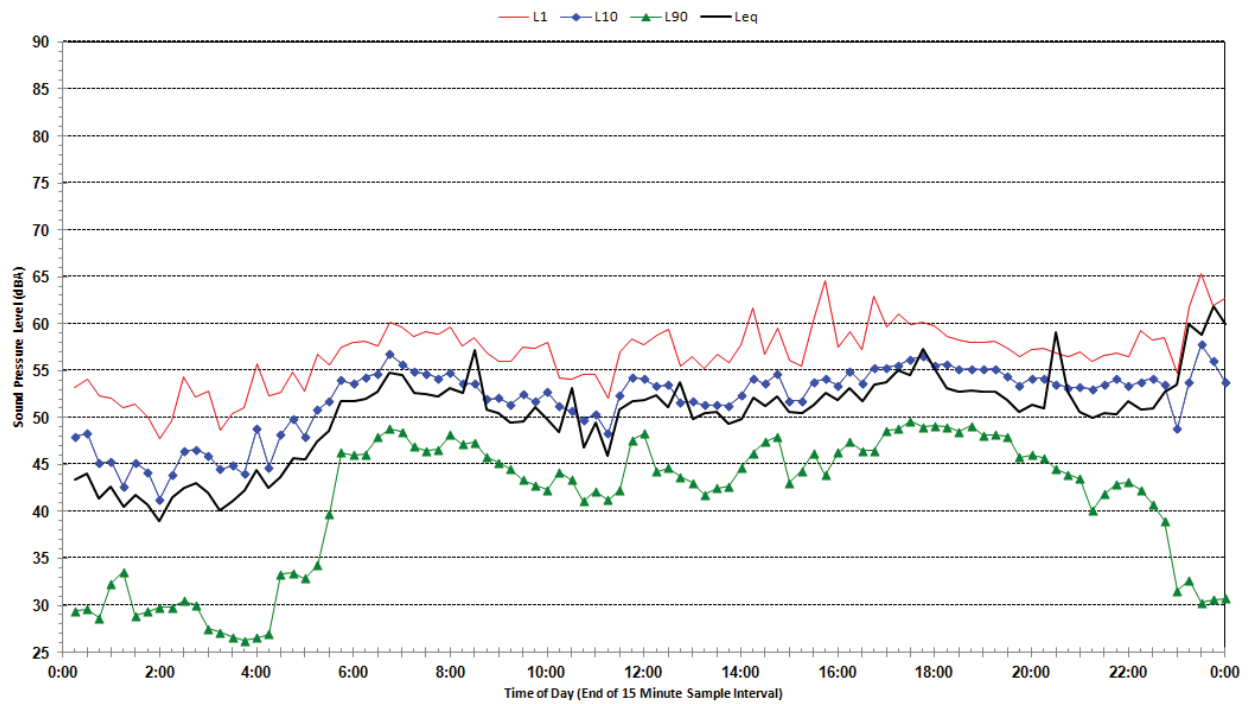


**BG 22 - 830 Windsor Rd, Rouse Hill - Long-Term Statistical Noise Levels
Wednesday 29 April 2009 to Thursday 7 May 2009**



BG23 - 88 Rouse Road, Rouse Hill - Long-Term Statistical Noise Levels
Wednesday 29 April 2009 to Thursday 7 May 2009**BG24 - 75 Schofields Road, Rouse Hill - Long-Term Statistical Noise Levels**
Wednesday 29 April 2009 to Thursday 7 May 2009

BG25 - 43 Schofields Road, Rouse Hill - Long-Term Statistical Noise Levels
Wednesday 26 October 2011 to Wednesday 2 November 2011



Appendix D Attended Noise Measurement Results and Observations

D.1 Summary of Attended Noise Measurements

Location	Date	Start Time	Measured Noise Level (dBA)			Ambient Noise Environment Description and Range of Maximum Noise Levels for Typical Sources
			L _{Amax}	L _{Aeq}	L _{A90}	
BG01	17/10/11	13:22	69	53	47	Background noise dominated by road traffic on Beecroft Road: Road Traffic 45-58 dBA, Air Traffic 55-63 dBA, Rail Traffic 50-58 dBA, Birds 48-69 dBA
		13:41	74	55	47	Road Traffic 45-64 dBA, Rail Traffic 55-64 dBA, Distant Home Appliances 45-50 dBA, Dog Barking 62 dBA, Birds 48-74 dBA
BG02	17/10/11	15:30	66	54	52	Background noise dominated by road traffic on the M2 motorway: Road Traffic 51-63 dBA, Trees 51-54 dBA, Distant Siren 57 dBA, Dog Barking 55 dBA, Birds 50-60 dBA, Neighbours Vocal 61 dBA
		15:46	70	55	52	Road Traffic 51-60 dBA, Trees 50-55 dBA, Dog Barking 55-70 dBA, Birds 52-60 dBA, Air Traffic 53-56 dBA
BG03	28/11/11	15:12	71	56	54	Background noise dominated by road traffic on the M2 motorway: Road Traffic 53-62 dBA, Trees 50-53 dBA, Dog Barking 55-68 dBA, Birds 50-71 dBA, Air Traffic 59 dBA, Door Slam 65 dBA
BG04	03/09/08	10:06	72	61	54	Background noise dominated by road traffic on Castle Hill Road: Road Traffic 50-60 dBA, Trees 53-56 dBA, Birds 55-72 dBA
BG05	18/10/11	12:40	60	43	38	Background noise dominated by road traffic on Castle Hill Road: Road Traffic 36-47 dBA, Air Traffic 38-53 dBA, Birds 36-60 dBA

Location	Date	Start Time	Measured Noise Level (dBA)			Ambient Noise Environment Description and Range of Maximum Noise Levels for Typical Sources
			L _{Amax}	L _{Aeq}	L _{A90}	
		12:58	69	50	40	Road Traffic 40-47 dBA, Air Traffic 42-62 dBA, Birds 40-69 dBA, Pets in Neighbours' Yards 41-49 dBA
BG06	18/10/11	14:43	73	58	52	Background noise dominated by road traffic on Old Northern Road: Road Traffic 50-73 dBA, Air Traffic 55-60 dBA, Birds 48-63 dBA, Distant Electric Motor 45-58 dBA
		15:00	83	61	52	Road Traffic 48-76 dBA, Birds 54-61 dBA, Distant Electric Motor 50-57 dBA, Neighbours Vocal 63-83 dBA
BG07	18/10/11	17:09	79	69	56	Background noise dominated by road traffic on Showground Road: Road Traffic 45-79 dBA, Air Traffic 55 dBA, Birds 47-66 dBA, Neighbours Vocal 48-50 dBA
		17:28	87	69	56	Road Traffic 46-86 dBA, Birds 52-70 dBA
BG08	03/09/08	14:37	72	61	54	Background noise dominated by road traffic on Carrington and Showground Road: Road Traffic 56-72 dBA, Birds 52 dBA, Trees 56-59 dBA, Distant Alarm 63 dBA
BG09	19/10/11	11:20	82	56	46	Background noise dominated by road traffic on Norwest Boulevard: Road Traffic 46-82 dBA, Air Traffic 50-69 dBA, Birds 50-61 dBA, Intermittent Industrial Area Noises 48-60 dBA
		11:36	65	51	47	Road Traffic 46-58 dBA, Air Traffic 50-58 dBA, Birds 46-52 dBA, Intermittent Industrial Area Noises 60-65 dBA
BG10 ¹	05/10	-	-	-	-	Constant traffic noise from Old Windsor Road.
BG11	19/10/11	13:14	59	39	35	Background noise dominated by road traffic on Old Windsor Road and noise from fauna: Road Traffic 34-44 dBA, Trees 34-44 dBA, Birds 34-59 dBA, Intermittent Distant Construction Noises 34-44 dBA, Insects 34-41 dBA

Location	Date	Start Time	Measured Noise Level (dBA)			Ambient Noise Environment Description and Range of Maximum Noise Levels for Typical Sources
			L _{Amax}	L _{Aeq}	L _{A90}	
		13:31	66	46	35	Road Traffic 34-41 dBA, Trees 35-41 dBA, Birds 34-42 dBA, Intermittent Distant Construction Noises 34-47 dBA, Insects 35-38 dBA, Air Traffic 38-66 dBA
BG12	21/11/11	16:15	77	59	50	Background noise dominated by road traffic on Old Windsor Road: Road Traffic 53-70 dBA, Birds 54-63 dBA, Air Traffic 58 dBA, Dog 77 dBA
BG13 ¹	05/10	-	-	-	-	Relatively constant traffic noise from both Sunnyside Road and Old Windsor Road
BG14	21/11/11	16:58	66	57	49	Background noise dominated by road traffic on Old Windsor Road: Road Traffic 50-66 dBA, Kids Playing (distant) 46-48 dBA, Air Traffic 65 dBA,
BG15	19/10/11	15:56	59	43	40	Background noise dominated by road traffic on Old Windsor Road and fauna: Road Traffic 38-59 dBA, Birds 38-58 dBA, Trees 40-44 dBA, Insects 38-40 dBA
		16:13	64	44	40	Road Traffic 38-50 dBA, Birds 38-64 dBA, Trees 38-50 dBA, Insects 38-41 dBA, Neighbours' Vocal 39-56 dBA
BG16 ¹	05/10	-	-	-	-	Distant traffic noise from Old Windsor Road.
BG17 ¹		-	-	-	-	Relatively constant traffic noise from Windsor Road.
BG18	28/11/11	16:29	77	62	55	Background noise dominated by road traffic on Windsor Road and fauna: Road Traffic 58-77 dBA, Birds 63 dBA, Dog Barking 67 dBA, Trees 50-55 dBA, Air Traffic 67 dBA
BG19	04/09/08	15:06	67	49	42	Constant traffic noise from Windsor Road.
BG20	19/10/11	17:39	60	46	41	Background noise dominated by road traffic on Windsor Road and fauna: Road Traffic 39-56 dBA, Birds 39-53 dBA, Nearby Playground 40-54 dBA, Dog Barking 49-54 dBA, Neighbours' Door Slam 60 dBA

Location	Date	Start Time	Measured Noise Level (dBA)			Ambient Noise Environment Description and Range of Maximum Noise Levels for Typical Sources
			L _{Amax}	L _{Aeq}	L _{A90}	
		17:58	65	45	39	Road Traffic 39-58 dBA, Birds 39-64 dBA, Nearby Playground 40-49 dBA, Neighbours' Door Slam 57 dBA
BG21	29/04/09	15:02	67	55	51	Background noise dominated by road traffic: Distant Construction 51-62 dBA, Birds 51-54 dBA, Road Traffic 52-64 dBA, Dog Barking 59 dBA
BG22	07/05/09	16:53	81	69	56	Background noise dominated by road traffic on Windsor Road: Dog Barking 58 dBA, Road Traffic 55-81 dBA
BG23	07/05/09	13:31	63	51	49	Background noise dominated by road traffic and fauna, distant construction noise audible intermittently: Road Traffic 50-55 dBA, Birds 47-63 dBA, Distant Construction 50-55 dBA
BG24	07/05/09	14:24	74	60	49	Background noise dominated by road traffic on Schofields Road and fauna: Distant Construction 43 dBA, Birds 46-61 dBA, Road Traffic 57-74 dBA
BG25	26/10/11	15:21	63	53	50	Background noise dominated by road traffic on Schofields Road and fauna: Road Traffic 49-63 dBA, Birds 49-57 dBA, Dog Barking 50-55 dBA, Trees 49-54 dBA
		15:37	63	54	51	Road Traffic 47-63 dBA, Birds 47-57 dBA, Air Traffic 47-54 dBA, Trees 50-55 dBA

Note 1: Attended observations of dominant noise sources