

PACIFIC HIGHWAY UPGRADE - NAMBUCCA HEADS TO
URUNGA
OPERATIONAL NOISE MODELLING & ASSESSMENT

TF739-01F04 (REV 3) OPERATIONAL NOISE MODELLING & ASSESMENT REPORT

NOVEMBER 2012

Prepared for:

Roads & Maritime Services

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DOCUMENT CONTROL

Date	Revision History	Non-Issued Revision	Issued Revision	Prepared By (initials)	Instructed By (initials)	Reviewed & Authorised by (initials)
Aug 2012	Preliminary Draft	0	-	BC	PK	-
Sep-Oct 2012	Working Drafts	1 - 2	-	BC	PK	-
Nov 2012	Final	3	-	BC	PK	PK

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CONTENTS

1	INTRODUCTION	6
2	ENVIRONMENTAL AND LEGAL OBLIGATIONS	7
2.1	Project Requirements	7
2.1.1	Ministers Conditions of Approval	7
2.1.2	Statement of Commitments	7
2.1.3	Scope of Work and Technical Criteria	7
2.1.4	Legislation, Policies and Guidelines	7
2.1.5	Environmental Assessment	8
2.2	Operational Noise Criteria	8
2.2.1	Target Noise Goals	10
2.2.2	Allowance Noise Goals	11
2.2.3	Acute Noise Levels	11
2.2.4	Maximum Noise Levels	11
2.3	Nambucca Heads Rest Area	11
3	REVIEW OF EA NOISE MODEL & SWTC	13
3.1	EA Noise Model Comparison	13
3.2	SWTC Review	14
4	EXISTING AMBIENT NOISE ENVIRONMENT	18
4.1	Traffic Noise Monitoring Methodology	18
4.1.1	Procedure and Noise Metrics	18
4.1.2	Instrumentation	19
4.1.3	Meteorology	19
4.1.4	Monitoring Locations	19
4.1.5	Maximum Noise Monitoring Methodology	21
4.2	Existing Noise Levels	25
4.2.1	L _{eq} Traffic Noise Levels	25
4.2.2	Background L90 Noise Levels	25
4.2.3	Maximum Noise Levels	26
5	OPERATIONAL NOISE ASSESSMENT	28
5.1	Methodology and Outputs	28
5.2	Traffic Flow and Composition Summary	28
5.2.1	Existing Traffic Volumes	28
5.2.2	Future-Existing Traffic Volumes	29
5.2.3	Opening Year Traffic Volumes	30
5.2.4	Design Traffic Volumes	30
5.3	Noise Prediction Modelling	30
5.4	Mitigation Measures	32

5.5	Noise Model Validation	33
5.5.1	Validation Methodology & Results	33
5.5.2	Discussion	34
5.5.2.1	Moderate Measured-Vs-Modelled Variations	35
5.5.2.2	Measured-Vs-Modelled Outliers	35
5.5.3	Calibration Results	36
6	ROAD TRAFFIC NOISE ASSESSMENT	37
6.1	Mitigated noise levels at noise sensitive locations (noise contours)	37
6.2	Mitigated predictions to individual properties	37
7	SUMMARY OF NOISE MITIGATION MEASURES	39
7.1	Methodology for mitigation measures	39
7.1.1	Low noise pavements	39
7.1.2	Noise barriers	39
7.1.3	At property treatment	40
7.1.4	Low-noise expansion joints on bridges/overpasses	40
7.2	At-road noise mitigation measures	40
7.3	At-property noise mitigation measures	41
8	CONCLUSION	51
	REFERENCE MATERIAL	52
	APPENDIX A - GLOSSARY OF ACOUSTIC TERMS & ABBREVIATIONS	53
	APPENDIX B - TRAFFIC VOLUME AND COMPOSITION DATA	59
	APPENDIX C - FUTURE EXISTING NOISE CONTOUR MAPS	60
	APPENDIX D - OPENING YEAR NOISE CONTOUR MAPS	61
	APPENDIX E - DESIGN YEAR NOISE CONTOUR MAPS	62
	APPENDIX F - SINGLE POINT RECEIVER PREDICTIONS	63
	APPENDIX G - LONG TERM NOISE MONITORING RESULTS	64
	APPENDIX H - MODEL TO MEASURED NOISE: COMPARISON GRAPHS	65
	APPENDIX I - MAXIMUM NOISE LEVEL ASSESSMENT	66
	APPENDIX J - SWTC – APPENDIX 4.6	67

List of Tables

Table 1	– Noise Criteria for Residential Receivers	10
Table 2	– Noise Criteria for Sensitive Land Use Developments	10
Table 3	- Comparison of Noise Modelling Input Parameters adopted in SKM’s EA and in RT&A’s Study	13
Table 4	– Road Traffic Noise Monitoring Locations	20

Table 5 – Results of L_{eq} Traffic Noise Monitoring, dB(A)	25
Table 6 – Results of Background L_{90} Noise Monitoring, dB(A)	25
Table 7 – Summary of Measured Maximum Noise Levels along Existing Pacific Highway & Predicted Design Year Maximum Noise Levels at Night (10pm-7am)	26
Table 8 – Road Traffic Survey Locations	29
Table 9 – Existing 2012 Traffic Volumes and Compositions along the Pacific Highway	29
Table 10 - Summary of Noise Modelling Inputs	31
Table 11 – Road Pavement Surface of Proposed Upgrade	33
Table 12 – Validation Summary: Measured -V- Modelled Statistical Analysis	34
Table 13 - Global Calibration Factors Applied to Noise Models	36
Table 14 – Road Pavement Noise Corrections Relative to Dense Graded Asphalt	39
Table 15 – Comparison of Properties for At-Property Treatment between RT&A Noise model and EA Process	41
Table 16 – Noise Levels at Critical Noise Sensitive Receivers	44

1 INTRODUCTION

The proposed upgrade of the Pacific Highway between Nambucca Heads and Urunga is part of the Pacific Highway upgrade program being implemented by Roads and Maritime Services (RMS). The project is approximately 22 kilometres in length, commencing just north of the intersection with Old Coast Rd near Nambucca Heads, connecting with the existing Waterfall Way interchange, north of Urunga.

Renzo Tonin & Associates (RT&A) was engaged to conduct a quantitative assessment of the proposed upgrade, involving the following:

- A review of the Environmental Assessment ('EA') noise model and methodology conducted by Sinclair Knight Mertz ('SKM') in January 2010.
- Undertaking long-term noise monitoring and concurrent monitoring of traffic volumes, vehicle classification and speeds at several locations along the Project, to assist with noise model validation and calibration.
- Create a noise model to include any new receivers that were not present in the EA noise study and model the proposed Upgrade.
- Quantify the number of properties that would exceed the criteria, and compare with the findings presented in the EA's Working Paper on noise.
- Investigate the feasibility of At-Road mitigation options.
- Prepare a report outlining the findings of the noise modelling and assessment.

This assessment identifies sensitive locations and assesses potential noise impacts against the Project's noise criteria as presented in the noise policy relevant to this project, namely the NSW 'Environmental Criteria for Road Traffic Noise' (ECRTN) and the NSW 'Environmental Noise Management Manual' (ENMM), with consideration given to the recently introduced NSW 'Road Noise Policy' (RNP).

The work documented in this report was carried out in accordance with the Renzo Tonin & Associates Quality Assurance System, which is based on Australian Standard / NZS ISO 9001.

2 ENVIRONMENTAL AND LEGAL OBLIGATIONS

This section presents the operational noise and vibration requirements, legislation, guidelines, standards and past studies relevant and applicable to the Project.

2.1 Project Requirements

Renzo Tonin & Associates (RT&A) has conducted an assessment of this Project and prepared this report in accordance with the following:

- Minister's Conditions of Approval;
- RMS's Statement of Commitments (Submissions and Preferred Project Report);
- RMS's Scope of Works and Technical Criteria (SWTC);
- NSW 'Environmental Criteria for Road Traffic Noise' (ECRTN), 1999;
- RMS's 'Environmental Noise Management Manual (ENMM), 2001; and
- Environmental Assessment – Warrell Creek to Urunga Upgrading the Pacific Highway, Working Paper 3 – Noise and Vibration Impact assessment (Sinclair Knight Merz, January 2010).

2.1.1 Ministers Conditions of Approval

This report considers the requirements of the Minister's Conditions of Approval (MCoA).

2.1.2 Statement of Commitments

This report considers the requirements in the Statement of Commitments from the environmental documents, namely 'Warrell Creek to Urunga Upgrading the Pacific Highway – Submissions and Preferred Project Report' (RMS, November 2010) [5].

2.1.3 Scope of Work and Technical Criteria

This report considers the requirements of the Project Scope of Works and Technical Criteria (SWTC). Appendix 4.6 of the SWTC is relevant to noise associated with the operational phase of this project and is included within Appendix J of this report.

2.1.4 Legislation, Policies and Guidelines

Key environmental legislation relating to the management of road traffic noise includes:

- Protection of the Environment Operations Act (1997);
- Environment Planning and Assessment Act (1979); and
- Local Government Act (1993).

The key references relevant to road traffic noise management include:

- 'Environmental Criteria for Road Traffic Noise' (ECRTN), NSW EPA (ex OEH), May 1999 [2];
- 'Road Noise Policy' (RNP), NSW EPA (ex OEH), March 2011 [3].

- 'Environmental Noise Management Manual' (ENMM), NSW RMS, 2001 [4]; and
- Australian Road Research Board (ARRB) research Report ARR No.122, "An Evaluation of the U.K. DoE Traffic Noise Prediction Method", March 1983 (by Saunders, Samuels, Leach & Hall) [1]

2.1.5 Environmental Assessment

The Environmental Assessment of potential noise impacts as a result of the operation of the Project is set out in 'Warrell Creek to Urunga Upgrading the Pacific Highway, Working Paper 3 – Noise and Vibration Impact assessment' (Sinclair Knight Merz, January 2010) [6].

2.2 Operational Noise Criteria

In accordance with Condition C12 of the MCoA, the operational noise mitigation measures contained within this Report have been designed following the NSW 'Environmental Criteria for Road Traffic Noise' (ECRTN). It is noted that a new road traffic noise policy was released by EPA (ex OEH) for use post 1st July 2011, entitled NSW 'Road Noise Policy' (RNP), March 2011. Nonetheless, the ECRTN is still the applicable policy for this Project because the Project was approved prior to 1st July 2011. Consequently the MCoA and the SWTC refer to the ECRTN, not the RNP.

Further to this, other environmental documents for the project (outlined in Section 2.5) have been taken into consideration in the development of operational noise mitigation measures. It is noted that the noise criteria applied in this study are consistent with the noise assessment criteria described in Section 3.1 of the Environmental Assessment's Working Paper on noise and vibration (with the exception of one area along the Urunga Bypass where this study applies slightly different criteria – described in more detail in Section 2.2 of this report).

The ECRTN outlines the NSW Government's guidelines for road traffic noise assessment. Specific objectives of the ECRTN include establishment of criteria to define acceptable noise levels, methods for assessing and measuring noise impacts and identification of all strategies available to reduce traffic noise.

In accordance with the ECRTN, a number of factors should be considered in setting road traffic noise levels:

- Whether there is an existing road corridor and whether the road project is intended to increase traffic-carrying capacity substantially, or whether the traffic mix would be substantially changed. This situation generally provides less scope for reducing noise;
- Whether or not substantial changes to the road alignment are proposed, or whether the road is on a 'new' corridor. These road alignment changes provide the greatest opportunity to achieve optimum noise management;
- Whether the design/profile of a proposed road is to be altered substantially. In these cases there is also significant opportunity to consider noise reduction options (e.g. putting a large proportion of the road in a tunnel);

- Whether the criteria are being applied in relation to any redevelopment occurring adjacent to an established road. In these cases, there is opportunity to use the design of the redevelopment to control or reduce noise impact; and
- Whether the area affected is an urban or rural environment where existing noise levels will inevitably vary substantially, and where the response to additional noise will also vary.

All these factors have been considered in the development of the noise level criteria for the NH2U (Nambucca Heads to Urunga) Project.

Under the ECRTN, the Project is classed as a freeway or arterial road because it is a road that handles through traffic bound for another locality and has characteristically heavy and continuous traffic flows.

With the exception of a section of the route which bypasses the township of Urunga, the Project is a 'road redevelopment' because the upgrade is required to facilitate an increase in the traffic carrying capacity of the New England Highway, and sensitive receivers are exposed to existing road traffic noise. The approximate 3 kilometre section that bypasses Urunga, is a new freeway / arterial road because it is to be built in a new road corridor, however, for receivers that have an existing road traffic noise exposure the Project has been assessed as a 'road redevelopment'.

Existing road traffic noise exposure is defined by the RMS's 'Environmental Noise Management Manual' (ENMM) as '*...the prevailing noise level from the existing road alignment(s) under consideration is equal to or greater than 55dB(A) $L_{Aeq(15hr)}$ or 50dB(A) $L_{Aeq(9hr)}$* '. Traffic noise exposure should also be from the same direction before and after the Project completion for this definition to apply and for the Project to be assessed under noise goals relevant to a road redevelopment, rather than the goals that apply to new roads. The Environmental Assessment's Working Paper on noise and vibration assesses all properties along the bypass section under the new road noise goals without consideration to existing noise traffic noise levels and the effect these noise levels have on the setting of appropriate noise goals.

Therefore, according to the ECRTN, this Project has two (2) noise criteria categories for residential receivers with respect to Table 1 of the ECRTN:

- **Nambucca Heads to Urunga (excluding the Urunga bypass section):**
 - Category 3** – Redevelopment of Existing Freeway / Arterial Road: areas currently exposed to road traffic noise.
- **Urunga bypass section:**
 - Category 1** – New Freeway or Arterial Road Corridor: areas not currently exposed to road traffic noise; and
 - Category 3** – Redevelopment of Existing Freeway / Arterial Road: areas currently exposed to road traffic noise.

The relevant noise criteria for this Project are therefore summarised in Table 1 below.

Table 1 – Noise Criteria for Residential Receivers

Type of Development	Criteria		
	Day, dB(A)	Night, dB(A)	Where Criteria are Already Exceeded
1. New freeway or arterial road corridor	L _{Aeq(15hr)} 55	L _{Aeq(9hr)} 50	The new road should be designed so as not to increase existing noise levels by more than 0.5 dB.
3. Redevelopment of existing freeway/ arterial road	L _{Aeq(15hr)} 60	L _{Aeq(9hr)} 55	In all cases, the redevelopment should be designed so as not to increase existing noise levels by more than 2 dB.

Source: NSW Environmental Criteria for Road Traffic Noise (May 1999).

The ECRTN also sets guidelines for the assessment of traffic noise on sensitive land use developments.

Table 2 – Noise Criteria for Sensitive Land Use Developments

Type of Development	Criteria		
	Day, dB(A)	Night, dB(A)	Noise Mitigation Measures
Proposed school classrooms	L _{eq(1hr)} 40 ¹	-	To achieve internal noise criteria in the short-term, the most practicable mitigation measures are often related to building or facade treatments. In the medium to longer term, strategies such as regulation of exhaust noise from in-service vehicles, limitations on exhaust brake use, and restricting access for sensitive areas or during sensitive times to low noise vehicles can be applied to mitigate noise impacts across the road system. Other measures include improved planning, design and construction of sensitive land use developments; reduced new vehicle emission standards; greater use of public transport; and alternative methods of freight haulage. These medium to long-term strategies apply equally to mitigating internal and external noise levels. Where existing levels of traffic noise exceed the criteria, all feasible and reasonable noise control measures should be evaluated and applied. Where this has been done and the internal or external criteria (as appropriate) cannot be achieved, the proposed road or land use development should be designed so as not to increase existing road traffic noise levels by more than 0.5dB(A) for new roads and 2dB(A) for redeveloped roads or land use development with potential to create additional traffic.
Existing school classroom	L _{eq(1hr)} 45 ¹	-	
Hospital wards	L _{eq(1hr)} 35 ¹	L _{eq(1hr)} 35 ¹	
Places of worship	L _{eq(1hr)} 40 ¹	L _{eq(1hr)} 40 ¹	
	L _{eq(15hr)} 60 ²	-	
Passive recreation and school playgrounds	L _{eq(15hr)} 55 ²	-	

Source: NSW Environmental Criteria for Road Traffic Noise (May 1999).

Notes:
1. Internal noise criteria
2. External noise criteria

The noise criteria described above are consistent with the Environmental Documents.

2.2.1 Target Noise Goals

The Target noise goals for this project are defined in Table 1 as follows for each type of noise sensitive receiver:

- New freeway or arterial road corridor (i.e. receivers newly affected by road noise):

Day – $L_{Aeq(15hr)}$ 55 dB(A)

Night – $L_{Aeq(9hr)}$ 50 dB(A)

- Redevelopment of existing freeway / arterial road (i.e. receivers currently affected by road noise):

Day – $L_{Aeq(15hr)}$ 60 dB(A)

Night – $L_{Aeq(9hr)}$ 55 dB(A)

2.2.2 Allowance Noise Goals

As per the ECRTN and ENMM, Allowance noise goals apply where existing (or future-existing) noise levels already exceed the ECRTN's Target noise goals, and all feasible and reasonable traffic management and noise reducing design opportunities have been incorporated into the road design. Allowance noise goals are set as follows:

- For Redev Rds: 'Future-Existing' Noise Level + 2 dB(A)
- For new roads: 'Future-Existing' Noise Level + 0.5 dB(A)

2.2.3 Acute Noise Levels

Acute noise levels are defined in the ENMM to be equivalent to or greater than $L_{Aeq(15hr)}$ 65 dB(A) during the day period and $L_{Aeq(9hr)}$ 60 dB(A) during the night period.

2.2.4 Maximum Noise Levels

Maximum noise levels generated by road traffic noise have the potential to cause disturbance to sleep. The conditions stipulated in the MCoA do not specifically require an assessment of maximum noise levels to be considered during the design of noise mitigation measures for sensitive receptors. Notwithstanding this, the ECRTN does require maximum noise levels during each hour of the night time period (10:00pm to 7:00am) to be assessed and reported to give an indication of the likelihood of awakening reactions.

The ECRTN does not include noise criteria for assessing maximum noise level events. This is primarily because research conducted to date in this field has not been definitive and the relationship between maximum noise levels, sleep disturbance and subsequent health effects is not currently well defined. Guidelines for assessing maximum noise levels are provided in Practice Note iii of the ENMM. The guidelines are to be used as a tool to help prioritise and rank mitigation strategies, but should not be used as a decisive criterion in itself and should not be used to aid in designing the degree of mitigation required.

The ENMM defines a "maximum noise event" as any pass-by for which:

- $L_{max} - L_{eq} \geq 15$ dB(A), where the L_{max} noise level is greater than 65 dB(A).

2.3 Nambucca Heads Rest Area

The assessment of the Nambucca Heads Rest Area is not covered in this report. A noise impact assessment has previously been undertaken for the Nambucca Heads Rest Area by RT&A

entitled "Nambucca Heads – Revised Rest Area Design – Noise Impact Assessment", TF560-02F01 (REV 3) Noise Assessment, 23 May 2012.

3 REVIEW OF EA NOISE MODEL & SWTC

3.1 EA Noise Model Comparison

Table 3 below, presents a comparison between the modelling input parameters adopted in the EA and this study.

Table 3 - Comparison of Noise Modelling Input Parameters adopted in SKM's EA and in RT&A's Study

	SKM Environmental Assessment	RT&A Study
Increased Receiver Locations	-	32 additional receivers that were not identified in the EA (numbered with IDs 4000 & 5000 series)
Extent of Study Area	500m either side of the Upgrade and properties where predicted noise levels exceed 50 dB(A) $L_{Aeq(9hr)}$	600m either side of the Upgrade
Roads Modelled	No existing Pacific HWY or local roads	Pacific HWY and local roads included in the assessment. Significant proportion of traffic is located on the Pacific HWY i.e. 70% of the Upgrade volumes, albeit a low % of HV
Traffic Volumes and Mix	Traffic number forecasts for the years 2012 and 2022	Traffic forecasted for 4 years later - 2016 and 2026 In addition, RMS also requested that traffic volumes be increased by 20%
Traffic Speed	110 km/h used throughout the assessment	Upgrade: 115km/h for day, 120km/h for night Interchange ramps: 80km/h Existing Pacific HWY: posted speeds Local roads: 60km/h
Ground Topography	2m increments Overpasses and underpasses along the Upgrade were not cleaned up in the EA noise model, resulting in elevation lines overlapping and leading to incorrect road string heights in affected areas	1m increments This is the main reason why RT&A formed a new noise model, rather than adopting the EA model, for the "Alternative Alignment Investigation for Warrell Creek to Urunga". RT&A 'cleaned' topography anomalies in the data and removed overlapping elevation lines.
Buildings	Buildings not incorporated	Buildings provided by RMS and from aerial photos. All residential buildings modelled as single storey and assigned a height of 5m.
Acoustic properties of the road pavement surfaces	Concrete (tyned) assumed for the whole alignment having a relative correction of +2.5dB(A) compared to DGA SMA used in two (2) sections, having a relative correction of -2dB(A) compared to DGA. It is not clear where this correction was applied but it is likely that it has been applied at the receiver.	PCP for the Upgrade [+3 dB(A)] DGA for interchange ramps and existing Pacific HWY [+0dB(A)] SMA used for the same sections as the EA, having a relative correction of -2dB(A) compared to DGA. This correction was applied at the source rather than at the receiver.
Façade Correction	+2.5 dB(A)	+2.5 dB(A) and Australian condition corrections were applied

	SKM Environmental Assessment	RT&A Study
Source Height Corrections	The EA noise model separates cars and trucks into, three heights for trucks and one height for cars, with both the truck tyre source height and the car source height placed at the same 0.5m height	0.5m for car exhausts/engines and car/truck tyre noise, 1.5m for truck engines and 3.6m for truck exhausts
Calibration	Did not appear to calibrate noise model	Calibration adjustment(s) and a risk allowance were applied

3.2 SWTC Review

The SWTC's main sections relating to operational noise matters are presented in Appendix 4, Sections 4.24 and 4.25, as presented below:

4.24 Noise Mitigation

Further to and as a consequence of condition C12. of the Planning and Infrastructure Minister's Approval, commitment N7 of the Statement of Commitments and the Environmental Assessment:

- (a) *RMS will consult with the owners of noise affected receivers and noise sensitive land uses, to determine, in consultation with the owners, the scope and extent of noise mitigation and treatments to be applied to residences.*
- (b) *The at-residence noise mitigation treatments will be undertaken by RMS. The Contractor must not undertake any at-residence treatments to address the operational noise mitigation requirements of the Environmental Documents.*
- (c) *The Contractor must comply with the operational noise mitigation requirements of the Environmental Documents using noise mitigation and treatments other than at-residence treatments.*
- (d) *Notwithstanding the requirements of Practice Note ii of ENMM noise mitigation measures are not required at commercial or industrial premises.*
- (e) *Further to any other requirements of the Environmental Documents and the Environmental Assessment in relation to noise mitigation measures, the Contractor must design and provide at-road operational noise mitigation measures:*
 - (i) *notwithstanding and so as not to be constrained by any financial, costing, feasibility or other constraints on types of mitigation identified in the ENMM; and*
 - (ii) *to maintain operational noise levels of 60 dB(A) / 55dB(A) LA eq 15hr (day) or less and 55dB(A) / 50dB (A) LAeq9hr (night) or less, for the years 2016 (at opening) and 2026 (ten years after opening) for redeveloped / new roads respectively as appropriate at the locations identified by the respective noise contour lines described in Figures 9.19 and 9.20 of Appendix 9 of the Scope of Works and Technical Criteria.*
- (f) *At-road operational noise mitigation measures must be contained within the Site, Local Road Works Corridors and existing road reserves.*
- (g) *The Contractor must undertake noise modelling on the design of the Project Works to predict the 2016 (at opening) and 2026 (ten years after opening) noise contours. The noise modelling must:*
 - (i) *use the following 85th percentile traffic speeds for all vehicles:*

Main Carriageways; 15hr 7am – 10pm (day)	115km/hr
Main Carriageways; 9hr 10pm – 7am (night)	120km/hr
Local Roads, (including Service Road and Access Roads) and Ramps	Posted Traffic Speed identified in Appendix 9 of Scope of Works And Technical Criteria.

- (ii) use the traffic volumes for years 2016 (at opening) and 2026 (ten years after opening) identified in Tables 9.9 and 9.10 respectively of Appendix 9 of the Scope of Works and Technical Criteria;
 - (iii) apply three source heights: 0.5m for car exhausts / engines and car / truck tyre noise; 1.5m for truck engines; and 3.6m for truck exhausts;
 - (iv) use pavement corrections of +3dB(A) for concrete, 0 dB(A) for dense graded asphalt and -2dB(A) for stone mastic asphalt at source;
 - (v) adopt a minimum receiver height of 1.5m above ground level and 4.5m above ground level for single and double story premises, respectively;
 - (vi) adopt a ground absorption factor of 50%, except for areas of heavy vegetation (i.e. bushland) where the absorption factor should be 100% and for over water where the absorption factor should be 0%;
 - (vii) for the generation of noise contours adopt a maximal search radius = 3000;
 - (viii) for the generation of noise contours adopt a grid space = 20, and height above ground = 1.5m;
 - (ix) use calibration adjustment/s determined by comparing monitored existing noise levels to modelled noise levels using concurrently collected traffic and noise data (i.e. calibration adjustment = monitored noise levels – modelled noise levels);
 - (x) use risk allowance/s of at least one standard deviation for the data set obtained by comparing monitored existing noise levels to modelled noise levels using concurrently collected traffic and noise data (i.e. risk allowance = 1 x standard deviation); and
 - (xi) include a +2.5dB(A) facade reflection and ARRB's Australian condition correction at 1m from façade conditions.
- (h) Further to the requirements of section 4.24(c), the Contractor must design and provide at road noise mitigation operational noise mitigation measures to:
- (i) maintain operational day and night noise levels at noise-sensitive receiver locations for the year 2026 to no greater than those identified in the electronic file Appendix 4.6.pdf, titled Noise Levels; and
 - (ii) comply with the NSW Government's Environmental Criteria for Road Traffic Noise (ECRTN) and ENMM for the year 2026 at all noise-sensitive receivers (where the term 'noise-sensitive receiver' is as defined in ENMM) including those that have been constructed or have been granted development approval by the relevant Authority under the provisions of the Environmental Planning and Assessment Act 1979 prior to 29 January 2010.
- (i) Pavement wearing surfaces must be designed to produce noise levels and tonal characteristics that contribute to achieving compliance with the noise level requirements of the deed. Low noise pavements must be provided on the Main Carriageways and Ramps as a minimum from:
- (i) chainage 66km970 to chainage 68km670; and
 - (ii) chainage 80km690 to chainage 82km890.
- (j) Low noise pavements must comply with the requirements of Appendix 12 of the Scope of Works and Technical Criteria.

- (k) *Bridge joints must be designed, selected and installed to reduce vehicle noise impacts.*

4.25 Operational Noise Management Report

Further to the requirements of condition C12. of the Planning and Infrastructure Minister's Approval, and in addition to the requirements of some of the other Environmental Documents:

- (a) *The Contractor must prepare an Operational Noise Management Report as a part of the Design Documentation for the noise mitigation measures.*
- (b) *The Contractor must undertake a noise study on the certified and verified Design Documentation of the Project Works and include a report on this study in the operational noise management report. The operational noise management report must be included as part of the review of proposed operational noise mitigation measures required by condition C12. of the Planning and Infrastructure Minister's Approval. The noise study must use the input variables of traffic (speed, volume, composition and growth) and acoustic inputs identified in section 4.24(g) of this Appendix 4.*
- (c) *In addition to the requirements of the other Environmental Documents the noise study and report must address and include:*
- (i) *a description of the prevailing ambient noise environment;*
 - (ii) *the results of noise modelling and proposed mitigations required by section 4.24 of this Appendix 4;*
 - (iii) *the results of all field survey and noise monitoring required to calibrate the modelling required by section 4.24(g) of this Appendix 4. As a minimum, noise monitoring must include those sensitive receivers which have been identified and monitored in the Environmental Documents;*
 - (iv) *details on the noise-sensitive receivers and noise monitoring locations, including distances to the nearest roads where roads are located close to the noise monitors;*
 - (v) *a site plan showing the noise-sensitive receivers and noise monitoring locations;*
 - (vi) *aerial photographs showing the noise-sensitive receivers and noise monitoring locations;*
 - (vii) *details on the positioning of noise loggers at each noise monitoring location, including photographs of the noise logger in its monitoring position;*
 - (viii) *charts and a summary table of measured and / or computed noise modelling parameters, including the L_{Amax}, L_{A10}, L_{Aeq} and L_{A90}, at 15-minute intervals for each 24-hour period of the noise monitoring survey;*
 - (ix) *a table summarising the noise parameters measured;*
 - (x) *tabulations of average annual daily traffic (AADT) predictions for the day and night time periods;*
 - (xi) *summaries of the computational algorithms used in the noise model and justification for their selection, the location of noise-sensitive receivers and how the modelling parameters were addressed;*
 - (xii) *summaries of the calibration adjustment/s determined by comparing monitored existing noise levels to modelled noise levels using concurrently collected traffic and noise data (i.e. calibration adjustment = monitored noise levels – modelled noise levels);*
 - (xiii) *summaries of the risk allowances applied to the noise model to reduce design and operational risks and improve modelling confidence limits;*
 - (xiv) *a table summarising the relevant noise modelling parameters computed at the monitoring locations and comparisons with the design noise objectives and requirements of the Environmental Documents and section 4.24(g) of this Appendix 4;*

- (xv) *sensitivity and statistical analysis of key data in order to estimate confidence interval and reliability;*
- (xvi) *well presented noise contour maps for years 2016 and 2026 detailing the LAeq (9hr) Night and LAeq (15hr) Day and identifying all noise-sensitive receiver locations. The contour maps must be presented for intervals of not greater than 5 dB(A) and extend out to 45 dB(A);*
- (xvii) *an assessment of maximum noise levels to evaluate sleep disturbance impacts and determination of mitigation options;*
- (xviii) *details on all noise-sensitive receivers that are predicted to exceed the ECRTN (base criteria and allowance criteria) for the year 2026 (10 years after opening);*
- (xix) *identification of noise-sensitive receivers predicted to have noise levels, for the year 2026 (10 years after opening), at an acute noise level or above; and*
- (xx) *identification of all at-road operational noise mitigation measures.*

The SWTC's sections relating to operational noise have been reviewed to check that they set appropriate operational noise goals and provide a scope of works that assists the contractor in the design of suitable noise mitigation measures for the Project.

Overall the SWTC is found to be effective in setting clear design goals for the contractor. However, whether or not Appendix 4.6 of the SWTC is required is debatable given that noise emissions from the Project are constrained with the provision of noise contour limits, which effectively serve the same purpose and (h)(ii) of Appendix 4 of the SWTC requires all noise sensitive receivers, including newly constructed receivers, to comply with the ECRTN.

Furthermore, by providing Appendix 4.6 it may give the contractor some leverage in not having to meet the noise contours, as they may argue later that they exceed the noise contours but still achieve the noise limits set at the receivers etc.

A suggestion is for Appendix 4.6 to be replaced with Table 16 of this report which provides 'Design' year 2026 traffic noise levels that are 'not-to-be-exceeded' at each of the critical noise sensitive receivers identified for at-property treatment in the EA and in this noise study. This will ensure that the at-property treatment measures applied by RMS prior to construction will adequately achieve the Project's noise goals.

4 EXISTING AMBIENT NOISE ENVIRONMENT

In the Submissions Report the Office of Environment & Heritage (OEH) indicated that the number of noise monitoring locations (eight) was low given the length of the Proposal, albeit that related to the full length of the Project from Warell Creek to Urunga. OEH also stated that additional noise monitoring, for the purpose of noise model calibration, would be required as part of a 'review of operational noise mitigation measures' that is generally required as part of the project approval.

Following the review of the Working Paper 'Noise and Vibration Impact Assessment' that formed part of the Environmental Assessment (EA), we concur with the OEH comments, in particular in relation to validation and calibration of the noise model. Consequently, additional road traffic noise monitoring was conducted and forms part of this study.

The main intent of the road traffic noise monitoring was to establish the existing road traffic noise levels at locations currently affected by road traffic noise from the Pacific Highway and to utilise these results to calibrate the noise model established for the Project study area. Where possible, the preference was to select noise monitoring locations that provide road traffic noise levels to represent:

- areas affected by the road upgrade; and
- locations within close proximity to the road upgrade that are currently affected by noise from a road of a type similar to the proposed road upgrade (ie dual carriageway, 110 km/h speed limit).

4.1 Traffic Noise Monitoring Methodology

The long-term monitoring results, in combination with concurrent classified traffic counts and vehicle speed monitoring along the route, were used to verify and calibrate the road traffic noise model to local conditions. In addition, the measurement of maximum noise levels was conducted to provide an understanding of the magnitude and occurrence of existing maximum noise level events that have the potential to cause sleep disturbance.

4.1.1 Procedure and Noise Metrics

Noise monitoring was conducted in accordance with the NSW ECRTN and the RMS's ENMM, with guidance from Australian Standard 2702-1984 "Acoustic Methods of Measurement of Road Traffic Noise". Noise measurements were conducted 1m from the building facade most exposed to traffic noise, at a height of 1.5m above the most exposed floor level. Where physical constraints on site prevented the noise monitor from being set up near the facade, monitoring was conducted in the free-field, and a +2.5dB(A) facade correction was applied to the measured L_{Aeq} noise levels to convert the free-field measurement to an equivalent measurement at 1m from facade.

Noise monitoring was conducted to obtain LA90, LAeq,15hr, LAeq,9hr and LMax noise levels as a minimum on a continuous basis at 15-minute intervals within the duration of the overall noise survey period. While measurement results for all these indices are retained, the study primarily focuses on the LAeq and LMax results for traffic noise as these are the noise assessment indices embodied in the NSW 'Environmental Criteria for Road Traffic Noise'. The LA90 results were monitored to assist with establishing noise assessment criteria for fixed facilities associated with the project (eg rest areas) and construction noise management levels for the benefit of the contractor.

4.1.2 Instrumentation

Long-term, unattended noise measurements were conducted using Renzo Tonin and Associates (RTA) Technology noise monitors (01, 02, 03, 04 and 05 models), which comply with Australian Standard AS IEC 61672.1 2004 "Electroacoustics - Sound Level Meters" and are designated as Type 2 instruments suitable for field use (01 and 02 RTA Technology monitors) and Type 1 instruments suitable for field and laboratory use (03, 04 and 05 RTA Technology monitors). A noise monitor consists of a sound level meter and a computer housed in a weather resistant enclosure. Ambient noise levels were recorded at a minimum rate of 10 samples per second. Every 15 minutes, the data is processed statistically and stored in memory.

The equipment was calibrated prior and subsequent to the measurement period using Brüel & Kjær Type 4230 / 4231 calibrators. No significant drift in calibration was observed in any noise monitor.

4.1.3 Meteorology

The Bureau of Meteorology (BOM) provided meteorological data from Coffs Harbour MO Automatic Weather Station (stn 059040), which is considered representative of the meteorological conditions affecting the site, for the duration of the noise monitoring period. The data was modified to allow for the height difference between the BOM weather station, where wind speed and direction is recorded at a height of 10m above ground level, and the microphone location, which is at 1.5m above ground level. The correction factor applied to the data was taken from *Australian Standard AS1170.2 1989 Section 4.2.5.1*. Measurements affected by extraneous noise, wind (greater than 5m/s) or rain were excluded from the recorded data in accordance with Australian Standard *AS2702-1984 Acoustics - 'Methods for the Measurement of Road Traffic Noise'* and the NSW DECCW's noise monitoring policy.

4.1.4 Monitoring Locations

Noise monitoring was carried out at fourteen (14) locations. Table 4 below presents the details of the noise monitoring locations, including locations where L_{MAX} noise levels were measured. Noise monitoring locations are also presented in a Google Earth .kmz electronic file provided separately to this document.

Table 4 – Road Traffic Noise Monitoring Locations

No.	Receiver ID	Address	Noise Monitoring Position	Instrument ID	L _{MAX} Monitoring	Monitoring Period
1	3008	6858 Pacific HWY, Valla	Noise monitor located in the front yard, 1m from the western façade facing the existing Pacific Hwy. Distance to HWY approx. 65m.	RTA01-048	-	2 May – 15 May 2012
2	1641	21 Auld Close, Valla	Noise monitor located in the rear yard in the free field greater than 3.5m away from the dwelling. Distance to HWY approx. 40m.	RTA05-001	Yes	2 May – 15 May 2012
3	1645	19 Valla Road, Valla	Noise monitor located in the rear yard, 1m from the south eastern façade facing the existing Pacific Hwy. Distance to HWY approx. 90m.	RTA04-014	-	2 May – 15 May 2012
4	1654	7000 Pacific HWY, Valla	Noise monitor located in the front yard, 1m from the western façade facing the existing Pacific Hwy. Distance to HWY approx. 55m.	RTA03-001	-	2 May – 15 May 2012
5	1669	7119 Pacific HWY, Valla	Noise monitor located 1m from the eastern façade of the southern carport facing the existing Pacific Hwy. Distance to HWY approx. 180m.	RTA05-005	-	2 May – 15 May 2012
6	3007	7216 Pacific HWY, Valla	Noise monitor located in the front yard, 1m from the western façade of the southern shed facing the existing Pacific Hwy. Distance to HWY approx. 90m.	RTA04-002	-	3 May – 15 May 2012
7	1781	6 East West Road, Valla	Noise monitor located in the grass area to the north east of the property in the free field greater than 3.5m away from the dwelling. Distance to HWY approx. 40m.	RTA04-013	-	2 May – 15 May 2012
8	3006	7337 Pacific HWY, Valla	Noise monitor located in line with the eastern façade in the grass area to the north, in the free field greater than 3.5m away from the dwelling. Distance to HWY approx. 110m.	RTA04-004	-	3 May – 15 May 2012
9	3005	7370 Pacific HWY, Valla	Noise monitor located in the front yard, 1m from the western façade facing the existing Pacific Hwy. Distance to HWY approx. 65m.	RTA03-004	-	3 May – 15 May 2012
10	3004	7525B Pacific HWY, Valla	Noise monitor located in the front yard in the free field greater than 3.5m away from the dwelling. Distance to HWY approx. 60m.	RTA04-001	-	3 May – 15 May 2012
11	1825	7643 Pacific HWY, Valla	Noise monitor located in the front yard, 1m from the eastern façade facing the existing Pacific Hwy. Distance to HWY approx. 100m.	RTA05-002	Yes	3 May – 15 May 2012
12	3003	20 Short Cut Road, Urunga	Noise monitor located in the side yard, 1m from the eastern façade facing the existing Pacific Hwy. Distance to HWY approx. 110m.	RTA05-006	Yes	3 May – 15 May 2012

No.	Receiver ID	Address	Noise Monitoring Position	Instrument ID	L _{MAX} Monitoring	Monitoring Period
13	3002A	60 Old Pacific HWY, Raleigh	Noise monitor located in the side yard, 1m from the western façade facing the existing Pacific Hwy. Distance to HWY approx. 230m.	RTA02-028	-	3 May – 15 May 2012
14	3001	127 Keevers Drive, Raleigh	Noise monitor located in the rear yard, 1m from the western façade facing the existing Pacific Hwy. Distance to HWY approx. 120m.	RTA05-008	Yes	3 May – 15 May 2012

Figure 1, Figure 2 and Figure 3 show the noise monitoring locations on aerial maps.

4.1.5 Maximum Noise Monitoring Methodology

Maximum noise level (L_{Amax}) monitoring was carried out at four (4) locations along the Project route, as summarised in Table 4. L_{Amax} noise monitoring was conducted in accordance with the protocols presented in Practice Note iii of the ENMM.

Noise measurements were conducted at a height of 1.5m above the most exposed floor level, between 10pm to 7am. Noise measurements were conducted using RTA Technology 05 model noise monitors, which comply with Australian Standard AS IEC 61672.1 2004 “Electroacoustics - Sound Level Meters” and are designated as a Type 1 instruments suitable for field and laboratory use. These automated noise monitors are capable of storing sound pressure levels for every one second period for the duration of the monitoring period.

The equipment was calibrated prior and subsequent to the measurement period using Brüel & Kjær Type 4230 / 4231 calibrators. No significant drift in calibration was observed in any noise monitor.

For the assessment of maximum noise levels from operational road traffic noise, the following aspects for the existing noise environment was measured:

- Maximum noise level for each passby. The L_{MAX} noise levels (individual) greater than 65 dB(A) where $L_{MAX} - L_{eq1hr} > 15dB(A)$; and
- Number of events >65 dB(A) per hour. The number and distribution of the $L_{MAX} - L_{eq1hr}$ from road traffic noise on an hourly basis between 10pm and 7am.
- Number of events $>L_{Aeq1hr}$ per hour.



14 (Rec.ID 3001)
127 Keevers Road, Raleigh

13 (Rec.ID 3002A)
60 Old Pacific Hwy, Raleigh

12 (Rec.ID 3003)
20 Short Cut Road, Urunga



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Figure 1 - Long Term Noise Measurement Locations

Project: Pacific Highway Upgrade - NH2U

Date : 08/08/12	Scale: NTS	Ref : TF739-01P01 (rev 0)
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Figure 2 - Long Term Noise Measurement Locations

Project: Pacific Highway Upgrade - NH2U

Date : 08/08/12

Scale: NTS

Ref : TF739-01P02 (rev 0)



Figure 3 - Long Term Noise Measurement Locations

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Project: Pacific Highway Upgrade - NH2U

Date : 08/08/12

Scale: NTS

Ref : TF739-01P03 (rev 0)

4.2 Existing Noise Levels

4.2.1 L_{eq} Traffic Noise Levels

The existing noise levels measured along the Pacific Highway Upgrade route are summarised in Table 5 below. The noise levels presented below are the overall, noise levels for each relevant traffic noise descriptor. Detailed noise monitoring data are included in Appendix G of this report.

Table 5 – Results of L_{eq} Traffic Noise Monitoring, dB(A)

No	Receiver. ID	Address	Measured Noise Levels, dB(A)	
			Day L _{Aeq} (15hr)	Night L _{Aeq} (9hr)
1	3008	6858 Pacific HWY, Valla	64	63
2	1641	21 Auld Close, Valla	62	60
3	1645	19 Valla Road, Valla	57	54
4	1654	7000 Pacific HWY, Valla	67	65
5	1669	7119 Pacific HWY, Valla	52	50
6	3007	7216 Pacific HWY, Valla	56	53
7	1781	6 East West Road, Valla	60	58
8	3006	7337 Pacific HWY, Valla	62	60
9	3005	7370 Pacific HWY, Valla	62	60
10	3004	7525B Pacific HWY, Valla	63	61
11	1825	7643 Pacific HWY, Valla	57	55
12	3003	20 Short Cut Road, Urunga	57	56
13	3002A	60 Old Pacific HWY, Raleigh	51	46
14	3001	127 Keevers Drive, Raleigh	61	58

Notes: 1. Free field locations have been corrected to account for facade reflections; ie. +2.5dB(A) to the monitored noise levels
Day (L_{Aeq}(15hr)) represents the period 7am to 10pm and night (L_{Aeq}(9hr)) represents the period 10pm to 7am.

4.2.2 Background L₉₀ Noise Levels

The existing noise levels measured along the Pacific Highway Upgrade route are summarised in Table 6 below. The noise levels presented below are the overall, noise levels for each relevant traffic noise descriptor. Detailed noise monitoring data are included in Appendix G of this report.

Table 6 – Results of Background L₉₀ Noise Monitoring, dB(A)

No	Receiver. ID	Address	Measured Noise Levels, dB(A)		
			Day	Evening	Night
1	3008	6858 Pacific HWY, Valla	48	41	33
2	1641	21 Auld Close, Valla	51	44	38
3	1645	19 Valla Road, Valla	47	43	39
4	1654	7000 Pacific HWY, Valla	50	42	33

No	Receiver. ID	Address	Measured Noise Levels, dB(A)		
			Day	Evening	Night
5	1669	7119 Pacific HWY, Valla	45	44	39
6	3007	7216 Pacific HWY, Valla	47	43	38
7	1781	6 East West Road, Valla	47	42	38
8	3006	7337 Pacific HWY, Valla	48	43	39
9	3005	7370 Pacific HWY, Valla	49	43	37
10	3004	7525B Pacific HWY, Valla	49	42	40
11	1825	7643 Pacific HWY, Valla	49	43	41
12	3003	20 Short Cut Road, Urunga	51	45	41
13	3002A	60 Old Pacific HWY, Raleigh	42	38	34
14	3001	127 Keevers Drive, Raleigh	51	46	38

- Notes:
1. Day represents the period 7am to 6pm, Evening 6pm to 10pm and Night 10pm to 7am.
 2. Background level recorded less than 30dB(A). Set to 30dB(A) in accordance with EPA guidelines.

4.2.3 Maximum Noise Levels

The L_{Amax} noise level represents the loudness of the maximum noise events and can be used when assessing sleep arousal. As recommended by the RMS's ENMM, the L_{Amax} noise levels reported below are those that occur at night (between 10pm and 7am), and where $L_{max} - L_{eq}$ is greater than 15 dB(A).

Table 7 below summarises the maximum noise level events measured at each monitoring location during the measurement period. Detailed daily results of the maximum noise level monitoring are provided in Appendix I.

Table 7 – Summary of Measured Maximum Noise Levels along Existing Pacific Highway & Predicted Design Year Maximum Noise Levels at Night (10pm-7am)

No	Receiver. ID	Approx. Distance to Significant Noise sources ¹	Measured L_{Amax} Range, dB(A)	Measured No. of Events		Predicted L_{Amax} Range, dB(A)	Predicted No. of Events ²	
				Range per Hour	Range per Night		Range per Hour	Range per Night
2	1641	Pacific Hwy 40 m Rail Line 550 m	69-81	0-6	3-21	69-81	0-14	7-48
11	1825	Pacific Hwy 100 m Rail Line 1.2 km	68-78	0-4	2-11	65-78	0-8	4-21
12	3003	Pacific Hwy 110 m Rail Line 550 m	68-80	0-10	5-25	65-80	0-25	13-62
14	3001	Pacific Hwy 120 m Rail Line 950 m	69-82	0-13	3-36	69-82	0-32	7-89

Note: ¹Acoustically significant noise sources that contribute to the existing L_{max} noise environment

²Based on project traffic growth

Measured L_{Amax} noise levels indicate that up to 13 events occur per hour at the monitoring locations and up to 36 events during a whole night period over the monitoring period. Heavy

vehicle traffic volumes at the monitoring locations for the night period were on average 597 to 679 vehicles between 10pm and 7am.

The road Design in the proximity of the locations within Table 7 is either remaining in the same location as the existing Pacific HWY and/or is moving further away, therefore design year maximum noise levels are predicted to be controlled by movements along the Pacific HWY and are not expected to increase. This situation is expected for the majority of the Project's sensitive receivers however, receivers in close proximity to the road design along the Urunga bypass section, will be subjected to significant maximum noise level increases. Furthermore, maximum noise level increases are expected where sections of the road design are more elevated than the existing Pacific HWY and the acoustic benefits of intervening shielding between road and receiver are reduced. An increase in road gradient may also result in increases to the maximum noise levels.

In regard to maximum noise level events, on a whole the projected traffic growth for the project indicates that the number of maximum noise level events for the design year is expected to approximately double from current events. This is consistent with forecasted traffic growth.

5 OPERATIONAL NOISE ASSESSMENT

5.1 Methodology and Outputs

The EA identified that the ECRTN night-time period, as opposed to the daytime period, was the defining period for any potential impacts. Regardless, modelling and results for this assessment are based on the daytime and night-time period. Furthermore, this study incorporates modelling and results for the following situations:

- **Existing (2012)** – daytime and night-time predictions to individual properties;
- **Future existing (2016)** – daytime and night-time predictions to individual properties and noise contours for night-time. Predictions are used to set 'Allowance' road traffic noise criteria (where existing traffic noise levels exceed the ECRTN's 'Target' noise goals);
- **Opening year (2016)** - daytime and night-time predictions to individual properties and noise contours; and
- **Design (2026)** – daytime and night-time predictions to individual properties and noise contours.

The noise modelling output results are to be used for two main purposes:

1. To provide D&C tenderers a set of noise contour envelopes (Day and Night) that will assist to constrain the amount of traffic noise that is permitted to emanate from the proposed Pacific Highway project; and
2. To allow RMS to identify the properties early that should be considered for at-property noise mitigation treatment prior to the commencement of construction works, so that these properties benefit from the treatment in terms of reduced impacts from both construction and operational noise.

5.2 Traffic Flow and Composition Summary

5.2.1 Existing Traffic Volumes

Classified traffic volume counting, classification of vehicles and vehicle speeds was undertaken concurrently with the noise monitoring by a traffic survey sub-contractor. Traffic count locations were selected to provide road traffic volume and classification data to represent each noise monitoring location. The traffic data allows noise levels to be modelled and compared to the monitored noise levels for validation and calibration of the computer noise model.

Six (6) traffic survey locations were selected. All six (6) locations were chosen to account for traffic movements along the existing Pacific Highway with three (3) used to capture movements along a single carriageway and three (3) used to capture movements among a dual carriageway.

The table below summarises the locations identified for traffic monitoring. The locations are also presented in a Google Earth .kmz electronic file provided separately to this document.

Table 8 – Road Traffic Survey Locations

Reference No.	Traffic Counter Location	Nearest Noise Monitoring Position	Applicable Noise Monitoring Locations
Traffic 1	Pacific Hwy (Single Carriageway), VALLA	650 m north of Link Road	1641, 1645, 3008
Traffic 2	Pacific Hwy (Single Carriageway), VALLA	500 m north of Deep Creek Bridge	1654, 1669, 3007
Traffic 3	Pacific Hwy (Single Carriageway), VALLA	200 m south of Oyster Drive	1781, 1825, 3004, 3005, 3006
Traffic 4	Pacific Hwy (Dual Carriageway), URUNGA	130 m north of Newry Island Bridge	3003
Traffic 5	Pacific Hwy (Dual Carriageway), RALEIGH	350 m north of Bellinger River Bridge	3002A
Traffic 6	Pacific Hwy (Dual Carriageway), RALEIGH	500 m north of Valery Road	3001

The results of the traffic survey are summarised in Table 9.

Table 9 – Existing 2012 Traffic Volumes and Compositions along the Pacific Highway

Reference No.	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
		Total Vehicles	Heavy Vehicles %	Speed ¹	Total Vehicles	Heavy Vehicles %	Speed ¹
Traffic 1	Northbound	5981	13.1	104	969	40.6	107
	Southbound	5960	10.9	99	829	26.3	101
Traffic 2	Northbound	6156	14.2	104	1048	35.2	106
	Southbound	5812	14.5	104	871	22.1	107
Traffic 3	Northbound	5232	14.9	89	869	43.3	92
	Southbound	5196	13.6	90	727	30.4	94
Traffic 4	Northbound	6569	14.0	85	862	43.7	89
	Southbound	6661	12.8	81	744	35.4	84
Traffic 5	Northbound	6735	12.1	110	904	38.3	108
	Southbound	6818	14.2	113	731	40.8	112
Traffic 6	Northbound	6748	13.9	112	895	41.2	111
	Southbound	6808	15.9	115	723	43.0	115

Notes:

1. Speed represents the 85th percentile speed monitored during the traffic survey

Vehicle Classes are based on Austroads vehicle classifications. That is;

- Light vehicles: passenger vehicles (cars, vans utilities, motorcycles etc).
- Medium vehicles: two or three axles, two groups.
- Heavy vehicles: three or more axles, more than two groups.

Day and/or night periods with missing data are excluded from the data

5.2.2 Future-Existing Traffic Volumes

The noise predictions for the noise model have been based on traffic flow and composition data provided by RMS. The projected average hourly traffic flow data for the year of project opening (2016) without the project going ahead, namely the 'future-existing' traffic data, is provided in Appendix B for the day and night periods.

5.2.3 Opening Year Traffic Volumes

The noise predictions for the noise model have been based on traffic flow and composition data provided by RMS. The projected average hourly traffic flow data for the year of project opening (2016) with the project going ahead, namely the 'Opening Year' traffic data, is provided in Appendix B for the day and night periods.

5.2.4 Design Traffic Volumes

The noise predictions for the noise model have been based on traffic flow and composition data provided by RMS. The projected average hourly traffic flow data for 10 years after project opening (year 2026) is provided in Appendix B for the day and night periods.

5.3 Noise Prediction Modelling

For this project, noise modelling was undertaken using the noise modelling software package Cadna-A (v4.2). This noise modelling software package has been well validated and compared to other software packages over the years and is recognised and accepted by many government authorities and agencies, including both the RMS and the EPA. The Cadna-A road traffic noise model incorporates the following:

- the traffic noise prediction model method developed by the United Kingdom Department of Environment entitled "Calculation of Road Traffic Noise (1988)" known as the CoRTN88 method;
- CoRTN88 adaptations for Australian conditions, as tested by the Australian Road Research Board; and
- modified method enabling accurate prediction of noise from high truck exhausts.

The CoRTN88 method predicts the $L_{A10,1hr}$ noise levels. A correction of -3dB(A) is applied to obtain the $L_{Aeq,1hr}$ noise levels for every hour in a 24 hour day. The $L_{Aeq,1hr}$ noise levels for the day time period 7am to 10pm is used to determine the daily $L_{Aeq,15hr}$ noise level. Similarly, the $L_{Aeq,1hr}$ noise levels for the night time period 10pm to 7am is used to derive the night time $L_{Aeq,9hr}$ noise level.

The noise prediction model takes into account:

- Traffic volume and heavy vehicle forecasts.
- Vehicle speed.
- Road gradient.
- Location of the noise sources.
- The differing source heights of cars and trucks (3-source heights used).
- Ground reference levels of the road and receivers.
- Separation distances of the road to receivers.
- Ground type between the road and receivers.
- Angles of view of the road from the receiver's position.
- Attenuation from barriers (natural and purpose built) and cuttings.

- Reflections from barriers, cuttings, roadside structures etc.
- Corrections for low-noise road pavements.
- Corrections for building facade reflections under Australian conditions.

Details of assumptions used in the noise model for this assessment are presented in Table 10.

Table 10 - Summary of Noise Modelling Inputs

Parameters	Inputs
Traffic volumes and mix	<p>'Existing' (2012) traffic count data measured concurrently with noise monitoring – see Table 9</p> <p>'Future-Existing' (2016) Provided by RMS – see Appendix B</p> <p>'Opening Year' (2016) Provided by RMS – see Appendix B</p> <p>'Design Year' (2026) Provided by RMS – see Appendix B</p> <p>Note that hourly traffic volumes are used for the purpose of noise modelling. These are obtained by dividing the traffic volumes for the representative period by the number of hours in that period. For example, day time traffic volumes for the design model is divided by 15 to provide an equivalent hourly traffic volume for the day period (7am to 10pm). This is done because the CoRTN noise model predicts in either 18 hour or 1 hour periods, and the 1 hour period is most suited to the ECRTN's noise goals.</p>
Vehicle speed:	<p>Pacific Highway Proposed Upgrade (main carriageways):</p> <p>Day = 115km/h</p> <p>Night = 120km/h</p> <p>Existing Pacific Highway:</p> <p>As sign posted, provided by RMS.</p> <p>For 'Existing' (2012) - traffic speed determined from 85th percentile speed in traffic count data – see Table 9</p> <p>Interchange Ramps = 80km/h</p> <p>Local Roads = 60km/h</p>
Source height:	0.5m for car exhausts/engines and car/truck tyre noise, 1.5m for truck engines and 3.6m for truck exhausts
Ground topography at receiver and road:	Topographic data provided by the RMS (electronic). Land contours presented in 1m intervals.
Gradient of roadway	Preliminary Concept design drawings provided by RMS.
Angles of view from receiver	From aerial photos and drawings provided by the RMS.
Reflections from existing barriers, structures & cuttings on opposite side of road	Determined from review of drawings provided by the RMS.
L10 to Leq correction:	-3dB
Road surface	<p>Corrections applied relevant to standard Dense Graded Asphalt (DGA):</p> <p>0dB(A) for DGA</p> <p>-2dB(A) for Stone Mastic Asphalt (SMA)</p> <p>+3dB(A) for Concrete Pavement (CRCP or PCP)</p>
Facade correction	+2.5dB(A), when modelling to 1m from building facades, in accordance with NSW ECRTN note iii (p12).
Australian conditions corrections:	<p>-1.7 dB(A) for 'at 1m from facade' conditions</p> <p>-0.7 dB(A) for 'free field' conditions</p> <p>from the Australian Road Research Board (ARRB) Transport Research (Saunders et al 1983) and referred to in Austrroads Research Report (ARR), "An Approach to the Validation of Road Traffic Noise Models" (2002).</p>

Parameters	Inputs
Calibration adjustment ¹ :	A global calibration factor (see Table 13), was applied to all properties
Risk allowance ² :	A risk allowance factor of 1 x standard deviation was applied to all properties
Air and ground absorption	As detailed within the CoRTN algorithms and their application in Cadna-A (v4.2). Ground absorption factor was set 0.5 overall, with areas of heavy vegetation (i.e. bushland) set to 1.0 and over water set to 0
Noise sensitive receiver locations:	As per EA noise model plus additional provided by RMS and identified by RT&A
Receiver heights:	1.5m above ground level for ground floor (1st floor not assessed)
Buildings	Provided by RMS and from aerial photos. All residential buildings modelled as single storey and assigned a height of 5m.
Noise barriers:	No noise barriers incorporated in assessment
Parapet:	1.0m high jersey kerb located on either side of the Nambucca River bridge crossing
Cadna-A noise model settings used:	
Calculation method	Ray-tracing method adopted, as opposed to angle-scan method
Ground absorption factor	0.5
Maximal search radius	3,000 for contours, 4,000 for individual predictions
For noise contour maps:	
Grid space =	20m
Height above ground =	1.5m
Grid Interpolation =	Not used

- Notes:
1. Determined by comparing the monitored noise levels to the noise levels modelled using concurrent traffic data (ie calibration adjustment = monitored - modelled)
 2. A 'risk allowance/s' of one standard deviation of data obtained by comparing the monitored noise levels described in Note 1 above, to the noise levels modelled using concurrent traffic data (risk allowance = 1 x standard deviation) to provide an 84% confidence interval.

5.4 Mitigation Measures

As per the EA, prior to the assessment of the eligibility for additional mitigation at sensitive receiver locations, the inclusion of low noise pavement was adopted. The same extent of low noise pavement adopted in the EA was adopted for this assessment. No noise barriers (mounds, walls and combinations of both) between Nambucca Heads and Urunga were utilised in the EA. Detailed information for modelling inputs regarding road pavement for the proposed Upgrade is shown in Table 11.

Table 11 – Road Pavement Surface of Proposed Upgrade

Chainage*	Location	Pavement Surface Type
	All road except for sections described below	Concrete
	Nambucca Heads/Ballards Rd/Raleigh Interchange ramps	DGA
Start 25100 End 26800	Valla Beach (approx. 1.7km in length)	SMA
Start 38800 End 41000	Northern end of Upgrade – Ridgewood Drive to end of Upgrade (approx. 2.2km length)	SMA

Note: * Obtained from Table 5.2 of the EA

5.5 Noise Model Validation

5.5.1 Validation Methodology & Results

The noise model was validated and calibrated using the long-term noise monitoring results and traffic count data obtained in May 2012 as presented in this report. Calibration adjustments were determined from the validation analysis and applied at all properties.

The modelled traffic noise levels for existing conditions were compared to the measured traffic noise levels to determine any variation between the two levels at each monitoring location. A statistical analysis of the results was then conducted to determine the 'difference' between the modelled and measured noise levels, and variations between the comparisons for the day and night periods. By further analysing the differences between the modelled and the measured noise levels across the monitoring locations, the 'standard deviation' is obtained, which indicates the degree of spread in the results.

Where, individual site differences (variations) greater than 2dB(A) occurred, further interrogation of the monitored data and a detailed review of the noise model and adjustments was undertaken to ensure that there are no modelling errors other than random errors. The monitoring parameters that were checked are:

- extraneous noise increasing the measured results,
- fauna noise (insects, frogs etc) at dusk and night increasing measured levels, and
- predominant wind over the monitoring period blowing from road-to-logger increasing measured levels or from logger-to-road decreasing measured levels,
- the possibility of Temperature Inversions (TIs) at night for loggers placed over 100m during winter months.

The modelling parameters that are checked are:

- traffic volumes,
- compositions,
- speeds,

- road surface types,
- road gradients,
- distances to receivers,
- ground absorption, and
- shielding from existing buildings, barriers, cuttings etc

In consideration of the above interrogation process, Table 12 summarises the results of the traffic noise model validation process.

Table 12 – Validation Summary: Measured -V- Modelled Statistical Analysis

No	Rec. ID	Verification Locations	L _{Aeq} (15hr) Noise Level, dB(A)			L _{Aeq} (9hr) Noise Level, dB(A)		
			Measured	Modelled	Variation	Measured	Modelled	Variation
1	3008	6858 Pacific HWY, Valla	64.2	63.3	0.9	62.7	59.6	3.0
2	1641	21 Auld Close, Valla	61.9	64.5	-2.6	60.0	60.9	-1.0
3	1645	19 Valla Road, Valla	57.1	58.1	-0.9	54.1	54.5	-0.4
4	1654	7000 Pacific HWY, Valla	66.9	65.1	1.8	65.0	61.2	3.7
6	3007	7216 Pacific HWY, Valla	55.1	54.5	0.5	53.3	50.9	2.5
8	3006	7337 Pacific HWY, Valla	61.9	61.4	0.5	60.2	58.1	2.0
9	3005	7370 Pacific HWY, Valla	61.9	62.0	-0.1	60.4	58.9	1.5
10	3004	7525B Pacific HWY, Valla	62.2	63.1	-0.9	60.4	60.0	0.4
11	1825	7643 Pacific HWY, Valla	56.6	59.6	-3.0	55.1	56.5	-1.3
12	3003	20 Short Cut Road, Urunga	57.4	60.7	-3.4	55.6	56.8	-1.2
14	3001	127 Keevers Drive, Raleigh	60.8	62.3	-1.4	58.1	57.9	0.3
Mean Differences					-0.8	0.9		
Standard Deviation					1.7	1.8		

Note: Noise monitoring data found to be potentially influenced by noise sources other than Pacific Highway traffic noise, was discarded and not utilised in the model verification analysis.

5.5.2 Discussion

It is noted that during site inspections of the validation monitoring locations, traffic noise from the existing Pacific Highway was observed to be the most significant noise contributor to the acoustic environment at these locations. However, other non-traffic noise sources also contributed to the noise environment, in particular from fauna, train pass-bys, rural activity, and other neighbourhood activity noise sources. These were generally found to be more pronounced with increased distance from the Pacific Highway as traffic noise becomes less prominent and other ambient noise becomes more significant with increased distance from the highway.

It is noted that all model predictions have a tolerance or error margin and a statistical confidence that can be placed on the model in predicting noise levels in practice. The noise model validation tests presented in Table 12 above, show the model to predict results that fall within a reasonable level of the true noise levels in practice. According to the Australian Road Research Board (ARRB) research Report ARR No.122, "An Evaluation of the U.K. DoE Traffic

Noise Prediction Method”, March 1983 (by Saunders, Samuels, Leach & Hall), the accuracy of the CoRTN88 noise algorithms is generally expected to predict noise levels that are within:

- $\pm 1.8\text{dB(A)}$ in the free-field and $\pm 2.5\text{dB(A)}$ within 1m from façade, of the true noise levels in practice with a 84% confidence limit, and
- $\pm 3.6\text{dB(A)}$ in the free-field and $\pm 5.0\text{dB(A)}$ within 1m from façade, of the true noise levels in practice with a 95% confidence limit.

5.5.2.1 Moderate Measured-Vs-Modelled Variations

In consideration of the interrogation process outlined in Section 5.5.1, moderate variations of equal to or greater than $\pm 3 \text{ dB(A)}$ were still found at four (4) locations for day or for night. The variations were not consistent for both day and night and consequently, these locations have been included in the validation results. Possible reasons are provided below to explain why moderate variations were found at these locations:

- **No. 1: 6858 Pacific HWY, Valla & No. 4: 7000 Pacific HWY, Valla** – Measured noise levels were higher than modelled noise levels for night. These variations may partially be explained by the predominant wind over the monitoring period blowing from road-to-logger increasing measured levels.
- **No. 11: 7643 Pacific HWY, Valla & 12: 20 Short Cut Rd, Urunga** - Measured noise levels were lower than modelled noise levels for day. These variations may partially be explained by the predominant wind over the monitoring period blowing from logger-to-road decreasing measured levels. The monitoring locations’ distances of approximately 100m from the HWY can influence the propagating effects of the wind. Also, dense vegetation is located between the properties and the Pacific HWY. The additional absorption and shielding effects from the vegetation is not likely to have been fully accounted for in the noise modelling, hence is likely to be the cause of the variation.

5.5.2.2 Measured-Vs-Modelled Outliers

In consideration of the interrogation process outlined in Section 5.5.1, significant variations were still found at three (3) locations for day and night. These variations were consistent for both day and night and consequently, these locations are considered outliers and removed from the validation results. Possible reasons are provided below to explain why significant variations were found at these locations:

- **No. 5: 7119 Pacific HWY, Valla** – Modelled noise levels were significantly higher than measured noise levels. A 50 metre wide section of dense vegetation is located between the property and the Pacific HWY. The additional absorption and shielding effects from the vegetation is not likely to have been fully accounted for in the noise modelling, hence is likely to be the cause of this variation. In addition, the large distance of 180m from the Pacific HWY could also partially explain the variation. The EA stipulated that, monitoring

data at locations further than 250m from the Pacific HWY was deemed unsuitable for use in the validation of existing traffic noise.

- **No. 7: 6 East West Road, Valla** - Modelled noise levels were significantly higher than measured noise levels. A 30 metre wide section of dense vegetation is located between the property and the Pacific HWY. The additional absorption and shielding effects from the vegetation is not likely to have been fully accounted for in the noise modelling, hence is likely to be the cause of this variation.
- **No. 13: 3002A: 60 Old Pacific HWY, Raleigh** - Modelled noise levels were significantly higher than measured noise levels. A 30 metre wide section of dense vegetation is located between the property and the Pacific Highway. The additional absorption and shielding effects from the vegetation is not likely to have been fully accounted for in the noise modelling, hence is likely to be the cause of this variation. In addition, the large distance of 230m to the Pacific HWY could also partially explain the variation. The EA stipulated that, monitoring data at locations further than 250m from the Pacific HWY was deemed unsuitable for use in the validation of existing traffic noise.

5.5.3 Calibration Results

The results presented in Table 12 account for the removal of the above outliers and provide a reasonable level of confidence in the noise model used for modelling traffic noise levels.

Therefore, Table 13 presents the global calibration factors applied to the Project’s noise model. Modelling noise using a noise model that is calibrated against actual noise level measurements assists in improving the accuracy of noise predictions.

Table 13 - Global Calibration Factors Applied to Noise Models

Statistical Metrics	Day $L_{Aeq(15hr)}$, dB(A)	Night $L_{Aeq(9hr)}$, dB(A)
Calibration Factors (= mean difference of measured to modelled noise levels as per Table 12 of this report)	-0.8	0.9

Further to applying the calibration factors described in Table 13, by applying an additional factor of one (1) standard deviation to the noise predictions to account for the risk associated with not meeting the Project noise goals, the level of confidence in achieving the noise predictions increases to an 84% confidence limit.

Furthermore, independently to the validation analysis conducted and applied to the study presented above, additional graphs were generated to compare a range of modelled to measured noise levels in a general manner using an alternative graphical verification approach and these graphs are presented in Appendix H. These graphs show that the majority of the data points lie close to the line-of-best fit. This supports the validation results and findings discussed earlier in this report.

6 ROAD TRAFFIC NOISE ASSESSMENT

6.1 Mitigated noise levels at noise sensitive locations (noise contours)

Future mitigated daytime (7am-10pm, 15hr) and night-time (10pm-7am, 9hr) traffic noise levels for the 'opening year' (2016) and 'design' year (2026, 10 years after completion of the Project) have been predicted using the CoRTN88 traffic noise model. In addition, night-time (10pm-7am, 9hr) traffic noise levels for the 'future existing' year (2016) has also been predicted.

Appendix C presents the 'future existing' year 2016 noise level contours for night.

Appendix D presents the 'opening year' year 2016 noise level contours for day and night

Appendix E presents the 'design' year 2026 noise level contours for day and night

The noise level contour predictions presented in this report are inclusive of the at-road noise mitigation measures set out in Section 5.4 of this report.

6.2 Mitigated predictions to individual properties

Further to generating noise contours, road traffic noise levels were also modelled at the facades of 289 individual property dwellings. Appendix F of this report provides a listing of the facades of individual properties modelled.

Traffic noise levels were predicted for daytime (7am-10pm, 15hr) and night-time (10pm-7am, 9hr) for four cases:

- **Existing (2012)** – existing situation,
- **Future existing (2016)** – Year of opening without the project,
- **Opening Year (2016)** – Year of opening, and
- **Design (2026)** - 10 years after opening.

These noise level predictions are tabulated in Appendix F of this report.

The noise predictions presented in Appendix F are inclusive of the at-road noise mitigation measures set out in Section 5.4 of this report.

The applicable Project noise goals have been based on the requirements of Practice Note I of the ENMM. Noise mitigation is required at a property if either:

- The predicted 'future' noise level exceeds the relevant 'target' criterion, and the noise level increase is greater than 2 dB (where the 'redevelopment' criteria apply) or 0.5 dB (where the 'new road' criteria apply).

or

- The predicted 'future' noise level is 'acute' [ie ≥ 65 dB(A) $L_{Aeq(15hr)}$ daytime; ≥ 60 dB(A) $L_{Aeq(9hr)}$ night-time].

The assessment outcomes at each individual receiver are shown in Appendix F.

7 SUMMARY OF NOISE MITIGATION MEASURES

7.1 Methodology for mitigation measures

To achieve compliance with this Project's noise goals, the following noise mitigation measures have been considered, including:

- Low-noise pavement surfaces.
- Roadside noise barriers: earth mounds and/or noise walls.
- At-Property treatment to buildings.

Both the ECRTN and the ENMM acknowledge and accept the use of these methods to mitigate traffic noise from road projects. Each of these measures were evaluated to determine their suitability for this Project as summarised below.

7.1.1 Low noise pavements

With the general exception of motorcycles, for all vehicles in a reasonable state of maintenance, tyre/road interaction represents the main source of noise at constant speeds in excess of around 70-80 km/h. On roads with this type of speed, the type of road surface can have a significant impact on traffic noise generated by pavement tyre/road interaction. Table 14 below provides a comparison of the noise characteristics of varying pavement types relative to Dense Graded Asphalt (DGA).

Table 14 – Road Pavement Noise Corrections Relative to Dense Graded Asphalt

Surface Type	Noise Level Reduction		
	Overall Traffic Noise	Individual Vehicle Pass-by Noise	
		Cars	Trucks
Open Graded Asphalt	0 to -4.5	-0.2 to -4.2	-4.9
Stone Mastic Asphalt (SMA)	-2 to -3.5	-2.2	-4.3

Ref: RMS's Environmental Noise Management Manual

7.1.2 Noise barriers

Noise barriers can provide significant noise reduction benefits, typically in the order of 10-15 dB(A). Noise barriers are also most feasible where residences are closely grouped, where the barriers do not cause access difficulties to properties, and where they are visually acceptable.

As part of this assessment an in-depth investigation of noise barriers was undertaken to deliver the best available environmental outcome for residences in the Project's surrounds. For example the analysis included evaluations of:

- A noise barrier south of Short Cut Rd, on the western side of the main carriageway, and what noise benefits that would provide in comparison to other forms of noise mitigation measures.
- A noise barrier at Short Cut Rd, on the eastern side of the main carriageway, and what noise benefits that would provide in comparison to other forms of noise mitigation measures.

In accordance with the ENMM's Practice Note IV and in particular Practice Note IV (a) which aims to provide an acceptable balance between barrier heights and effectiveness, noise barriers were not considered feasible for the Project.

7.1.3 At property treatment

The ENMM states that all feasible and reasonable mitigation options should be explored in an endeavour to reduce noise levels to the target noise levels as set in the ECRTN. The target noise levels are external noise goals but building treatment in many cases is the most feasible and reasonable option available despite it only reducing noise levels inside a dwelling. Therefore, any building treatment should be designed to achieve the internal noise levels that would have been achieved had noise from the Project complied with the ECRTN criteria externally.

According to the ENMM, building treatments (in no particular order) may comprise:

- Fresh air ventilation systems that allow existing windows and doors to be kept shut.
- Upgraded windows and glazing and solid core doors on the exposed facades of masonry structures only (these techniques are unlikely to produce any noticeable benefit for light frame structures with no acoustic insulation in the walls).
- Upgrading window and door seals.
- Sealing wall vents.
- External screen walls or property boundary fencing.

7.1.4 Low-noise expansion joints on bridges/overpasses

Furthermore, expansion joints on bridges / overpasses are to be selected from a range that minimise noise generation. Depending on the engineering requirements of the bridge / overpass structure (e.g. allowances for movement of the structure), a range of expansion joints are available that can provide acoustic benefits and will meet applicable specifications in accordance with RMS requirements.

7.2 At-road noise mitigation measures

During this assessment, the at-road noise mitigation measures determined as best meeting the Project's noise goals comprised low noise pavement. Detailed information for modelling inputs regarding road pavement is shown in Section 5.4.

7.3 At-property noise mitigation measures

Inclusive of the at-road noise mitigation measures set out in Section 5.4 of this report, the number of properties that were identified as exceeding the project's noise goals were modelled to be in the order of 104.

Table 15 presents the individual properties that require consideration for treatment. This table summarises the findings of the table presented in Appendix F of this report and the outcomes of the EA process, in terms of properties identified for consideration of at-property treatment. This is a comparative review rather than an absolute assessment; therefore any differences between this comparative review and the EA will not affect potential treatments identified through the EA process.

Figure 4, Figure 5, Figure 6 and Figure 7 also identifies the properties that require consideration for at-property treatment.

Table 15 – Comparison of Properties for At-Property Treatment between RT&A Noise model and EA Process

No.	Receiver. ID	RT&A Noise Model	EA*
1	1630	o	o
2	1631	o	
3	1632	o	o
4	1634	o	o
5	1635	o	o
6	1636	o	o
7	1637	o	o
8	1639	o	o
9	1640	o	o
10	1642	o	o
11	1643	o	o
12	1644	o	o
13	1647	o	o
14	1649	o	o
15	1650	o	o
16	1651	o	o
17	1652	o	o
18	1653	o	o
19	1654	o	o
20	1655	o	o
21	1656	o	o
22	1659	o	o
23	1660	o	
24	1663	o	o
25	1666	o	o

26	1669	o	o
27	1677	o	o
28	1678	o	
29	1679	o	
30	1682	o	o
31	1714	o	o
32	1722	o	o
33	1755	o	o
34	1762		o
35	1766	o	o
36	1770	o	o
37	1771		o
38	1791	o	o
39	1794	o	o
40	1795	o	o
41	1798	o	
42	1799	o	o
43	1800	o	o
44	1804	o	
45	1805	o	o
46	1809	o	o
47	1810	o	o
48	1814	o	
49	1816	o	o
50	1825	o	o
51	1859	o	o
52	1860	o	o
53	1922	o	o
54	2117	o	o
55	2137	o	o
56	2200	o	o
57	2221	o	o
58	2260	o	o
59	2267	o	o
60	2268	o	o
61	2294	o	o
62	2318	o	o
63	2736	o	o
64	2741	o	o
65	2744	o	o
66	2751	o	o
67	2752	o	o
68	2754	o	o

69	2759	0	0
70	2762	0	0
71	2763	0	0
72	2764	0	0
73	2766	0	0
74	2768	0	0
75	2771	0	0
76	2772	0	0
77	2775	0	0
78	2778	0	0
79	2779	0	0
80	2782	0	0
81	2783	0	0
82	2788	0	0
83	2789	0	0
84	2799	0	
85	2827	0	
86	2833	0	
87	2835	0	
88	2837	0	0
89	2838	0	
90	2839	0	
91	2841	0	
92	2844	0	
93	2845	0	
94	2851	0	0
95	2855	0	
96	2856	0	
97	2862	0	
98	2864	0	
99	4003	0	
100	4005	0	
101	4006	0	
102	4007	0	
103	4010	0	
104	4041	0	
105	5001	0	
106	5002	0	
Total		104	78*

Note: * This is the number of properties identified in the EA for at-property treatment minus the properties being demolished, acquired by RMS etc which shall not be offered treatment. Any differences between this comparative review and the EA will not affect potential treatments identified during the EA process.

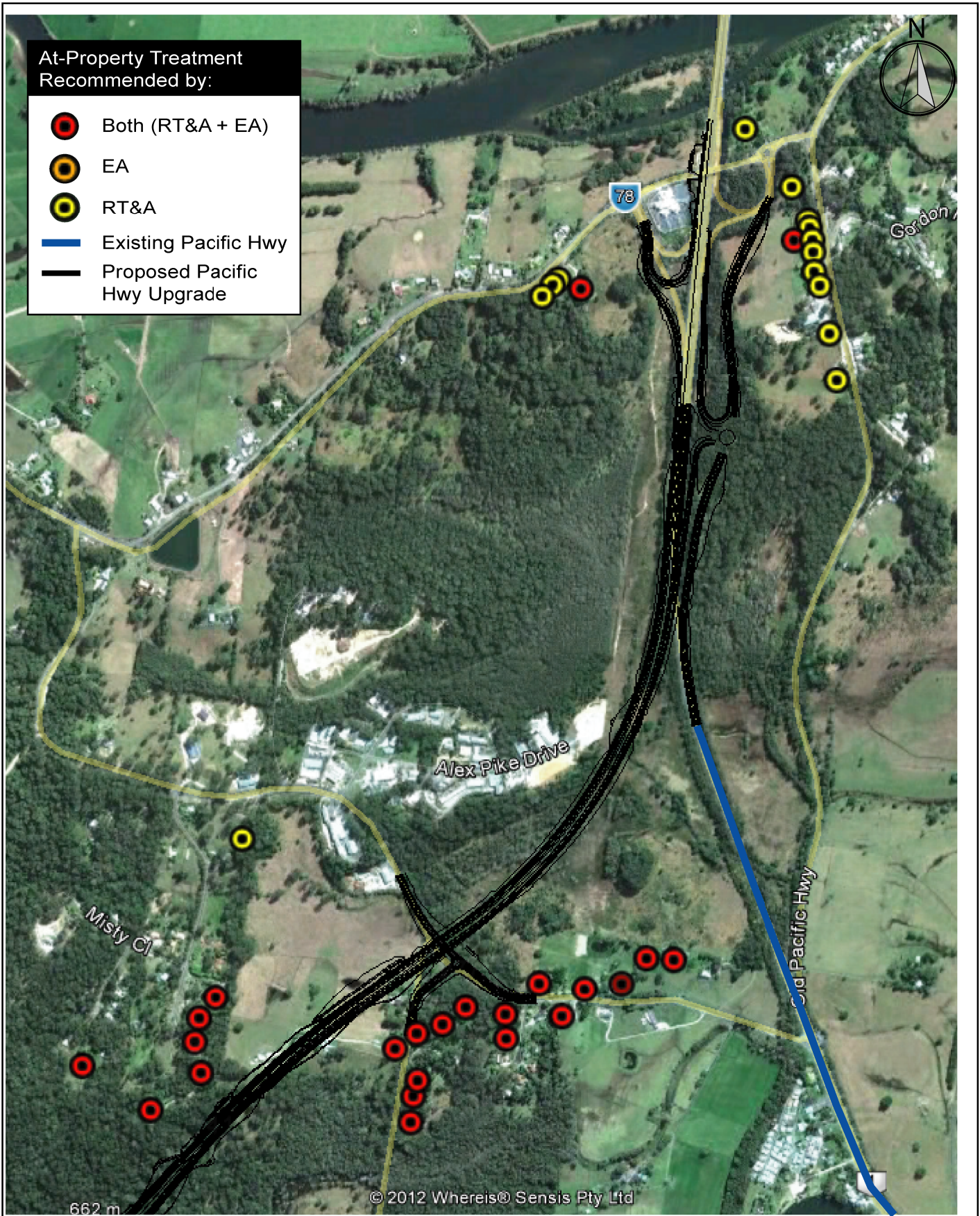
Table 16 below, presents the 'Design' year 2026 traffic noise levels that are 'not-to-be-exceeded' at each of the critical noise sensitive receivers that were identified for at-property treatment in the EA process and/or this study. These noise levels have been extracted from the detailed single point receiver noise assessment table presented in Appendix F of this report. These noise levels are for the purpose of setting 'not-to-be-exceeded' noise limits for the contractor who constructs this road project.

Table 16 – Noise Levels at Critical Noise Sensitive Receivers

No.	Receiver. ID	2026 Design Noise Levels, dB(A)	
		Day $L_{Aeq,15hr}$	Night $L_{Aeq,9hr}$
1	1630	60	60
2	1631	58	58
3	1632	62	63
4	1634	65	65
5	1635	64	65
6	1636	68	68
7	1637	60	60
8	1639	63	63
9	1640	63	63
10	1642	64	65
11	1643	63	64
12	1644	60	61
13	1647	64	65
14	1649	61	61
15	1650	68	69
16	1651	61	62
17	1652	65	65
18	1653	58	59
19	1654	68	68
20	1655	66	66
21	1656	58	58
22	1659	62	63
23	1660	57	57
24	1663	63	63
25	1666	63	63
26	1669	64	64
27	1677	66	66
28	1678	57	57
29	1679	57	57
30	1682	61	61
31	1714	61	61
32	1722	60	60
33	1755	60	60

34	1762	58	58
35	1766	57	57
36	1770	58	58
37	1771	58	59
38	1791	63	63
39	1794	62	62
40	1795	62	63
41	1798	56	56
42	1799	58	59
43	1800	66	67
44	1804	56	56
45	1805	60	60
46	1809	63	63
47	1810	59	59
48	1814	56	56
49	1816	63	63
50	1825	61	61
51	1859	54	55
52	1860	55	55
53	1922	58	58
54	2117	55	56
55	2137	55	55
56	2200	58	58
57	2221	56	57
58	2260	59	60
59	2267	57	57
60	2268	61	62
61	2294	58	59
62	2318	64	64
63	2736	52	53
64	2741	61	61
65	2744	52	53
66	2751	52	52
67	2752	60	61
68	2754	51	51
69	2759	59	60
70	2762	54	54
71	2763	51	51
72	2764	57	58
73	2766	56	56
74	2768	53	53
75	2771	59	57
76	2772	60	58

77	2775	58	57
78	2778	52	53
79	2779	61	59
80	2782	59	58
81	2783	59	59
82	2788	57	57
83	2789	58	58
84	2799	51	51
85	2827	57	57
86	2833	56	56
87	2835	58	58
88	2837	63	63
89	2838	59	59
90	2839	57	57
91	2841	63	62
92	2844	59	59
93	2845	60	60
94	2851	63	63
95	2855	61	60
96	2856	62	62
97	2862	63	63
98	2864	67	67
99	4003	64	65
100	4005	60	60
101	4006	60	60
102	4007	59	60
103	4010	60	60
104	4041	62	62
105	5001	64	65
106	5002	58	59



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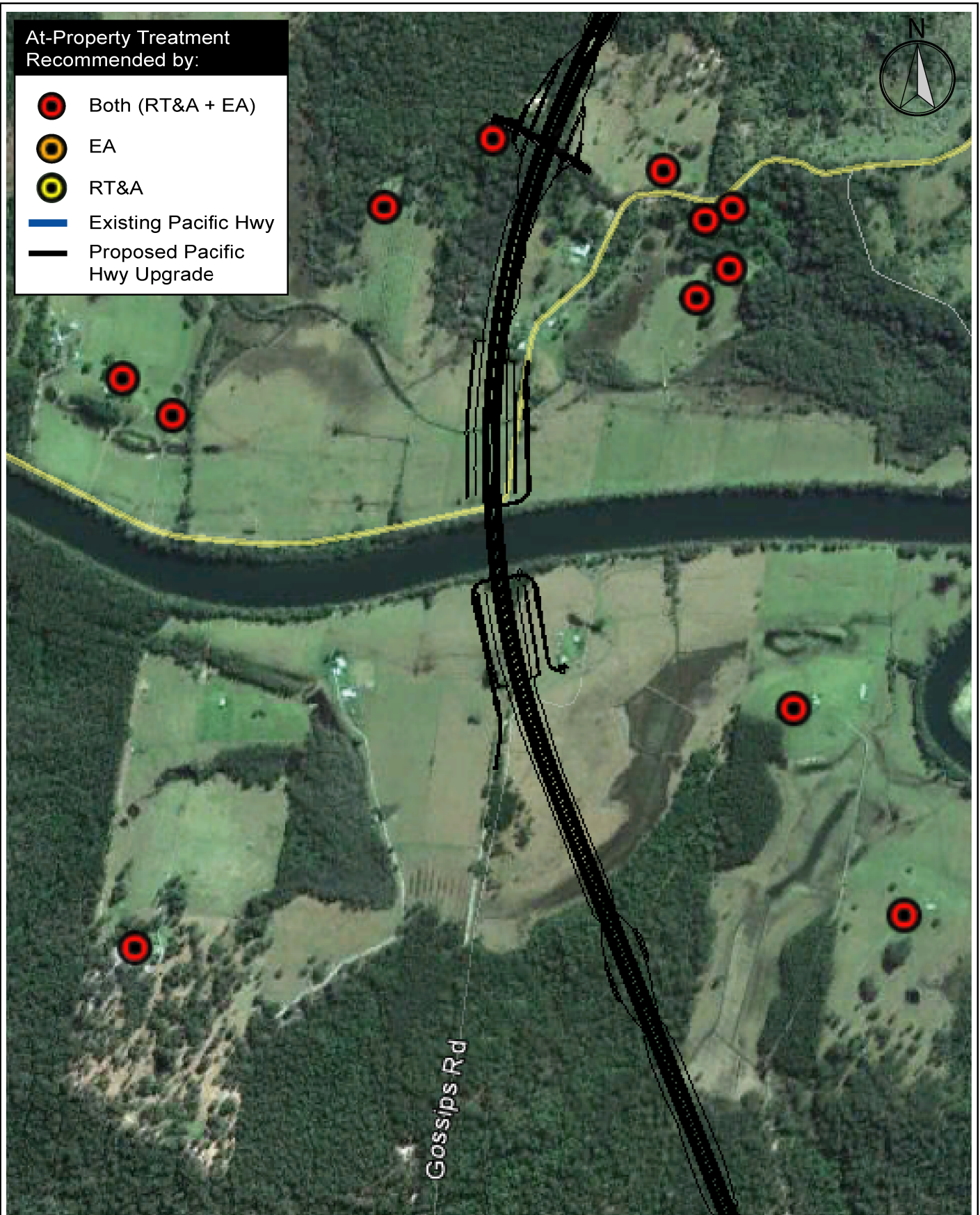
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Figure 4 - Recommended At-Property Treatment

Project: Pacific Highway Upgrade - NH2U

Date : 07/09/12	Scale: NTS	Ref : TF739-01P04 (rev 0)
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At-Property Treatment Recommended by:







-  Both (RT&A + EA)
-  EA
-  RT&A
-  Existing Pacific Hwy
-  Proposed Pacific Hwy Upgrade

Figure 5 - Recommended At-Property Treatment

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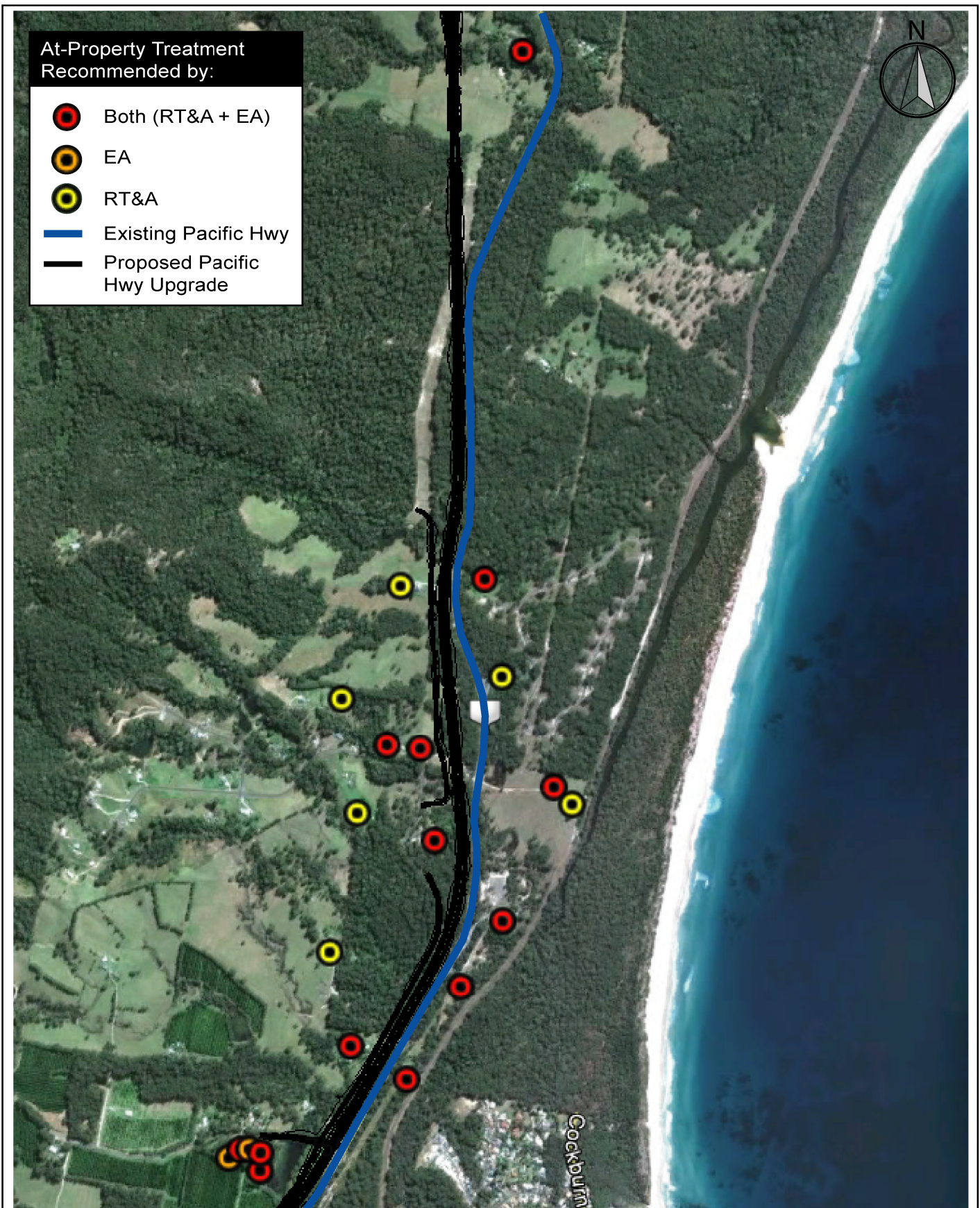


Figure 6 - Recommended At-Property Treatment

Project: Pacific Highway Upgrade - NH2U

Date : 07/09/12

Scale: NTS

Ref : TF739-01P06 (rev 0)

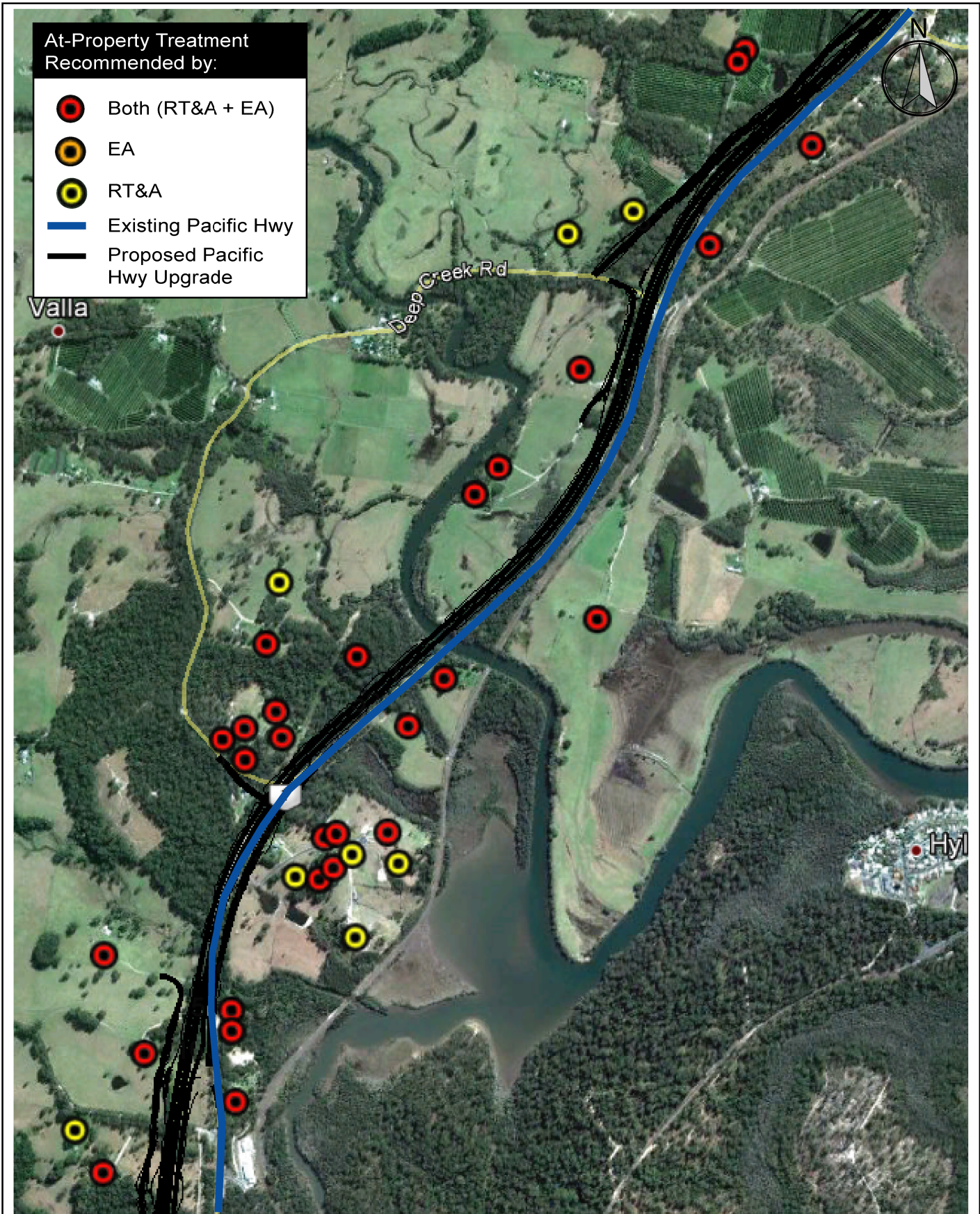


Figure 7 - Recommended At-Property Treatment

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Project: Pacific Highway Upgrade - NH2U

Date : 07/09/12

Scale: NTS

Ref : TF739-01P07 (rev 0)

8 CONCLUSION

Renzo Tonin & Associates have completed a post Environmental Assessment operational noise study of the Nambucca Heads to Urunga Upgrade Project.

Chapter 2 sets out the relevant legislation, noise policies and noise criteria applicable to this Project.

Chapter 3 reviews the EA noise model and SWTC and provides comments.

Chapter 4 outlines the existing traffic and ambient noise environment.

Chapter 5 outlines the noise modelling input parameters.

Chapter 6 of this report presents the modelling outcomes in terms of noise level predictions at all critical receiver locations and presents noise level contours.

Chapter 7 outlines the noise mitigation methodology and the mitigation measures adopted for this Project.

The noise levels were assessed against the Project's noise goals at each property, quantifying the extent of exceedances where they occur, and identifying the properties that require consideration for at-property treatments as set out in Chapter 7 of this report. These treatments are additional to the traffic noise mitigation measures proposed within the road corridor, comprising low-noise (SMA) pavement as defined in Table 11 of this report.

In summary, 104 properties were identified in this study for at-property treatment consideration compared to 78 following the EA process, which is the number of properties identified in the EA minus those being demolished, acquired etc. Considering that RMS is obligated to treat those identified in the EA process, a final total 106 properties are considered for at-property treatment.

REFERENCE MATERIAL

1. Australian Road Research Board (ARRB) research Report ARR No.122, "An Evaluation of the U.K. DoE Traffic Noise Prediction Method", March 1983 (by Saunders, Samuels, Leach & Hall)
2. NSW EPA (ex OEH), *NSW Environmental Criteria for Road Traffic Noise* 1999
3. NSW EPA (ex OEH), *Road Noise Policy*, March 2011
4. NSW RMS (ex NSW RTA), *Environmental Noise Management Manual* 2001
5. NSW RMS (ex NSW RTA), *Warell Creek to Urunga – Submissions and preferred project report*, November 2010
6. Sinclair Knight Mertz, *Warell Creek to Urunga – Upgrading the Pacific Highway, Environmental Assessment Working Paper 3 – Noise and Vibration assessment* January 2010.
7. Standards Australia, AS1055.1-1997, *Acoustics – Description and Measurement of Environmental Noise*
8. Standards Australia, AS IEC 61672.1 2004 *Electroacoustics – Sound Level Meters Part 1: Specifications*

APPENDIX A - GLOSSARY OF ACOUSTIC TERMS & ABBREVIATIONS

The following is a brief description of the technical terms used to describe noise to assist in understanding the technical issues presented.

<i>Adverse Weather</i>	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
<i>Air-borne noise</i>	This refers to noise which is fundamentally transmitted by way of the air and can be attenuated by the use of barriers and walls placed physically between the noise and receiver.
<i>Alpha (α)</i>	The absorption coefficient of a material, usually measured for each octave or third-octave band and ranging between zero and one. For example, an alpha of 0.85 for an octave band means that 85% of the sound energy within that octave band is absorbed when it hits the material. Conversely, the more acoustically reflective a material is, the lower it's alpha is.
<i>Ambient Noise</i>	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.
<i>Amenity</i>	Something that contributes to physical or material comfort.
<i>AS</i>	Australian Standard
<i>Assessment Period</i>	The period in a day over which assessments are made.
<i>Assessment Point</i>	A point at which noise measurements are taken or estimated.
<i>Audible Range</i>	The limits of frequency which are audible or heard as sound. The normal ear in young adults detects sound having frequencies in the region 20 Hz to 20 kHz, although it is possible for some people to detect frequencies outside these limits.
<i>A-weighting</i>	An adjustment made to sound level measurement, by means of an electronic filter, to approximate the response of the human ear.
<i>Background Noise</i>	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation, when extraneous noise is removed. It is described as the average of the minimum noise levels measured on a

sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety per cent of a sample period. This is represented as the **L₉₀** noise level (see below).

<i>Barrier - noise</i>	Any natural or artificial physical barrier to the propagation of noise (from a roadway), but generally referring to acoustically reflective or absorbent fences, walls or mounds (or combinations thereof) constructed beside a roadway.
<i>Berm</i>	This consists of earth or overburden to serve a specific purpose. For example, stabilising berms are used for stabilising purposes.
<i>Buffer</i>	An area of land between a roadway and a noise-sensitive land use, used as open space or for some other noise-tolerant land use.
<i>Bund</i>	A bund is an embankment or wall of brick, stone, concrete or other impervious material, which may form part or all of the perimeter of a compound and provides a barrier to serve a specific purpose.
<i>BS</i>	British Standard
<i>Construction</i>	All work in respect of the proposed upgrade other than that defined as pre-construction activity/work.
<i>CoRTN</i>	United Kingdom Department of Environment entitled "Calculation of Road Traffic Noise (1988)"
<i>Decibels [dB]</i>	<p>10 times the logarithm (base 10) of the ratio of a given sound pressure to a reference pressure; used as a unit of sound. The following are examples of the decibel readings of every day steady or quasi-steady sounds:</p> <p>0dB the faintest sound we can hear 20dB quiet bedroom at night or recording studio 30dB quiet library or quiet location in the country 40dB living room 50dB typical office space or ambience in the city at night 60dB normal conversational speech 70dB a car passing by 80dB kerbside of a busy road 90dB truck passing by 100dB nightclub 110dB rock band or 2m from a jackhammer 120dB 70m from a jet aircraft 130dB threshold of pain 140dB 25m from a jet aircraft</p>

<i>dB(A)</i>	Unit used to measure 'A-weighted' sound pressure levels. The human ear is not as effective in hearing low frequency sounds as it is hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter switched on is denoted as dB(A). Practically all noise is measured using the A filter.
<i>Diffraction</i>	The distortion around solid obstacles of waves travelling past.
<i>DIN</i>	German Standard
<i>EPA</i>	Environment Protection Authority
<i>Fluctuating Noise</i>	Noise that varies continuously and to an appreciable extent over the period of observation.
<i>Free-field</i>	An environment in which there are no acoustic reflective surfaces. Free field noise measurements are carried out outdoors at least 3.5m from any acoustic reflecting structures other than the ground.
<i>Frequency</i>	Of a periodic quantity: the time rate of repetition or the reciprocal of the period. It is also synonymous with pitch and is often used to describe the character of a sound. Frequency is measured in Hertz (Hz).
<i>Ground-borne noise</i>	Ground-borne noise propagating through the ground as vibration and then radiated by vibrating building elements such as wall and floor surfaces. This noise is normally noticeable only in areas that are well protected from airborne noise.
<i>Heavy Vehicle</i>	A truck, transporter or other vehicle with a gross weight above a specified level (for example: over 8 tonnes).
<i>Intermittent noise</i>	The level suddenly drops to that of the background noise several times during the period of observation. The time during which the noise remains at levels different from that of the ambient is one second or more.
<i>Intrusive noise</i>	Refers to noise that intrudes above the background level by more than 5 dB(A).
<i>ISEPP</i>	State Environmental Planning Policy (Infrastructure), 2007.
<i>ISEPP Guideline</i>	Development Near Rail Corridors and Busy Roads - Interim Guideline, NSW Department of Planning, December 2008

<i>Loudness</i>	A rise of 10 dB in sound level corresponds approximately to a doubling of subjective loudness. That is, a sound of 85 dB is twice as loud as a sound of 75 dB which is twice as loud as a sound of 65 dB and so on. That is, the sound of 85 dB is four times or 400% the loudness of a sound of 65 dB.
$L_{A(XX)}$	The $L_{A(XX)}$ refers to statistical indicators that represent the percentage of time that a noise level is exceeded. These levels are commonly the L_{A1} , L_{A10} , and the L_{A90} , and are graphed to show how these levels change over the course of a 24 hour period.
L_{max}	The maximum sound pressure level measured over a given period. When A-weighted, this is usually written as the L_{Amax} .
L_{min}	The minimum sound pressure level measured over a given period. When A-weighted, this is usually written as the L_{Amin} .
L_1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L_{10}	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
$L_{10(1hr)}$	The L_{10} level measured over a 1 hour period.
$L_{10(18hr)}$	The arithmetic average of the $L_{10(1hr)}$ levels for the 18 hour period between 6am and 12 midnight on a normal working day.
L_{90}	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L_{90} noise level expressed in units of dB(A).
L_{Aeq}	Equivalent sound pressure level – the steady sound level that, over a specified period of time, would produce the same energy equivalence as the fluctuating sound level actually occurring.
$L_{Aeq(1hr)}$	The L_{eq} noise level for a one-hour period. In the context of the EPA's Traffic Noise Policy it represents the highest tenth percentile hourly A-weighted L_{eq} during the period 7am to 10pm, or 10pm to 7am (whichever is relevant).
$L_{eq(8hr)}$	The continuous noise level during any one hour period between 10pm and 6am.
$L_{eq(9hr)}$	The L_{eq} noise level for the period 10pm to 7am.
$L_{eq(15hr)}$	The L_{eq} noise level for the period 7am to 10pm.

<i>L_{eq} (24hr)</i>	The equivalent continuous noise level during a 24 hour period, usually from midnight to midnight.
<i>Microphone</i>	An electro-acoustic transducer which receives an acoustic signal and delivers a corresponding electric signal.
<i>Noise</i>	Sound which a listener does not wish to hear.
<i>NCA</i>	Noise Catchment Area
<i>NRC</i>	The Noise Reduction Coefficient. It is the average of each absorption coefficient (α) for the 250Hz, 500Hz, 1kHz & 2kHz octave bands. These frequencies are chosen as they roughly correlate with the frequencies of the human voice.
<i>OEH</i>	Office of Environment and Heritage
<i>Pre-construction</i>	Work in respect of the proposed project that includes design, survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys, minor clearing (except where threatened species, populations or ecological communities would be affected), establishing ancillary facilities such as site compounds, or other relevant activities determined to have minimal environmental impact (e.g. minor access roads).
<i>Reflection</i>	Sound wave changed in direction of propagation due to a solid object obscuring its path
<i>Reverberation Time</i>	<p>The amount of time (in seconds) it takes for a noise signal within a confined space to decay by 60dB. The longer the reverberation time (usually denoted as RT_{60}), the more echoic a room. Longer reverberation times generally promote higher overall noise levels within spaces.</p> <p>Often the reverberation time is measured as the mid-frequency RT_{60}, being the average reverberation time for the 250, 500, 1k & 2kHz octave bands. These frequencies correspond with those for the NRC so that sensible calculations may be undertaken.</p>
<i>RMS</i>	Root Mean Squared
<i>RNP</i>	Road Noise Policy
<i>Sabine</i>	A measure of acoustic absorption. It is the product of the material's Coefficient of Absorption (α) and the surface area of the material (m^2). For example, a material with $\alpha = 0.65$ and a surface area of $8.2m^2$ would have $0.65 \times 8.2 = 5.33$ Sabine.

Sabine is usually calculated for each individual octave (or third-octave). However the same calculations may be undertaken (for indicative purposes) using the NRC of a material rather than alpha.

<i>SEL</i>	Sound Exposure Level (SEL) is the constant sound level which, if maintained for a period of 1 second would have the same acoustic energy as the measured noise event. SEL noise measurements are useful as they can be converted to obtain Leq sound levels over any period of time and can be used for predicting noise at various locations.
<i>Sound</i>	A fluctuation of air pressure which is propagated as a wave through air.
<i>Sound Absorption</i>	The ability of a material to absorb sound energy through its conversion into thermal energy.
<i>Sound Level Meter</i>	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
<i>Sound Pressure Level</i>	The level of noise, usually expressed in dB(A), as measured by a standard sound level meter with a pressure microphone. The sound pressure level in dB(A) gives a close indication of the subjective loudness of the noise
<i>Sound Power Level</i>	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power.
<i>Spoil</i>	Soil or materials arising from excavation activities.
<i>Structure-borne noise</i>	Vibration propagating through solid structures in the form of compressional or bending waves, heard as sound.
<i>Tonal noise</i>	Containing a prominent frequency and characterised by a definite pitch.
<i>Transmission</i>	The amount of noise passing from one room or area to another, usually passing through an object. For example, if on one side of a wall is 100dB of noise and other the other only 65dB, it is said that the transmission loss of the wall is 35dB. As an alternative to (but still synonymous with) transmission loss, the weighted noise reduction index (R_w) is often used.

APPENDIX B - TRAFFIC VOLUME AND COMPOSITION DATA

Future-Existing Traffic Volumes

The noise predictions for the noise model have been based on traffic flow and composition data provided by RMS. The projected average hourly traffic flow data for the year of project opening (2016) without the project going ahead, namely the 'future-existing' traffic data, is provided in Table B1 for the day and night periods.

**Table B1 – Projected Average Hourly Traffic Flow Data, 'Future-Existing' Situation
(year 2016)**

Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed
Existing Pacific HWY	South of Valla Rd	NB	356	13	100	126	42	100
		SB	391	12	100	134	40	100
	Valla Road to Valla Beach Rd	NB	353	13	100	126	42	100
		SB	388	12	100	134	40	100
	Valla Beach Rd to East West Rd	NB	345	13	90	122	42	90
		SB	383	12	90	134	41	90
	East West Rd to Hungry Head Rd	NB	343	12	90	121	42	90
		SB	382	12	90	134	41	90
	Hungry Head Rd to Short Cut Rd	NB	550	8	70/50/80	172	32	70/50/80
		SB	448	8	70/50/80	140	32	70/50/80
	Short Cut Rd to Raleigh Interchange	NB	494	9	80	159	34	80
		SB	404	9	80	129	34	80
	Raleigh Interchange (between ON and OFF Ramps)	NB	415	11	110	139	38	110
		SB	342	10	110	113	37	110
	North of Raleigh Interchange	NB	507	9	110	163	34	110
		SB	411	9	110	133	35	110
Local Roads	Valla Road Valla Beach Road	Combined	117	7	60	34	26	60
	East West Road Ballards Road	Combined	202	7	60	60	26	60
	Hungry Head Road Short Cut Road	Combined	51	6	60	16	29	60
	Waterfall Way Valla Road	Combined	1	0	60	1	0	60
	Valla Beach Road East West Road	Combined	7	0	60	2	0	60
	Ballards Road Hungry Head Road	Combined	100	2	60	26	9	60



Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed
Raleigh Interchange	Short Cut Road	Combined	399	2	60	101	10	60
	Northbound Off-ramp	NB	79	1	80	20	6	80
	Northbound On-ramp	NB	91	2	80	23	10	80
	Southbound Off-ramp	SB	69	5	80	20	22	80
	Southbound On-ramp	SB	63	2	80	16	7	80

Note Vehicle Classes are based on Austroads vehicle classifications. That is;

- Light vehicles: passenger vehicles (cars, vans utilities, motorcycles etc).
- Medium vehicles: two or three axles, two groups.
- Heavy vehicles: three or more axles, more than two groups.

Opening Year Traffic Volumes

The noise predictions for the noise model have been based on traffic flow and composition data provided by RMS. The projected average hourly traffic flow data for the year of project opening (2016) with the project going ahead, namely the 'Opening Year' traffic data, is provided in Table B2 for the day and night periods.

Table B2 – Projected Average Hourly Traffic Flow Data, 'Opening Year' Situation (year 2016)

Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed
Main Carriageway	South of Nambucca Heads	NB	346	15	115	131	48	120
		SB	348	14	115	127	44	120
	Nambucca Heads Interchange (between Off and On ramps)	NB	254	17	115	100	51	120
		SB	186	17	115	73	51	120
	Nambucca Heads Interchange to Ballards Road Interchange	NB	336	15	115	124	46	120
		SB	334	14	115	124	46	120
	Ballards Road Interchange (between Off and On ramps)	NB	301	16	115	116	48	120
		SB	234	15	115	89	48	120
	Ballards Road interchange to Raleigh Road Interchange	NB	317	15	115	120	47	120
		SB	260	15	115	100	48	120
	Raleigh Interchange (between Off and On ramps)	NB	298	16	115	115	49	120
		SB	234	16	115	92	51	120
	North of Raleigh Interchange	NB	608	9	115	196	34	120
		SB	493	9	115	160	35	120
Existing Pacific HWY (Service Rd)	South of Nambucca Heads Interchange	NB	202	4	100	56	19	100
		SB	242	6	100	72	26	100
	Nambucca Heads Interchange	NB	113	9	100	36	33	100

Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed
	to Valla Beach Rd	SB	157	7	100	47	26	100
	Valla Beach Rd to East West Rd	NB	62	5	90	19	21	90
		SB	100	8	90	32	29	90
	East West Rd to Ballards Rd/Ballards Interchange	NB	77	4	90	21	19	90
		SB	126	7	90	39	28	90
	Ballards Rd/Ballards Interchange to Hungry Head Rd	NB	95	5	90	27	20	90
		SB	198	8	90	63	32	90
	Hungry Head Rd to Short Cut Rd	NB	343	2	70/50/80	88	11	70/50/80
		SB	278	2	70/50/80	71	9	70/50/80
	Short Cut Rd to Raleigh Interchange	NB	169	4	80	47	20	80
		SB	148	3	80	40	13	80
Nambucca Heads Interchange	Northbound Off-ramp	NB	92	12	80	32	42	80
	Northbound On-ramp	NB	82	8	80	25	32	80
	Southbound Off-ramp	SB	149	11	80	51	39	80
	Southbound On-ramp	SB	163	10	80	53	35	80
Ballards Road Interchange	Northbound Off-ramp	NB	37	7	80	11	25	80
	Northbound On-ramp	NB	18	5	80	5	25	80
	Southbound Off-ramp	SB	27	18	80	11	50	80
	Southbound On-ramp	SB	101	13	80	36	41	80
Raleigh Interchange	Northbound Off-ramp	NB	20	4	80	7	20	80
	Northbound On-ramp	NB	310	3	80	83	15	80
	Southbound Off-ramp	SB	259	3	80	68	14	80
	Southbound On-ramp	SB	27	6	80	9	29	80
Local Roads	Valla Road Underpass and Intersection with Existing Pacific Highway	Combined	94	9	60	31	35	60
	Valla Beach Road	Combined	242	7	60	72	26	60
	East West Road Overbridge and Intersection with Existing Pacific Highway	Combined	134	5	60	39	21	60
	Ballards Road Intersection with Existing Pacific Highway	Combined	181	11	60	61	37	60
	Hungry Head Road	Combined	8	0	60	3	0	60
	Short Cut Road Intersection with South Arm Road	Combined	243	1	60	59	5	60
	Waterfall Way	Combined	479	2	60	121	10	60

Note Vehicle Classes are based on Austroads vehicle classifications. That is;
 Light vehicles: passenger vehicles (cars, vans utilities, motorcycles etc).
 Medium vehicles: two or three axles, two groups.
 Heavy vehicles: three or more axles, more than two groups.
 Incorporates the 20% increase in traffic volumes, provided by RMS.

Design Traffic Volumes

The noise predictions for the noise model have been based on traffic flow and composition data provided by RMS. The projected average hourly traffic flow data for 10 years after project opening (year 2026) is provided in Table B3 for the day and night periods.

Table B3 – Projected Average Hourly Traffic Flow Data, 'Design' Situation (year 2026)

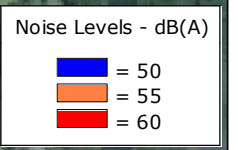
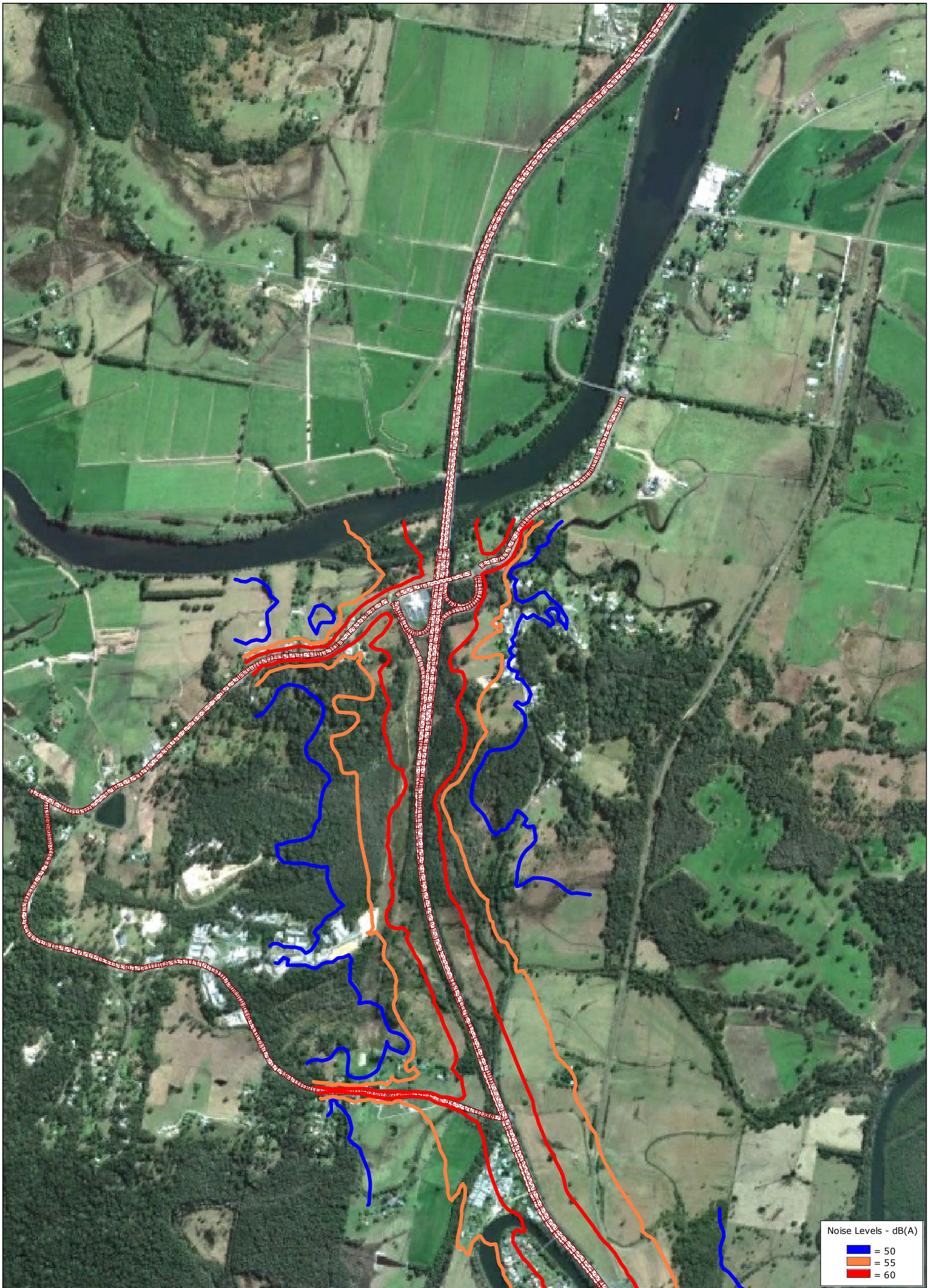
Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed
Main Carriageway	South of Nambucca Heads	NB	426	15	115	161	48	120
		SB	437	13	115	156	43	120
	Nambucca Heads Interchange (between Off and On ramps)	NB	309	17	115	121	51	120
		SB	218	17	115	87	51	120
	Nambucca Heads Interchange to Ballards Road Interchange	NB	406	15	115	152	46	120
		SB	385	15	115	145	47	120
	Ballards Road Interchange (between Off and On ramps)	NB	370	16	115	143	49	120
		SB	286	15	115	109	48	120
	Ballards Road interchange to Raleigh Road Interchange	NB	390	15	115	147	47	120
		SB	322	15	115	124	48	120
	Raleigh Interchange (between Off and On ramps)	NB	370	16	115	143	49	120
		SB	293	17	115	115	50	120
	North of Raleigh Interchange	NB	718	10	115	233	35	120
		SB	593	10	115	195	36	120
Existing Pacific HWY (Service Rd)	South of Nambucca Heads Interchange	NB	234	4	100	64	19	100
		SB	270	6	100	80	25	100
	Nambucca Heads Interchange to Valla Beach Rd	NB	149	9	100	48	33	100
		SB	216	7	100	65	27	100
	Valla Beach Rd to East West Rd	NB	69	5	90	20	20	90
		SB	121	8	90	39	31	90
	East West Rd to Ballards Rd/Ballards Interchange	NB	92	4	90	25	16	90
		SB	164	6	90	48	25	90
	Ballards Rd/Ballards Interchange to Hungry Head Rd	NB	106	5	90	29	18	90
		SB	226	8	90	71	30	90
	Hungry Head Rd to Short Cut Rd	NB	364	2	70/50/80	93	11	70/50/80
		SB	300	2	70/50/80	77	10	70/50/80
	Short Cut Rd to Raleigh Interchange	NB	186	5	80	52	21	80
		SB	167	3	80	44	15	80
Nambucca Heads Interchange	Northbound Off-ramp	NB	118	12	80	41	39	80
	Northbound On-ramp	NB	98	9	80	32	33	80
	Southbound Off-ramp	SB	169	12	80	59	41	80
	Southbound On-ramp	SB	220	9	80	71	34	80
Ballards Road	Northbound Off-ramp	NB	37	4	80	12	22	80

Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed
Interchange	Northbound On-ramp	NB	22	4	80	7	20	80
	Southbound Off-ramp	SB	38	17	80	16	50	80
	Southbound On-ramp	SB	101	13	80	37	43	80
Raleigh Interchange	Northbound Off-ramp	NB	22	4	80	7	20	80
	Northbound On-ramp	NB	349	3	80	92	14	80
	Southbound Off-ramp	SB	302	3	80	80	15	80
	Southbound On-ramp	SB	30	5	80	9	29	80
Local Roads	Valla Road Underpass and Intersection with Existing Pacific Highway	Combined	161	9	60	52	33	60
	Valla Beach Road	Combined	290	7	60	87	26	60
	East West Road Overbridge and Intersection with Existing Pacific Highway	Combined	169	5	60	47	20	60
	Ballards Road Intersection with Existing Pacific Highway	Combined	195	11	60	68	39	60
	Hungry Head Road	Combined	12	0	60	4	0	60
	Short Cut Road Intersection with South Arm Road	Combined	243	1	60	60	4	60
	Waterfall Way	Combined	522	2	60	133	10	60

Note

Vehicle Classes are based on Austroads vehicle classifications. That is;
 Light vehicles: passenger vehicles (cars, vans utilities, motorcycles etc).
 Medium vehicles: two or three axles, two groups.
 Heavy vehicles: three or more axles, more than two groups.
 Incorporates the 20% increase in traffic volumes, provided by RMS.

APPENDIX C - FUTURE EXISTING NOISE CONTOUR MAPS



RENZO TONIN & ASSOCIATES
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Project:
PACIFIC HWY UPGRADE - NAMBUCCA HEADS TO URUNGA (NH2U)

Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Noise Contours - 84% CI
 Section 1



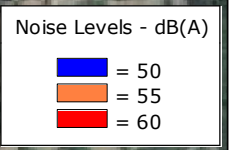
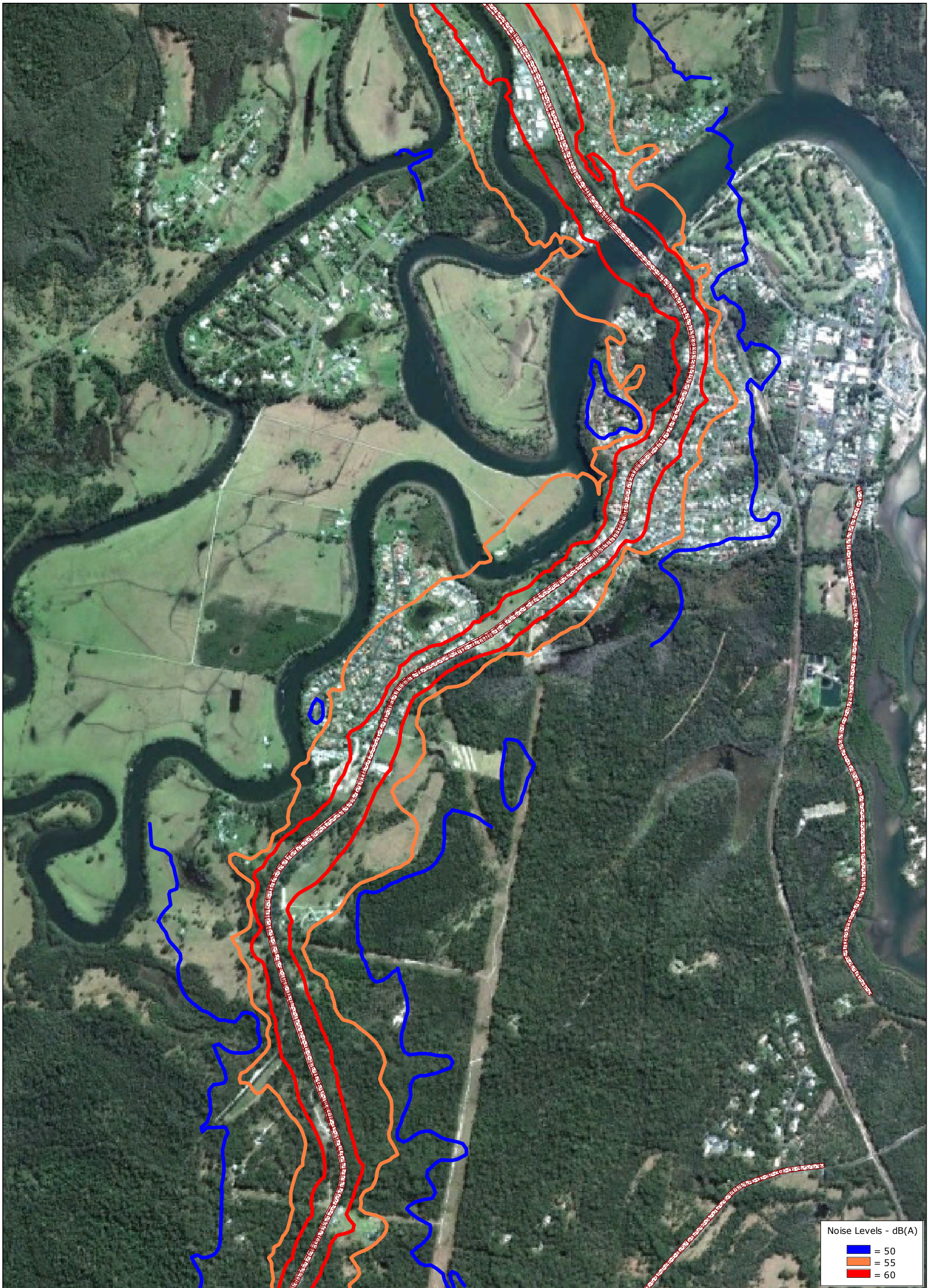
legend:
 Road
 Calculation Area

Reference: TF739-01 P21 (rev 1) Gr # 20

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Noise Contours - 84% CI
 Section 2



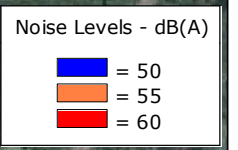
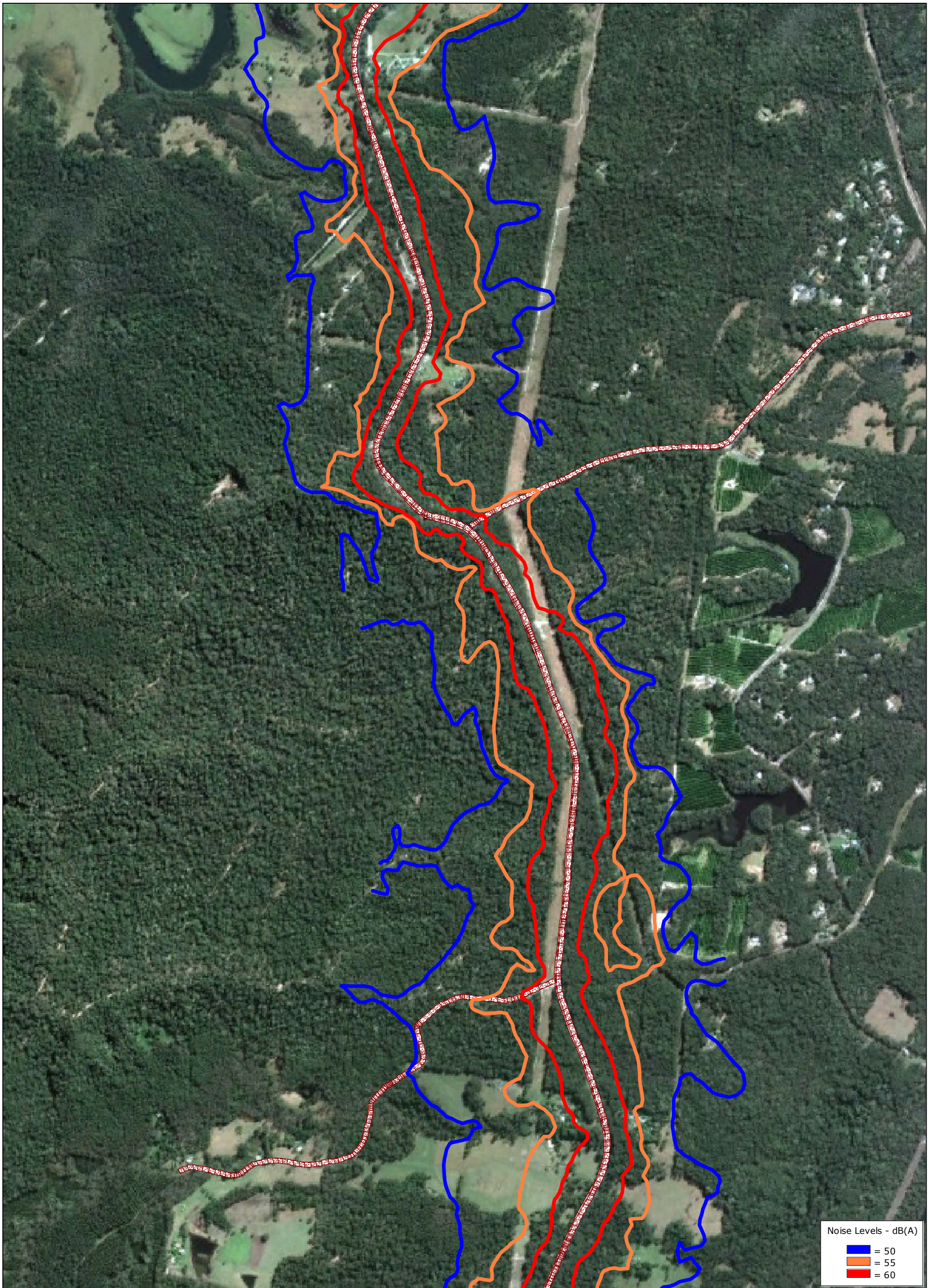
legend:
 Road
 Calculation Area

Reference: TF739-01 P22 (rev 1) Gr # 20

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Noise Contours - 84% CI
 Section 3



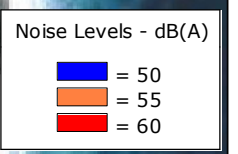
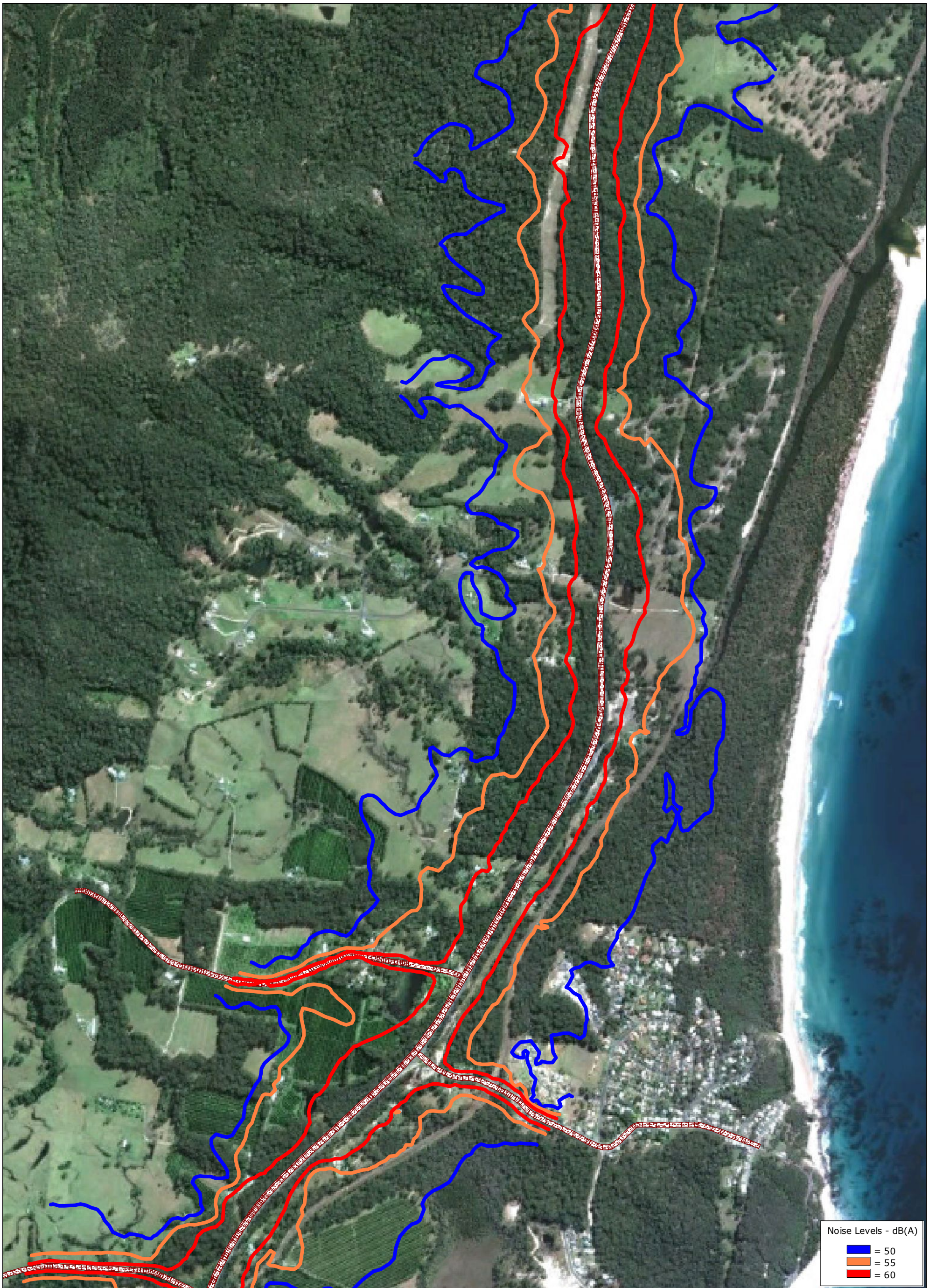
legend:
 Road
 Calculation Area




Reference: TF739-01 P23 (rev 1) Gr # 20

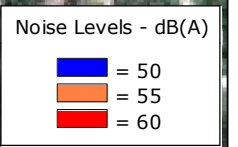
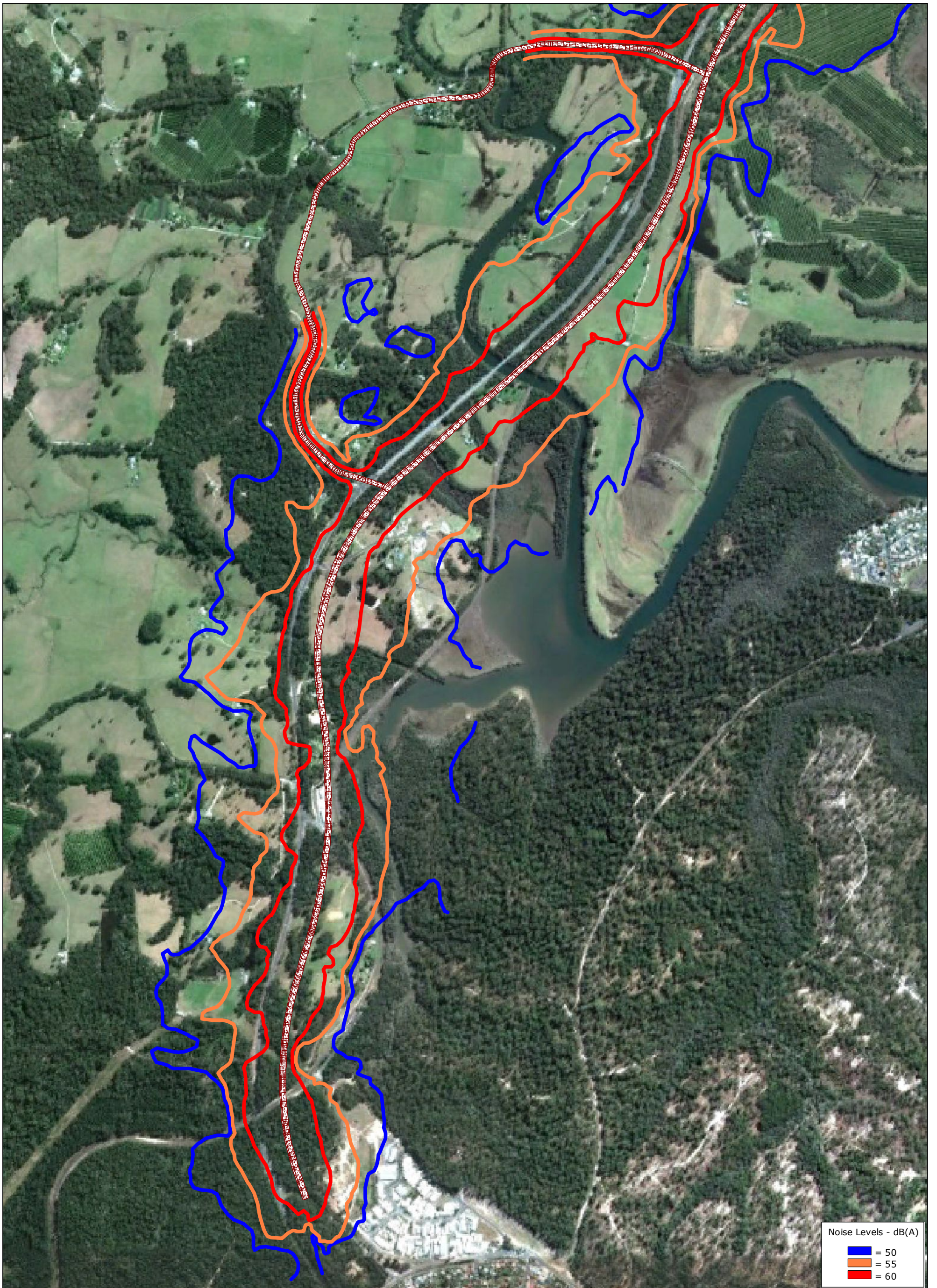
Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3



 RENZO TONIN & ASSOCIATES <i>inspired to achieve</i>	Project: PACIFIC HWY UPGRADE - NAMBUCCA HEADS TO URUNGA (NH2U)	Description: LAeq (9hr) Night-time at 1.5m height Future Existing - 2016 Noise Contours - 84% CI Section 4		legend:  Road  Calculation Area
Reference: TF739-01 P24 (rev 1) Gr # 20	Client: SMEC AUSTRALIA PTY LTD	Date: 18/12/2012	Scale: 1: 13000 A3	



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Noise Contours - 84% CI
 Section 5



legend:
 Road
 Calculation Area

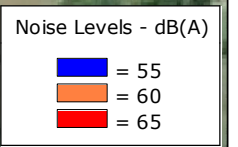
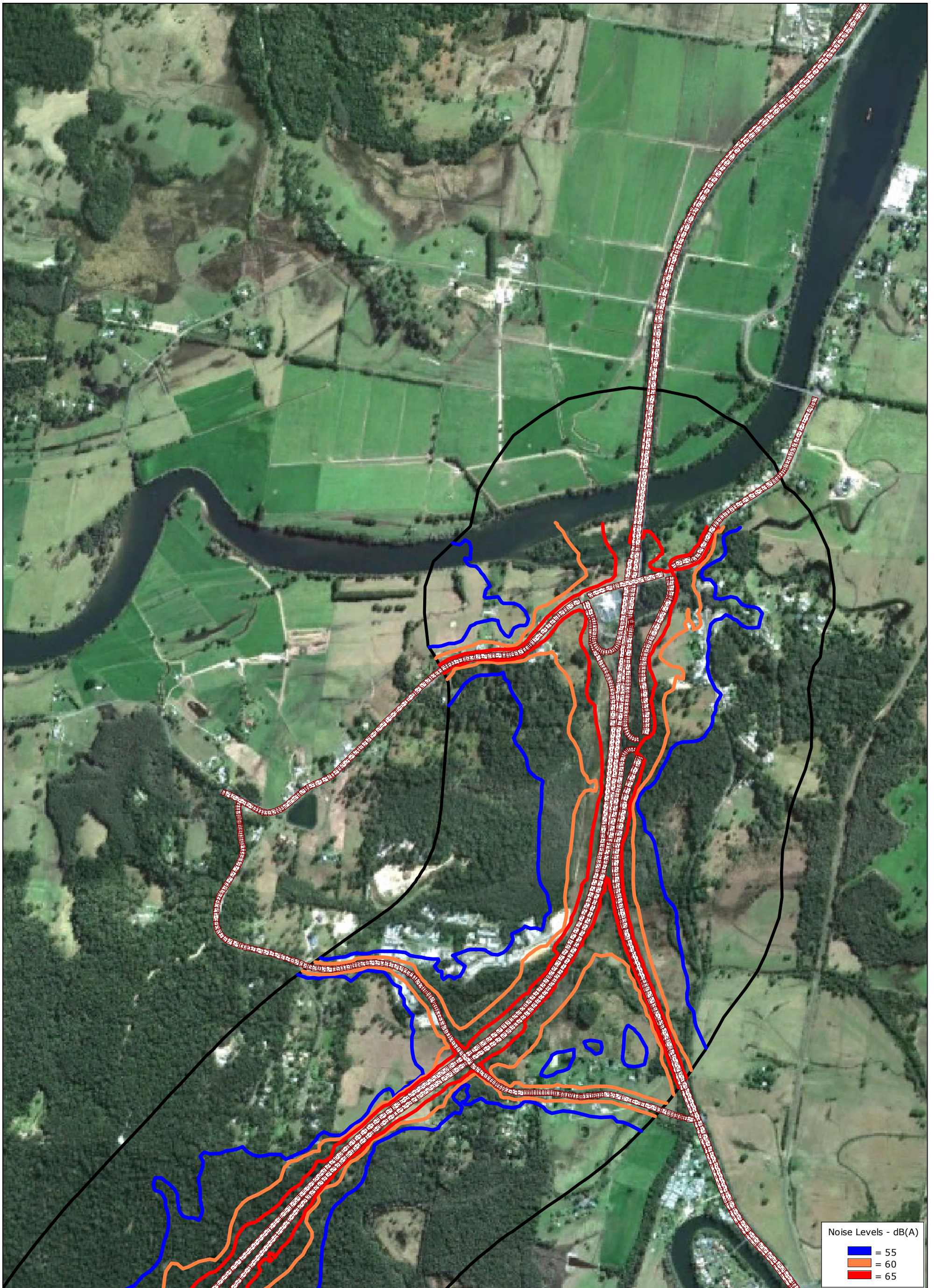
Reference: TF739-01 P25 (rev 1) Gr # 20

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3

APPENDIX D - OPENING YEAR NOISE CONTOUR MAPS



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Opening Year - 2016
 Noise Contours - 84% CI
 Section 1



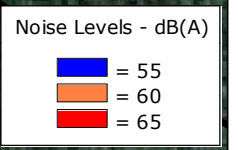
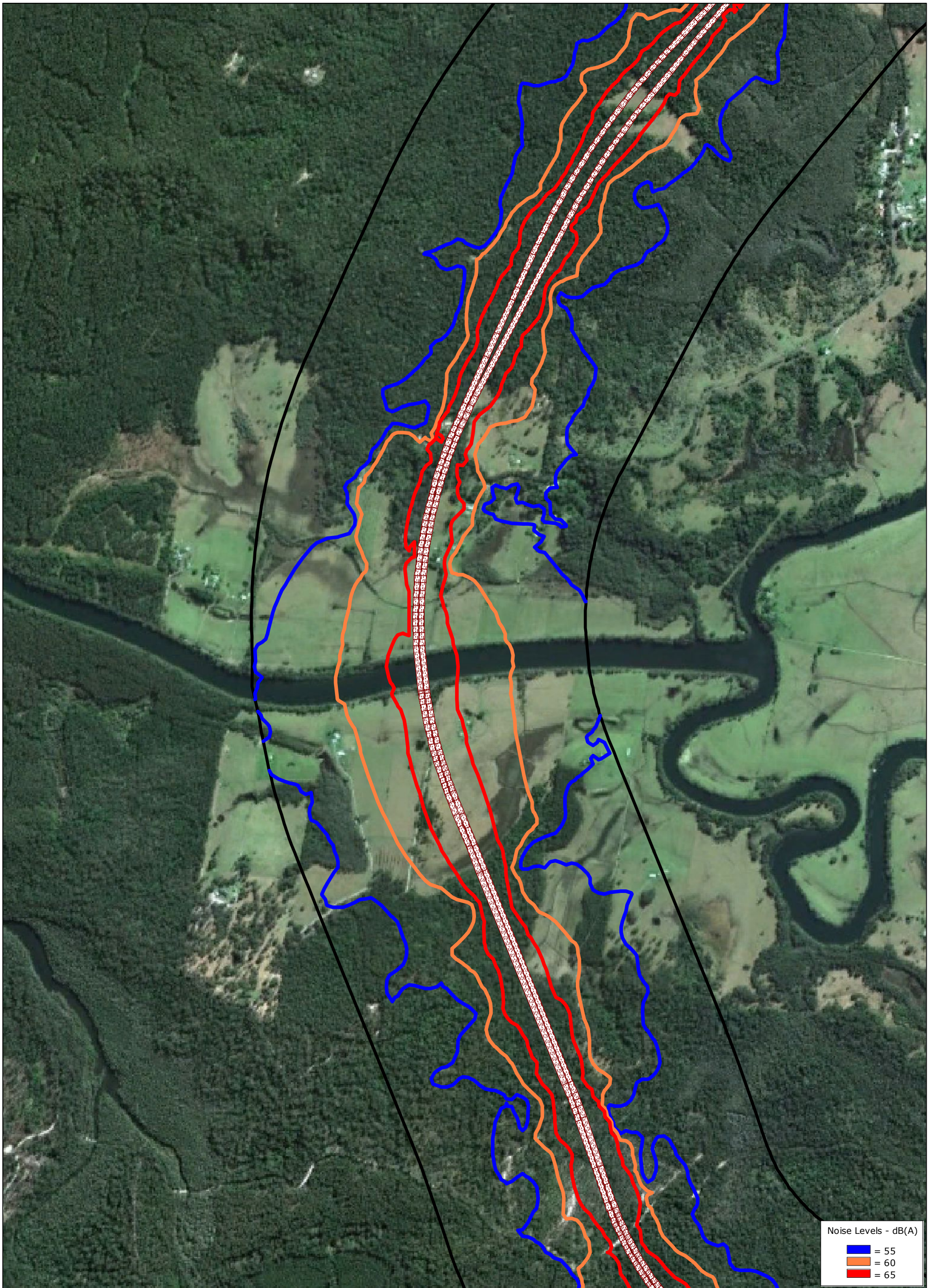
legend:
 Road
 Calculation Area

Reference: TF739-01 P11 (rev 2) Gr # 18

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012



Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Opening Year - 2016
 Noise Contours - 84% CI
 Section 2



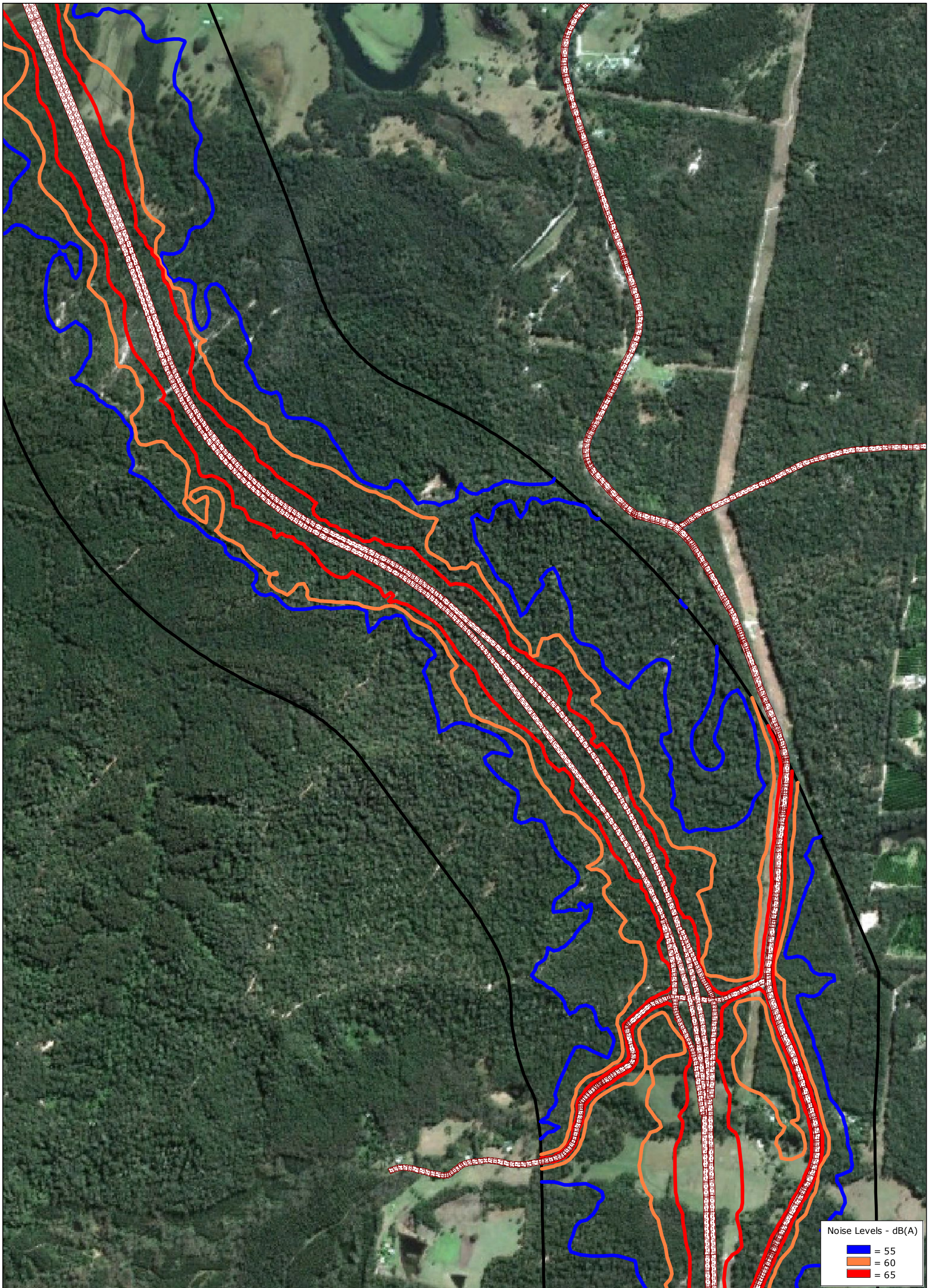
legend:
 Road
 Calculation Area

Reference: TF739-01 P12 (rev 2) Gr # 18

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3



Noise Levels - dB(A)

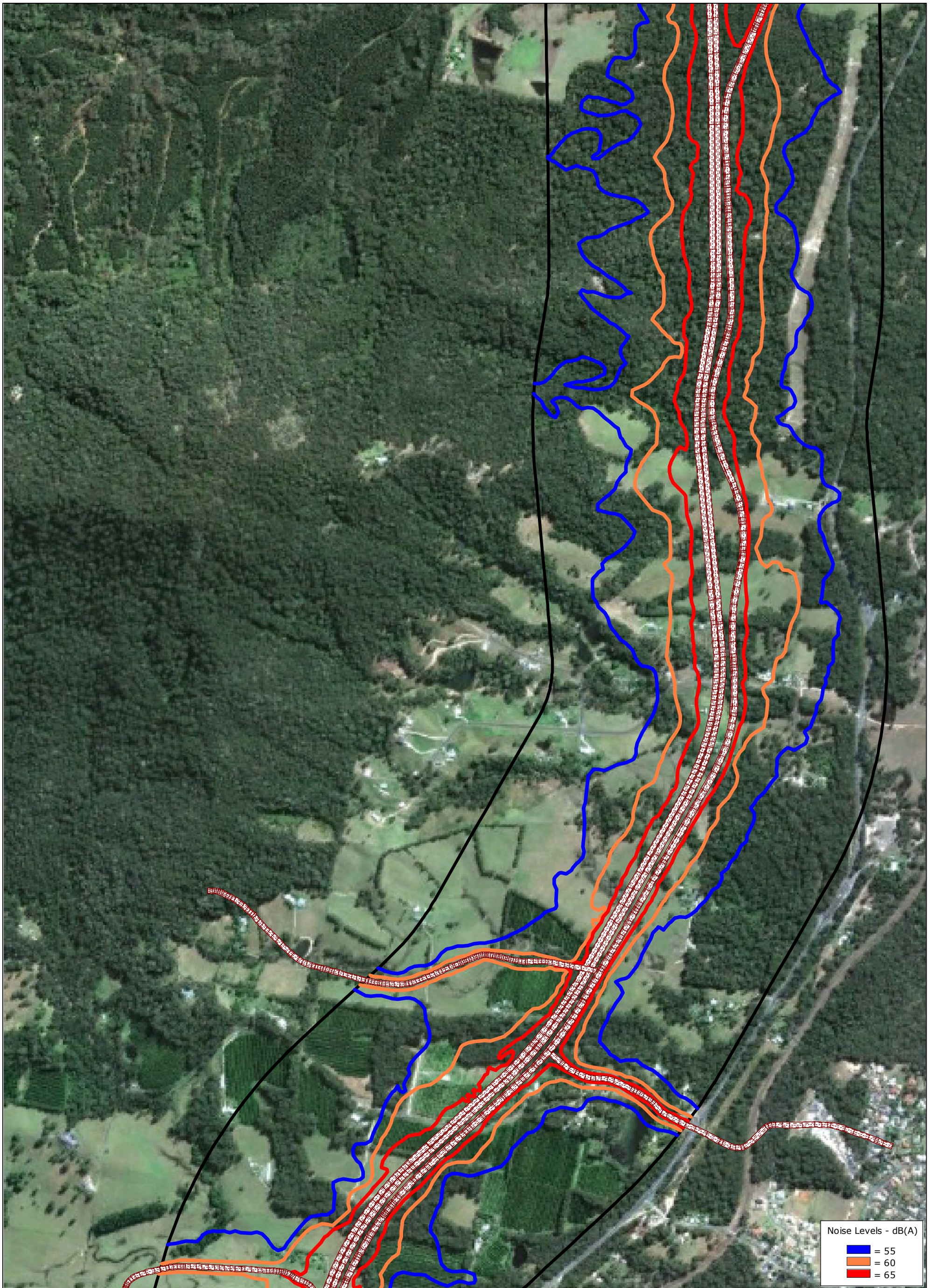
- █ = 55
- █ = 60
- █ = 65

legend:

- Road
- Calculation Area

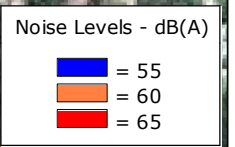
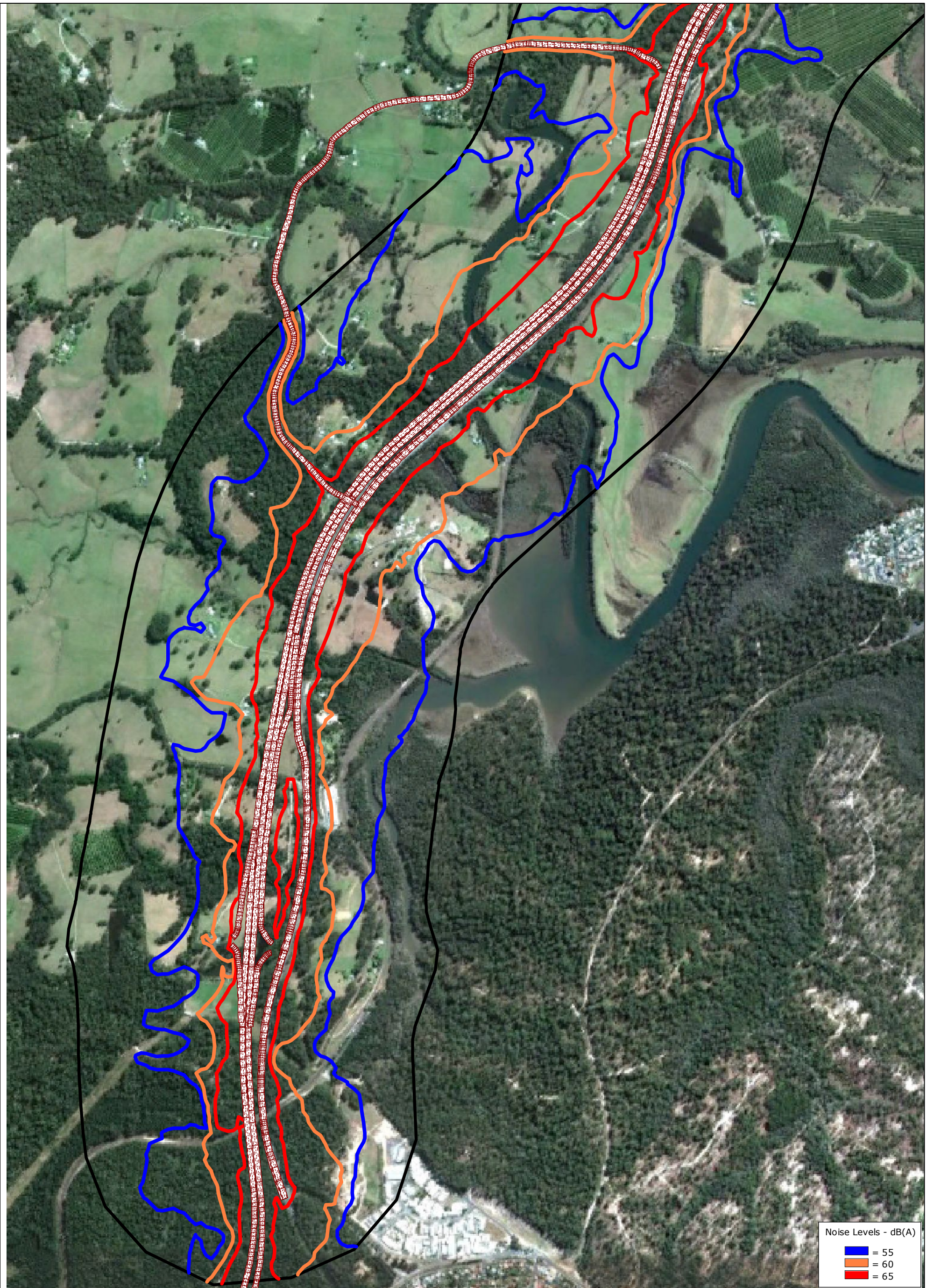


RENZO TONIN & ASSOCIATES <i>inspired to achieve</i>	Project: PACIFIC HWY UPGRADE - NAMBUCCA HEADS TO URUNGA (NH2U)	Description: LAeq (15hr) Daytime at 1.5m height Opening Year - 2016 Noise Contours - 84% CI Section 3	Scale: 1: 13000 A3
Reference: TF739-01 P13 (rev 2) Gr # 18	Client: SMEC AUSTRALIA PTY LTD	Date: 18/12/2012	



Noise Levels - dB(A)	
█	= 55
█	= 60
█	= 65

 RENZO TONIN & ASSOCIATES <i>inspired to achieve</i>	Project: PACIFIC HWY UPGRADE - NAMBUCCA HEADS TO URUNGA (NH2U)	Description: LAeq (15hr) Daytime at 1.5m height Opening Year - 2016 Noise Contours - 84% CI Section 4		legend:  Road  Calculation Area
Reference: TF739-01 P14 (rev 2) Gr # 18	Client: SMEC AUSTRALIA PTY LTD	Date: 18/12/2012	Scale: 1: 13000 A3	



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Opening Year - 2016
 Noise Contours - 84% CI
 Section 5



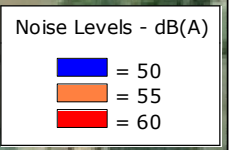
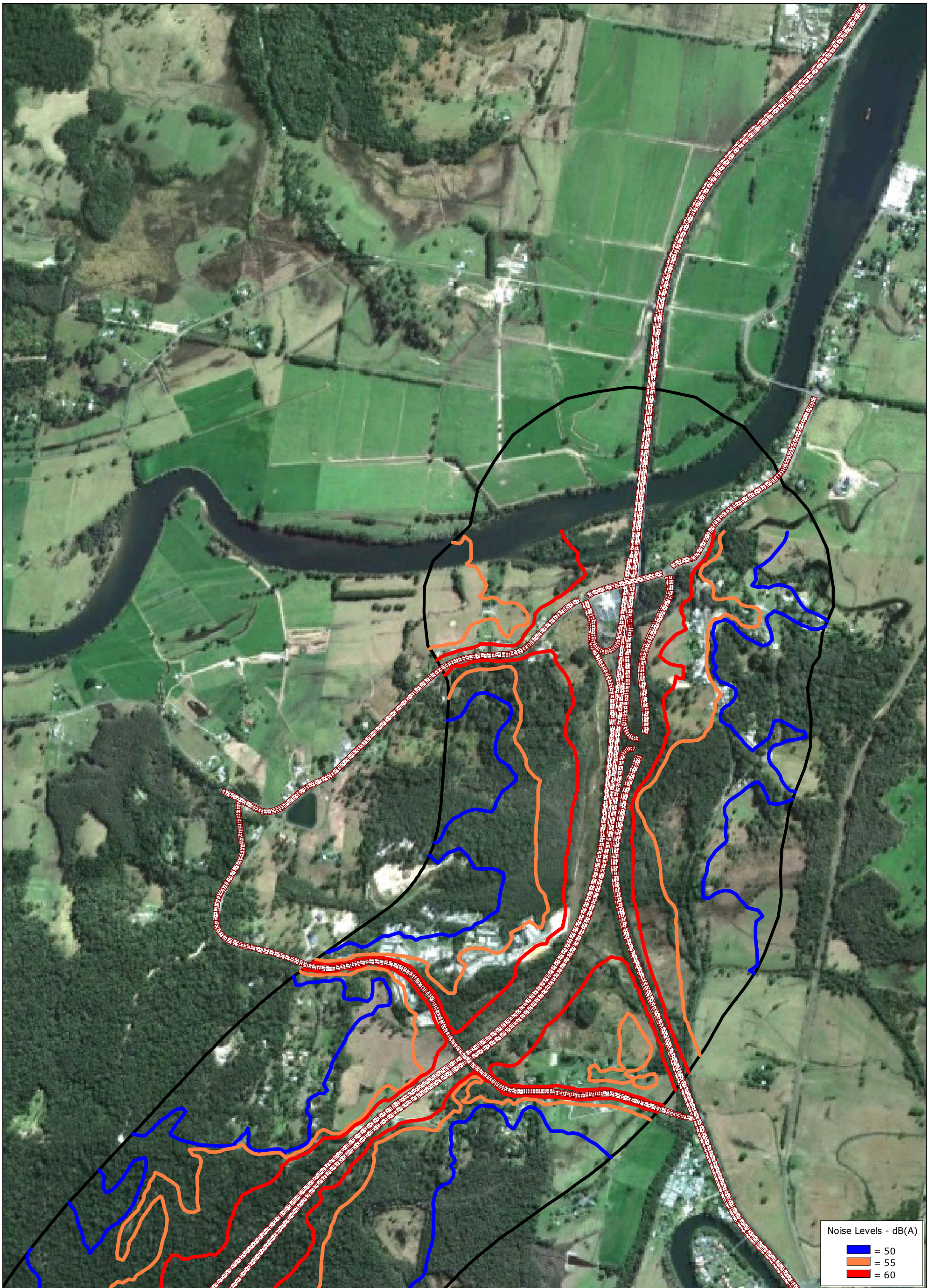
legend:
 Road
 Calculation Area

Reference: TF739-01 P15 (rev 2) Gr # 18

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
PACIFIC HWY UPGRADE - NAMBUCCA HEADS TO URUNGA (NH2U)

Description:
 LAeq (9hr) Night-time at 1.5m height
 Opening Year - 2016
 Noise Contours - 84% CI
 Section 1



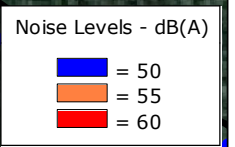
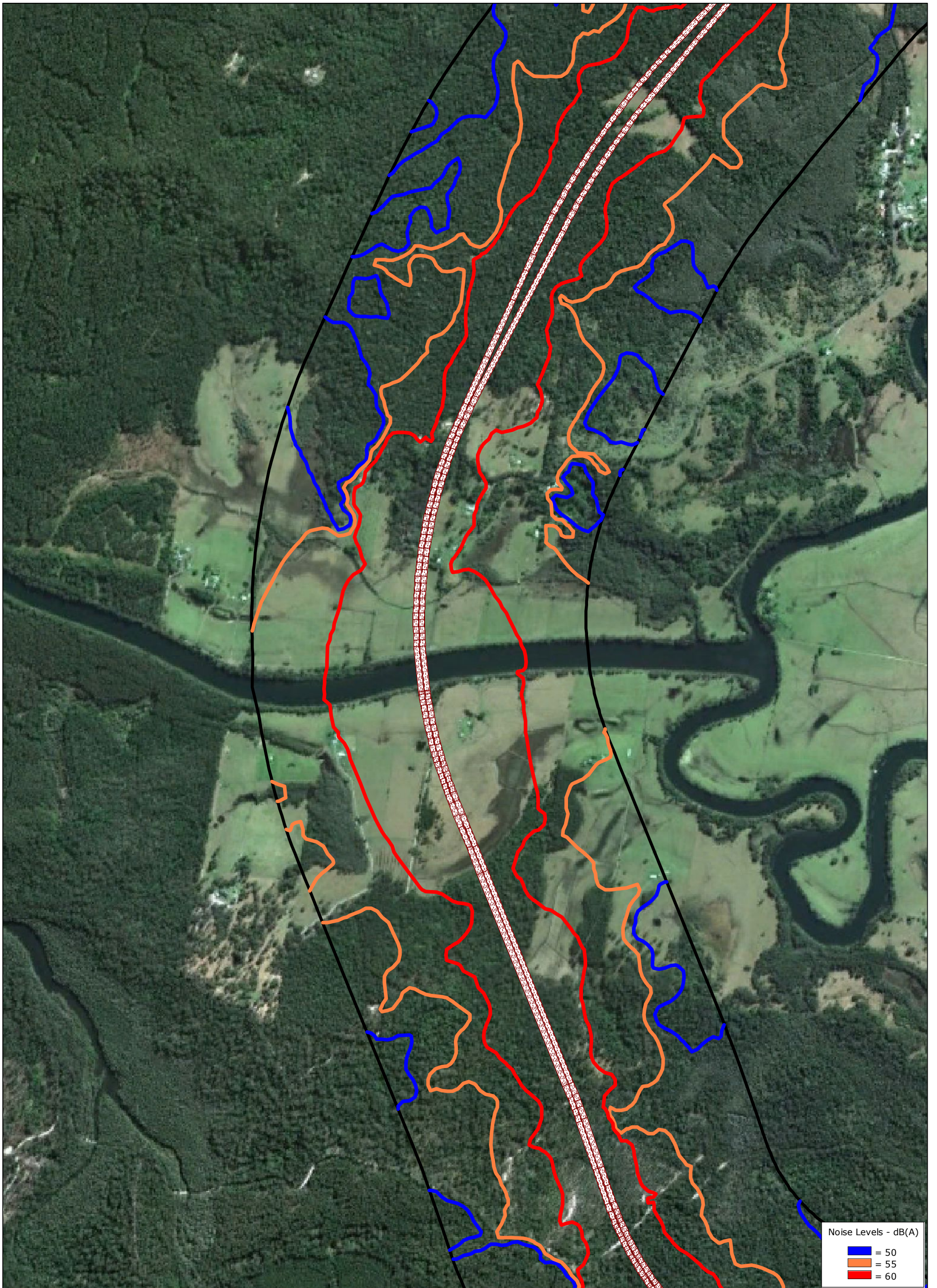
legend:
 Road
 Calculation Area

Reference: TF739-01 P16 (rev 2) Gr # 17

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Opening Year - 2016
 Noise Contours - 84% CI
 Section 2



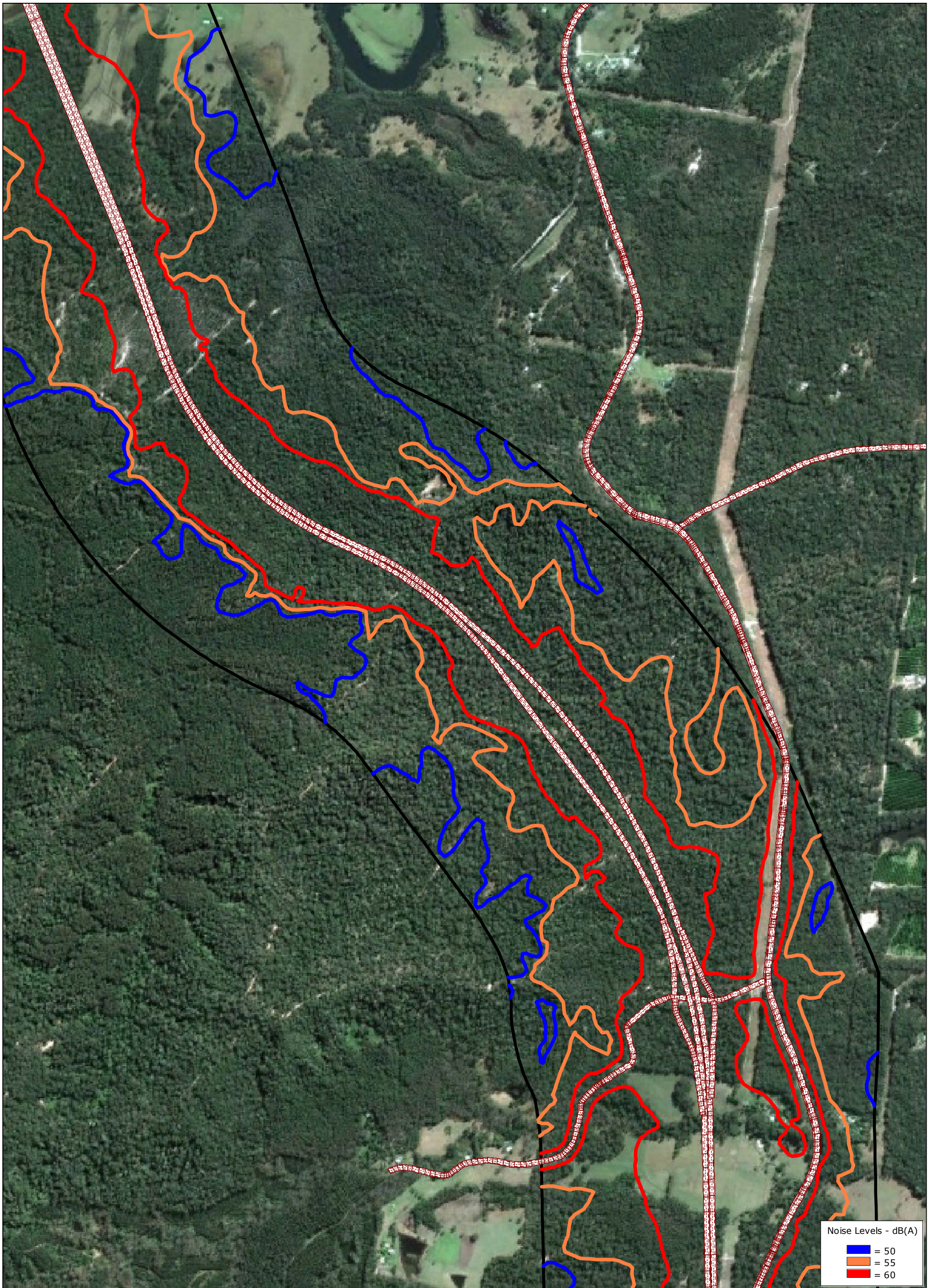
legend:
 Road
 Calculation Area

Reference: TF739-01 P17 (rev 2) Gr # 17

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3



Noise Levels - dB(A)

- █ = 50
- █ = 55
- █ = 60



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Opening Year - 2016
 Noise Contours - 84% CI
 Section 3



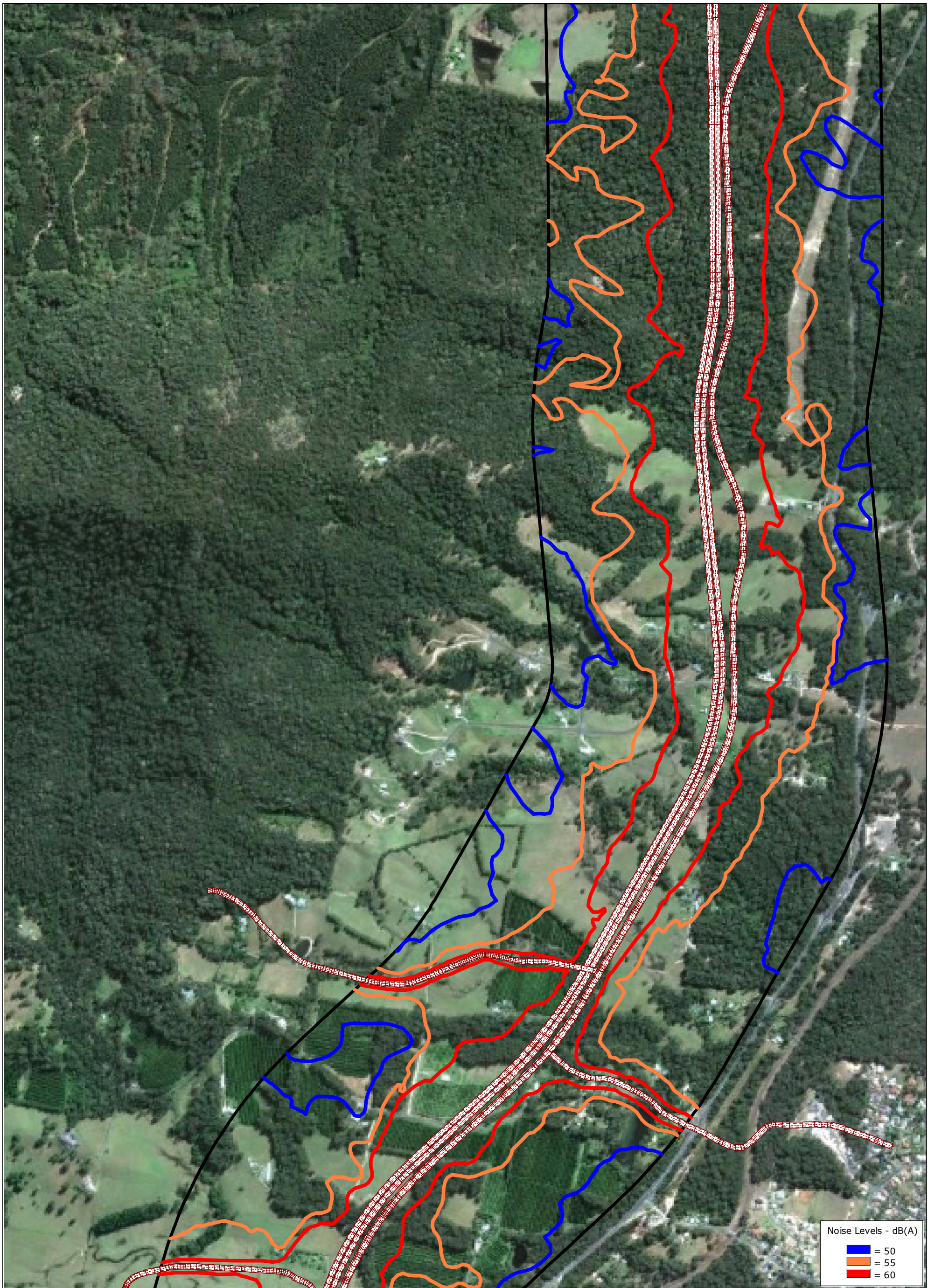
legend:
 Road
 Calculation Area

Reference: TF739-01 P18 (rev 2) Gr # 17

Client: SMEC AUSTRALIA PTY LTD





Date: 18/12/2012

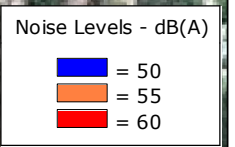
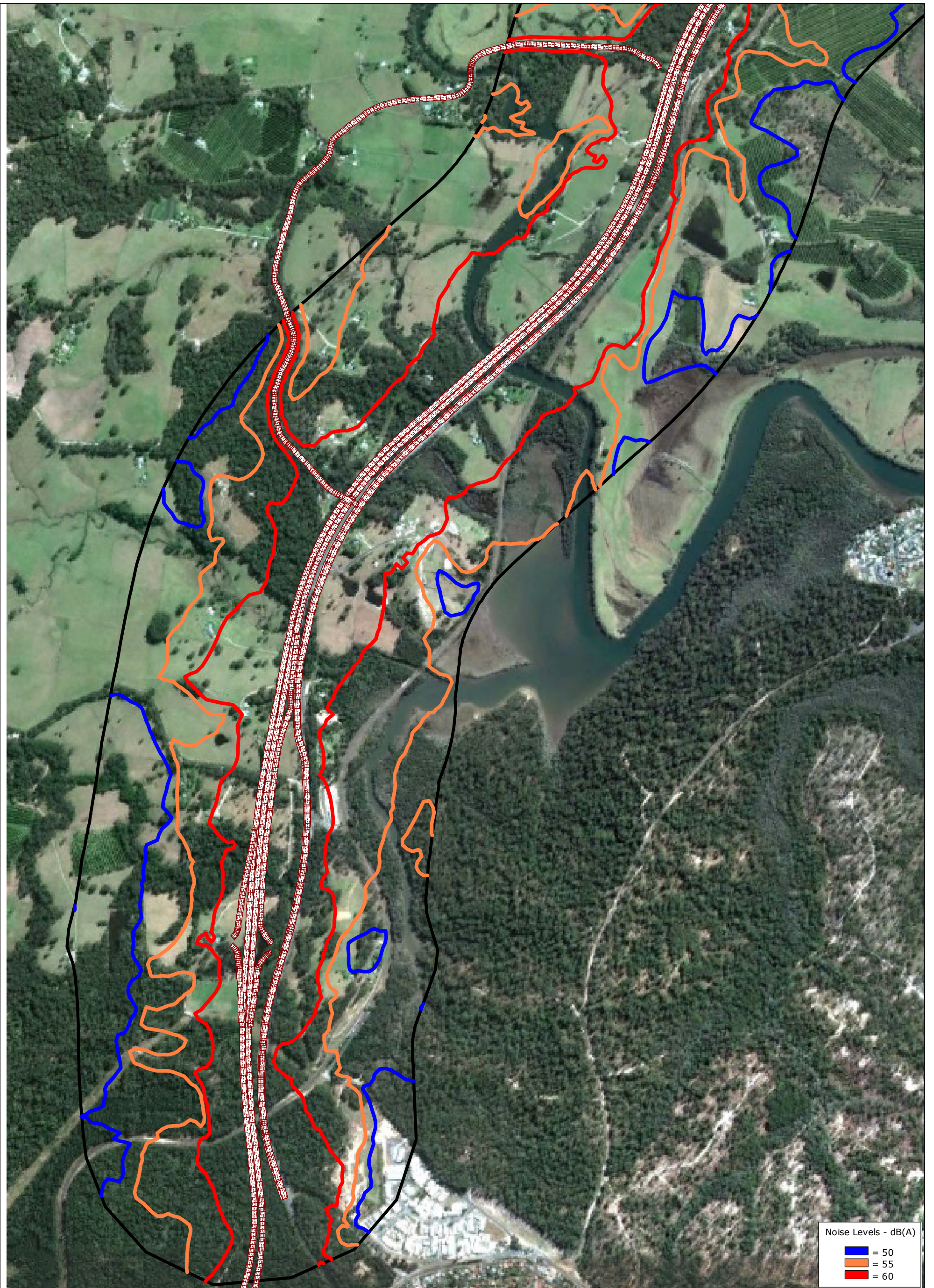
Scale: 1: 13000 A3



Noise Levels - dB(A)

- █ = 50
- █ = 55
- █ = 60

 RENZO TONIN & ASSOCIATES <i>inspired to achieve</i>	Project: PACIFIC HWY UPGRADE - NAMBUCCA HEADS TO URUNGA (NH2U)	Description: LAeq (9hr) Night-time at 1.5m height Opening Year - 2016 Noise Contours - 84% CI Section 4		legend:  Road  Calculation Area
Reference: TF739-01 P19 (rev 2) Gr # 17	Client: SMEC AUSTRALIA PTY LTD	Date: 18/12/2012	Scale: 1: 13000 A3	



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Opening Year - 2016
 Noise Contours - 84% CI
 Section 5

legend:

- Road
- Calculation Area



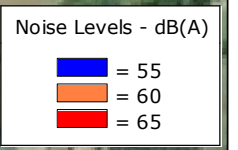
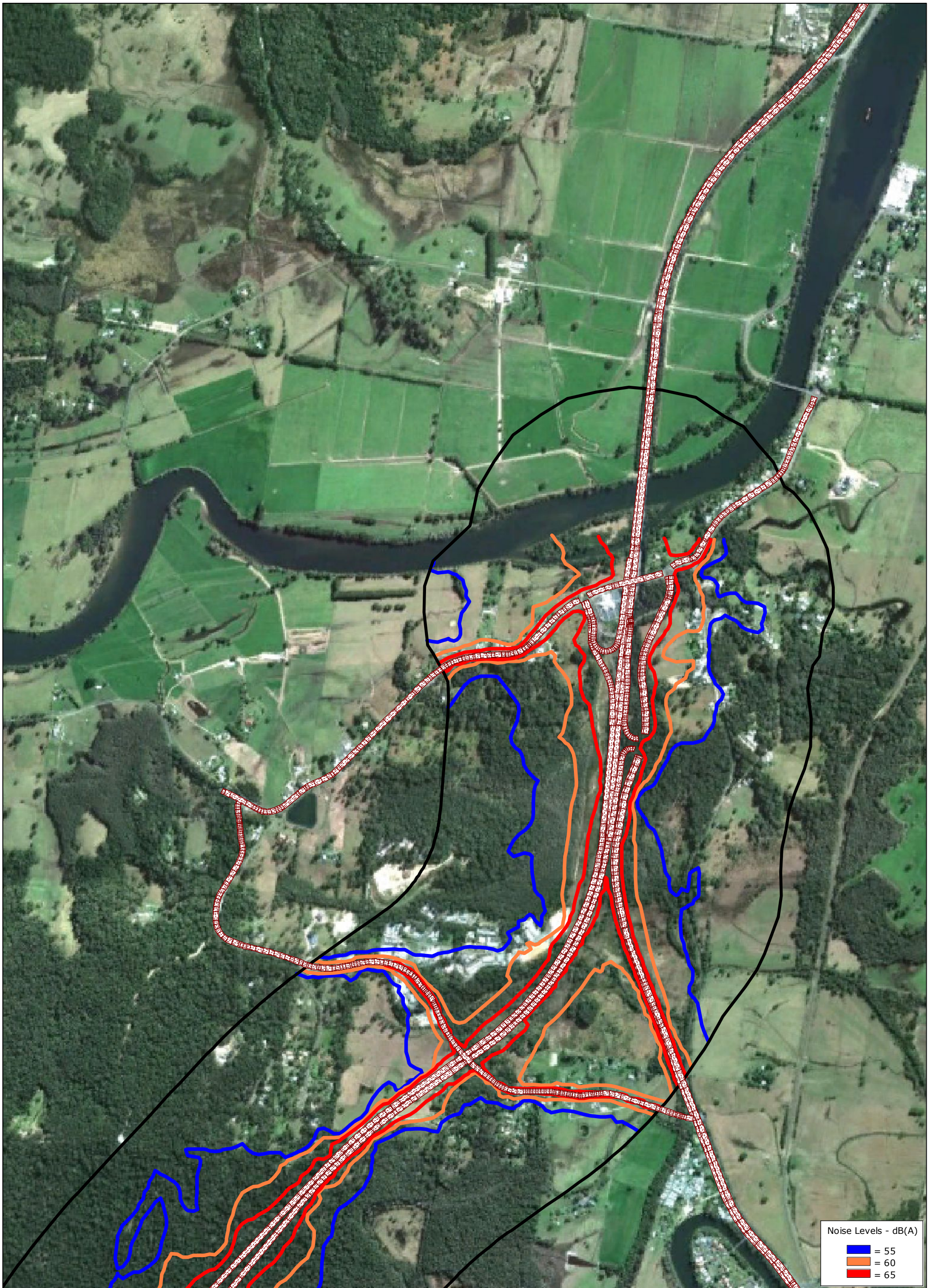
Reference: TF739-01 P20 (rev 2) Gr # 17

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3

APPENDIX E - DESIGN YEAR NOISE CONTOUR MAPS



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Design Year - 2026
 Noise Contours - 84% CI
 Section 1



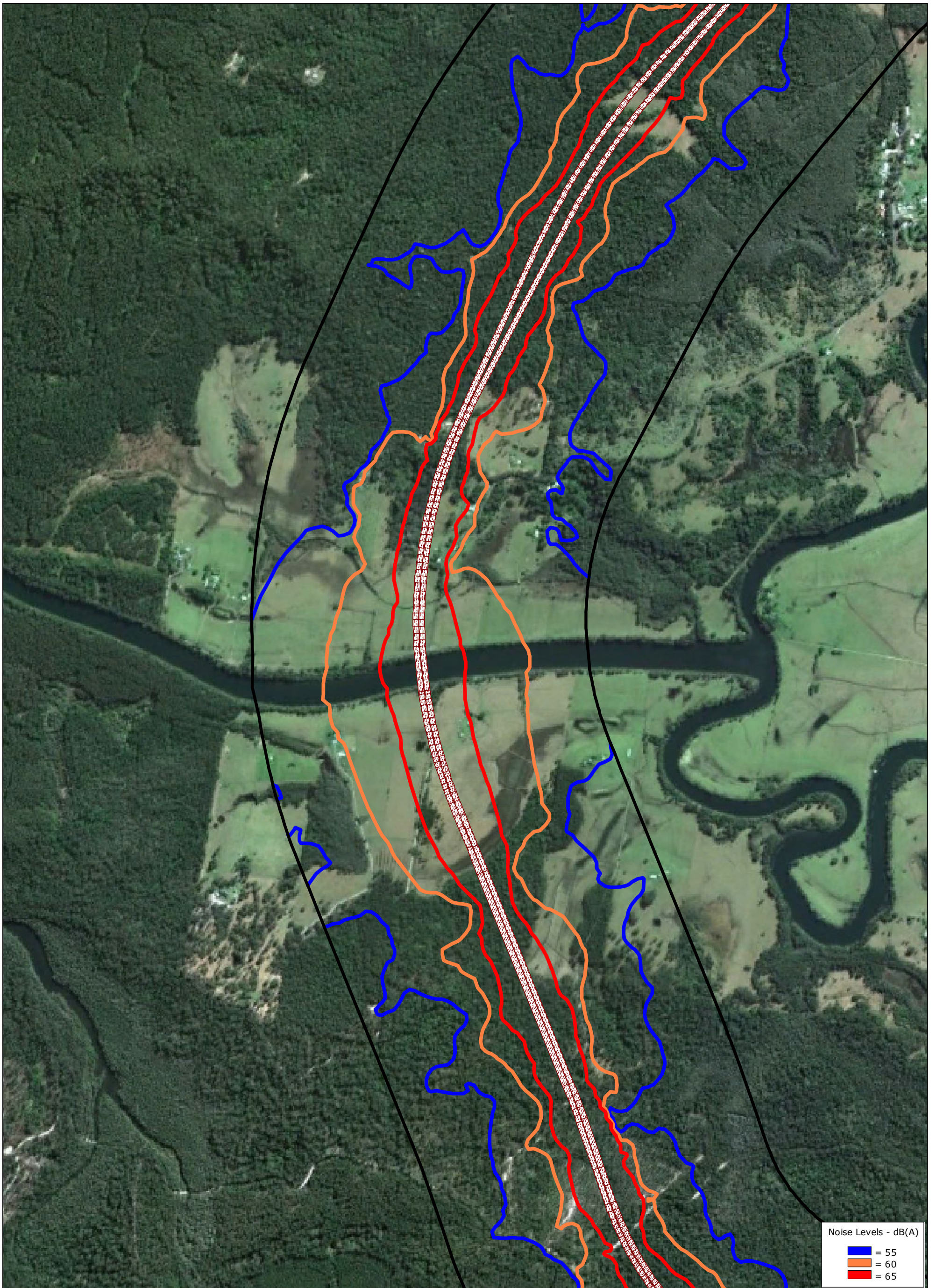
legend:
 Road
 Calculation Area

Reference: TF739-01 P01 (rev 2) Gr # 16

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3



Noise Levels - dB(A)

- █ = 55
- █ = 60
- █ = 65



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Design Year - 2026
 Noise Contours - 84% CI
 Section 2



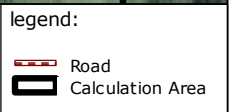
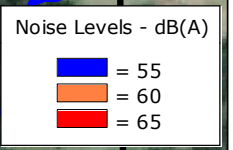
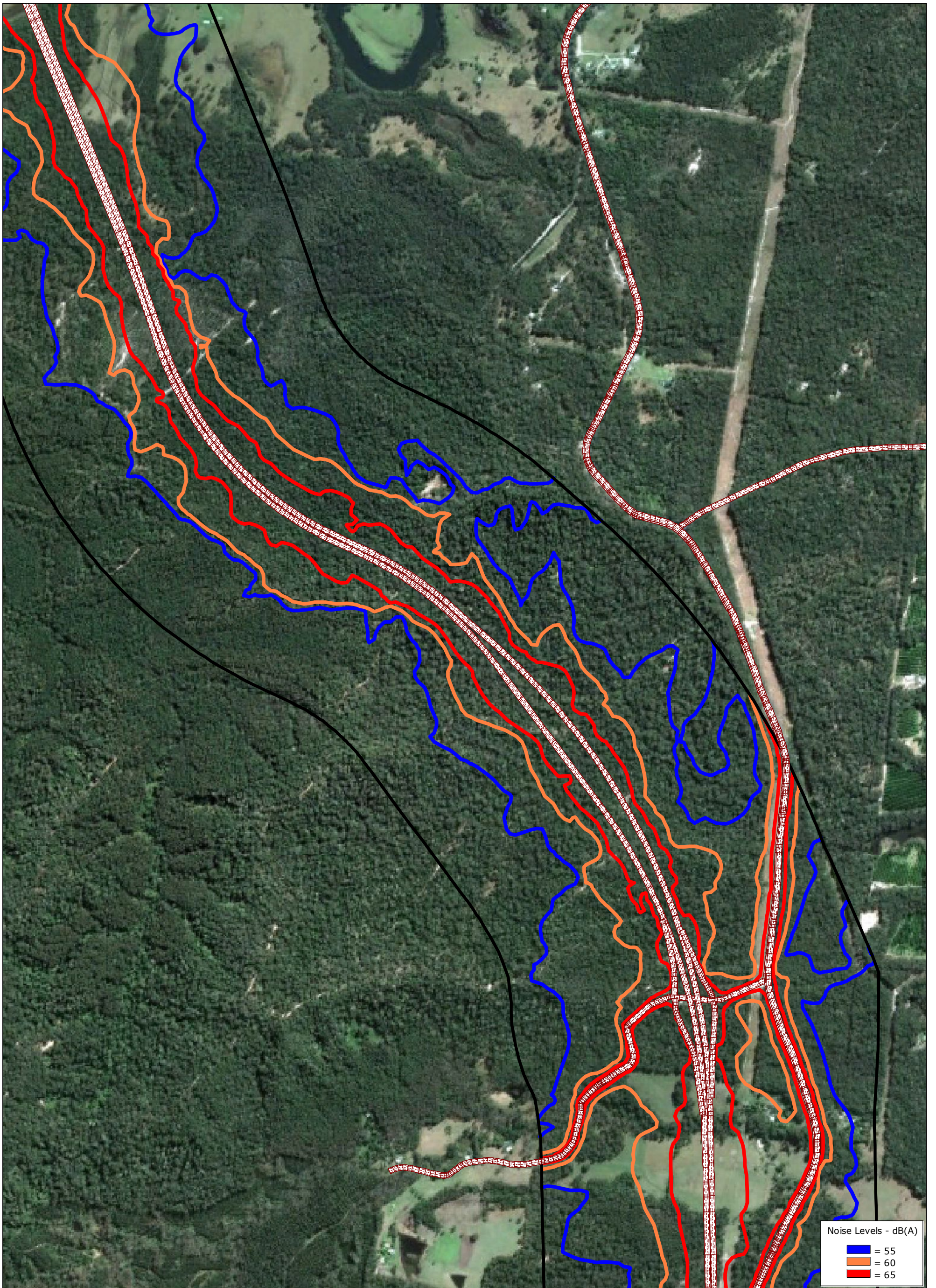
legend:
 Road
 Calculation Area

Reference: TF739-01 P02 (rev 2) Gr # 16

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
PACIFIC HWY UPGRADE - NAMBUCCA HEADS TO URUNGA (NH2U)

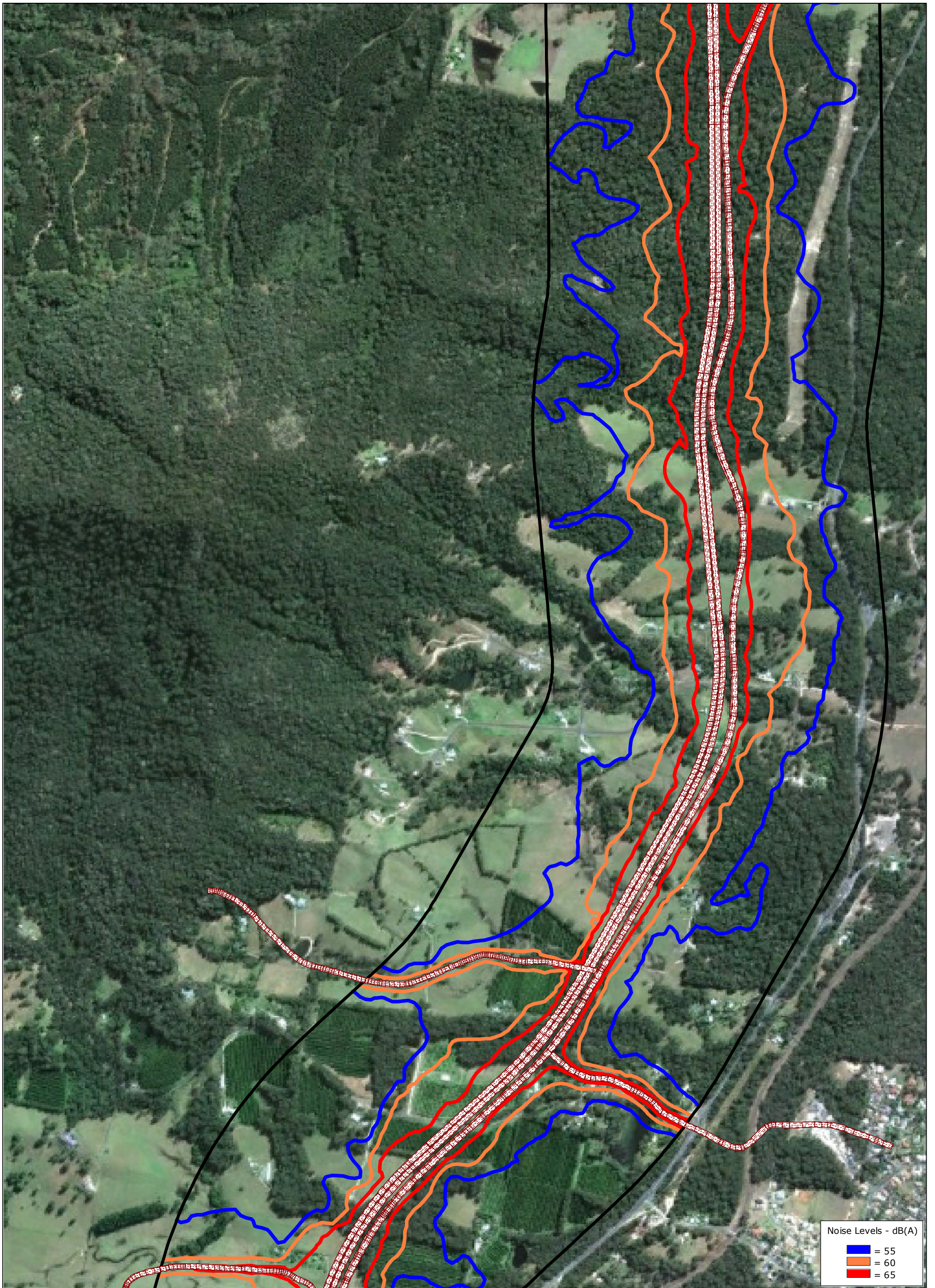
Description:
 LAeq (15hr) Daytime at 1.5m height
 Design Year - 2026
 Noise Contours - 84% CI
 Section 3

Reference: TF739-01 P03 (rev 2) Gr # 16

Client: SMEC AUSTRALIA PTY LTD

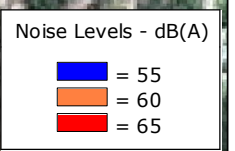
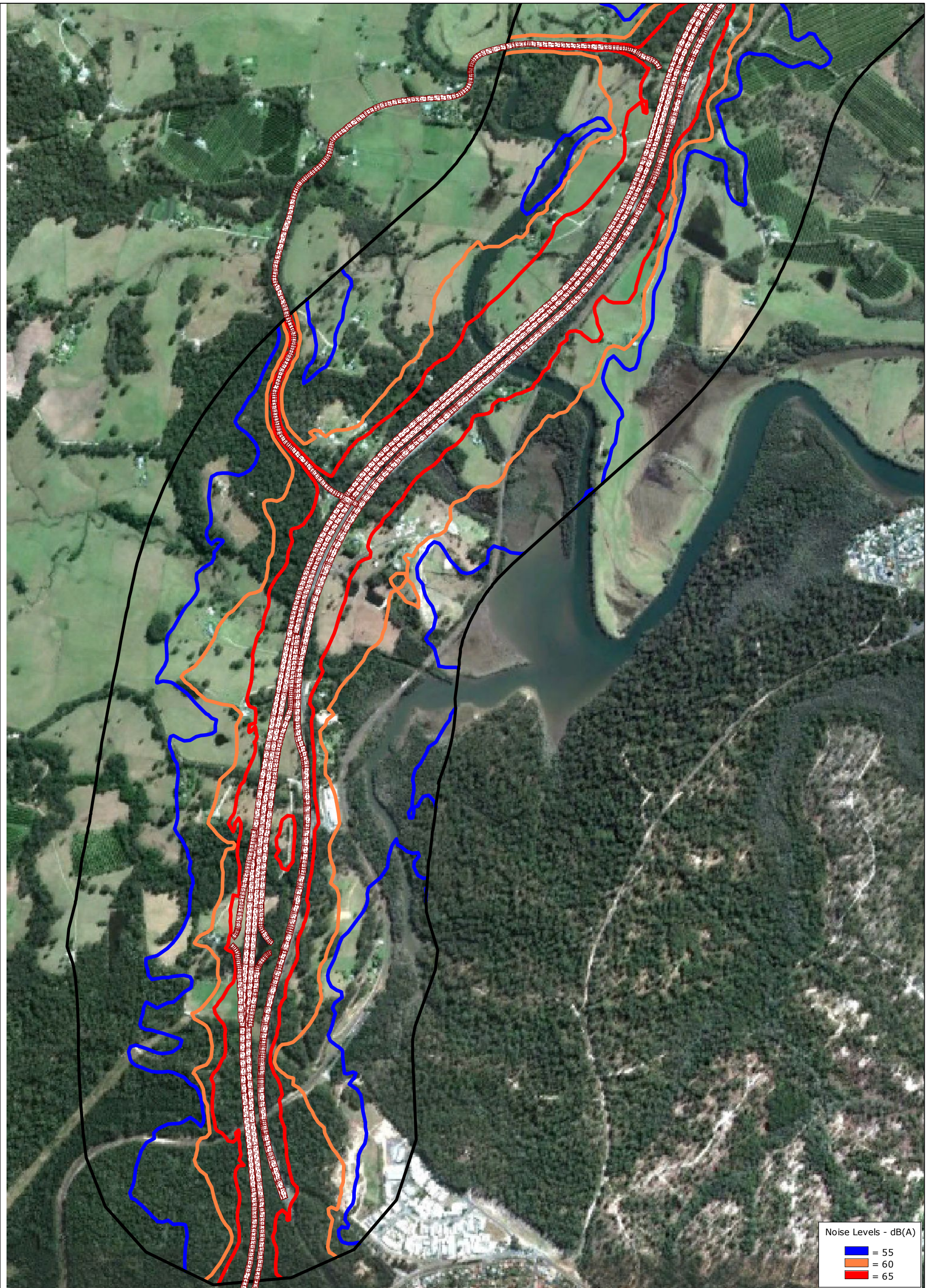
Date: 18/12/2012

Scale: 1: 13000 A3



Noise Levels - dB(A)	
█	= 55
█	= 60
█	= 65

	Project: PACIFIC HWY UPGRADE - NAMBUCCA HEADS TO URUNGA (NH2U)	Description: LAeq (15hr) Daytime at 1.5m height Design Year - 2026 Noise Contours - 84% CI Section 4		Legend: Road Calculation Area
Reference: TF739-01 P04 (rev 2) Gr # 16	Client: SMEC AUSTRALIA PTY LTD	Date: 18/12/2012	Scale: 1: 13000 A3	



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Design Year - 2026
 Noise Contours - 84% CI
 Section 5

legend:

- Road
- Calculation Area

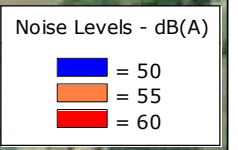
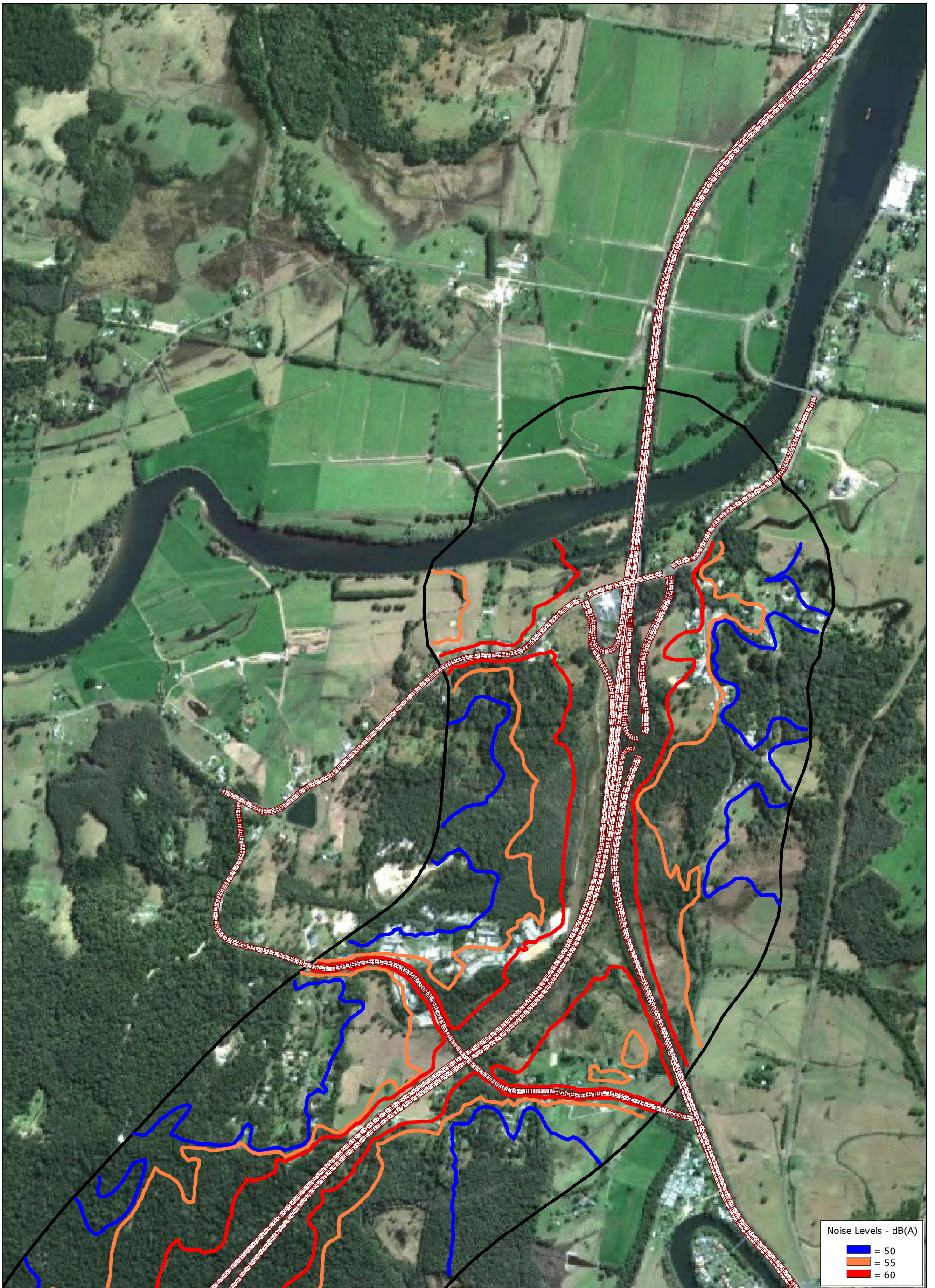






Reference: TF739-01 P05 (rev 2) Gr # 16

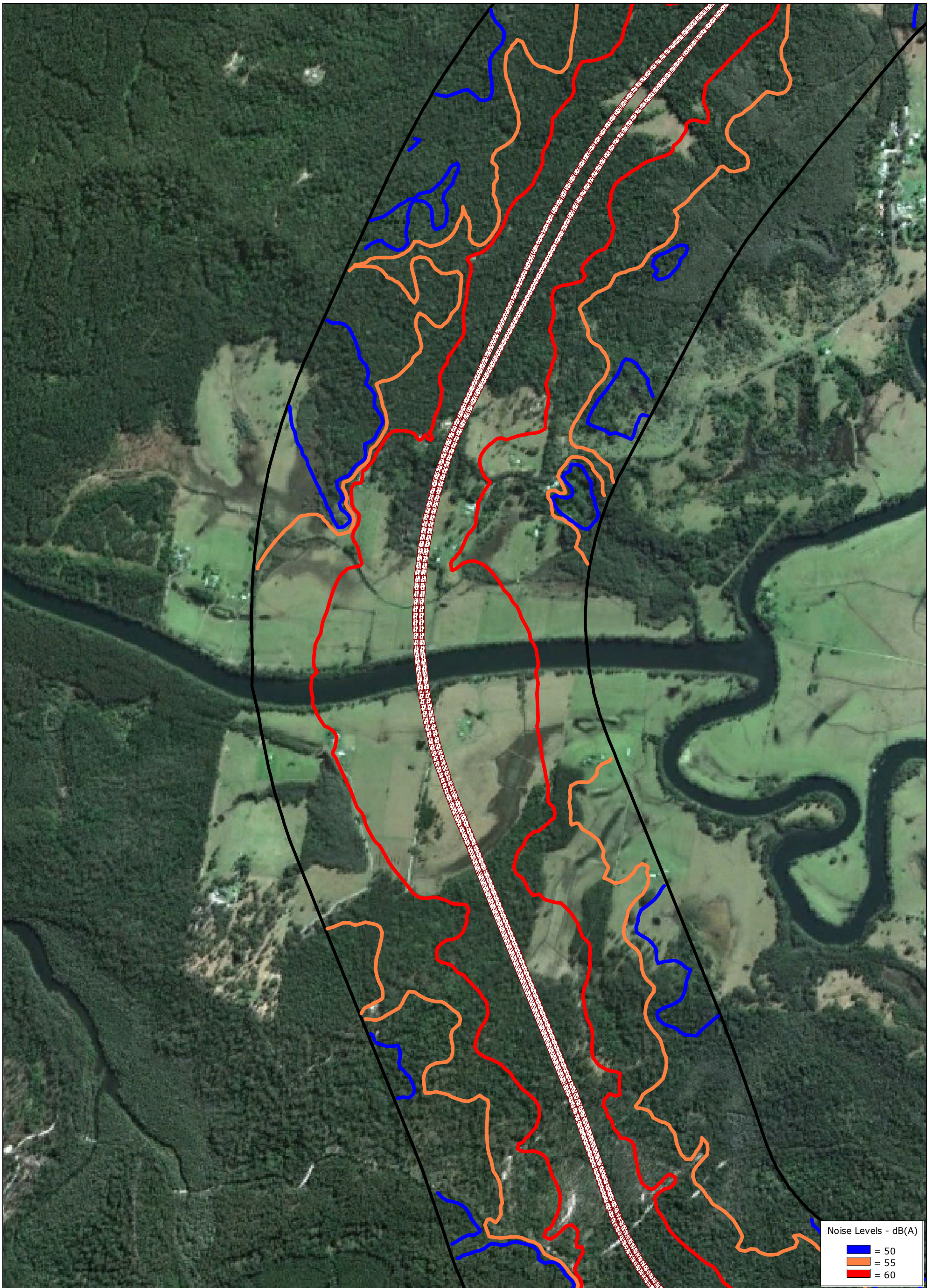
Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3



 RENZO TONIN & ASSOCIATES <i>inspired to achieve</i>	Project: PACIFIC HWY UPGRADE - NAMBUCCA HEADS TO URUNGA (NH2U)	Description: LAeq (9hr) Night-time at 1.5m height Design Year - 2026 Noise Contours - 84% CI Section 1		legend:  Road  Calculation Area
Reference: TF739-01 P06 (rev 2) Gr # 15	Client: SMEC AUSTRALIA PTY LTD	Date: 18/12/2012	Scale: 1: 13000 A3	



Noise Levels - dB(A)

- █ = 50
- █ = 55
- █ = 60



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Design Year - 2026
 Noise Contours - 84% CI
 Section 2



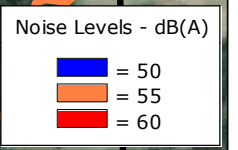
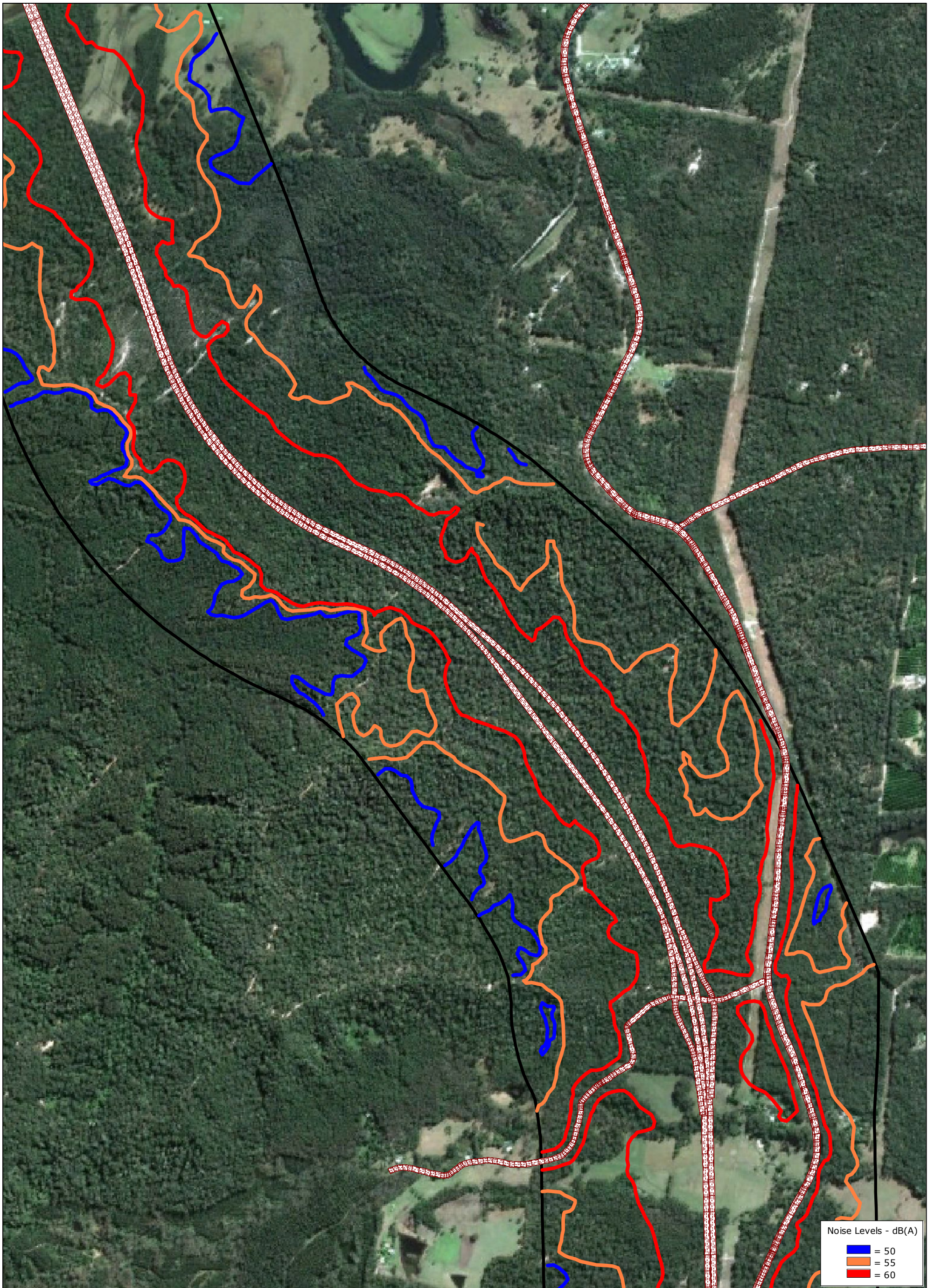
legend:
 Road
 Calculation Area





Reference: TF739-01 P07 (rev 2) Gr # 15

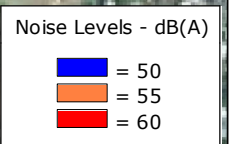
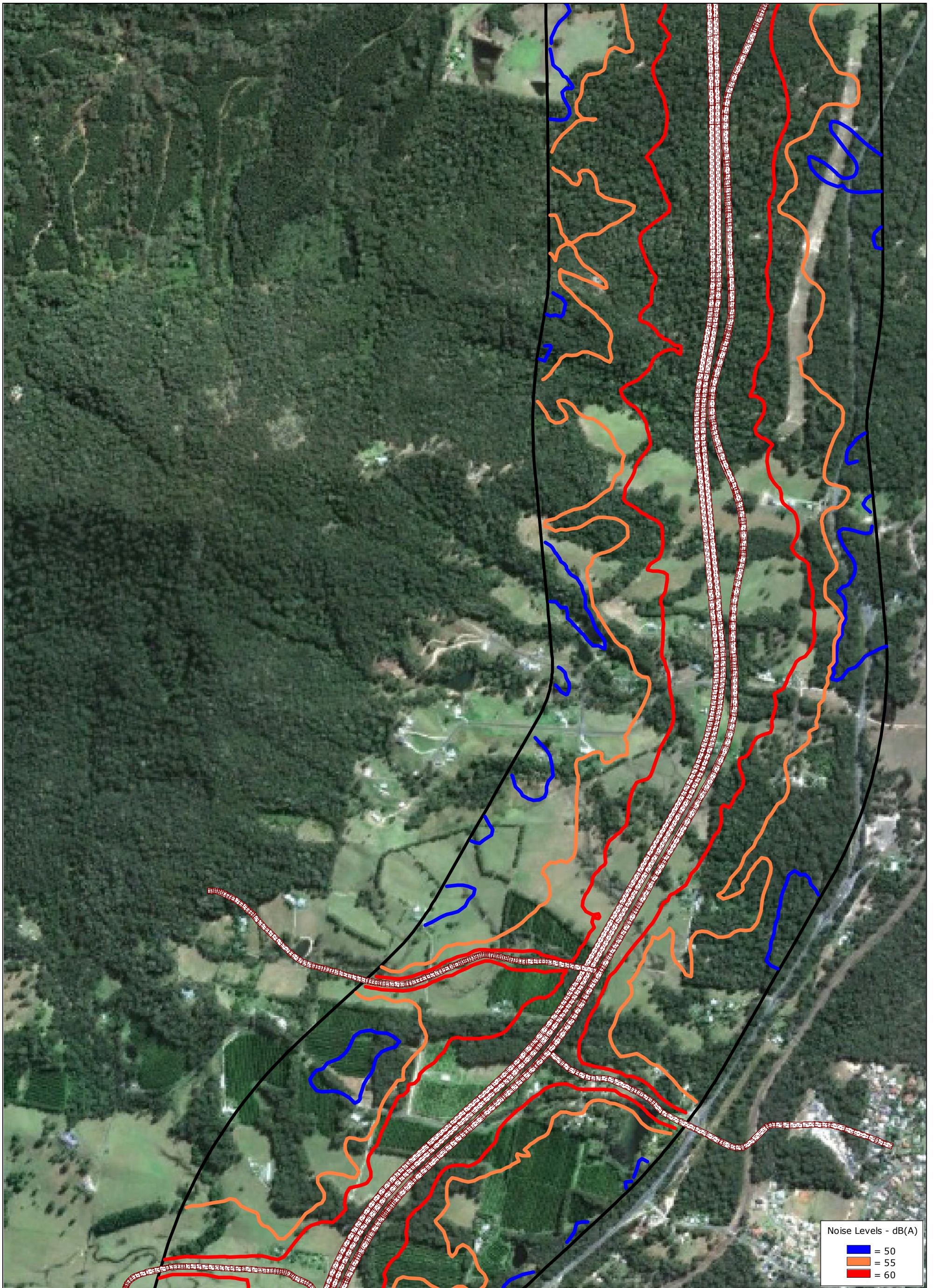
Client: SMEC AUSTRALIA PTY LTD




Date: 18/12/2012

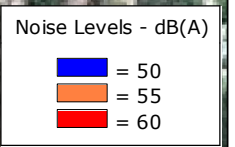
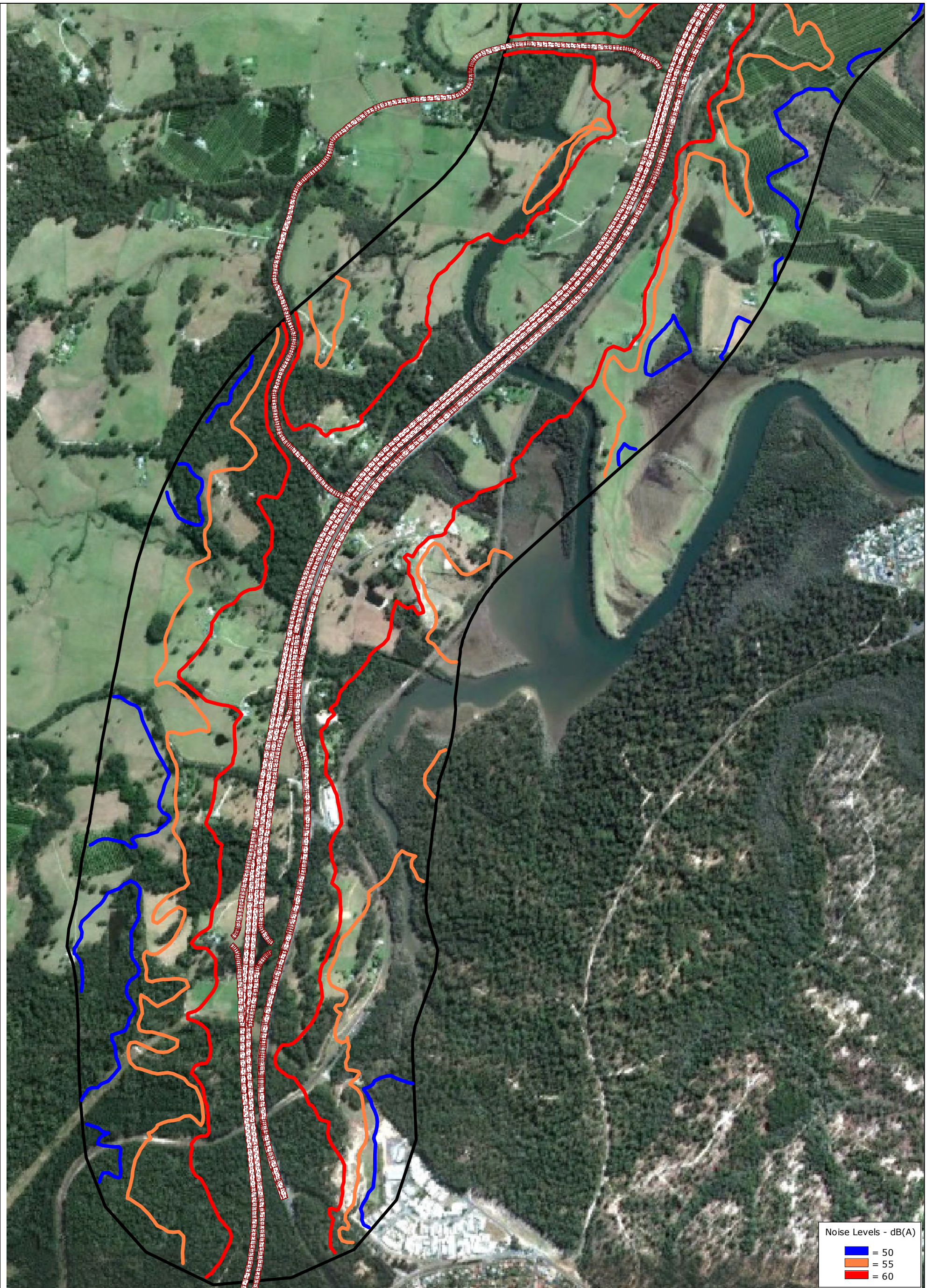
Scale: 1: 13000 A3



 RENZO TONIN & ASSOCIATES <i>inspired to achieve</i>	Project: PACIFIC HWY UPGRADE - NAMBUCCA HEADS TO URUNGA (NH2U)	Description: LAeq (9hr) Night-time at 1.5m height Design Year - 2026 Noise Contours - 84% CI Section 3		legend:  Road  Calculation Area
Reference: TF739-01 P08 (rev 2) Gr # 15	Client: SMEC AUSTRALIA PTY LTD	Date: 18/12/2012	Scale: 1: 13000 A3	



 RENZO TONIN & ASSOCIATES <i>inspired to achieve</i>	Project: PACIFIC HWY UPGRADE - NAMBUCCA HEADS TO URUNGA (NH2U)	Description: LAeq (9hr) Night-time at 1.5m height Design Year - 2026 Noise Contours - 84% CI Section 4		legend:  Road Calculation Area
Reference: TF739-01 P09 (rev 2) Gr # 15	Client: SMEC AUSTRALIA PTY LTD	Date: 18/12/2012	Scale: 1: 13000 A3	



Project:
**PACIFIC HWY UPGRADE -
 NAMBUCCA HEADS TO URUNGA (NH2U)**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Design Year - 2026
 Noise Contours - 84% CI
 Section 5



legend:
 Road
 Calculation Area

Reference: TF739-01 P10 (rev 2) Gr # 15

Client: SMEC AUSTRALIA PTY LTD

Date: 18/12/2012

Scale: 1: 13000 A3

APPENDIX F - SINGLE POINT RECEIVER PREDICTIONS

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year – 2016 Future Existing		Exceedances						At-Property Treatment Required	
														Base Criteria		Allowance Criteria		Acute Criteria			
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1623	N	60	55	43	42	42	42	46	47	47	48	4	5	No	No	No	No	No	No	No	No
1623	W	60	55	46	45	45	45	51	51	52	52	6	6	No	No	No	No	No	No	No	No
1623	SW	60	55	46	45	45	45	51	52	52	53	6	7	No	No	No	No	No	No	No	No
1623	SE	60	55	45	44	44	44	50	51	51	52	6	7	No	No	No	No	No	No	No	No
1625	W	60	55	46	45	46	46	50	51	51	51	5	5	No	No	No	No	No	No	No	No
1625	SW	60	55	45	44	44	44	48	49	49	50	4	4	No	No	No	No	No	No	No	No
1625	S	60	55	45	44	44	44	49	49	50	50	5	5	No	No	No	No	No	No	No	No
1625	E	60	55	44	43	43	43	48	49	49	50	5	6	No	No	No	No	No	No	No	No
1625	N	60	55	45	44	45	45	49	49	50	50	4	5	No	No	No	No	No	No	No	No
1626	W	60	55	45	44	44	44	49	49	50	50	5	5	No	No	No	No	No	No	No	No
1626	S	60	55	43	42	42	42	47	47	47	48	4	5	No	No	No	No	No	No	No	No
1626	E	60	55	41	40	40	40	47	47	47	48	6	7	No	No	No	No	No	No	No	No
1626	N	60	55	43	42	43	43	47	47	48	48	4	5	No	No	No	No	No	No	No	No
1626	W	60	55	45	44	45	45	50	50	51	51	5	5	No	No	No	No	No	No	No	No
1627	W	60	55	45	43	44	44	48	49	49	50	5	5	No	No	No	No	No	No	No	No
1627	S	60	55	43	42	43	43	47	47	48	48	4	5	No	No	No	No	No	No	No	No
1627	E	60	55	41	39	40	40	44	44	45	45	4	4	No	No	No	No	No	No	No	No
1627	N	60	55	43	42	42	42	47	47	47	48	4	4	No	No	No	No	No	No	No	No
1628	W	60	55	45	44	44	44	49	49	50	50	4	5	No	No	No	No	No	No	No	No
1628	S	60	55	43	42	42	42	47	47	47	48	4	5	No	No	No	No	No	No	No	No
1628	E	60	55	42	41	41	41	46	46	46	47	4	5	No	No	No	No	No	No	No	No
1628	N	60	55	45	43	44	44	48	48	49	49	4	5	No	No	No	No	No	No	No	No
1630	S	60	55	53	52	52	52	58	59	59	60	6	7	No	YES	No	No	No	No	No	YES
1630	W	60	55	40	39	40	40	46	46	46	47	6	6	No	No	No	No	No	No	No	No
1630	N	60	55	52	51	51	52	58	58	59	59	6	7	No	YES	No	No	No	No	No	YES
1630	E	60	55	53	52	52	52	59	60	60	60	7	7	No	YES	No	No	No	YES	No	YES
1631	E	60	55	53	52	52	52	57	57	58	58	5	5	No	YES	No	No	No	No	No	YES
1631	N	60	55	49	48	48	48	52	53	53	54	5	5	No	No	No	No	No	No	No	No
1631	W	60	55	39	38	39	39	44	45	45	45	6	6	No	No	No	No	No	No	No	No
1631	S	60	55	52	51	51	51	56	56	57	57	5	5	No	YES	No	No	No	No	No	YES
1632	NW	60	55	58	57	57	57	61	61	61	62	4	4	YES	YES	No	YES	No	YES	YES	YES
1632	SW	60	55	61	60	60	61	61	62	62	63	1	1	YES	YES	No	No	No	YES	No	YES
1632	SE	60	55	61	60	60	60	59	60	60	60	-1	-1	No	YES	No	No	No	YES	No	YES
1632	NE	60	55	56	55	55	55	57	57	58	58	2	2	No	YES	No	YES	No	No	No	YES
1634	W	60	55	49	48	48	48	55	56	56	57	7	8	No	YES	No	No	No	No	No	YES
1634	S	60	55	55	54	55	55	59	59	60	60	4	5	No	YES	No	YES	No	No	No	YES
1634	E	60	55	59	58	59	59	64	64	65	65	5	5	YES	YES	YES	YES	No	YES	YES	YES
1634	N	60	55	58	57	57	57	62	62	63	63	5	5	YES	YES	No	YES	No	YES	YES	YES

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year – 2016 Future Existing		Exceedances						At-Property Treatment Required	
		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		At-Property Treatment Required	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1634	E	60	55	58	57	58	58	62	63	63	63	4	5	YES	YES	No	YES	No	YES	YES	YES
1634	N	60	55	56	55	55	55	60	61	61	61	5	5	YES	YES	No	YES	No	YES	YES	YES
1635	N	60	55	60	59	59	59	60	61	61	61	1	1	YES	YES	No	YES	No	YES	No	YES
1635	W	60	55	64	63	63	64	63	64	64	65	0	0	YES	YES	No	No	No	YES	No	YES
1635	S	60	55	61	60	61	61	61	61	62	62	0	0	YES	YES	No	No	No	YES	No	YES
1635	E	60	55	49	48	48	48	53	53	54	54	4	5	No	No	No	No	No	No	No	No
1636	S	60	55	63	62	63	63	63	64	64	65	1	1	YES	YES	No	YES	No	YES	No	YES
1636	E	60	55	54	53	53	53	56	56	57	57	3	3	No	YES	No	YES	No	No	No	YES
1636	N	60	55	63	62	63	63	65	65	66	66	2	3	YES	YES	YES	YES	YES	YES	YES	YES
1636	W	60	55	66	65	65	65	67	67	68	68	1	2	YES	YES	YES	YES	YES	YES	YES	YES
1636	W	60	55	64	63	64	64	65	65	66	66	1	1	YES	YES	No	YES	YES	YES	YES	YES
1637	SW	60	55	45	44	44	45	48	48	49	49	3	4	No	No	No	No	No	No	No	No
1637	NW	60	55	40	39	40	39	44	45	45	45	5	5	No	No	No	No	No	No	No	No
1637	SW	60	55	41	40	40	40	45	45	46	46	5	5	No	No	No	No	No	No	No	No
1637	W	60	55	40	39	39	39	44	44	45	45	5	5	No	No	No	No	No	No	No	No
1637	N	60	55	53	52	52	52	57	58	58	58	5	6	No	YES	No	No	No	No	No	YES
1637	E	60	55	55	54	54	54	59	59	59	60	5	5	No	YES	No	YES	No	No	No	YES
1637	E	60	55	55	53	54	54	59	59	59	60	5	5	No	YES	No	YES	No	No	No	YES
1637	NE	60	55	55	54	54	54	59	59	59	60	5	5	No	YES	No	YES	No	YES	No	YES
1637	SE	60	55	55	54	54	54	59	59	60	60	5	5	No	YES	No	YES	No	YES	No	YES
1637	NE	60	55	55	54	54	54	59	59	60	60	5	5	No	YES	No	YES	No	YES	No	YES
1637	SE	60	55	55	54	54	54	59	59	60	60	5	5	No	YES	No	YES	No	YES	No	YES
1638	W	60	55	49	48	49	49	54	54	54	55	5	5	No	No	No	No	No	No	No	No
1638	S	60	55	48	46	47	47	52	52	52	53	5	5	No	No	No	No	No	No	No	No
1638	E	60	55	46	45	45	45	48	49	49	50	3	4	No	No	No	No	No	No	No	No
1638	N	60	55	47	46	46	46	52	52	52	53	5	6	No	No	No	No	No	No	No	No
1639	E	60	55	51	50	50	50	51	51	52	52	1	1	No	No	No	No	No	No	No	No
1639	N	60	55	53	52	53	53	59	60	60	60	6	7	No	YES	No	No	No	YES	No	YES
1639	W	60	55	58	56	57	57	62	63	63	63	5	6	YES	YES	No	YES	No	YES	YES	YES
1639	S	60	55	56	55	56	55	60	60	61	61	4	5	YES	YES	No	YES	No	YES	YES	YES
1640	SE	60	55	53	52	52	52	55	55	56	56	3	3	No	YES	No	No	No	No	No	YES
1640	NE	60	55	56	54	55	55	60	61	61	61	5	6	YES	YES	No	YES	No	YES	YES	YES
1640	NW	60	55	57	55	56	56	62	62	63	63	6	6	YES	YES	No	YES	No	YES	YES	YES
1640	SW	60	55	53	52	53	53	58	58	59	59	5	6	No	YES	No	No	No	No	No	YES
1642	SE	60	55	49	48	48	48	53	53	54	54	5	5	No	No	No	No	No	No	No	No
1642	NE	60	55	57	56	56	56	60	61	61	61	4	5	YES	YES	No	YES	No	YES	YES	YES
1642	NW	60	55	59	58	58	58	63	64	64	65	5	6	YES	YES	YES	YES	No	YES	YES	YES
1642	NW	60	55	59	58	58	58	64	64	64	65	5	6	YES	YES	YES	YES	No	YES	YES	YES

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year – 2016 Future Existing		Exceedances						At-Property Treatment Required	
		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		At-Property Treatment Required	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1642	SW	60	55	56	55	56	56	62	62	63	63	6	6	YES	YES	No	YES	No	YES	YES	YES
1642	SE	60	55	50	49	49	49	54	55	55	56	5	6	No	YES	No	No	No	No	No	YES
1643	S	60	55	48	47	48	48	53	54	54	54	6	6	No	No	No	No	No	No	No	No
1643	S	60	55	49	48	48	48	53	54	54	55	5	6	No	No	No	No	No	No	No	No
1643	W	60	55	58	56	57	57	62	62	63	63	5	5	YES	YES	No	YES	No	YES	YES	YES
1643	N	60	55	59	57	58	58	63	63	63	64	5	5	YES	YES	No	YES	No	YES	YES	YES
1643	E	60	55	56	54	54	54	58	58	59	59	4	4	No	YES	No	YES	No	No	No	YES
1644	SW	60	55	52	51	51	51	56	56	57	57	5	5	No	YES	No	No	No	No	No	YES
1644	SW	60	55	53	52	52	52	57	57	58	58	5	5	No	YES	No	No	No	No	No	YES
1644	NW	60	55	56	55	55	55	60	60	60	61	4	5	No	YES	No	YES	No	YES	No	YES
1644	NE	60	55	55	53	54	54	58	58	59	59	4	4	No	YES	No	YES	No	No	No	YES
1644	SE	60	55	44	43	44	44	48	48	49	49	4	5	No	No	No	No	No	No	No	No
1644	SW	60	55	49	47	48	48	53	53	54	54	5	6	No	No	No	No	No	No	No	No
1647	N	60	55	50	49	50	50	56	57	57	58	6	7	No	YES	No	No	No	No	No	YES
1647	E	60	55	57	56	58	58	63	64	64	65	6	6	YES	YES	No	YES	No	YES	YES	YES
1647	S	60	55	57	55	58	58	63	64	64	64	5	5	YES	YES	YES	YES	No	YES	YES	YES
1647	S	60	55	56	55	59	58	63	63	64	64	4	5	YES	YES	YES	YES	No	YES	YES	YES
1647	NW	60	55	43	42	53	53	54	54	56	56	1	1	No	YES	No	No	No	No	No	YES
1649	NW	60	55	41	40	53	52	53	53	55	55	0	1	No	No	No	No	No	No	No	No
1649	SW	60	55	52	51	56	56	60	60	61	61	4	4	YES	YES	No	YES	No	YES	YES	YES
1649	SE	60	55	52	51	53	53	59	60	60	61	6	6	No	YES	No	YES	No	YES	No	YES
1649	N	60	55	46	45	47	46	51	52	52	53	5	5	No	No	No	No	No	No	No	No
1650	W	60	55	56	55	56	56	62	62	63	63	6	7	YES	YES	No	YES	No	YES	YES	YES
1650	S	60	55	61	59	60	60	66	67	67	68	6	7	YES	YES	YES	YES	YES	YES	YES	YES
1650	S	60	55	61	60	60	61	67	67	68	68	7	7	YES	YES	YES	YES	YES	YES	YES	YES
1650	E	60	55	62	60	61	61	67	68	68	69	7	7	YES	YES	YES	YES	YES	YES	YES	YES
1650	N	60	55	58	56	57	57	63	63	64	64	6	7	YES	YES	No	YES	No	YES	YES	YES
1650	N	60	55	57	56	56	56	62	62	63	63	6	6	YES	YES	No	YES	No	YES	YES	YES
1651	S	60	55	54	53	54	54	60	60	61	61	6	7	YES	YES	No	YES	No	YES	YES	YES
1651	W	60	55	49	47	50	50	54	55	55	56	4	5	No	YES	No	No	No	No	No	YES
1651	N	60	55	50	49	50	50	55	55	56	56	5	5	No	YES	No	No	No	No	No	YES
1651	N	60	55	51	49	50	50	55	56	56	57	5	6	No	YES	No	No	No	No	No	YES
1651	E	60	55	55	54	54	54	61	61	61	62	6	7	YES	YES	No	YES	No	YES	YES	YES
1651	S	60	55	55	54	54	54	60	61	61	62	6	7	YES	YES	No	YES	No	YES	YES	YES
1652	W	60	55	62	61	61	61	64	64	65	65	3	3	YES	YES	YES	YES	No	YES	YES	YES
1652	S	60	55	58	56	57	57	60	61	61	61	4	4	YES	YES	No	YES	No	YES	YES	YES
1652	E	60	55	57	55	56	56	58	59	59	59	3	3	No	YES	No	YES	No	No	No	YES
1652	N	60	55	61	60	60	60	63	64	64	64	3	3	YES	YES	YES	YES	No	YES	YES	YES

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year – 2016 Future Existing		Exceedances						At-Property Treatment Required	
		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		At-Property Treatment Required	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1678	S	60	55	50	49	52	52	56	56	57	57	4	4	No	YES	No	No	No	No	No	YES
1678	S	60	55	51	49	52	52	56	56	57	57	4	4	No	YES	No	No	No	No	No	YES
1678	E	60	55	50	48	50	50	54	55	55	56	5	5	No	YES	No	No	No	No	No	YES
1678	N	60	55	44	42	43	43	47	48	48	49	4	5	No	No	No	No	No	No	No	No
1679	S	60	55	52	50	51	51	56	56	57	57	5	5	No	YES	No	No	No	No	No	YES
1679	E	60	55	52	50	50	51	56	56	57	57	5	6	No	YES	No	No	No	No	No	YES
1679	N	60	55	45	44	45	45	49	50	50	51	5	5	No	No	No	No	No	No	No	No
1679	W	60	55	46	45	47	47	51	51	52	52	4	5	No	No	No	No	No	No	No	No
1682	W	60	55	57	56	56	57	58	59	59	60	2	2	No	YES	No	YES	No	No	No	YES
1682	S	60	55	54	52	53	53	55	56	56	57	3	3	No	YES	No	No	No	No	No	YES
1682	E	60	55	47	45	47	47	48	48	49	49	1	1	No	No	No	No	No	No	No	No
1682	S	60	55	47	46	47	47	48	48	49	49	1	1	No	No	No	No	No	No	No	No
1682	E	60	55	59	58	58	58	57	57	58	58	-1	-1	No	YES	No	No	No	No	No	No
1682	SE	60	55	57	55	56	56	55	55	56	56	-1	-1	No	YES	No	No	No	No	No	No
1682	NE	60	55	61	60	60	60	60	60	61	61	-1	-1	YES	YES	No	No	No	YES	No	YES
1682	N	60	55	62	60	60	61	60	60	61	61	0	0	YES	YES	No	No	No	YES	No	YES
1686	W	60	55	62	60	61	61	58	57	59	59	-3	-3	No	YES	No	No	No	No	No	No
1686	S	60	55	51	50	50	51	49	49	50	50	-1	-2	No	No	No	No	No	No	No	No
1686	E	60	55	58	56	57	57	53	53	54	54	-3	-4	No	No	No	No	No	No	No	No
1686	N	60	55	63	62	62	62	59	58	60	60	-3	-4	No	YES	No	No	No	No	No	No
1689	SE	60	55	40	39	55	55	56	56	57	57	1	1	No	YES	No	No	No	No	No	No
1689	NE	60	55	49	48	58	58	58	58	59	59	1	1	No	YES	No	No	No	No	No	No
1689	NW	60	55	50	49	55	55	56	56	57	57	0	0	No	YES	No	No	No	No	No	No
1689	NE	60	55	50	49	56	56	56	56	57	57	1	0	No	YES	No	No	No	No	No	No
1689	NW	60	55	52	51	55	55	55	56	56	56	1	1	No	YES	No	No	No	No	No	No
1689	SW	60	55	50	48	49	49	50	50	51	51	1	1	No	No	No	No	No	No	No	No
1689	SE	60	55	39	38	54	54	55	55	56	55	1	1	No	No	No	No	No	No	No	No
1689	NE	60	55	45	45	56	56	57	57	58	58	1	1	No	YES	No	No	No	No	No	No
1692	SW	60	55	41	39	46	46	47	47	48	48	1	1	No	No	No	No	No	No	No	No
1692	SE	60	55	38	37	54	54	55	55	55	55	1	1	No	No	No	No	No	No	No	No
1692	NE	60	55	49	48	51	51	52	52	52	52	1	1	No	No	No	No	No	No	No	No
1692	NW	60	55	49	48	53	53	54	54	55	55	1	1	No	No	No	No	No	No	No	No
1693	SW	60	55	48	46	63	63	64	64	65	65	1	1	YES	YES	No	No	YES	YES	YES	YES
1693	SE	60	55	38	37	59	58	59	59	60	60	1	1	No	YES	No	No	No	No	No	No
1693	NE	60	55	45	44	47	47	50	50	51	51	3	3	No	No	No	No	No	No	No	No
1693	SE	60	55	44	43	47	47	49	49	50	50	2	2	No	No	No	No	No	No	No	No
1693	NE	60	55	49	48	49	50	51	51	51	52	1	1	No	No	No	No	No	No	No	No
1693	NW	60	55	43	42	56	55	57	56	58	57	1	1	No	YES	No	No	No	No	No	No

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year - 2016 Future Existing		Exceedances						At-Property Treatment Required	
		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		At-Property Treatment Required	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1722	NW	60	55	49	48	49	49	49	49	50	50	1	1	No	No	No	No	No	No	No	No
1722	NE	60	55	56	55	55	55	57	57	58	58	1	1	No	YES	No	YES	No	No	No	YES
1722	NE	60	55	57	55	56	56	57	57	58	58	1	1	No	YES	No	YES	No	No	No	YES
1722	SE	60	55	57	56	56	56	59	59	60	60	3	3	No	YES	No	YES	No	YES	No	YES
1723	S	60	55	42	41	44	44	44	44	45	45	1	1	No	No	No	No	No	No	No	No
1723	E	60	55	38	37	43	43	44	44	44	44	1	1	No	No	No	No	No	No	No	No
1723	E	60	55	41	40	45	45	46	46	47	47	1	1	No	No	No	No	No	No	No	No
1723	N	60	55	48	48	48	49	47	47	48	48	-1	-1	No	No	No	No	No	No	No	No
1723	W	60	55	43	42	43	44	45	45	46	46	1	1	No	No	No	No	No	No	No	No
1724	NW	60	55	46	45	47	47	47	47	48	48	1	1	No	No	No	No	No	No	No	No
1724	NE	60	55	47	46	47	47	46	46	47	47	-1	-1	No	No	No	No	No	No	No	No
1724	SE	60	55	39	38	42	42	43	43	44	44	1	1	No	No	No	No	No	No	No	No
1724	SW	60	55	40	39	44	44	44	44	45	45	1	1	No	No	No	No	No	No	No	No
1724	SE	60	55	39	38	42	42	43	43	44	44	1	1	No	No	No	No	No	No	No	No
1724	S	60	55	44	43	46	46	46	46	47	47	0	0	No	No	No	No	No	No	No	No
1725	SW	60	55	48	48	53	53	53	53	54	54	0	0	No	No	No	No	No	No	No	No
1725	SE	60	55	41	40	49	49	50	50	51	51	1	1	No	No	No	No	No	No	No	No
1725	NE	60	55	51	50	51	51	51	52	52	53	1	1	No	No	No	No	No	No	No	No
1725	NW	60	55	52	51	53	54	54	54	55	55	1	1	No	No	No	No	No	No	No	No
1726	W	60	55	40	39	42	42	43	43	44	44	1	1	No	No	No	No	No	No	No	No
1726	S	60	55	42	41	44	44	44	44	45	45	0	0	No	No	No	No	No	No	No	No
1726	E	60	55	39	38	41	41	42	42	43	43	1	1	No	No	No	No	No	No	No	No
1726	S	60	55	40	39	42	42	43	43	44	44	1	1	No	No	No	No	No	No	No	No
1726	E	60	55	39	38	41	41	42	42	42	42	1	1	No	No	No	No	No	No	No	No
1726	N	60	55	45	44	45	45	47	47	47	48	2	2	No	No	No	No	No	No	No	No
1726	N	60	55	49	48	49	49	48	48	49	49	-1	-1	No	No	No	No	No	No	No	No
1727	W	60	55	48	47	48	48	47	47	48	48	-1	-1	No	No	No	No	No	No	No	No
1727	S	60	55	44	43	46	46	46	46	47	47	0	0	No	No	No	No	No	No	No	No
1727	E	60	55	39	38	42	42	43	43	43	43	1	1	No	No	No	No	No	No	No	No
1727	NE	60	55	46	45	46	46	46	46	46	46	-1	-1	No	No	No	No	No	No	No	No
1728	W	60	55	41	40	42	42	42	42	43	43	1	1	No	No	No	No	No	No	No	No
1728	N	60	55	49	49	49	49	48	49	49	49	-1	-1	No	No	No	No	No	No	No	No
1728	E	60	55	39	38	40	40	41	41	42	42	1	1	No	No	No	No	No	No	No	No
1728	S	60	55	41	40	43	43	44	44	44	44	1	1	No	No	No	No	No	No	No	No
1728	E	60	55	39	38	42	42	43	43	44	43	1	1	No	No	No	No	No	No	No	No
1728	SW	60	55	41	40	44	43	44	44	45	45	1	1	No	No	No	No	No	No	No	No
1729	W	60	55	51	50	58	57	58	58	59	59	1	1	No	YES	No	No	No	No	No	No
1729	S	60	55	47	46	64	64	65	64	66	65	1	1	YES	YES	No	No	YES	YES	YES	YES

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year - 2016 Future Existing		Exceedances						At-Property Treatment Required	
		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		At-Property Treatment Required	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1747	SW	60	55	48	47	49	49	48	49	49	49	0	-1	No	No	No	No	No	No	No	No
1747	NW	60	55	47	46	47	47	45	45	46	46	-1	-1	No	No	No	No	No	No	No	No
1747	NE	60	55	43	43	44	44	46	46	47	47	2	2	No	No	No	No	No	No	No	No
1747	E	60	55	43	43	45	45	47	47	48	48	2	2	No	No	No	No	No	No	No	No
1747	SE	60	55	41	40	45	45	46	46	47	47	1	1	No	No	No	No	No	No	No	No
1748	W	60	55	49	48	49	49	49	49	50	50	-1	-1	No	No	No	No	No	No	No	No
1748	S	60	55	42	41	43	43	44	44	45	45	1	1	No	No	No	No	No	No	No	No
1748	NE	60	55	46	45	46	46	48	48	48	49	2	2	No	No	No	No	No	No	No	No
1748	N	60	55	44	44	44	44	44	44	44	45	0	-1	No	No	No	No	No	No	No	No
1749	W	60	55	49	48	49	49	48	48	49	49	-1	-1	No	No	No	No	No	No	No	No
1749	SE	60	55	41	40	42	42	43	43	44	44	1	1	No	No	No	No	No	No	No	No
1749	NE	60	55	45	44	46	46	48	48	48	49	2	2	No	No	No	No	No	No	No	No
1749	N	60	55	43	42	43	43	43	43	44	44	0	0	No	No	No	No	No	No	No	No
1750	E	60	55	38	37	40	40	41	41	42	42	1	1	No	No	No	No	No	No	No	No
1750	N	60	55	46	45	46	46	45	46	46	47	0	0	No	No	No	No	No	No	No	No
1750	W	60	55	49	48	49	49	49	50	50	50	0	0	No	No	No	No	No	No	No	No
1750	S	60	55	42	41	41	42	41	41	41	42	-1	-1	No	No	No	No	No	No	No	No
1751	W	60	55	48	48	49	49	48	48	49	49	-1	-1	No	No	No	No	No	No	No	No
1751	S	60	55	41	40	41	41	42	42	43	43	1	1	No	No	No	No	No	No	No	No
1751	NE	60	55	46	45	46	46	48	49	49	49	2	2	No	No	No	No	No	No	No	No
1751	N	60	55	45	44	45	45	44	44	45	45	-1	-1	No	No	No	No	No	No	No	No
1752	E	60	55	38	37	42	42	43	43	44	44	1	1	No	No	No	No	No	No	No	No
1752	N	60	55	47	46	46	47	46	47	47	47	0	0	No	No	No	No	No	No	No	No
1752	W	60	55	49	48	49	49	49	49	49	50	0	0	No	No	No	No	No	No	No	No
1752	N	60	55	49	48	49	49	49	49	49	50	0	0	No	No	No	No	No	No	No	No
1752	W	60	55	50	49	50	50	50	50	51	51	0	0	No	No	No	No	No	No	No	No
1752	S	60	55	47	46	47	47	45	45	46	46	-2	-2	No	No	No	No	No	No	No	No
1753	SW	60	55	49	48	49	49	48	48	49	49	-1	-1	No	No	No	No	No	No	No	No
1753	NW	60	55	46	45	46	46	45	45	45	46	-1	-1	No	No	No	No	No	No	No	No
1753	NE	60	55	41	40	41	41	42	42	43	43	1	1	No	No	No	No	No	No	No	No
1753	NW	60	55	43	42	42	42	43	43	44	44	1	1	No	No	No	No	No	No	No	No
1753	NE	60	55	46	45	46	46	49	50	50	50	3	3	No	No	No	No	No	No	No	No
1753	SE	60	55	42	41	42	42	43	44	44	44	1	1	No	No	No	No	No	No	No	No
1753	SW	60	55	48	48	49	49	48	48	49	49	-1	-1	No	No	No	No	No	No	No	No
1755	NW	60	55	47	46	47	47	50	50	50	51	3	3	No	No	No	No	No	No	No	No
1755	NE	60	55	55	54	54	55	54	54	55	55	-1	-1	No	No	No	No	No	No	No	No
1755	NE	60	55	55	54	54	55	54	54	55	55	0	-1	No	No	No	No	No	No	No	No
1755	SE	60	55	59	58	58	58	59	59	60	60	1	1	No	YES	No	No	No	YES	No	YES

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year - 2016 Future Existing		Exceedances						At-Property Treatment Required			
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Base Criteria		Allowance Criteria		Acute Criteria		Day	Night
		Day	Night													Day	Night	Day	Night	Day	Night		
1775	W	60	55	49	48	49	49	49	49	50	50	0	0	No	No	No	No	No	No	No	No	No	
1777	W	60	55	53	52	52	53	53	54	54	55	1	1	No	No	No	No	No	No	No	No	No	
1777	N	60	55	53	52	52	53	53	54	54	55	1	1	No	No	No	No	No	No	No	No	No	
1777	E	60	55	46	46	46	46	48	49	49	50	3	3	No	No	No	No	No	No	No	No	No	
1777	S	60	55	43	42	44	44	44	44	45	45	1	1	No	No	No	No	No	No	No	No	No	
1778	N	60	55	45	45	45	45	46	47	47	48	2	2	No	No	No	No	No	No	No	No	No	
1778	W	60	55	46	46	46	47	48	48	48	49	1	1	No	No	No	No	No	No	No	No	No	
1778	S	60	55	46	45	46	46	45	46	46	46	-1	-1	No	No	No	No	No	No	No	No	No	
1778	E	60	55	38	37	40	40	41	41	42	42	1	1	No	No	No	No	No	No	No	No	No	
1778	N	60	55	44	43	43	44	44	44	45	45	1	1	No	No	No	No	No	No	No	No	No	
1779	N	60	55	46	45	46	46	47	47	48	48	2	1	No	No	No	No	No	No	No	No	No	
1779	E	60	55	39	38	41	41	42	42	43	43	1	1	No	No	No	No	No	No	No	No	No	
1779	E	60	55	39	38	41	41	42	42	43	43	1	1	No	No	No	No	No	No	No	No	No	
1779	S	60	55	49	48	49	50	48	49	49	49	-1	-1	No	No	No	No	No	No	No	No	No	
1779	W	60	55	51	50	51	51	51	51	52	52	1	0	No	No	No	No	No	No	No	No	No	
1779	SW	60	55	51	50	50	51	50	51	51	51	0	0	No	No	No	No	No	No	No	No	No	
1779	NW	60	55	51	50	50	51	50	51	51	51	0	0	No	No	No	No	No	No	No	No	No	
1779	NW	60	55	50	50	50	51	50	50	51	51	0	0	No	No	No	No	No	No	No	No	No	
1780	N	60	55	39	38	39	39	39	39	40	40	1	1	No	No	No	No	No	No	No	No	No	
1780	W	60	55	46	45	46	46	47	47	47	48	1	1	No	No	No	No	No	No	No	No	No	
1780	S	60	55	44	43	43	44	42	42	43	43	-1	-1	No	No	No	No	No	No	No	No	No	
1780	W	60	55	42	41	42	42	42	42	43	43	0	0	No	No	No	No	No	No	No	No	No	
1780	N	60	55	44	43	43	43	44	44	45	45	1	1	No	No	No	No	No	No	No	No	No	
1780	W	60	55	47	46	47	47	47	47	48	48	1	0	No	No	No	No	No	No	No	No	No	
1780	S	60	55	46	45	45	46	45	45	46	46	0	0	No	No	No	No	No	No	No	No	No	
1780	S	60	55	43	42	43	43	43	43	44	44	0	0	No	No	No	No	No	No	No	No	No	
1780	E	60	55	38	37	41	41	42	42	43	43	1	1	No	No	No	No	No	No	No	No	No	
1780	E	60	55	38	37	41	41	42	42	43	43	1	1	No	No	No	No	No	No	No	No	No	
1780	S	60	55	39	38	42	42	43	43	44	44	1	1	No	No	No	No	No	No	No	No	No	
1780	E	60	55	42	42	43	43	46	47	47	48	3	3	No	No	No	No	No	No	No	No	No	
1780	N	60	55	45	44	44	45	48	48	49	49	4	4	No	No	No	No	No	No	No	No	No	
1780	E	60	55	44	43	44	44	47	48	48	49	4	4	No	No	No	No	No	No	No	No	No	
1782	SW	60	55	53	52	55	55	56	56	57	57	2	1	No	YES	No	YES	No	No	No	No	YES	
1782	SW	60	55	53	52	54	55	56	56	57	57	2	1	No	YES	No	YES	No	No	No	No	YES	
1782	SW	60	55	49	48	51	52	54	54	55	55	3	2	No	No	No	No	No	No	No	No	No	
1782	NW	60	55	48	47	50	50	53	53	54	54	3	3	No	No	No	No	No	No	No	No	No	
1782	NE	60	55	55	55	55	56	55	55	56	56	0	0	No	YES	No	No	No	No	No	No	No	
1782	SE	60	55	57	56	58	58	58	58	59	59	1	0	No	YES	No	No	No	No	No	No	No	

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year - 2016 Future Existing		Exceedances						At-Property Treatment Required	
		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		At-Property Treatment Required	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1788	SE	60	55	54	54	54	55	52	53	53	53	-2	-2	No	No	No	No	No	No	No	No
1789	W	60	55	51	50	51	51	53	53	54	54	2	2	No	No	No	No	No	No	No	No
1789	S	60	55	49	48	49	49	48	48	48	49	-2	-2	No	No	No	No	No	No	No	No
1789	E	60	55	39	38	41	41	43	43	43	43	1	1	No	No	No	No	No	No	No	No
1789	SE	60	55	39	38	41	41	43	43	43	43	1	1	No	No	No	No	No	No	No	No
1789	E	60	55	44	43	44	45	50	50	50	51	5	6	No	No	No	No	No	No	No	No
1789	NE	60	55	49	48	48	49	52	53	53	54	4	4	No	No	No	No	No	No	No	No
1789	N	60	55	50	50	50	50	54	54	54	55	4	4	No	No	No	No	No	No	No	No
1790	NE	60	55	50	49	49	50	53	54	54	54	4	4	No	No	No	No	No	No	No	No
1790	N	60	55	52	51	51	52	54	55	55	55	3	3	No	No	No	No	No	No	No	No
1790	SW	60	55	50	49	50	50	51	51	51	51	1	1	No	No	No	No	No	No	No	No
1790	SE	60	55	42	41	44	44	45	45	46	46	1	1	No	No	No	No	No	No	No	No
1791	SW	60	55	58	58	58	59	58	58	58	59	0	-1	No	YES	No	No	No	No	No	No
1791	NW	60	55	63	63	63	63	62	63	63	63	0	-1	YES	YES	No	No	No	YES	No	YES
1791	NE	60	55	61	60	60	60	60	61	61	61	0	0	YES	YES	No	No	No	YES	No	YES
1791	SE	60	55	49	48	49	49	47	47	48	48	-2	-2	No	No	No	No	No	No	No	No
1793	S	60	55	61	60	60	60	62	63	63	64	2	2	YES	YES	YES	YES	No	YES	YES	YES
1793	S	60	55	62	61	61	61	63	64	64	65	2	3	YES	YES	YES	YES	No	YES	YES	YES
1793	E	60	55	62	61	62	62	64	65	65	66	3	3	YES	YES	YES	YES	YES	YES	YES	YES
1793	N	60	55	58	57	57	58	60	61	61	62	3	4	YES	YES	No	YES	No	YES	YES	YES
1793	NW	60	55	47	46	47	47	53	53	54	54	7	7	No	No	No	No	No	No	No	No
1794	N	60	55	53	53	53	53	56	56	56	57	3	3	No	YES	No	YES	No	No	No	YES
1794	N	60	55	55	54	55	55	57	58	58	58	3	3	No	YES	No	YES	No	No	No	YES
1794	E	60	55	60	59	59	60	61	61	62	62	2	2	YES	YES	YES	YES	No	YES	YES	YES
1794	S	60	55	59	58	58	58	59	60	60	61	1	2	No	YES	YES	YES	No	YES	YES	YES
1794	S	60	55	59	58	58	59	59	60	60	61	1	1	No	YES	YES	YES	No	YES	YES	YES
1794	W	60	55	51	50	51	51	52	52	52	53	1	1	No	No	No	No	No	No	No	No
1794	W	60	55	50	49	50	50	50	50	51	51	0	0	No	No	No	No	No	No	No	No
1795	NW	60	55	63	62	62	63	61	62	62	63	-1	-1	YES	YES	No	No	No	YES	No	YES
1795	NE	60	55	59	59	59	59	59	59	60	60	0	0	No	YES	No	No	No	YES	No	YES
1795	SE	60	55	46	46	46	46	47	47	47	47	0	0	No	No	No	No	No	No	No	No
1795	SW	60	55	60	59	59	59	58	58	59	59	-1	-1	No	YES	No	No	No	No	No	No
1798	SW	60	55	52	51	51	51	52	52	53	53	1	1	No	No	No	No	No	No	No	No
1798	SE	60	55	53	52	53	53	55	55	56	56	2	2	No	YES	No	No	No	No	No	YES
1798	NE	60	55	50	49	49	49	53	53	53	54	4	4	No	No	No	No	No	No	No	No
1798	NW	60	55	45	44	44	44	48	48	49	49	4	4	No	No	No	No	No	No	No	No
1799	N	60	55	53	52	52	53	55	56	56	56	3	3	No	YES	No	No	No	No	No	YES

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year – 2016 Future Existing		Exceedances						At-Property Treatment Required	
														Base Criteria		Allowance Criteria		Acute Criteria			
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1813	S	60	55	45	44	45	45	49	49	50	50	4	4	No	No	No	No	No	No	No	No
1813	E	60	55	49	48	48	49	53	54	54	54	5	5	No	No	No	No	No	No	No	No
1813	N	60	55	47	46	46	47	52	52	53	53	6	6	No	No	No	No	No	No	No	No
1813	W	60	55	41	40	40	40	43	44	44	45	3	4	No	No	No	No	No	No	No	No
1813	S	60	55	45	44	45	45	49	49	49	50	4	4	No	No	No	No	No	No	No	No
1814	E	60	55	50	50	50	50	55	55	56	56	5	5	No	YES	No	No	No	No	No	YES
1814	S	60	55	47	46	46	46	50	50	51	51	4	4	No	No	No	No	No	No	No	No
1814	W	60	55	41	40	41	41	45	45	45	46	4	4	No	No	No	No	No	No	No	No
1814	S	60	55	42	41	41	41	45	45	46	46	4	4	No	No	No	No	No	No	No	No
1814	W	60	55	44	43	44	44	48	48	48	49	4	4	No	No	No	No	No	No	No	No
1814	N	60	55	49	48	48	49	54	54	54	55	6	6	No	No	No	No	No	No	No	No
1815	W	60	55	48	47	47	47	53	54	54	54	6	6	No	No	No	No	No	No	No	No
1815	S	60	55	58	57	57	58	61	61	61	62	3	3	YES	YES	No	YES	No	YES	YES	YES
1815	E	60	55	63	62	62	63	74	74	74	75	11	11	YES	YES	YES	YES	YES	YES	YES	YES
1815	N	60	55	61	60	60	61	62	62	63	63	2	2	YES	YES	YES	YES	No	YES	YES	YES
1816	S	60	55	56	55	55	55	58	59	59	60	4	4	No	YES	No	YES	No	No	No	YES
1816	W	60	55	59	58	59	59	62	62	63	63	3	3	YES	YES	YES	YES	No	YES	YES	YES
1816	N	60	55	56	56	56	56	60	60	60	61	4	4	No	YES	No	YES	No	YES	No	YES
1816	E	60	55	45	44	45	45	48	49	49	49	4	4	No	No	No	No	No	No	No	No
1817	NW	60	55	48	47	48	48	52	52	53	53	4	4	No	No	No	No	No	No	No	No
1817	SW	60	55	46	46	46	46	50	51	51	52	4	5	No	No	No	No	No	No	No	No
1817	SE	60	55	44	43	43	44	47	48	48	49	4	4	No	No	No	No	No	No	No	No
1817	NE	60	55	46	45	46	46	50	50	51	51	4	4	No	No	No	No	No	No	No	No
1818	NE	60	55	44	43	44	44	47	48	48	49	4	4	No	No	No	No	No	No	No	No
1818	SE	60	55	43	42	43	43	47	47	47	48	4	4	No	No	No	No	No	No	No	No
1818	SW	60	55	45	44	45	45	49	49	50	50	4	4	No	No	No	No	No	No	No	No
1818	NW	60	55	46	46	46	46	50	50	51	51	4	4	No	No	No	No	No	No	No	No
1819	S	60	55	52	51	51	52	53	53	53	54	1	1	No	No	No	No	No	No	No	No
1819	E	55	50	43	42	42	42	44	44	44	45	2	2	No	No	No	No	No	No	No	No
1819	N	60	55	54	54	54	54	53	53	54	54	-1	-1	No	No	No	No	No	No	No	No
1819	W	60	55	56	55	55	56	55	55	56	56	0	0	No	YES	No	No	No	No	No	No
1824	NW	60	55	54	53	54	54	53	53	53	54	-1	-1	No	No	No	No	No	No	No	No
1824	SW	60	55	57	56	56	56	55	55	55	56	-1	-2	No	YES	No	No	No	No	No	No
1824	SE	60	55	52	51	51	52	52	52	52	53	0	0	No	No	No	No	No	No	No	No
1824	NE	55	50	45	44	45	45	43	43	44	44	-1	-2	No	No	No	No	No	No	No	No
1825	SW	60	55	57	56	56	56	59	60	60	61	3	4	No	YES	No	YES	No	YES	No	YES
1825	SE	60	55	59	59	59	59	54	54	55	55	-5	-5	No	No	No	No	No	No	No	No
1825	NE	60	55	59	59	59	59	55	56	56	56	-3	-4	No	YES	No	No	No	No	No	No

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year – 2016 Future Existing		Exceedances						At-Property Treatment Required	
		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		At-Property Treatment Required	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
2117	S	55	50	39	38	37	37	52	53	53	54	15	15	No	YES	No	No	No	No	No	YES
2117	E	55	50	41	40	39	39	54	55	55	56	15	16	No	YES	No	No	No	No	No	YES
2117	N	55	50	39	38	37	37	52	52	53	53	15	15	No	YES	No	No	No	No	No	YES
2137	E	55	50	41	39	38	38	53	54	54	55	15	16	No	YES	No	No	No	No	No	YES
2137	S	55	50	41	39	38	38	53	54	54	55	15	15	No	YES	No	No	No	No	No	YES
2137	E	55	50	41	39	38	39	54	54	55	55	15	16	No	YES	No	No	No	No	No	YES
2137	E	55	50	41	39	38	38	54	54	55	55	15	16	No	YES	No	No	No	No	No	YES
2137	N	55	50	37	35	34	34	49	50	50	51	16	16	No	YES	No	No	No	No	No	YES
2137	W	55	50	25	24	23	23	39	39	39	40	15	16	No	No	No	No	No	No	No	No
2137	S	55	50	29	28	27	27	41	42	42	43	14	15	No	No	No	No	No	No	No	No
2137	W	55	50	25	24	23	23	39	39	40	40	15	16	No	No	No	No	No	No	No	No
2137	S	55	50	41	39	38	38	53	53	54	54	14	15	No	YES	No	No	No	No	No	YES
2200	NE	55	50	45	43	42	42	45	46	46	46	3	3	No	No	No	No	No	No	No	No
2200	NW	55	50	33	31	31	31	54	55	55	56	23	24	No	YES	No	No	No	No	No	YES
2200	SW	55	50	36	34	34	34	57	57	58	58	23	24	YES	YES	No	No	No	No	YES	YES
2200	SE	55	50	45	44	42	43	55	56	56	57	13	13	YES	YES	No	No	No	No	YES	YES
2221	N	55	50	42	40	39	39	45	46	46	46	7	7	No	No	No	No	No	No	No	No
2221	E	55	50	45	44	43	43	50	50	51	51	7	7	No	YES	No	No	No	No	No	YES
2221	S	55	50	44	43	42	42	55	56	56	57	14	14	YES	YES	No	No	No	No	YES	YES
2221	W	55	50	31	30	29	29	55	56	56	57	26	27	YES	YES	No	No	No	No	YES	YES
2260	NE	55	50	43	42	40	41	54	54	55	55	13	14	No	YES	No	No	No	No	No	YES
2260	NW	55	50	33	31	31	31	58	59	59	60	27	28	YES	YES	No	No	No	No	YES	YES
2260	SW	55	50	43	42	41	41	56	57	57	58	15	16	YES	YES	No	No	No	No	YES	YES
2260	SE	55	50	46	44	43	43	53	54	54	54	10	10	No	YES	No	No	No	No	No	YES
2267	NW	55	50	37	35	35	35	55	55	56	56	20	21	YES	YES	No	No	No	No	YES	YES
2267	SW	55	50	42	40	40	40	56	56	57	57	16	17	YES	YES	No	No	No	No	YES	YES
2267	SE	55	50	46	45	44	44	54	55	55	56	11	11	No	YES	No	No	No	No	No	YES
2267	NE	55	50	46	45	44	44	53	53	54	54	9	10	No	YES	No	No	No	No	No	YES
2268	N	55	50	37	36	35	35	52	53	53	54	18	18	No	YES	No	No	No	No	No	YES
2268	W	55	50	29	27	27	27	43	44	44	45	16	17	No	No	No	No	No	No	No	No
2268	S	55	50	42	41	40	40	60	60	61	61	20	21	YES	YES	No	No	No	YES	YES	YES
2268	E	55	50	43	41	40	40	60	61	61	62	20	20	YES	YES	No	No	No	YES	YES	YES
2294	S	55	50	33	32	31	31	48	49	49	50	18	18	No	No	No	No	No	No	No	No
2294	E	55	50	35	34	34	33	50	51	51	52	17	18	No	YES	No	No	No	No	No	YES
2294	N	55	50	35	33	33	33	57	57	58	58	24	25	YES	YES	No	No	No	No	YES	YES
2294	W	55	50	30	29	29	28	57	58	58	59	29	30	YES	YES	No	No	No	No	YES	YES
2318	E	55	50	43	41	41	41	63	63	64	64	22	23	YES	YES	No	No	No	YES	YES	YES
2318	N	55	50	39	38	37	37	56	57	57	58	19	20	YES	YES	No	No	No	No	YES	YES

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year – 2016 Future Existing		Exceedances						At-Property Treatment Required	
		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		At-Property Treatment Required	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
2757	N	55	50	45	43	44	44	48	48	48	48	3	4	No	No	No	No	No	No	No	No
2757	E	55	50	45	44	44	44	49	49	50	50	5	6	No	No	No	No	No	No	No	No
2758	NW	55	50	41	39	43	42	47	47	48	47	5	5	No	No	No	No	No	No	No	No
2758	SW	55	50	42	40	40	40	46	46	47	47	6	6	No	No	No	No	No	No	No	No
2758	SE	55	50	52	50	50	50	49	47	49	48	-1	-3	No	No	No	No	No	No	No	No
2758	NE	55	50	51	50	50	50	49	47	49	48	-1	-3	No	No	No	No	No	No	No	No
2759	N	55	50	49	47	48	48	58	58	59	59	9	10	YES	YES	No	No	No	No	YES	YES
2759	E	55	50	50	49	49	48	51	51	52	52	3	3	No	YES	No	No	No	No	No	YES
2759	S	55	50	48	47	46	46	53	54	54	55	7	8	No	YES	No	No	No	No	No	YES
2759	W	55	50	41	39	44	42	58	59	59	60	14	16	YES	YES	No	No	No	No	YES	YES
2759	N	55	50	47	45	47	46	58	58	59	59	11	13	YES	YES	No	No	No	No	YES	YES
2760	S	55	50	34	33	33	33	41	42	42	42	8	9	No	No	No	No	No	No	No	No
2760	E	55	50	40	38	40	39	44	44	45	45	5	5	No	No	No	No	No	No	No	No
2760	N	55	50	40	38	40	39	44	43	44	44	4	4	No	No	No	No	No	No	No	No
2760	W	55	50	33	31	36	34	41	41	42	42	6	7	No	No	No	No	No	No	No	No
2762	S	55	50	44	42	42	42	48	49	49	50	6	7	No	No	No	No	No	No	No	No
2762	E	55	50	48	46	47	46	53	53	54	54	6	7	No	YES	No	No	No	No	No	YES
2762	N	55	50	46	45	46	45	52	52	52	53	6	7	No	YES	No	No	No	No	No	YES
2762	W	55	50	35	33	39	37	45	45	46	45	7	8	No	No	No	No	No	No	No	No
2763	N	55	50	50	48	50	49	50	49	51	50	1	0	No	No	No	No	No	No	No	No
2763	E	60	55	52	50	51	51	50	49	51	49	-1	-2	No	No	No	No	No	No	No	No
2763	S	55	50	50	48	48	48	49	49	50	50	1	1	No	No	No	No	No	No	No	No
2763	W	55	50	39	37	39	38	48	49	49	49	9	10	No	No	No	No	No	No	No	No
2763	S	55	50	41	40	40	40	48	48	49	49	8	9	No	No	No	No	No	No	No	No
2763	W	55	50	41	39	43	42	50	50	51	51	7	8	No	YES	No	No	No	No	No	YES
2763	N	55	50	47	46	48	47	50	49	50	49	2	2	No	No	No	No	No	No	No	No
2764	N	55	50	49	47	49	48	56	56	57	57	7	8	YES	YES	No	No	No	No	YES	YES
2764	E	55	50	51	49	50	49	53	53	54	54	4	4	No	YES	No	No	No	No	No	YES
2764	S	55	50	49	47	47	47	52	53	53	53	5	6	No	YES	No	No	No	No	No	YES
2764	W	55	50	39	37	44	42	56	57	57	58	12	15	YES	YES	No	No	No	No	YES	YES
2765	N	55	50	40	38	41	40	44	44	45	44	4	4	No	No	No	No	No	No	No	No
2765	W	55	50	33	32	33	33	41	41	41	41	7	8	No	No	No	No	No	No	No	No
2765	S	55	50	36	34	35	34	41	42	42	43	7	7	No	No	No	No	No	No	No	No
2765	E	55	50	40	39	41	40	45	44	45	45	4	4	No	No	No	No	No	No	No	No
2766	S	55	50	49	47	47	47	49	49	50	50	2	2	No	No	No	No	No	No	No	No
2766	E	55	50	51	49	50	49	53	53	54	54	4	4	No	YES	No	No	No	No	No	YES
2766	N	55	50	48	46	48	48	55	55	56	56	7	8	YES	YES	No	No	No	No	YES	YES
2766	W	55	50	39	37	42	41	52	52	53	53	10	12	No	YES	No	No	No	No	No	YES

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year – 2016 Future Existing		Exceedances						At-Property Treatment Required	
														Base Criteria		Allowance Criteria		Acute Criteria			
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
2774	N	55	50	42	40	43	42	46	46	47	46	4	4	No	No	No	No	No	No	No	No
2774	SW	55	50	34	33	33	33	41	42	42	43	8	9	No	No	No	No	No	No	No	No
2774	S	55	50	41	39	39	39	45	45	46	46	6	6	No	No	No	No	No	No	No	No
2774	E	55	50	43	42	44	43	47	47	48	47	4	4	No	No	No	No	No	No	No	No
2775	S	55	50	47	45	45	45	48	49	49	49	3	4	No	No	No	No	No	No	No	No
2775	W	55	50	39	37	46	44	53	53	54	53	7	8	No	YES	No	No	No	No	No	YES
2775	N	60	55	49	47	52	51	58	57	58	57	5	6	No	YES	No	No	No	No	No	YES
2775	E	60	55	50	49	52	51	56	56	57	56	4	5	No	YES	No	No	No	No	No	YES
2776	SE	55	50	45	44	45	44	47	46	48	47	3	2	No	No	No	No	No	No	No	No
2776	SW	55	50	39	37	40	39	51	51	52	52	11	13	No	YES	No	No	No	No	No	YES
2776	NW	55	50	46	44	50	48	56	56	57	57	6	8	YES	YES	No	No	No	No	YES	YES
2776	NE	55	50	48	46	51	49	55	54	56	55	4	5	YES	YES	No	No	No	No	YES	YES
2778	SE	55	50	47	46	46	46	52	52	52	53	6	6	No	YES	No	No	No	No	No	YES
2778	SW	55	50	42	40	39	39	45	46	46	47	6	7	No	No	No	No	No	No	No	No
2778	NW	55	50	42	40	43	42	47	46	47	46	3	4	No	No	No	No	No	No	No	No
2778	NE	55	50	47	45	47	46	52	52	53	53	5	6	No	YES	No	No	No	No	No	YES
2779	W	60	55	49	47	57	55	61	59	61	59	4	4	YES	YES	No	YES	No	No	YES	YES
2779	S	60	55	53	51	60	58	63	60	63	60	3	2	YES	YES	YES	No	No	No	YES	No
2779	E	60	55	55	54	57	56	60	58	60	58	3	2	No	YES	No	YES	No	No	No	YES
2779	N	60	55	52	51	51	50	56	56	57	57	5	6	No	YES	No	No	No	No	No	YES
2779	W	60	55	49	47	54	53	59	58	60	58	5	5	No	YES	No	No	No	No	No	YES
2780	SW	55	50	35	33	34	33	40	40	41	41	6	7	No	No	No	No	No	No	No	No
2780	SE	55	50	41	39	39	39	44	45	45	45	5	6	No	No	No	No	No	No	No	No
2780	NE	55	50	42	41	43	42	47	46	47	47	4	4	No	No	No	No	No	No	No	No
2780	NW	55	50	41	39	42	41	45	44	46	45	3	4	No	No	No	No	No	No	No	No
2781	SE	55	50	39	37	37	37	42	42	43	43	5	5	No	No	No	No	No	No	No	No
2781	NE	55	50	41	39	41	40	45	44	46	45	4	4	No	No	No	No	No	No	No	No
2781	N	55	50	40	38	41	40	44	43	45	44	4	4	No	No	No	No	No	No	No	No
2781	SW	55	50	33	32	33	32	39	39	40	40	6	7	No	No	No	No	No	No	No	No
2782	S	60	55	54	52	56	55	58	55	58	55	2	0	No	No	No	No	No	No	No	No
2782	W	55	50	42	40	51	49	55	53	55	53	4	4	No	YES	No	No	No	No	No	YES
2782	W	60	55	53	51	54	53	58	57	59	58	4	5	No	YES	No	No	No	No	No	YES
2782	N	60	55	55	53	53	53	56	57	57	57	3	4	No	YES	No	No	No	No	No	YES
2782	E	60	55	55	53	54	53	56	56	57	56	2	3	No	YES	No	No	No	No	No	YES
2782	N	60	55	54	53	53	53	56	56	57	57	3	4	No	YES	No	No	No	No	No	YES
2782	E	60	55	57	55	57	56	58	57	59	57	2	1	No	YES	No	No	No	No	No	No
2782	S	60	55	54	52	55	54	57	54	57	54	2	0	No	No	No	No	No	No	No	No
2783	SW	60	55	49	48	55	54	59	57	59	57	3	3	No	YES	No	YES	No	No	No	YES

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year - 2016 Future Existing		Exceedances						At-Property Treatment Required		
		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		At-Property Treatment Required		
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day
2783	SW	60	55	41	40	52	50	56	55	57	55	4	4	No	No	No	No	No	No	No	No	No
2783	NW	60	55	51	49	52	51	58	58	59	59	6	7	No	YES	No	No	No	No	No	No	YES
2783	NE	60	55	53	52	53	53	58	57	58	58	4	5	No	YES	No	No	No	No	No	No	YES
2783	SE	60	55	53	51	56	55	58	55	58	55	2	1	No	No	No	No	No	No	No	No	No
2783	SW	60	55	49	48	55	53	58	56	58	56	3	2	No	YES	No	YES	No	No	No	No	YES
2784	SE	55	50	40	38	39	38	44	44	44	44	5	5	No	No	No	No	No	No	No	No	No
2784	NE	55	50	41	39	42	41	46	45	46	46	4	4	No	No	No	No	No	No	No	No	No
2784	NW	55	50	39	37	41	40	45	43	45	44	4	4	No	No	No	No	No	No	No	No	No
2784	SW	55	50	34	32	34	33	40	41	41	41	7	8	No	No	No	No	No	No	No	No	No
2785	N	60	55	57	55	55	55	52	52	53	53	-3	-3	No	No	No	No	No	No	No	No	No
2785	N	60	55	57	55	55	55	52	52	53	53	-3	-3	No	No	No	No	No	No	No	No	No
2785	E	60	55	59	58	58	58	56	54	56	54	-3	-5	No	No	No	No	No	No	No	No	No
2785	S	60	55	57	56	57	56	57	54	57	54	0	-2	No	No	No	No	No	No	No	No	No
2785	W	60	55	52	50	52	51	55	53	55	53	2	1	No	No	No	No	No	No	No	No	No
2786	S	60	55	60	58	59	58	56	53	56	54	-3	-5	No	No	No	No	No	No	No	No	No
2786	E	60	55	62	61	61	61	57	55	57	56	-4	-6	No	YES	No	No	No	No	No	No	No
2786	N	60	55	58	57	57	57	53	53	54	54	-3	-4	No	No	No	No	No	No	No	No	No
2786	W	60	55	55	53	53	53	53	52	53	53	0	-1	No	No	No	No	No	No	No	No	No
2787	SW	55	50	40	38	38	38	44	45	45	46	7	7	No	No	No	No	No	No	No	No	No
2787	SE	55	50	44	43	43	43	48	48	49	49	5	6	No	No	No	No	No	No	No	No	No
2787	SE	55	50	45	43	45	44	49	49	50	50	5	6	No	No	No	No	No	No	No	No	No
2787	NE	55	50	45	43	45	44	50	50	51	50	5	5	No	No	No	No	No	No	No	No	No
2787	NW	55	50	37	35	41	40	45	44	46	44	4	4	No	No	No	No	No	No	No	No	No
2788	N	60	55	57	56	56	56	55	55	56	56	0	0	No	YES	No	No	No	No	No	No	No
2788	E	60	55	59	57	57	57	55	54	56	55	-2	-3	No	No	No	No	No	No	No	No	No
2788	S	60	55	55	54	55	54	55	53	56	53	0	-2	No	No	No	No	No	No	No	No	No
2788	S	60	55	55	54	55	54	56	53	56	53	0	-1	No	No	No	No	No	No	No	No	No
2788	S	60	55	54	53	55	54	55	53	55	53	1	-1	No	No	No	No	No	No	No	No	No
2788	W	60	55	54	52	53	52	56	56	57	57	4	4	No	YES	No	No	No	No	No	No	YES
2789	E	60	55	57	55	56	56	56	56	57	56	0	0	No	YES	No	No	No	No	No	No	No
2789	S	60	55	54	53	54	54	55	52	55	52	0	-1	No	No	No	No	No	No	No	No	No
2789	S	60	55	54	53	54	53	54	52	55	52	0	-1	No	No	No	No	No	No	No	No	No
2789	W	60	55	53	51	52	52	57	57	58	58	5	6	No	YES	No	No	No	No	No	No	YES
2789	N	60	55	55	53	53	53	57	57	58	58	4	4	No	YES	No	No	No	No	No	No	YES
2789	W	60	55	54	52	53	52	57	57	58	58	4	5	No	YES	No	No	No	No	No	No	YES
2789	N	60	55	55	53	54	53	57	57	58	58	3	4	No	YES	No	YES	No	No	No	No	YES
2789	E	60	55	55	53	53	53	55	55	56	56	2	2	No	YES	No	YES	No	No	No	No	YES
2789	N	60	55	55	53	53	53	56	56	57	57	3	3	No	YES	No	No	No	No	No	No	YES

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year - 2016 Future Existing		Exceedances						At-Property Treatment Required	
														Base Criteria		Allowance Criteria		Acute Criteria			
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
2837	S	60	55	59	57	58	58	60	60	61	61	2	3	YES	YES	YES	YES	No	YES	YES	YES
2837	E	60	55	60	58	59	59	61	62	62	62	2	3	YES	YES	YES	YES	No	YES	YES	YES
2837	S	60	55	59	57	58	58	60	60	61	61	2	3	YES	YES	No	YES	No	YES	YES	YES
2837	E	60	55	60	58	60	59	62	62	63	63	2	3	YES	YES	YES	YES	No	YES	YES	YES
2837	N	60	55	55	53	58	57	61	60	61	61	2	3	YES	YES	YES	YES	No	YES	YES	YES
2838	W	60	55	56	54	55	55	58	58	59	59	3	4	No	YES	No	YES	No	No	No	YES
2838	N	60	55	52	50	52	51	55	55	56	56	3	4	No	YES	No	No	No	No	No	YES
2838	E	60	55	47	44	45	44	48	48	49	49	3	4	No	No	No	No	No	No	No	No
2838	S	60	55	54	52	52	52	55	55	56	56	2	3	No	YES	No	No	No	No	No	YES
2839	SW	60	55	54	52	55	54	54	54	55	54	0	0	No	No	No	No	No	No	No	No
2839	SE	60	55	56	54	55	55	56	56	57	57	1	2	No	YES	No	YES	No	No	No	YES
2839	NE	60	55	52	50	54	53	56	55	56	56	1	2	No	YES	No	YES	No	No	No	YES
2839	NW	60	55	53	51	60	59	62	61	62	61	1	2	YES	YES	No	YES	No	YES	No	YES
2840	W	60	55	39	37	57	55	58	56	58	56	1	1	No	YES	No	No	No	No	No	No
2840	S	60	55	48	46	61	59	62	60	62	60	1	1	YES	YES	No	No	No	YES	No	YES
2840	E	60	55	52	50	57	56	59	58	59	58	1	2	No	YES	No	YES	No	No	No	YES
2840	E	60	55	52	50	54	52	56	55	57	56	2	3	No	YES	No	No	No	No	No	YES
2840	N	60	55	52	50	51	51	55	54	55	55	3	4	No	No	No	No	No	No	No	No
2840	W	60	55	39	37	43	42	45	44	46	44	2	2	No	No	No	No	No	No	No	No
2840	N	60	55	40	38	43	42	45	44	46	45	2	2	No	No	No	No	No	No	No	No
2841	NW	60	55	53	52	62	60	63	62	64	62	1	2	YES	YES	No	YES	No	YES	No	YES
2841	NE	60	55	56	55	61	59	63	61	63	62	2	2	YES	YES	YES	YES	No	YES	YES	YES
2841	SE	60	55	57	55	57	56	59	59	60	59	2	3	No	YES	No	YES	No	No	No	YES
2841	SE	60	55	56	54	56	55	57	57	58	58	2	2	No	YES	No	YES	No	No	No	YES
2841	SW	60	55	54	52	54	54	54	53	54	54	0	0	No	No	No	No	No	No	No	No
2842	E	60	55	54	52	57	55	58	58	59	59	2	2	No	YES	No	YES	No	No	No	YES
2842	S	60	55	49	48	61	59	62	60	62	61	1	1	YES	YES	No	No	No	YES	No	YES
2842	W	60	55	40	38	59	57	60	58	60	58	1	1	No	YES	No	No	No	No	No	No
2842	W	60	55	40	38	57	55	58	56	58	57	1	1	No	YES	No	No	No	No	No	No
2842	N	60	55	53	51	54	53	57	56	57	57	3	3	No	YES	No	No	No	No	No	YES
2843	E	60	55	54	52	59	57	60	59	61	60	1	2	YES	YES	No	YES	No	No	No	YES
2843	S	60	55	49	47	60	58	61	59	62	60	1	1	YES	YES	No	No	No	No	No	No
2843	S	60	55	48	47	60	58	61	59	62	60	1	1	YES	YES	No	No	No	No	No	No
2843	W	60	55	39	37	56	54	57	55	57	55	1	1	No	No	No	No	No	No	No	No
2843	N	60	55	53	51	52	52	56	55	56	56	3	4	No	YES	No	No	No	No	No	YES
2844	E	60	55	45	43	44	44	47	47	48	48	3	4	No	No	No	No	No	No	No	No
2844	N	60	55	52	50	52	51	55	55	56	56	3	4	No	YES	No	No	No	No	No	YES
2844	W	60	55	56	54	55	55	58	59	59	59	3	4	No	YES	No	YES	No	No	No	YES

Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year – 2016 Future Existing		Exceedances						At-Property Treatment Required	
														Base Criteria		Allowance Criteria		Acute Criteria			
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
2860	S	60	55	43	41	42	42	45	45	46	46	3	3	No	No	No	No	No	No	No	No
2860	W	60	55	51	50	52	51	55	55	56	56	3	4	No	YES	No	No	No	No	No	YES
2860	N	60	55	52	50	52	51	55	55	56	56	3	4	No	YES	No	No	No	No	No	YES
2860	E	60	55	46	44	45	44	48	48	49	49	3	3	No	No	No	No	No	No	No	No
2861	SE	60	55	42	40	41	40	42	42	43	43	2	2	No	No	No	No	No	No	No	No
2861	NE	60	55	49	47	50	49	52	52	53	53	3	4	No	No	No	No	No	No	No	No
2861	NE	60	55	49	47	50	49	52	52	53	53	3	3	No	No	No	No	No	No	No	No
2861	NW	60	55	49	47	50	49	53	52	54	53	3	3	No	No	No	No	No	No	No	No
2861	SW	60	55	45	43	46	45	49	48	49	49	3	3	No	No	No	No	No	No	No	No
2862	SE	60	55	46	44	45	45	48	48	49	49	3	3	No	No	No	No	No	No	No	No
2862	NE	60	55	53	51	54	53	57	57	58	57	3	4	No	YES	No	No	No	No	No	YES
2862	NW	60	55	55	53	57	56	60	59	61	60	3	4	YES	YES	No	YES	No	YES	YES	YES
2862	NW	60	55	58	56	60	59	63	62	63	63	3	4	YES	YES	YES	YES	No	YES	YES	YES
2862	SW	60	55	57	55	59	58	63	62	63	63	3	4	YES	YES	YES	YES	No	YES	YES	YES
2862	SE	60	55	55	53	56	55	59	59	60	60	3	4	No	YES	No	YES	No	No	No	YES
2862	NE	60	55	44	42	44	44	48	47	49	48	3	4	No	No	No	No	No	No	No	No
2863	SW	60	55	47	44	47	47	51	50	51	51	3	4	No	No	No	No	No	No	No	No
2863	NW	60	55	52	50	54	53	56	56	57	56	3	3	No	YES	No	No	No	No	No	YES
2863	NE	60	55	44	42	45	44	48	48	49	49	3	3	No	No	No	No	No	No	No	No
2863	SW	60	55	44	42	46	45	49	48	49	49	3	3	No	No	No	No	No	No	No	No
2863	NW	60	55	52	51	55	54	57	56	58	57	2	3	No	YES	No	YES	No	No	No	YES
2863	NE	60	55	52	50	55	53	57	56	58	57	2	3	No	YES	No	YES	No	No	No	YES
2863	NE	60	55	53	51	55	54	57	57	58	57	3	3	No	YES	No	YES	No	No	No	YES
2863	NE	60	55	50	49	52	51	55	54	55	55	3	3	No	No	No	No	No	No	No	No
2863	SE	60	55	42	40	45	44	47	46	48	47	2	3	No	No	No	No	No	No	No	No
2863	SW	60	55	42	40	43	42	46	46	47	46	3	4	No	No	No	No	No	No	No	No
2863	SE	60	55	43	41	43	42	46	46	47	47	3	4	No	No	No	No	No	No	No	No
2863	SW	60	55	45	43	46	45	49	49	50	49	3	4	No	No	No	No	No	No	No	No
2864	W	60	55	63	61	62	62	66	66	67	67	4	4	YES	YES	YES	YES	YES	YES	YES	YES
2864	S	60	55	57	55	59	58	61	61	62	62	2	3	YES	YES	YES	YES	No	YES	YES	YES
2864	E	60	55	59	58	60	59	63	63	64	64	3	4	YES	YES	YES	YES	No	YES	YES	YES
2864	E	60	55	58	57	59	58	62	62	63	63	3	4	YES	YES	YES	YES	No	YES	YES	YES
2864	N	60	55	63	61	62	62	66	66	67	67	4	4	YES	YES	YES	YES	YES	YES	YES	YES
4003	NW	60	55	58	57	58	58	64	64	64	65	6	6	YES	YES	No	YES	No	YES	YES	YES
4003	SW	60	55	58	57	57	57	62	63	63	64	5	5	YES	YES	No	YES	No	YES	YES	YES
4003	SE	60	55	53	52	53	53	55	55	56	56	3	3	No	YES	No	No	No	No	No	YES
4003	NE	60	55	53	52	53	53	59	60	60	60	7	7	No	YES	No	No	No	YES	No	YES
4005	W	60	55	55	54	54	54	59	59	60	60	5	5	No	YES	No	YES	No	YES	No	YES

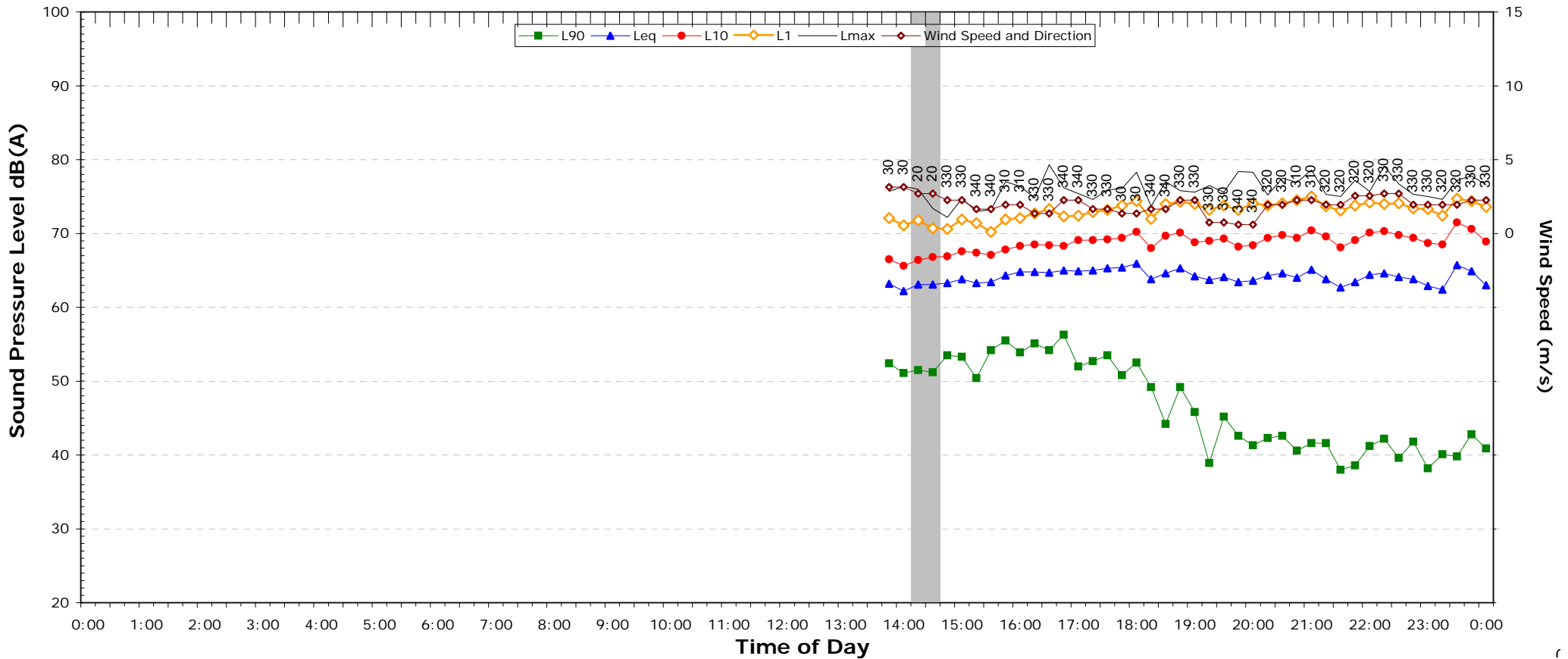
Receiver No.	Direction	Base Criteria		2012 Existing Noise Level		2016 Future Existing Noise Level		2016 Opening Year Noise Level		2026 Future Noise Level		2016 Opening Year – 2016 Future Existing		Exceedances						At-Property Treatment Required	
		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		Base Criteria		Allowance Criteria		Acute Criteria		At-Property Treatment Required	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
4005	S	60	55	53	51	52	52	55	56	56	57	4	4	No	YES	No	No	No	No	No	YES
4005	E	60	55	49	48	48	48	52	52	52	53	4	4	No	No	No	No	No	No	No	No
4005	SE	60	55	49	47	48	48	52	52	52	53	4	4	No	No	No	No	No	No	No	No
4005	NE	60	55	50	48	49	49	53	54	54	54	4	5	No	No	No	No	No	No	No	No
4005	N	60	55	50	48	49	49	54	55	55	56	5	6	No	YES	No	No	No	No	No	YES
4005	NW	60	55	55	53	54	54	59	59	60	60	5	5	No	YES	No	YES	No	YES	No	YES
4006	NW	60	55	55	53	54	54	59	59	60	60	5	5	No	YES	No	YES	No	YES	No	YES
4006	SW	60	55	49	48	49	49	55	55	56	56	6	7	No	YES	No	No	No	No	No	YES
4006	NW	60	55	51	50	50	51	56	57	57	58	6	6	No	YES	No	No	No	No	No	YES
4006	SW	60	55	51	50	50	50	55	55	55	56	4	5	No	YES	No	No	No	No	No	YES
4006	SE	60	55	49	48	48	48	51	52	52	53	3	3	No	No	No	No	No	No	No	No
4006	NE	60	55	52	50	51	51	55	55	56	56	4	4	No	YES	No	No	No	No	No	YES
4006	SE	60	55	47	46	46	46	47	47	48	48	0	1	No	No	No	No	No	No	No	No
4006	NE	60	55	54	53	53	53	58	58	59	59	5	5	No	YES	No	YES	No	No	No	YES
4007	SW	60	55	49	48	49	49	53	54	54	55	5	5	No	No	No	No	No	No	No	No
4007	SE	60	55	45	44	45	45	48	48	49	49	3	4	No	No	No	No	No	No	No	No
4007	NE	60	55	54	53	53	53	58	58	58	59	4	5	No	YES	No	YES	No	No	No	YES
4007	NW	60	55	55	53	54	54	58	59	59	60	5	5	No	YES	No	YES	No	No	No	YES
4010	S	60	55	54	52	53	52	56	56	57	57	3	4	No	YES	No	No	No	No	No	YES
4010	E	60	55	48	47	48	47	51	51	52	52	3	4	No	No	No	No	No	No	No	No
4010	N	60	55	52	50	52	52	56	56	57	57	4	4	No	YES	No	No	No	No	No	YES
4010	W	60	55	56	54	56	55	59	59	60	60	3	4	No	YES	No	YES	No	No	No	YES
4039	W	60	55	49	47	50	49	53	53	54	53	3	4	No	No	No	No	No	No	No	No
4039	S	60	55	48	46	48	47	51	51	52	51	3	4	No	No	No	No	No	No	No	No
4039	E	60	55	50	48	50	49	53	52	53	53	3	3	No	No	No	No	No	No	No	No
4039	NE	60	55	50	48	51	50	54	53	54	54	3	3	No	No	No	No	No	No	No	No
4039	NW	60	55	52	50	53	52	56	55	57	56	3	4	No	YES	No	No	No	No	No	YES
4039	SW	60	55	52	50	53	52	56	56	57	56	3	4	No	YES	No	No	No	No	No	YES
4039	SE	60	55	47	45	47	46	50	50	51	51	3	3	No	No	No	No	No	No	No	No
4041	E	60	55	44	44	44	44	47	47	47	48	3	3	No	No	No	No	No	No	No	No
4041	N	60	55	54	53	53	54	58	58	58	59	4	4	No	YES	No	YES	No	No	No	YES
4041	W	60	55	55	54	54	54	58	58	58	59	4	4	No	YES	No	YES	No	No	No	YES
4041	N	60	55	55	54	54	55	58	58	59	59	3	3	No	YES	No	YES	No	No	No	YES
4041	W	60	55	61	61	61	61	61	61	62	62	0	0	YES	YES	No	No	No	YES	No	YES
4041	S	60	55	60	59	59	59	58	58	59	59	-1	-1	No	YES	No	No	No	No	No	No
4041	E	60	55	44	43	44	44	46	47	47	47	3	3	No	No	No	No	No	No	No	No
4041	S	60	55	45	44	45	45	47	47	48	48	3	3	No	No	No	No	No	No	No	No
4042	W	60	55	55	53	55	55	59	58	59	59	3	4	No	YES	No	YES	No	No	No	YES

APPENDIX G - LONG TERM NOISE MONITORING RESULTS

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Wednesday, 2 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	38.6	31.9
Leq (see note 3)	-	64.1	63.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

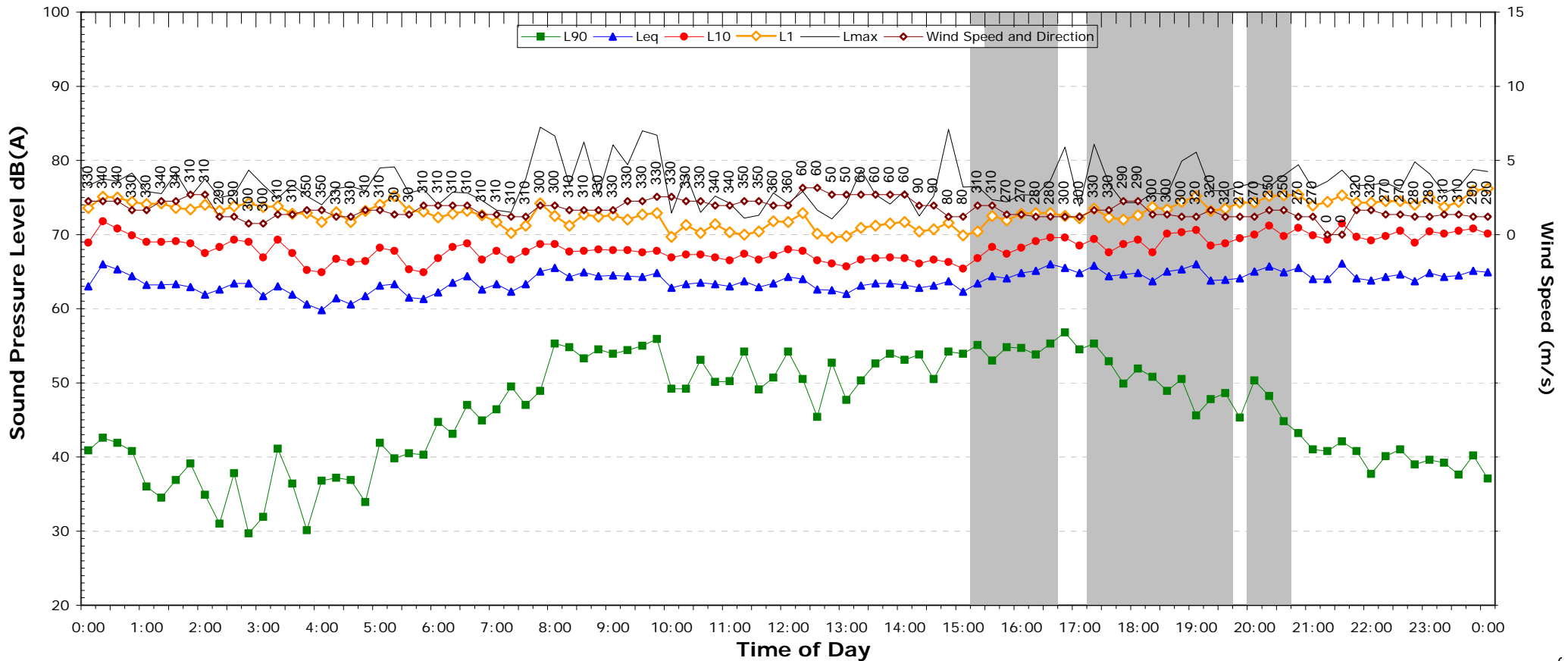
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.3	63.2
L _{eq} 1hr upper 10 percentile	65.4	64.8
L _{eq} 1hr lower 10 percentile	62.7	61.5

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	76.7	to 79.1
L _{max} - L _{eq} (Range)	15.2	to 17.2

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	34.2
Leq (see note 3)	-	-	64.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

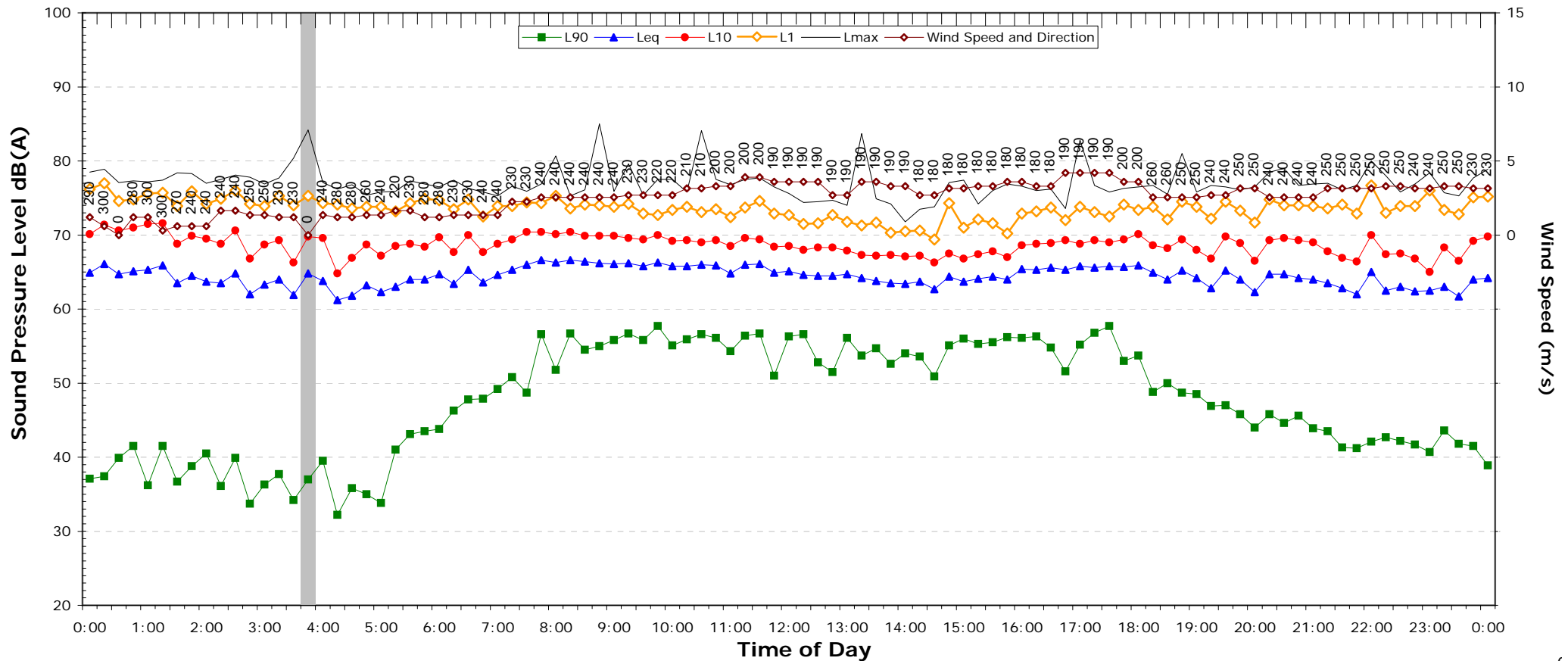
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.9	64.1
L _{eq} 1hr upper 10 percentile	65.1	65.3
L _{eq} 1hr lower 10 percentile	62.9	62.2

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	79.8	to	80.4
L _{max} - Leq (Range)	15.4	to	17.1

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.5	41.3	33.9
Leq (see note 3)	65.3	64.1	62.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

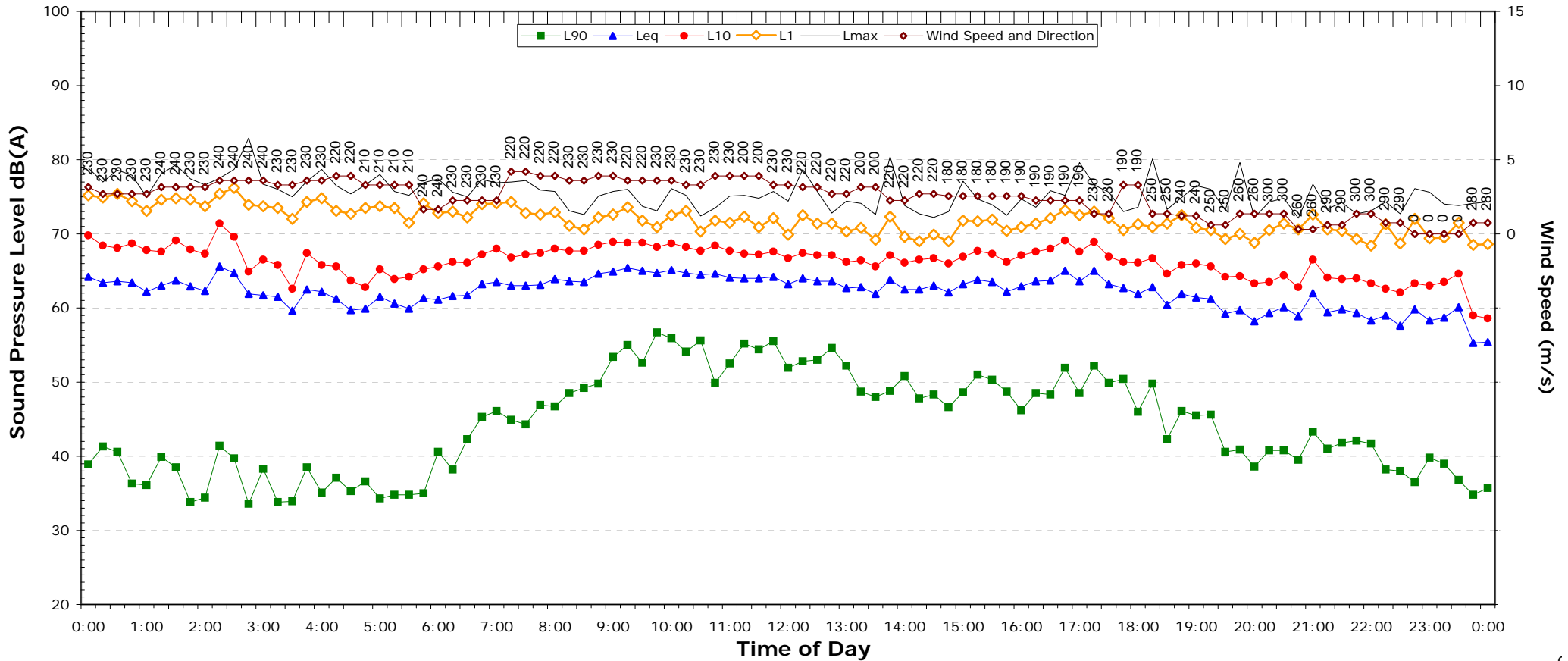
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.0	62.5
L _{eq} 1hr upper 10 percentile	66.2	63.8
L _{eq} 1hr lower 10 percentile	63.6	60.6

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	77.4	to	82.9
Lmax - Leq (Range)	15.4	to	19.1

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.6	39.5	29.8
Leq (see note 3)	63.7	60.3	56.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

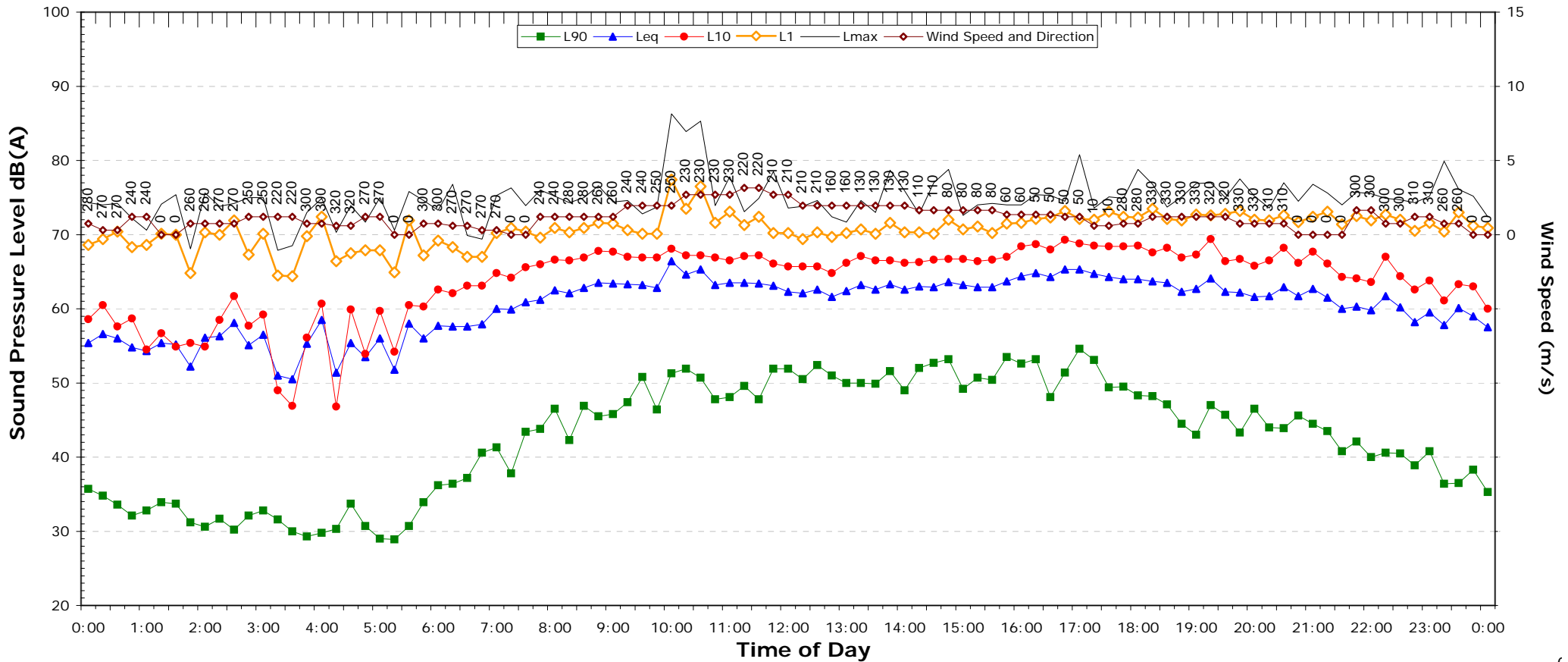
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.1	56.8
L _{eq} 1hr upper 10 percentile	64.8	58.8
L _{eq} 1hr lower 10 percentile	59.5	54.4

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	74.2	to	76.8
L _{max} - L _{eq} (Range)	16.4	to	20.6

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.5	40.8	30.7
Leq (see note 3)	63.5	62.2	59.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

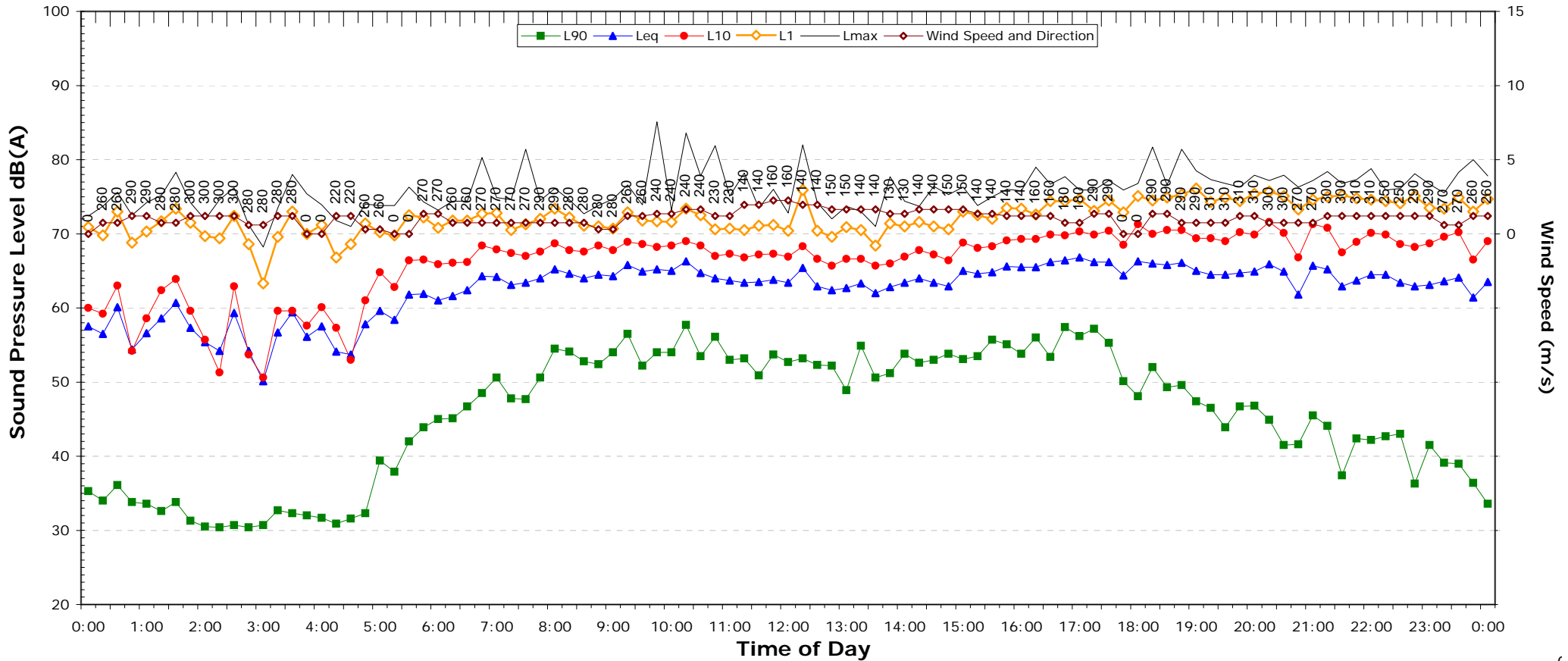
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.2	59.4
L _{eq} 1hr upper 10 percentile	64.6	63.3
L _{eq} 1hr lower 10 percentile	60.9	55.7

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	74.0	to	80.3
L _{max} - Leq (Range)	15.1	to	21.2

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.1	41.5	33.9
Leq (see note 3)	64.6	64.9	63.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

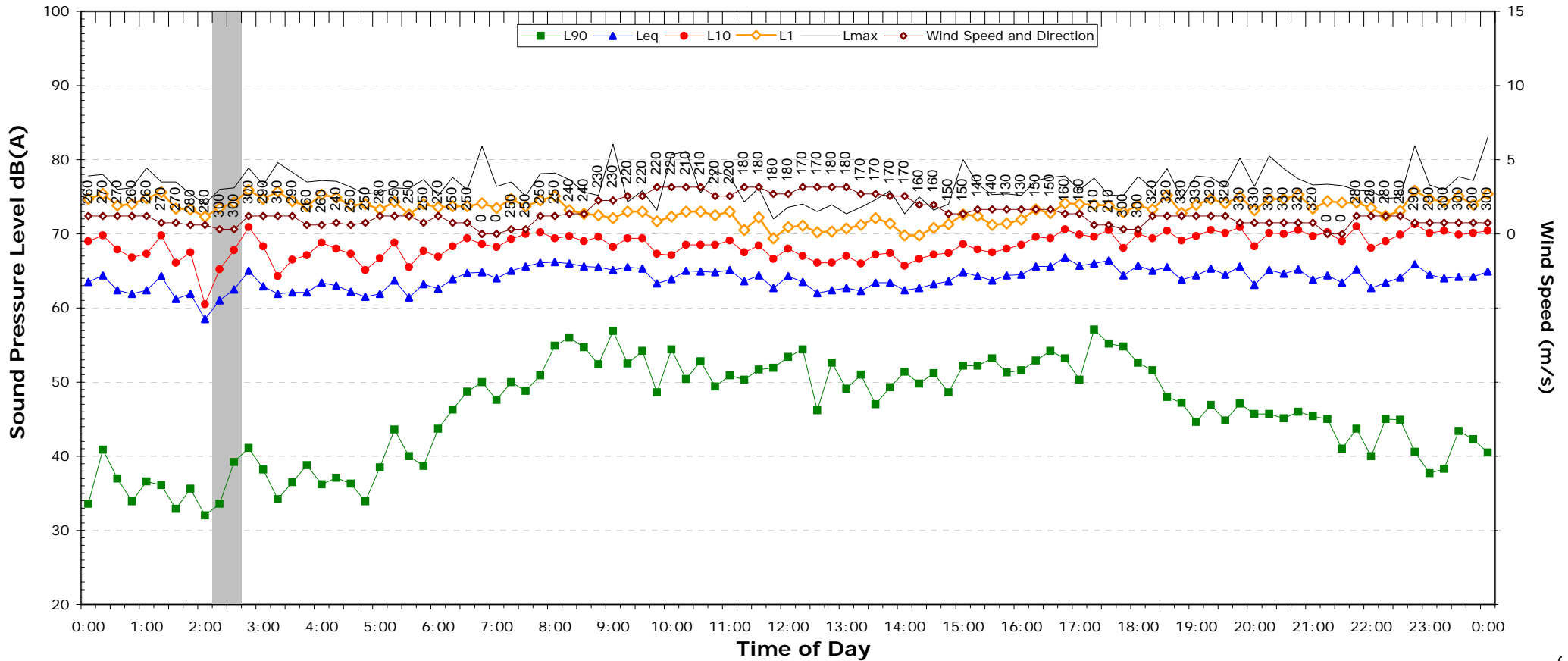
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.7	63.1
L _{eq} 1hr upper 10 percentile	66.1	64.4
L _{eq} 1hr lower 10 percentile	63.2	61.9

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	77.0	to	81.8
L _{max} - Leq (Range)	15.1	to	17.4

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.8	41.0	36.0
Leq (see note 3)	64.7	64.6	63.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

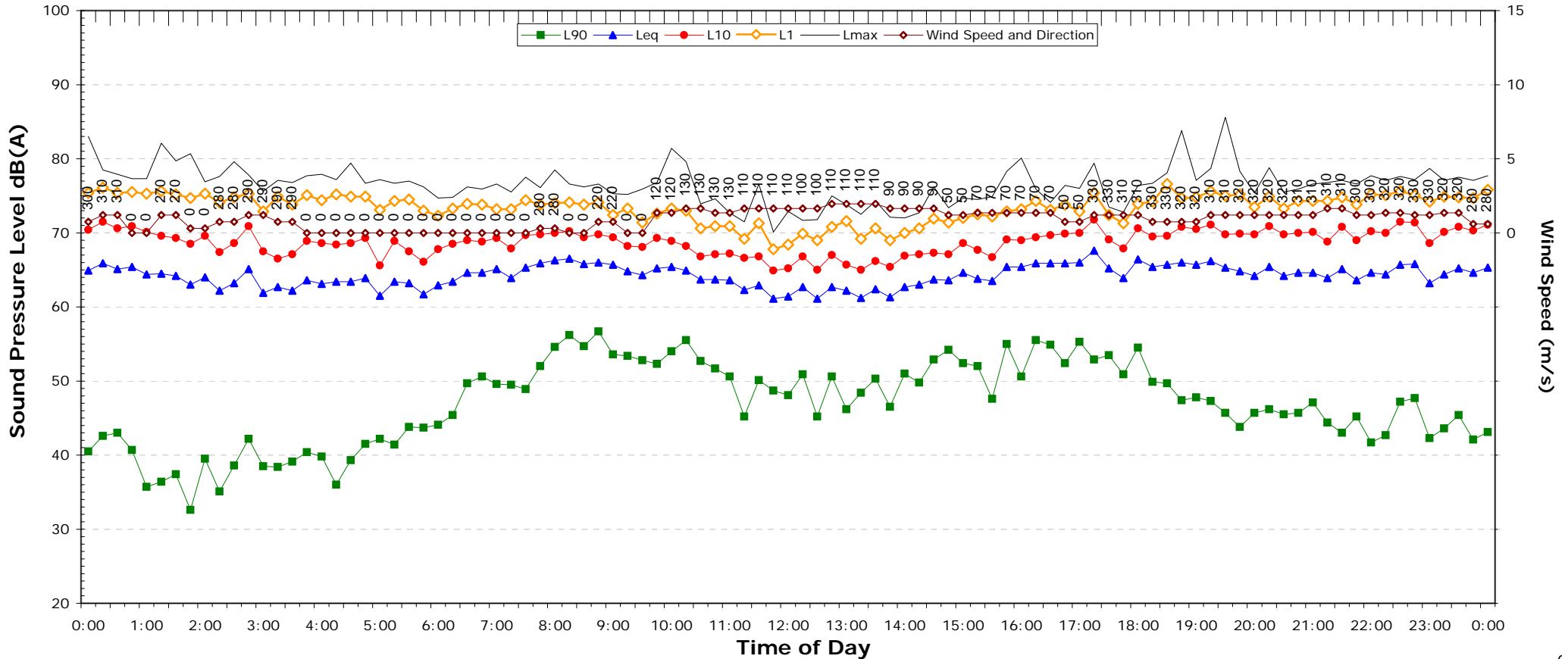
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.6	63.9
L _{eq} 1hr upper 10 percentile	65.9	65.2
L _{eq} 1hr lower 10 percentile	62.8	62.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)		to	
Lmax (Range)		79.4	83.0
Lmax - Leq (Range)		16.3	18.7

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.6	43.0	37.5
Leq (see note 3)	64.5	65.0	64.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

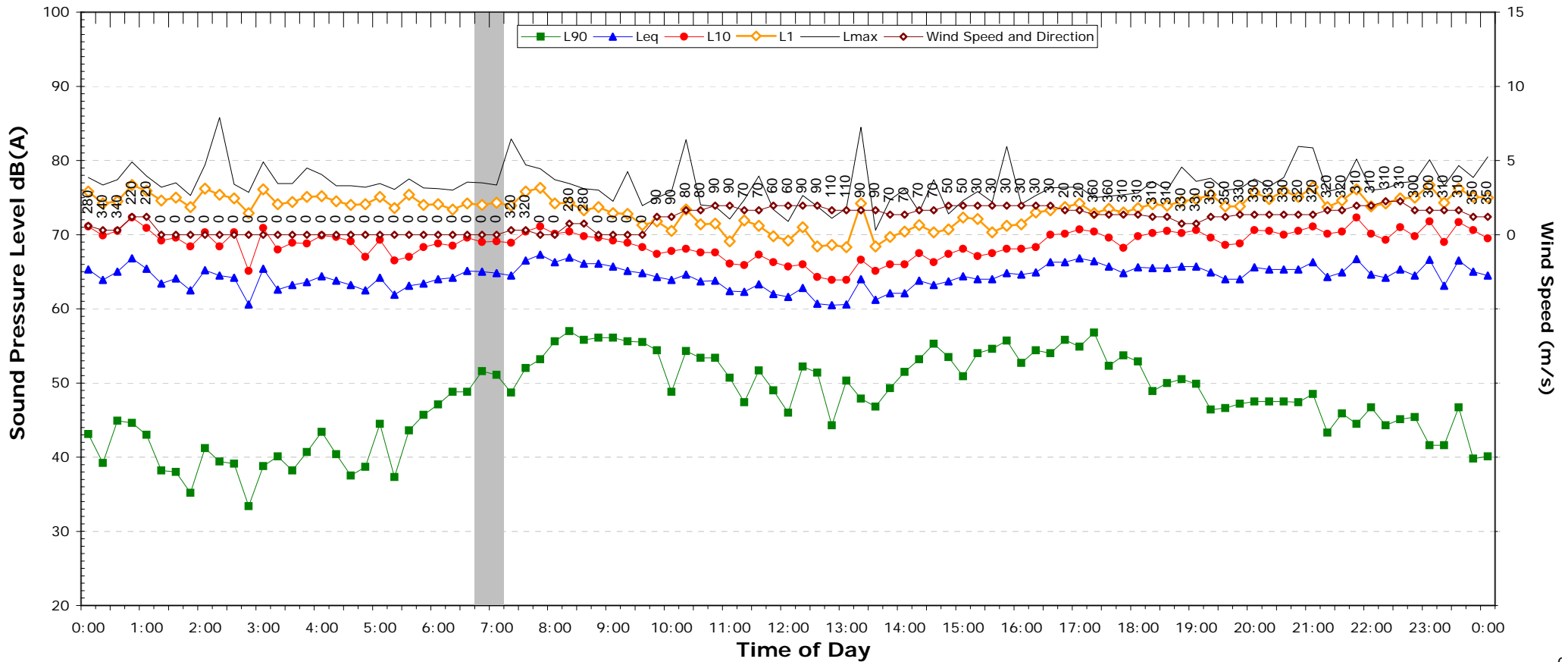
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.7	64.3
L _{eq} 1hr upper 10 percentile	66.0	65.4
L _{eq} 1hr lower 10 percentile	62.0	63.2

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	79.0	to	85.8
L _{max} - L _{eq} (Range)	15.5	to	21.8

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.9	44.5	33.0
Leq (see note 3)	64.5	65.3	64.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

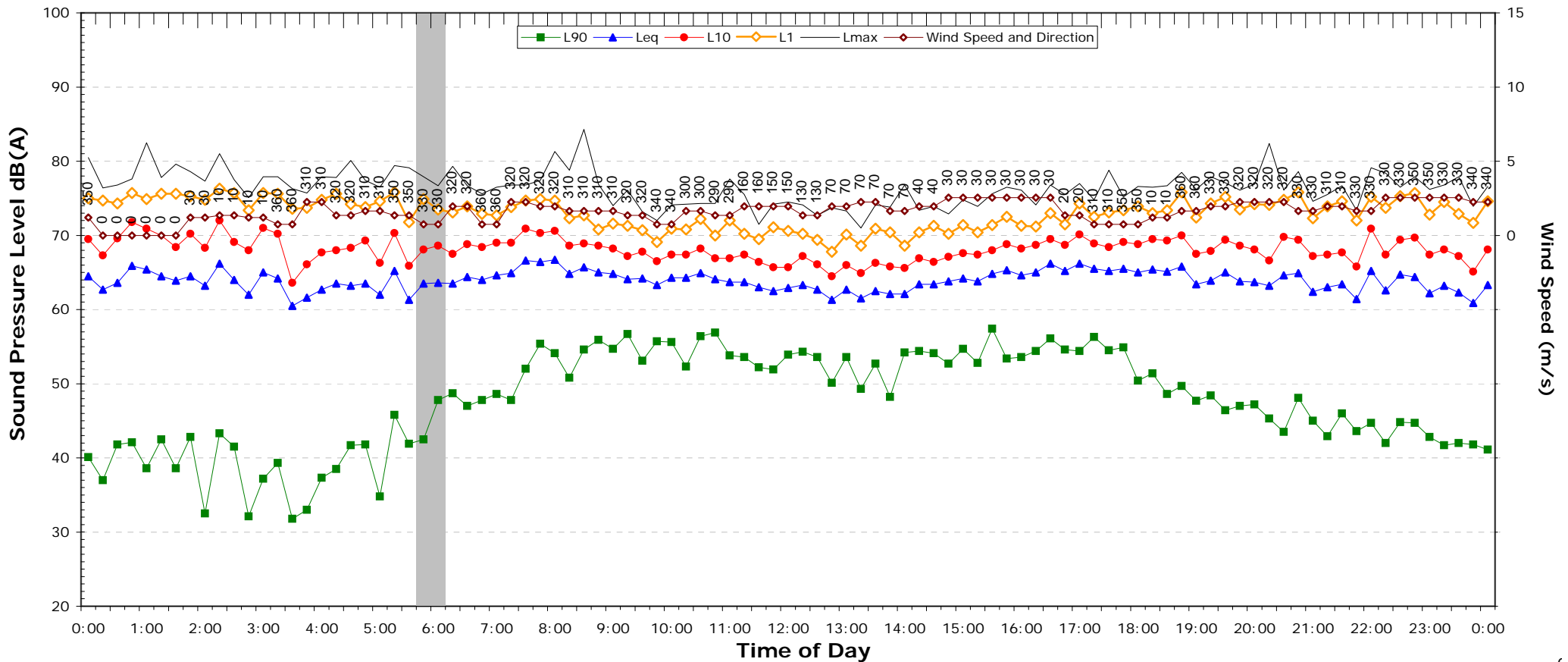
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.8	64.2
L _{eq} 1hr upper 10 percentile	66.2	65.3
L _{eq} 1hr lower 10 percentile	61.8	62.5

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	77.9	to	82.5
L _{max} - L _{eq} (Range)	15.2	to	17.9

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.4	43.5	32.2
Leq (see note 3)	64.4	64.2	62.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

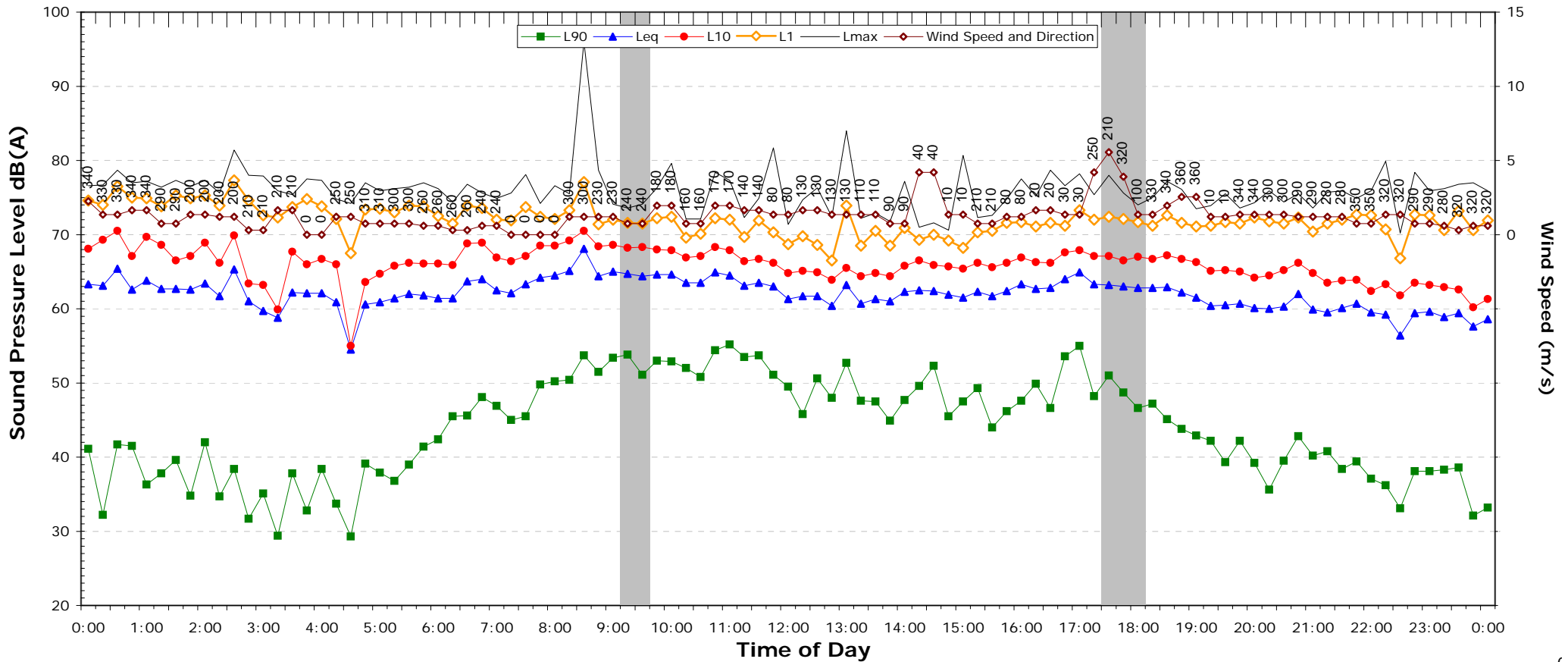
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.3	62.5
L _{eq} 1hr upper 10 percentile	66.0	63.9
L _{eq} 1hr lower 10 percentile	62.3	59.9

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	77.0	to	81.4
L _{max} - Leq (Range)	15.3	to	18.9

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.5	37.1	29.0
Leq (see note 3)	63.4	61.0	57.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

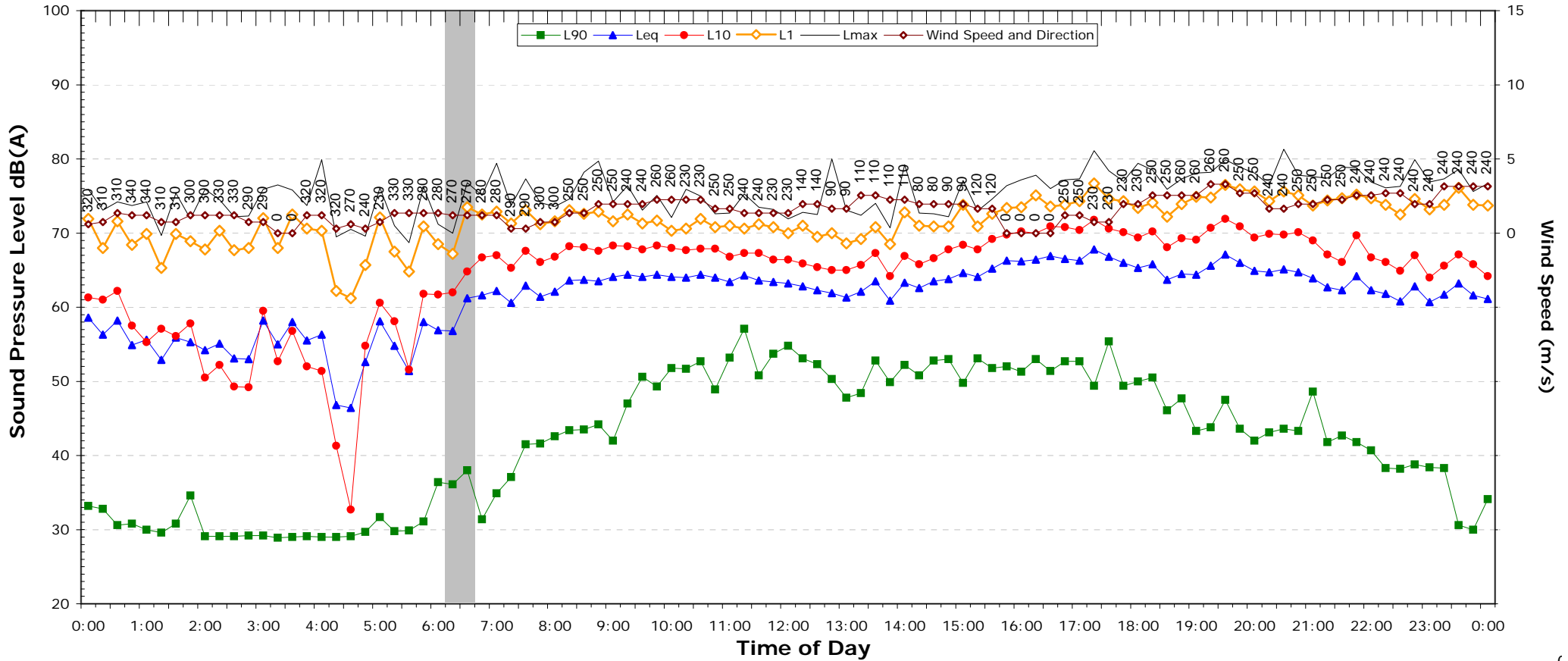
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.8	57.2
L _{eq} 1hr upper 10 percentile	65.3	61.9
L _{eq} 1hr lower 10 percentile	60.2	53.6

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)		to	Lmax
74.2		to	79.9
Lmax - Leq (Range)		to	Lmax
17.5		to	23.5

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Sunday, 13 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.6	41.8	28.5
Leq (see note 3)	64.4	64.7	61.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

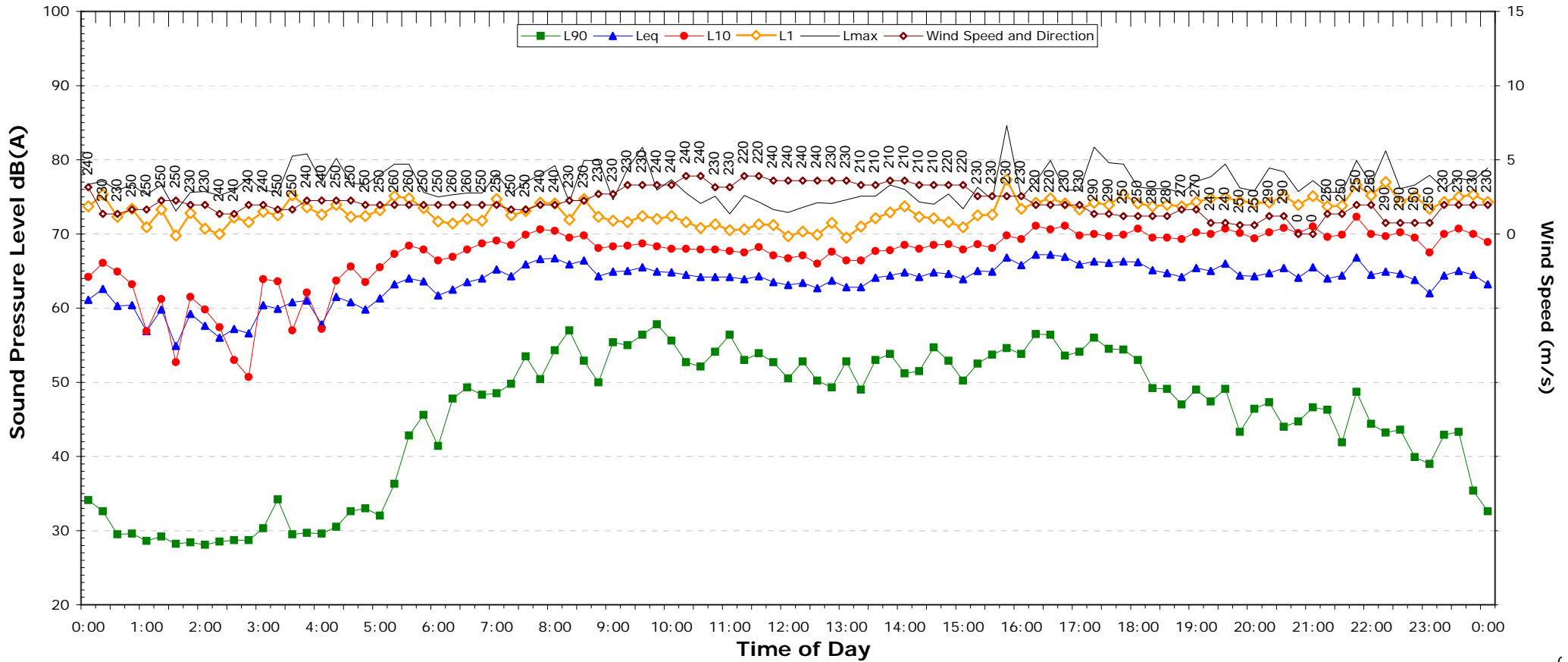
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.4	61.3
L _{eq} 1hr upper 10 percentile	66.6	63.9
L _{eq} 1hr lower 10 percentile	62.0	57.9

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	76.6	to	80.8
L _{max} - Leq (Range)	16.2	to	20.8

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Monday, 14 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.2	43.3	34.4
Leq (see note 3)	65.1	65.0	64.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

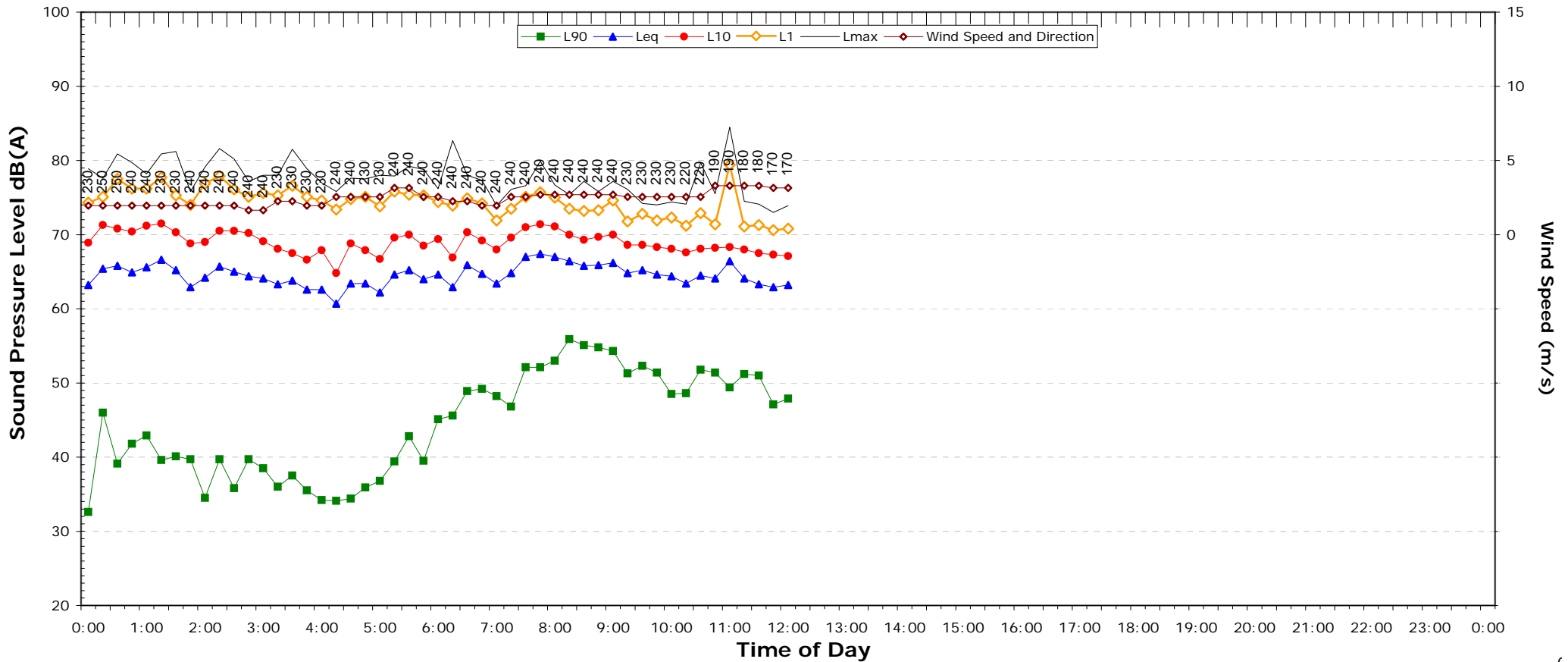
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.1	64.3
L _{eq} 1hr upper 10 percentile	66.5	65.4
L _{eq} 1hr lower 10 percentile	63.5	62.6

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	78.0	to	82.7
L _{max} - Leq (Range)	15.4	to	18.4

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific HWY, Valla

Tuesday, 15 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq (see note 3)	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

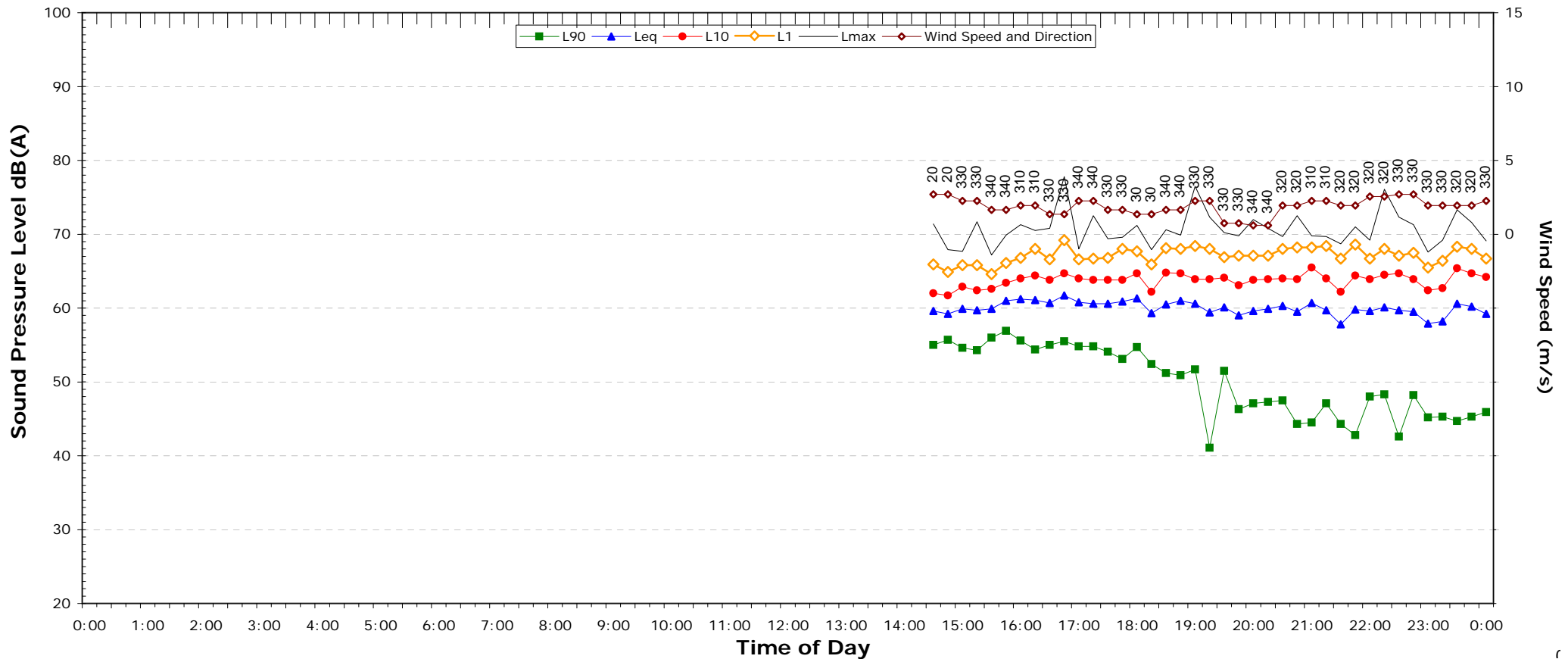
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.3	-
L _{eq} 1hr upper 10 percentile	66.7	-
L _{eq} 1hr lower 10 percentile	63.4	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1641 - 21 Auld Cl, Valla

Wednesday, 2 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	42.8	39.4
Leq (see note 3)	-	59.9	58.5

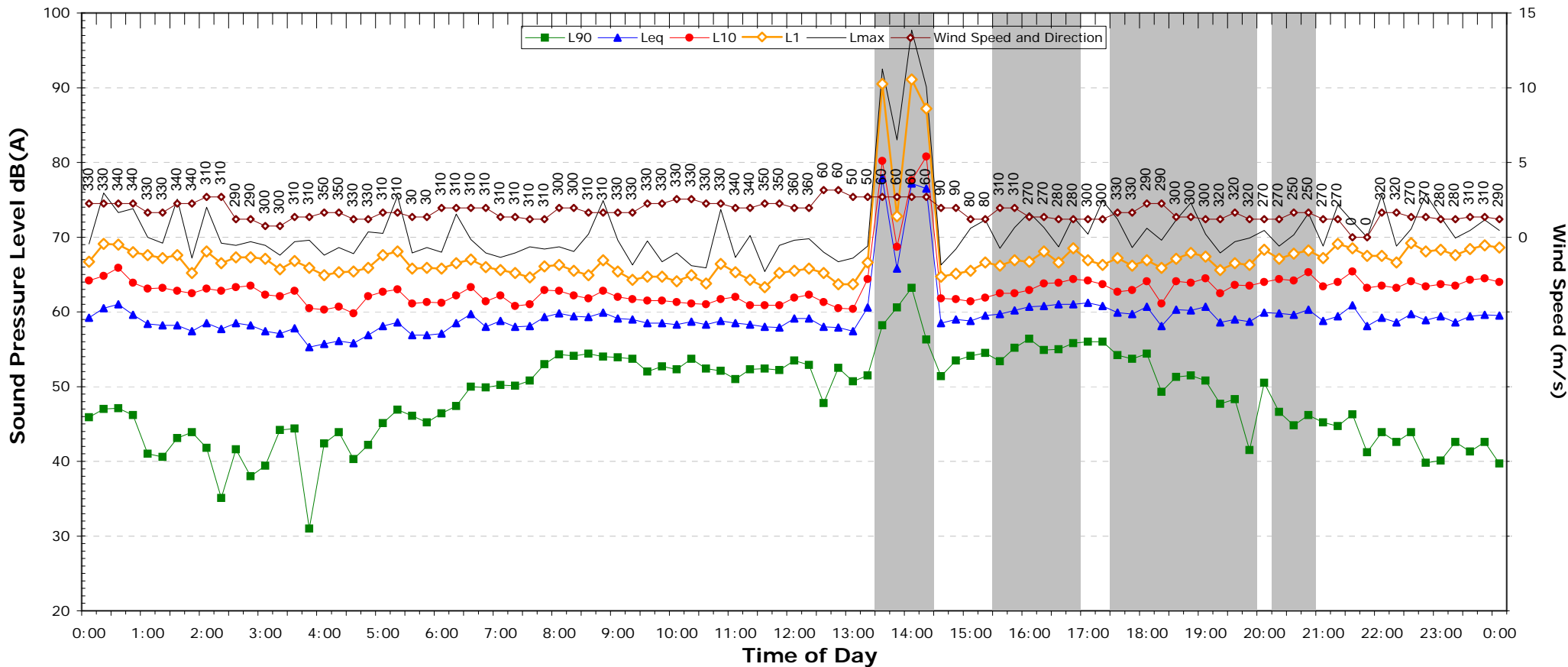
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.7	61.0
L _{eq} 1hr upper 10 percentile	63.6	62.5
L _{eq} 1hr lower 10 percentile	61.8	59.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	75.1	to	76.1
Lmax - Leq (Range)	15.9	to	18.1

EXISTING AMBIENT NOISE LEVELS 1641 - 21 Auld Cl, Valla Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	38.6
Leq (see note 3)	-	-	58.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

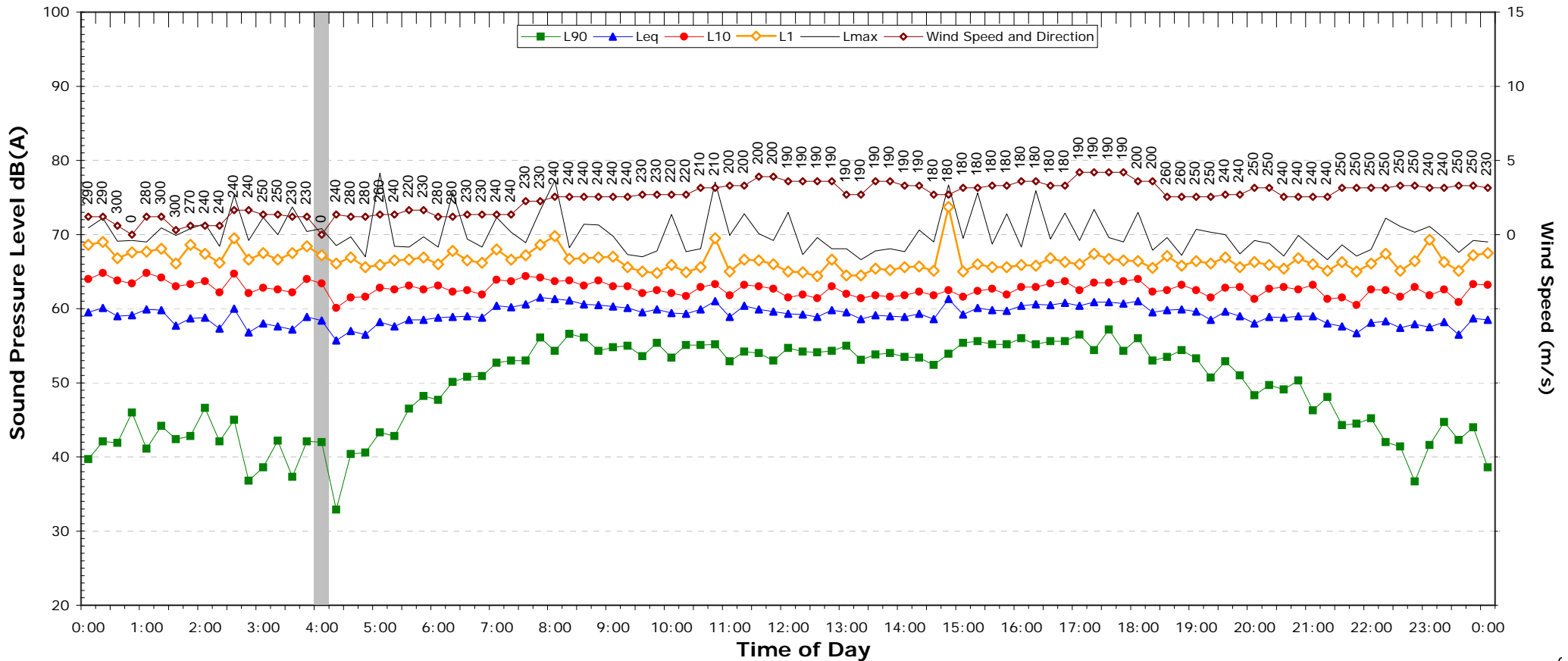
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.6	61.2
L _{eq} 1hr upper 10 percentile	63.5	62.1
L _{eq} 1hr lower 10 percentile	60.7	59.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	73.7	to	78.3
Lmax - Leq (Range)	15.7	to	21.4

EXISTING AMBIENT NOISE LEVELS

1641 - 21 Auld Cl, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	53.0	44.5	36.5
Leq (see note 3)	60.1	58.8	57.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

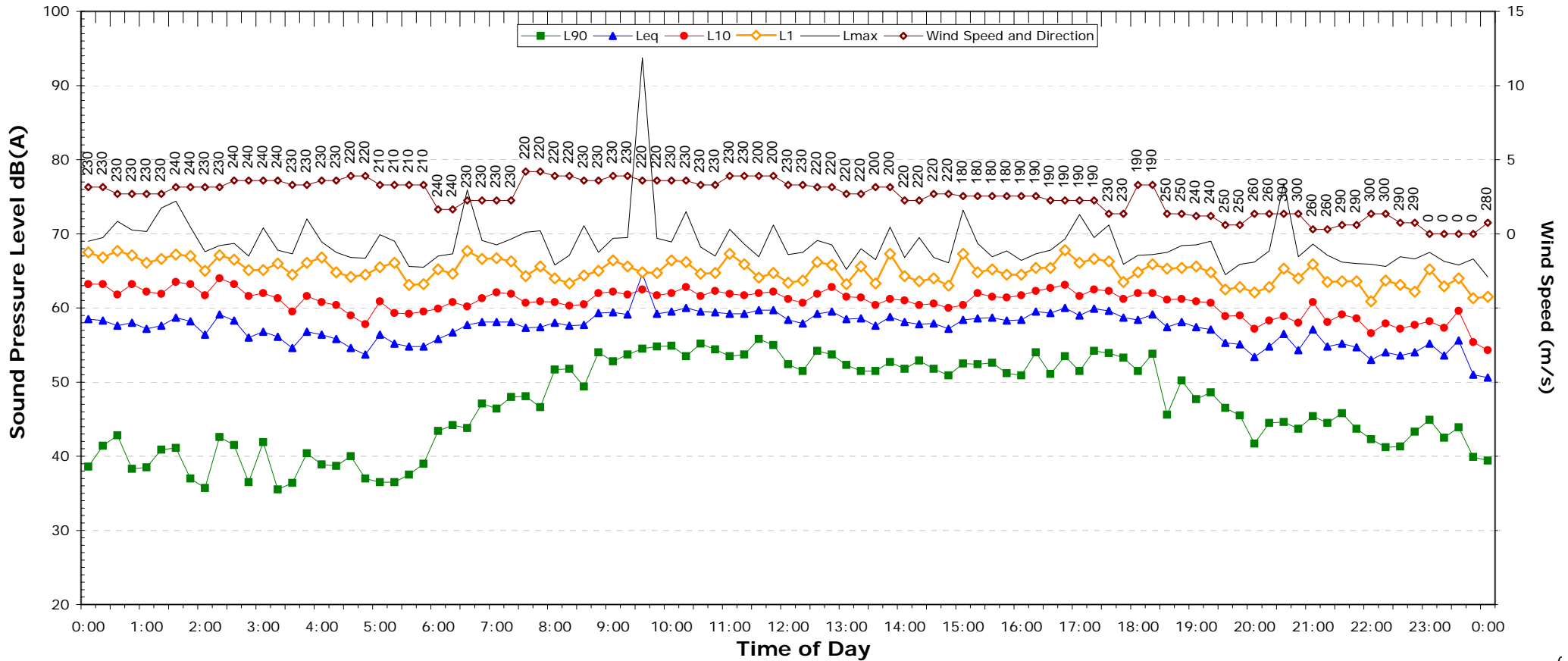
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.3	59.7
L _{eq} 1hr upper 10 percentile	63.4	60.6
L _{eq} 1hr lower 10 percentile	60.8	57.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	72.0	to	75.9
Lmax - Leq (Range)	15.9	to	18.2

EXISTING AMBIENT NOISE LEVELS

1641 - 21 Auld Cl, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.9	42.3	31.9
Leq (see note 3)	59.1	56.2	52.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

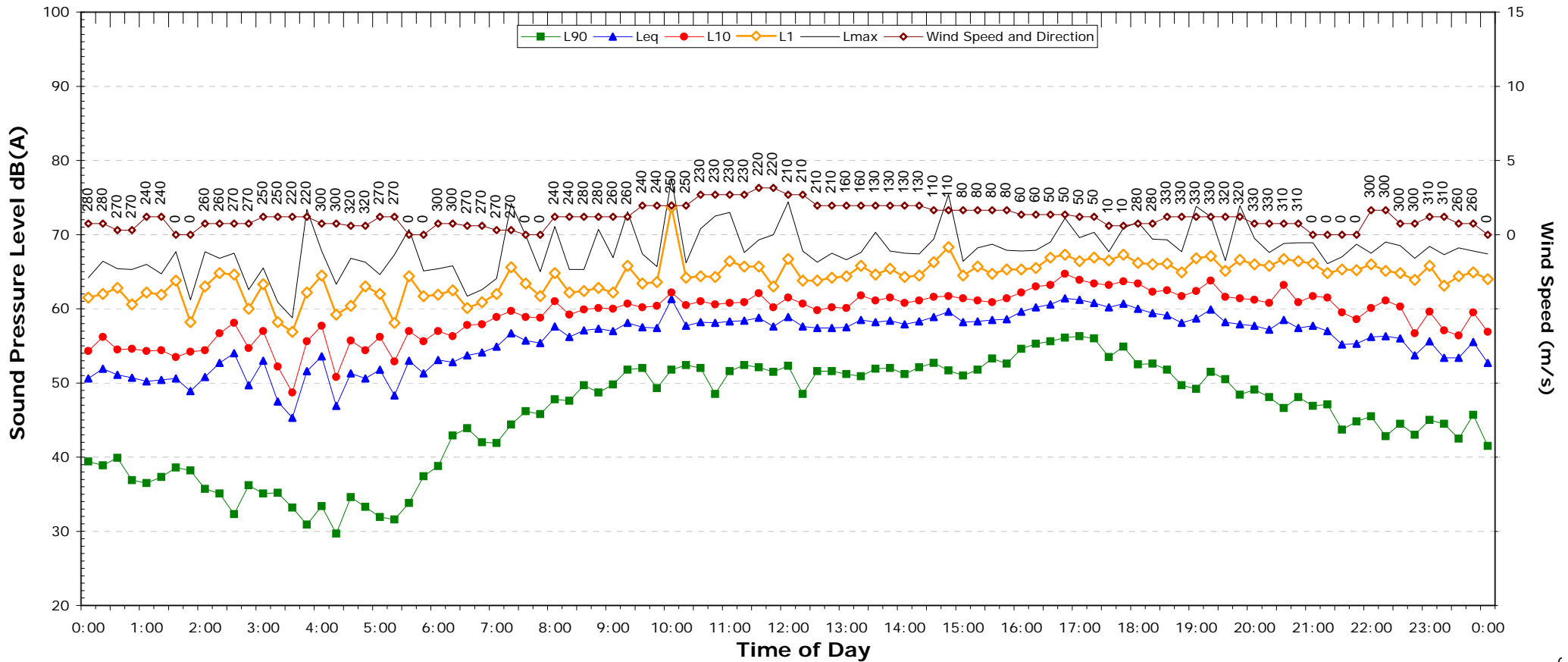
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.0	54.8
L _{eq} 1hr upper 10 percentile	63.0	56.7
L _{eq} 1hr lower 10 percentile	57.5	52.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	66.4	to	73.4
Lmax - Leq (Range)	15.4	to	22.8

EXISTING AMBIENT NOISE LEVELS

1641 - 21 Auld Cl, Valla

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.8	44.8	33.5
Leq (see note 3)	58.7	57.9	54.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

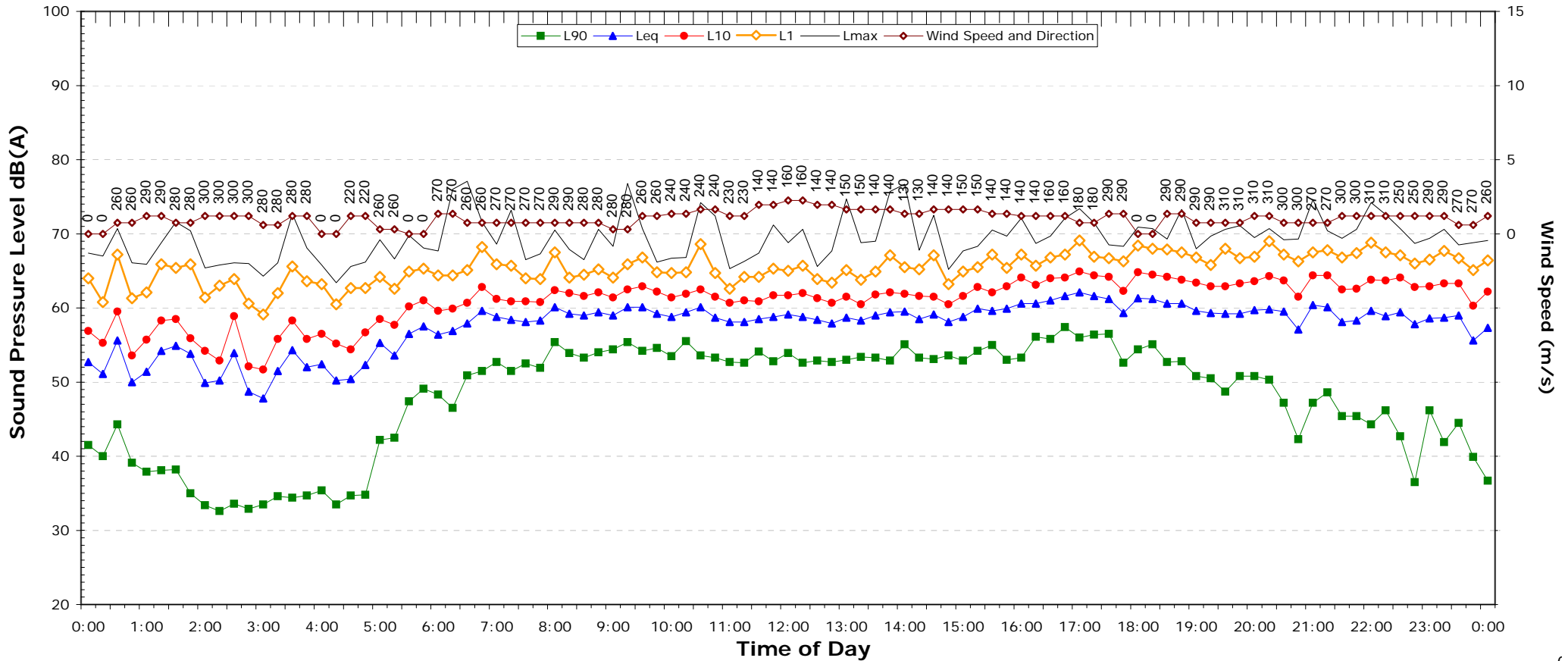
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.0	57.1
L _{eq} 1hr upper 10 percentile	63.2	60.9
L _{eq} 1hr lower 10 percentile	58.7	53.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	66.1	to	77.1
Lmax - Leq (Range)	15.3	to	20.0

EXISTING AMBIENT NOISE LEVELS

1641 - 21 Auld Cl, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	52.6	44.3	36.6
Leq (see note 3)	59.5	59.6	57.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

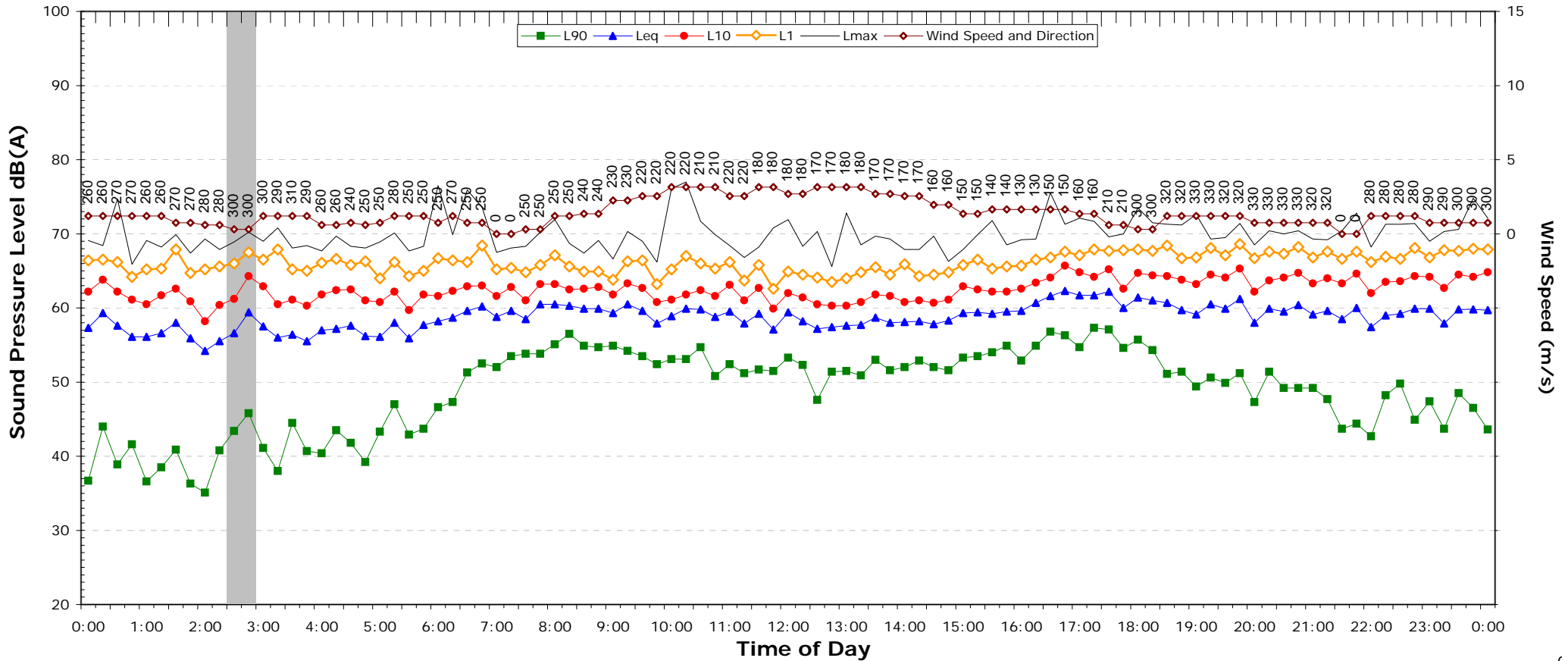
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.1	60.1
L _{eq} 1hr upper 10 percentile	63.7	61.9
L _{eq} 1hr lower 10 percentile	61.1	58.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	74.7	to	76.5
Lmax - Leq (Range)	16.5	to	19.0

EXISTING AMBIENT NOISE LEVELS

1641 - 21 Auld Cl, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.4	43.7	43.4
Leq (see note 3)	59.6	59.8	58.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

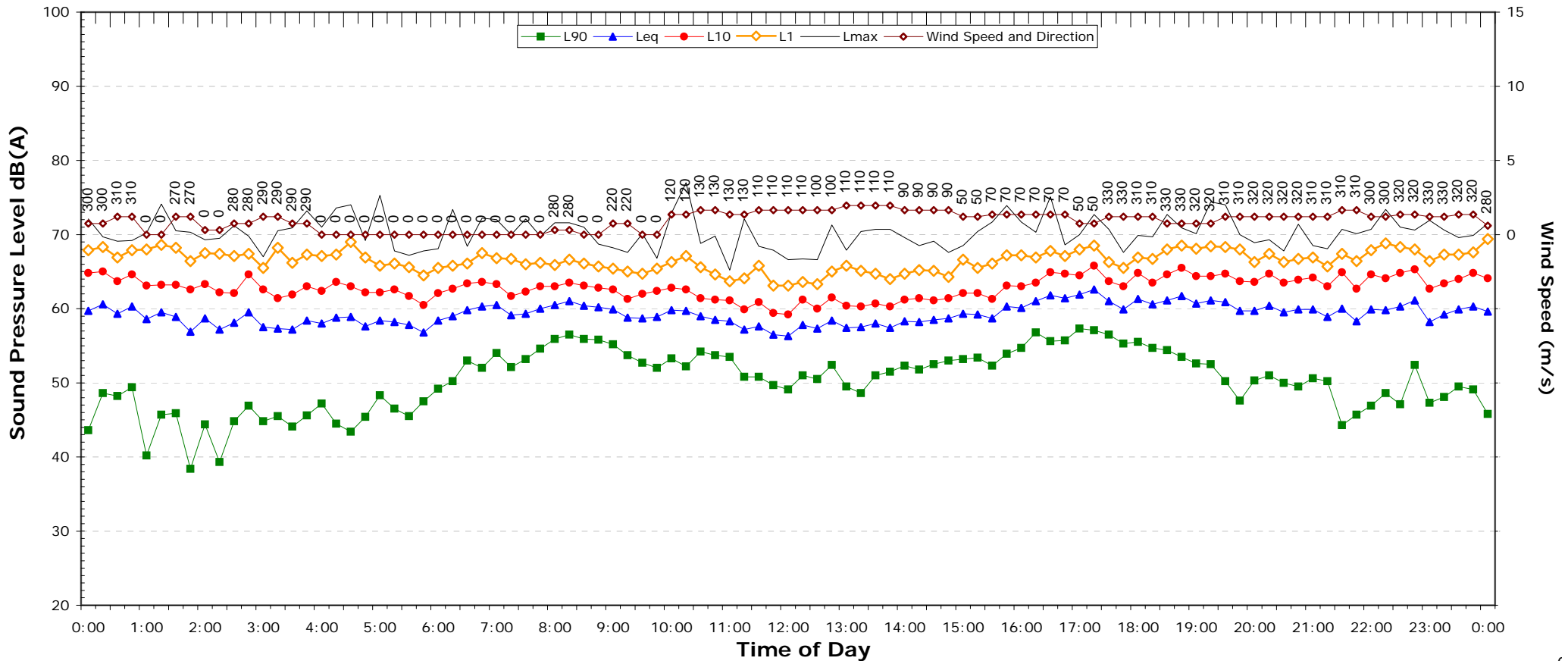
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.1	61.4
L _{eq} 1hr upper 10 percentile	64.0	62.4
L _{eq} 1hr lower 10 percentile	60.4	60.3

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	73.2	to	75.3
L _{max} - Leq (Range)	15.4	to	16.8

EXISTING AMBIENT NOISE LEVELS

1641 - 21 Auld Cl, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.5	45.7	42.6
Leq (see note 3)	59.5	60.2	59.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

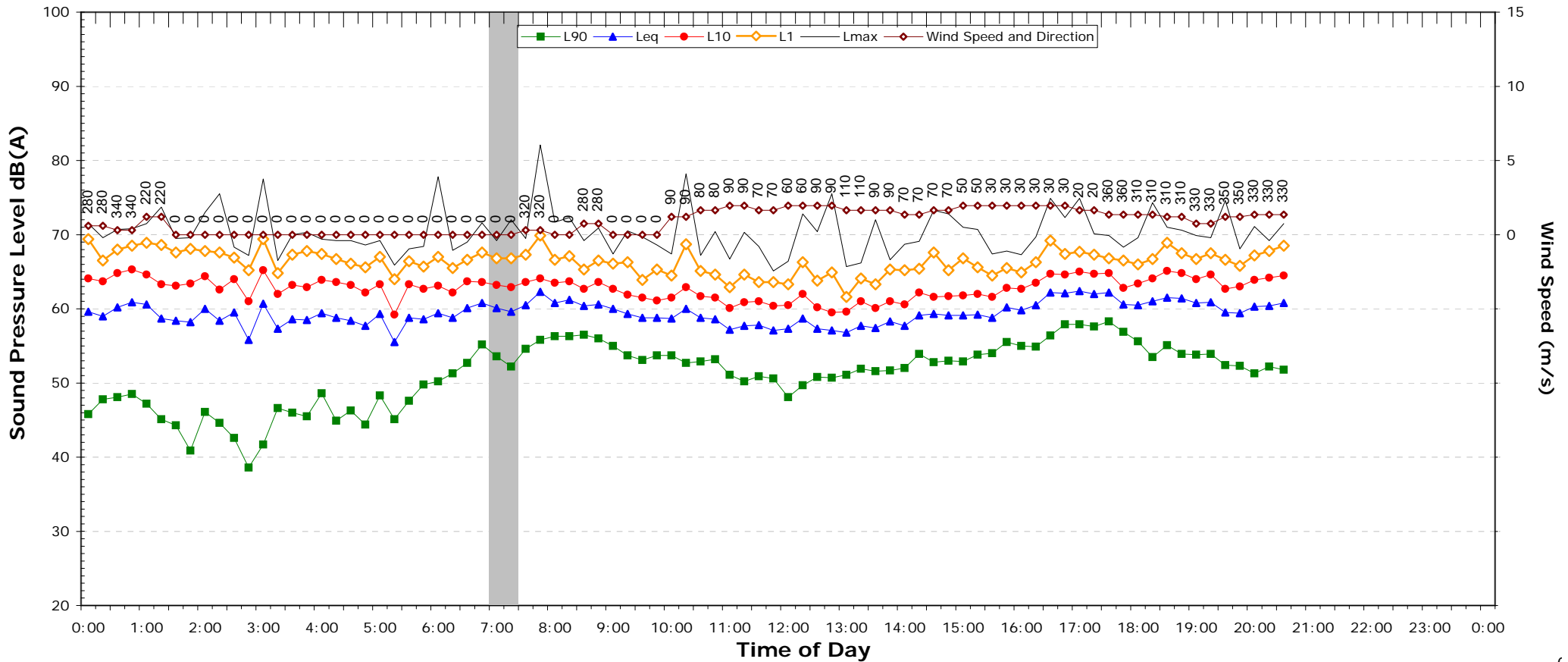
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.2	61.8
L _{eq} 1hr upper 10 percentile	63.9	62.7
L _{eq} 1hr lower 10 percentile	59.9	60.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	77.5	to	77.8
Lmax - Leq (Range)	18.6	to	19.5

EXISTING AMBIENT NOISE LEVELS

1641 - 21 Auld Cl, Valla

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.7	-	-
Leq (see note 3)	59.7	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

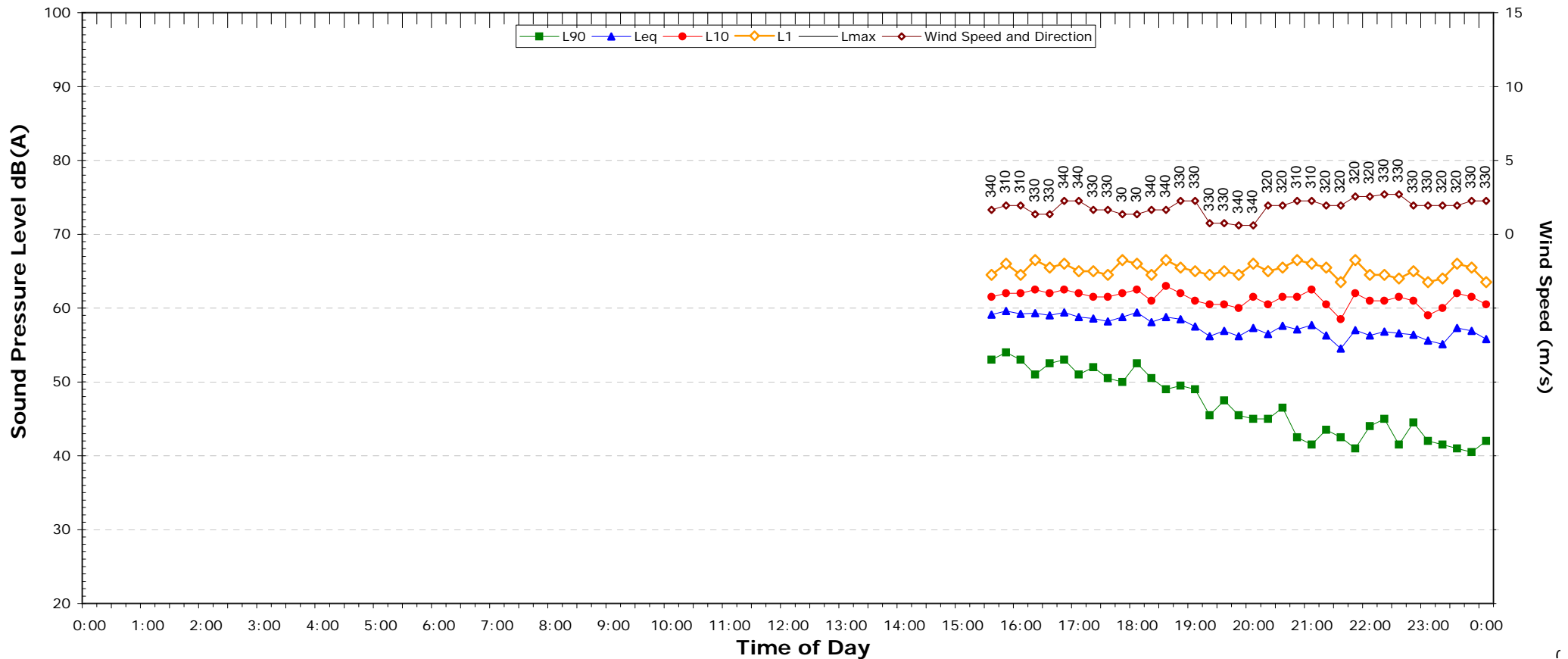
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.4	-
L _{eq} 1hr upper 10 percentile	64.2	-
L _{eq} 1hr lower 10 percentile	60.0	-

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Wednesday, 2 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	41.5	39.0
Leq (see note 3)	-	57.1	55.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

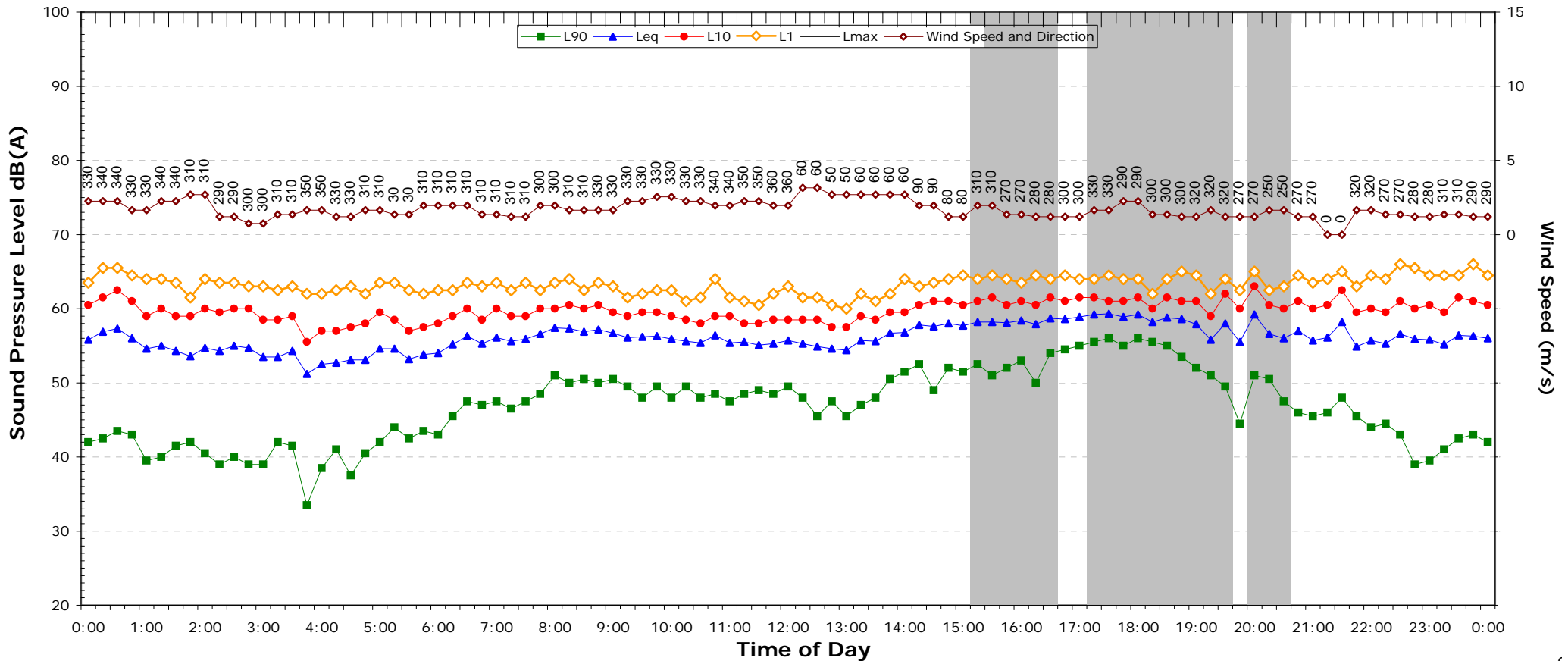
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.0	55.1
L _{eq} 1hr upper 10 percentile	59.3	56.4
L _{eq} 1hr lower 10 percentile	56.1	53.0

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	40.5
Leq (see note 3)	-	-	55.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

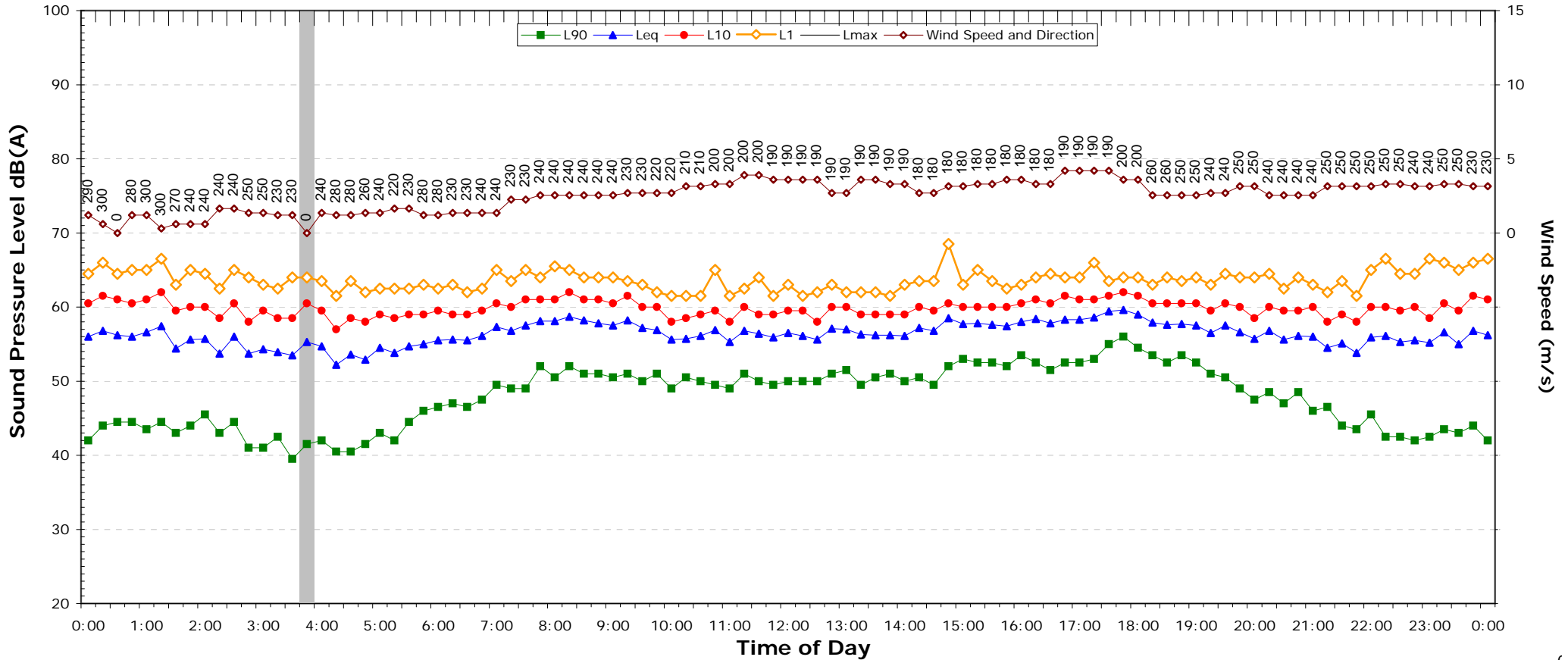
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.4	55.4
L _{eq} 1hr upper 10 percentile	58.6	56.4
L _{eq} 1hr lower 10 percentile	54.9	53.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.5	44.0	39.5
Leq (see note 3)	57.4	56.4	54.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

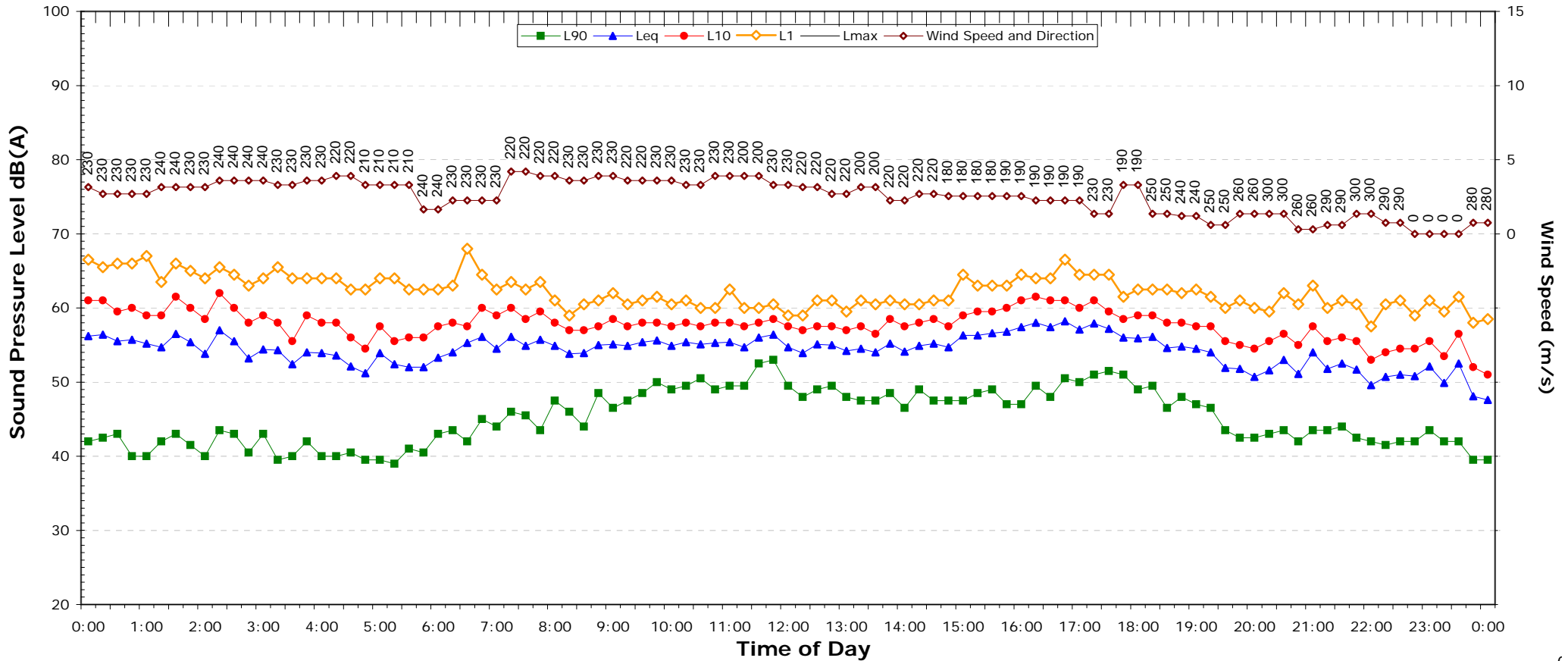
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.2	54.8
L _{eq} 1hr upper 10 percentile	58.7	56.2
L _{eq} 1hr lower 10 percentile	55.5	52.5

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.0	42.0	34.0
Leq (see note 3)	55.7	53.1	49.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

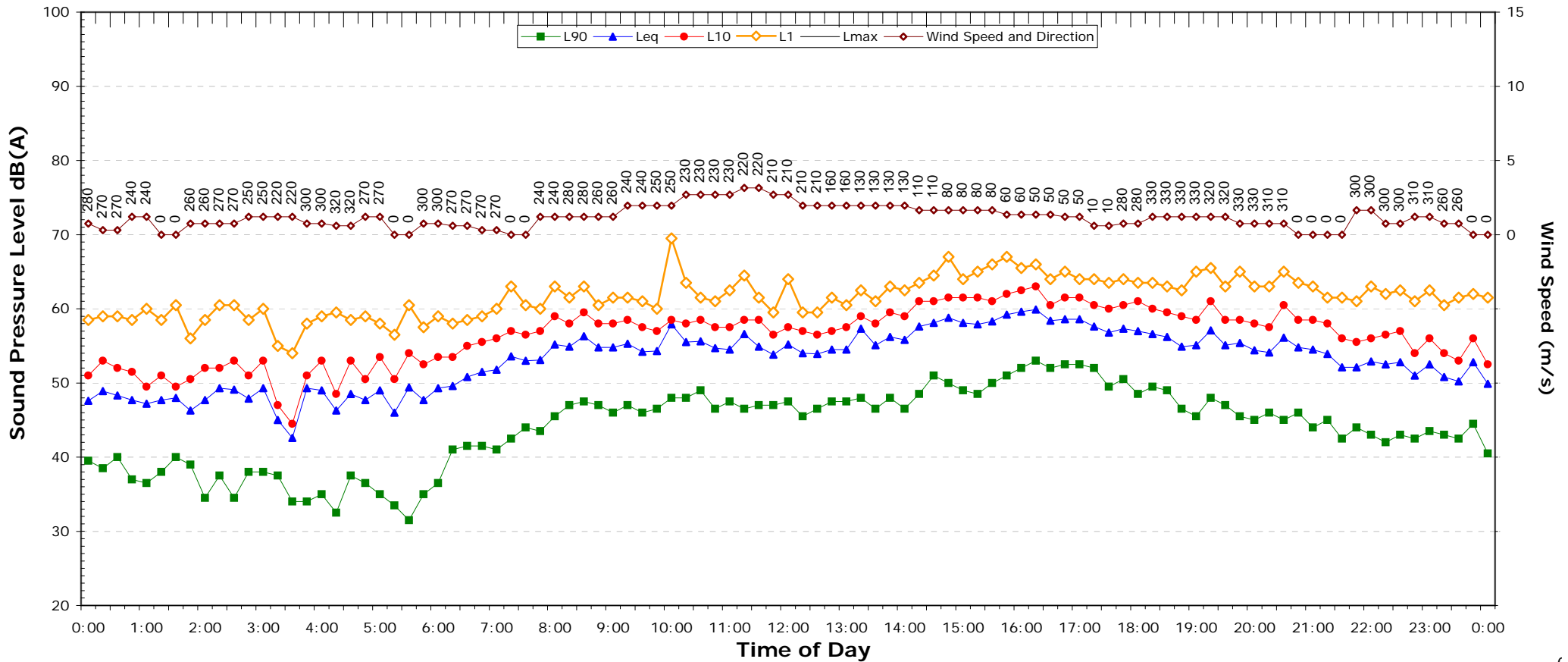
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	55.2	49.2
L _{eq} 1hr upper 10 percentile	57.3	51.2
L _{eq} 1hr lower 10 percentile	51.9	47.3

Night Time Maximum Noise Levels (see note 4)			
Descriptor	Day	Evening	Night
L _{max} (Range)	-	to	-
L _{max} - L _{eq} (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.5	43.0	36.0
Leq (see note 3)	56.6	54.9	51.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

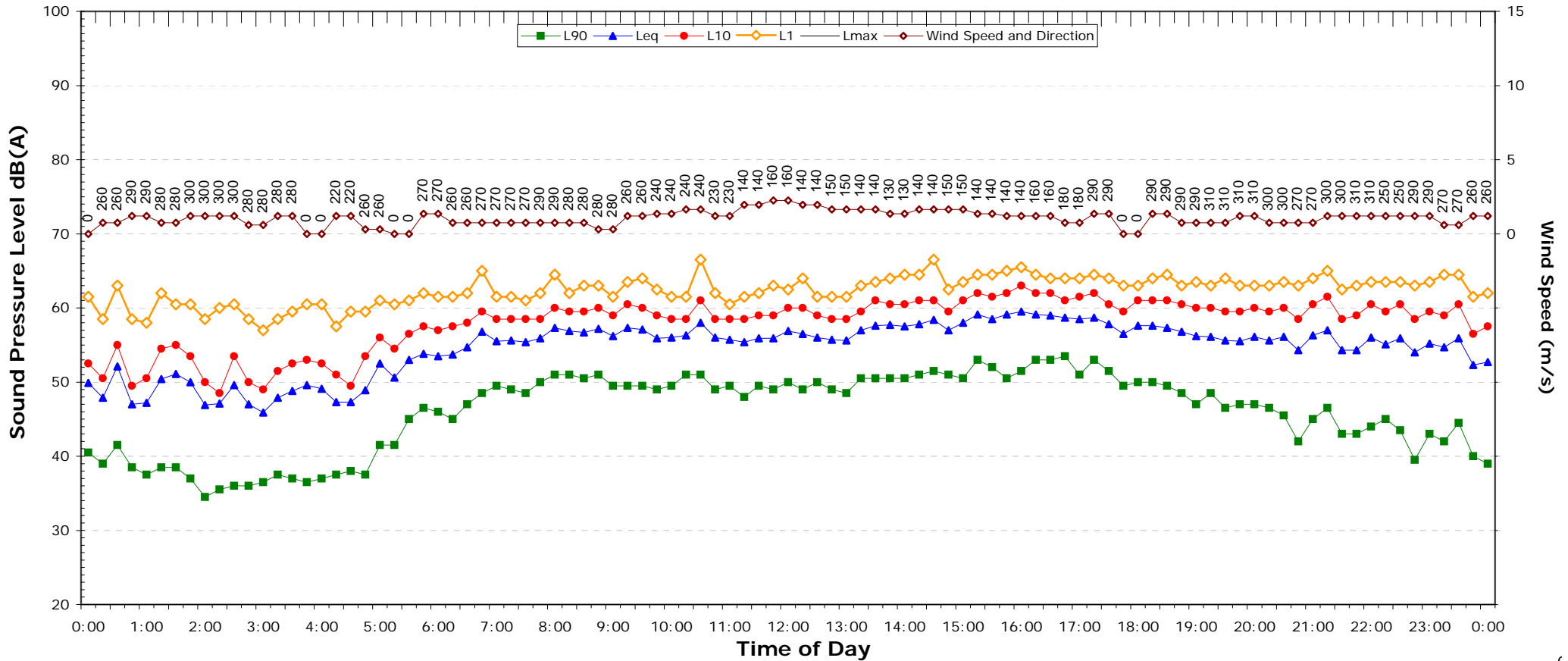
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.2	51.4
L _{eq} 1hr upper 10 percentile	58.9	55.3
L _{eq} 1hr lower 10 percentile	53.3	47.6

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.0	43.0	39.5
Leq (see note 3)	57.3	56.1	54.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

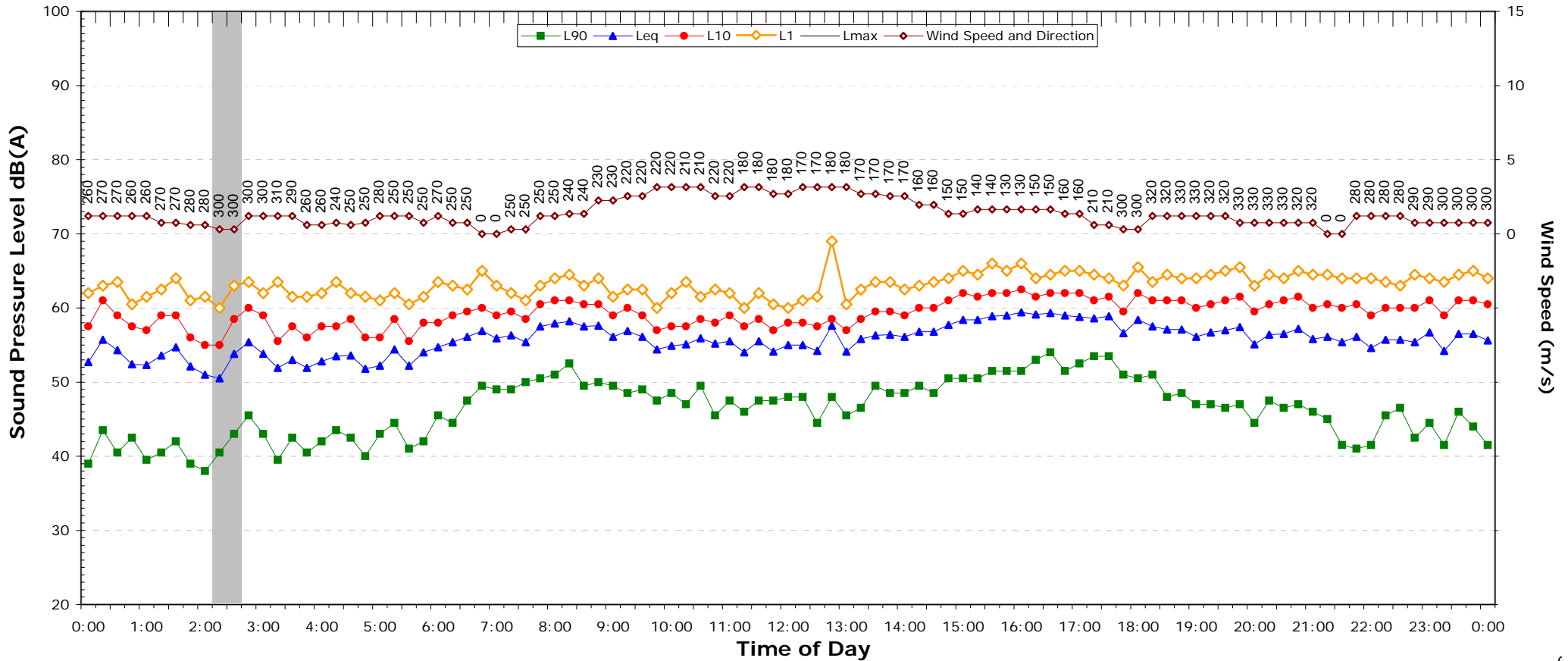
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.0	54.1
L _{eq} 1hr upper 10 percentile	58.9	56.1
L _{eq} 1hr lower 10 percentile	55.6	52.4

Night Time Maximum Noise Levels (see note 4)		
Descriptor	Day	Night
L _{max} (Range)	- to	-
L _{max} - Leq (Range)	- to	-

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.5	41.5	41.5
Leq (see note 3)	57.1	56.5	55.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

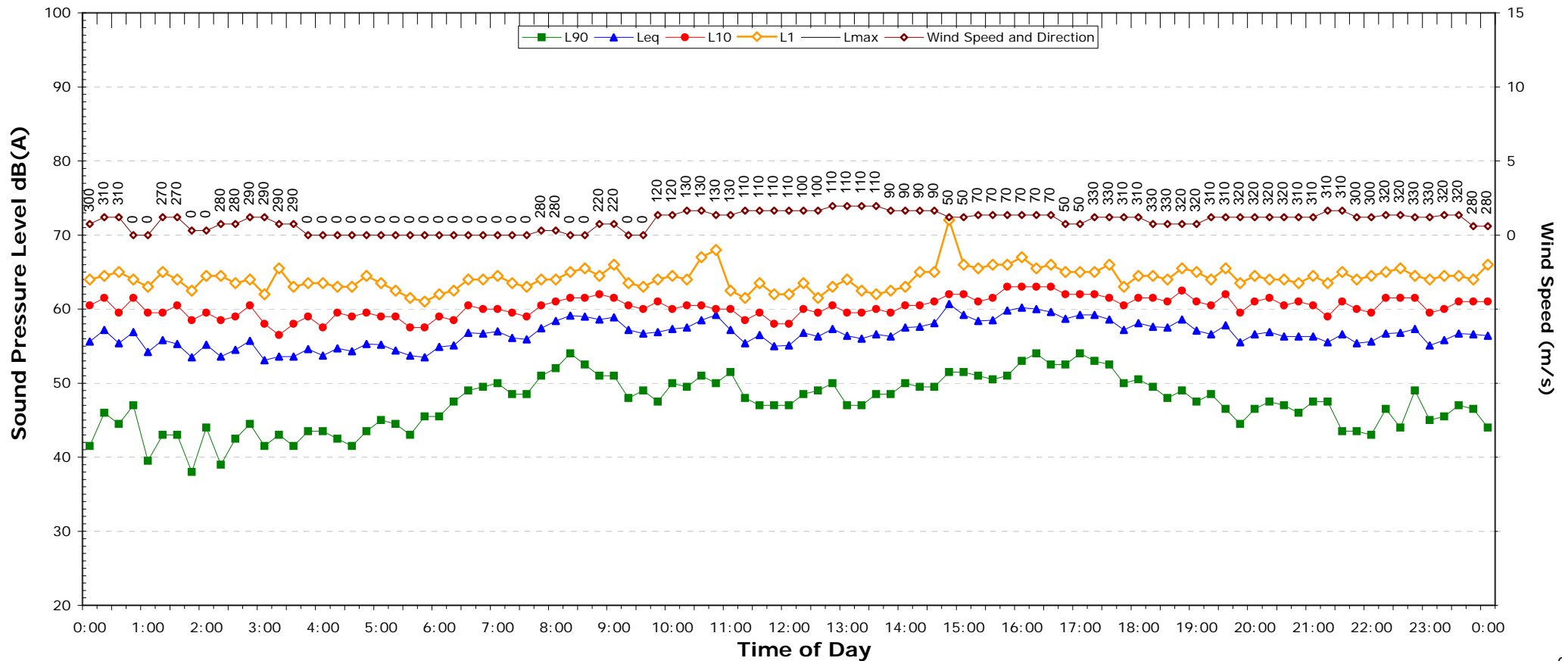
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.9	55.3
L _{eq} 1hr upper 10 percentile	59.0	56.5
L _{eq} 1hr lower 10 percentile	55.1	53.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.0	43.5	41.0
Leq (see note 3)	58.0	56.7	55.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

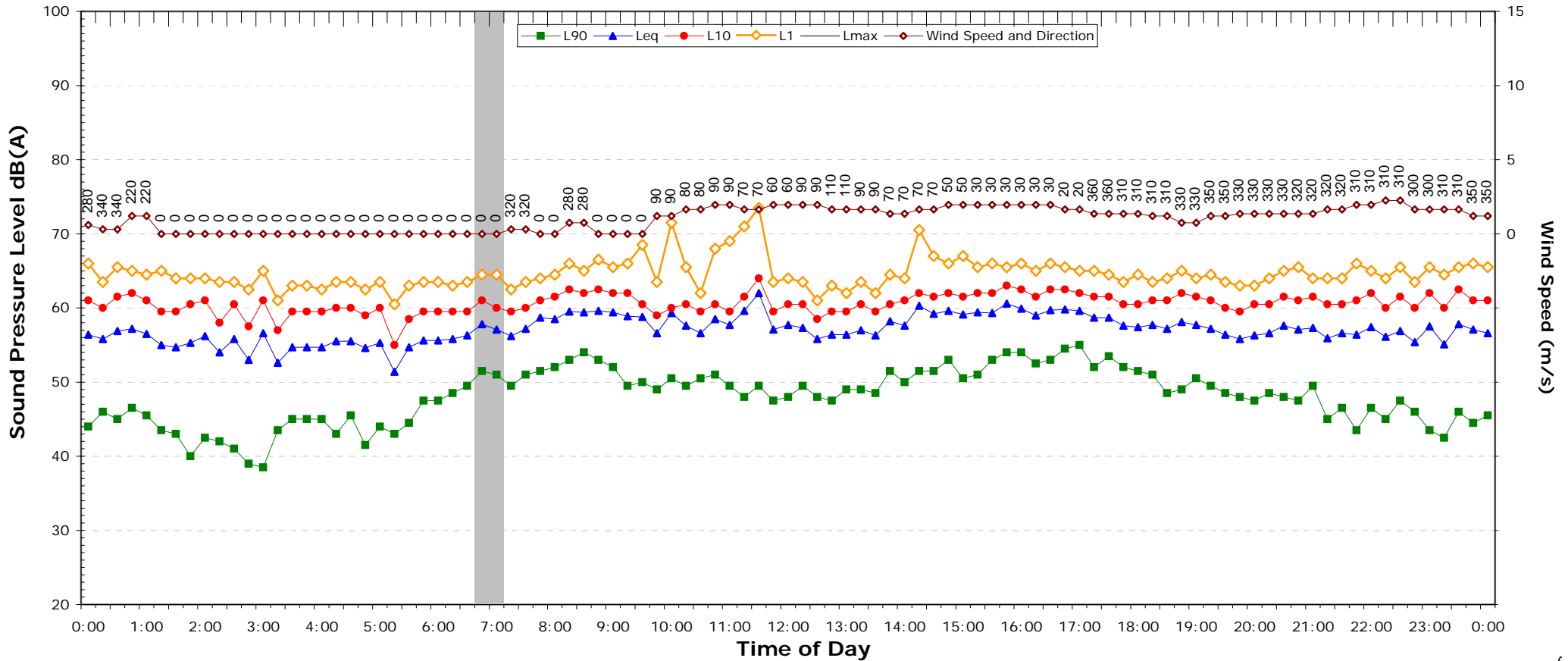
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.7	55.6
L _{eq} 1hr upper 10 percentile	59.3	56.6
L _{eq} 1hr lower 10 percentile	55.7	54.3

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	-	to	-
L _{max} - L _{eq} (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.0	45.0	38.5
Leq (see note 3)	58.7	57.0	55.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

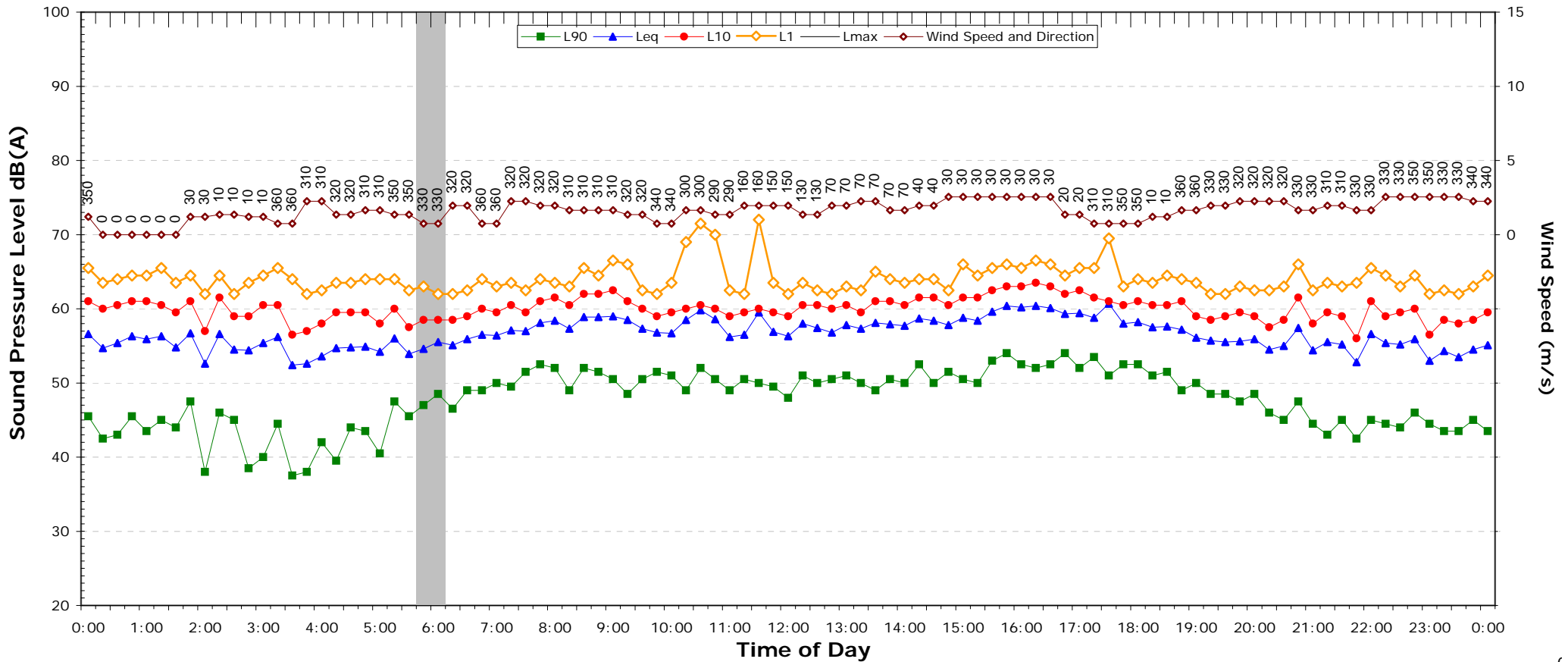
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.3	55.6
L _{eq} 1hr upper 10 percentile	59.7	56.8
L _{eq} 1hr lower 10 percentile	56.5	54.0

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.0	43.0	35.5
Leq (see note 3)	58.4	56.0	53.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - L_{eq} ≥ 15dB(A)

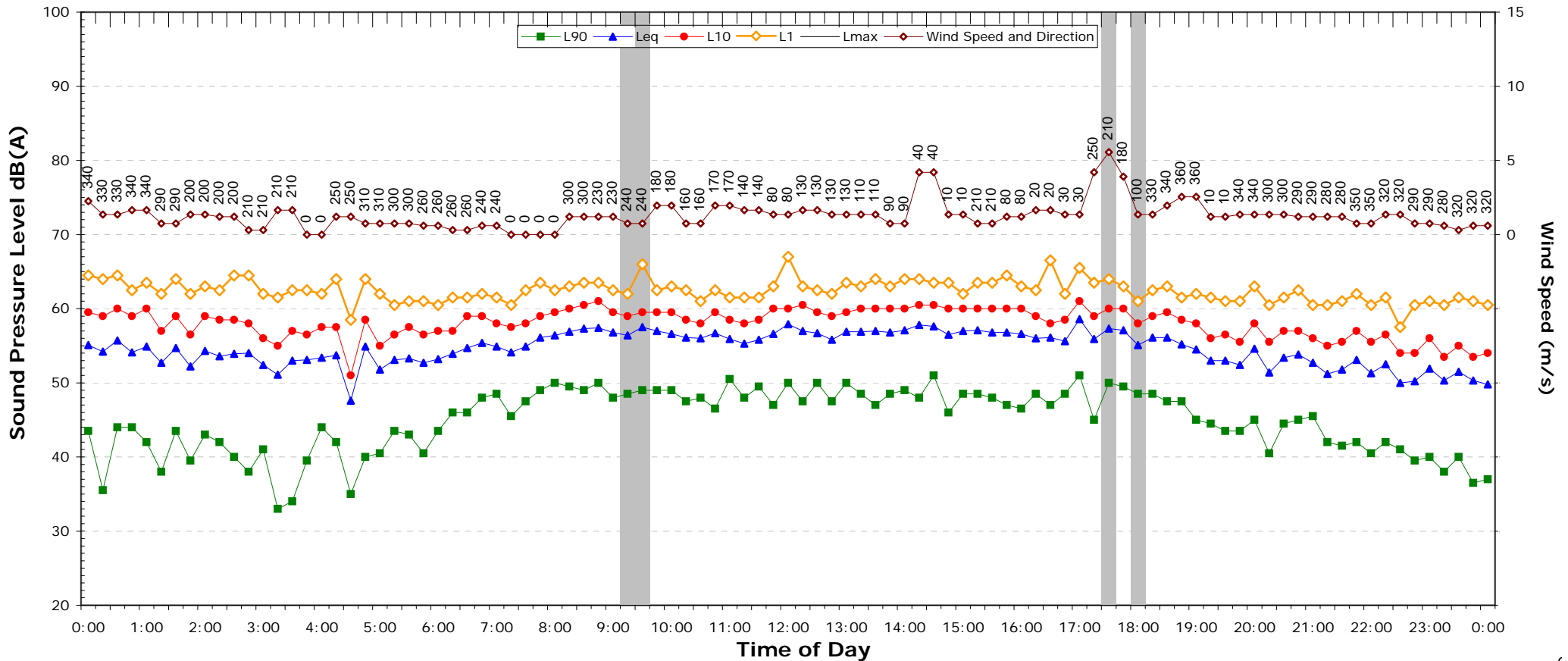
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.9	53.9
L _{eq} 1hr upper 10 percentile	59.8	55.0
L _{eq} 1hr lower 10 percentile	55.4	52.7

Night Time Maximum Noise Levels (see note 4)		
Descriptor	Day	Night
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.5	40.5	24.0
Leq (see note 3)	56.7	53.6	49.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - L_{eq} ≥ 15dB(A)

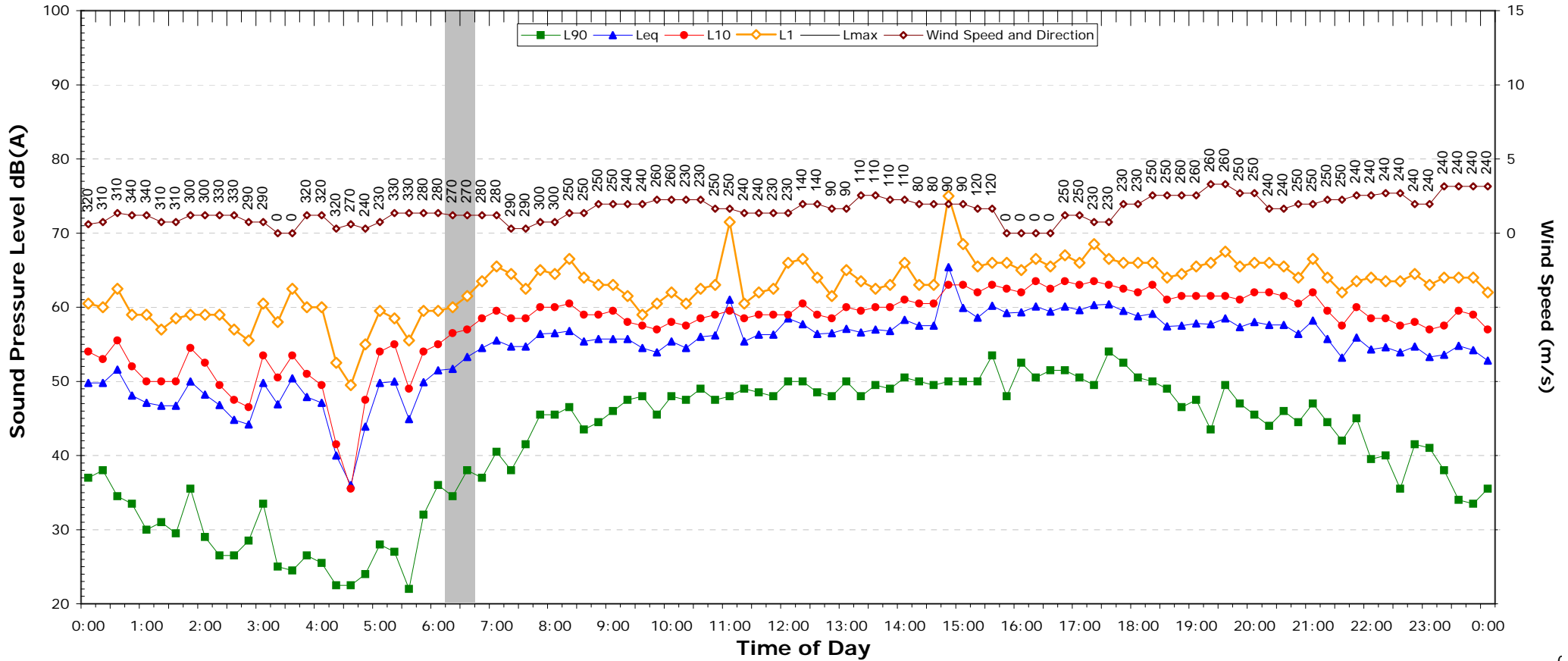
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.0	49.8
L _{eq} 1hr upper 10 percentile	57.2	55.0
L _{eq} 1hr lower 10 percentile	52.4	45.3

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Sunday, 13 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.5	42.0	26.0
Leq (see note 3)	58.2	57.0	53.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

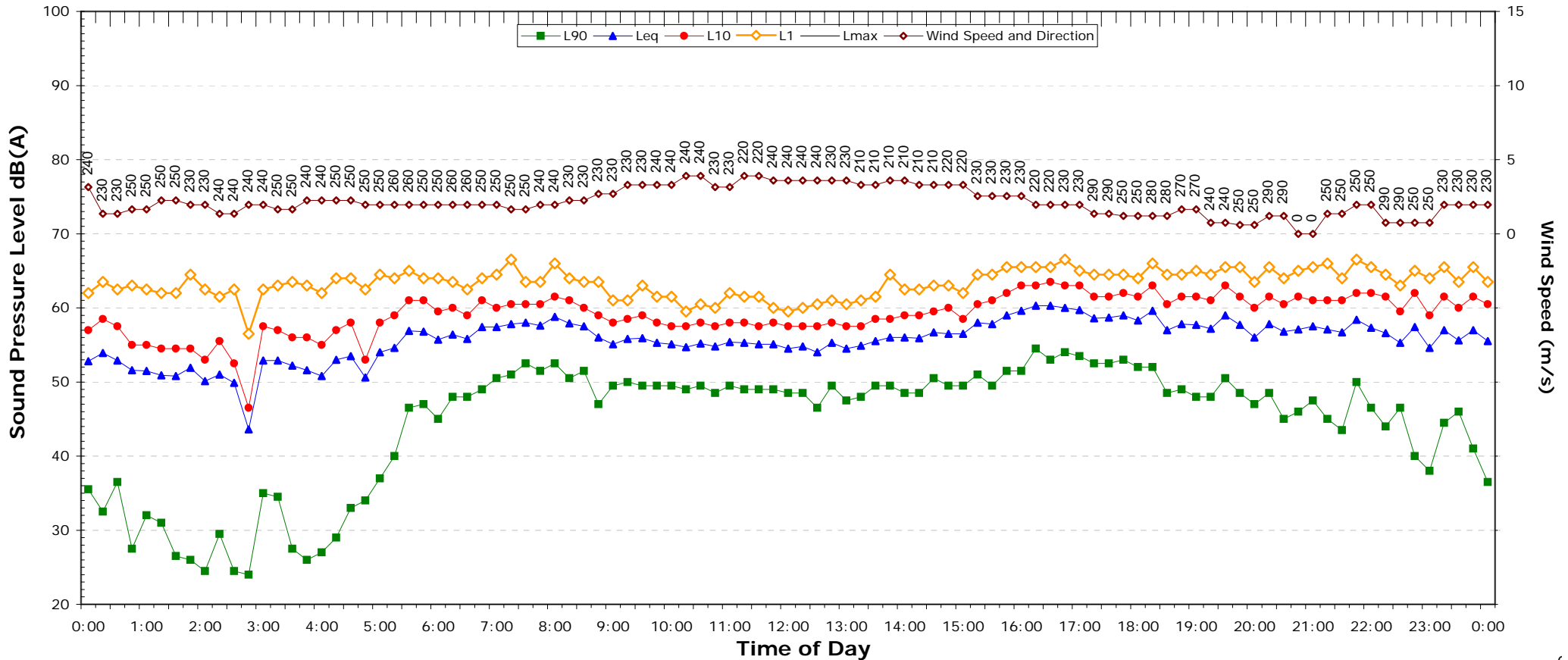
INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.0	53.8
L _{eq} 1hr upper 10 percentile	60.7	56.8
L _{eq} 1hr lower 10 percentile	54.9	50.4

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS
1645 - 19 Valla Rd, Valla
Monday, 14 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.5	45.0	38.5
Leq (see note 3)	57.1	57.6	55.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

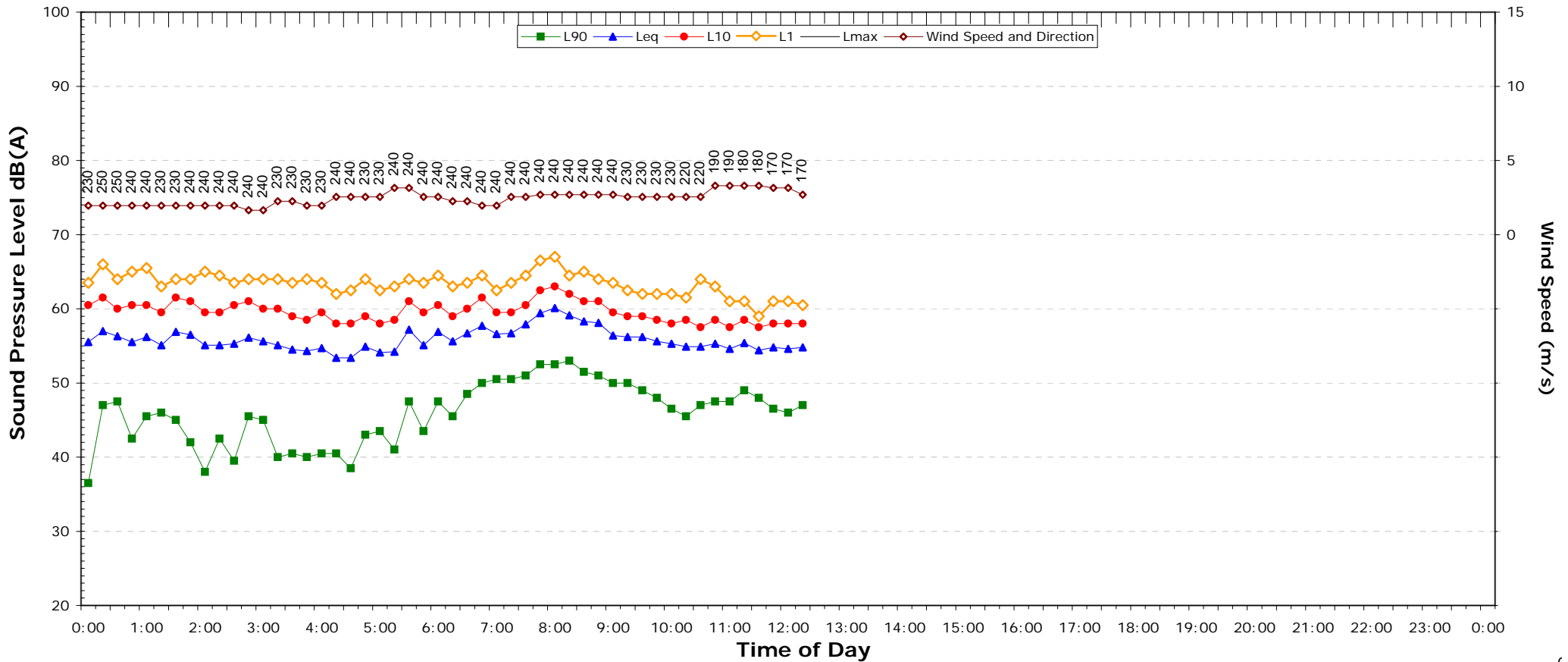
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.3	55.8
L _{eq} 1hr upper 10 percentile	59.4	56.7
L _{eq} 1hr lower 10 percentile	54.8	54.0

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1645 - 19 Valla Rd, Valla

Tuesday, 15 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq (see note 3)	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

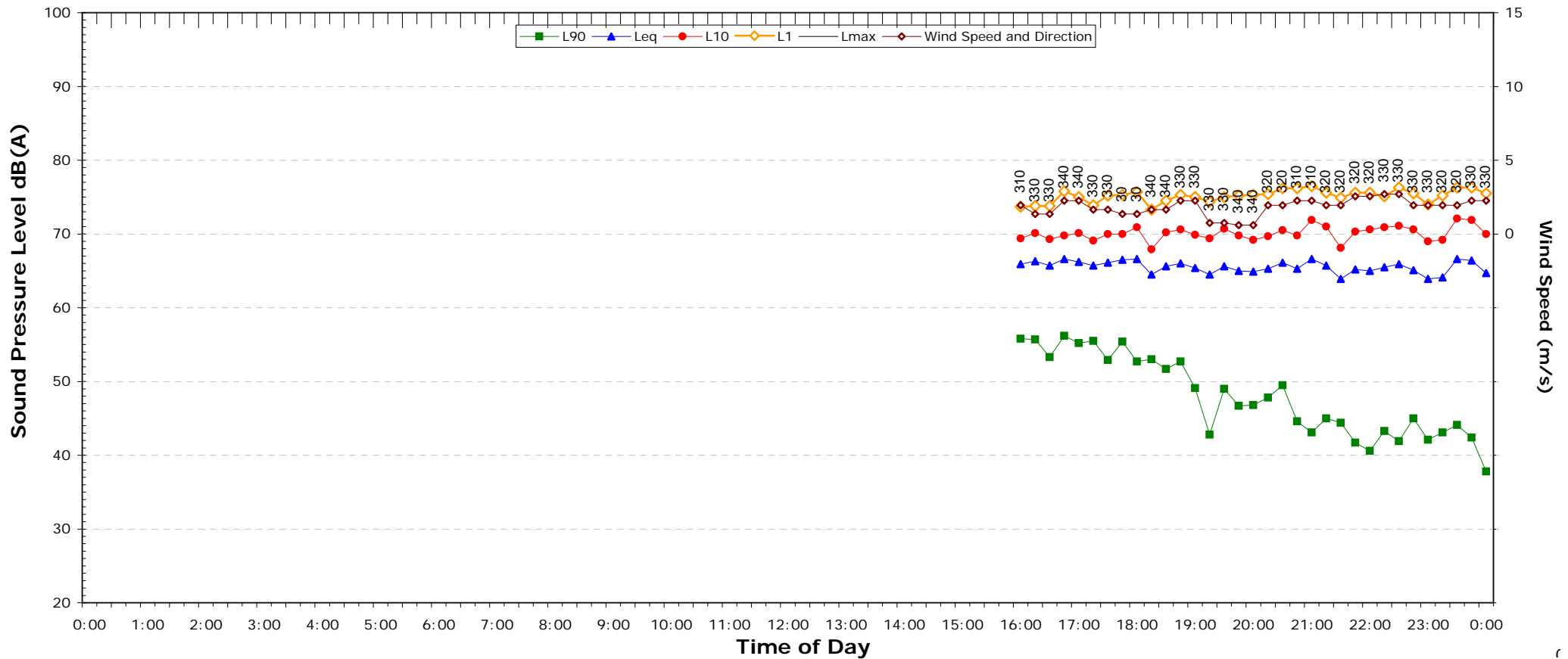
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.7	-
L _{eq} 1hr upper 10 percentile	58.7	-
L _{eq} 1hr lower 10 percentile	54.8	-

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Wednesday, 2 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	41.7	35.9
Leq (see note 3)	-	65.3	64.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

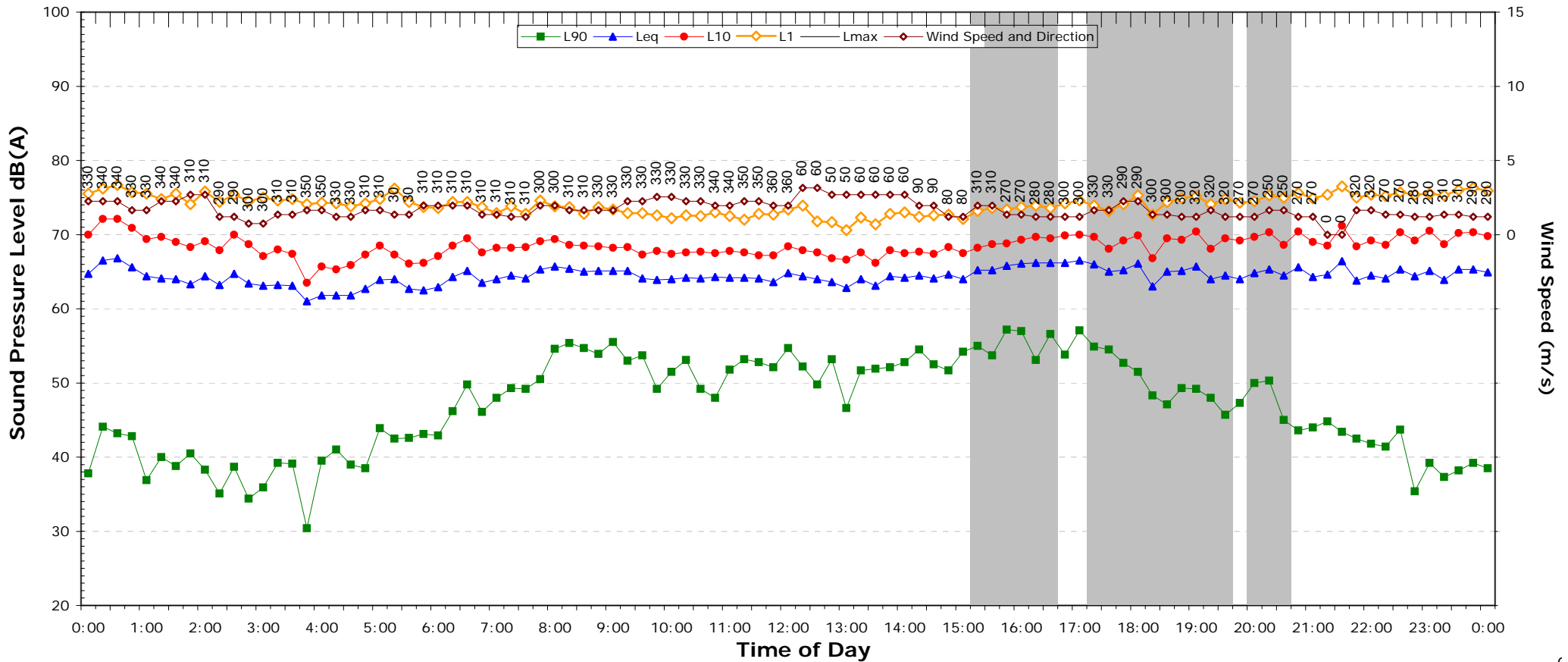
NSW ECRTN Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	68.2	66.7
L _{eq} 1hr upper 10 percentile	68.7	68.4
L _{eq} 1hr lower 10 percentile	67.5	64.9

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	33.6
Leq (see note 3)	-	-	64.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

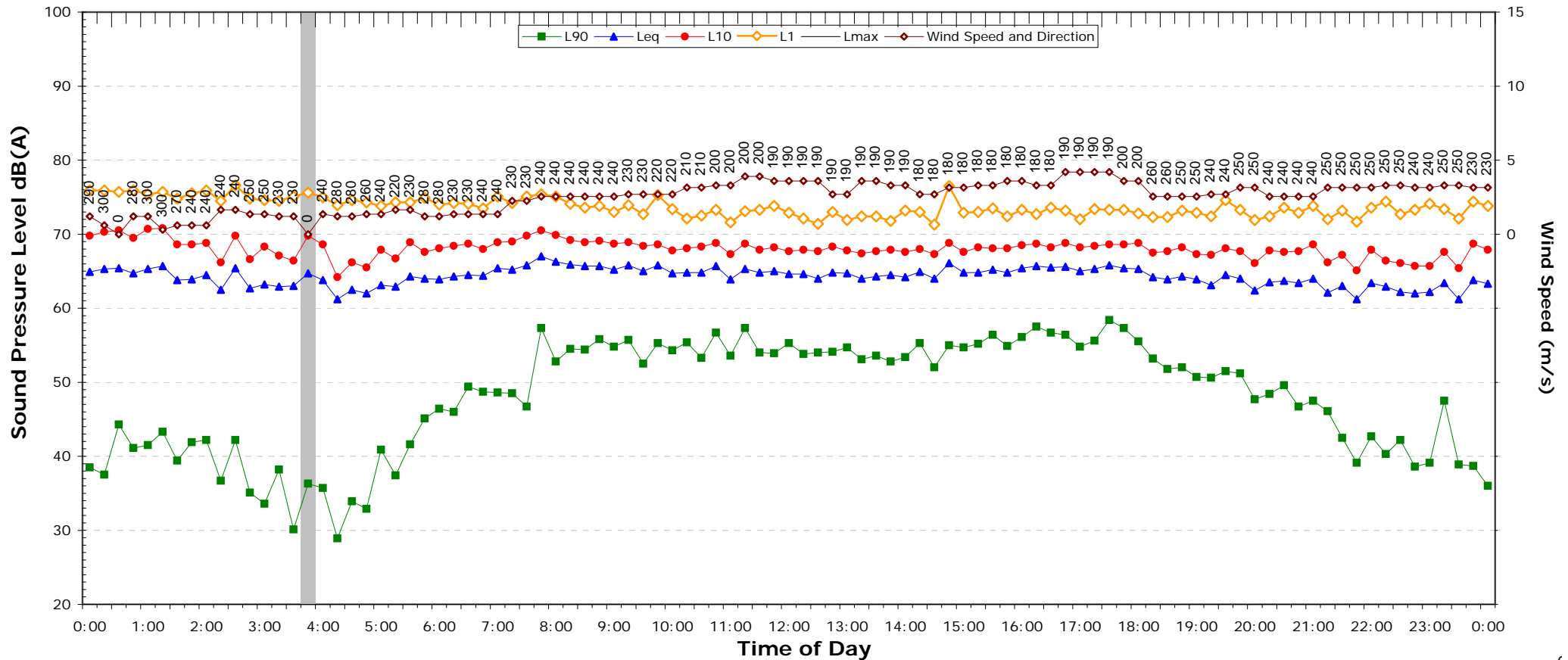
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.1	66.7
L _{eq} 1hr upper 10 percentile	68.6	67.7
L _{eq} 1hr lower 10 percentile	66.3	64.8

Night Time Maximum Noise Levels (see note 4)			
Descriptor	Day	Evening	Night
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	52.8	42.5	32.0
Leq (see note 3)	65.2	63.5	62.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

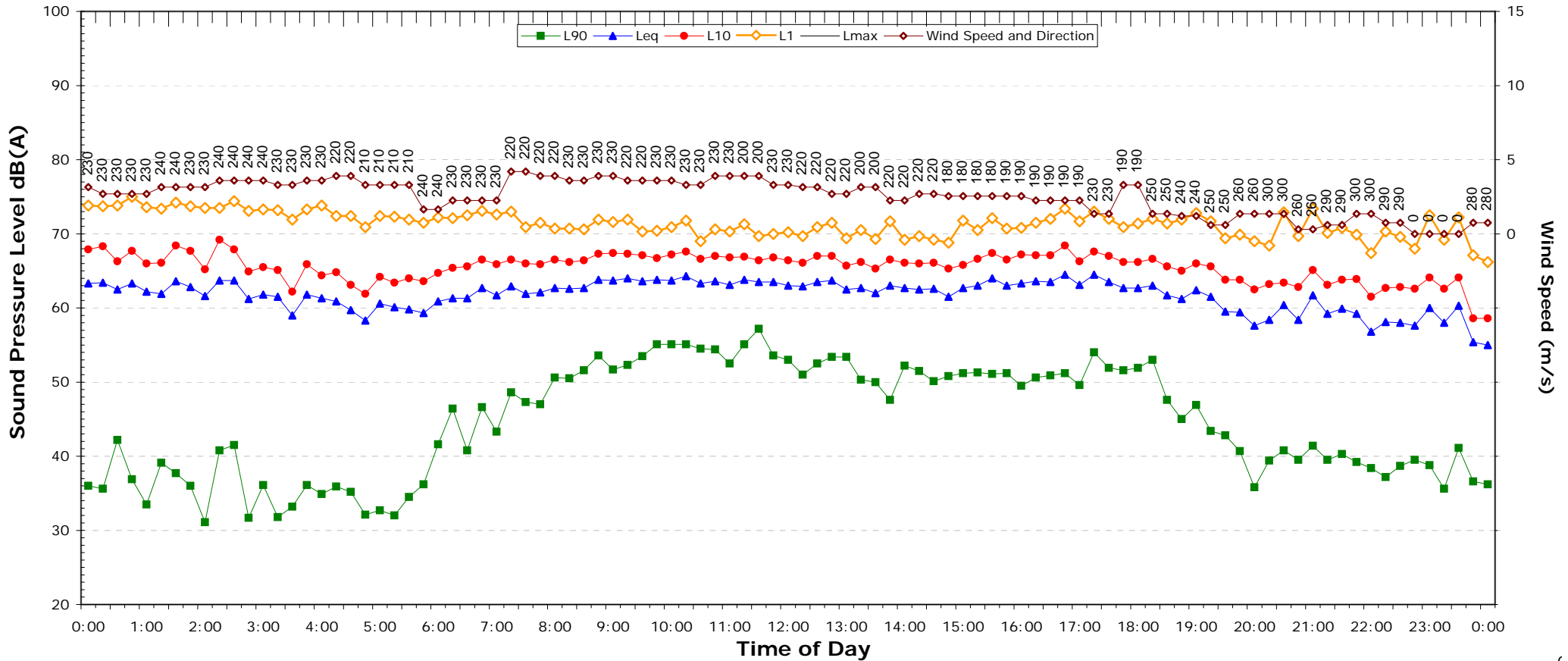
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.3	64.5
L _{eq} 1hr upper 10 percentile	68.4	65.5
L _{eq} 1hr lower 10 percentile	65.6	62.5

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.5	38.4	31.0
Leq (see note 3)	63.2	60.4	56.5

NOTES:

- Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
- "Night" relates to period from 10pm on this graph to 7am on the following graph.
- Graphed data measured in free-field; tabulated results facade corrected
- Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

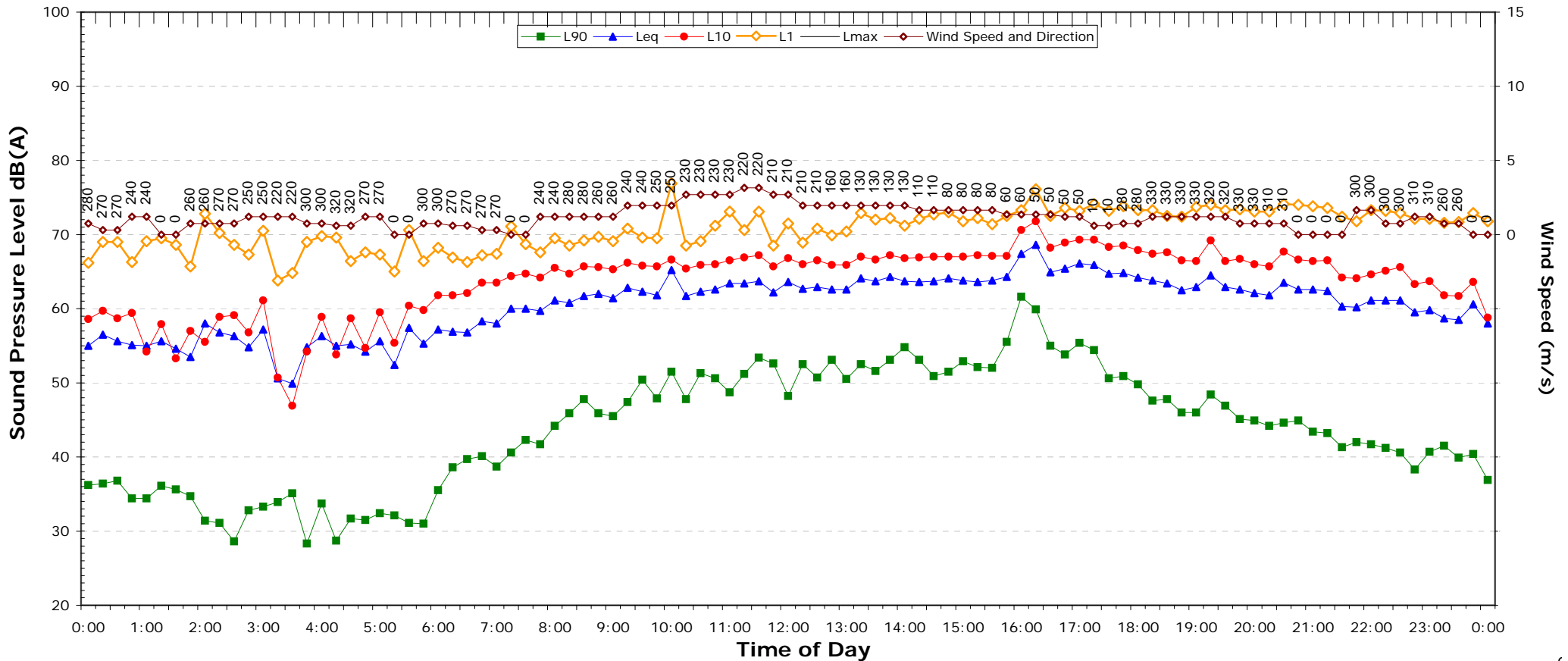
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.1	59.0
L _{eq} 1hr upper 10 percentile	66.2	61.0
L _{eq} 1hr lower 10 percentile	61.8	56.2

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.5	41.7	32.7
Leq (see note 3)	63.7	62.6	59.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

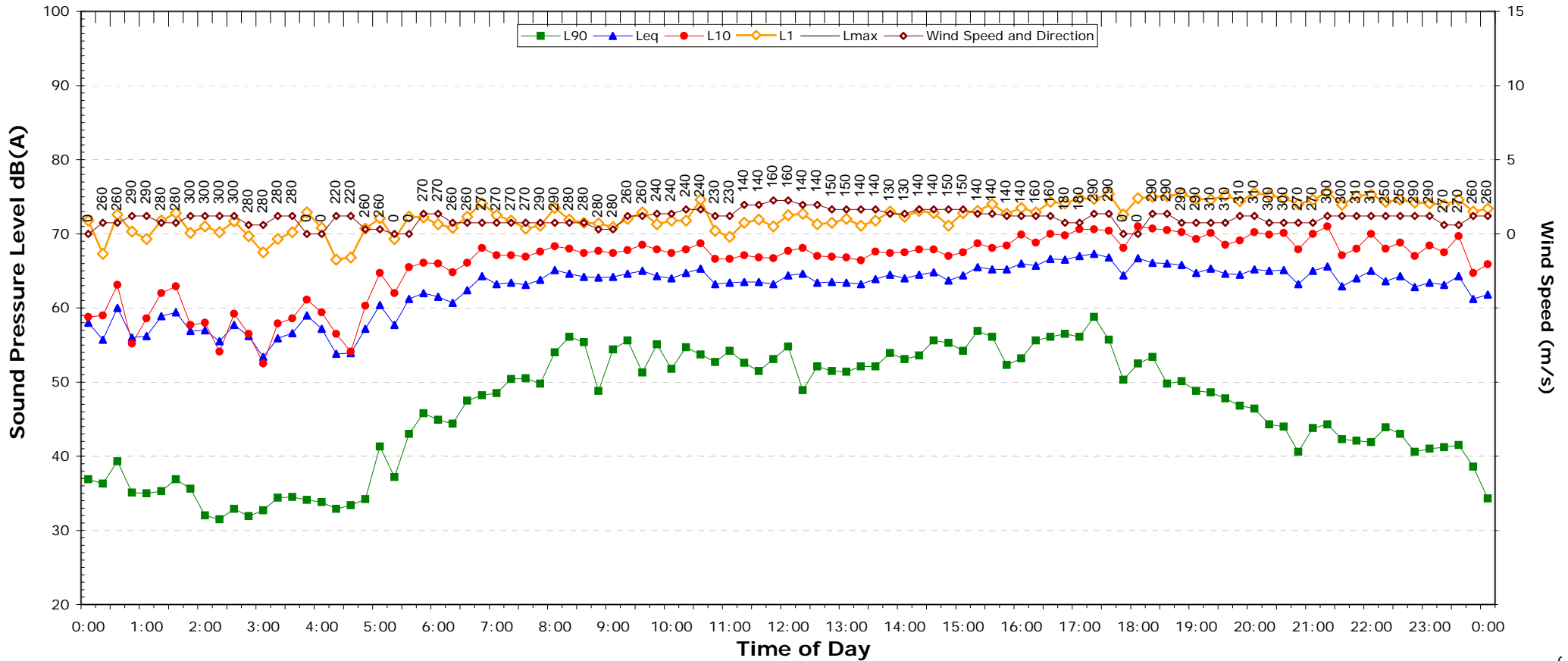
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	66.0	61.8
L _{eq} 1hr upper 10 percentile	68.3	65.3
L _{eq} 1hr lower 10 percentile	63.2	58.5

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.4	41.9	34.3
Leq (see note 3)	64.8	65.0	62.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

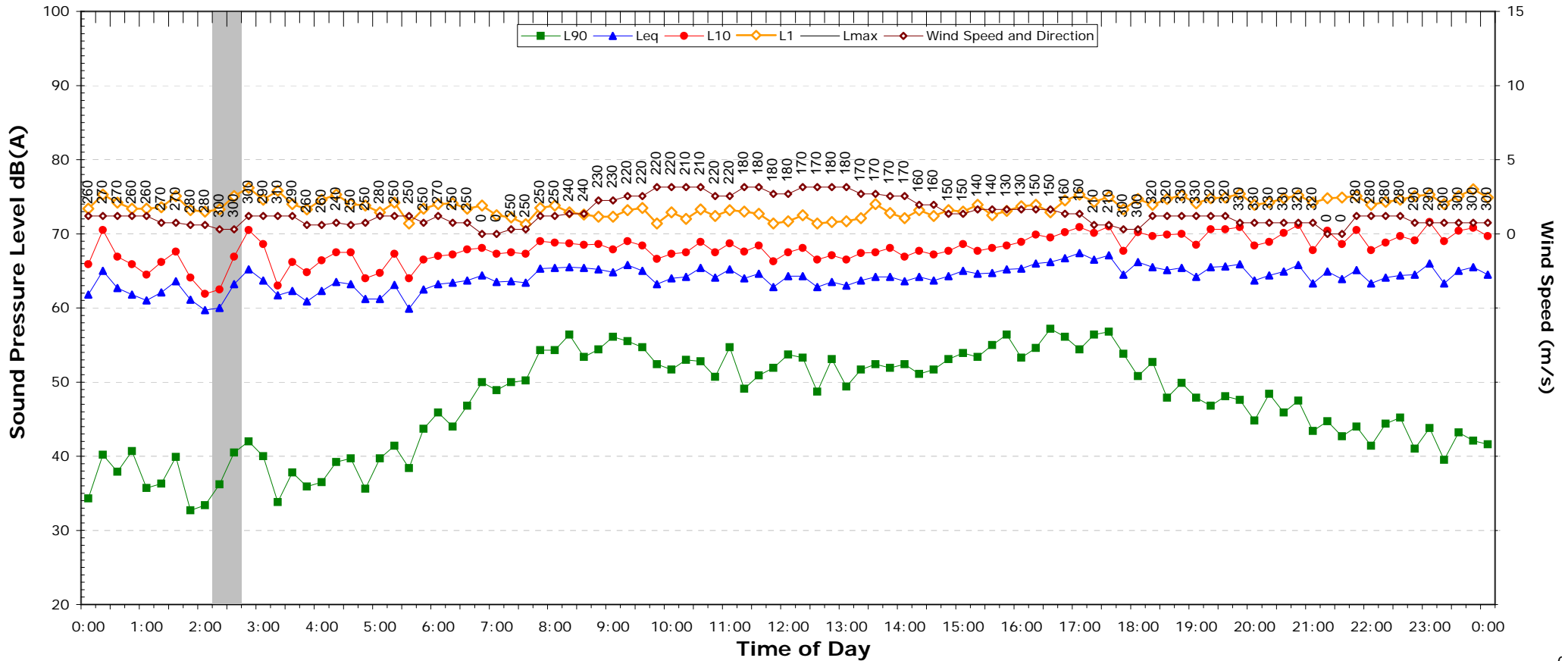
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.3	65.4
L _{eq} 1hr upper 10 percentile	69.0	67.0
L _{eq} 1hr lower 10 percentile	66.2	64.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.2	42.7	39.5
Leq (see note 3)	64.9	64.9	64.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

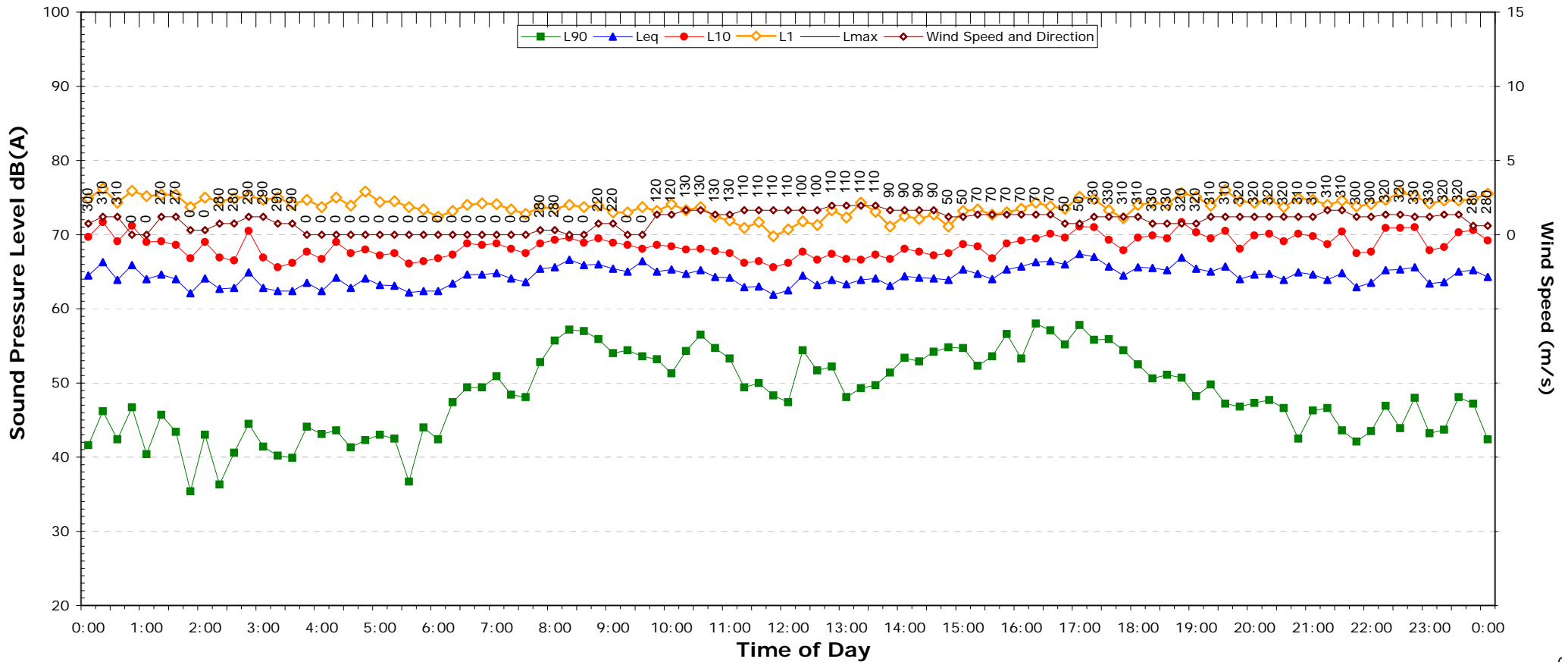
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.4	66.5
L _{eq} 1hr upper 10 percentile	68.9	67.7
L _{eq} 1hr lower 10 percentile	66.2	65.0

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.4	42.5	39.0
Leq (see note 3)	64.9	64.8	64.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

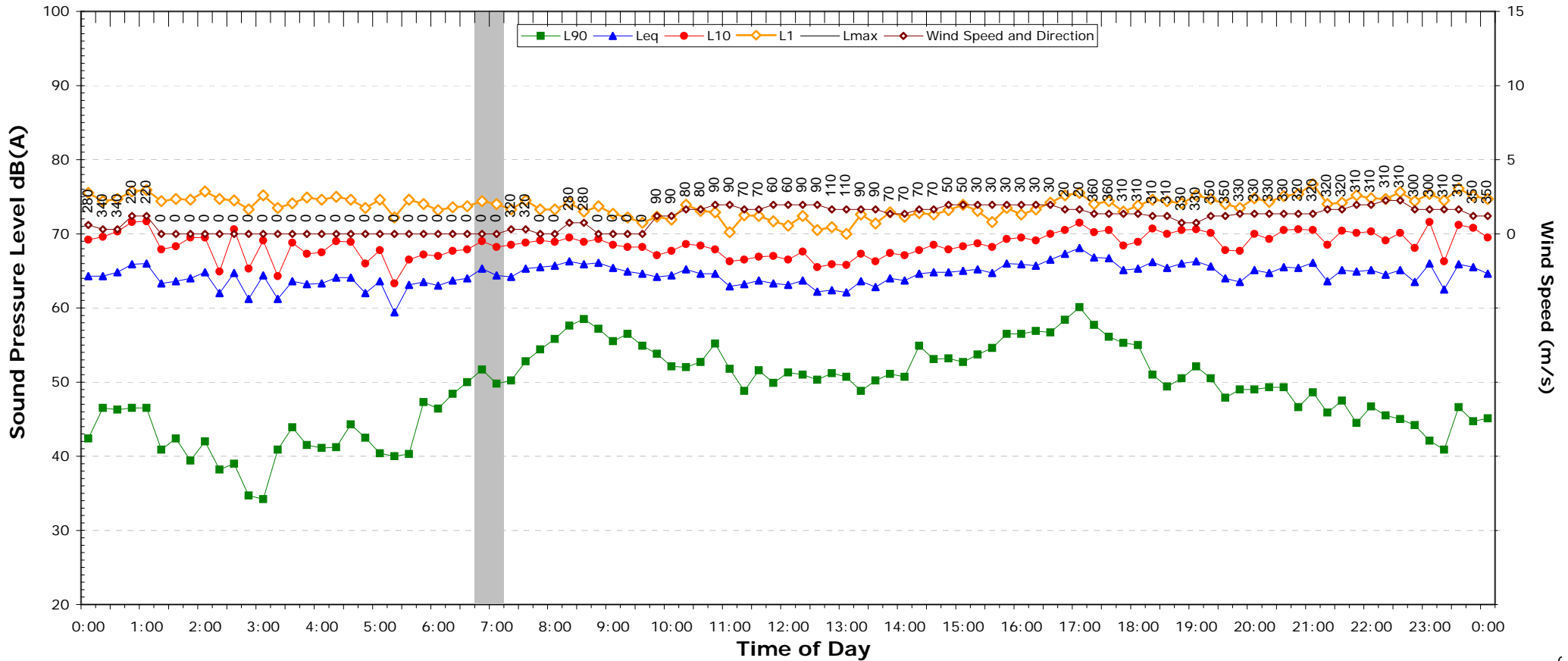
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.4	66.5
L _{eq} 1hr upper 10 percentile	68.8	67.8
L _{eq} 1hr lower 10 percentile	65.7	65.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.2	45.9	38.4
Leq (see note 3)	65.0	65.2	63.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

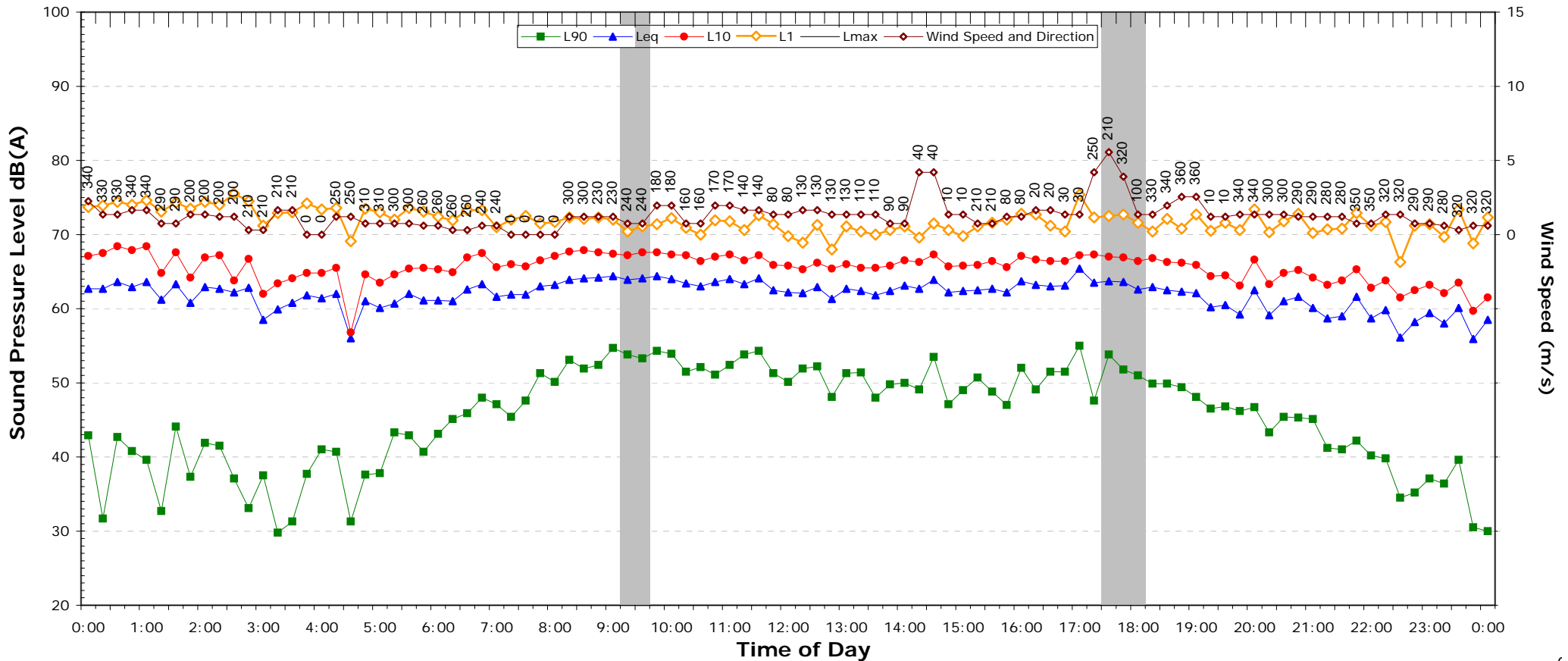
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.6	66.4
L _{eq} 1hr upper 10 percentile	69.0	67.4
L _{eq} 1hr lower 10 percentile	65.5	64.7

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.6	41.0	23.9
Leq (see note 3)	63.2	61.0	56.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

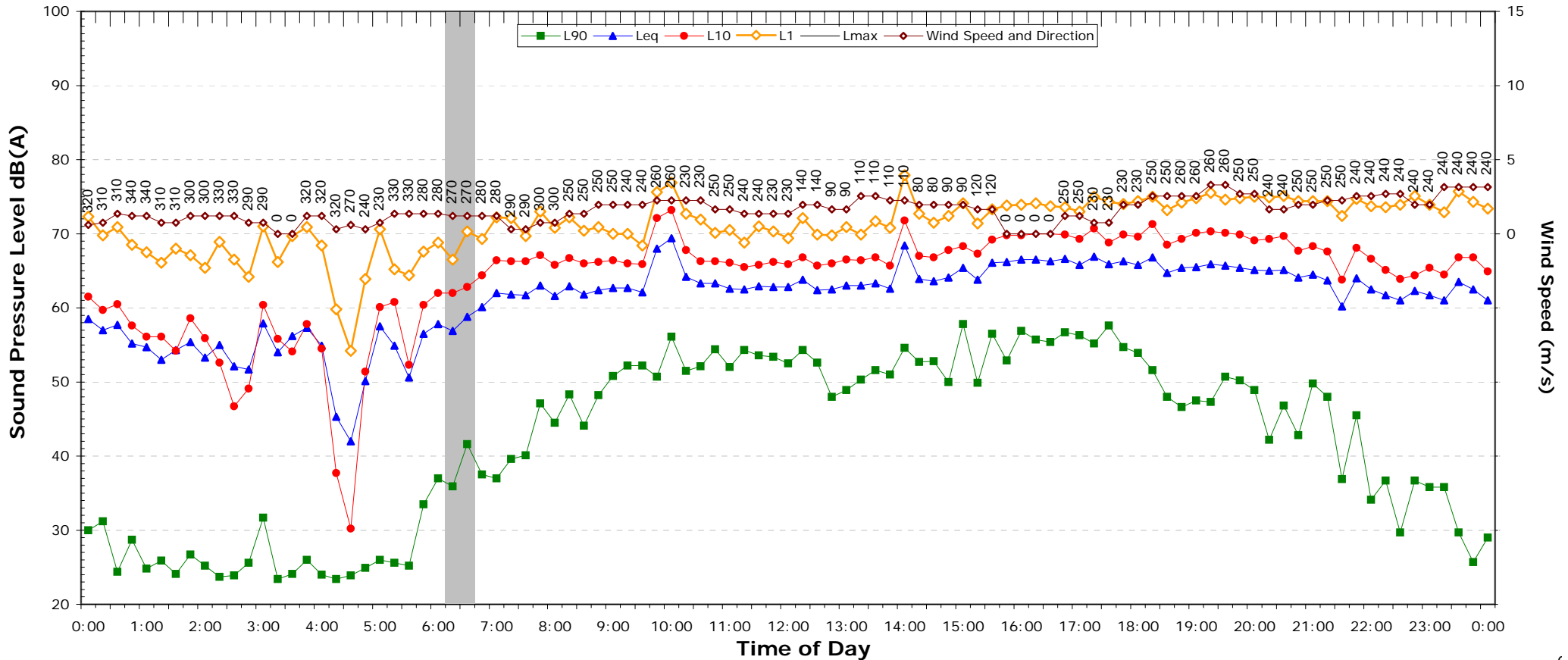
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.1	59.2
L _{eq} 1hr upper 10 percentile	66.7	63.7
L _{eq} 1hr lower 10 percentile	62.6	55.0

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Sunday, 13 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.1	36.9	24.9
Leq (see note 3)	64.8	64.5	61.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

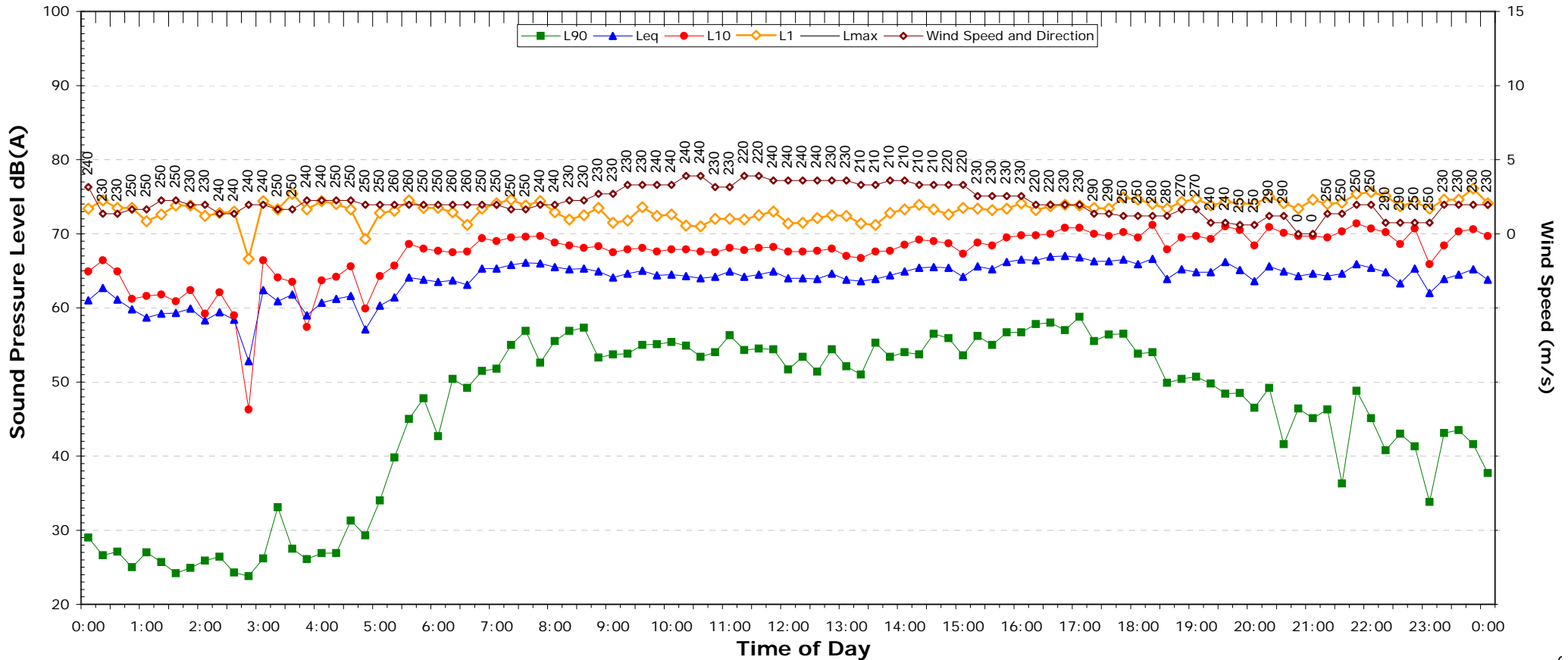
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.2	64.2
L _{eq} 1hr upper 10 percentile	69.0	67.0
L _{eq} 1hr lower 10 percentile	64.8	61.7

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Monday, 14 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	52.6	41.6	31.9
Leq (see note 3)	65.2	65.1	63.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

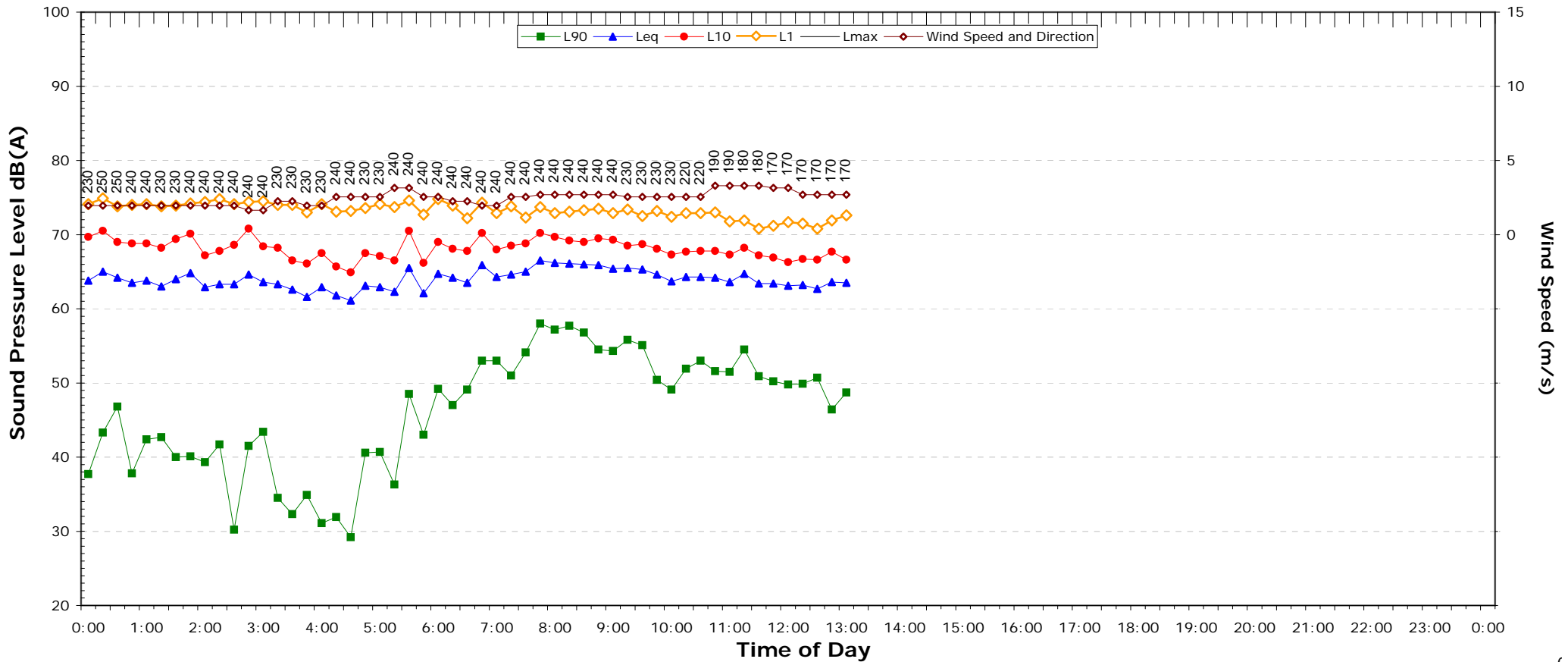
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.7	66.3
L _{eq} 1hr upper 10 percentile	69.0	67.1
L _{eq} 1hr lower 10 percentile	66.7	64.8

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1654 - 7000 Pacific HWY, Valla

Tuesday, 15 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq (see note 3)	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

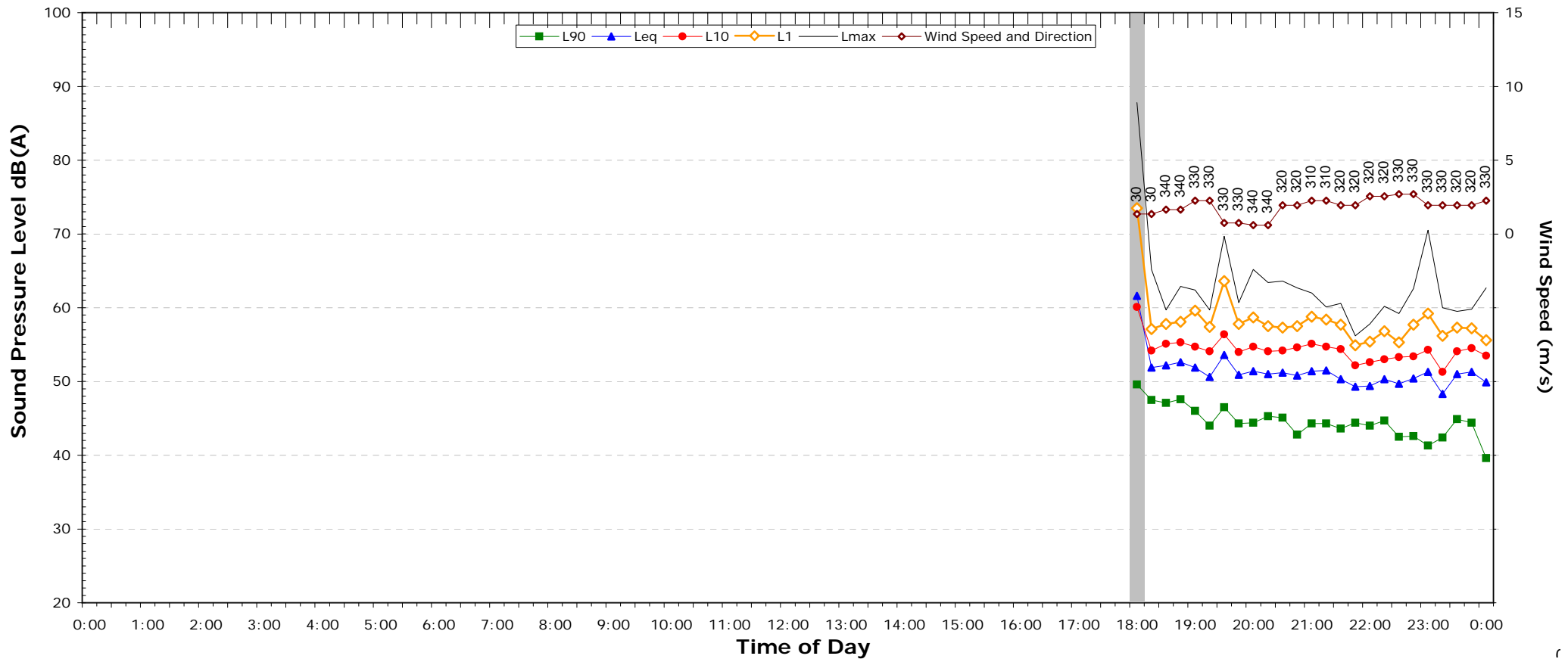
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.2	-
L _{eq} 1hr upper 10 percentile	68.4	-
L _{eq} 1hr lower 10 percentile	65.8	-

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1669 - 7119 Pacific HWY, Valla

Wednesday, 2 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	43.6	38.1
Leq (see note 3)	-	51.4	50.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

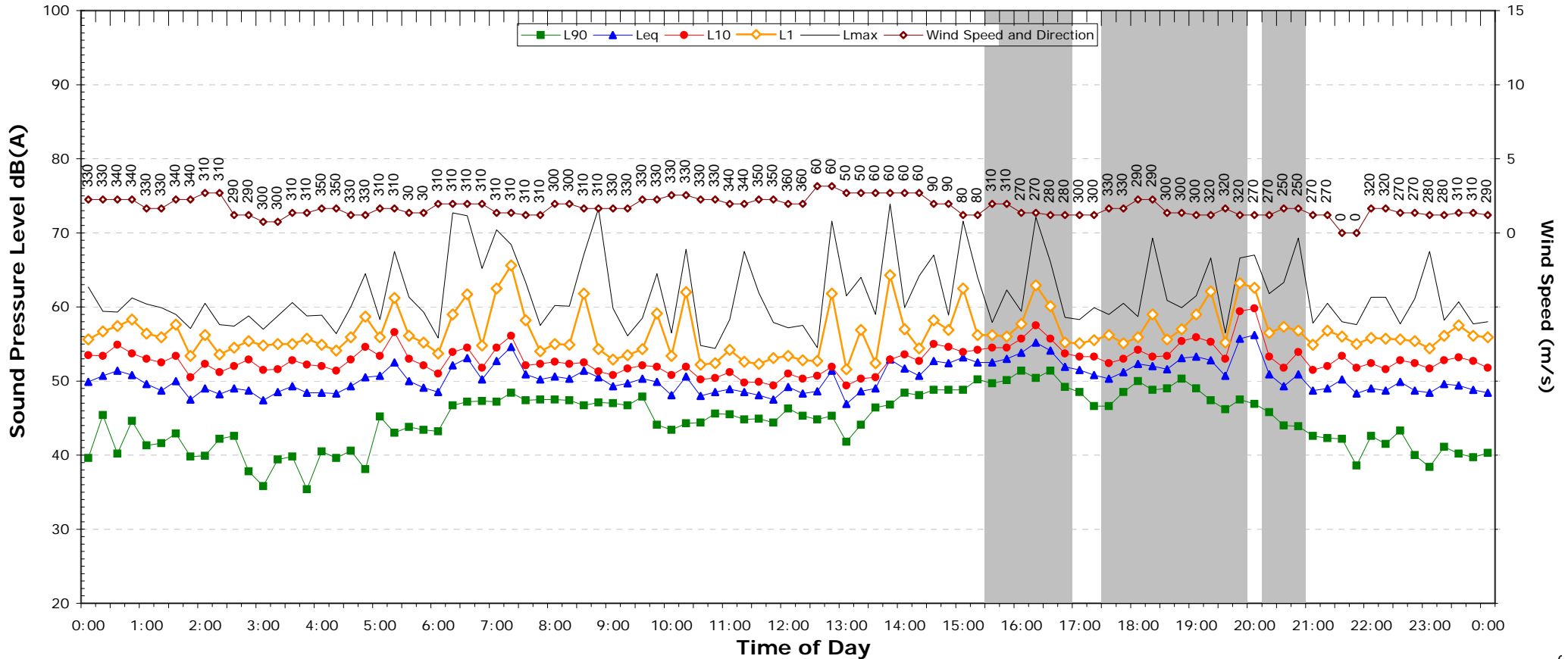
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	51.4	50.1
L _{eq} 1hr upper 10 percentile	52.2	52.2
L _{eq} 1hr lower 10 percentile	50.2	48.4

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	67.5	to 72.7
L _{max} - L _{eq} (Range)	17.2	to 20.5

EXISTING AMBIENT NOISE LEVELS

1669 - 7119 Pacific HWY, Valla

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	37.6
Leq (see note 3)	-	-	50.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

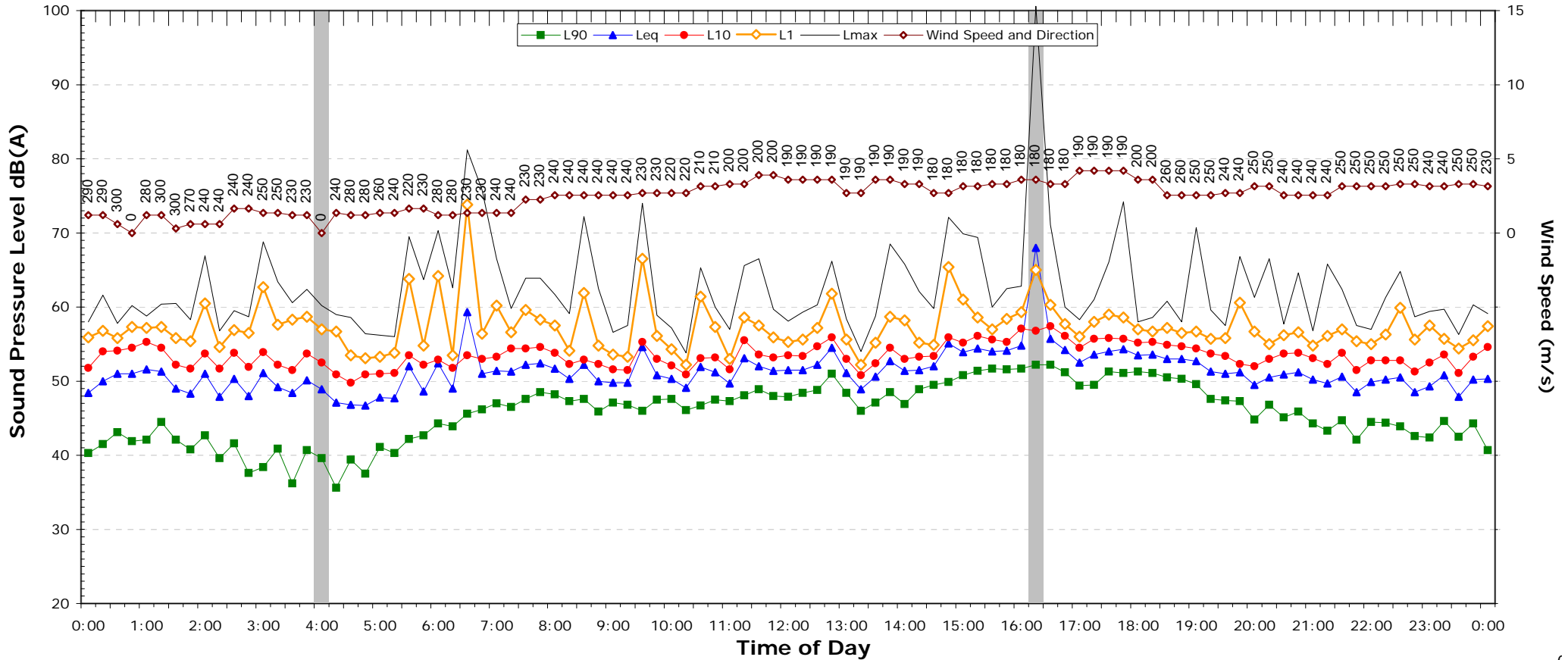
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	50.7	50.6
L _{eq} 1hr upper 10 percentile	55.1	54.8
L _{eq} 1hr lower 10 percentile	48.5	47.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	66.9	to	81.2
Lmax - Leq (Range)	16.8	to	26.4

EXISTING AMBIENT NOISE LEVELS

1669 - 7119 Pacific HWY, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.5	43.3	39.0
Leq (see note 3)	52.6	51.3	49.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

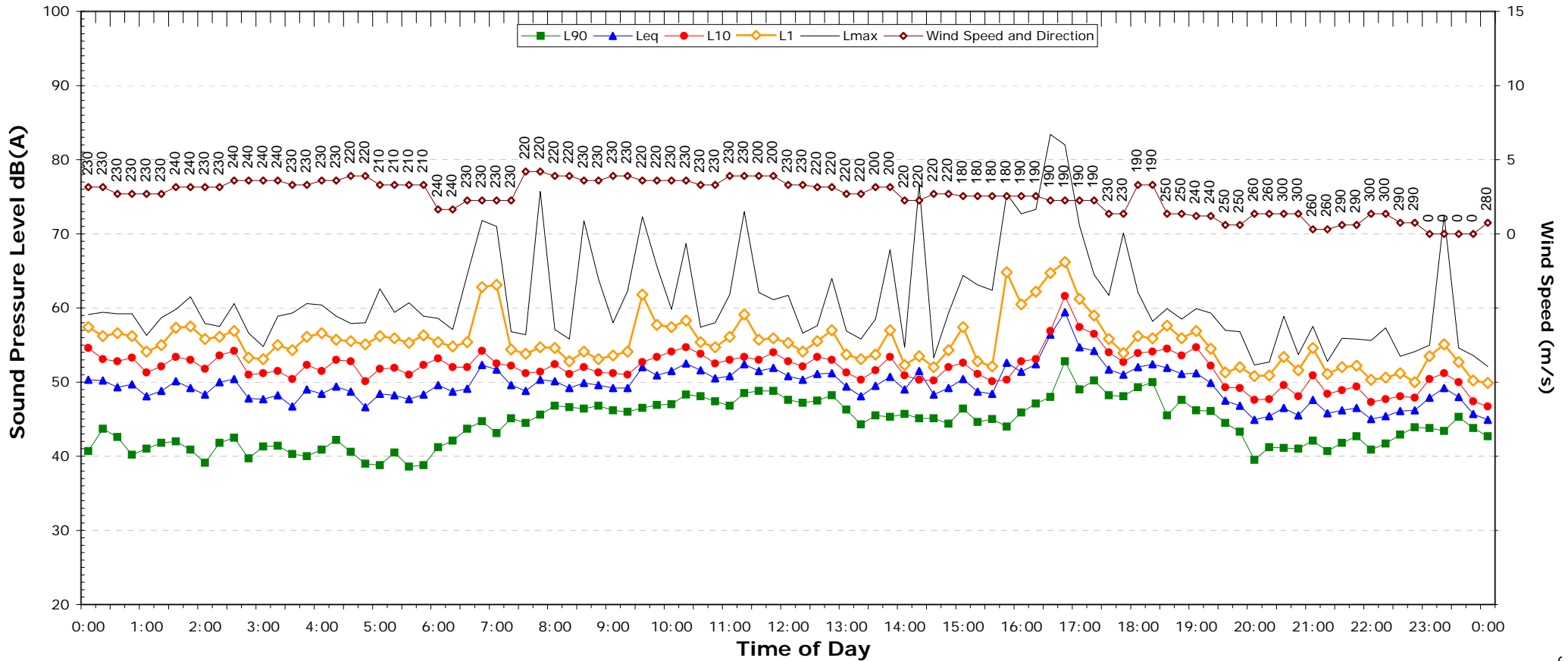
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	52.3	49.3
L _{eq} 1hr upper 10 percentile	54.3	50.7
L _{eq} 1hr lower 10 percentile	50.2	48.2

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	71.8	to	71.8
L _{max} - Leq (Range)	15.1	to	21.1

EXISTING AMBIENT NOISE LEVELS

1669 - 7119 Pacific HWY, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.6	40.7	38.8
Leq (see note 3)	51.7	48.6	46.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

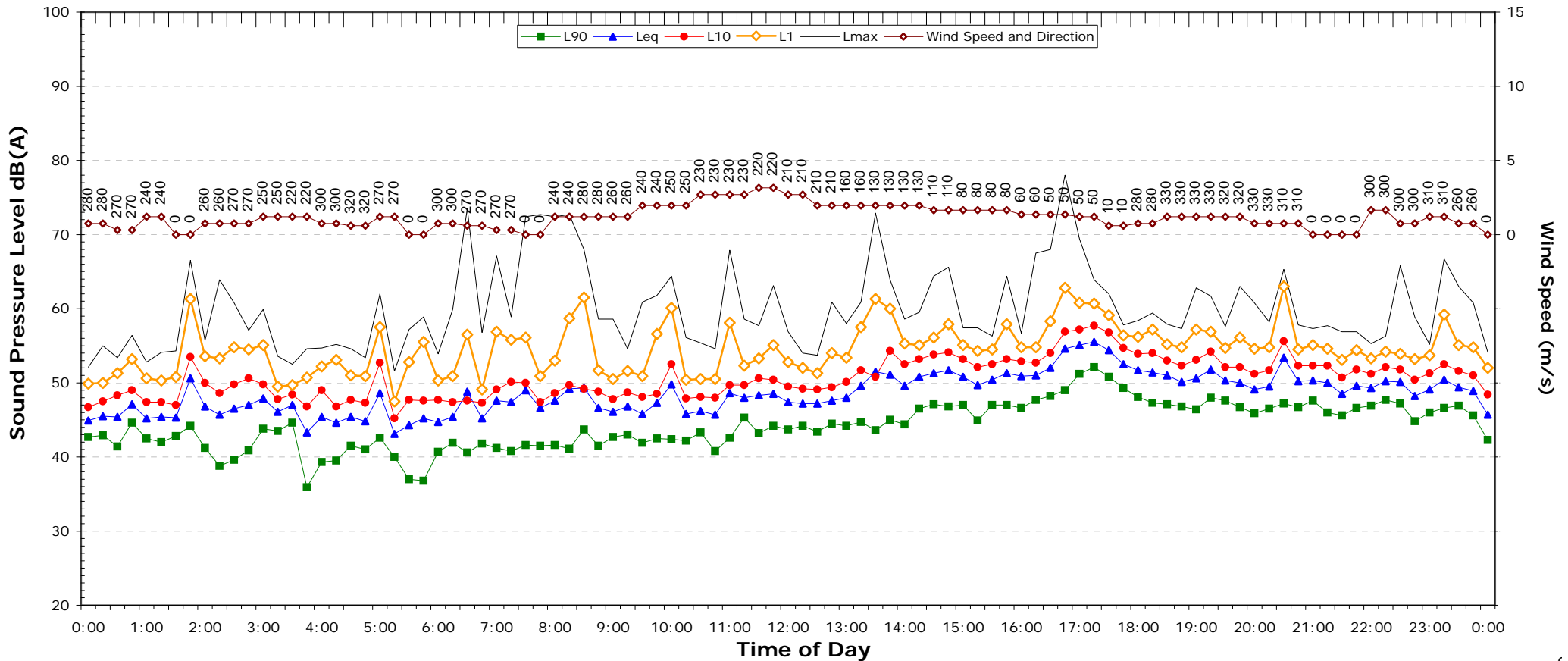
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	51.1	46.4
L _{eq} 1hr upper 10 percentile	54.9	47.6
L _{eq} 1hr lower 10 percentile	46.1	44.4

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	66.5	to	73.5
L _{max} - L _{eq} (Range)	15.8	to	26.5

EXISTING AMBIENT NOISE LEVELS

1669 - 7119 Pacific HWY, Valla

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.5	45.9	39.8
Leq (see note 3)	50.3	50.5	48.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

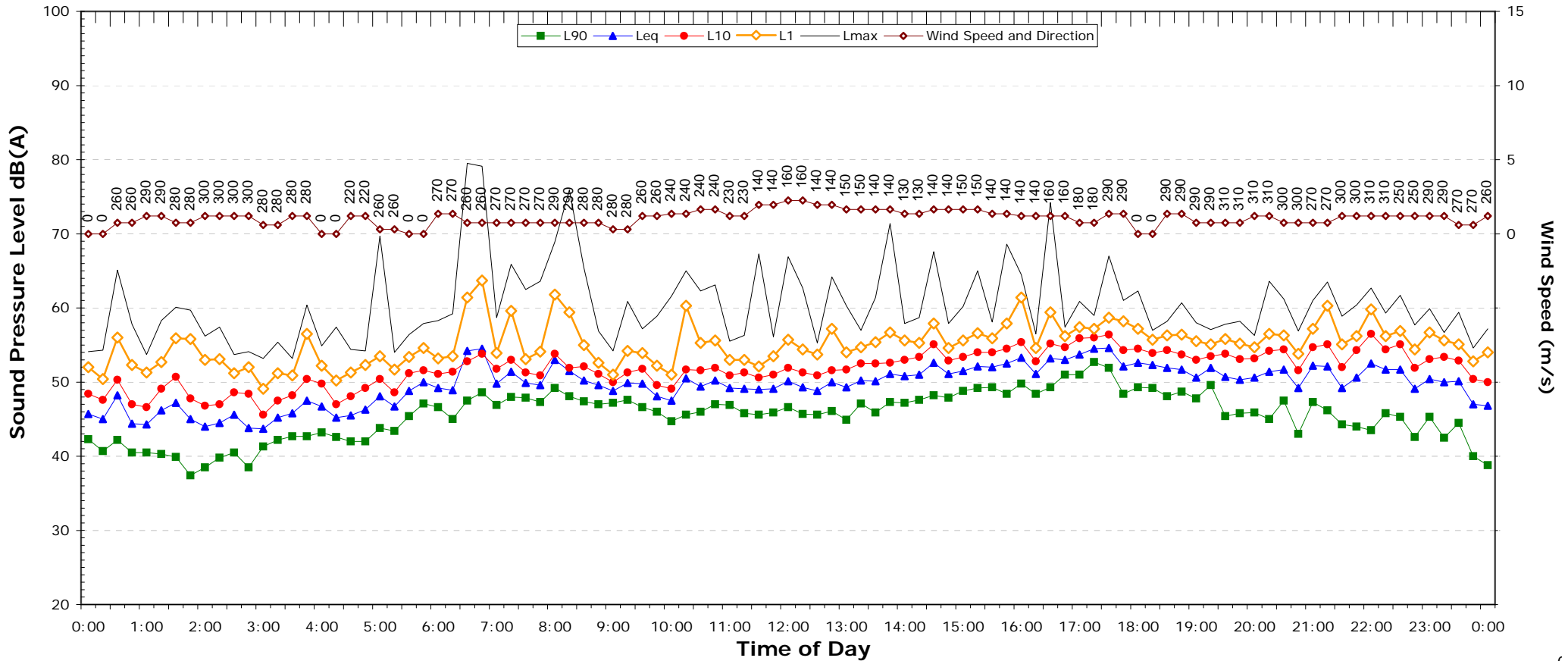
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	50.3	48.3
L _{eq} 1hr upper 10 percentile	53.6	52.5
L _{eq} 1hr lower 10 percentile	47.1	44.5

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	65.1	to	79.5
L _{max} - L _{eq} (Range)	16.3	to	27.0

EXISTING AMBIENT NOISE LEVELS

1669 - 7119 Pacific HWY, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.6	43.5	37.3
Leq (see note 3)	51.2	51.3	49.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

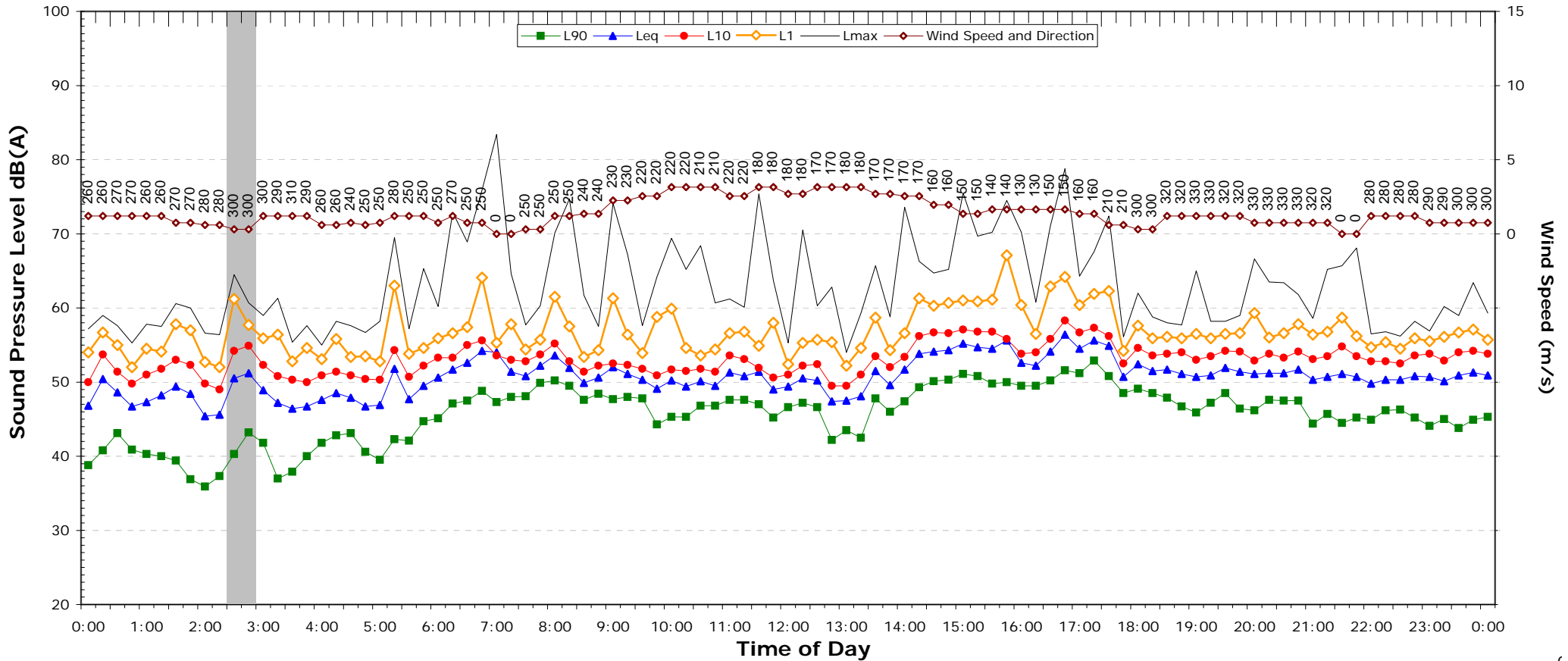
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	51.2	49.6
L _{eq} 1hr upper 10 percentile	53.2	53.2
L _{eq} 1hr lower 10 percentile	49.2	47.0

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	69.5	to	83.4
L _{max} - L _{eq} (Range)	19.3	to	30.2

EXISTING AMBIENT NOISE LEVELS

1669 - 7119 Pacific HWY, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.2	44.5	43.5
Leq (see note 3)	52.3	51.1	50.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

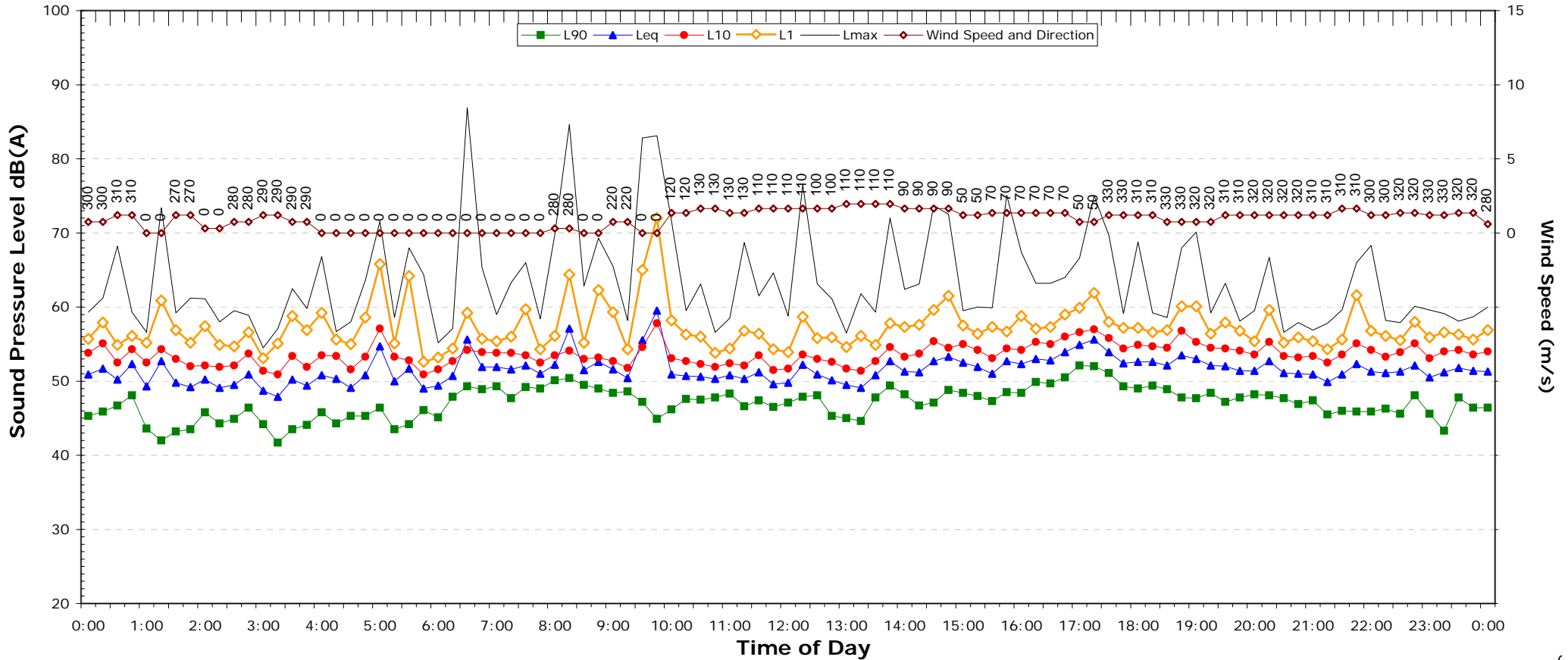
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	52.0	50.9
L _{eq} 1hr upper 10 percentile	54.5	53.0
L _{eq} 1hr lower 10 percentile	49.7	49.6

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	66.8	to	86.9
L _{max} - Leq (Range)	17.1	to	33.9

EXISTING AMBIENT NOISE LEVELS

1669 - 7119 Pacific HWY, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.2	45.9	42.9
Leq (see note 3)	52.7	51.9	51.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

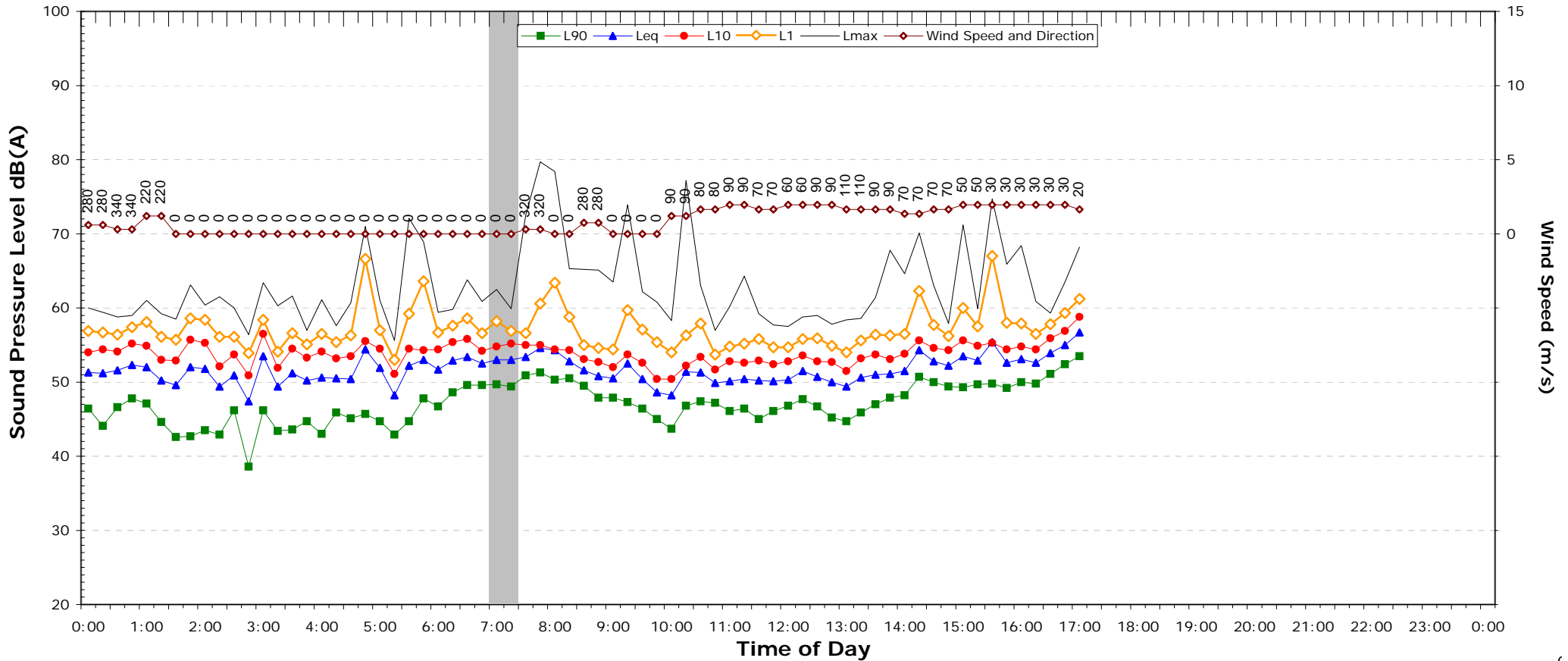
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	52.5	51.5
L _{eq} 1hr upper 10 percentile	54.9	52.9
L _{eq} 1hr lower 10 percentile	50.4	50.4

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	71.0	to	72.1
L _{max} - L _{eq} (Range)	18.9	to	20.5

EXISTING AMBIENT NOISE LEVELS

1669 - 7119 Pacific HWY, Valla

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.0	-	-
Leq (see note 3)	52.3	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

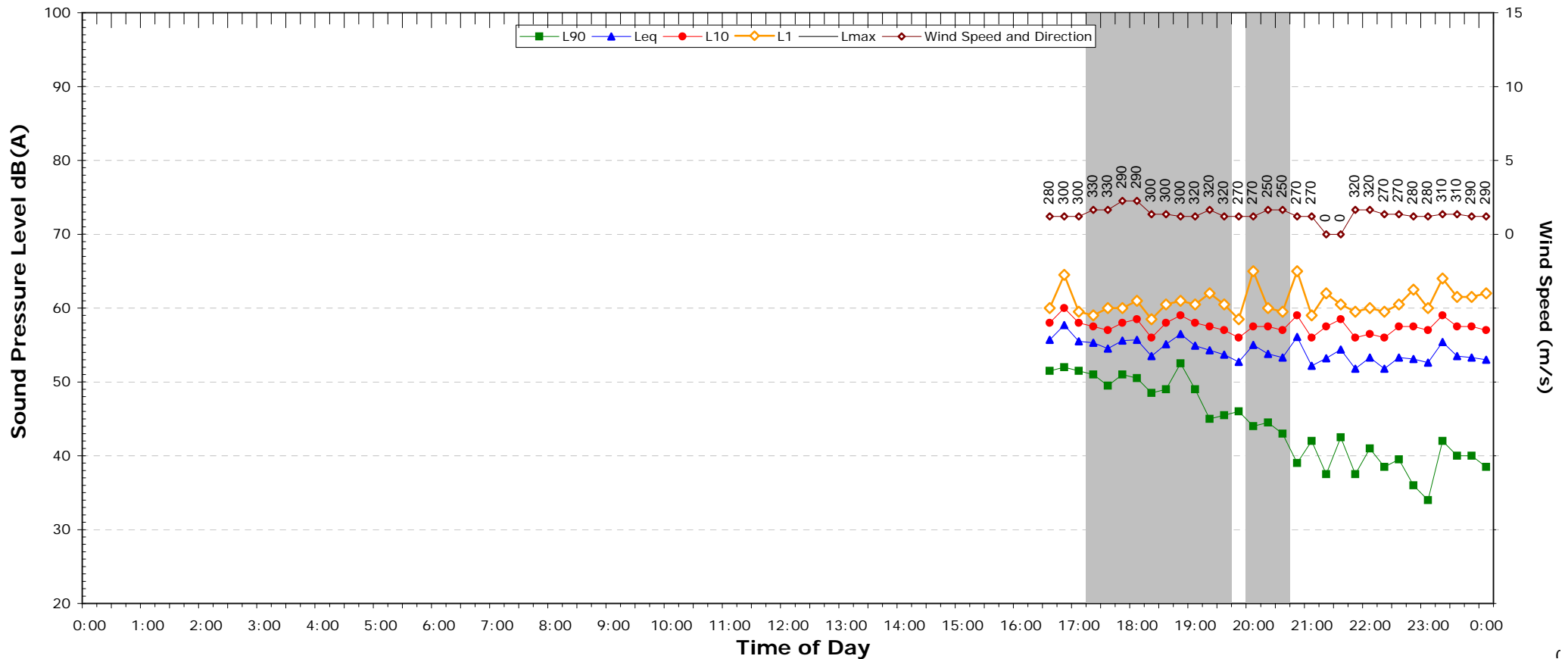
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	52.3	-
L _{eq} 1hr upper 10 percentile	54.8	-
L _{eq} 1hr lower 10 percentile	50.3	-

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	37.0
Leq (see note 3)	-	-	53.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

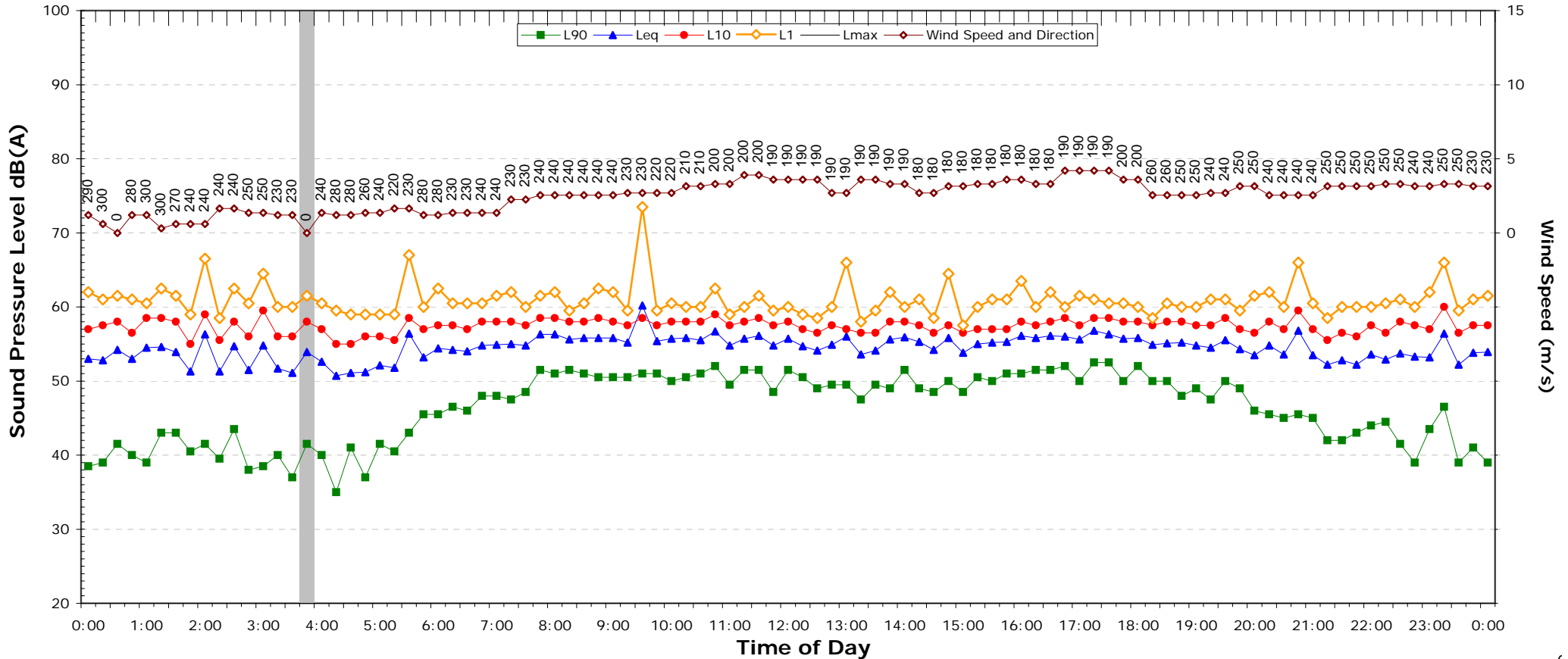
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	54.7	53.5
L _{eq} 1hr upper 10 percentile	56.4	54.5
L _{eq} 1hr lower 10 percentile	52.7	51.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.5	42.0	37.0
Leq (see note 3)	55.7	54.4	53.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

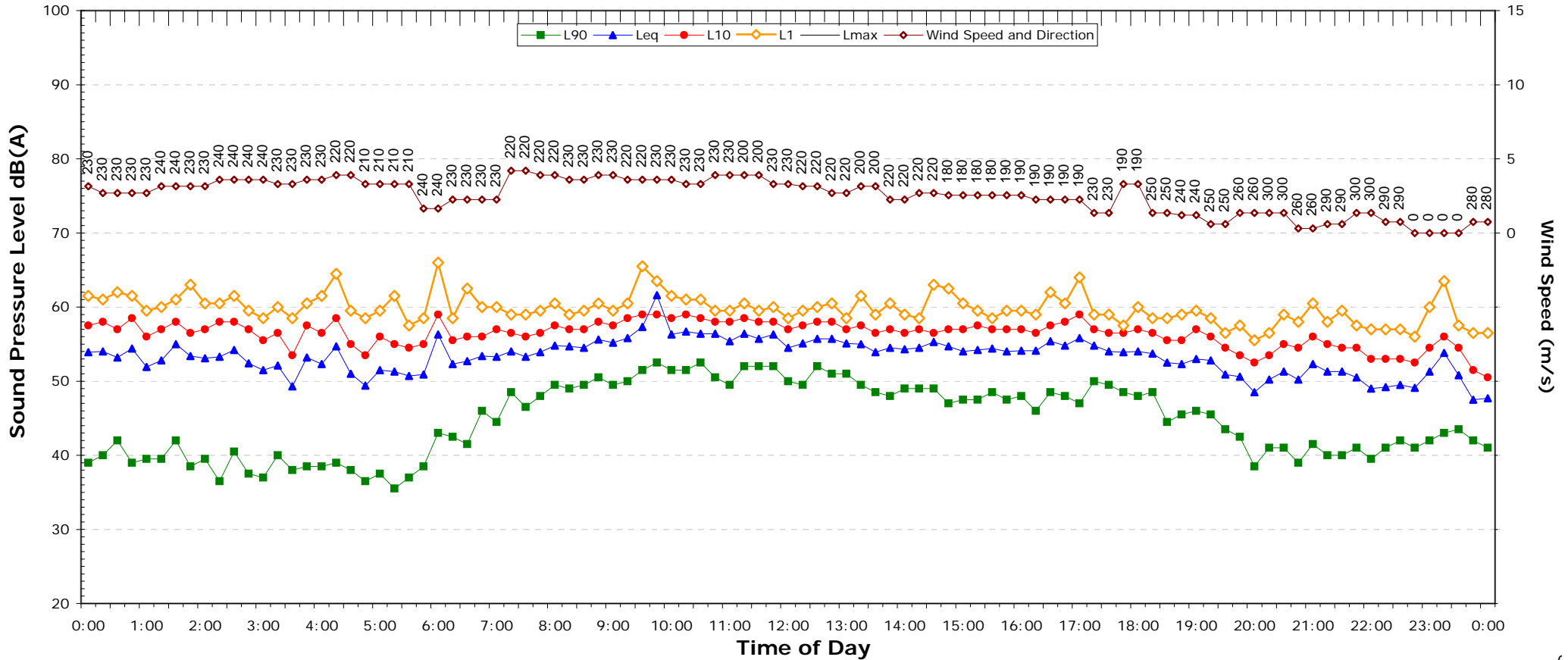
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	55.4	53.1
L _{eq} 1hr upper 10 percentile	56.7	54.3
L _{eq} 1hr lower 10 percentile	53.7	51.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.5	39.0	38.0
Leq (see note 3)	55.4	51.5	49.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

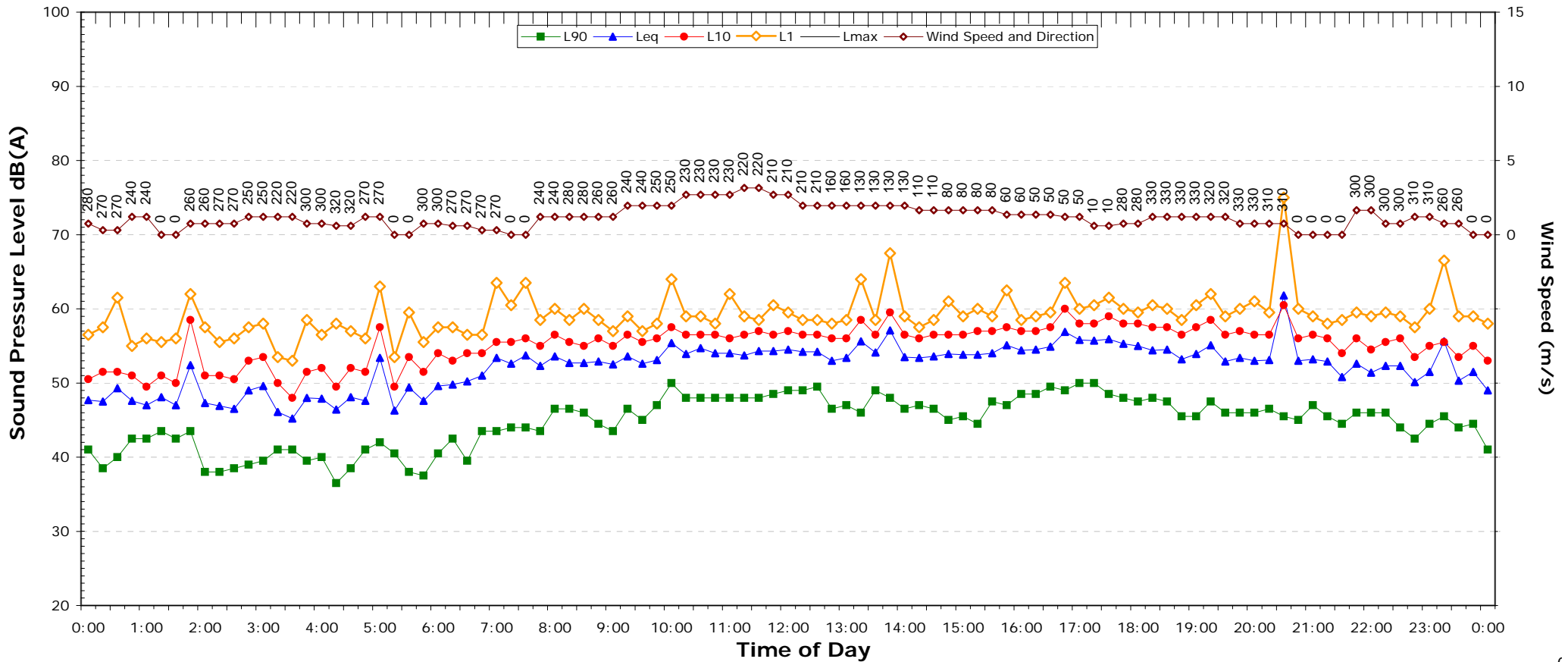
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	54.7	49.4
L _{eq} 1hr upper 10 percentile	57.5	51.3
L _{eq} 1hr lower 10 percentile	50.8	47.0

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.5	45.0	39.0
Leq (see note 3)	54.3	54.7	51.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

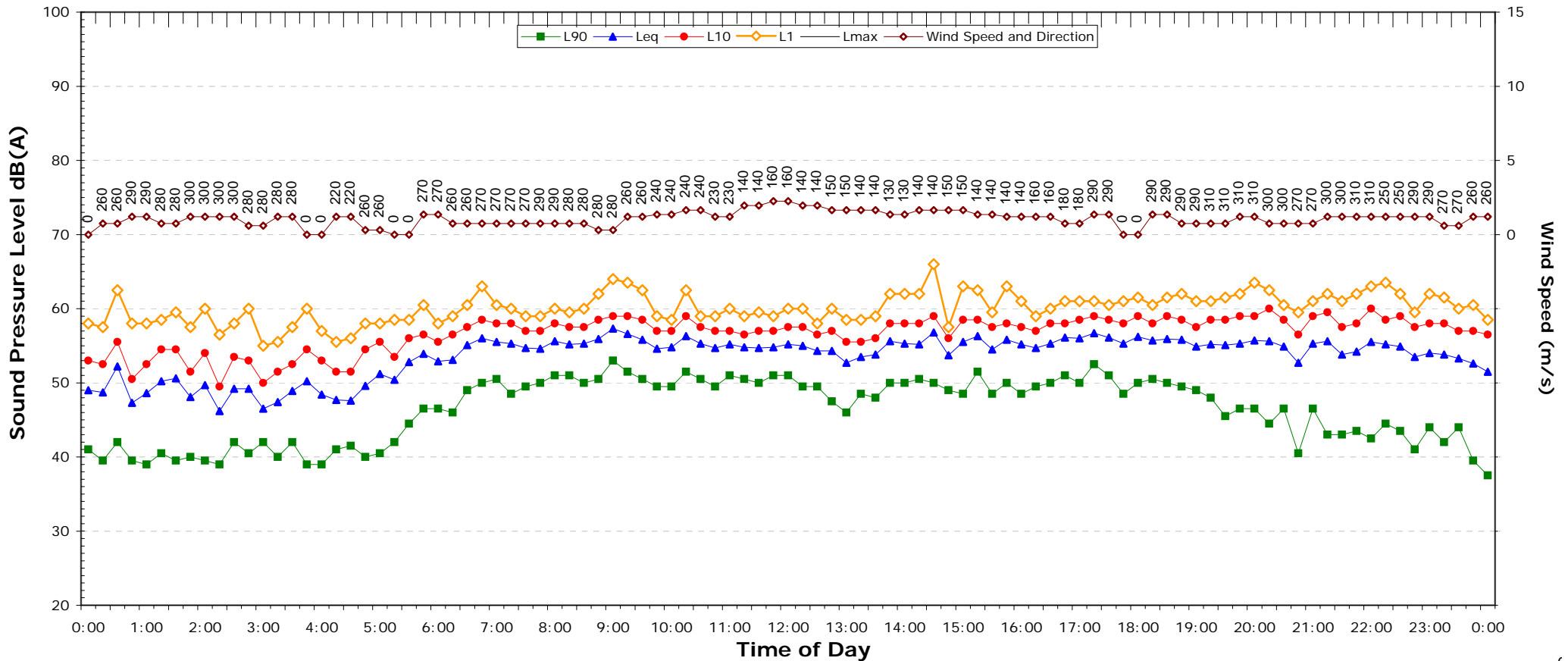
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	54.4	51.4
L _{eq} 1hr upper 10 percentile	56.5	55.1
L _{eq} 1hr lower 10 percentile	52.4	48.0

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.5	42.5	38.0
Leq (see note 3)	55.3	55.1	53.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

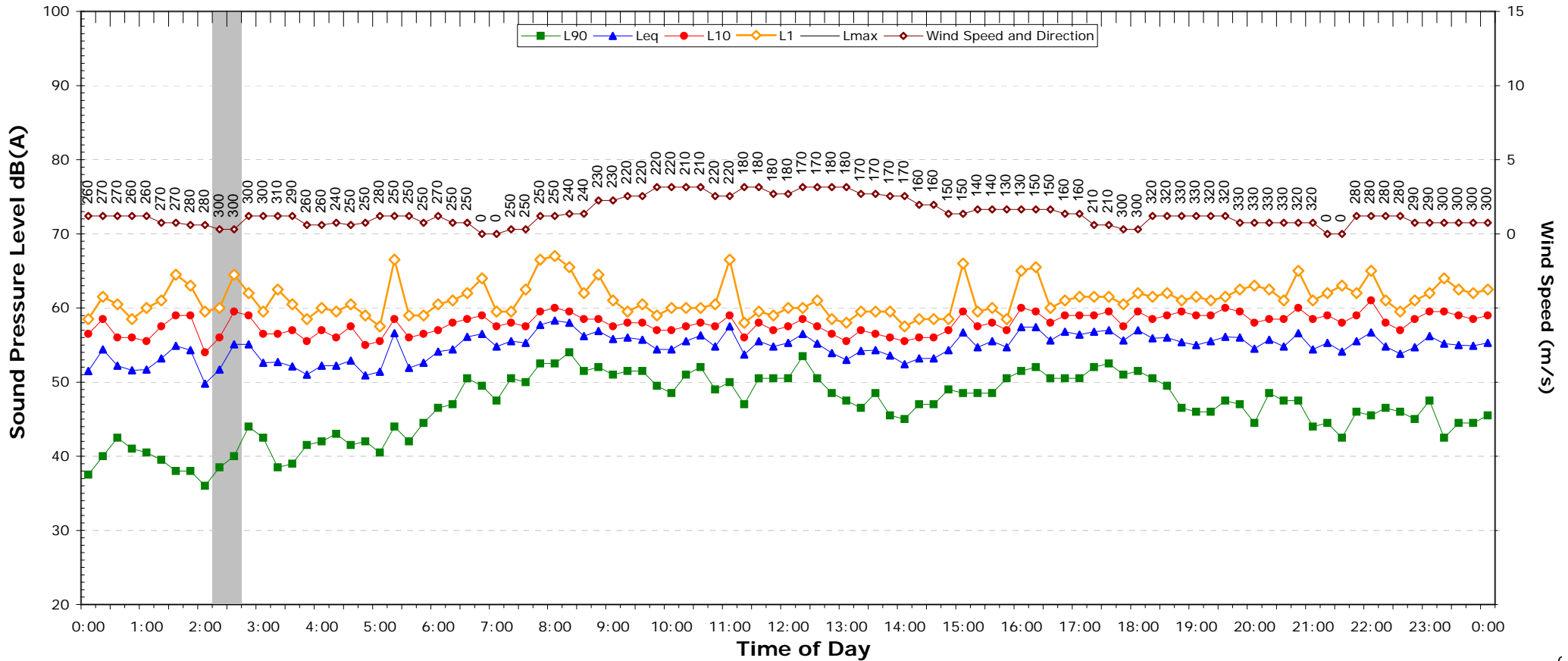
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	55.3	53.6
L _{eq} 1hr upper 10 percentile	56.1	55.5
L _{eq} 1hr lower 10 percentile	54.4	51.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.0	44.0	42.5
Leq (see note 3)	55.8	55.5	54.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

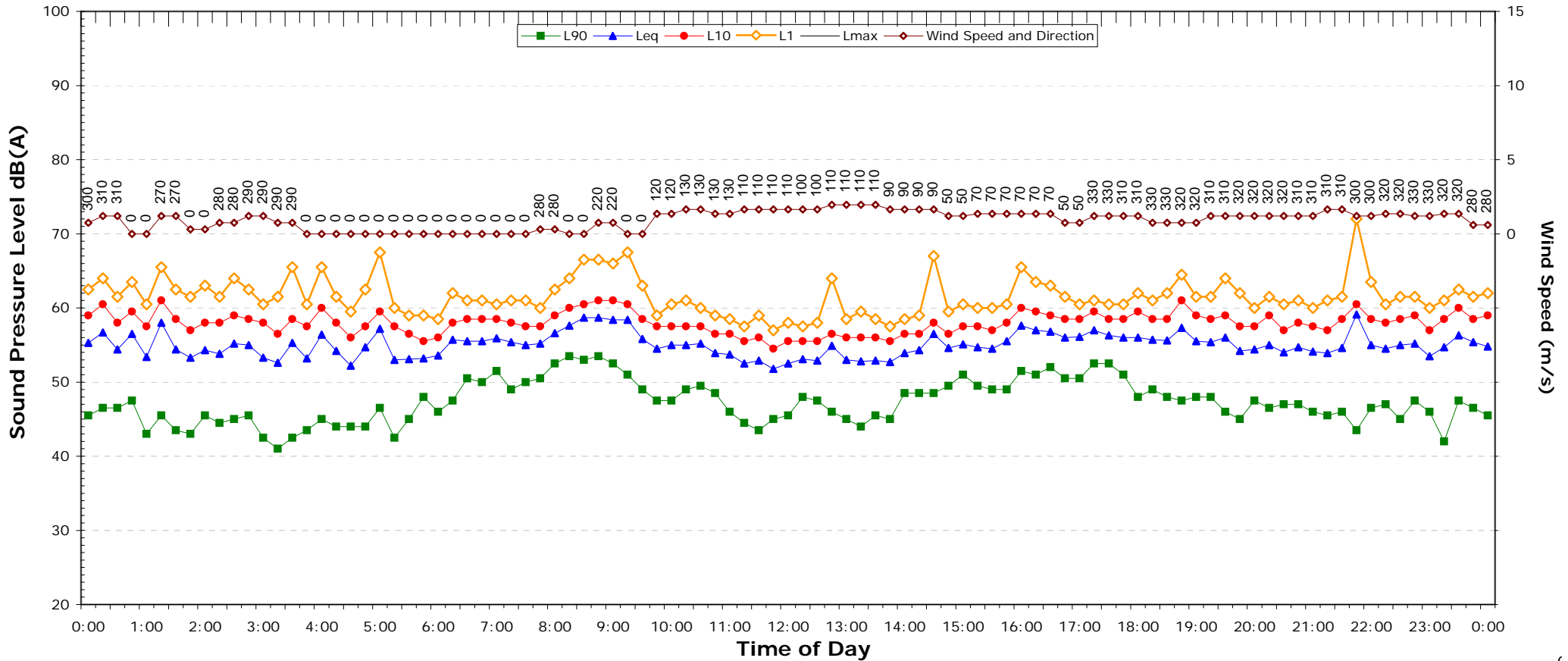
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	55.7	54.9
L _{eq} 1hr upper 10 percentile	56.9	55.7
L _{eq} 1hr lower 10 percentile	54.2	53.2

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to
Lmax - Leq (Range)	-	to

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.0	45.0	41.5
Leq (see note 3)	55.5	55.5	55.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

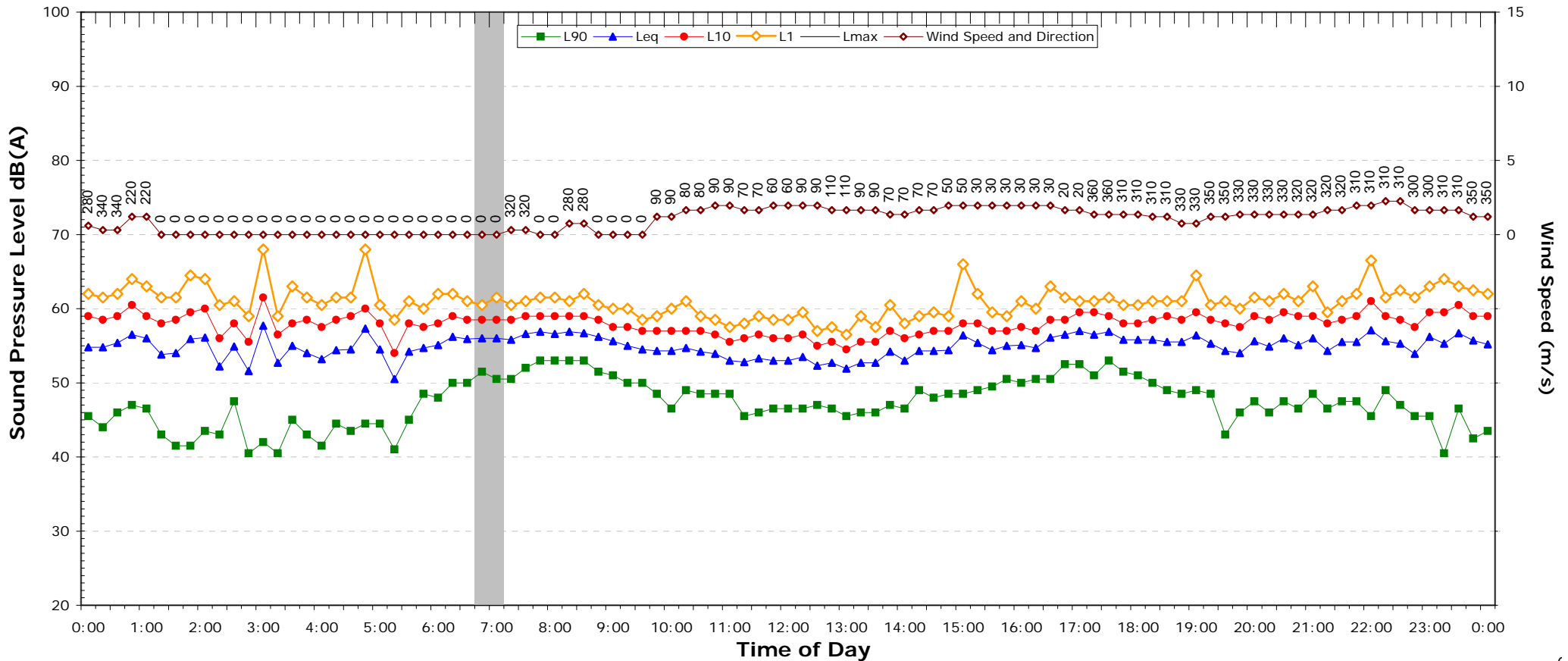
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	55.5	55.0
L _{eq} 1hr upper 10 percentile	57.5	56.1
L _{eq} 1hr lower 10 percentile	52.8	53.8

Night Time Maximum Noise Levels (see note 4)		
Descriptor	Day	Night
L _{max} (Range)	- to	-
L _{max} - L _{eq} (Range)	- to	-

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.0	45.5	40.5
Leq (see note 3)	55.0	55.5	55.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - L_{eq} ≥ 15dB(A)

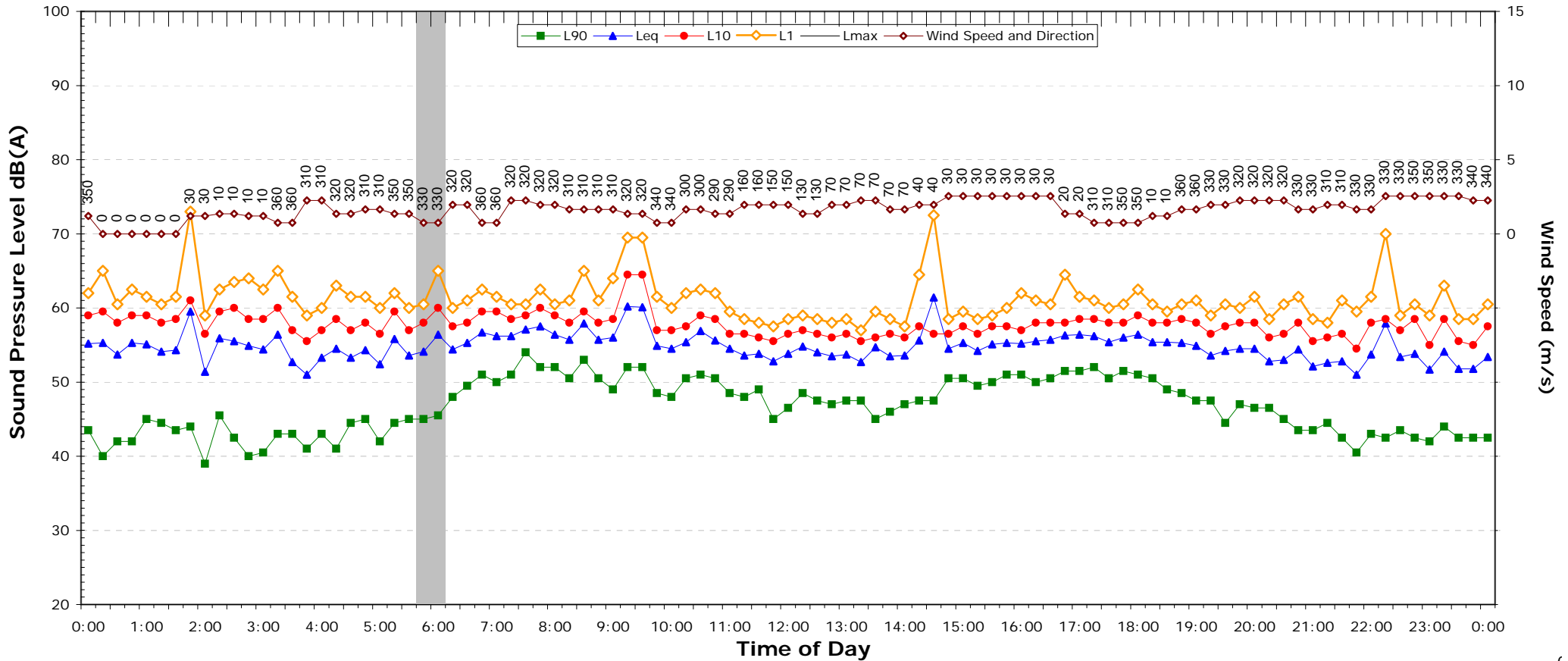
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	55.1	55.1
L _{eq} 1hr upper 10 percentile	56.4	55.9
L _{eq} 1hr lower 10 percentile	52.8	53.7

Night Time Maximum Noise Levels (see note 4)		
Descriptor	Day	Night
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.0	42.5	37.0
Leq (see note 3)	56.0	53.9	53.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

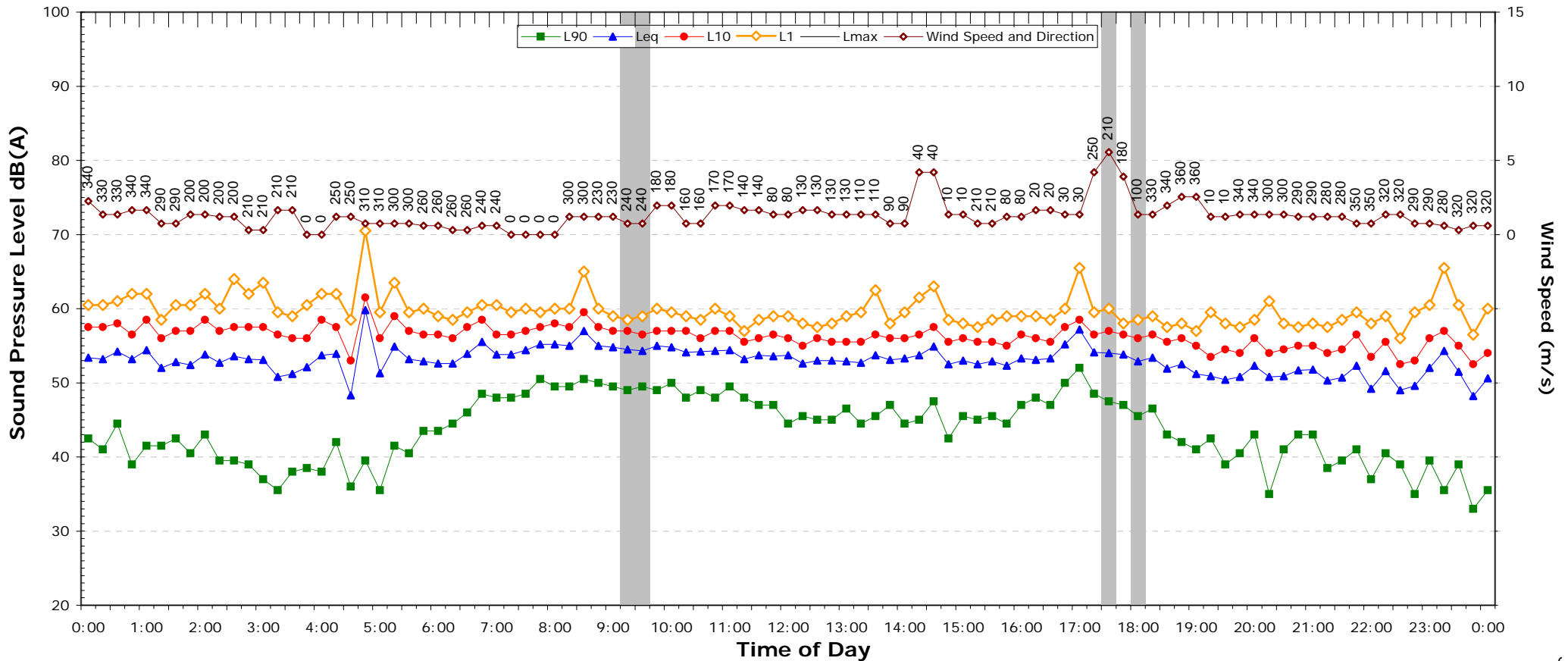
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	55.5	53.7
L _{eq} 1hr upper 10 percentile	58.0	55.4
L _{eq} 1hr lower 10 percentile	52.9	52.1

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.5	37.0	27.5
Leq (see note 3)	54.1	51.4	49.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

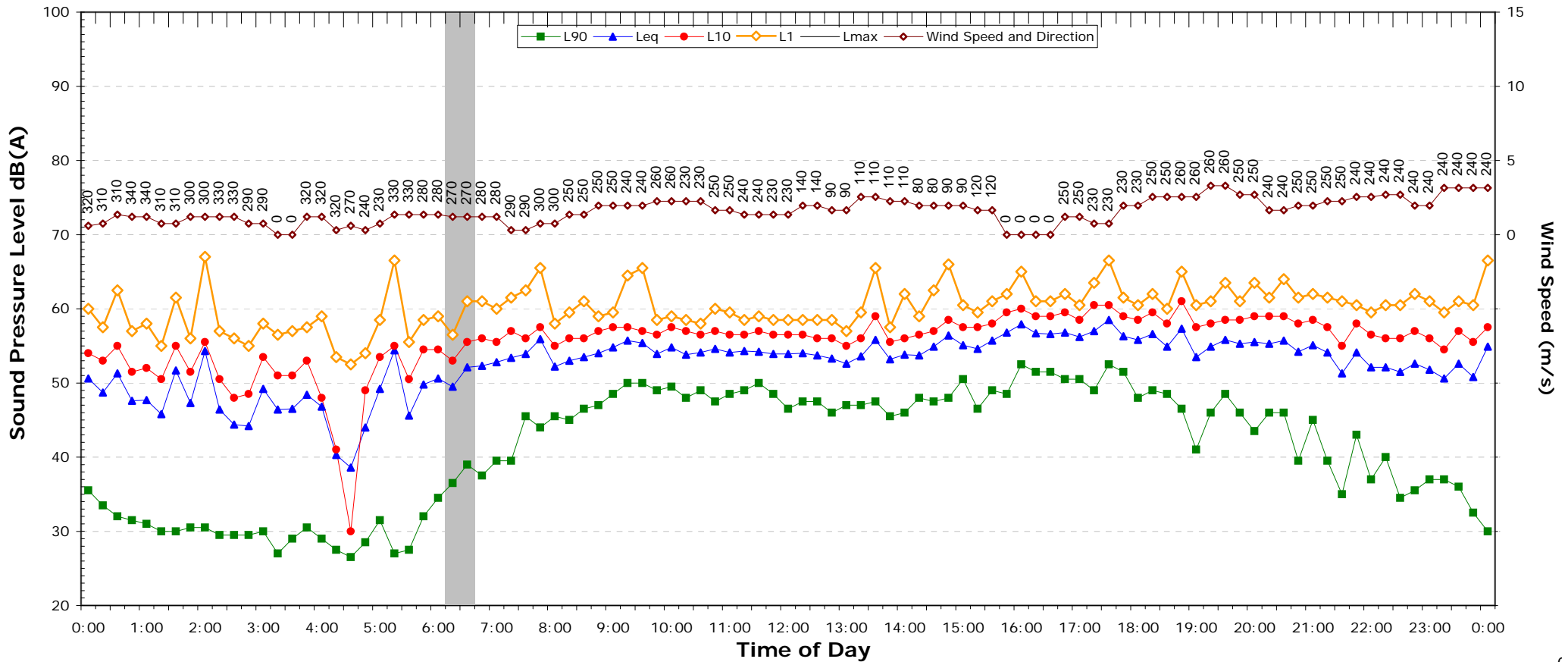
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	53.5	49.9
L _{eq} 1hr upper 10 percentile	55.3	52.6
L _{eq} 1hr lower 10 percentile	51.0	45.0

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Sunday, 13 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.5	37.0	27.5
Leq (see note 3)	55.1	55.0	51.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

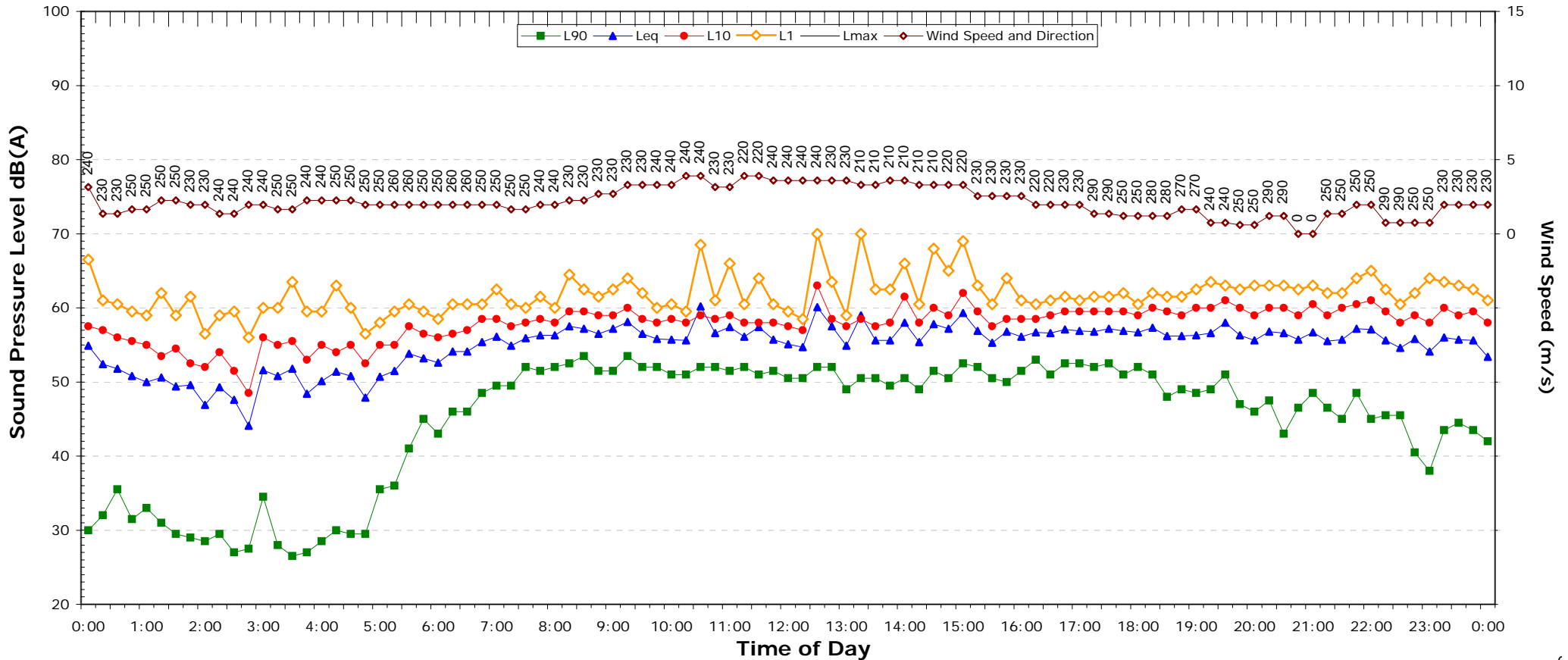
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	55.0	51.8
L _{eq} 1hr upper 10 percentile	56.8	55.0
L _{eq} 1hr lower 10 percentile	53.3	48.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Monday, 14 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.0	45.0	37.0
Leq (see note 3)	56.9	56.5	54.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

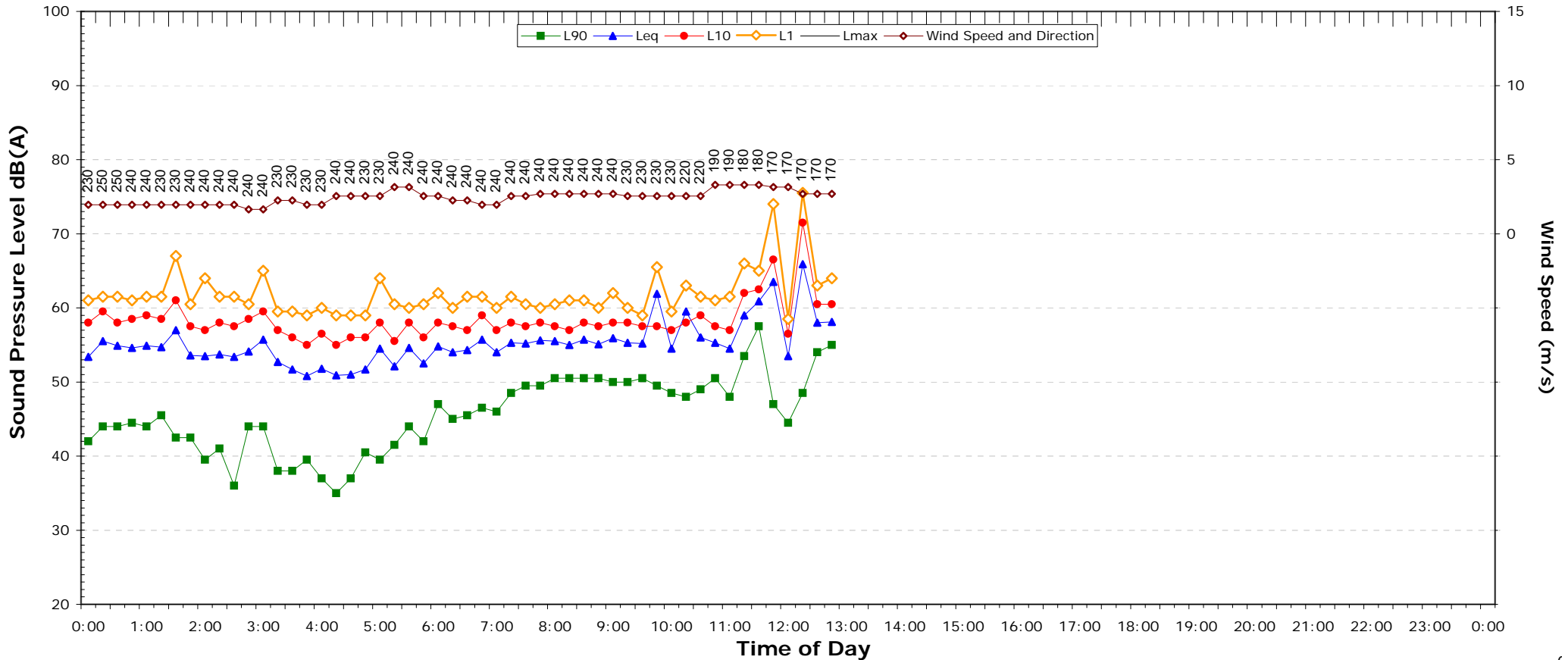
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.8	54.3
L _{eq} 1hr upper 10 percentile	57.7	55.3
L _{eq} 1hr lower 10 percentile	56.0	51.8

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3007 - 7216 Pacific HWY, Valla

Tuesday, 15 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq (see note 3)	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

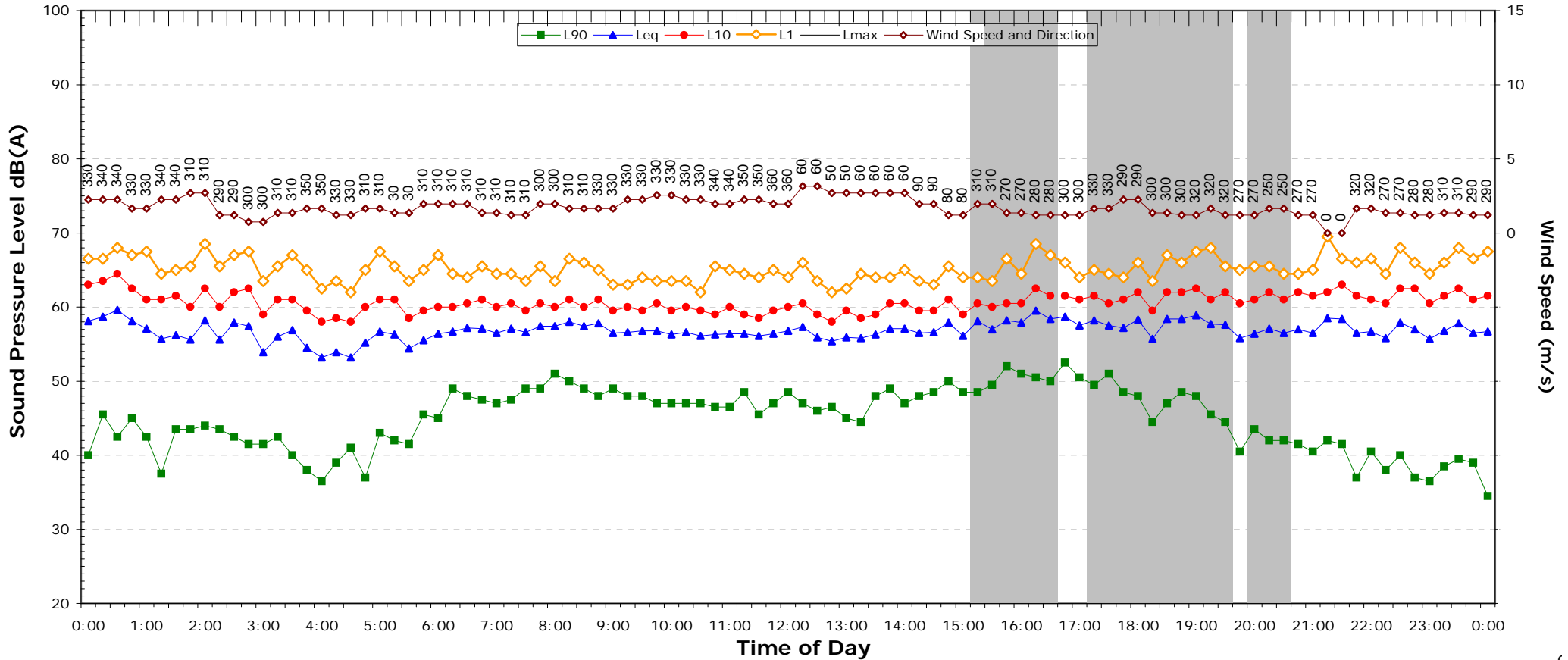
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.6	-
L _{eq} 1hr upper 10 percentile	62.4	-
L _{eq} 1hr lower 10 percentile	55.4	-

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	36.5
Leq (see note 3)	-	-	56.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

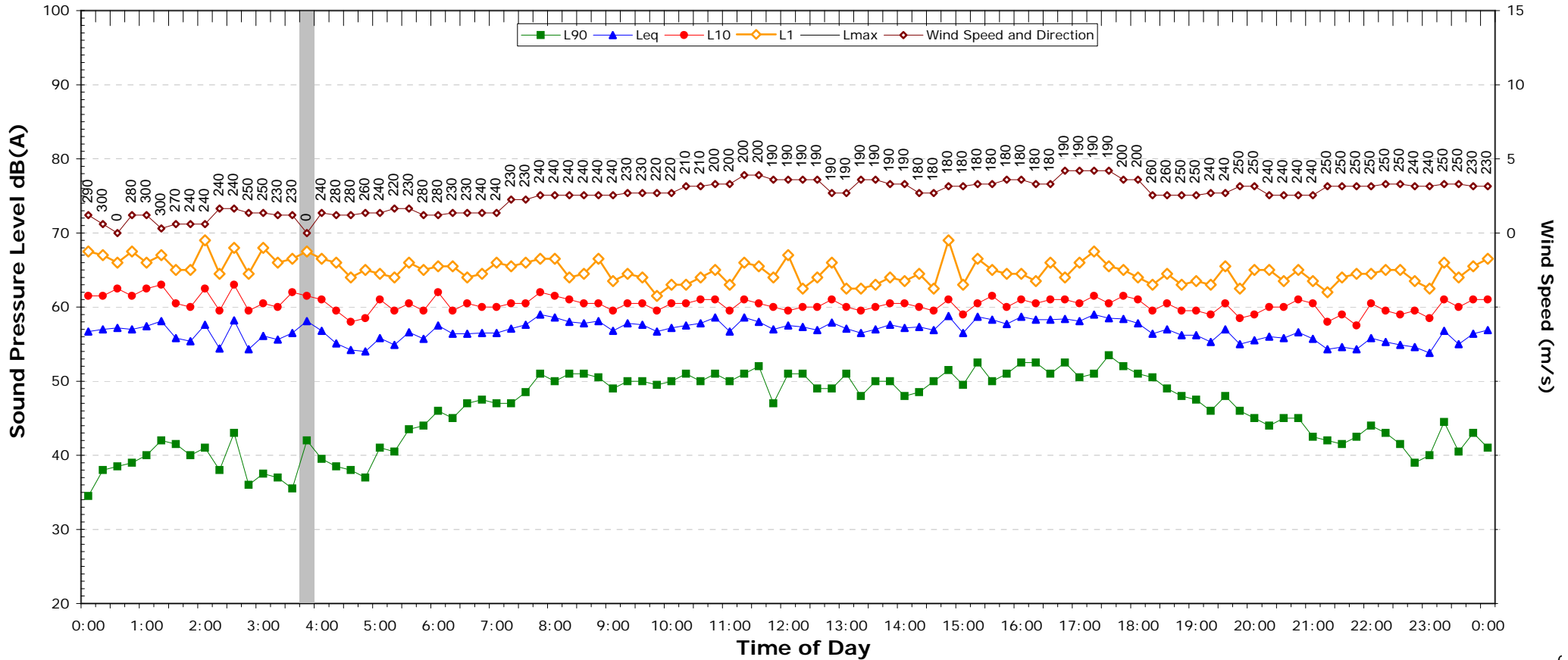
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.4	59.0
L _{eq} 1hr upper 10 percentile	60.5	59.7
L _{eq} 1hr lower 10 percentile	58.4	57.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.5	42.0	38.5
Leq (see note 3)	57.8	55.8	55.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

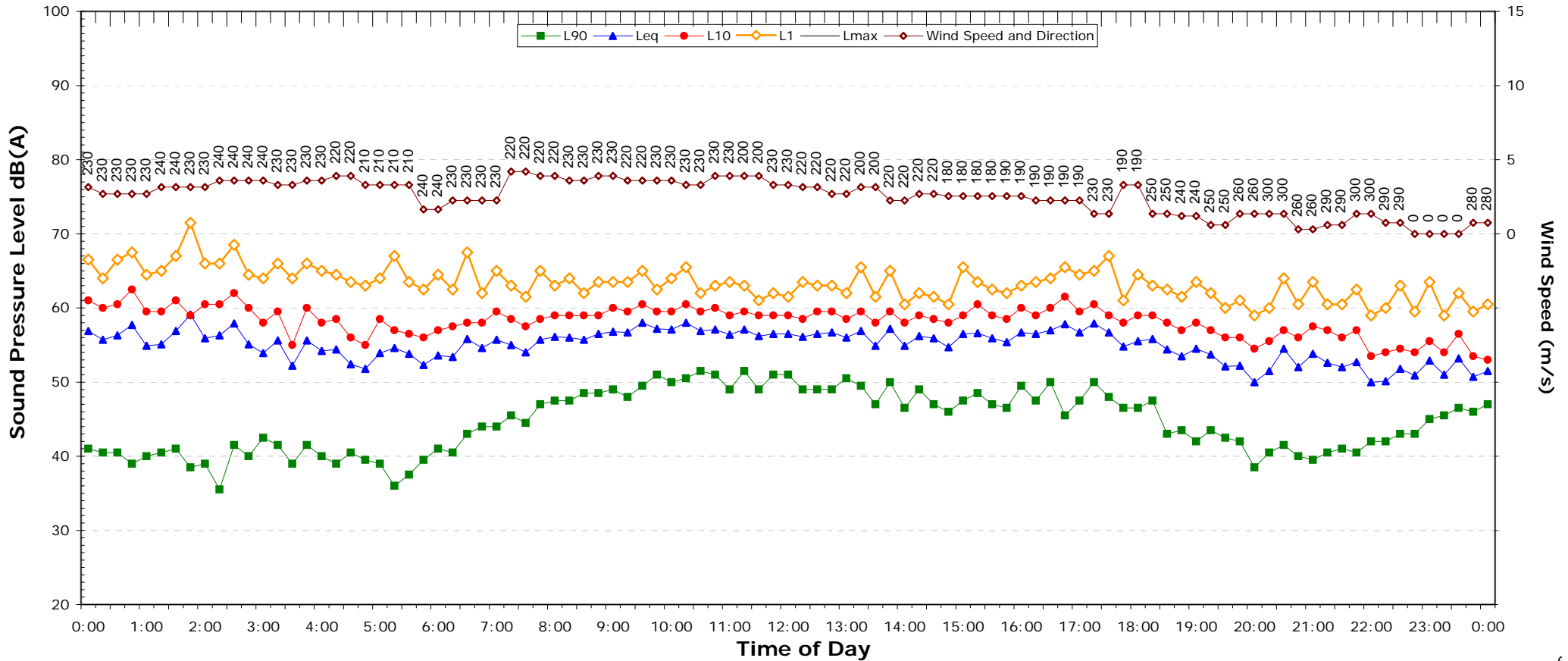
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.9	57.9
L _{eq} 1hr upper 10 percentile	60.9	59.5
L _{eq} 1hr lower 10 percentile	57.8	55.8

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.5	39.5	36.0
Leq (see note 3)	56.4	53.1	50.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

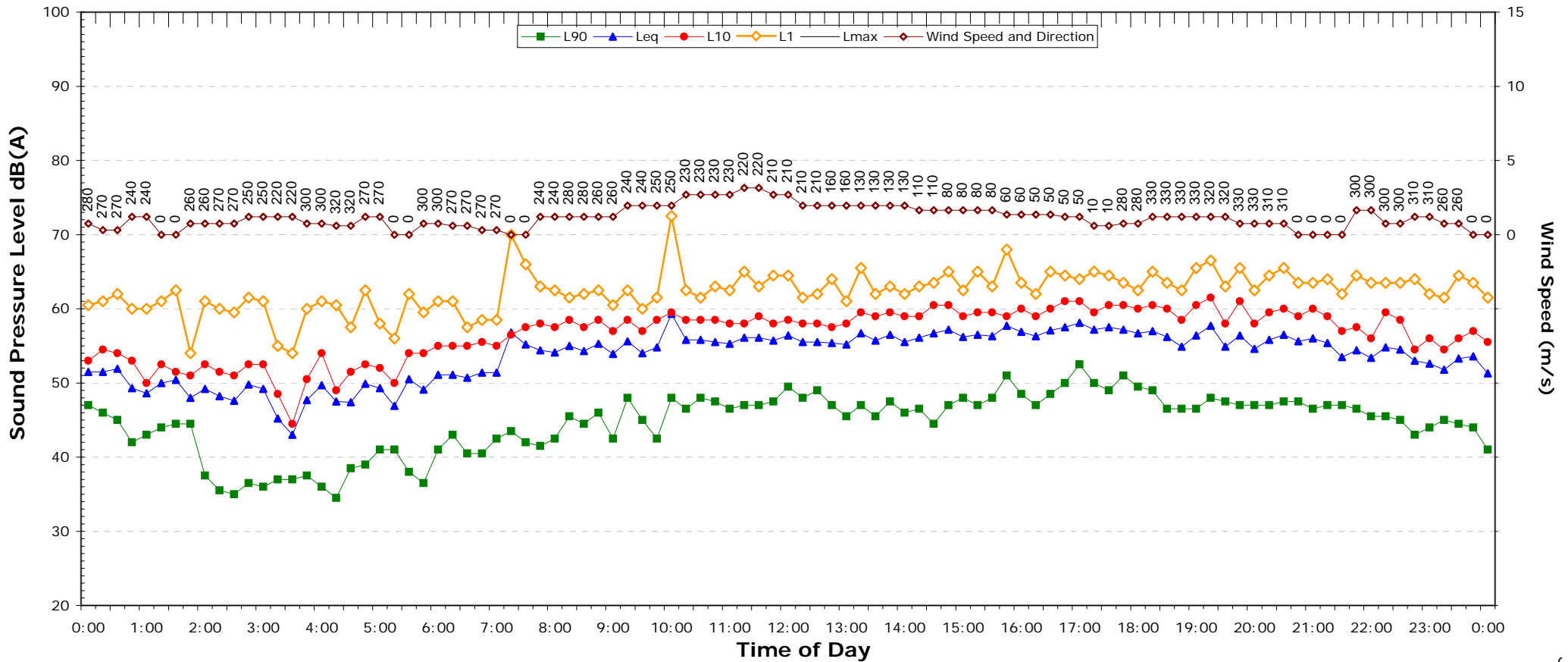
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.3	52.6
L _{eq} 1hr upper 10 percentile	59.7	54.2
L _{eq} 1hr lower 10 percentile	54.6	49.6

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.5	46.5	38.0
Leq (see note 3)	56.2	55.7	52.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

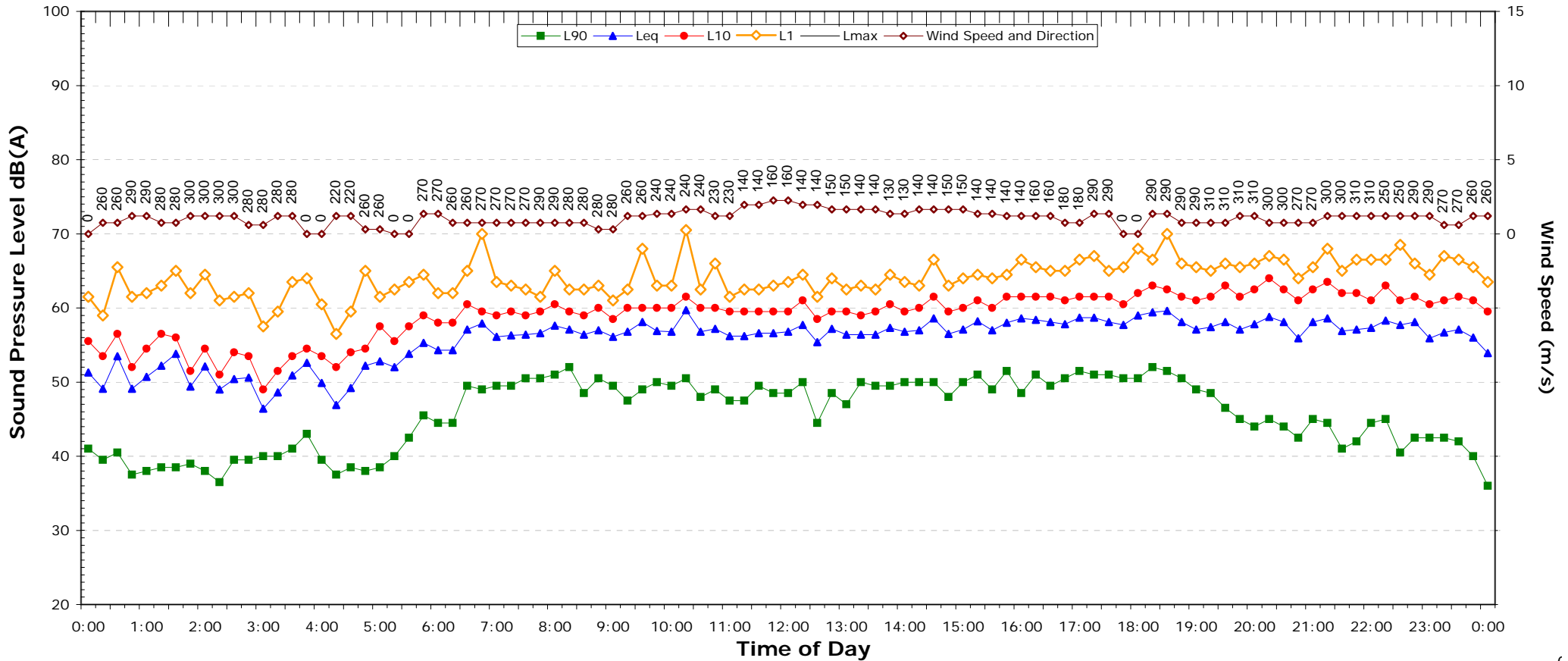
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.6	55.4
L _{eq} 1hr upper 10 percentile	59.7	59.0
L _{eq} 1hr lower 10 percentile	57.0	51.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.5	42.0	37.5
Leq (see note 3)	57.4	57.9	56.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

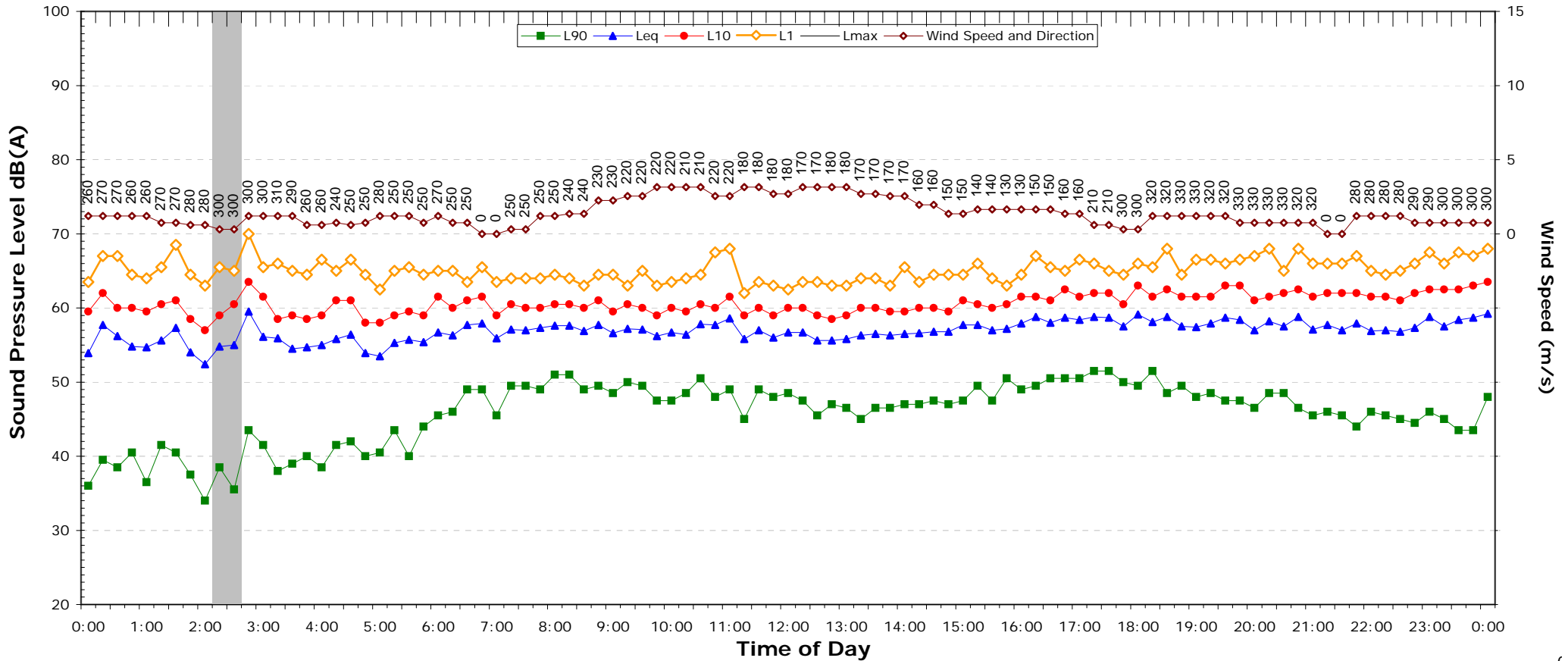
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.0	58.7
L _{eq} 1hr upper 10 percentile	61.0	60.6
L _{eq} 1hr lower 10 percentile	59.1	57.6

Night Time Maximum Noise Levels (see note 4)		
Descriptor	Day	Night
Lmax (Range)	- to	-
Lmax - Leq (Range)	- to	-

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.5	45.5	44.0
Leq (see note 3)	57.3	57.9	57.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

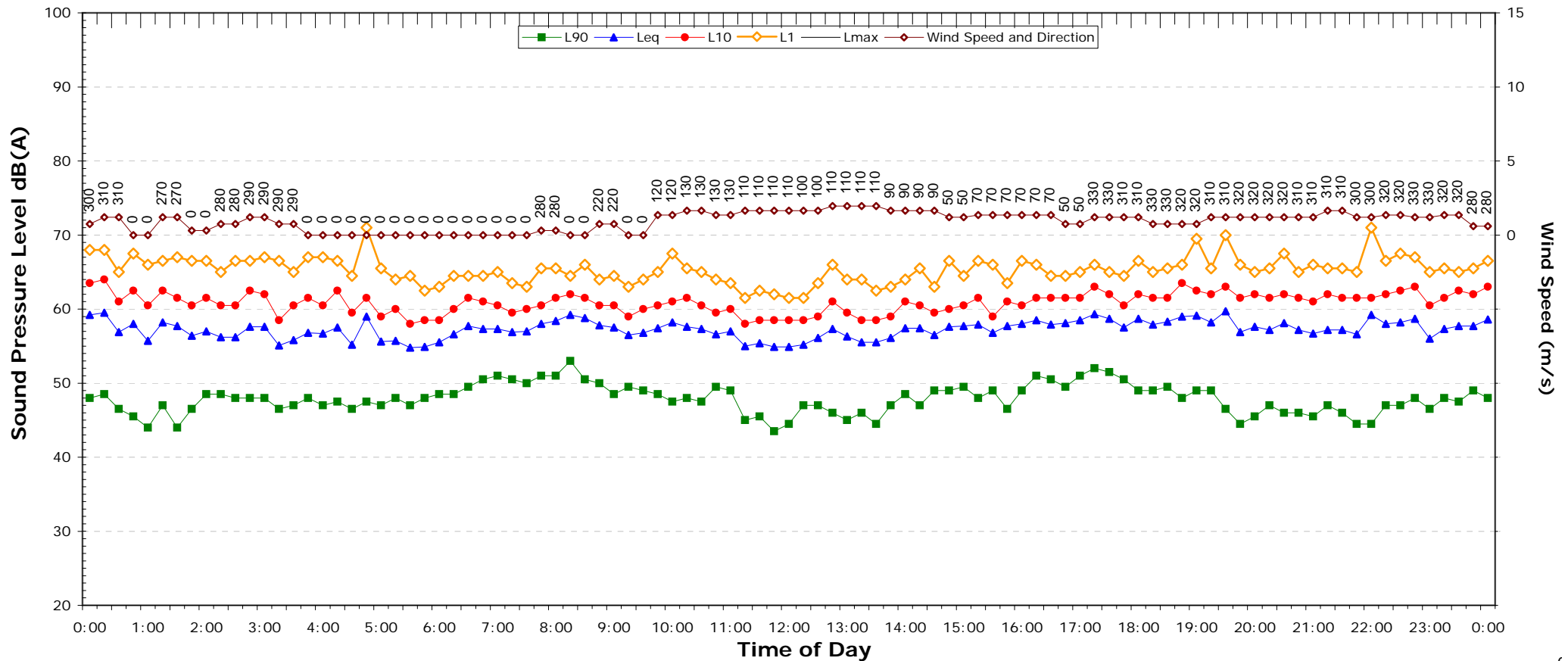
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.9	59.7
L _{eq} 1hr upper 10 percentile	61.0	61.0
L _{eq} 1hr lower 10 percentile	58.7	57.7

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.0	44.5	41.0
Leq (see note 3)	57.4	58.0	57.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

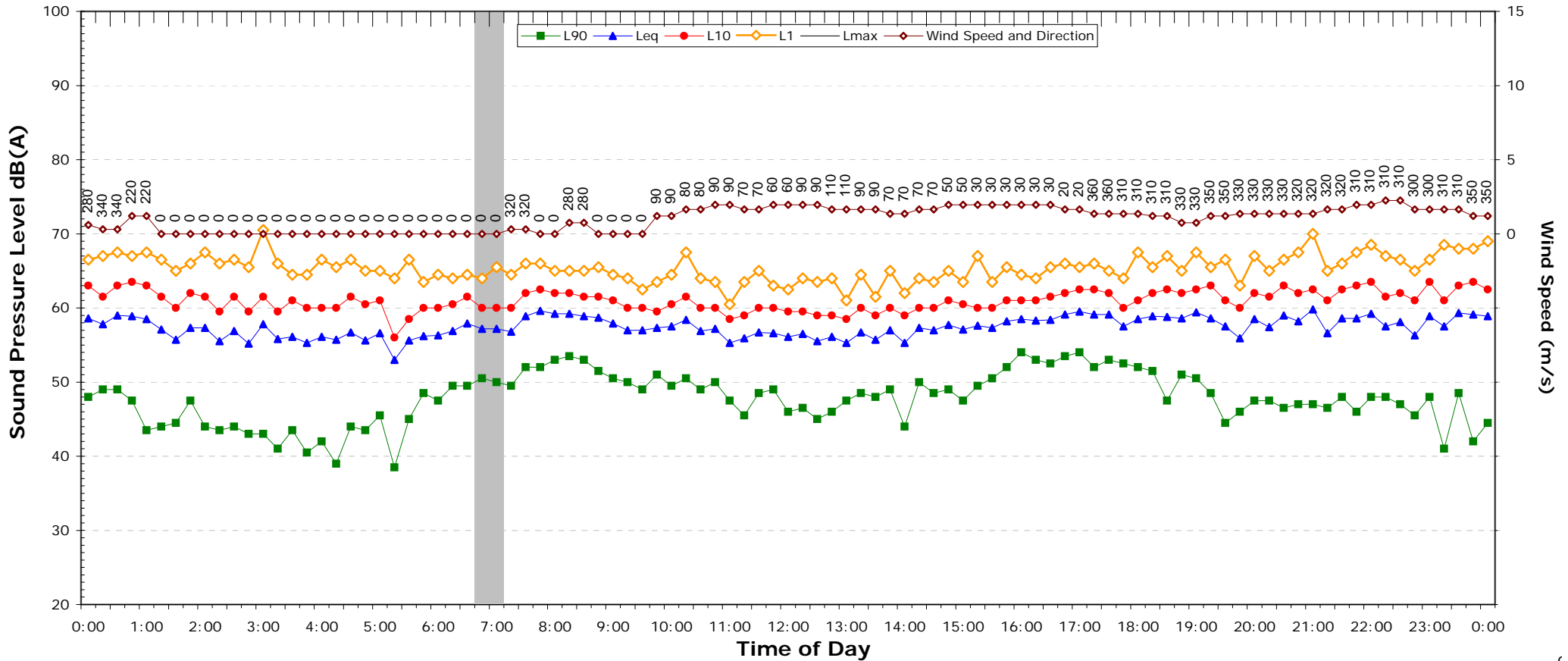
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.0	59.5
L _{eq} 1hr upper 10 percentile	61.1	61.1
L _{eq} 1hr lower 10 percentile	58.2	58.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.0	46.0	41.5
Leq (see note 3)	57.7	58.5	57.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

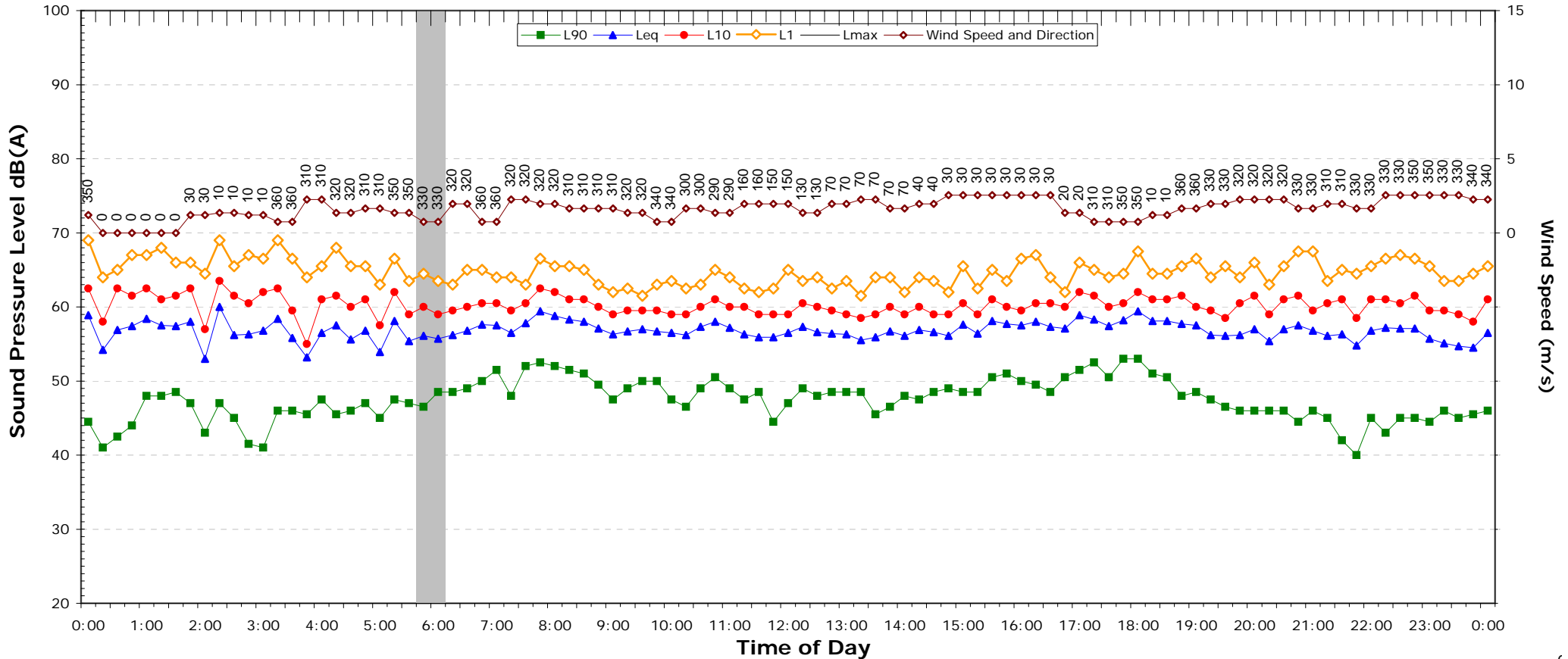
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.4	59.8
L _{eq} 1hr upper 10 percentile	61.4	61.3
L _{eq} 1hr lower 10 percentile	58.6	58.7

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.0	42.0	39.0
Leq (see note 3)	57.3	56.8	55.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

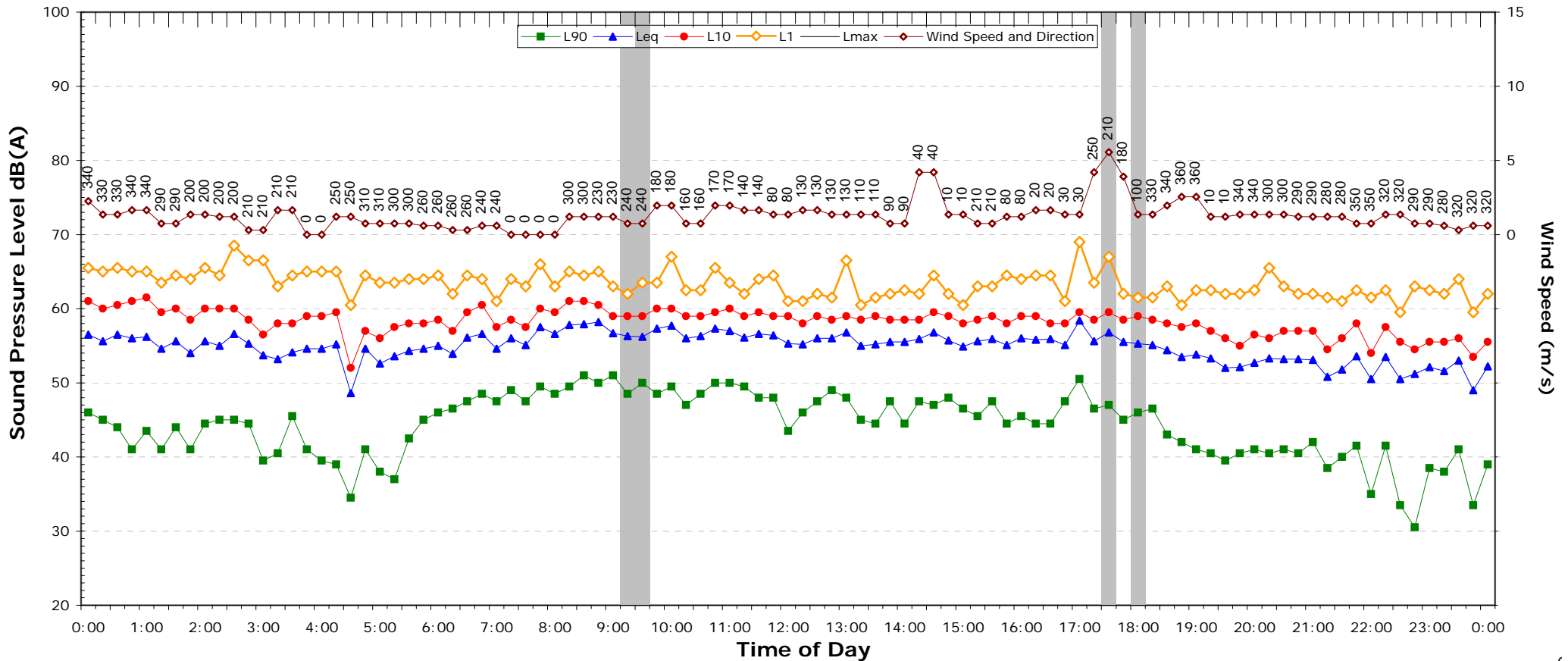
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.6	57.7
L _{eq} 1hr upper 10 percentile	60.8	59.3
L _{eq} 1hr lower 10 percentile	58.6	55.9

Night Time Maximum Noise Levels (see note 4)		
Descriptor	Day	Night
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.5	38.5	27.5
Leq (see note 3)	56.3	53.1	49.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

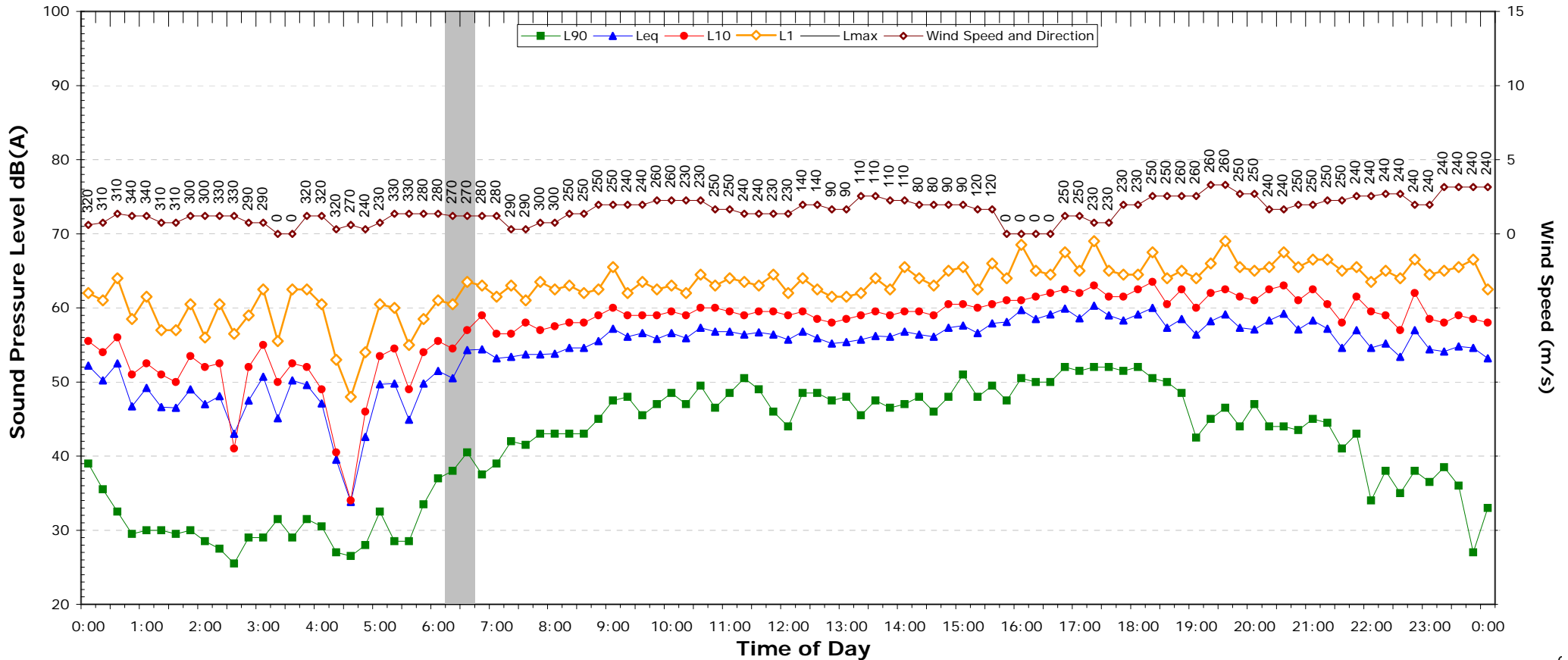
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.1	52.4
L _{eq} 1hr upper 10 percentile	60.1	56.3
L _{eq} 1hr lower 10 percentile	54.7	47.4

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Sunday, 13 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	43.0	41.0	30.0
Leq (see note 3)	57.1	57.5	53.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

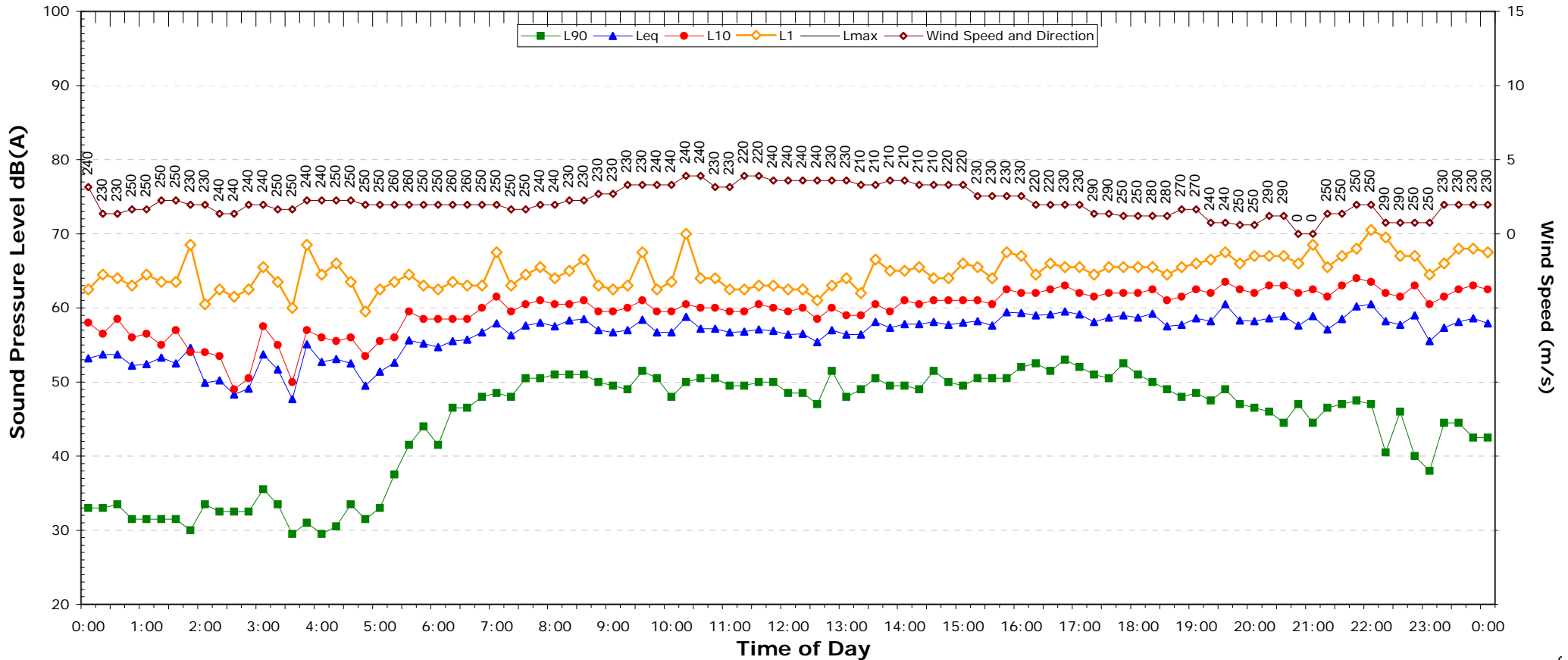
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.7	56.4
L _{eq} 1hr upper 10 percentile	61.6	59.1
L _{eq} 1hr lower 10 percentile	57.2	53.4

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Monday, 14 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.5	44.5	38.0
Leq (see note 3)	57.8	58.8	56.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

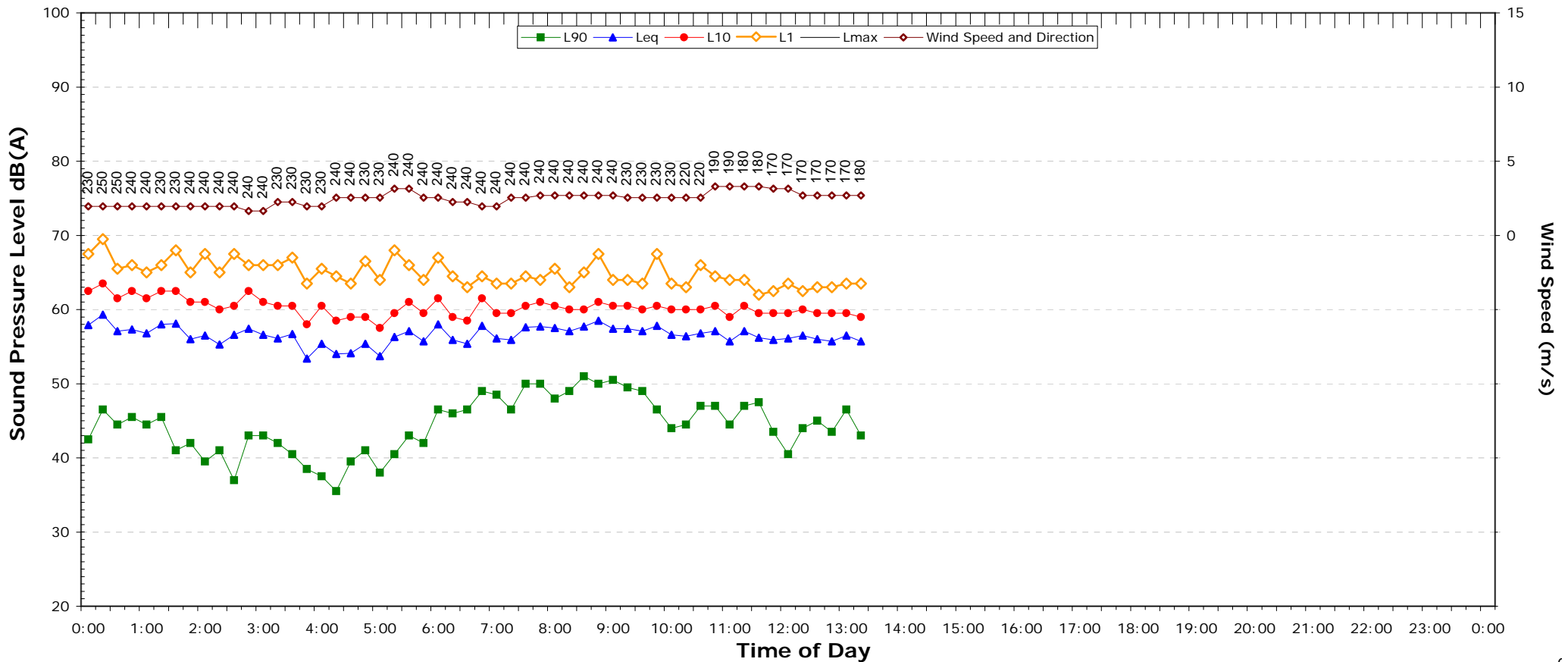
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.6	59.4
L _{eq} 1hr upper 10 percentile	61.7	60.5
L _{eq} 1hr lower 10 percentile	59.1	56.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1781 - 6 East West Rd, Valla

Tuesday, 15 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq (see note 3)	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

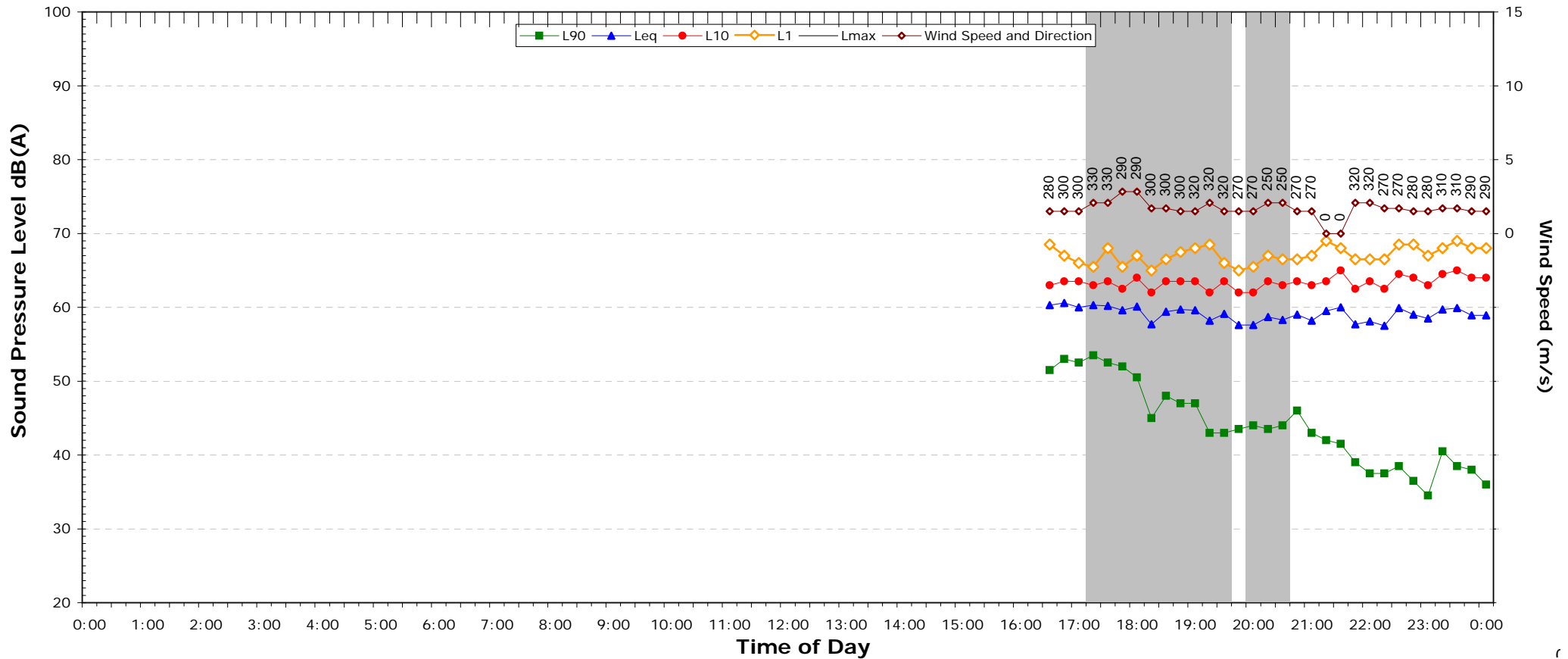
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.4	-
L _{eq} 1hr upper 10 percentile	60.2	-
L _{eq} 1hr lower 10 percentile	58.2	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	36.0
Leq (see note 3)	-	-	58.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

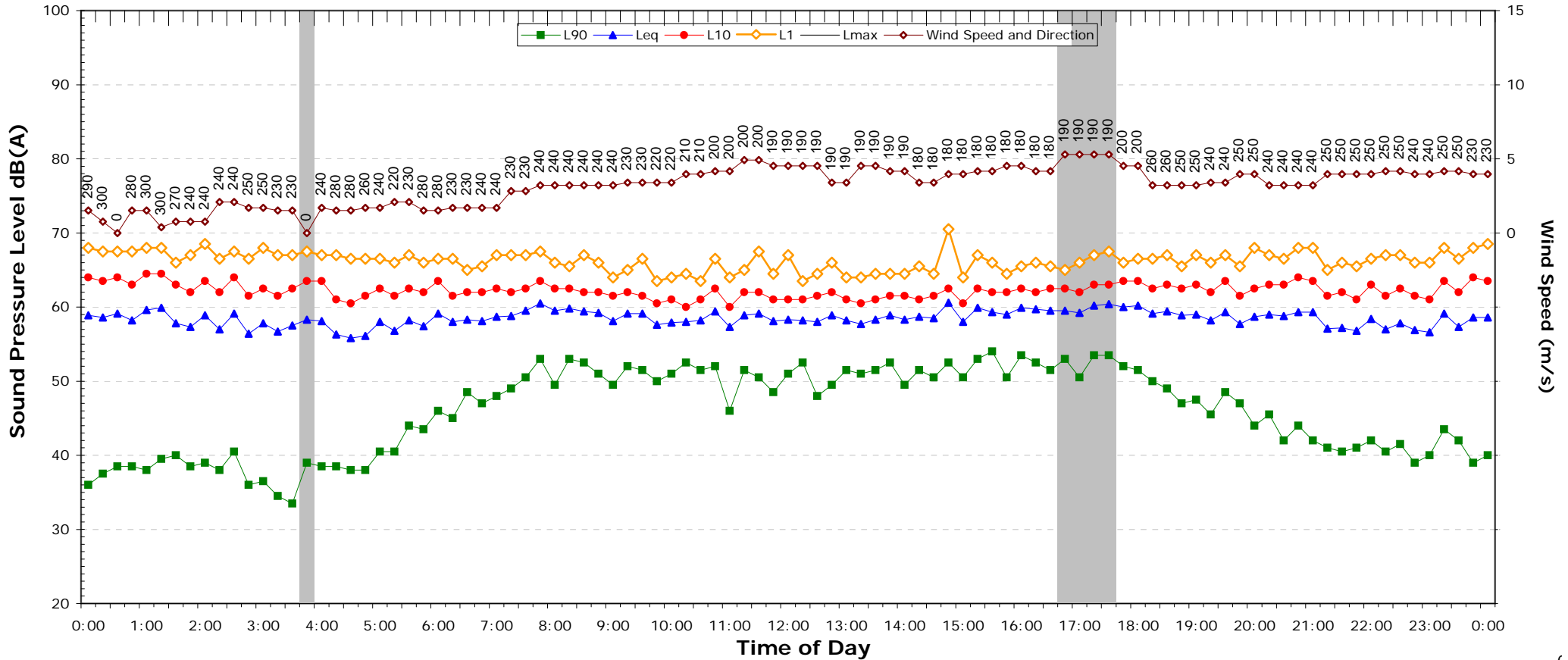
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.7	60.8
L _{eq} 1hr upper 10 percentile	62.8	61.9
L _{eq} 1hr lower 10 percentile	60.1	59.1

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.3	41.0	37.5
Leq (see note 3)	59.0	58.6	56.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

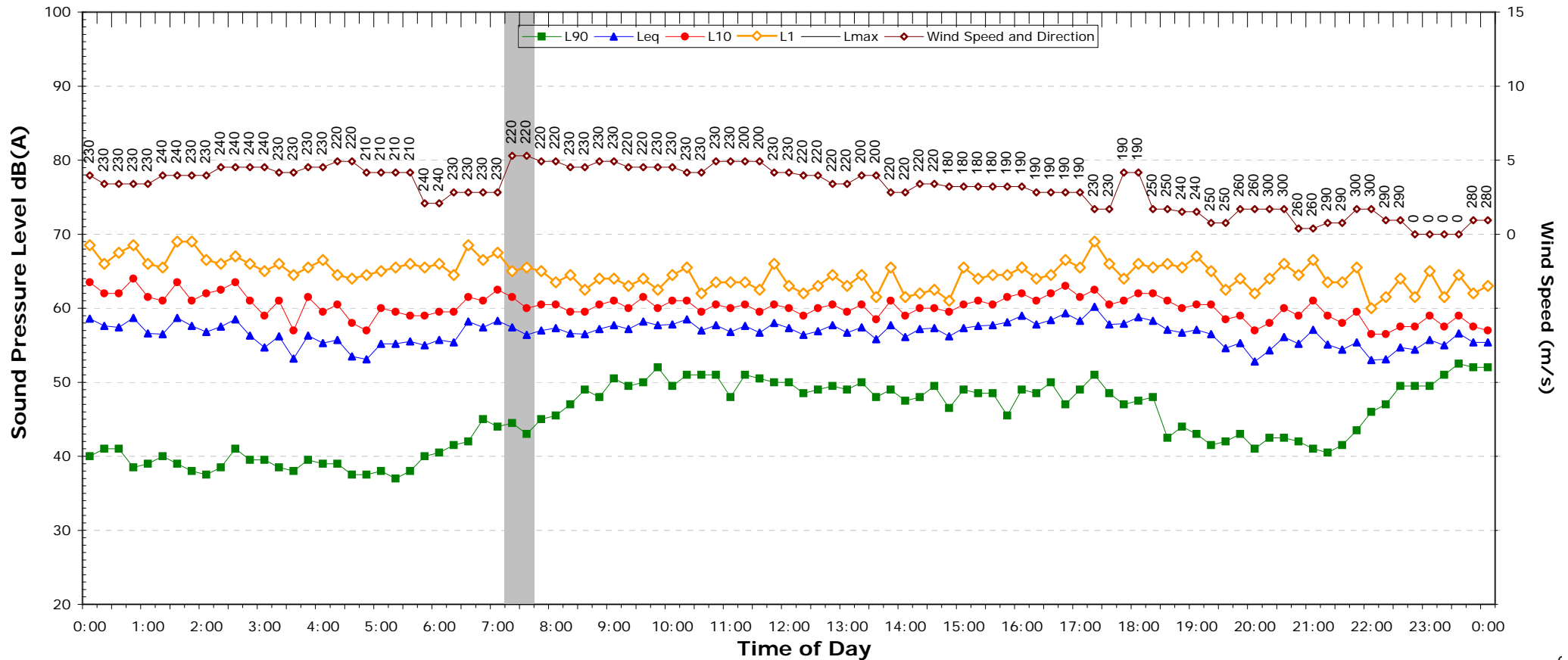
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.4	59.4
L _{eq} 1hr upper 10 percentile	62.4	60.9
L _{eq} 1hr lower 10 percentile	60.4	57.0

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.0	41.0	38.5
Leq (see note 3)	57.6	55.8	52.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

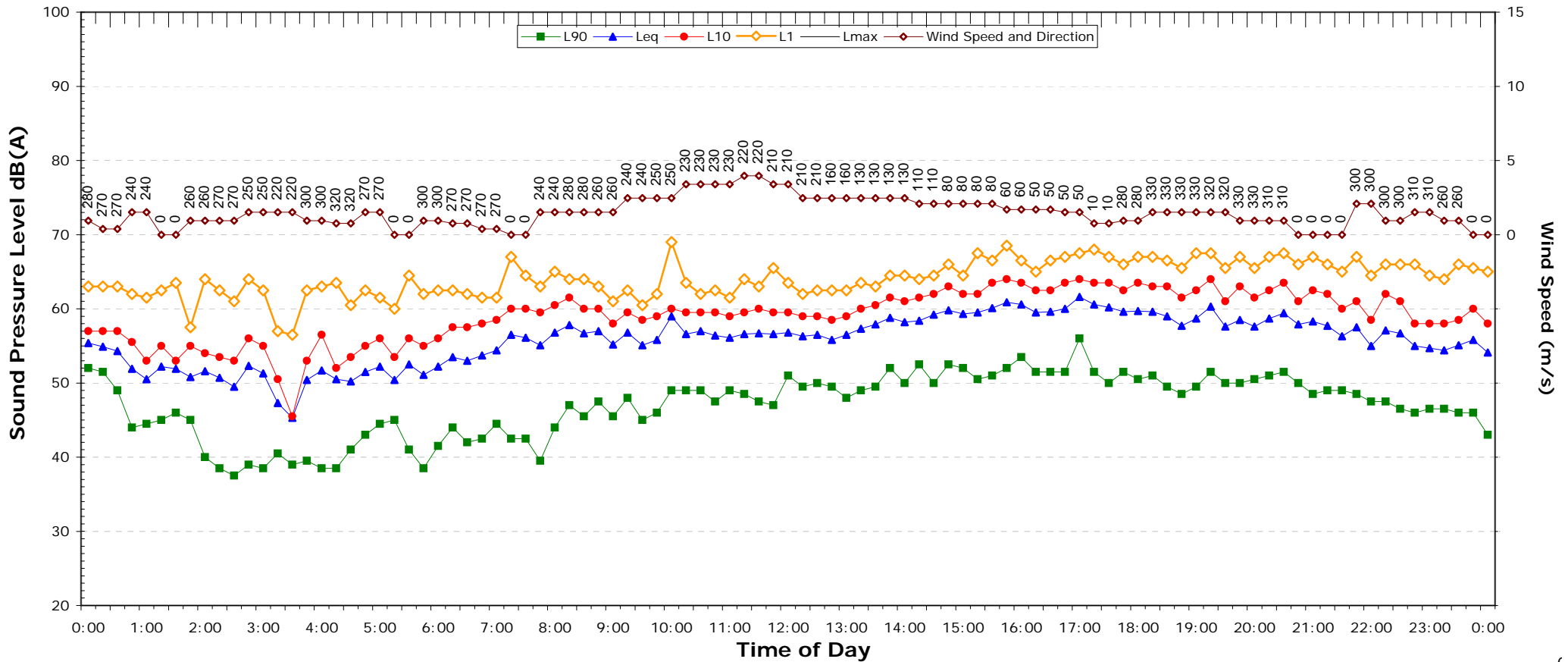
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.7	55.4
L _{eq} 1hr upper 10 percentile	61.1	58.1
L _{eq} 1hr lower 10 percentile	57.3	51.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.0	48.5	40.0
Leq (see note 3)	58.2	58.3	55.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

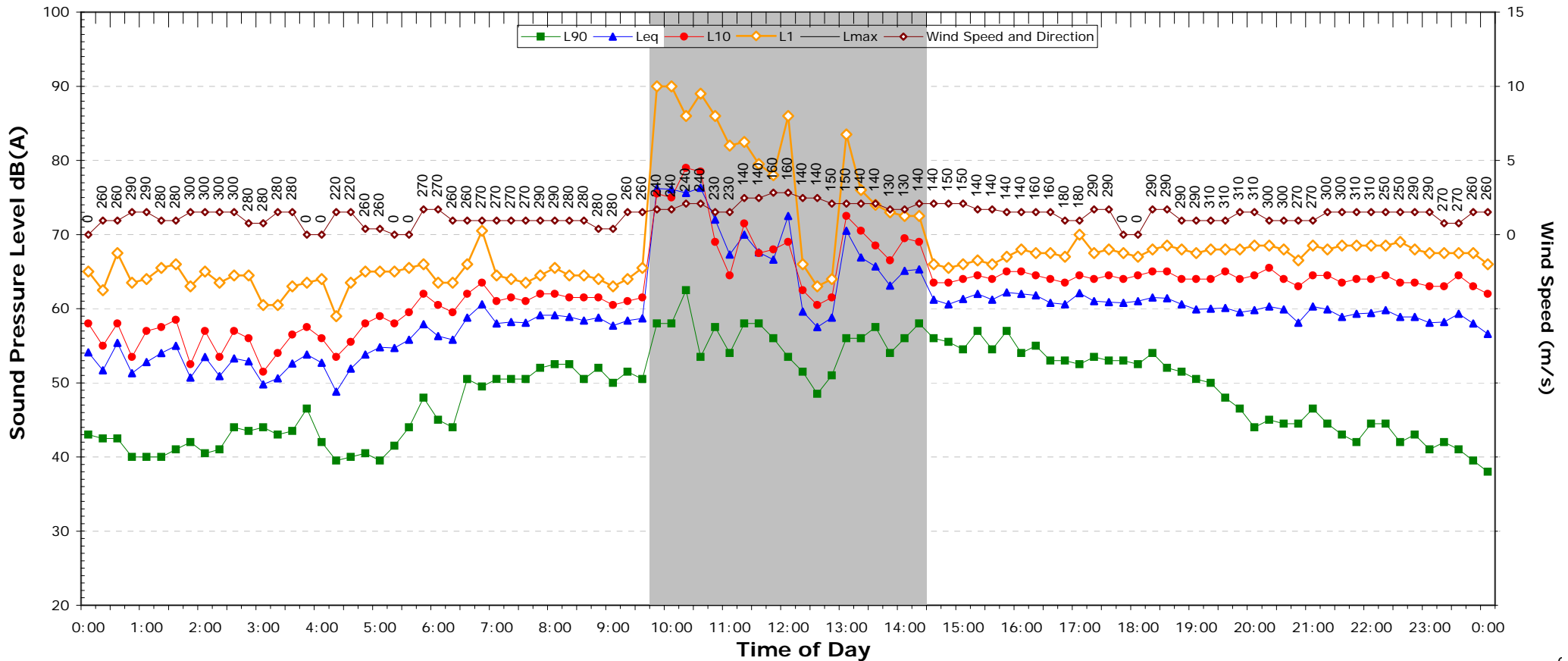
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.8	57.5
L _{eq} 1hr upper 10 percentile	62.8	61.1
L _{eq} 1hr lower 10 percentile	58.7	54.5

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	43.0	38.5
Leq (see note 3)	-	60.0	57.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

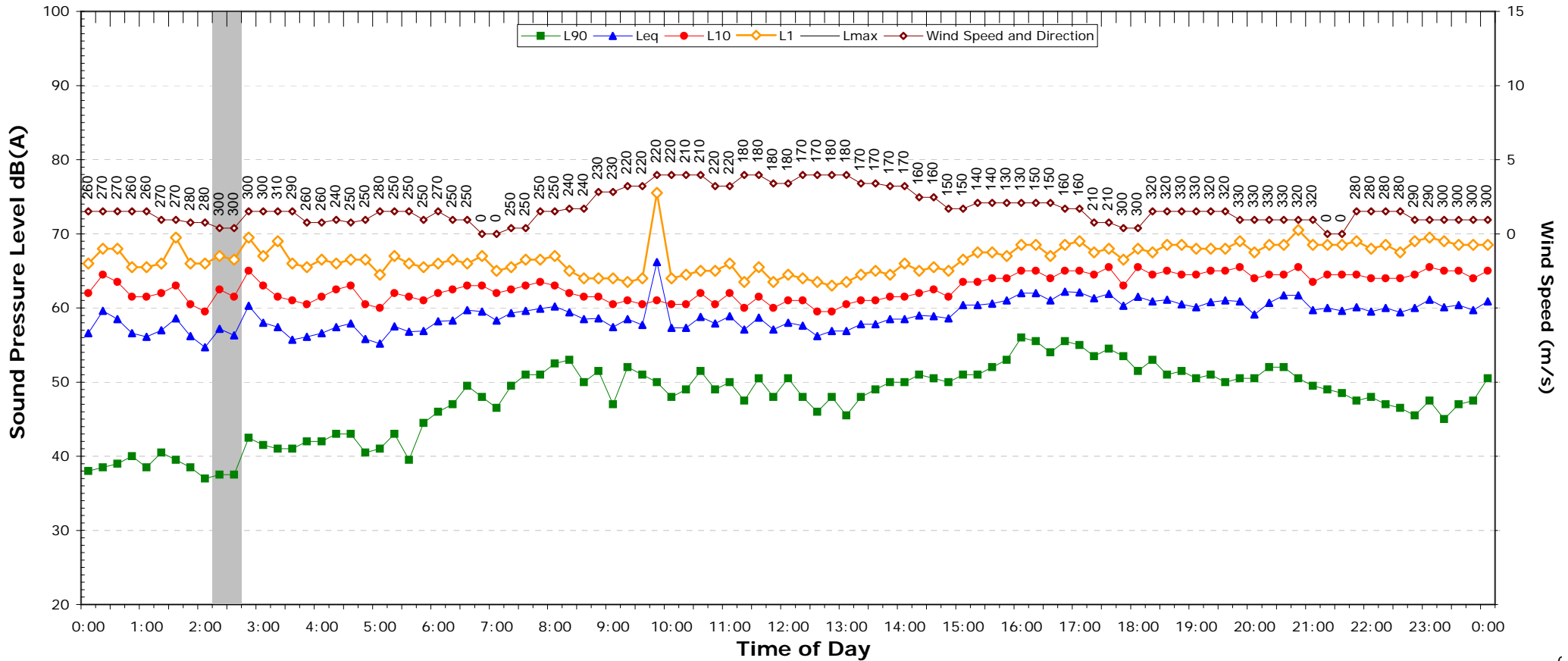
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.8	60.4
L _{eq} 1hr upper 10 percentile	64.3	61.8
L _{eq} 1hr lower 10 percentile	61.0	59.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.0	48.0	46.5
Leq (see note 3)	59.8	60.5	59.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

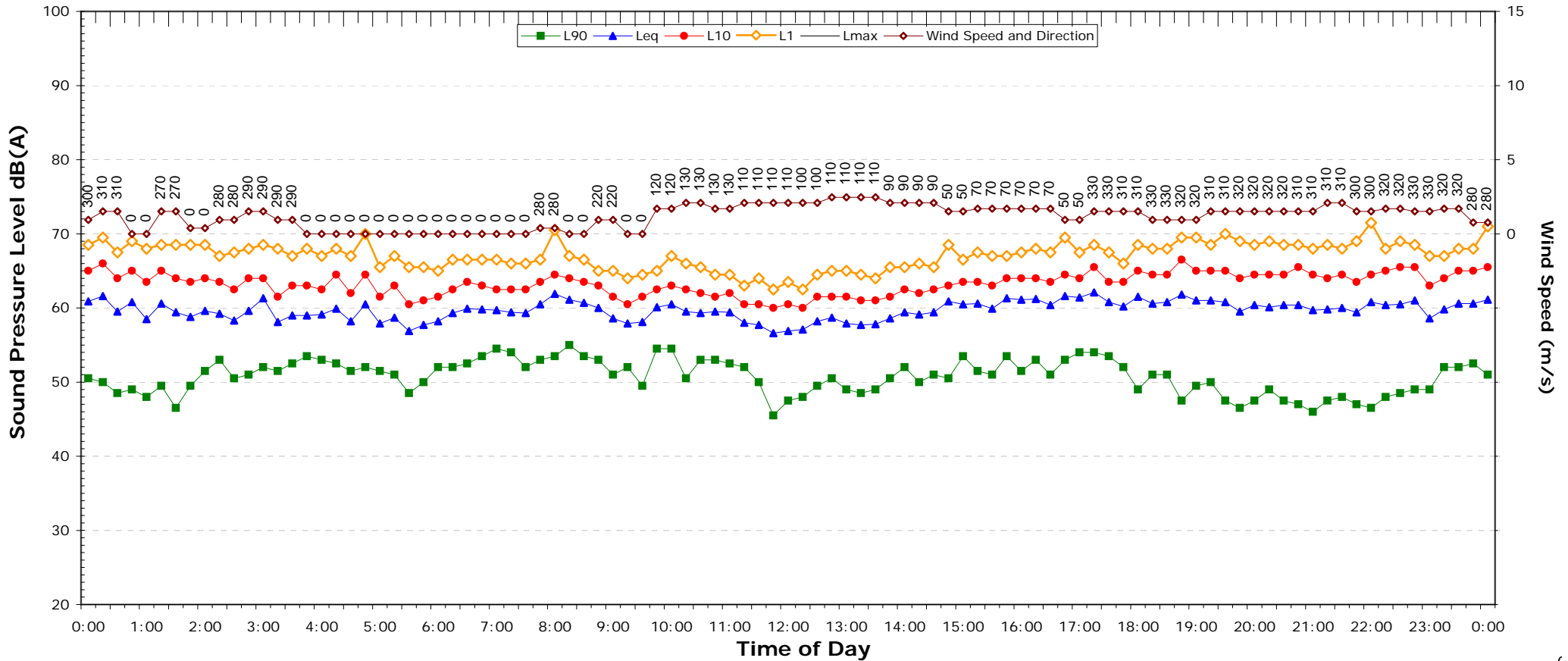
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.5	62.1
L _{eq} 1hr upper 10 percentile	64.3	62.8
L _{eq} 1hr lower 10 percentile	59.9	60.4

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.0	46.5	45.0
Leq (see note 3)	59.8	60.5	59.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

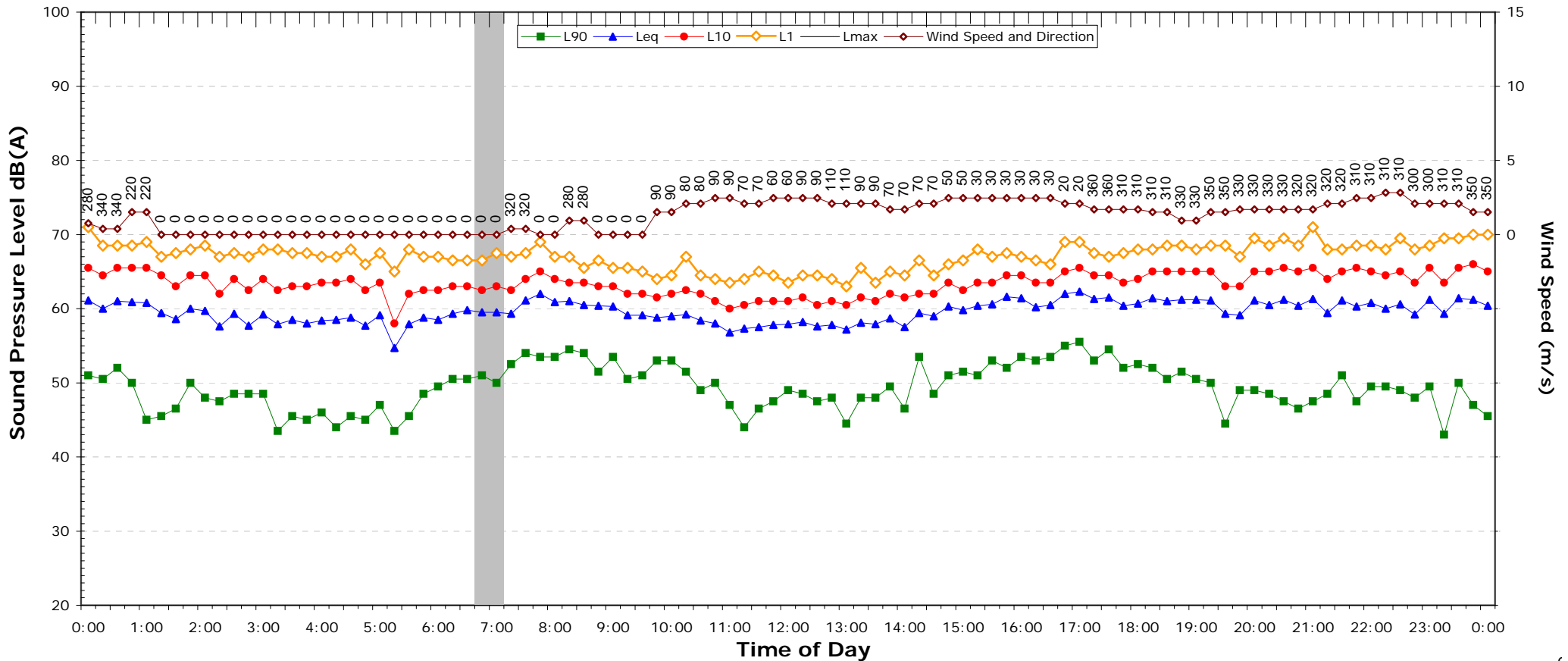
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.5	61.9
L _{eq} 1hr upper 10 percentile	63.7	63.2
L _{eq} 1hr lower 10 percentile	60.2	60.2

Night Time Maximum Noise Levels (see note 4)			
Descriptor	Day	Evening	Night
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.0	46.5	44.5
Leq (see note 3)	59.8	60.7	59.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

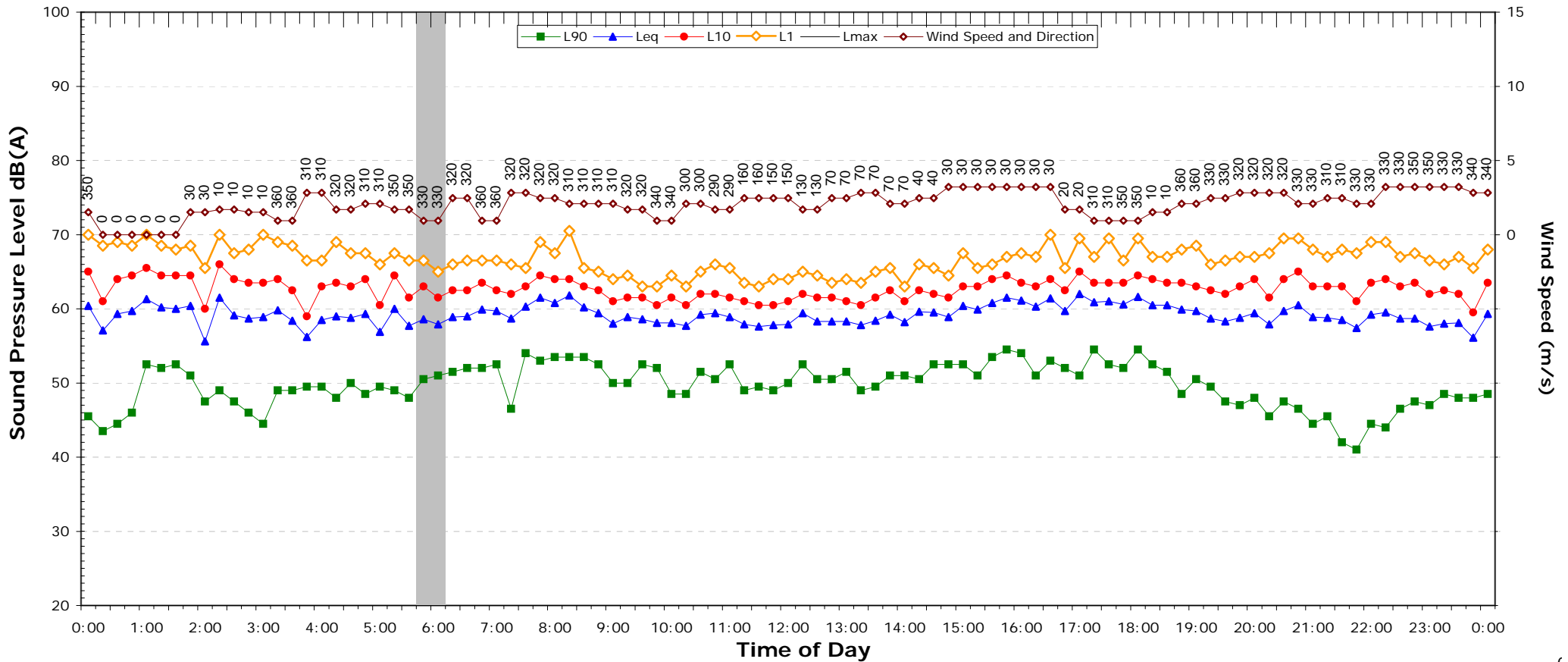
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.5	62.0
L _{eq} 1hr upper 10 percentile	63.8	63.2
L _{eq} 1hr lower 10 percentile	60.2	60.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.0	42.0	41.5
Leq (see note 3)	59.7	59.3	57.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

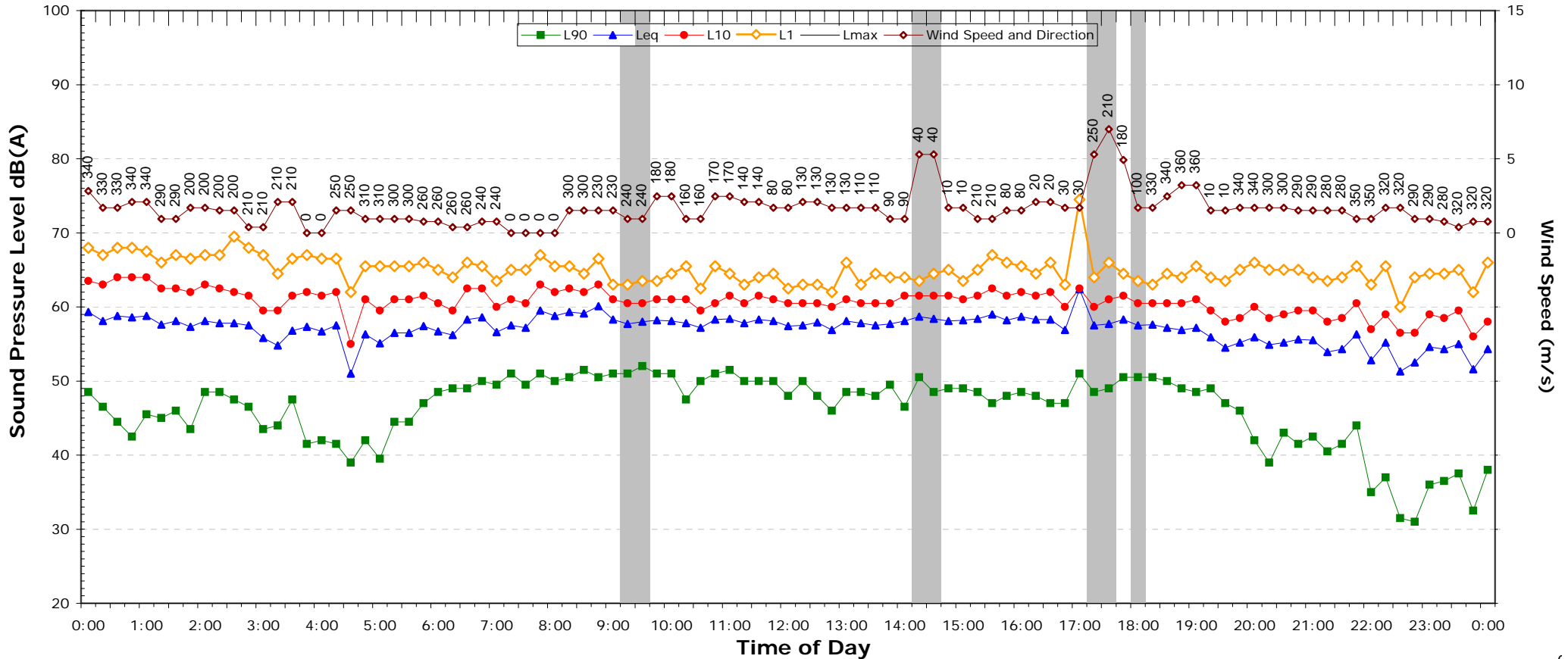
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.1	60.0
L _{eq} 1hr upper 10 percentile	63.5	61.2
L _{eq} 1hr lower 10 percentile	60.6	58.1

Night Time Maximum Noise Levels (see note 4)		
Descriptor	Day	Night
Lmax (Range)	- to	-
Lmax - Leq (Range)	- to	-

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.0	39.0	30.5
Leq (see note 3)	58.4	55.7	52.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

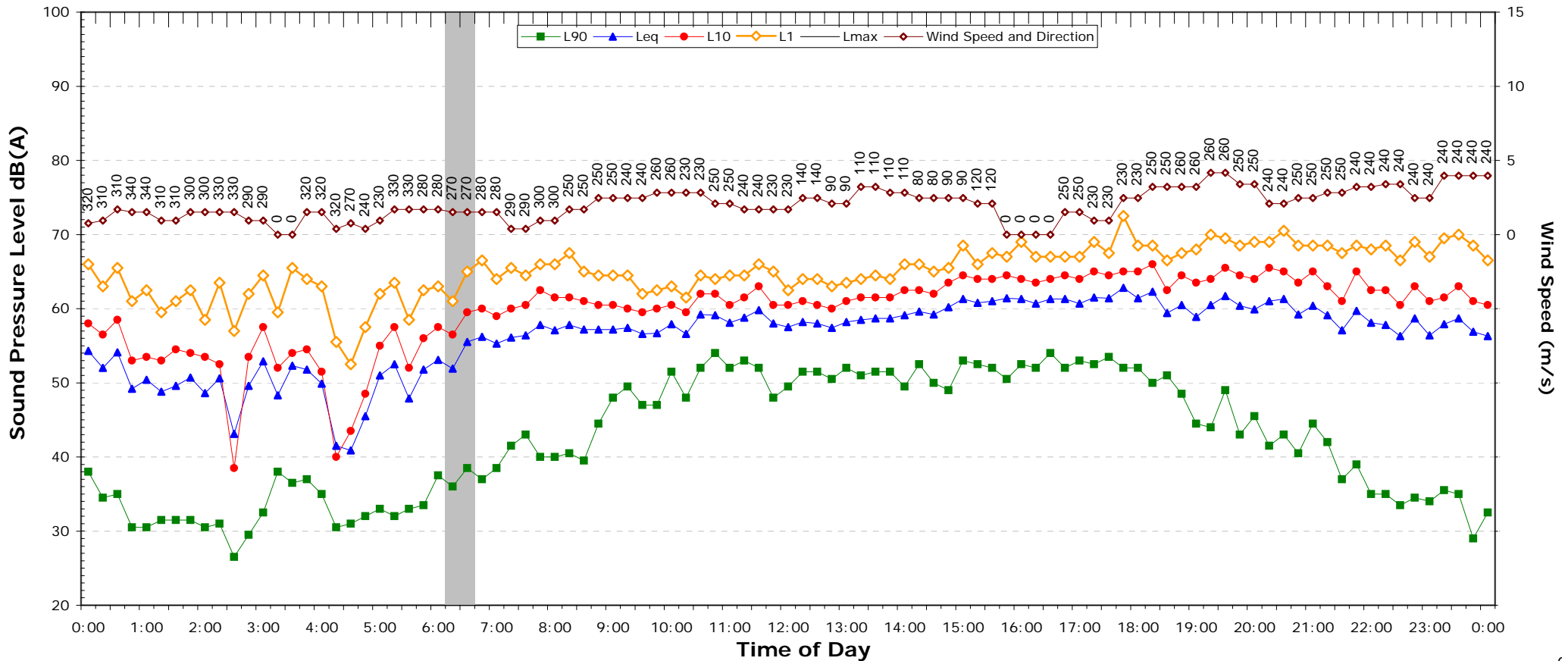
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.2	54.5
L _{eq} 1hr upper 10 percentile	61.9	58.3
L _{eq} 1hr lower 10 percentile	57.4	49.2

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Sunday, 13 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.5	37.0	30.5
Leq (see note 3)	59.3	60.2	57.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

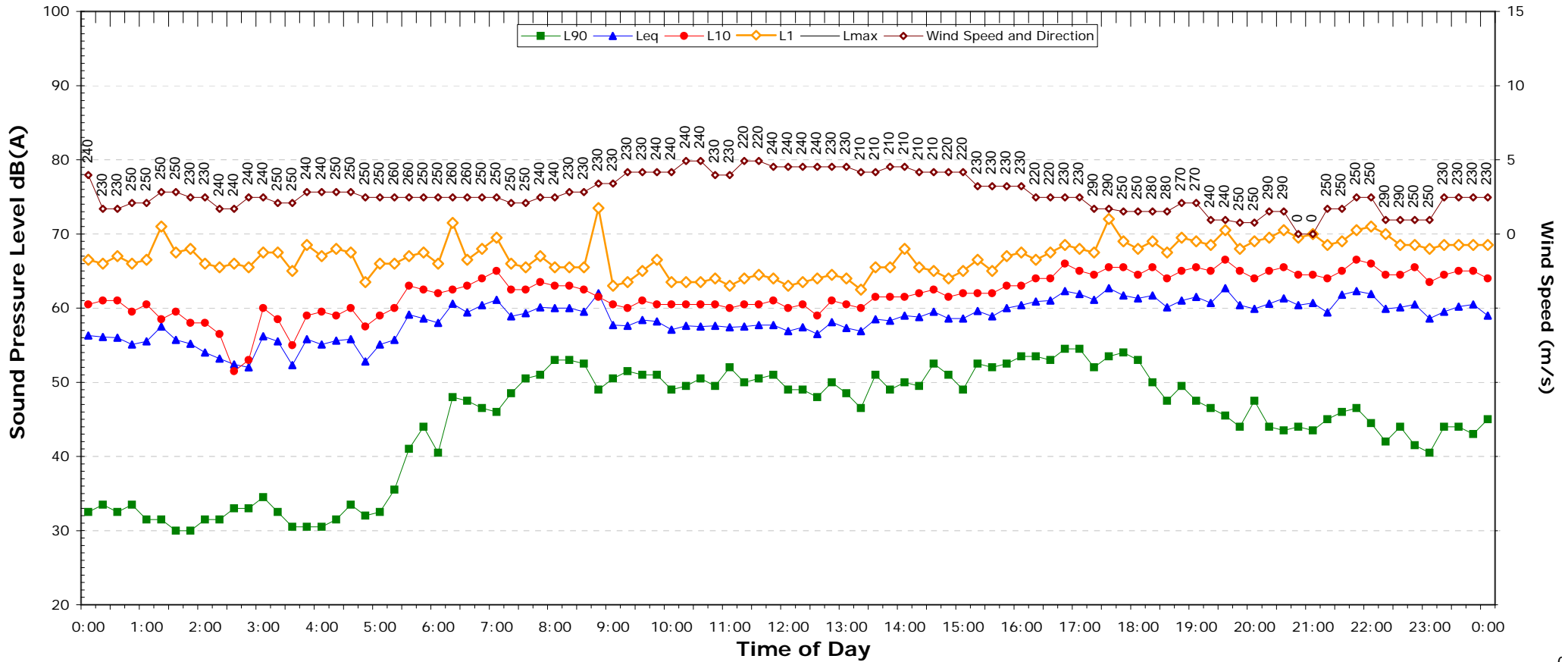
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.1	59.5
L _{eq} 1hr upper 10 percentile	64.0	62.9
L _{eq} 1hr lower 10 percentile	59.5	56.3

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Monday, 14 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.0	43.5	39.0
Leq (see note 3)	59.5	61.1	59.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

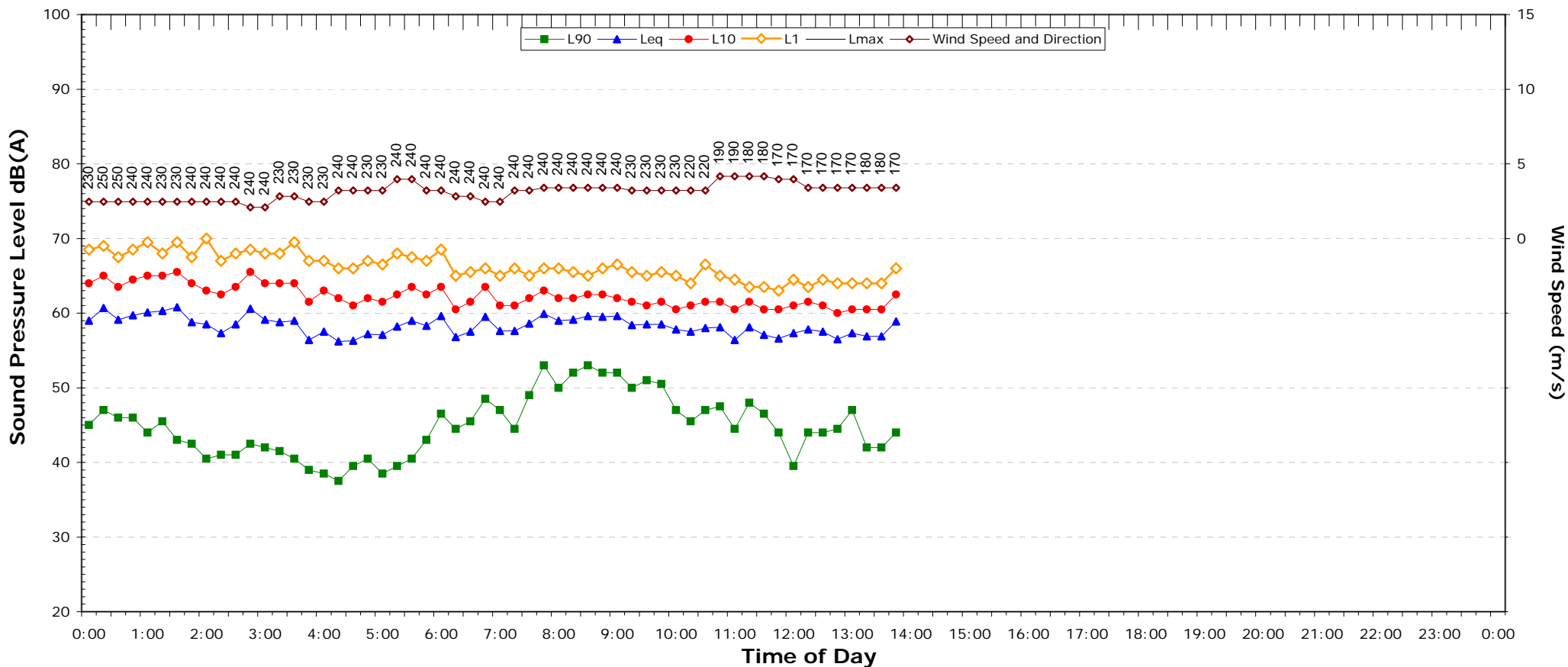
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.4	61.5
L _{eq} 1hr upper 10 percentile	64.2	62.4
L _{eq} 1hr lower 10 percentile	59.9	59.2

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3006 - 7337 Pacific HWY, Valla

Tuesday, 15 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq (see note 3)	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

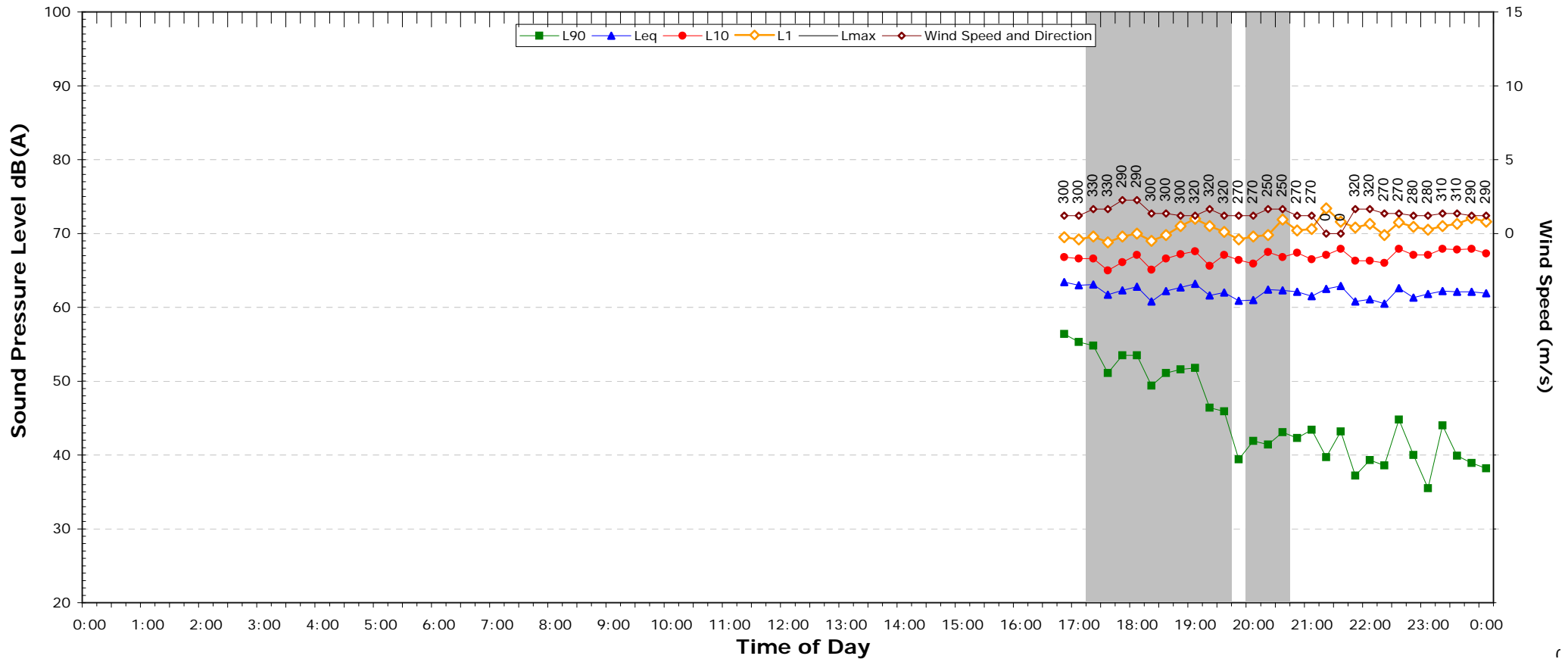
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.7	-
L _{eq} 1hr upper 10 percentile	62.0	-
L _{eq} 1hr lower 10 percentile	59.8	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	35.0
Leq (see note 3)	-	-	61.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

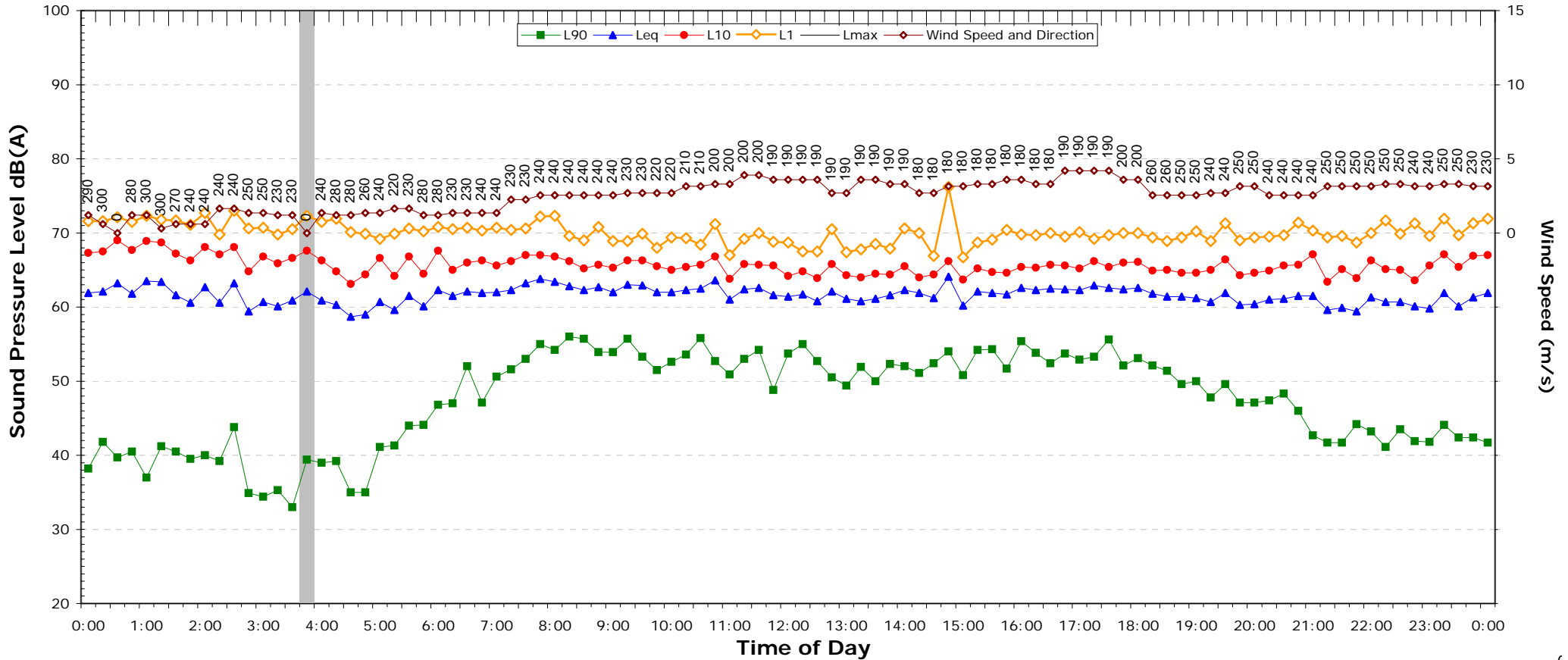
NSW ECRTN Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.1	61.6
L _{eq} 1hr upper 10 percentile	63.2	62.7
L _{eq} 1hr lower 10 percentile	60.9	59.8

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.8	41.7	37.0
Leq (see note 3)	62.3	61.0	60.4

- NOTES:**
1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
 2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

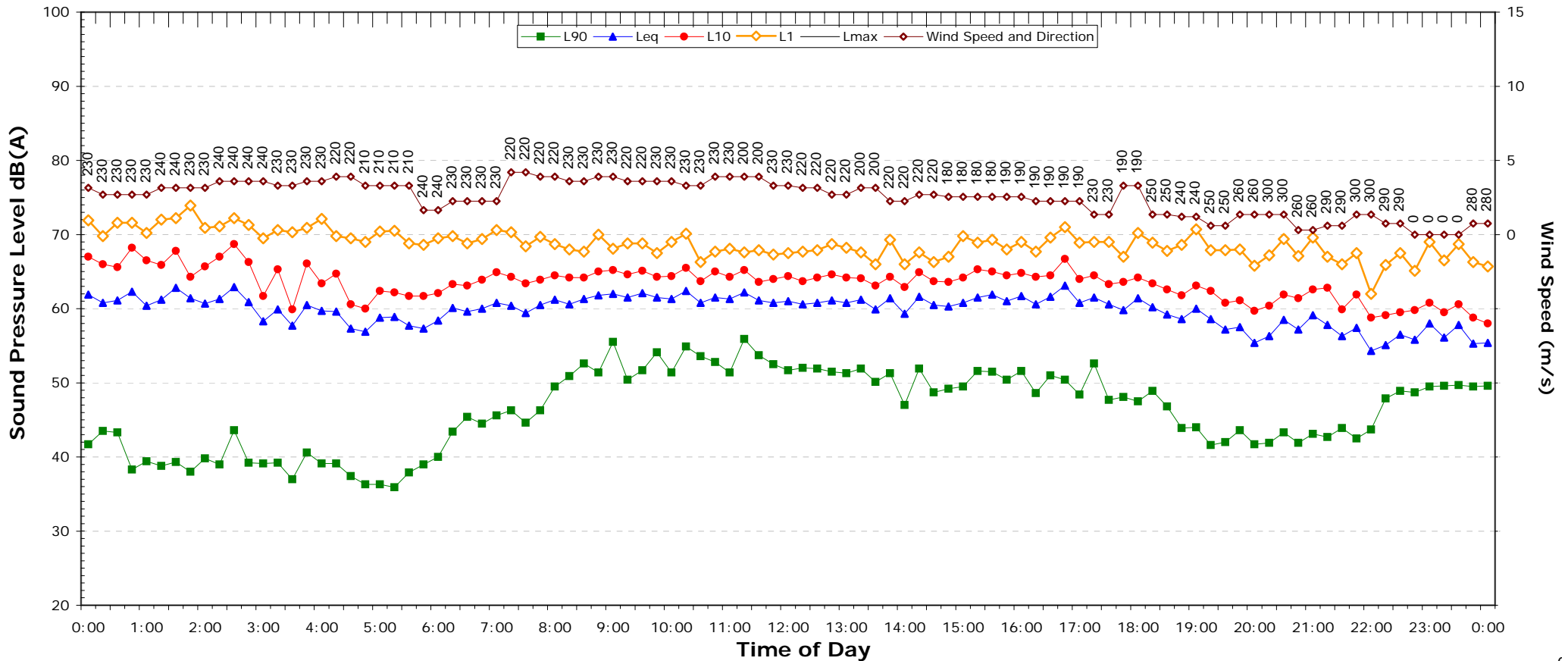
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.0	60.4
L _{eq} 1hr upper 10 percentile	62.9	61.6
L _{eq} 1hr lower 10 percentile	60.5	58.1

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.5	41.7	37.7
Leq (see note 3)	61.2	58.0	54.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

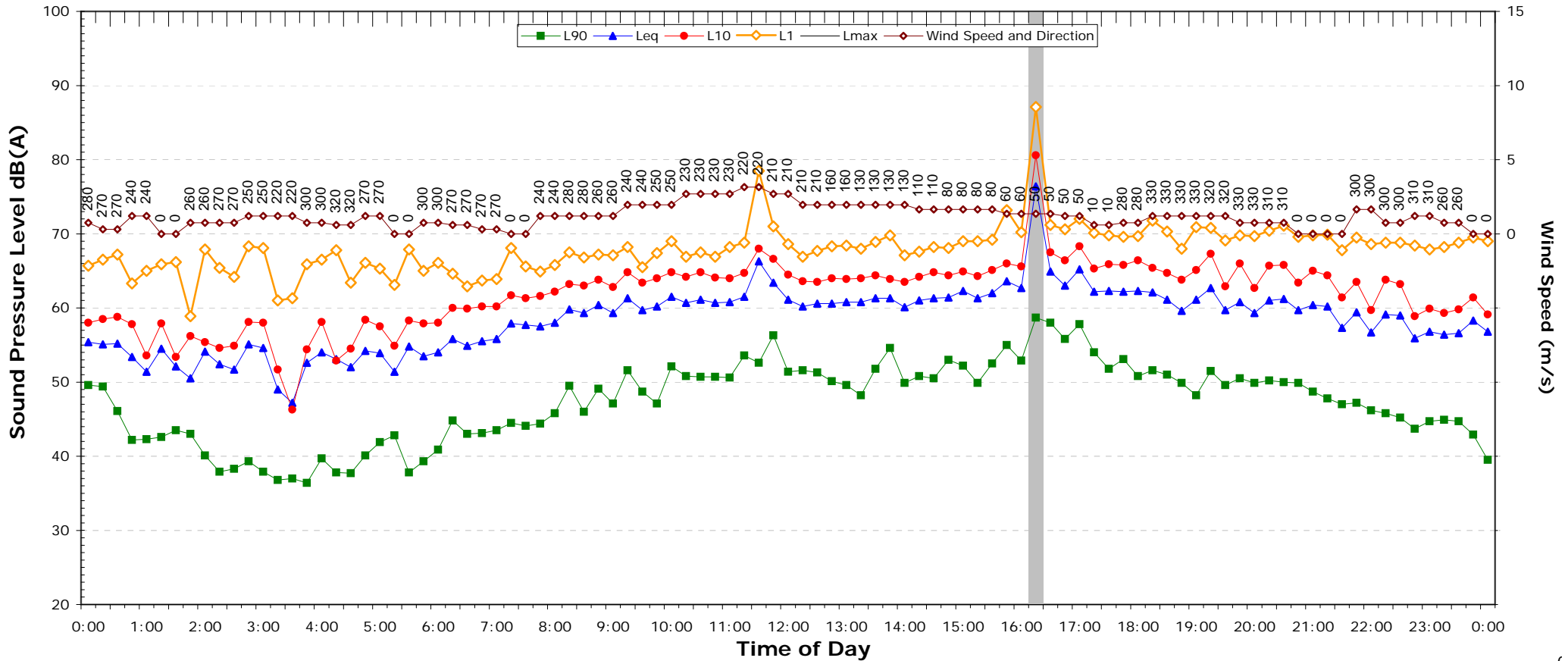
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.5	54.4
L _{eq} 1hr upper 10 percentile	61.6	56.5
L _{eq} 1hr lower 10 percentile	57.0	51.5

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.0	47.0	37.2
Leq (see note 3)	61.6	60.4	57.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

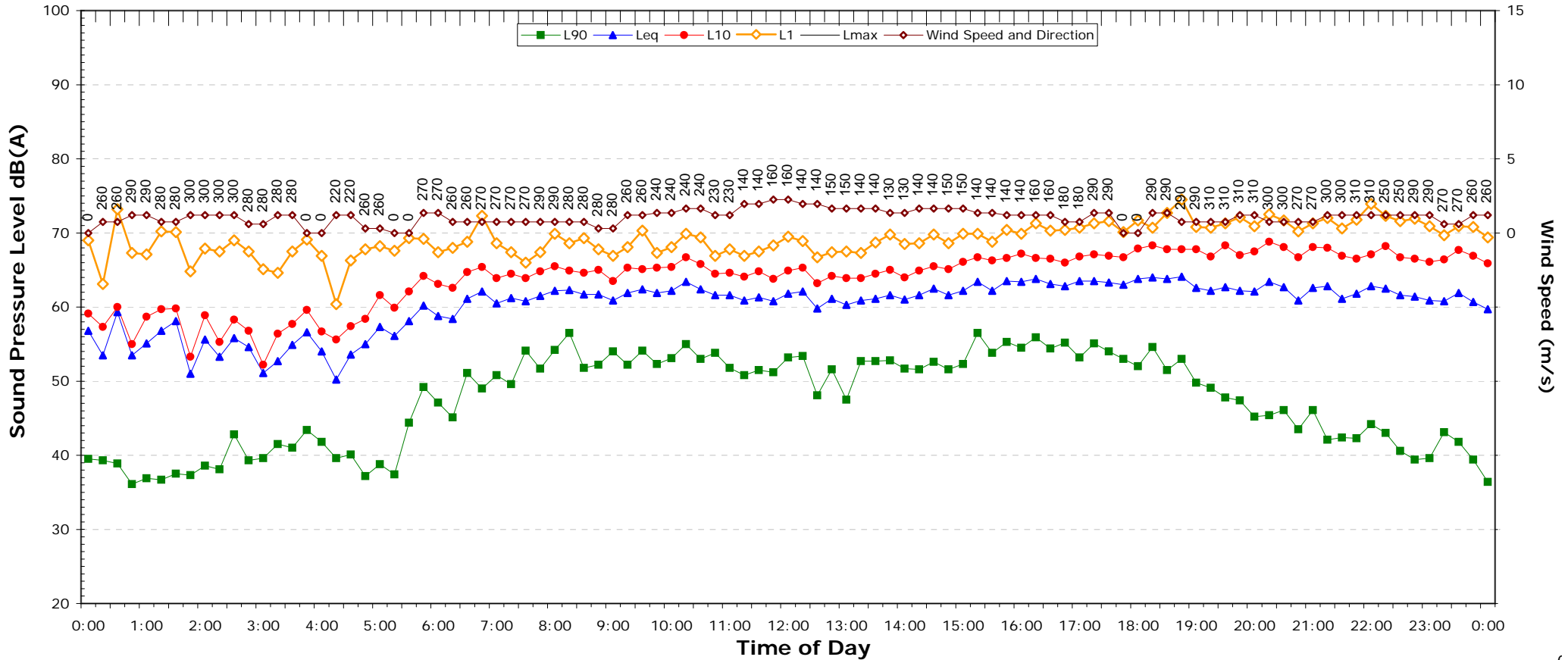
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.3	57.2
L _{eq} 1hr upper 10 percentile	64.1	60.7
L _{eq} 1hr lower 10 percentile	58.2	54.0

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.2	42.3	36.6
Leq (see note 3)	62.2	62.7	60.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

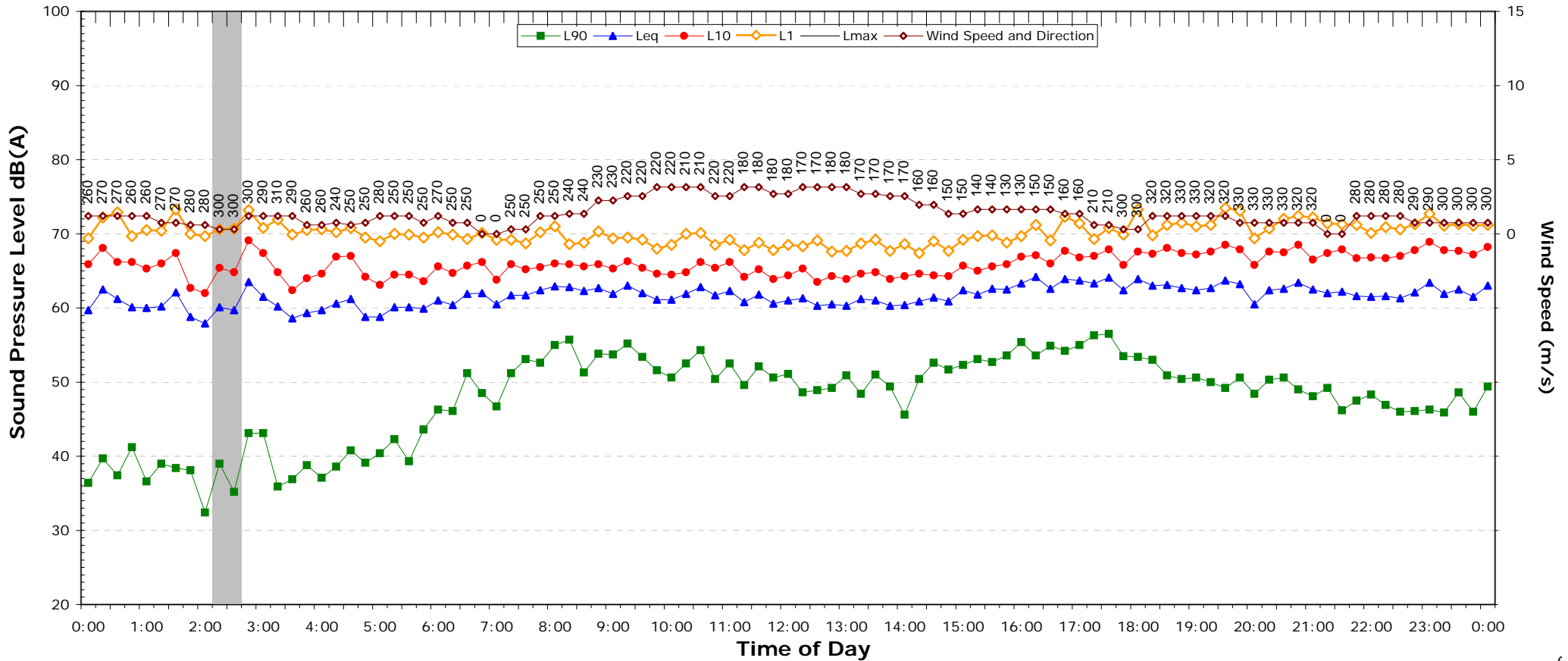
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.3	60.8
L _{eq} 1hr upper 10 percentile	63.5	62.6
L _{eq} 1hr lower 10 percentile	61.0	59.5

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.2	47.5	46.0
Leq (see note 3)	62.1	62.5	61.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

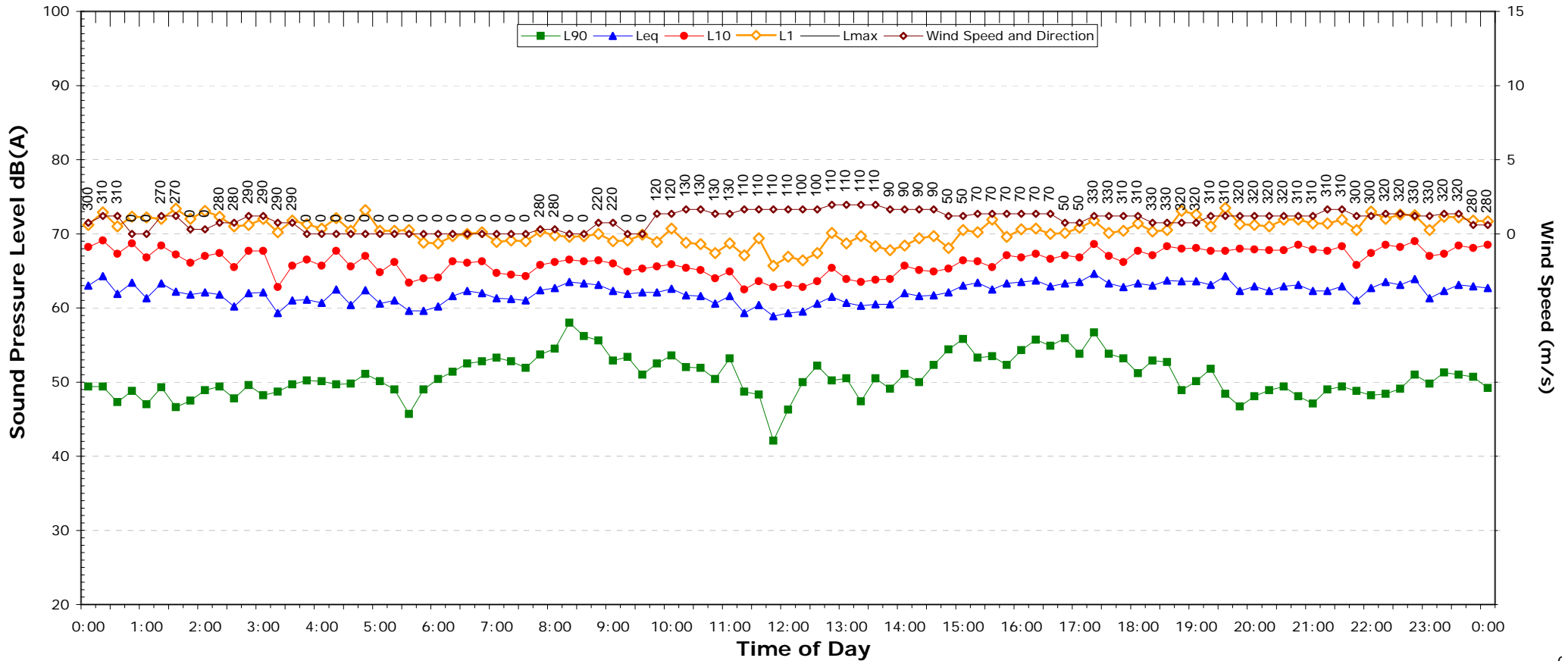
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.2	61.8
L _{eq} 1hr upper 10 percentile	63.6	62.9
L _{eq} 1hr lower 10 percentile	60.7	60.1

Night Time Maximum Noise Levels (see note 4)			
Descriptor	Day	Evening	Night
L _{max} (Range)	-	to	-
L _{max} - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.7	47.1	43.1
Leq (see note 3)	62.1	62.9	62.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

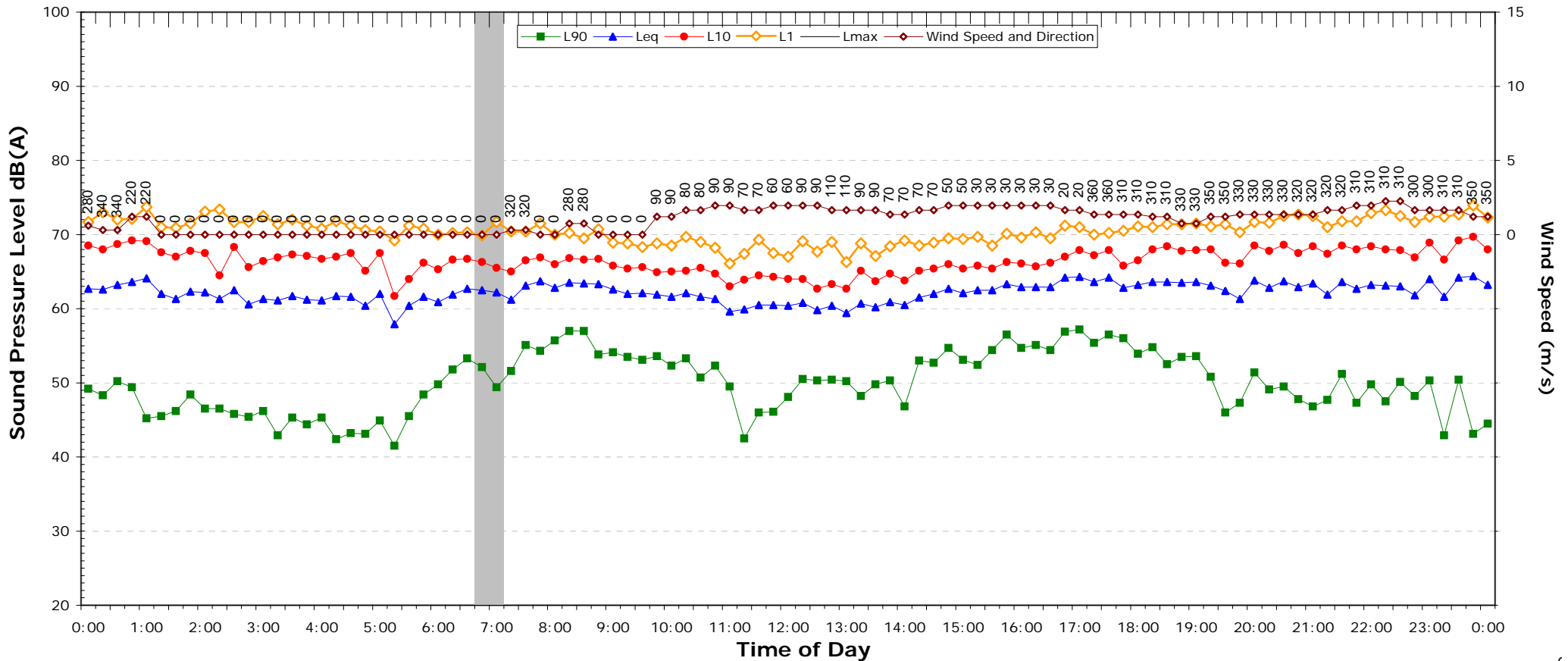
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.4	62.1
L _{eq} 1hr upper 10 percentile	63.5	63.4
L _{eq} 1hr lower 10 percentile	60.1	60.4

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.1	46.8	44.5
Leq (see note 3)	62.2	63.1	62.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

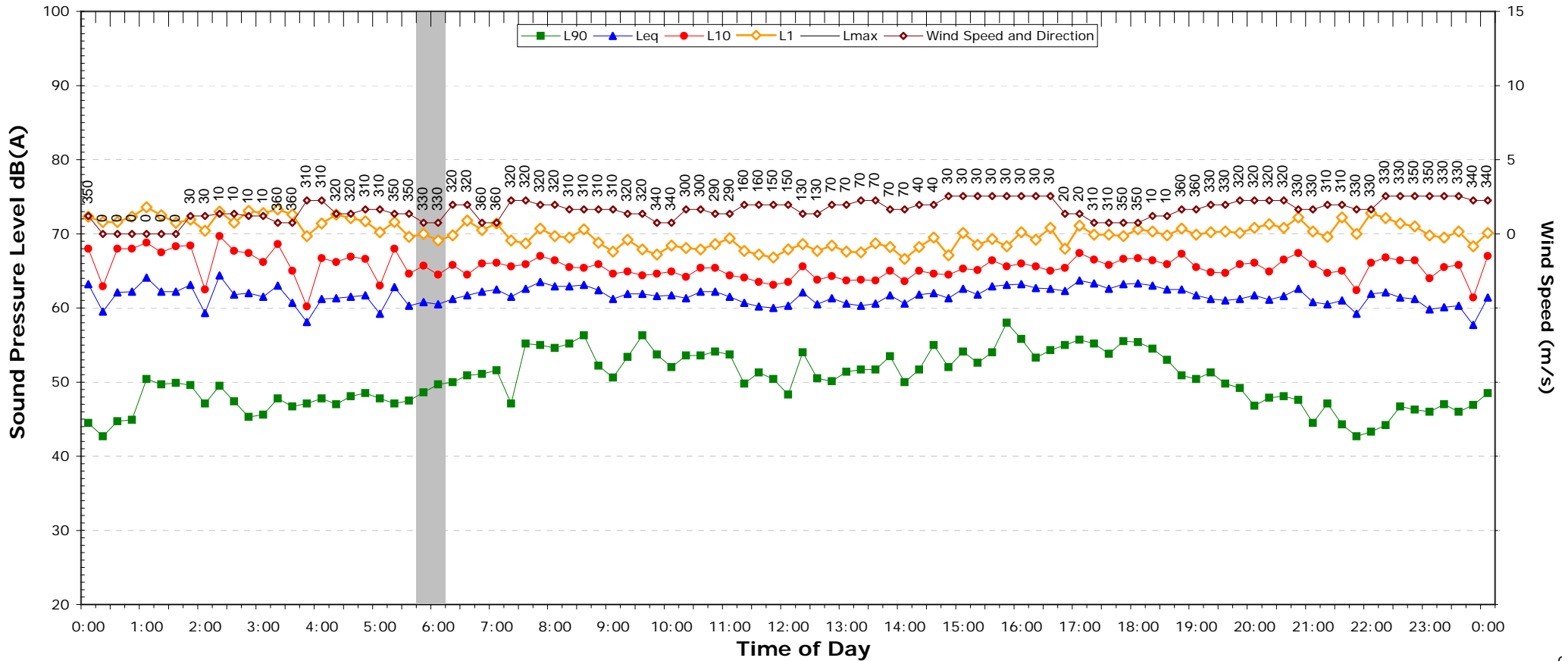
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.5	62.2
L _{eq} 1hr upper 10 percentile	63.6	63.5
L _{eq} 1hr lower 10 percentile	60.2	61.0

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.1	43.3	40.5
Leq (see note 3)	62.1	61.6	60.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

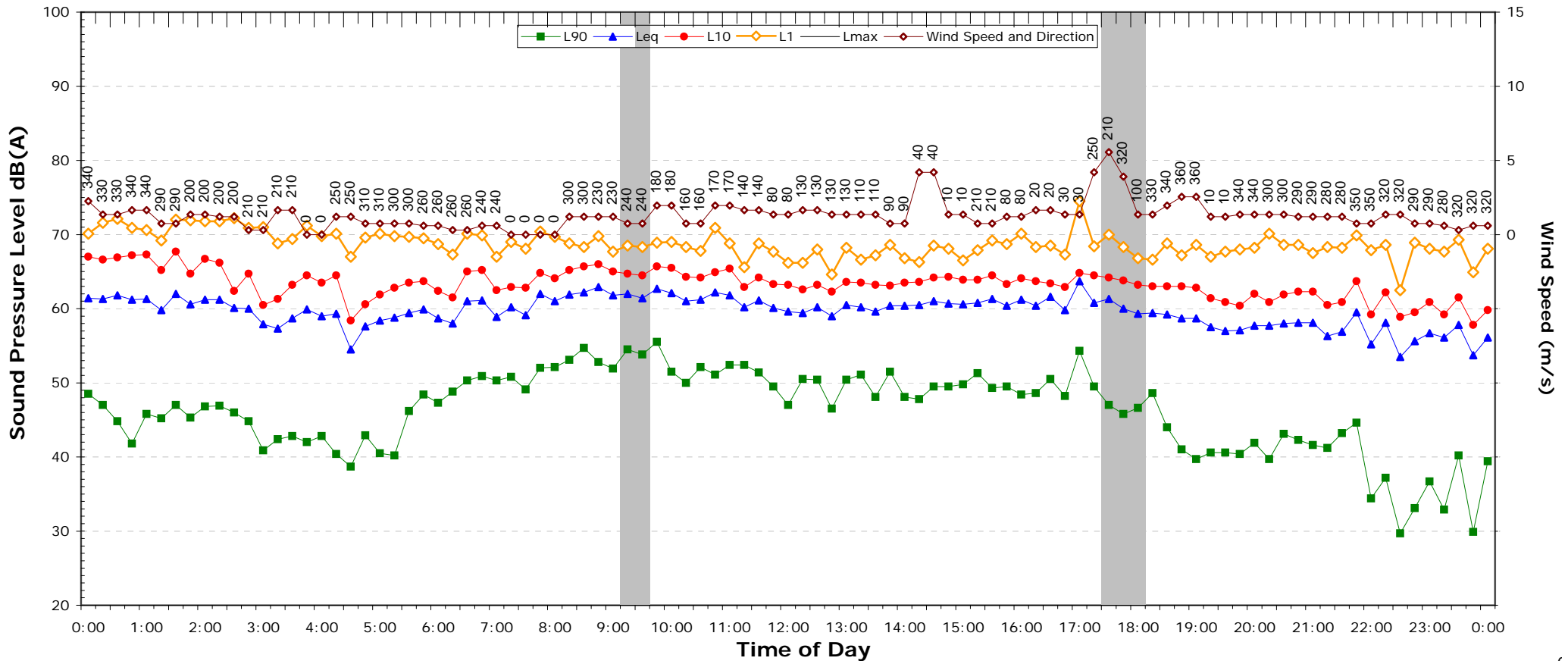
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.9	60.1
L _{eq} 1hr upper 10 percentile	63.0	61.4
L _{eq} 1hr lower 10 percentile	60.5	57.8

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	-	to	-
L _{max} - L _{eq} (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.1	39.7	29.9
Leq (see note 3)	61.0	58.0	54.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

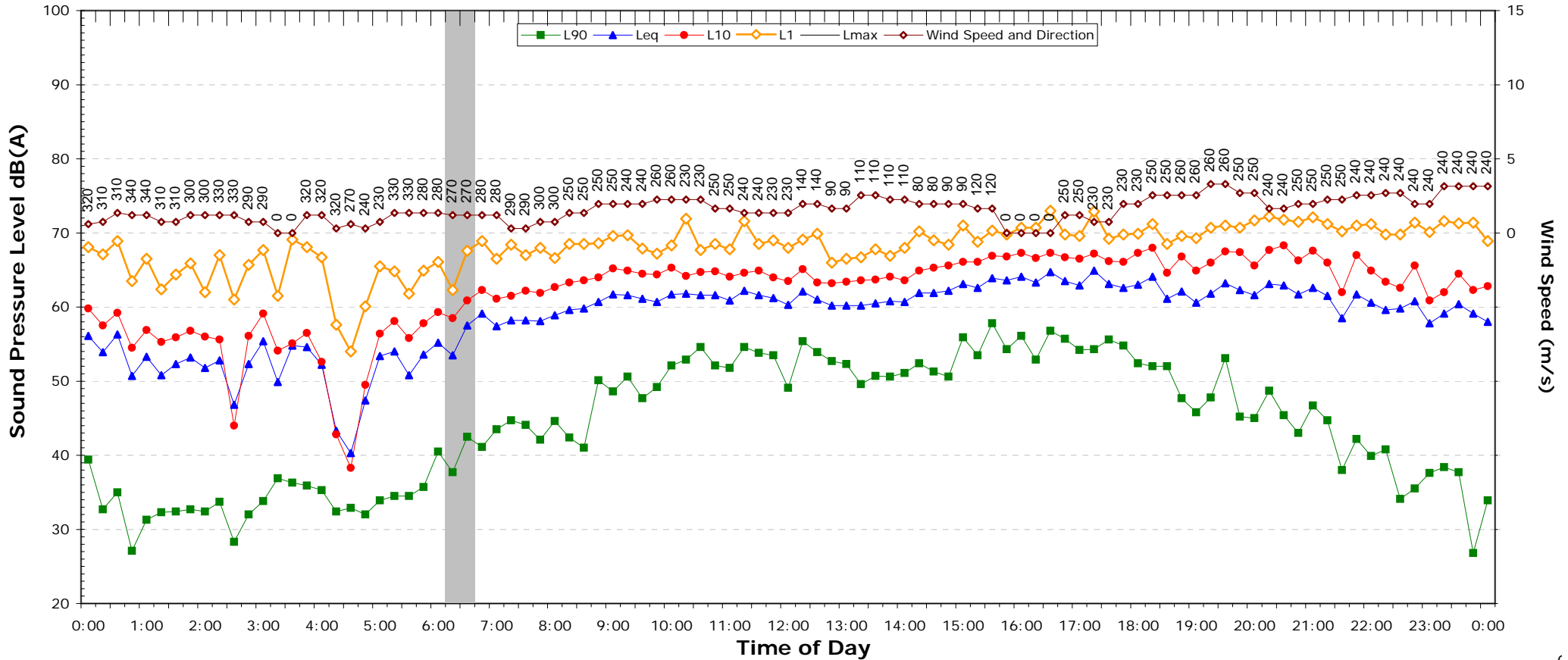
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.3	54.3
L _{eq} 1hr upper 10 percentile	62.3	58.3
L _{eq} 1hr lower 10 percentile	57.3	48.8

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Sunday, 13 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.6	39.9	29.3
Leq (see note 3)	61.9	62.0	58.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

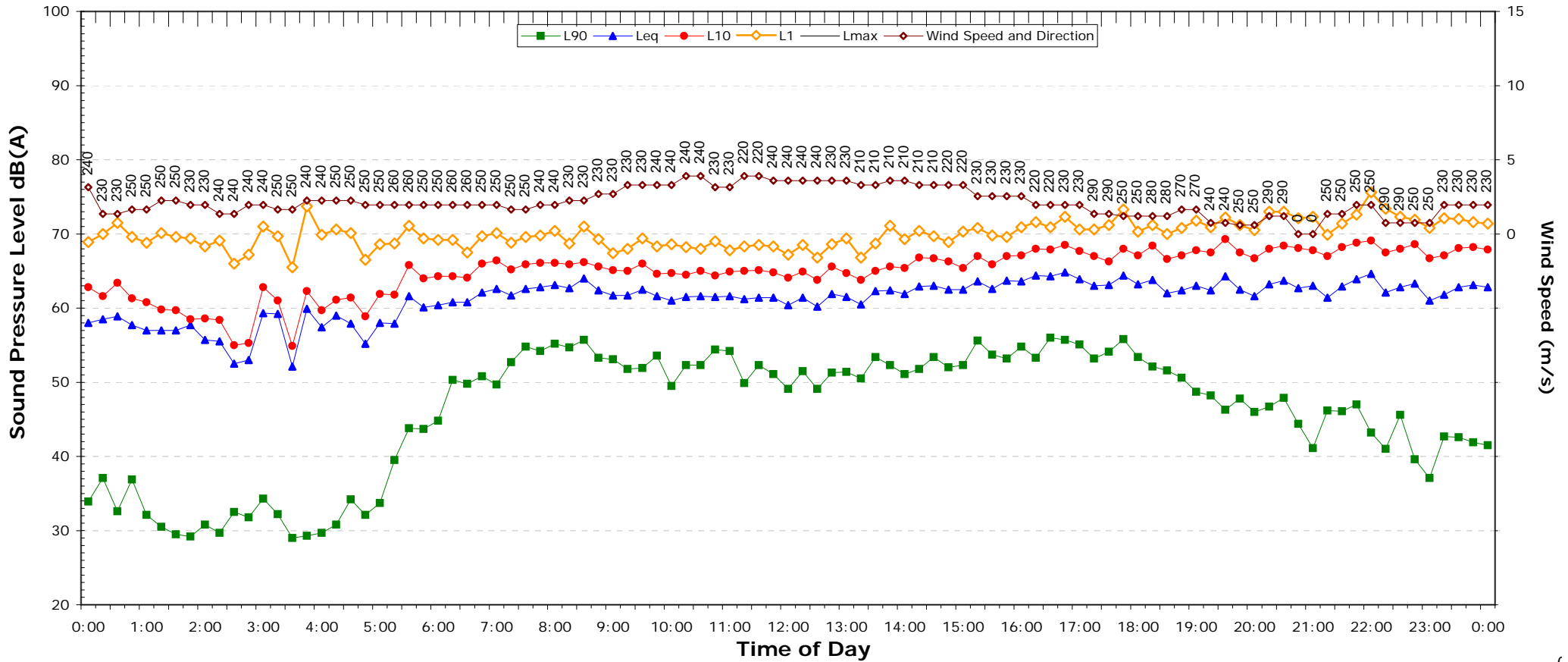
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.9	58.9
L _{eq} 1hr upper 10 percentile	63.6	61.6
L _{eq} 1hr lower 10 percentile	59.6	56.0

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Monday, 14 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.5	43.2	37.6
Leq (see note 3)	62.6	63.1	62.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

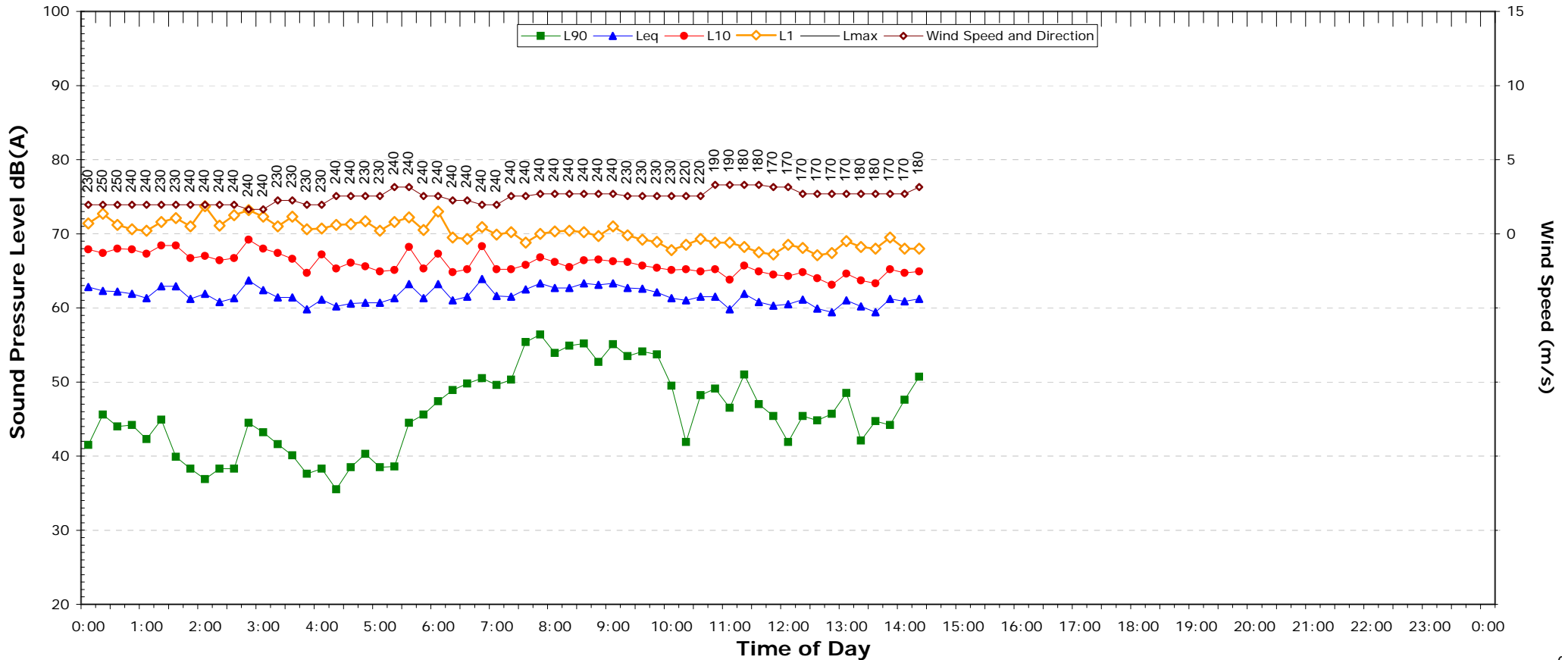
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.7	62.0
L _{eq} 1hr upper 10 percentile	63.9	62.7
L _{eq} 1hr lower 10 percentile	61.2	60.6

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3005 - 7370 Pacific HWY, Valla

Tuesday, 15 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq (see note 3)	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

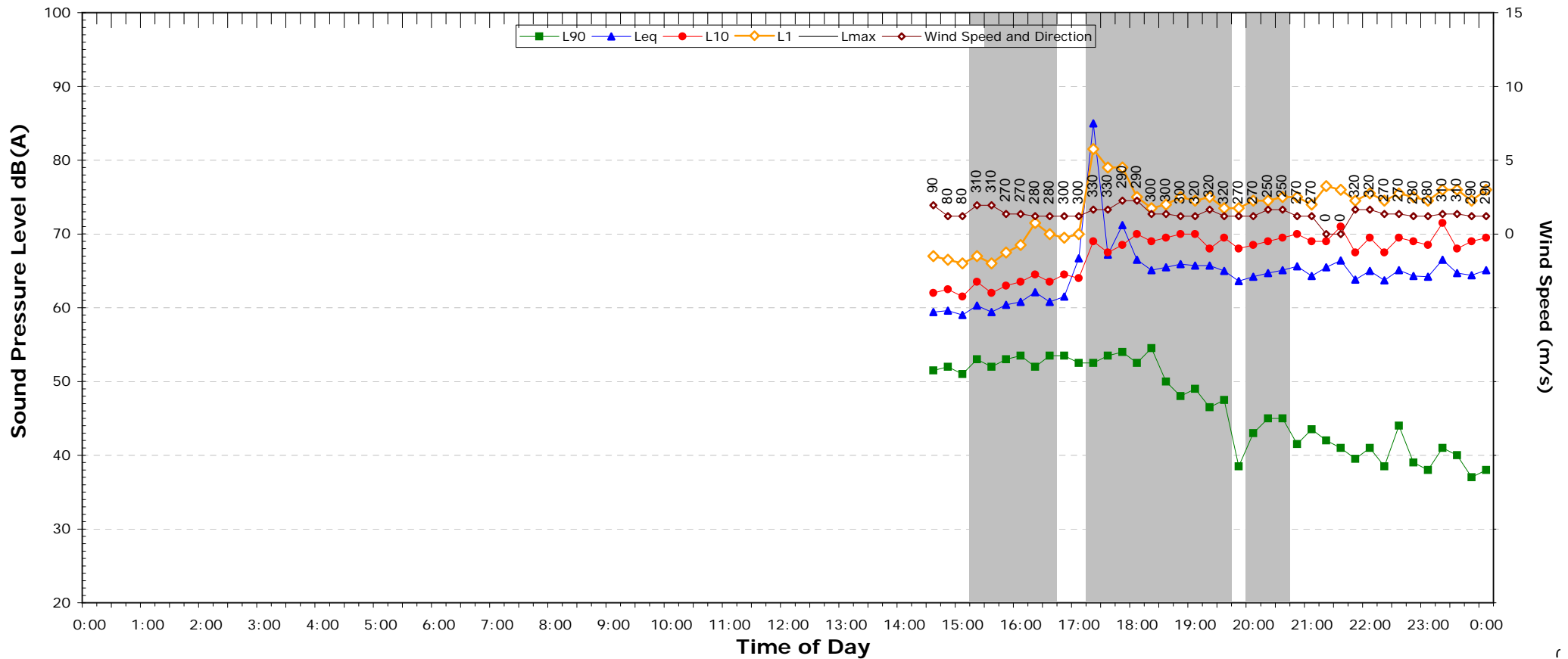
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.6	-
L _{eq} 1hr upper 10 percentile	63.1	-
L _{eq} 1hr lower 10 percentile	60.4	-

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	37.5
Leq (see note 3)	-	-	63.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

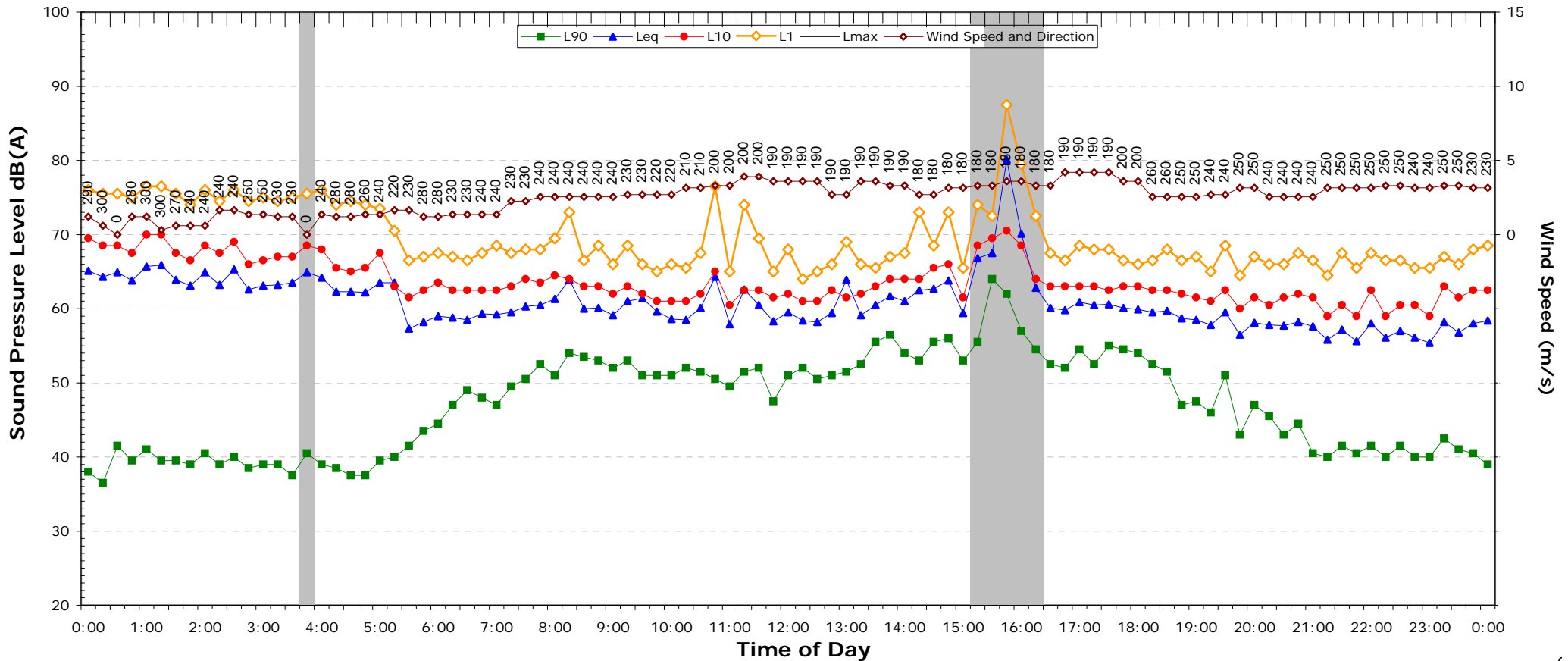
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	66.6	66.0
L _{eq} 1hr upper 10 percentile	67.8	67.8
L _{eq} 1hr lower 10 percentile	61.8	61.5

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.5	40.5	40.0
Leq (see note 3)	60.8	58.0	56.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

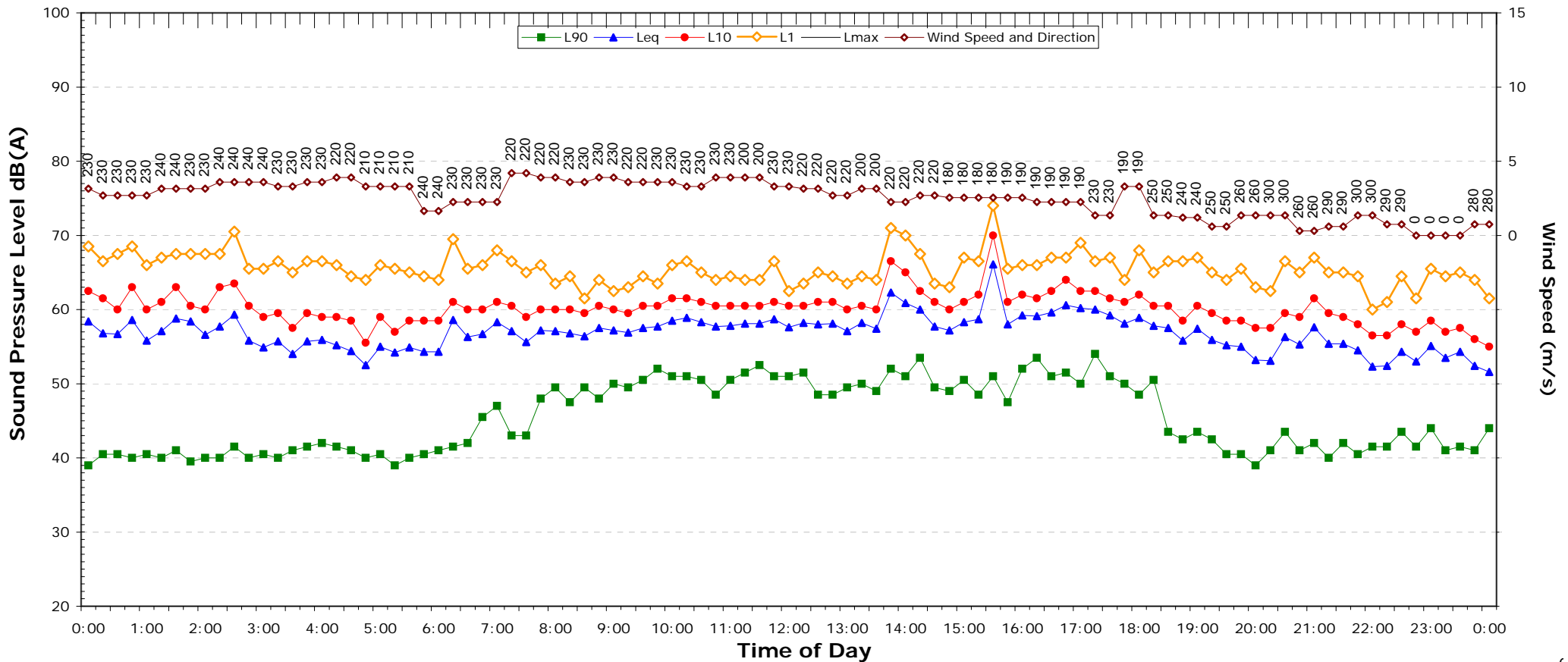
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.7	59.1
L _{eq} 1hr upper 10 percentile	64.4	60.4
L _{eq} 1hr lower 10 percentile	59.7	56.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.0	40.0	41.0
Leq (see note 3)	58.9	55.8	52.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

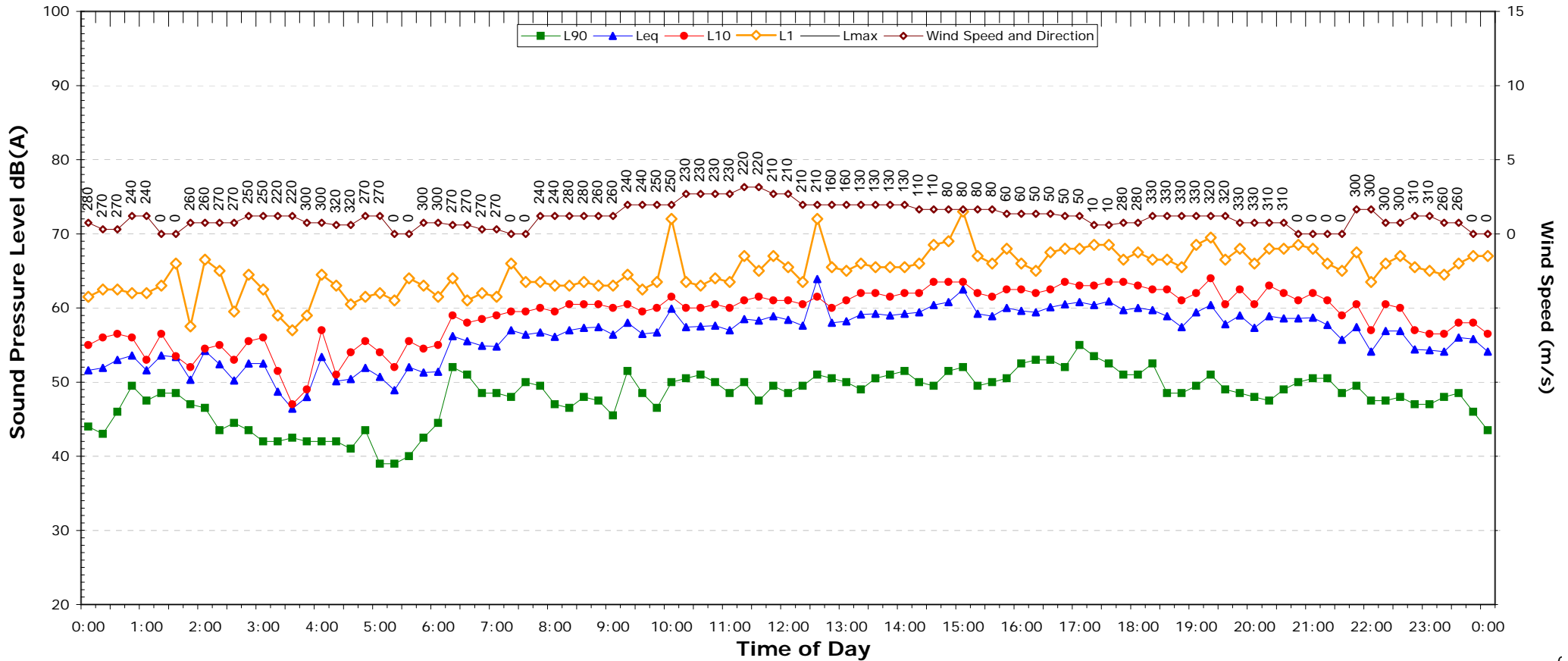
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.8	55.2
L _{eq} 1hr upper 10 percentile	63.6	57.9
L _{eq} 1hr lower 10 percentile	57.3	52.5

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.5	47.5	41.0
Leq (see note 3)	59.1	58.3	55.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

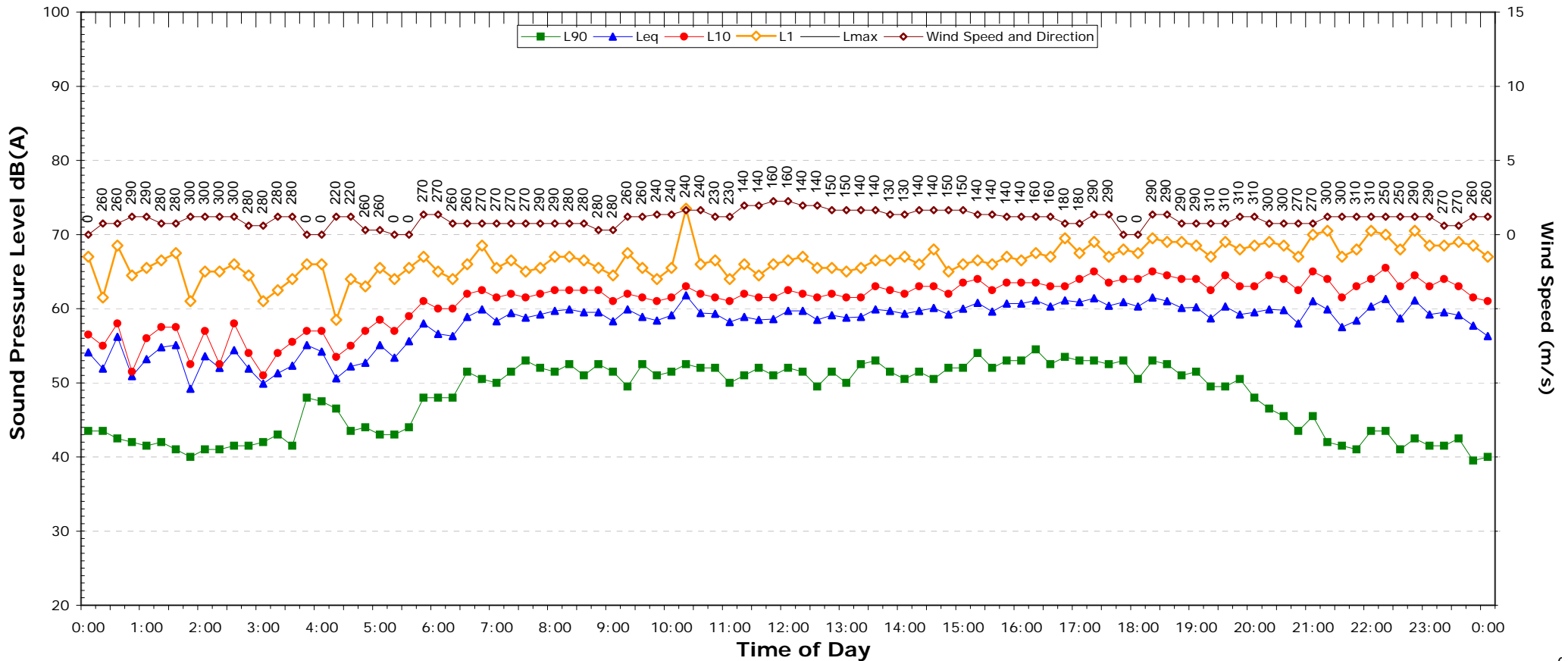
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.4	57.5
L _{eq} 1hr upper 10 percentile	63.1	61.0
L _{eq} 1hr lower 10 percentile	59.0	54.8

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.5	41.5	39.0
Leq (see note 3)	59.8	59.8	58.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

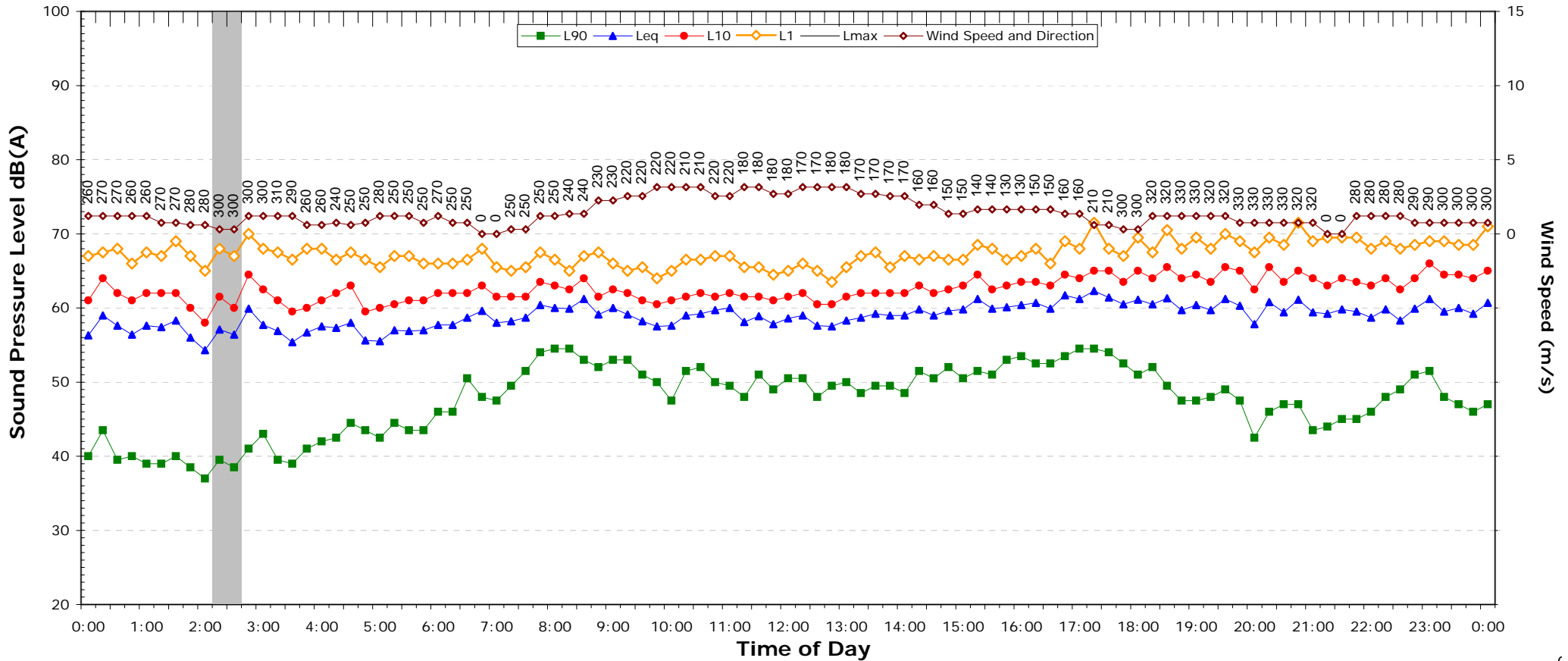
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.3	60.5
L _{eq} 1hr upper 10 percentile	63.3	62.7
L _{eq} 1hr lower 10 percentile	61.5	59.2

Night Time Maximum Noise Levels (see note 4)			
Descriptor	Day	Evening	Night
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.5	43.5	44.5
Leq (see note 3)	59.7	60.0	59.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

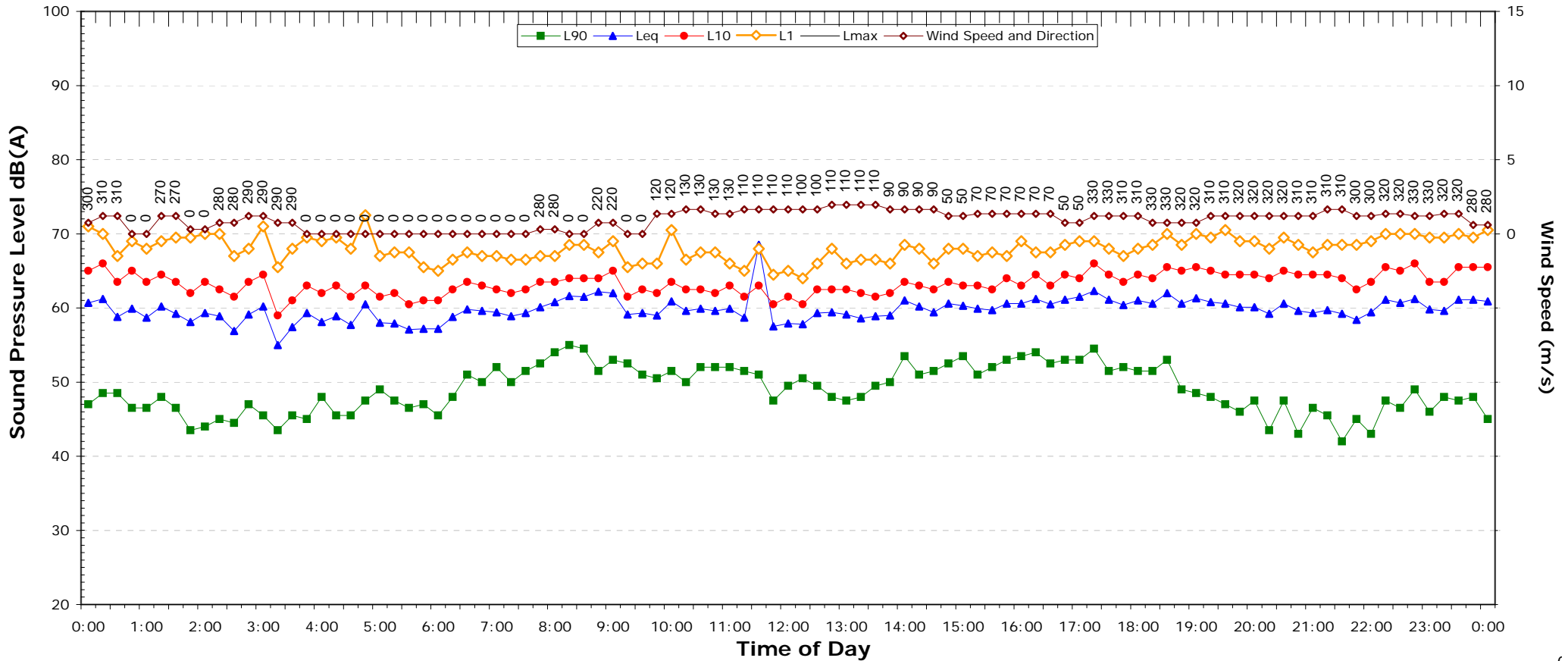
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.3	61.6
L _{eq} 1hr upper 10 percentile	63.7	62.4
L _{eq} 1hr lower 10 percentile	60.6	59.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.5	43.0	43.0
Leq (see note 3)	60.7	60.2	59.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

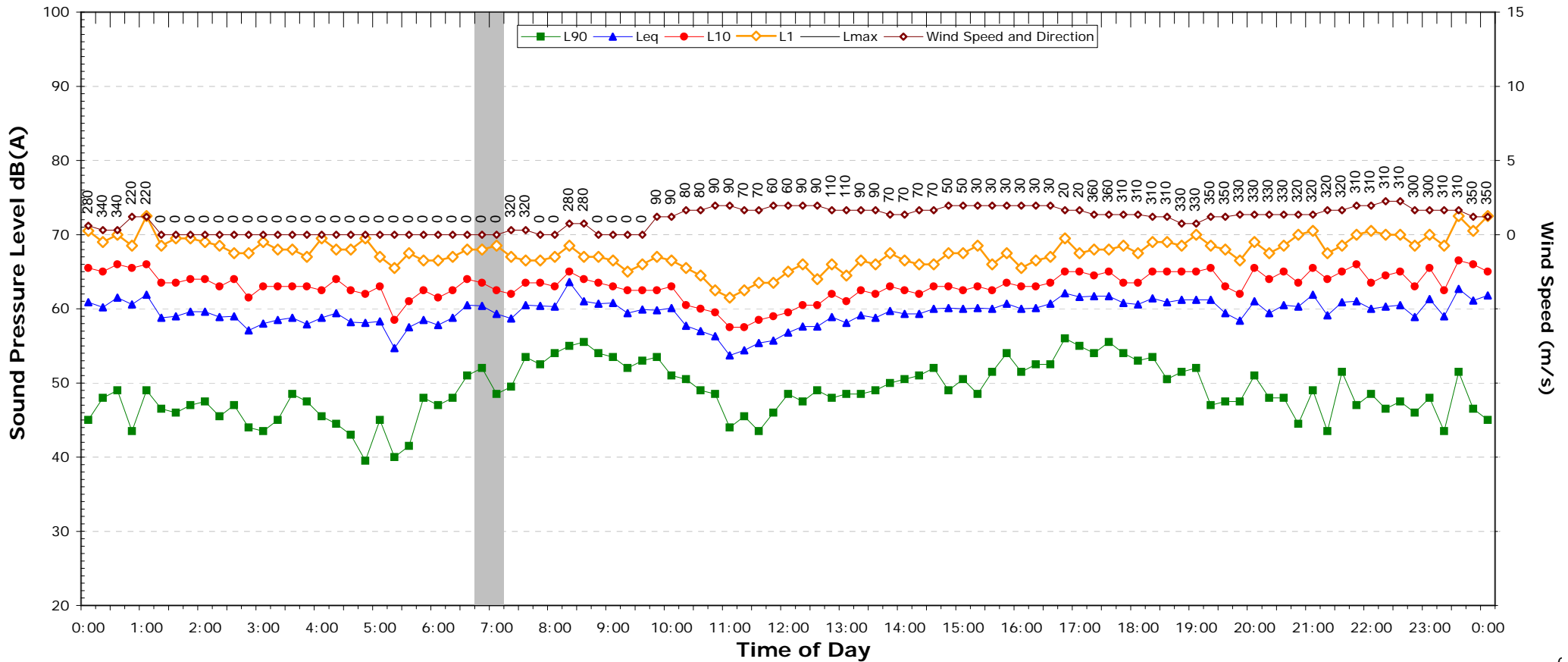
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.1	62.0
L _{eq} 1hr upper 10 percentile	65.3	63.6
L _{eq} 1hr lower 10 percentile	61.6	59.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.5	44.5	43.0
Leq (see note 3)	59.8	60.6	59.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

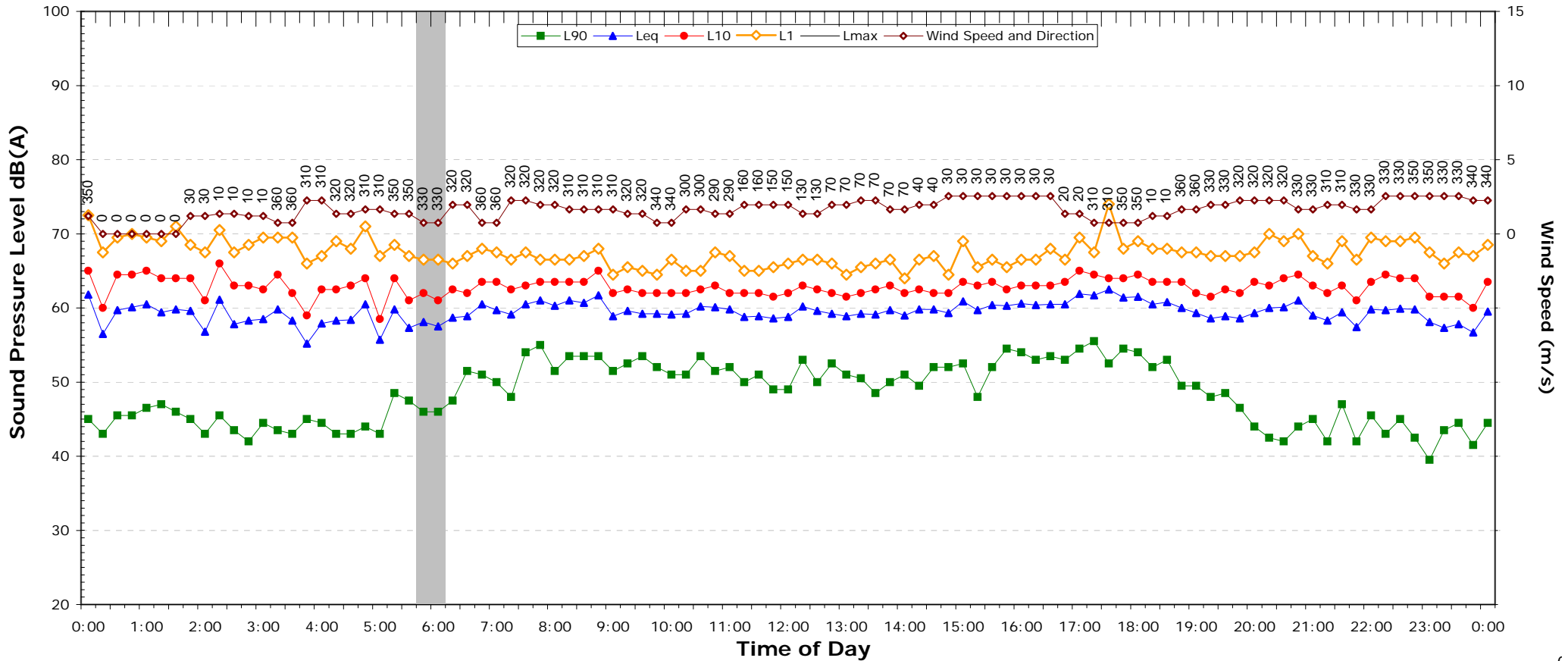
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.5	62.0
L _{eq} 1hr upper 10 percentile	64.0	63.8
L _{eq} 1hr lower 10 percentile	58.6	60.6

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.0	42.0	40.5
Leq (see note 3)	60.1	59.5	57.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

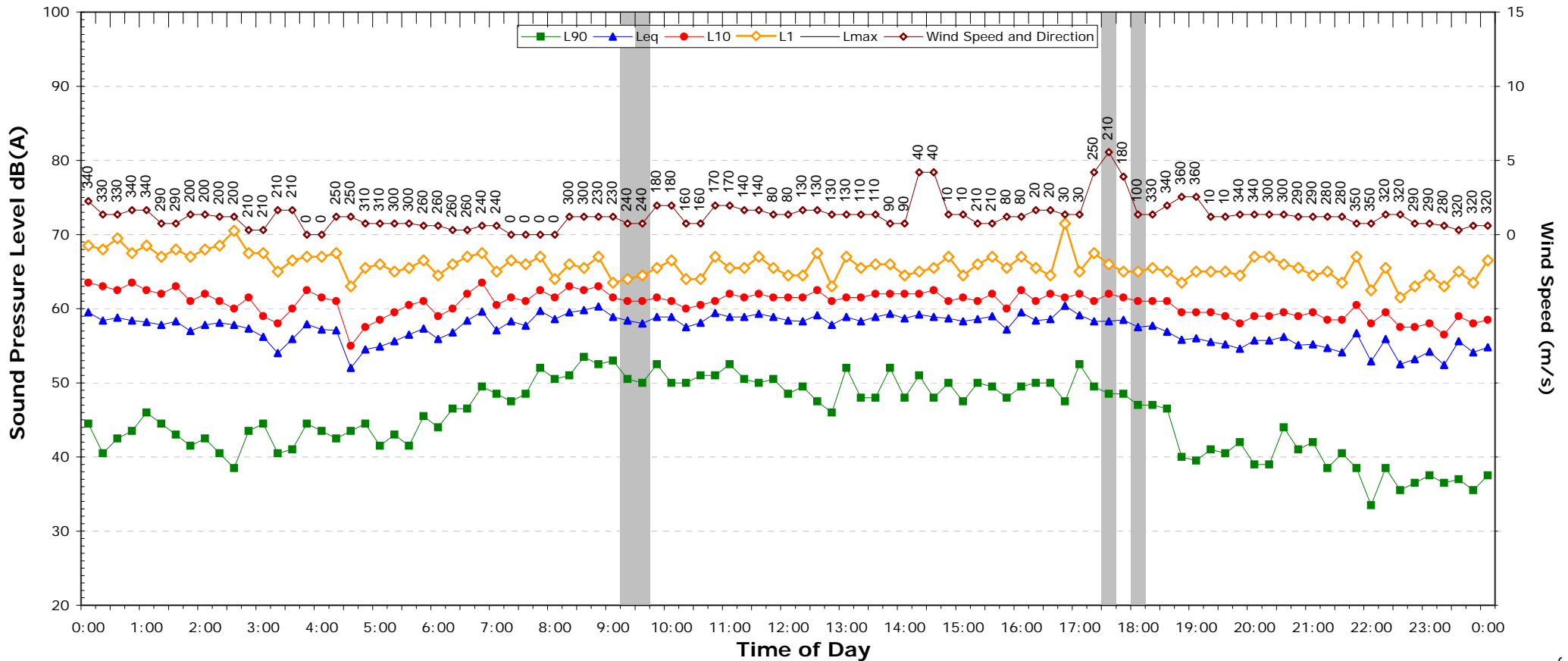
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.5	60.1
L _{eq} 1hr upper 10 percentile	63.9	61.9
L _{eq} 1hr lower 10 percentile	61.3	57.5

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.5	38.5	31.0
Leq (see note 3)	58.9	55.6	53.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

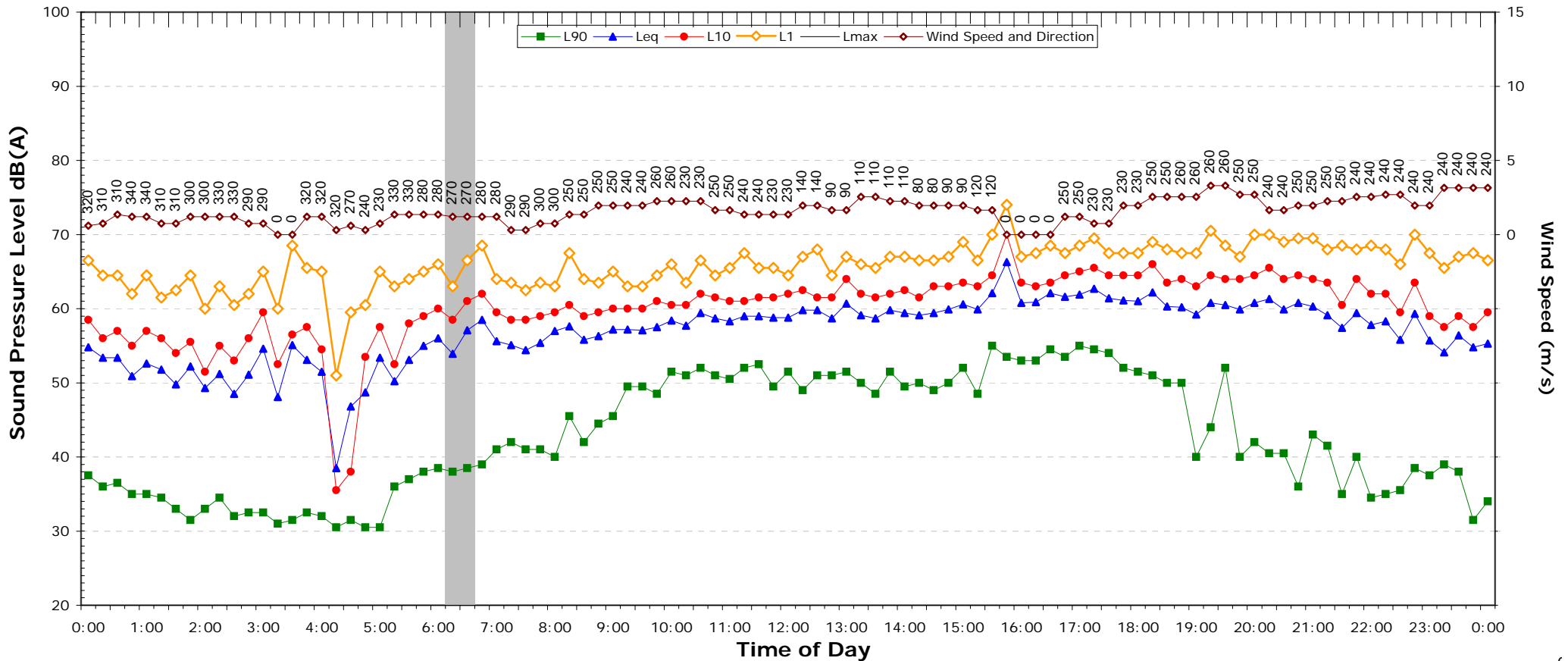
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.6	55.7
L _{eq} 1hr upper 10 percentile	61.9	59.8
L _{eq} 1hr lower 10 percentile	57.6	51.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Sunday, 13 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.0	35.0	34.5
Leq (see note 3)	59.8	60.1	55.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

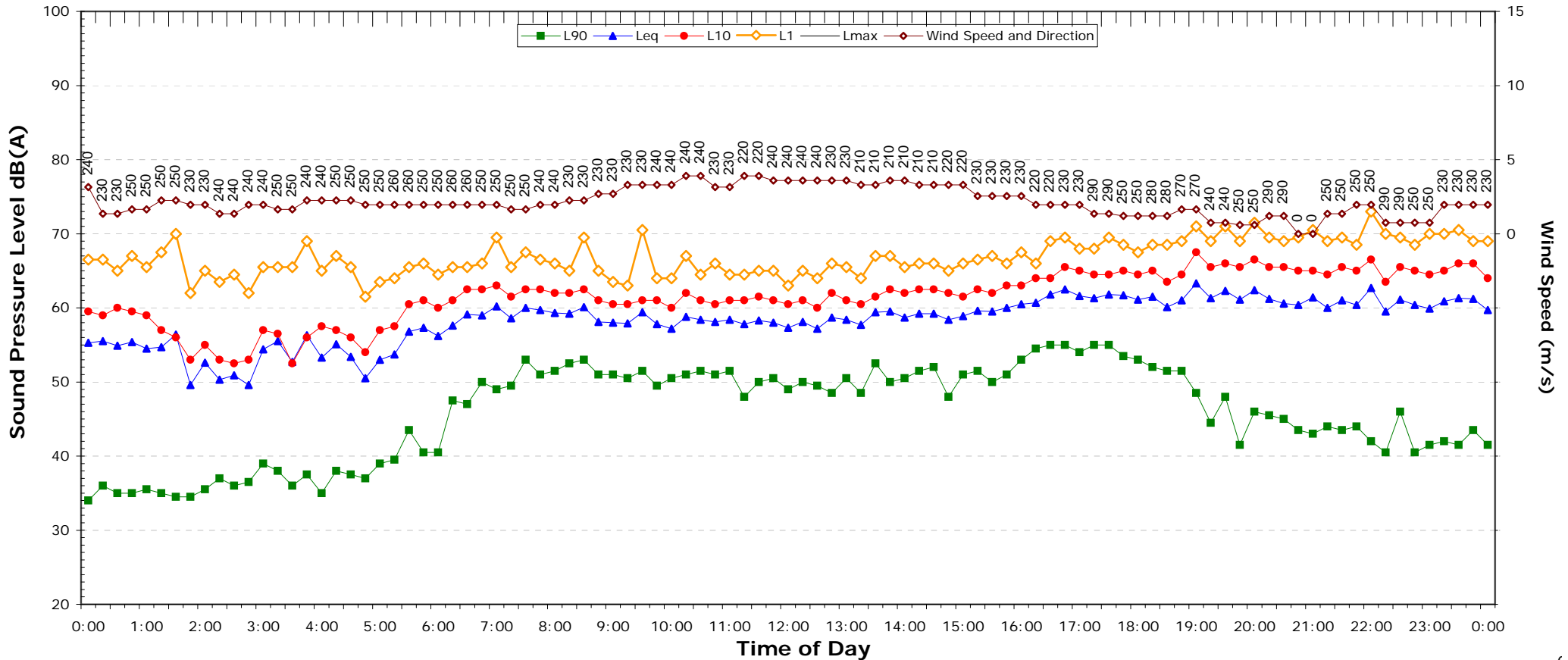
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.4	58.2
L _{eq} 1hr upper 10 percentile	64.9	61.6
L _{eq} 1hr lower 10 percentile	58.7	54.2

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Monday, 14 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.0	42.0	39.0
Leq (see note 3)	59.7	61.3	59.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

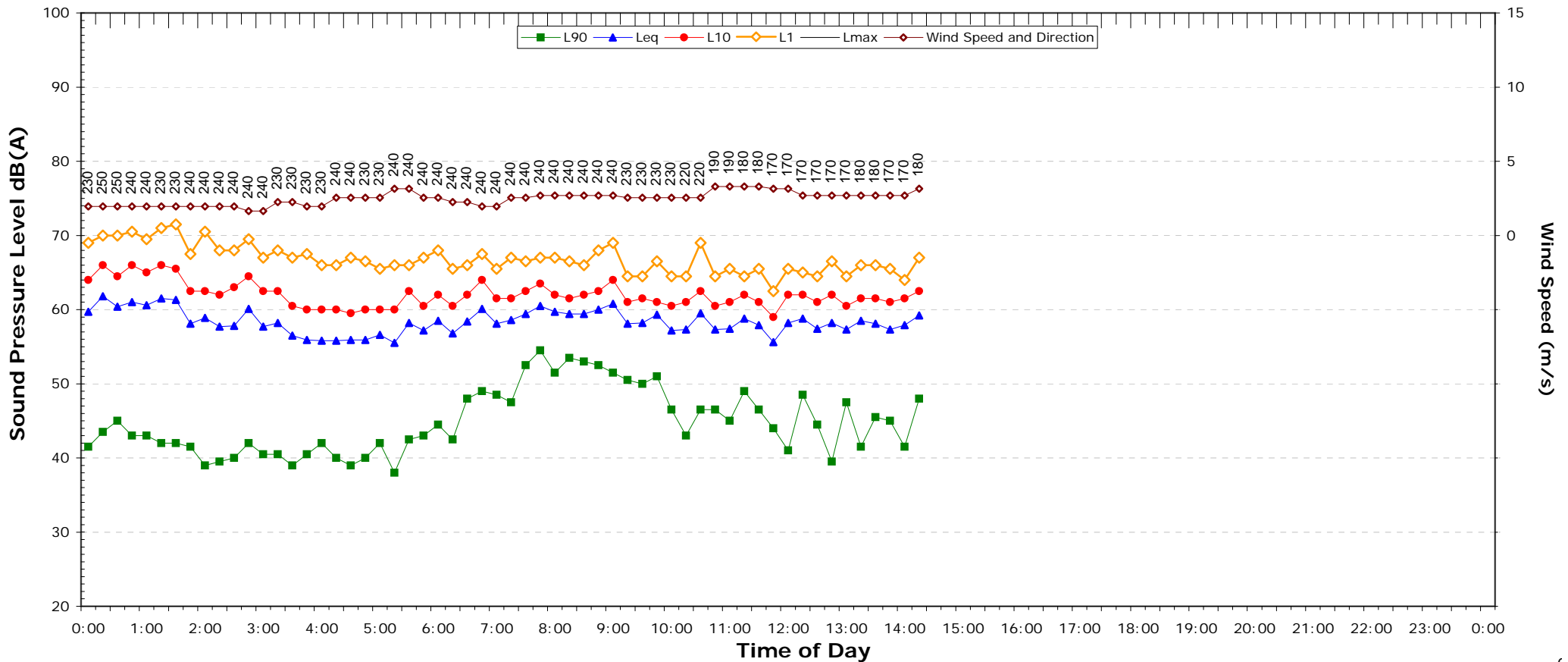
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.6	61.7
L _{eq} 1hr upper 10 percentile	64.3	63.5
L _{eq} 1hr lower 10 percentile	60.5	58.6

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3004 - 7525B Pacific HWY, Valla

Tuesday, 15 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq (see note 3)	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

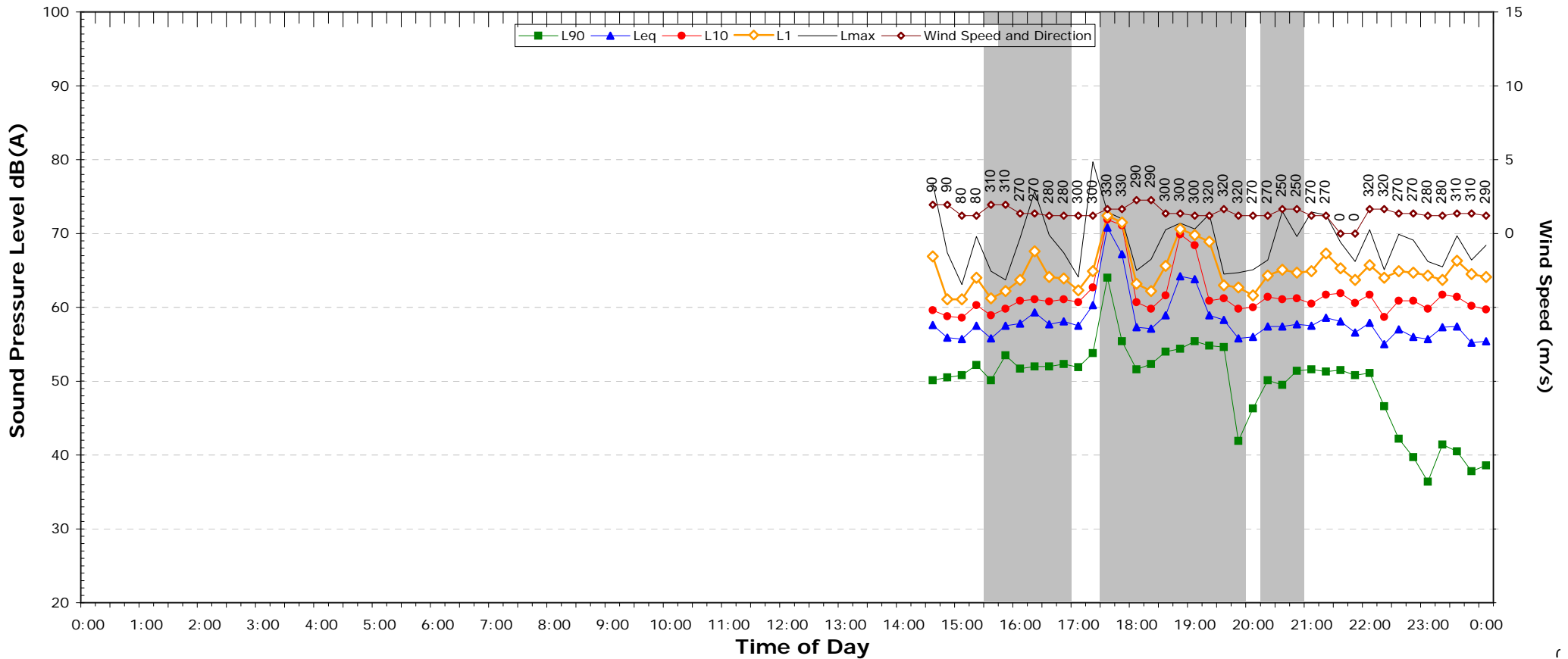
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.1	-
L _{eq} 1hr upper 10 percentile	62.4	-
L _{eq} 1hr lower 10 percentile	60.3	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

1825 - 7643 Pacific HWY, Valla

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	38.9
Leq (see note 3)	-	-	55.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

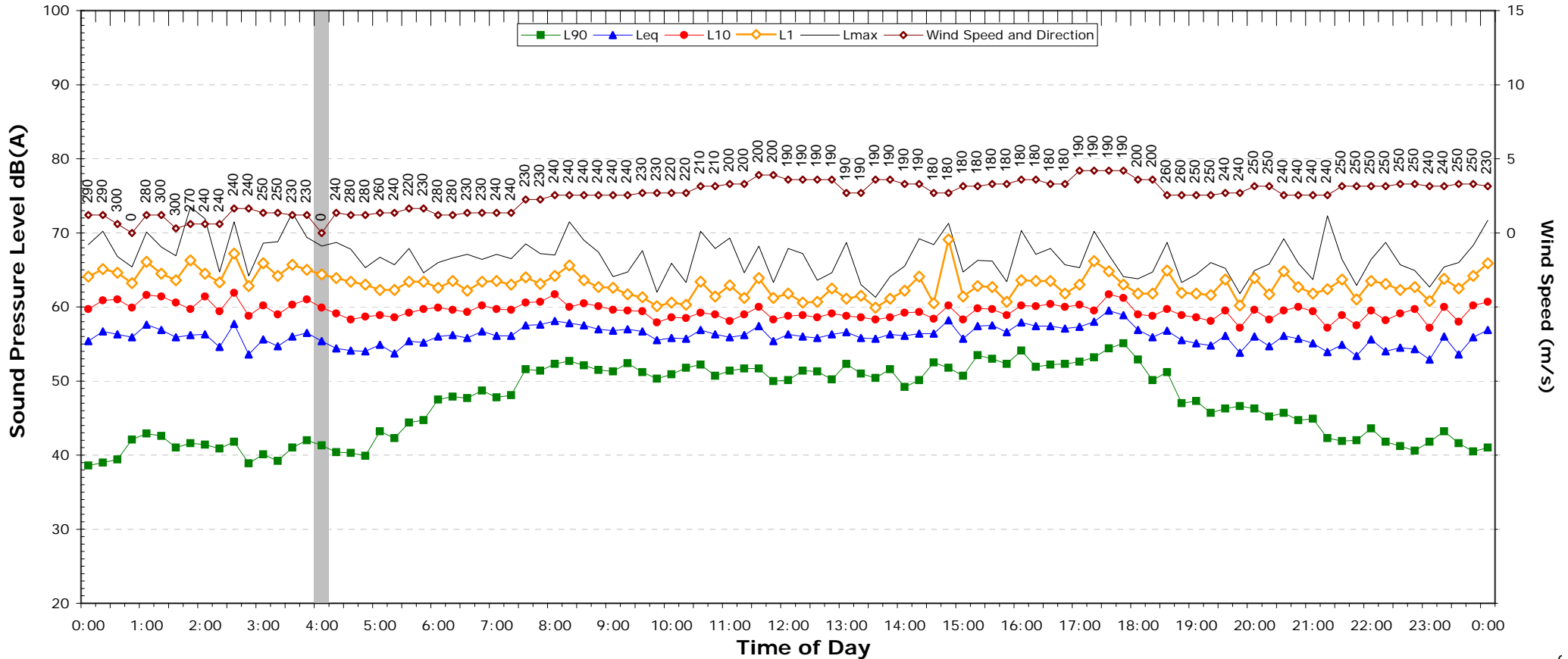
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.6	55.9
L _{eq} 1hr upper 10 percentile	60.3	56.7
L _{eq} 1hr lower 10 percentile	56.0	54.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.5	to	73.5
Lmax - Leq (Range)	15.8	to	17.2

EXISTING AMBIENT NOISE LEVELS

1825 - 7643 Pacific HWY, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.1	42.0	40.5
Leq (see note 3)	56.9	55.3	54.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

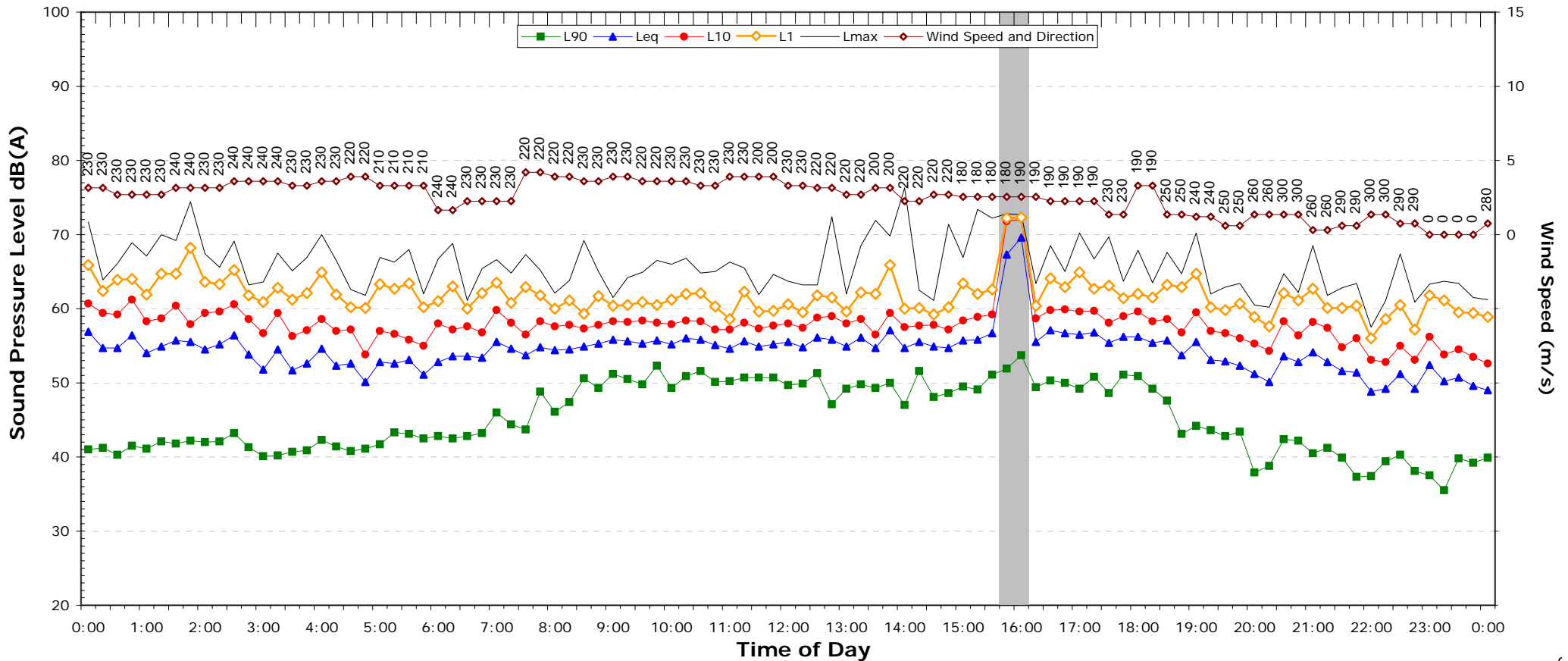
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.6	54.2
L _{eq} 1hr upper 10 percentile	57.9	55.8
L _{eq} 1hr lower 10 percentile	54.9	52.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.0	to	74.4
Lmax - Leq (Range)	15.5	to	19.2

EXISTING AMBIENT NOISE LEVELS

1825 - 7643 Pacific HWY, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.1	37.4	38.0
Leq (see note 3)	55.6	53.2	50.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

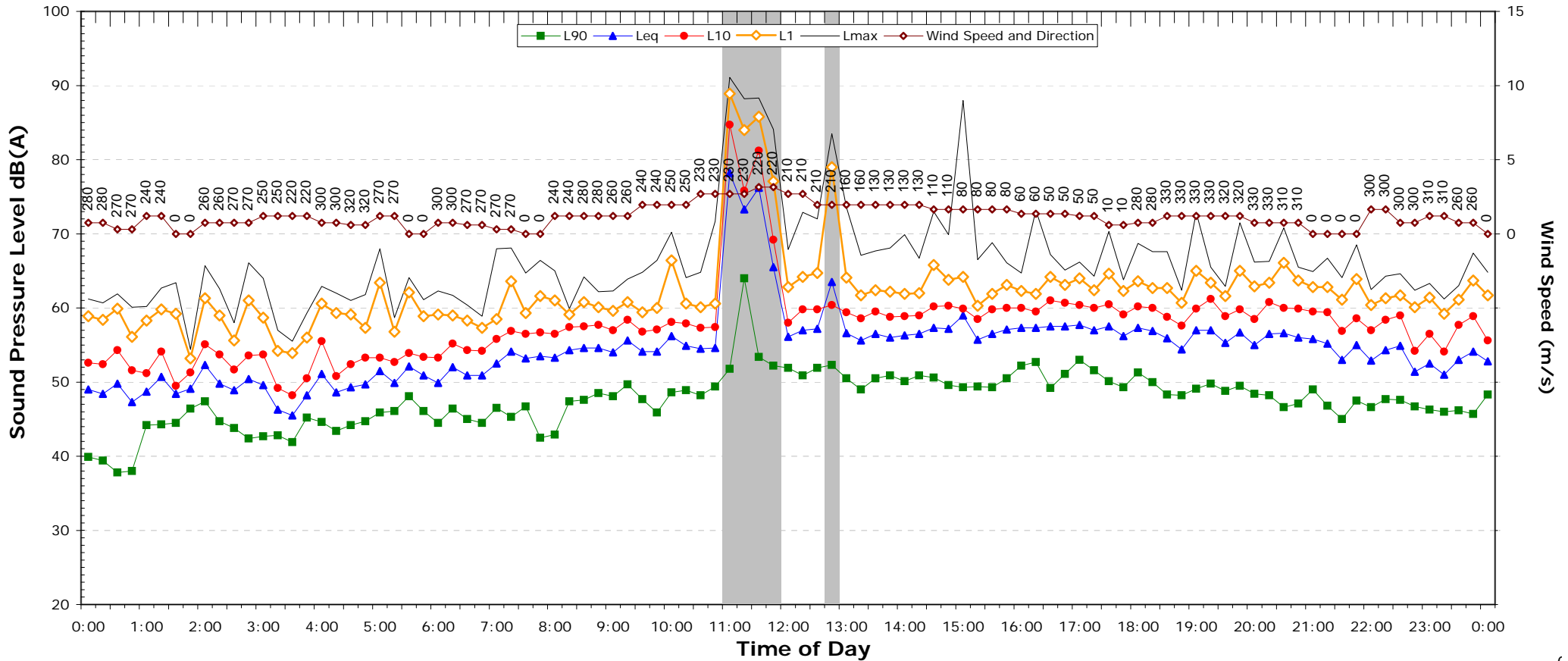
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	55.0	50.1
L _{eq} 1hr upper 10 percentile	56.4	51.6
L _{eq} 1hr lower 10 percentile	51.9	48.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	65.7	to	68.0
Lmax - Leq (Range)	15.3	to	18.1

EXISTING AMBIENT NOISE LEVELS

1825 - 7643 Pacific HWY, Valla

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.9	46.6	40.9
Leq (see note 3)	56.2	55.7	53.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

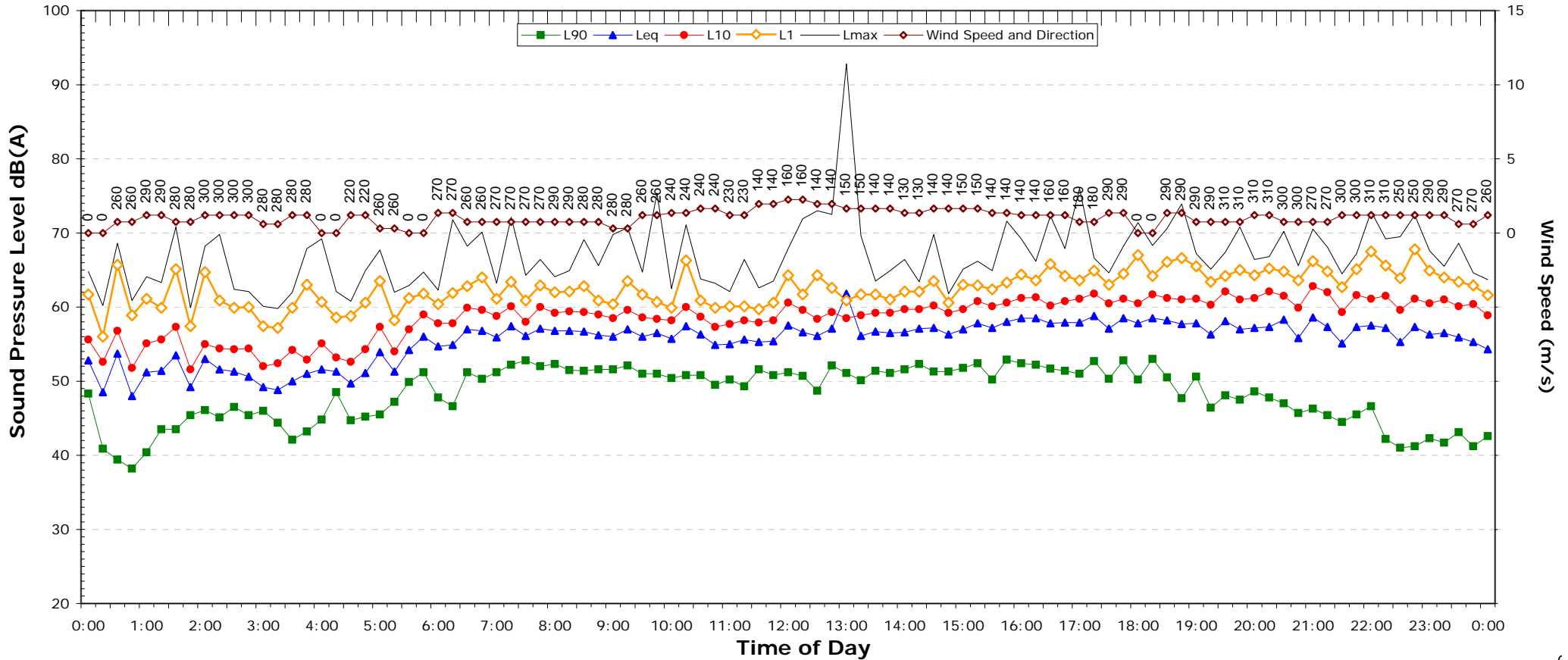
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.0	53.0
L _{eq} 1hr upper 10 percentile	57.6	56.2
L _{eq} 1hr lower 10 percentile	53.9	50.5

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	67.7	to	71.8
L _{max} - Leq (Range)	15.6	to	19.0

EXISTING AMBIENT NOISE LEVELS

1825 - 7643 Pacific HWY, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.2	45.4	41.0
Leq (see note 3)	57.2	57.5	55.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

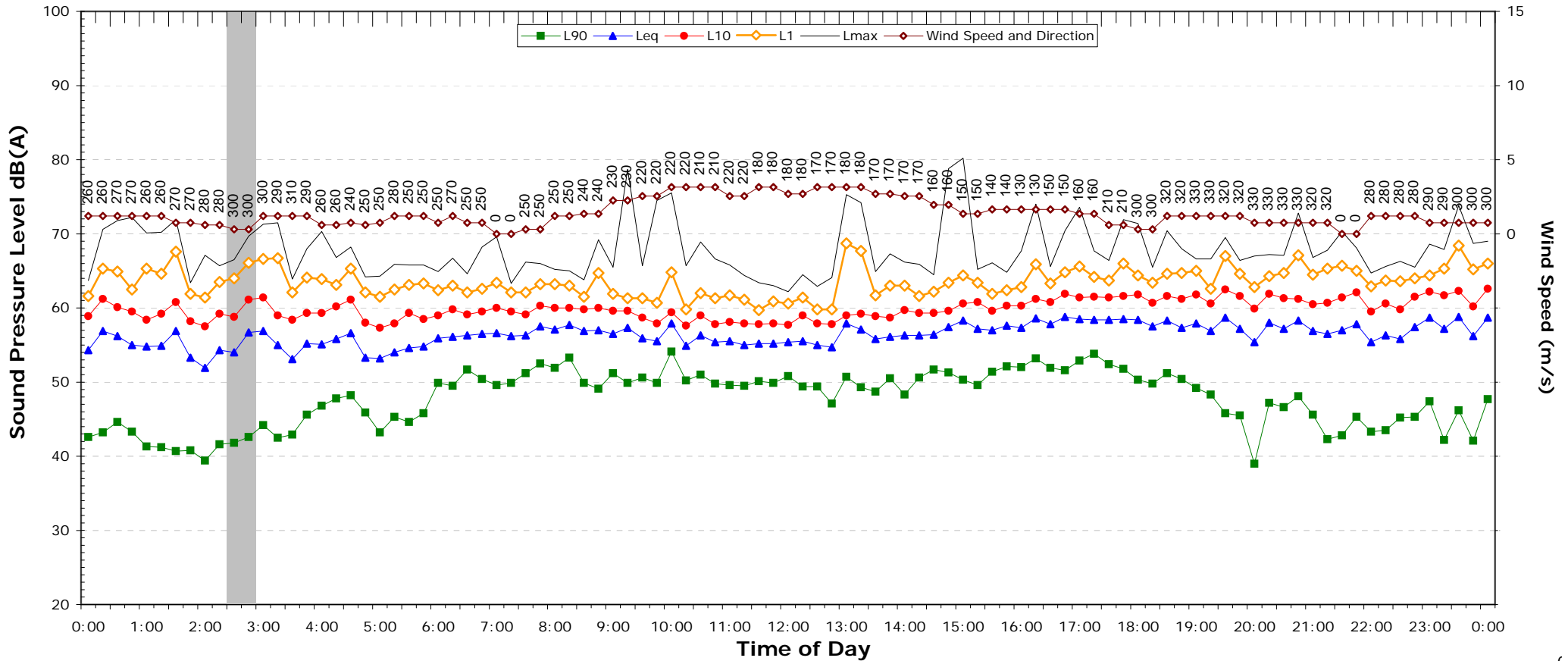
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.2	55.5
L _{eq} 1hr upper 10 percentile	58.4	56.6
L _{eq} 1hr lower 10 percentile	56.0	54.7

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	71.3	to	72.4
L _{max} - Leq (Range)	15.5	to	17.2

EXISTING AMBIENT NOISE LEVELS

1825 - 7643 Pacific HWY, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.3	42.3	42.6
Leq (see note 3)	56.9	57.4	56.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - L_{eq} ≥ 15dB(A)

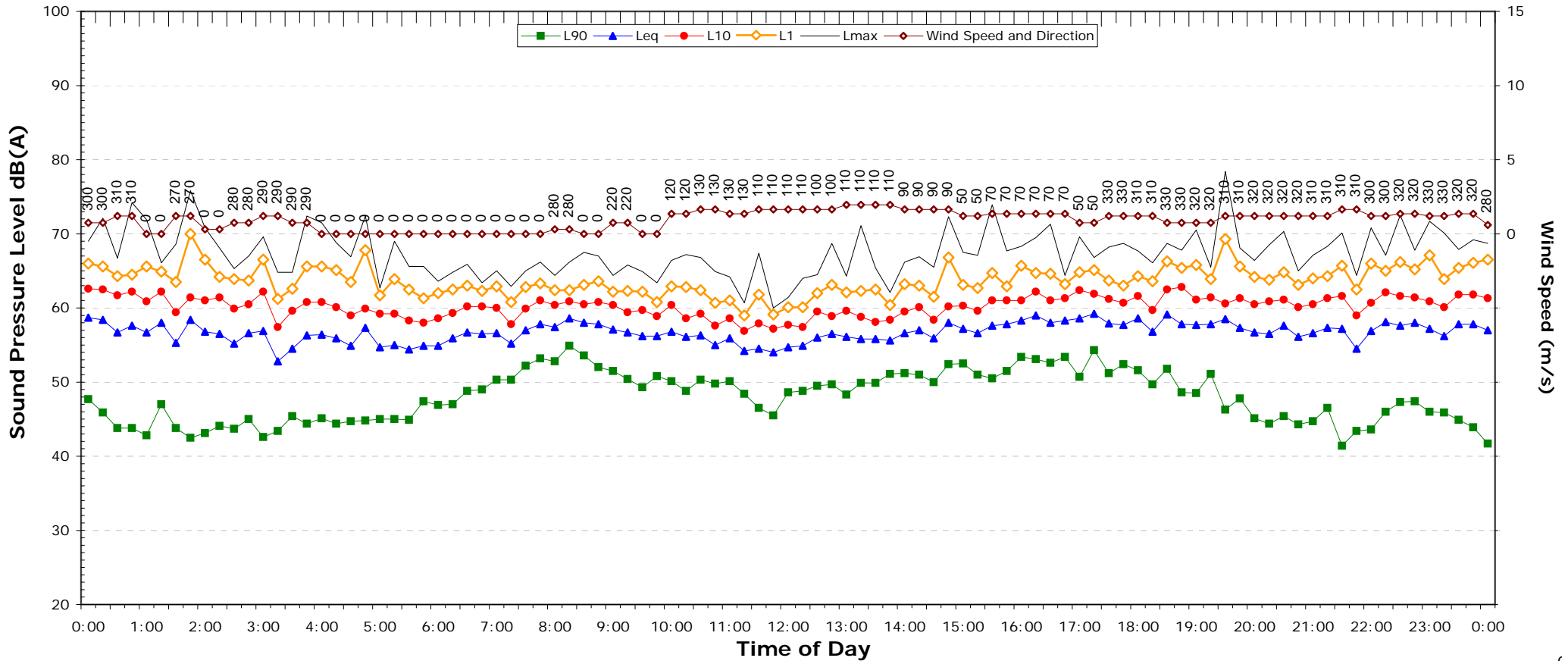
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.1	56.6
L _{eq} 1hr upper 10 percentile	58.4	57.9
L _{eq} 1hr lower 10 percentile	55.4	54.8

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	72.4	to	75.8
L _{max} - L _{eq} (Range)	15.9	to	18.5

EXISTING AMBIENT NOISE LEVELS

1825 - 7643 Pacific HWY, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.6	43.4	41.7
Leq (see note 3)	57.0	57.3	56.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

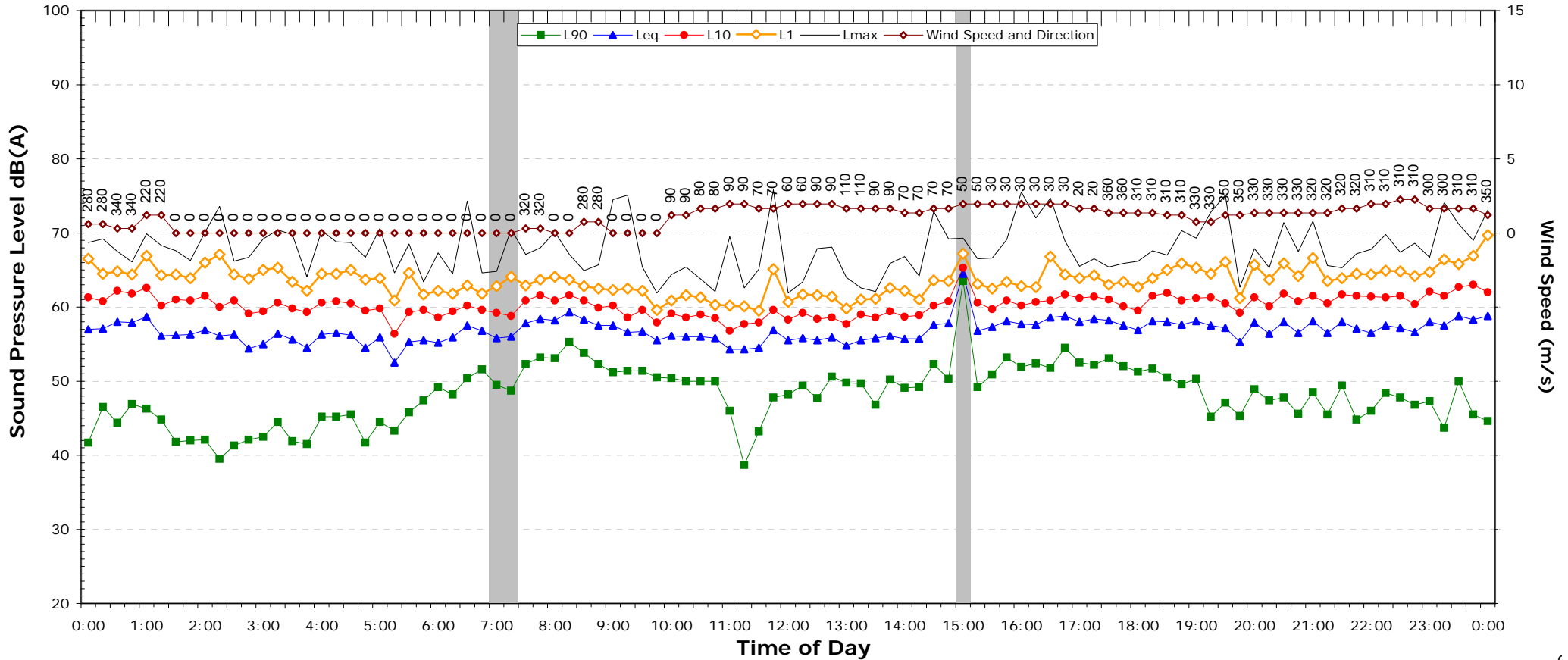
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.1	56.6
L _{eq} 1hr upper 10 percentile	58.4	58.0
L _{eq} 1hr lower 10 percentile	55.2	54.8

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	73.6	to	74.3
L _{max} - Leq (Range)	17.5	to	18.1

EXISTING AMBIENT NOISE LEVELS

1825 - 7643 Pacific HWY, Valla

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.7	45.2	41.5
Leq (see note 3)	57.0	57.4	56.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

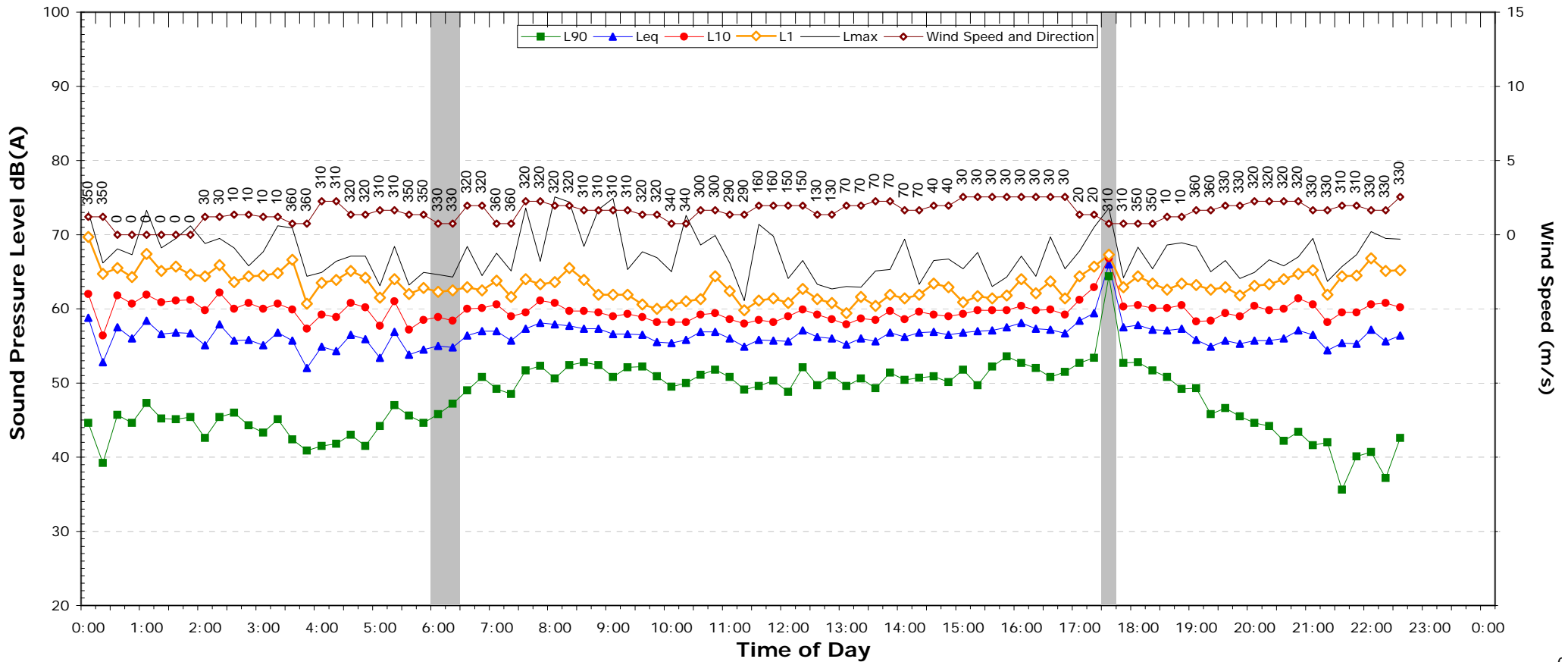
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.1	56.5
L _{eq} 1hr upper 10 percentile	58.2	58.4
L _{eq} 1hr lower 10 percentile	55.5	55.2

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.2	to	74.1
Lmax - Leq (Range)	15.7	to	16.7

EXISTING AMBIENT NOISE LEVELS

1825 - 7643 Pacific HWY, Valla

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.5	40.1	-
Leq (see note 3)	56.8	56.1	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

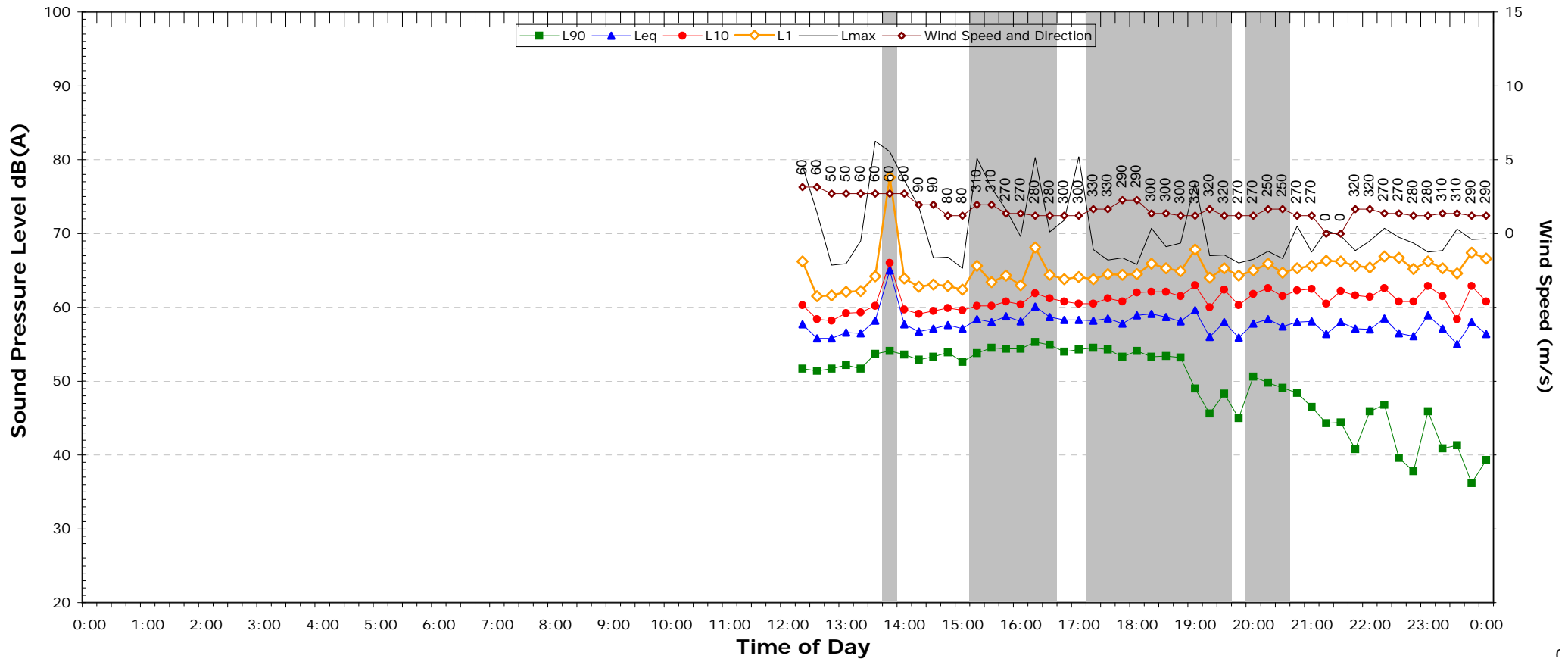
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.7	56.0
L _{eq} 1hr upper 10 percentile	57.9	56.0
L _{eq} 1hr lower 10 percentile	55.5	56.0

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3003 - 20 Short Cut Rd, Urunga

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	39.0
Leq (see note 3)	-	-	56.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

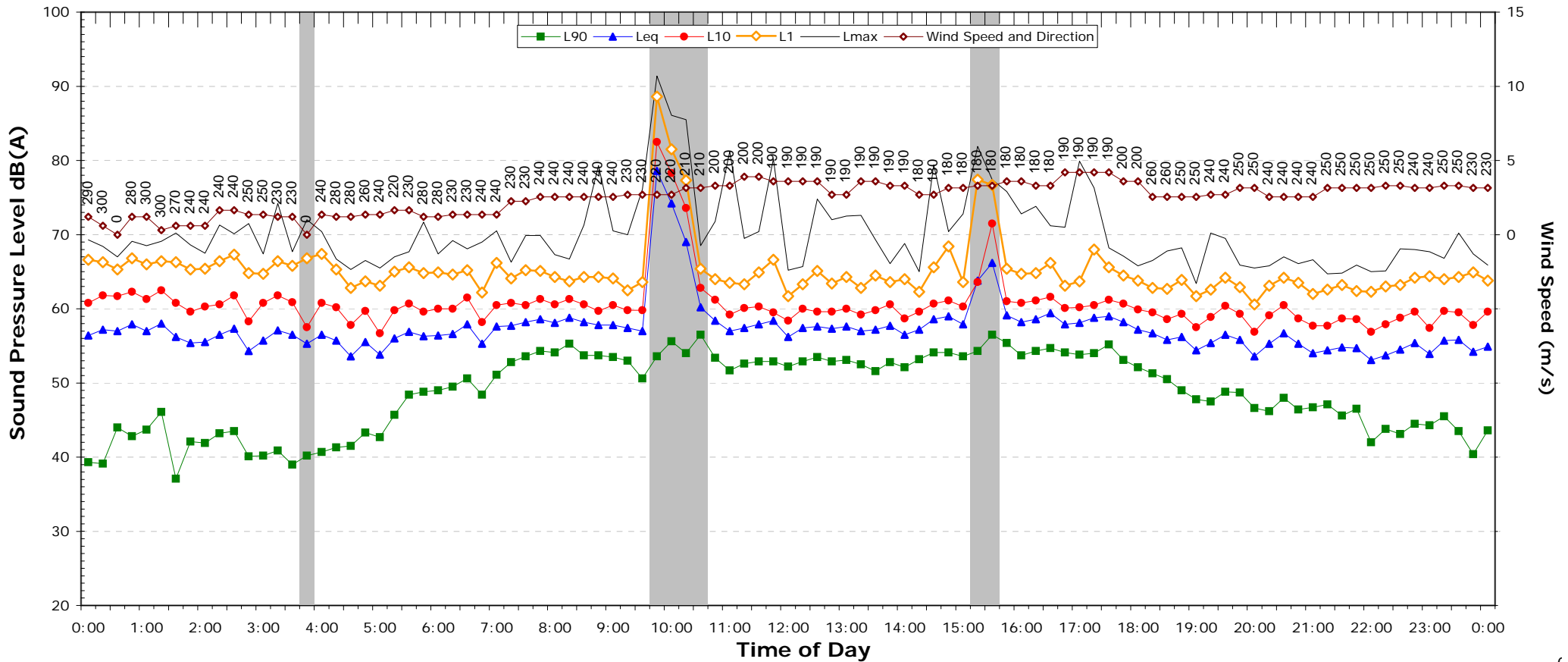
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.3	56.6
L _{eq} 1hr upper 10 percentile	58.3	57.7
L _{eq} 1hr lower 10 percentile	55.9	54.8

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	71.5	to	74.2
L _{max} - L _{eq} (Range)	15.3	to	17.5

EXISTING AMBIENT NOISE LEVELS

3003 - 20 Short Cut Rd, Urunga

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	52.1	45.6	39.8
Leq (see note 3)	58.0	55.3	54.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

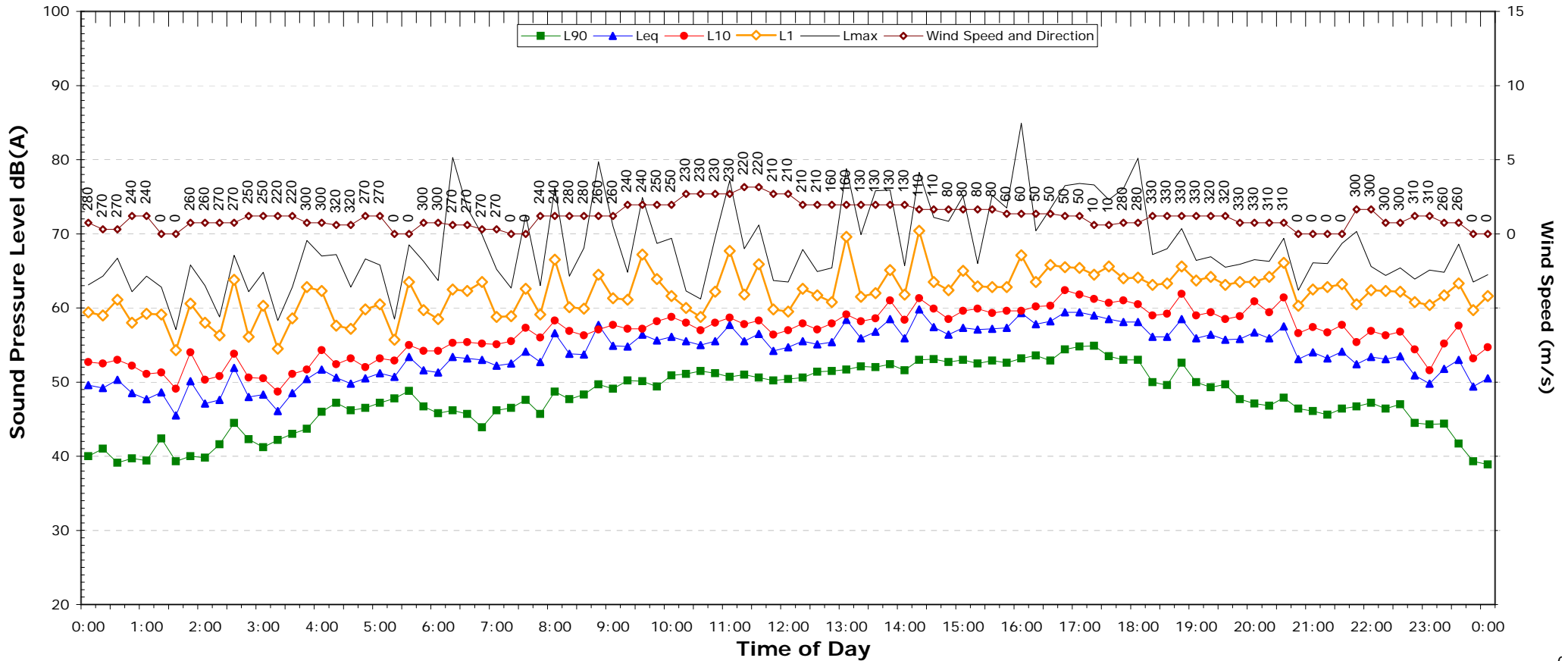
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.3	54.7
L _{eq} 1hr upper 10 percentile	58.6	55.9
L _{eq} 1hr lower 10 percentile	54.9	53.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	70.2	to	73.1
Lmax - Leq (Range)	15.0	to	20.0

EXISTING AMBIENT NOISE LEVELS

3003 - 20 Short Cut Rd, Urunga

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.3	46.1	39.4
Leq (see note 3)	56.9	55.6	52.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

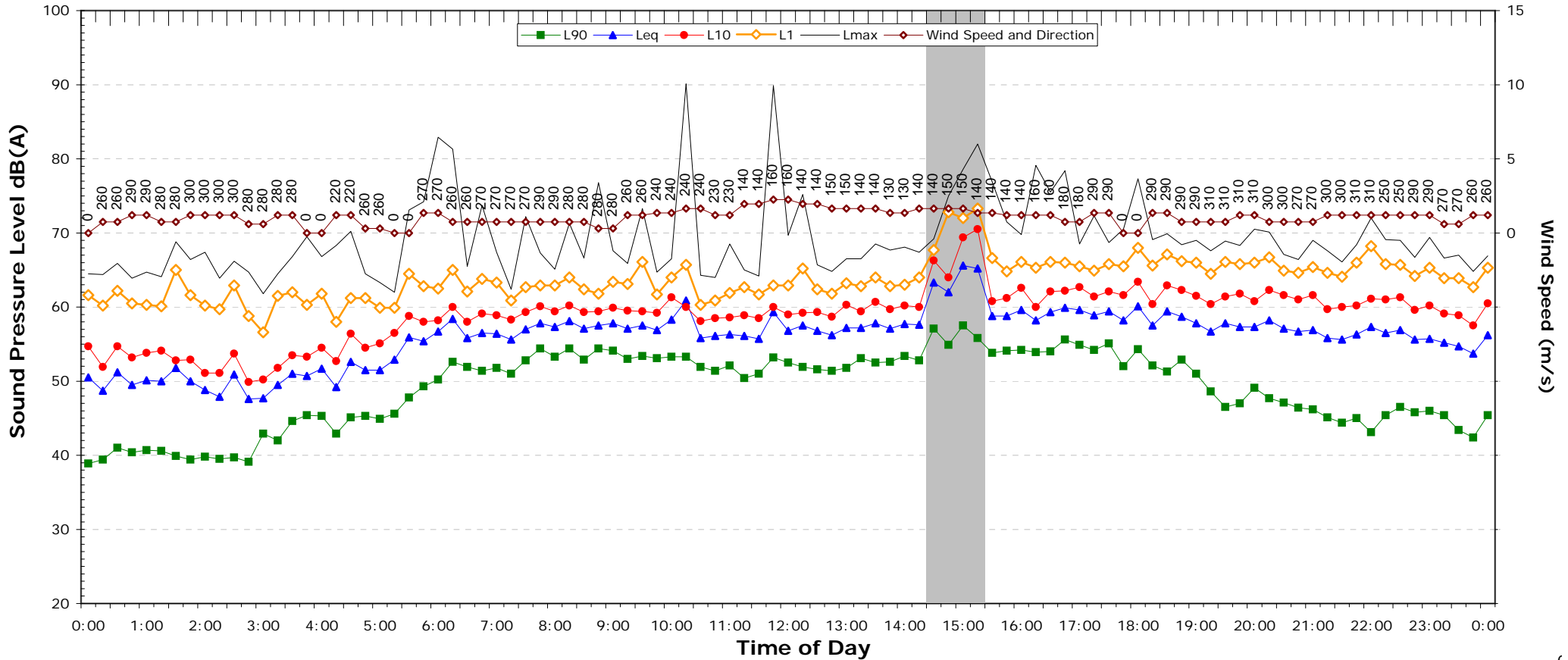
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.6	52.7
L _{eq} 1hr upper 10 percentile	58.6	56.9
L _{eq} 1hr lower 10 percentile	53.8	48.8

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	65.9	to	82.9
L _{max} - Leq (Range)	15.9	to	27.5

EXISTING AMBIENT NOISE LEVELS

3003 - 20 Short Cut Rd, Urunga

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.4	44.4	43.3
Leq (see note 3)	58.0	57.4	55.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

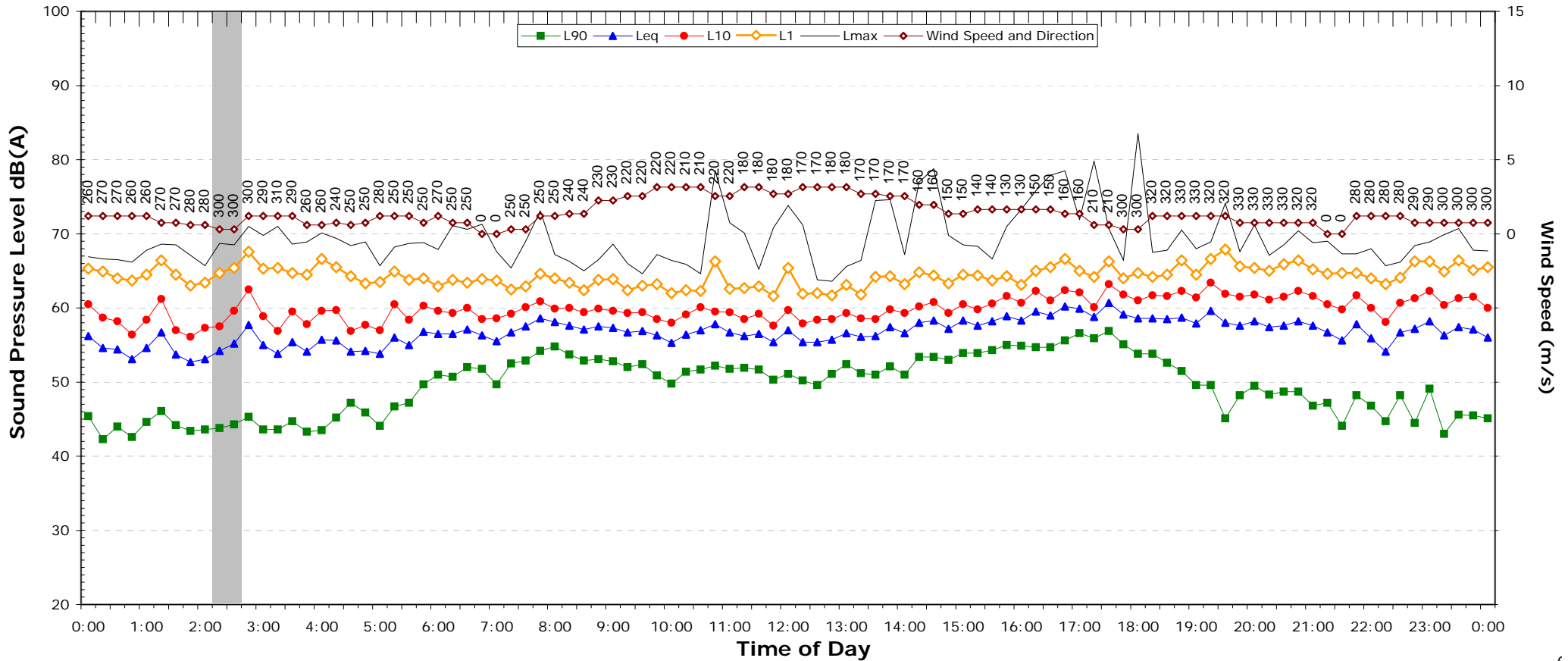
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.8	55.4
L _{eq} 1hr upper 10 percentile	59.3	56.6
L _{eq} 1hr lower 10 percentile	56.6	54.2

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	71.0	to	71.0
L _{max} - L _{eq} (Range)	16.2	to	16.2

EXISTING AMBIENT NOISE LEVELS

3003 - 20 Short Cut Rd, Urunga

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.9	45.1	44.5
Leq (see note 3)	57.7	57.9	56.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

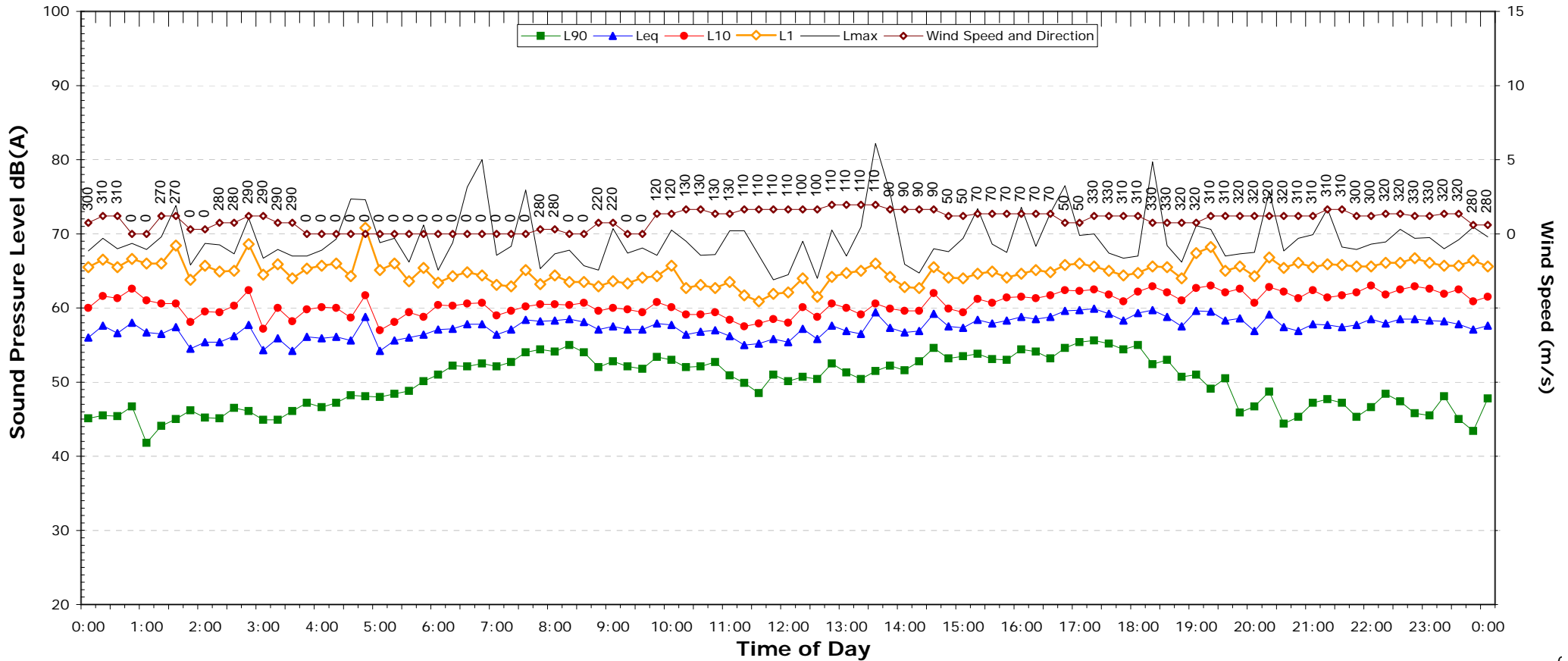
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.7	56.6
L _{eq} 1hr upper 10 percentile	59.5	57.3
L _{eq} 1hr lower 10 percentile	56.1	55.6

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)		to	
L _{max} (Range)		72.1	80.0
L _{max} - Leq (Range)		16.0	22.7

EXISTING AMBIENT NOISE LEVELS

3003 - 20 Short Cut Rd, Urunga

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.4	45.3	43.8
Leq (see note 3)	57.8	58.3	57.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

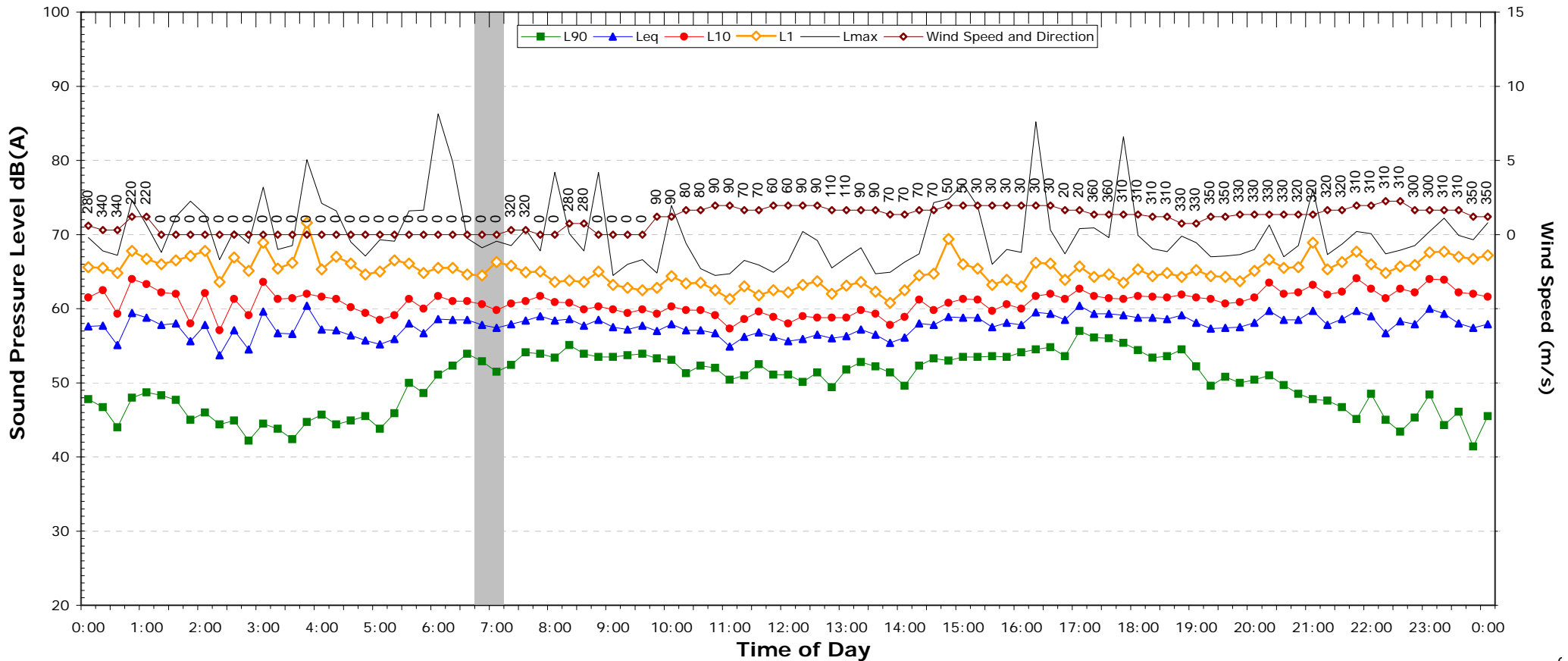
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.9	57.6
L _{eq} 1hr upper 10 percentile	59.2	58.5
L _{eq} 1hr lower 10 percentile	56.0	56.2

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	73.2	to	86.3
L _{max} - L _{eq} (Range)	16.6	to	28.9

EXISTING AMBIENT NOISE LEVELS

3003 - 20 Short Cut Rd, Urunga

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.0	46.7	41.4
Leq (see note 3)	57.8	58.6	57.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - L_{eq} ≥ 15dB(A)

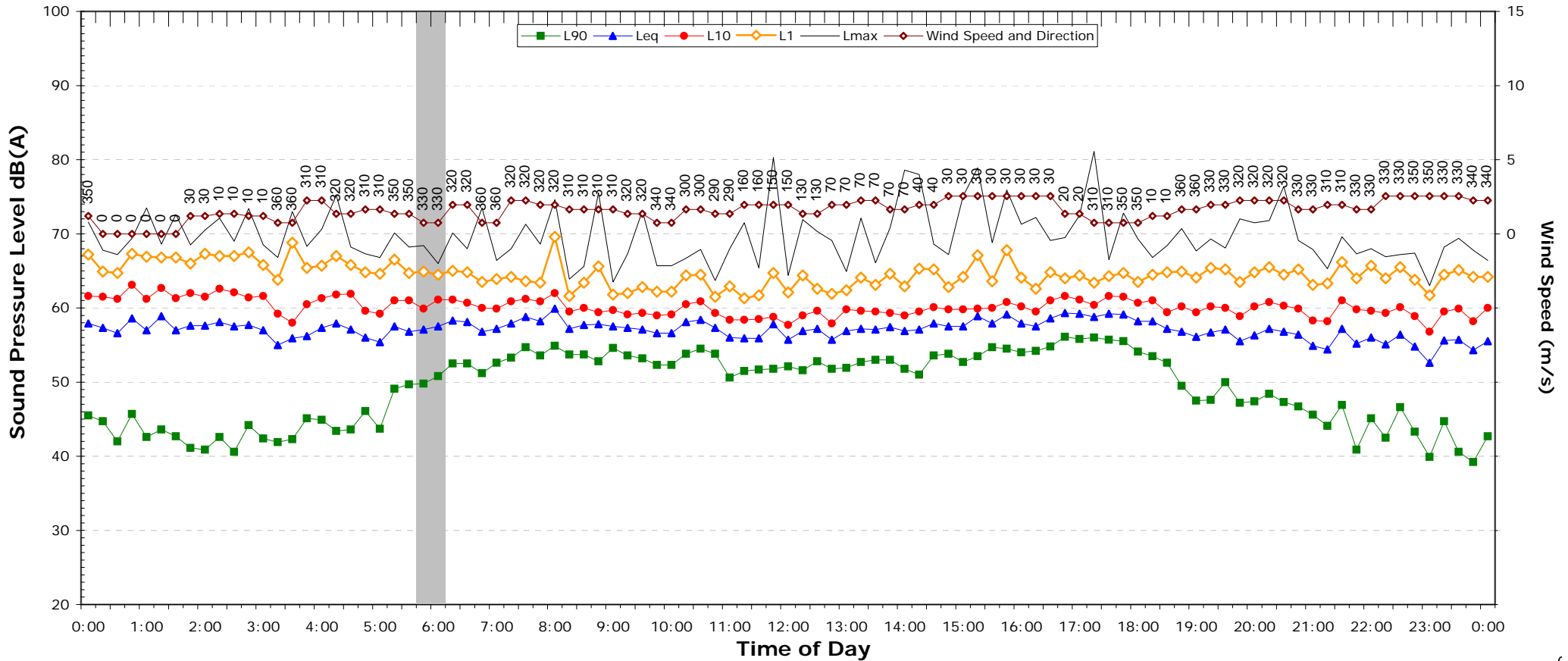
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.0	57.5
L _{eq} 1hr upper 10 percentile	59.3	58.4
L _{eq} 1hr lower 10 percentile	56.2	56.2

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)		to	L _{max}
L _{max} (Range)		73.0	75.2
L _{max} - L _{eq} (Range)		15.8	18.5

EXISTING AMBIENT NOISE LEVELS

3003 - 20 Short Cut Rd, Urunga

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.7	44.1	-
Leq (see note 3)	57.8	56.5	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - L_{eq} ≥ 15dB(A)

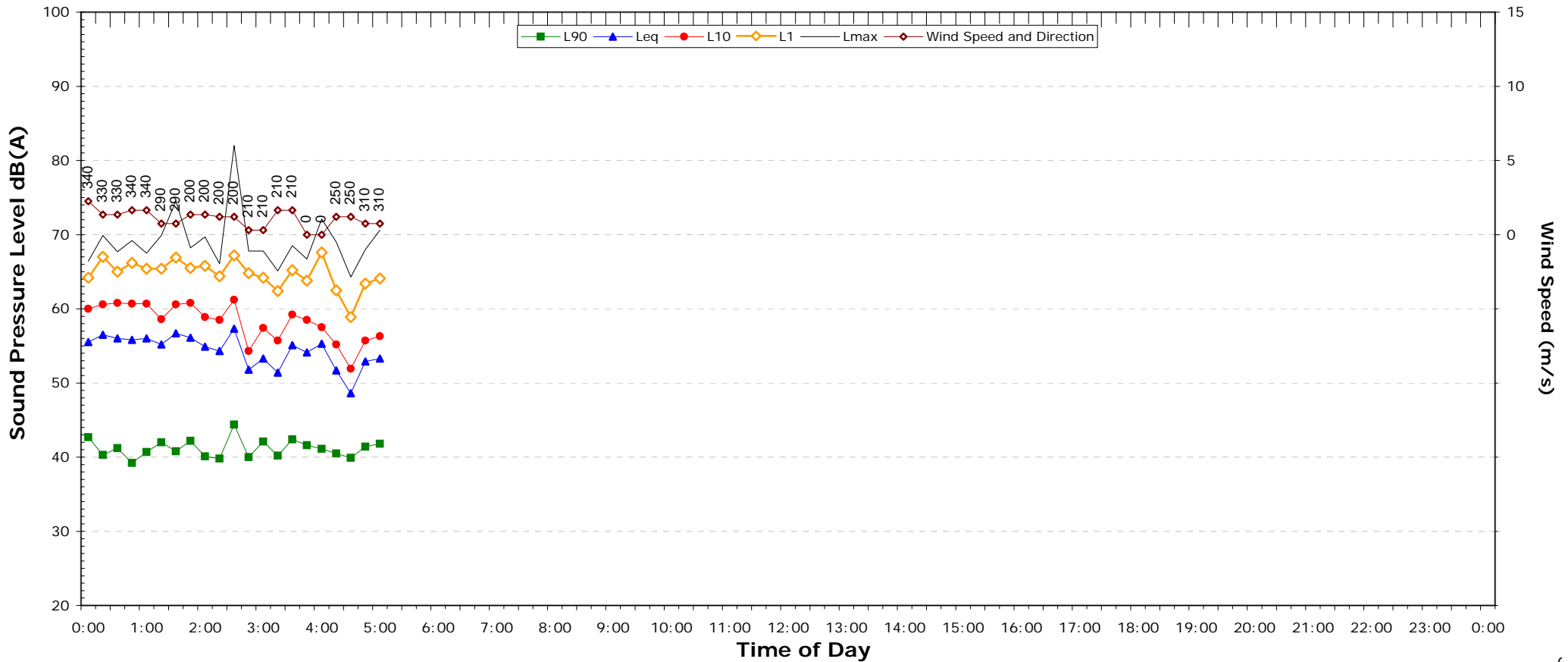
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.5	54.9
L _{eq} 1hr upper 10 percentile	58.8	56.1
L _{eq} 1hr lower 10 percentile	56.1	52.0

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	70.6	to	82.0
L _{max} - L _{eq} (Range)	17.9	to	27.3

EXISTING AMBIENT NOISE LEVELS

3003 - 20 Short Cut Rd, Urunga

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq (see note 3)	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

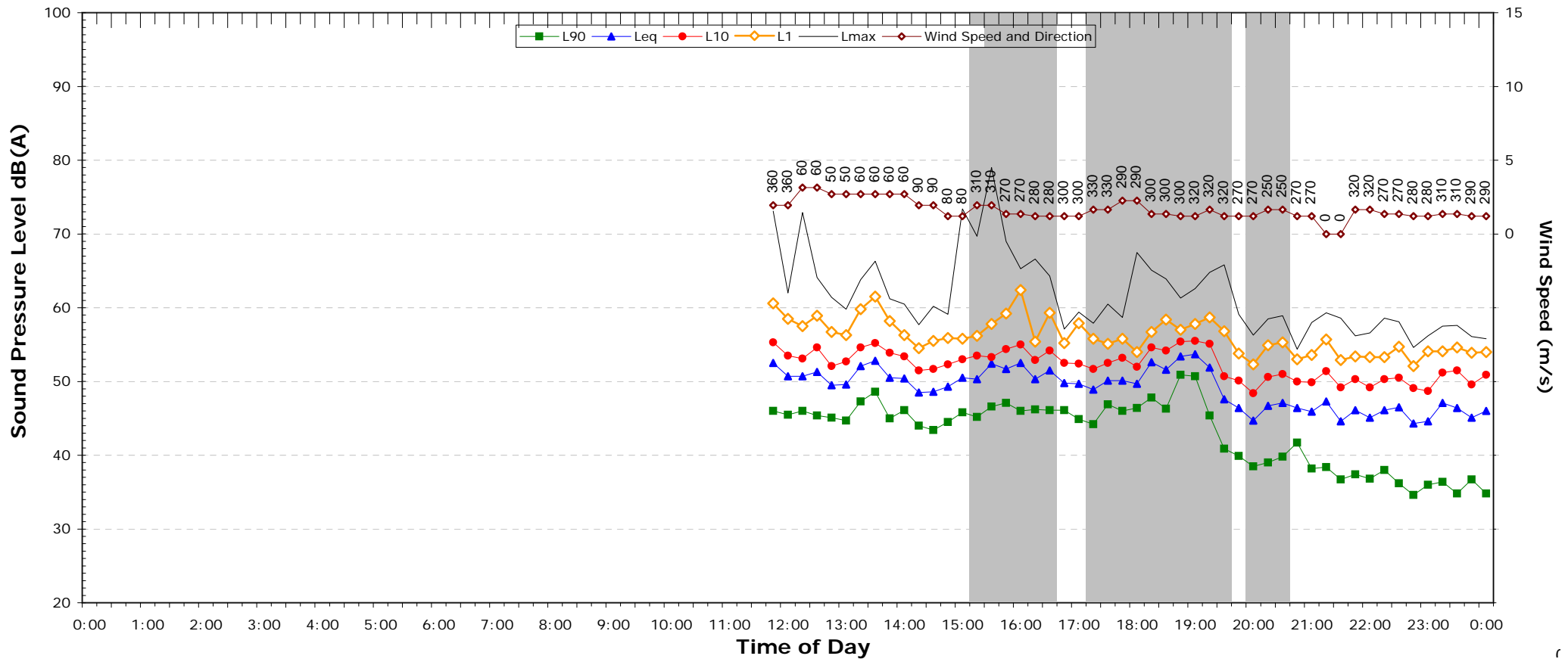
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	-	-
L _{eq} 1hr upper 10 percentile	-	-
L _{eq} 1hr lower 10 percentile	-	-

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	-	to	-
L _{max} - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	34.6
Leq (see note 3)	-	-	45.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

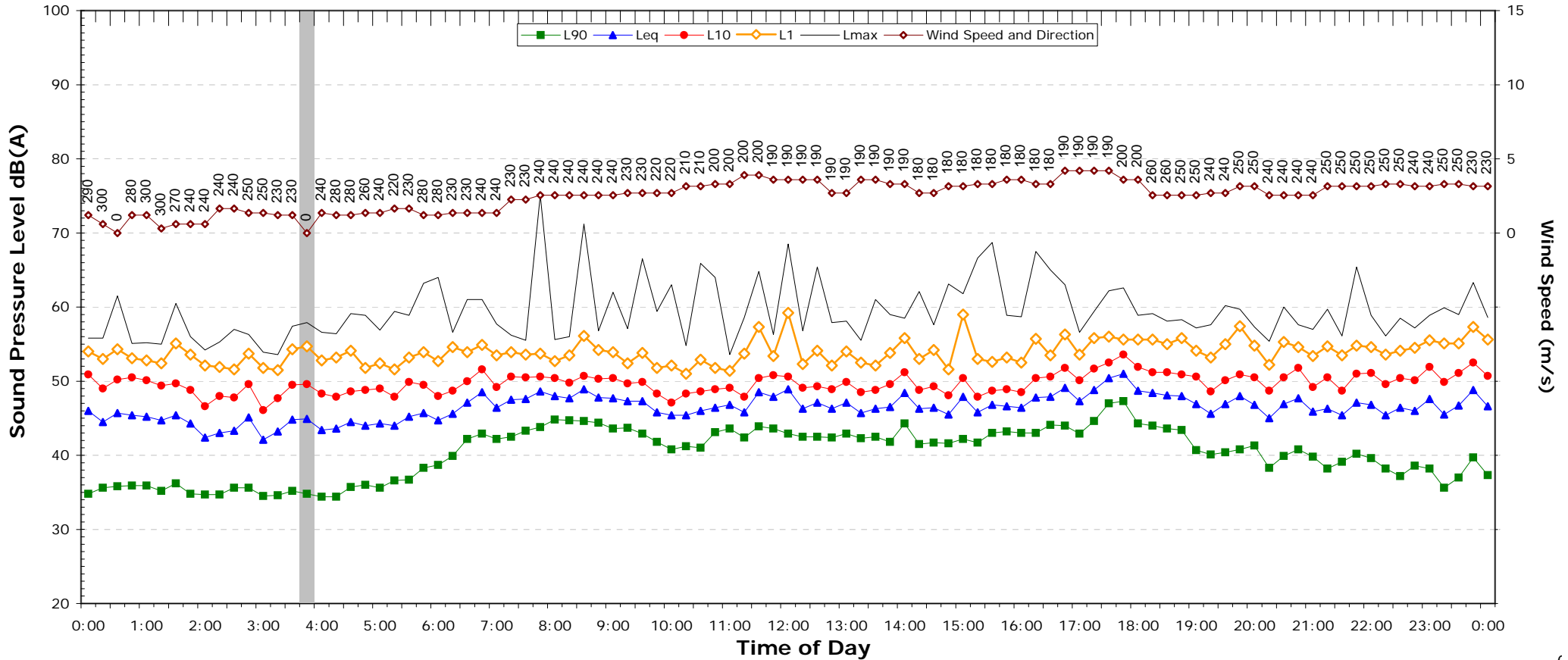
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	49.6	45.1
L _{eq} 1hr upper 10 percentile	51.7	47.0
L _{eq} 1hr lower 10 percentile	45.9	43.5

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	16.2	to 19.1

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.6	38.3	33.8
Leq (see note 3)	47.5	47.0	45.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

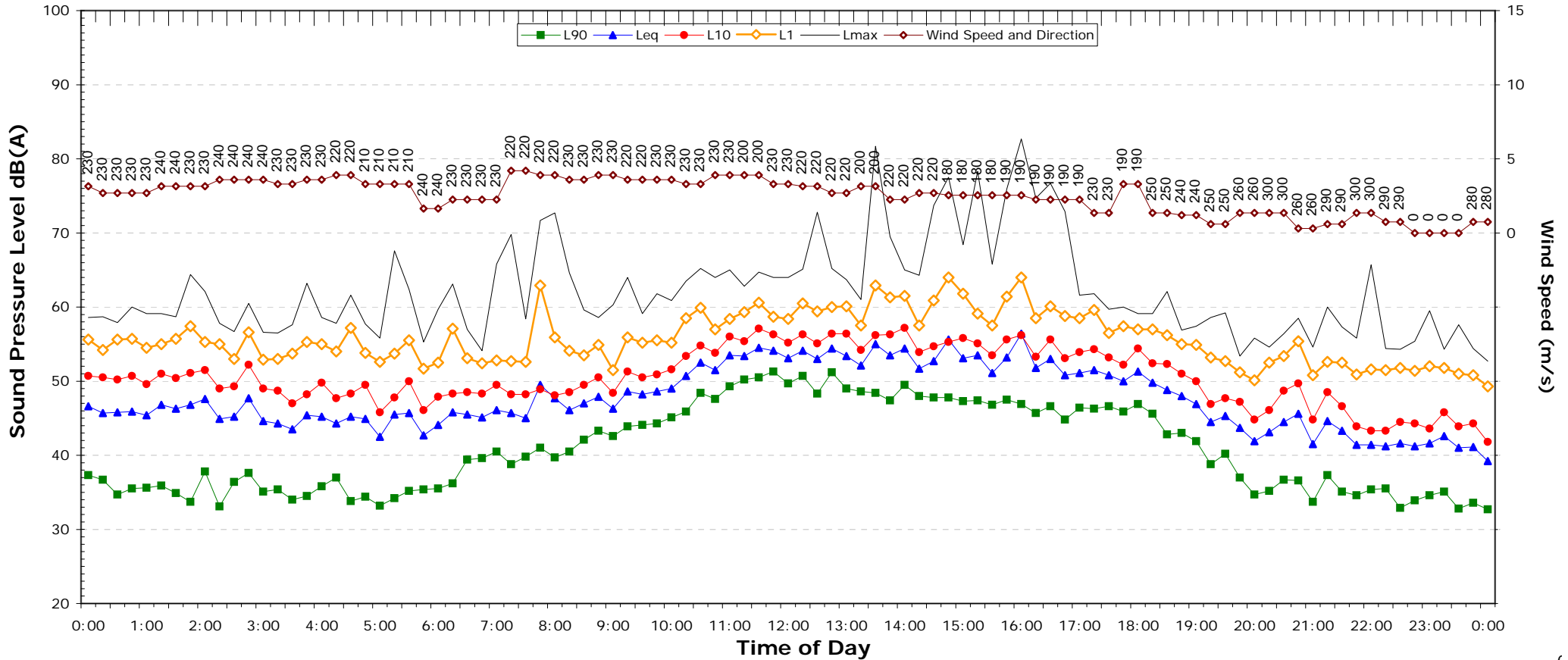
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	47.4	45.8
L _{eq} 1hr upper 10 percentile	49.0	47.1
L _{eq} 1hr lower 10 percentile	46.3	44.3

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	65.8	to	67.6
L _{max} - Leq (Range)	16.2	to	22.9

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.0	34.6	31.3
Leq (see note 3)	52.2	45.5	40.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

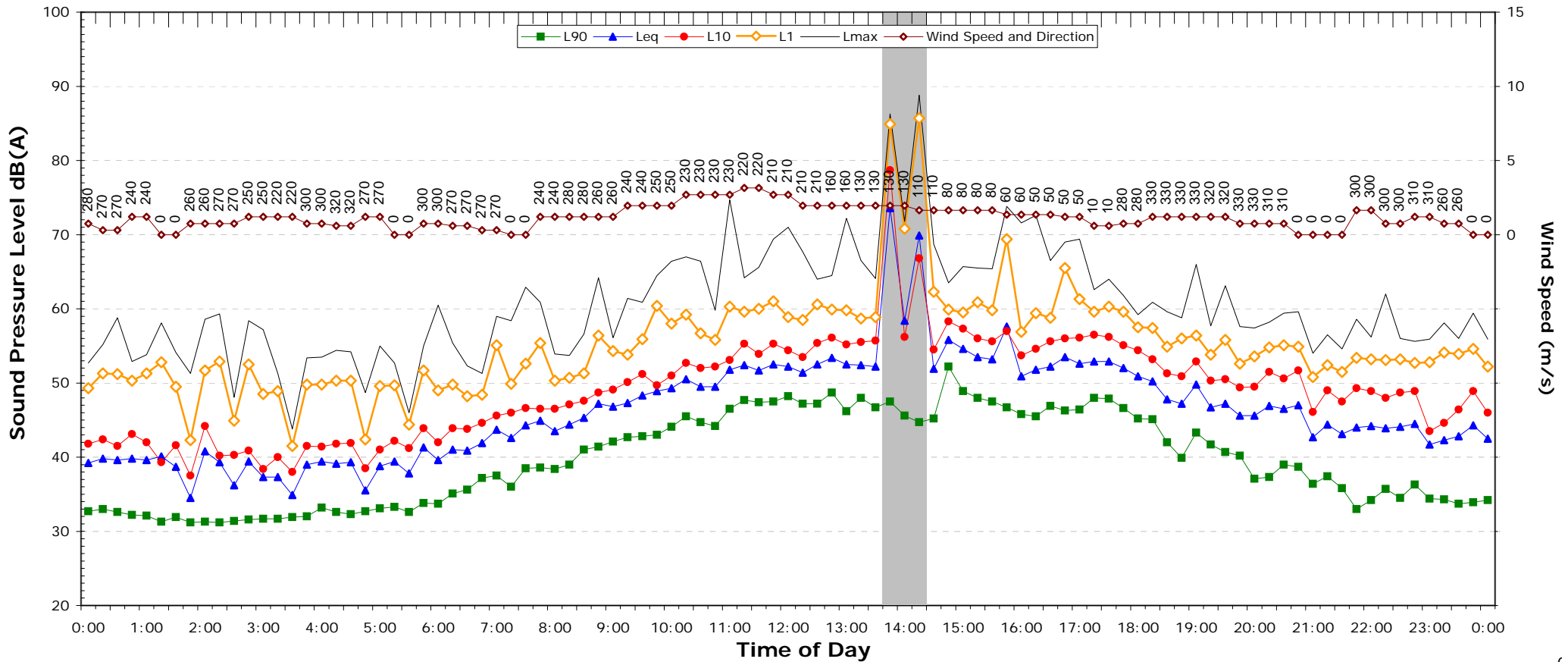
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	51.1	40.0
L _{eq} 1hr upper 10 percentile	53.9	42.0
L _{eq} 1hr lower 10 percentile	43.4	38.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	15.5	to	21.0

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	39.0	34.2	31.6
Leq (see note 3)	51.7	46.7	43.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

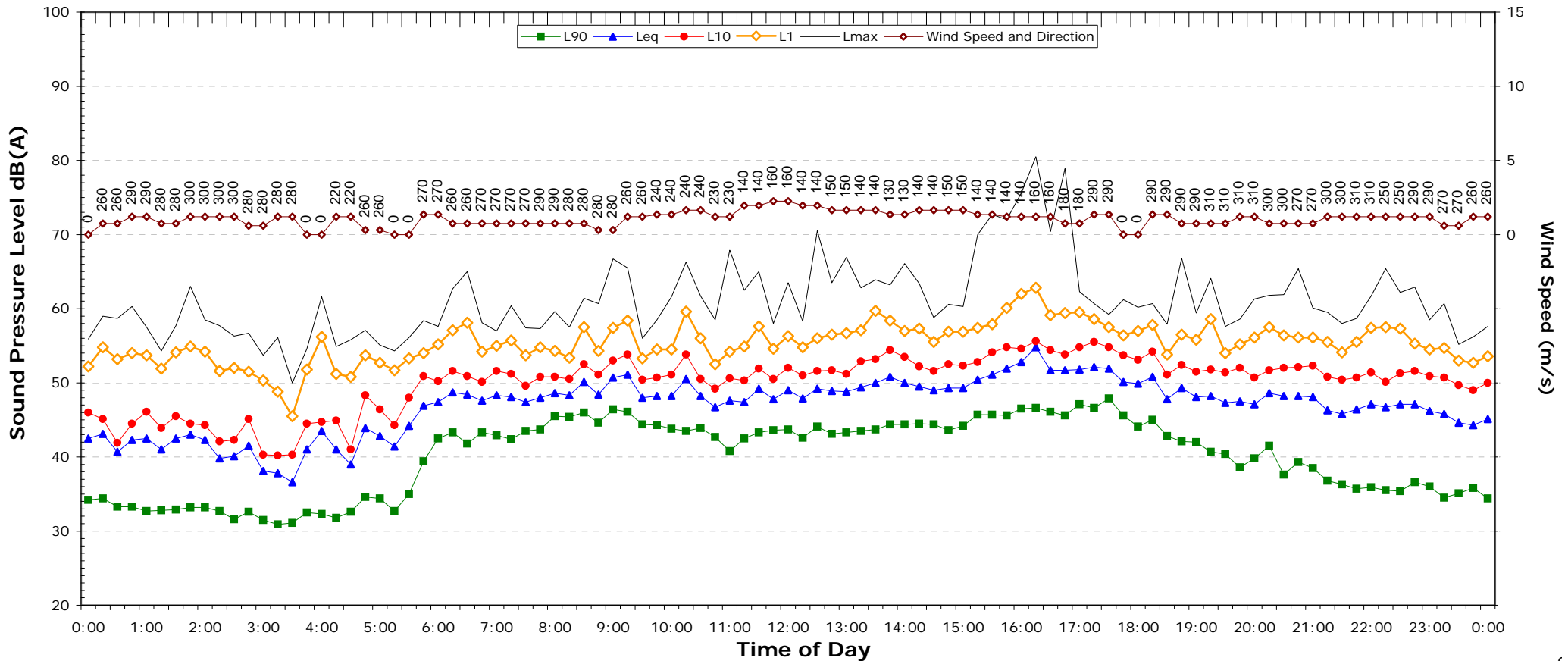
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	50.8	43.8
L _{eq} 1hr upper 10 percentile	54.5	48.3
L _{eq} 1hr lower 10 percentile	43.9	40.0

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	65.0	to	65.0
L _{max} - Leq (Range)	15.0	to	21.0

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.7	35.9	34.3
Leq (see note 3)	50.0	48.0	45.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

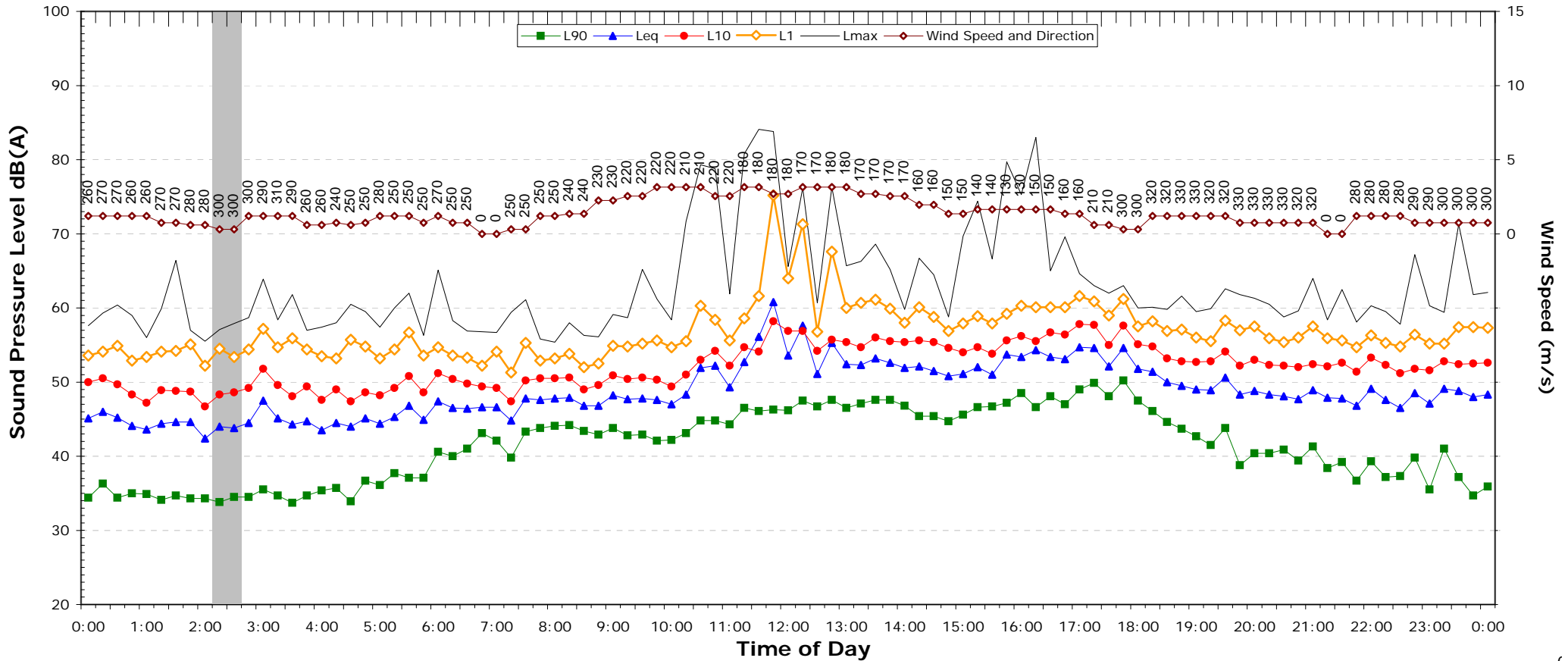
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	49.5	45.5
L _{eq} 1hr upper 10 percentile	52.2	46.8
L _{eq} 1hr lower 10 percentile	47.0	44.1

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	65.1	to	66.4
L _{max} - Leq (Range)	15.6	to	22.3

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.9	38.4	34.7
Leq (see note 3)	52.7	49.0	47.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

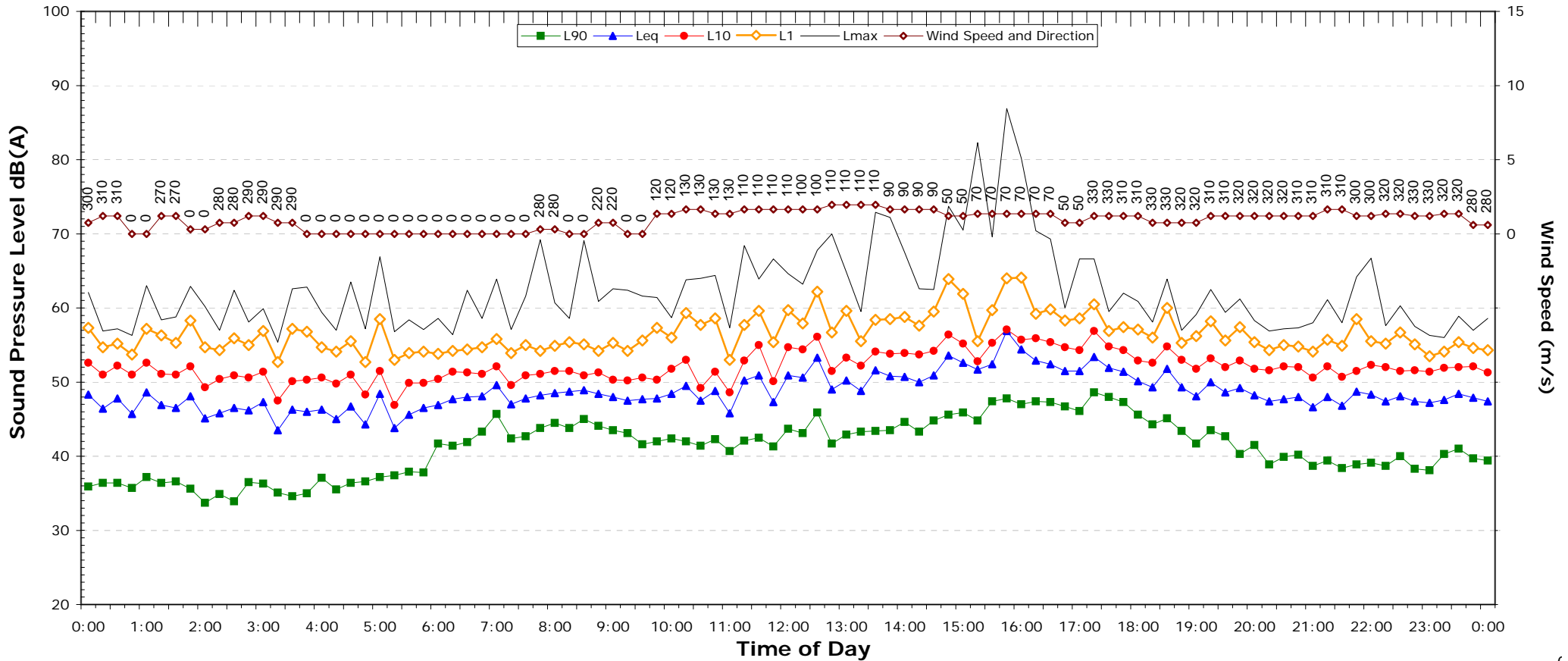
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	52.0	47.1
L _{eq} 1hr upper 10 percentile	56.1	48.6
L _{eq} 1hr lower 10 percentile	47.3	45.7

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	66.9	to	71.3
L _{max} - Leq (Range)	15.5	to	22.7

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.7	38.7	33.9
Leq (see note 3)	50.9	48.7	46.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

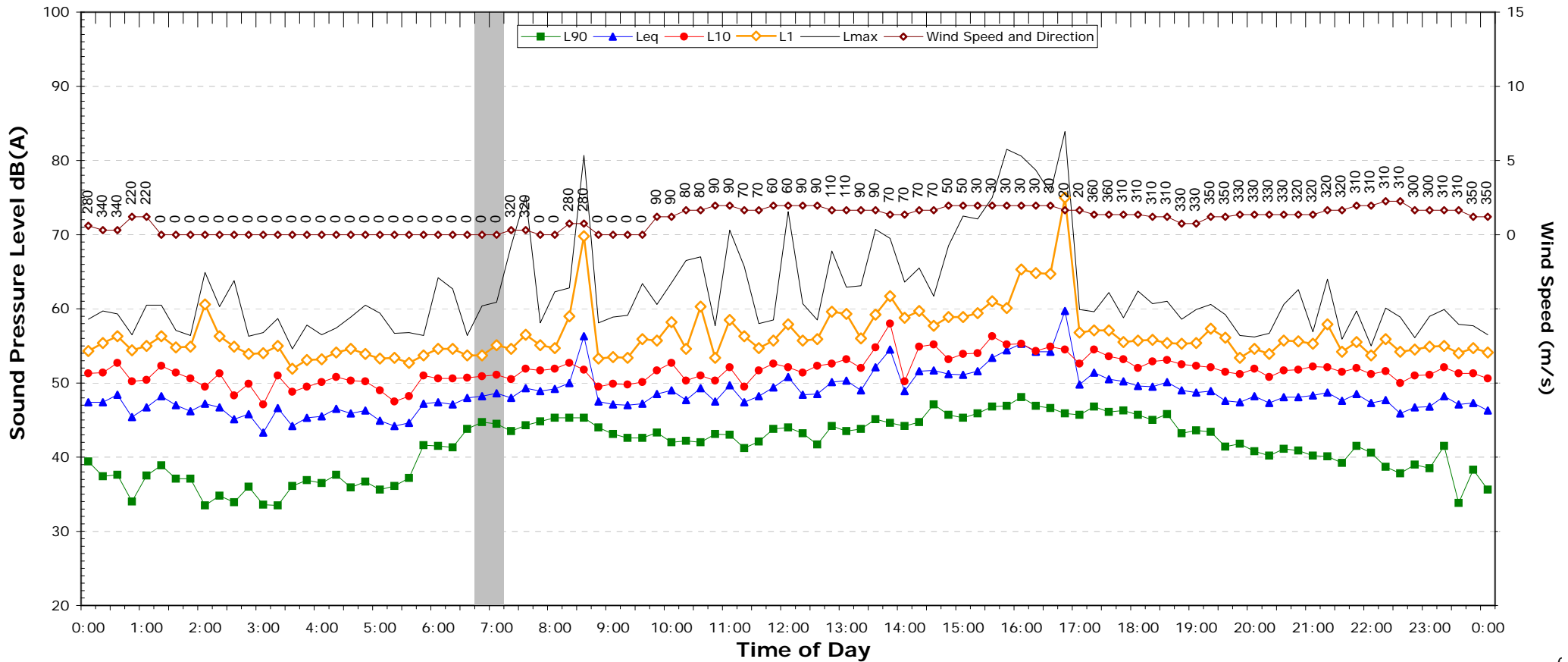
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	50.4	46.7
L _{eq} 1hr upper 10 percentile	53.4	47.8
L _{eq} 1hr lower 10 percentile	47.7	45.4

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	-	to	-
L _{max} - L _{eq} (Range)	15.1	to	18.4

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.1	40.1	34.3
Leq (see note 3)	51.6	48.4	46.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

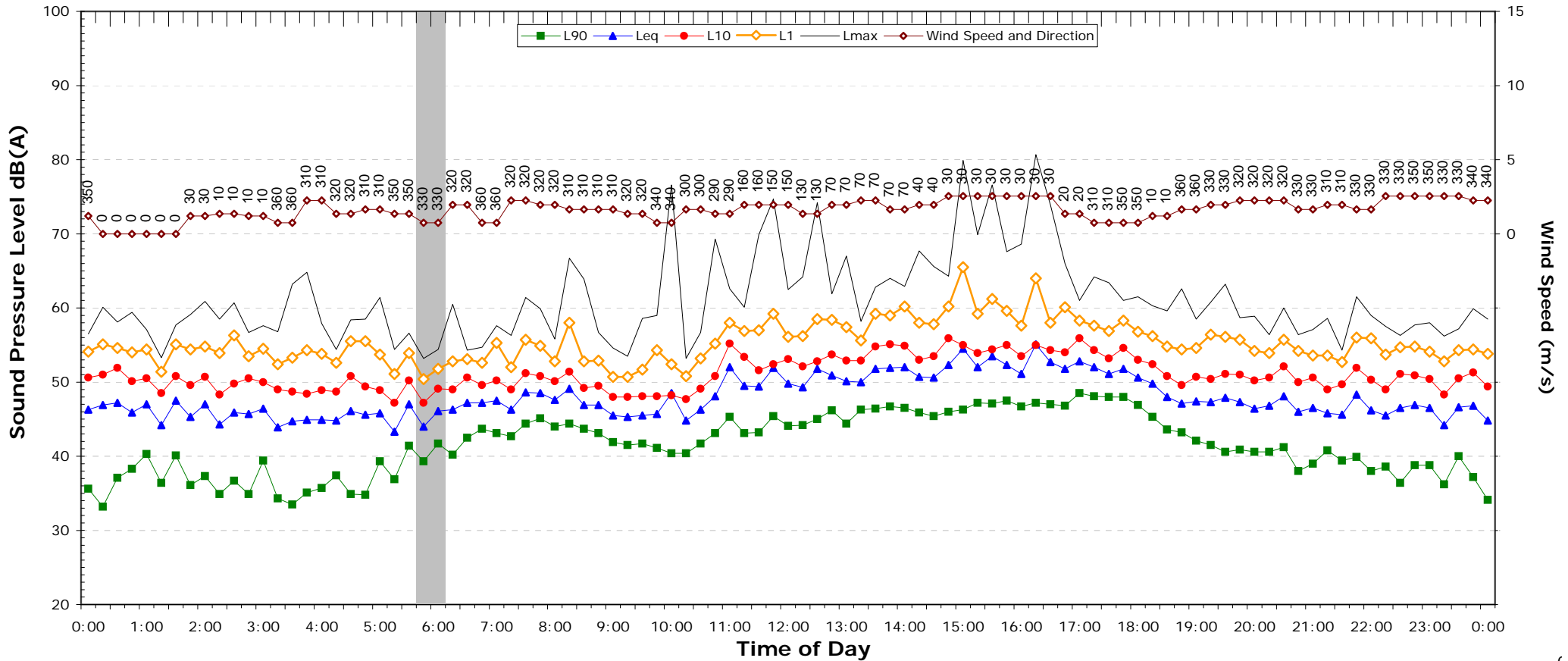
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	50.9	46.3
L _{eq} 1hr upper 10 percentile	55.0	47.3
L _{eq} 1hr lower 10 percentile	48.0	44.6

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	-	to	-
L _{max} - L _{eq} (Range)	15.1	to	20.2

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.7	38.0	33.2
Leq (see note 3)	50.7	47.3	45.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

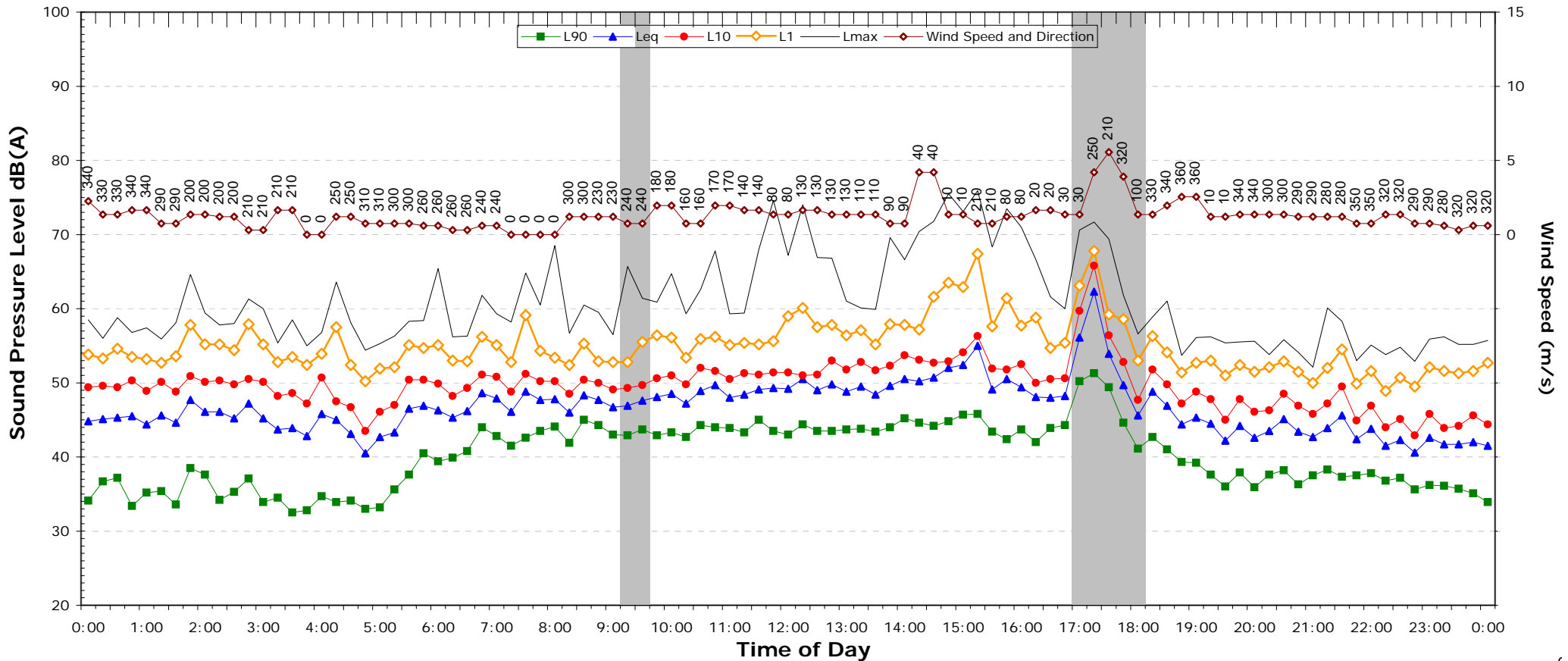
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	50.0	45.7
L _{eq} 1hr upper 10 percentile	52.8	47.2
L _{eq} 1hr lower 10 percentile	46.5	43.1

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	65.4	to	65.4
L _{max} - L _{eq} (Range)	15.3	to	20.5

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.4	36.0	33.0
Leq (see note 3)	49.4	44.7	40.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

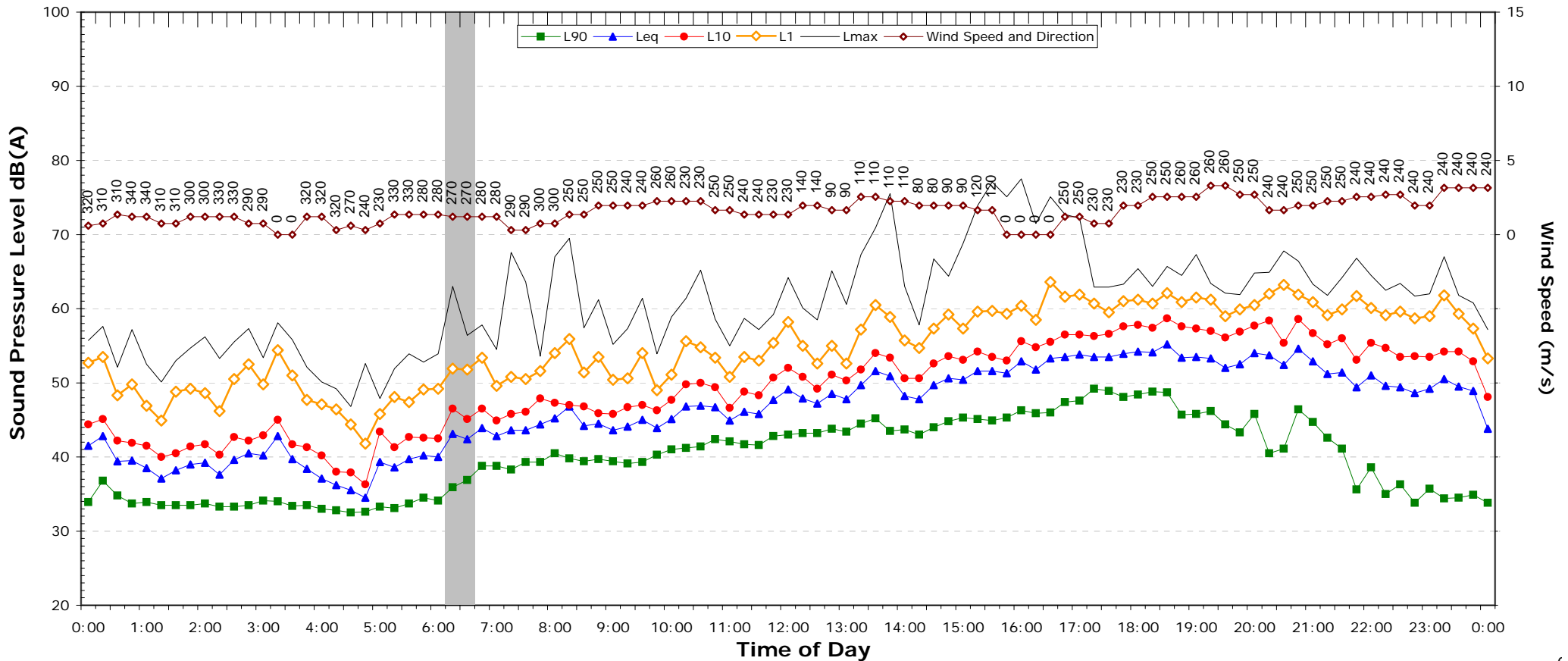
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	48.5	40.4
L _{eq} 1hr upper 10 percentile	51.6	43.4
L _{eq} 1hr lower 10 percentile	43.6	36.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	15.8	to	18.1

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Sunday, 13 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	39.3	38.6	30.2
Leq (see note 3)	49.8	53.0	47.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

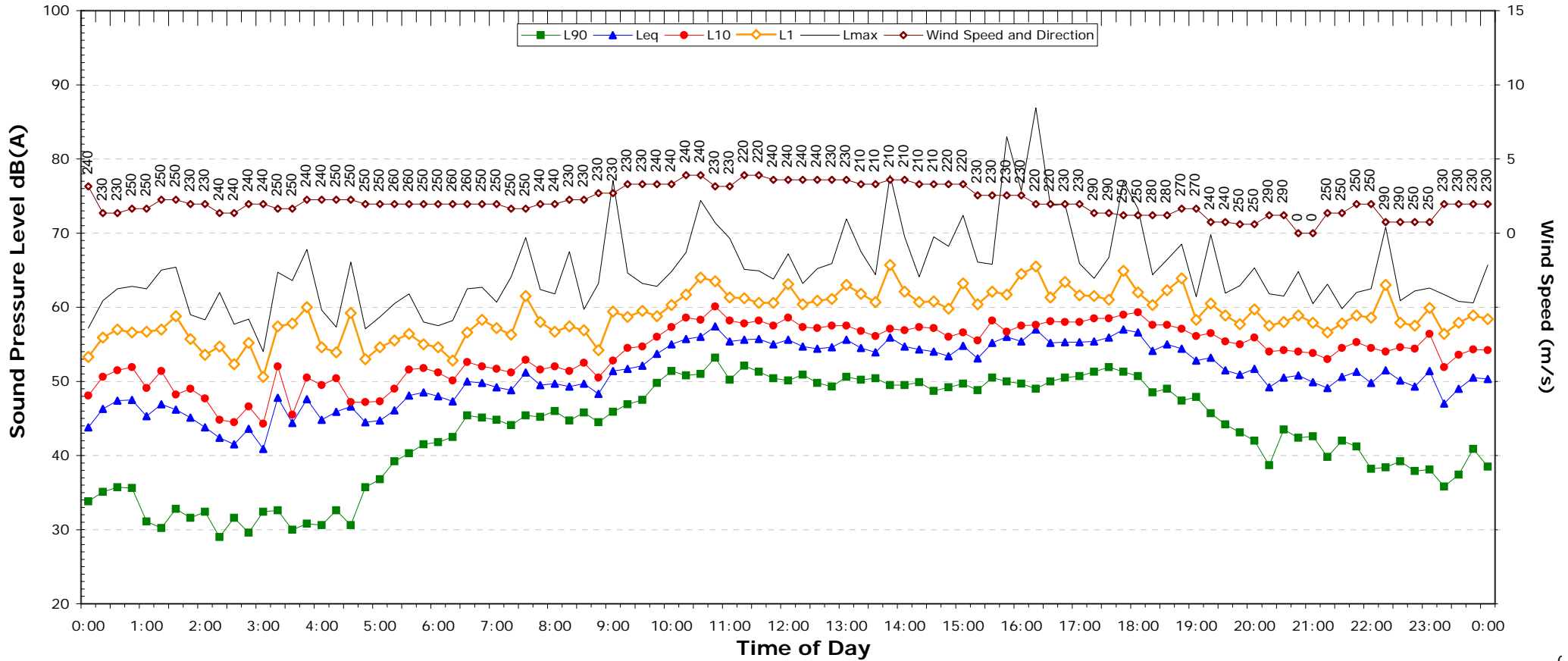
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	50.9	47.3
L _{eq} 1hr upper 10 percentile	54.0	49.2
L _{eq} 1hr lower 10 percentile	44.4	42.2

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	65.4	to	67.8
L _{max} - Leq (Range)	16.1	to	21.4

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Monday, 14 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.4	38.7	35.1
Leq (see note 3)	54.6	50.9	49.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

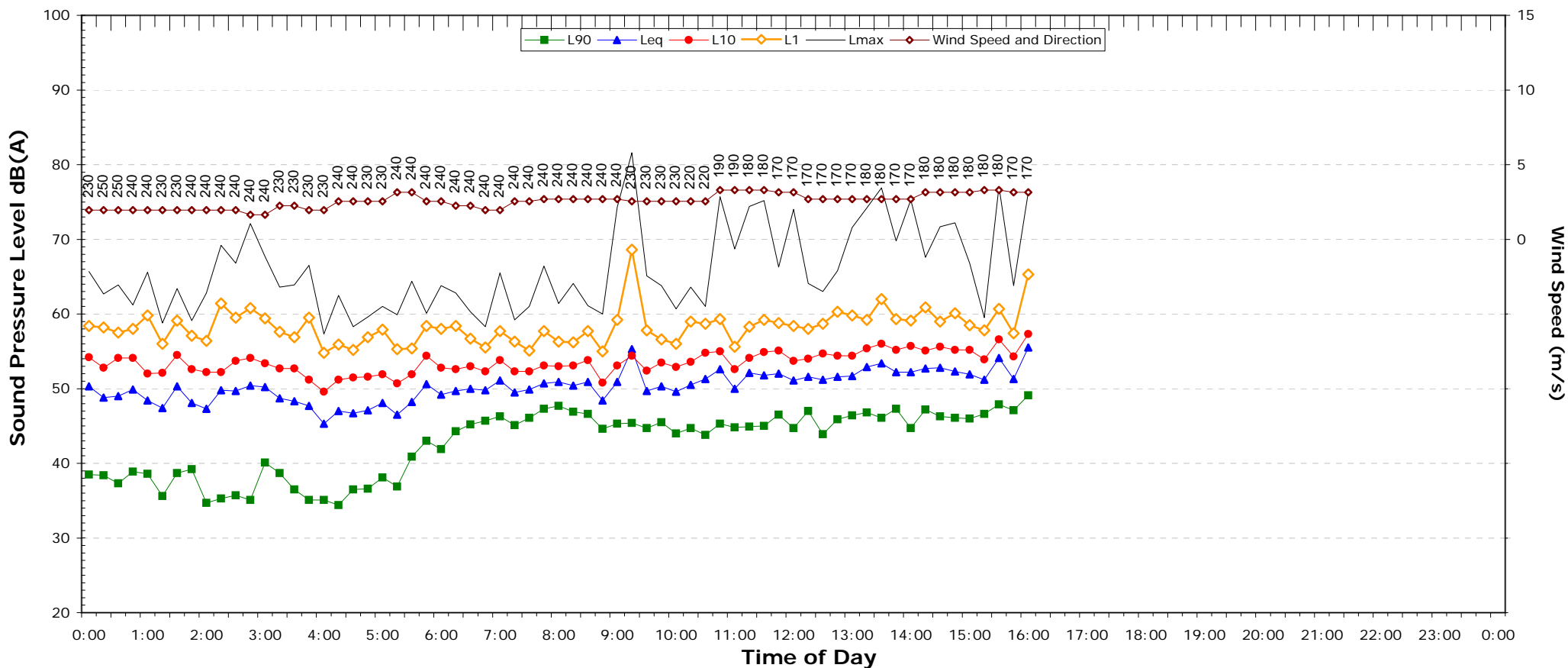
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	54.0	49.2
L _{eq} 1hr upper 10 percentile	56.2	50.7
L _{eq} 1hr lower 10 percentile	49.9	47.3

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	65.5	to	72.1
L _{max} - Leq (Range)	15.2	to	22.1

EXISTING AMBIENT NOISE LEVELS

3002A - 60 Old Pacific HWY, Raleigh

Tuesday, 15 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.6	-	-
Leq (see note 3)	51.8	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

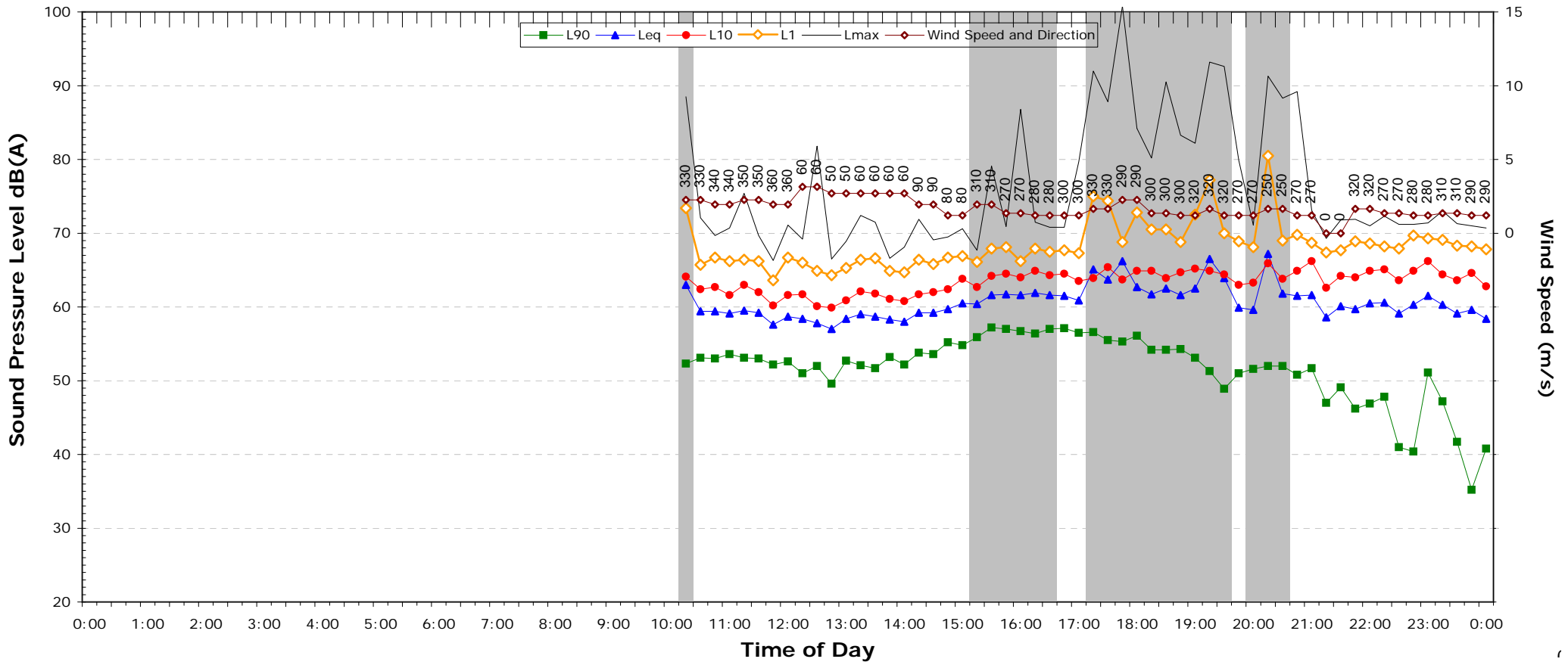
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	51.8	-
L _{eq} 1hr upper 10 percentile	53.4	-
L _{eq} 1hr lower 10 percentile	50.3	-

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - L _{eq} (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3001 - 127 Keevers Dr, Raleigh

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	35.9
Leq (see note 3)	-	-	59.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

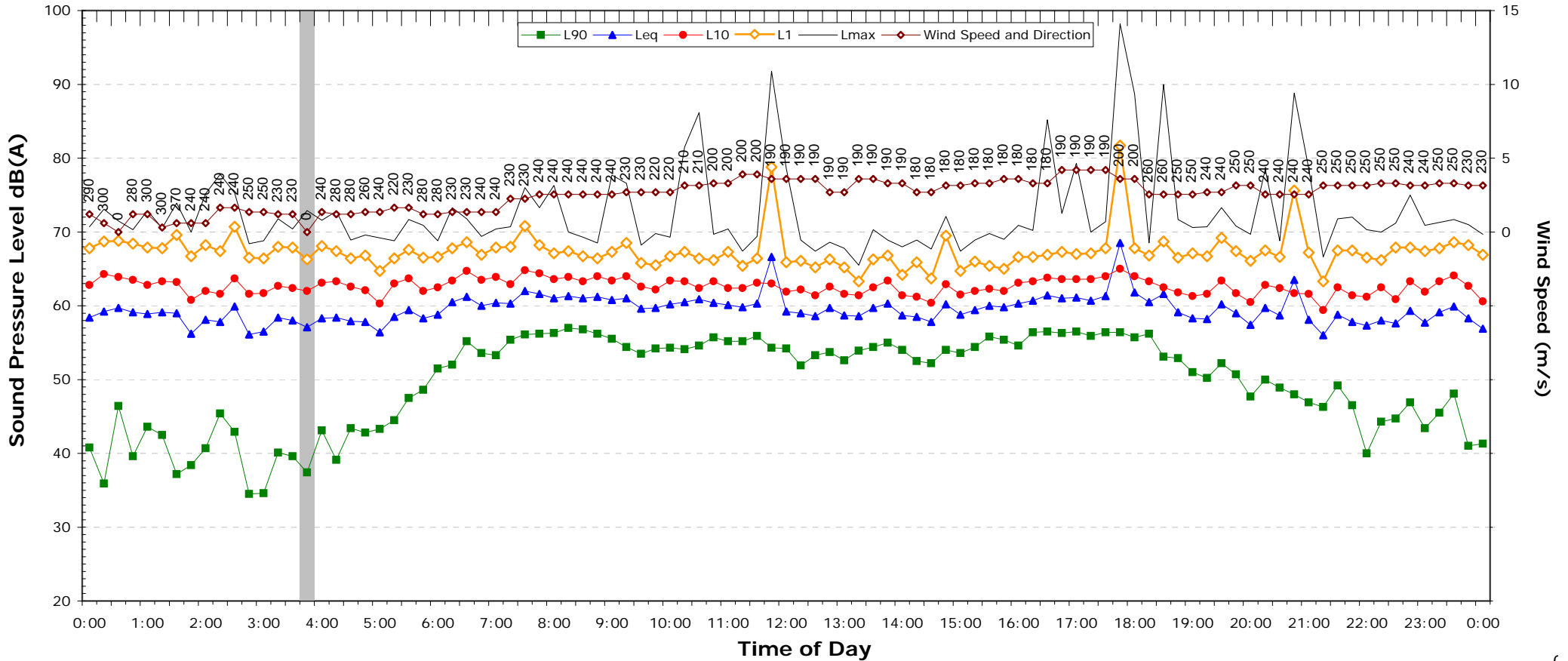
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.5	59.1
L _{eq} 1hr upper 10 percentile	61.6	60.5
L _{eq} 1hr lower 10 percentile	57.9	57.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	72.8	to	77.8
Lmax - Leq (Range)	15.1	to	20.0

EXISTING AMBIENT NOISE LEVELS

3001 - 127 Keevers Dr, Raleigh

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	53.3	46.3	36.8
Leq (see note 3)	61.1	59.4	57.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

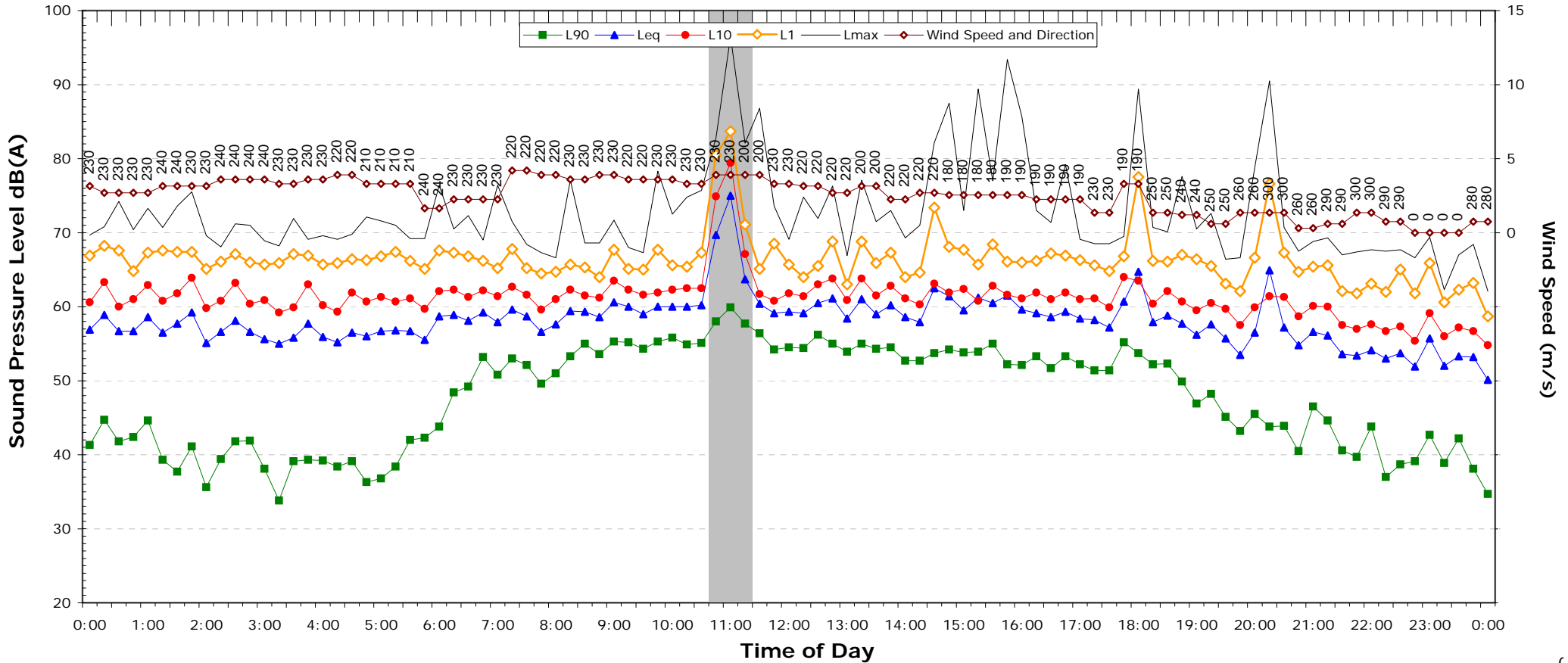
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.7	57.5
L _{eq} 1hr upper 10 percentile	63.7	58.7
L _{eq} 1hr lower 10 percentile	58.3	56.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.9	to	76.4
Lmax - Leq (Range)	15.7	to	19.3

EXISTING AMBIENT NOISE LEVELS

3001 - 127 Keevers Dr, Raleigh

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.7	40.5	32.9
Leq (see note 3)	59.9	57.7	53.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

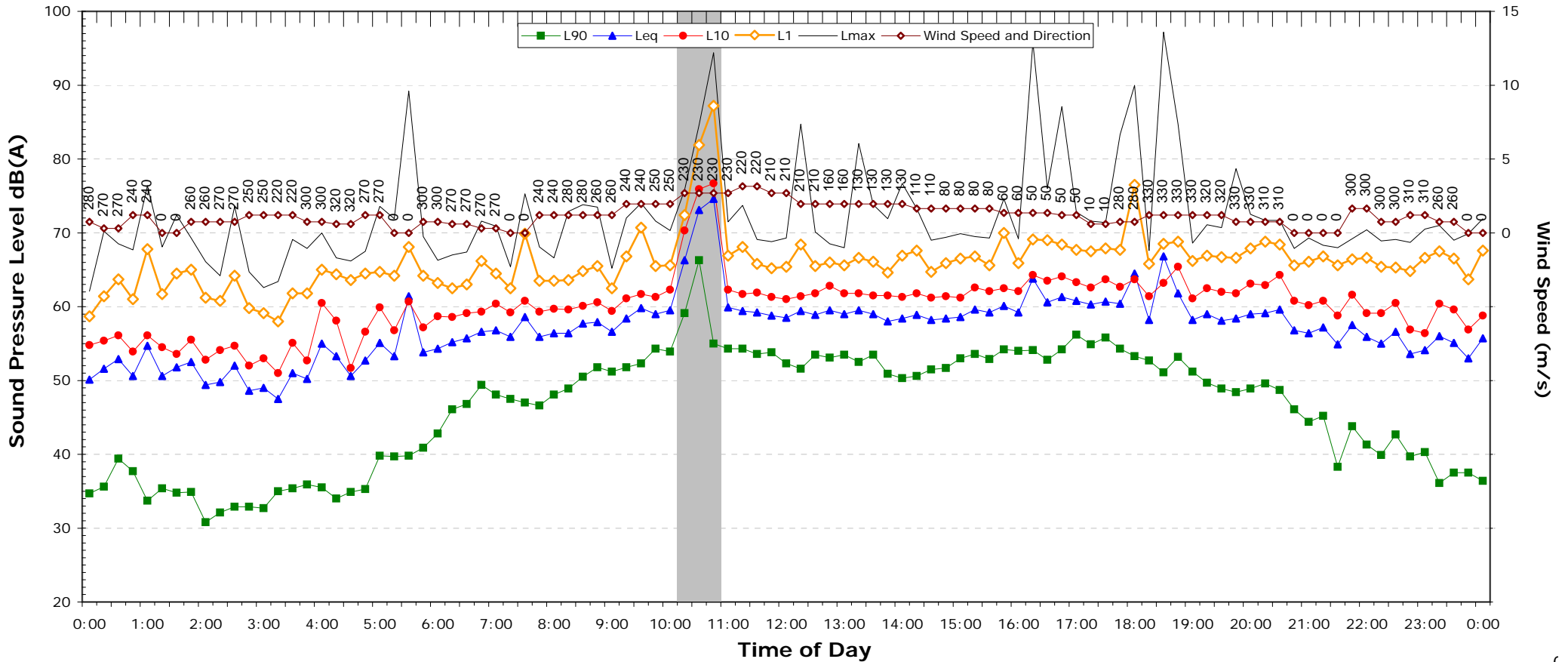
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.4	53.7
L _{eq} 1hr upper 10 percentile	61.0	57.2
L _{eq} 1hr lower 10 percentile	55.3	50.1

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	68.4	to	89.2
L _{max} - Leq (Range)	15.5	to	32.0

EXISTING AMBIENT NOISE LEVELS

3001 - 127 Keevers Dr, Raleigh

Sunday, 6 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.9	41.3	34.1
Leq (see note 3)	59.5	59.7	55.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

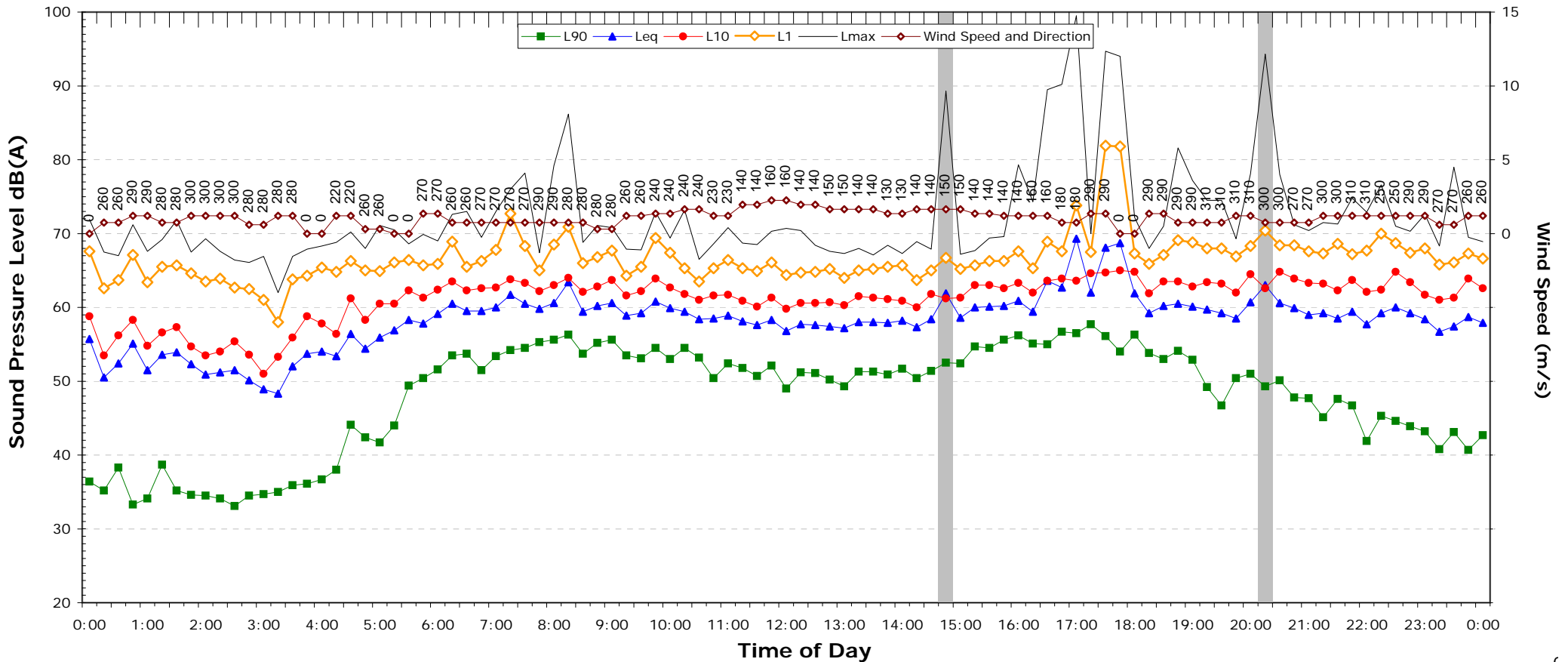
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.6	55.6
L _{eq} 1hr upper 10 percentile	62.4	59.9
L _{eq} 1hr lower 10 percentile	56.7	50.5

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	67.6	to	71.9
L _{max} - Leq (Range)	15.5	to	19.0

EXISTING AMBIENT NOISE LEVELS

3001 - 127 Keevers Dr, Raleigh

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.4	45.1	40.1
Leq (see note 3)	61.5	59.6	57.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

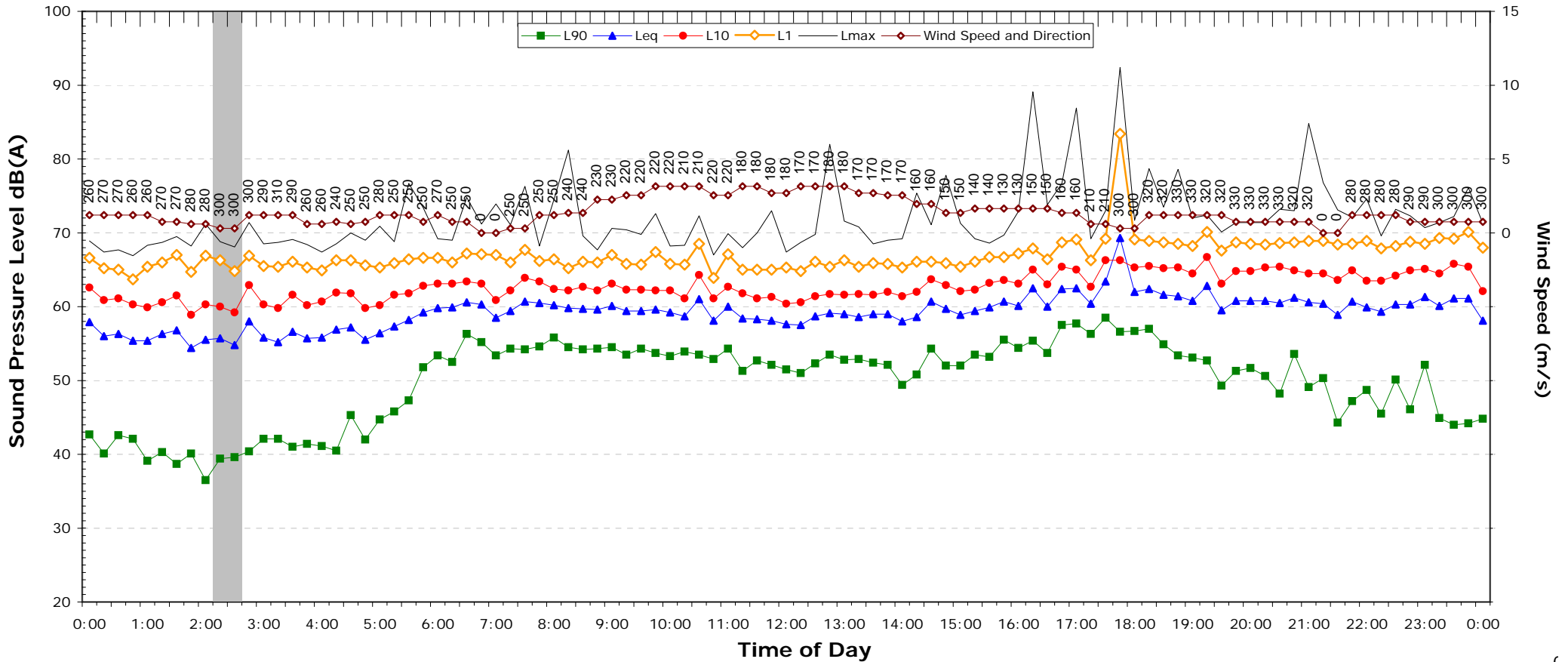
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.1	57.7
L _{eq} 1hr upper 10 percentile	65.8	59.9
L _{eq} 1hr lower 10 percentile	57.6	55.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.2	to	79.0
Lmax - Leq (Range)	15.4	to	21.3

EXISTING AMBIENT NOISE LEVELS

3001 - 127 Keevers Dr, Raleigh

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.5	47.2	41.0
Leq (see note 3)	60.6	60.9	59.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

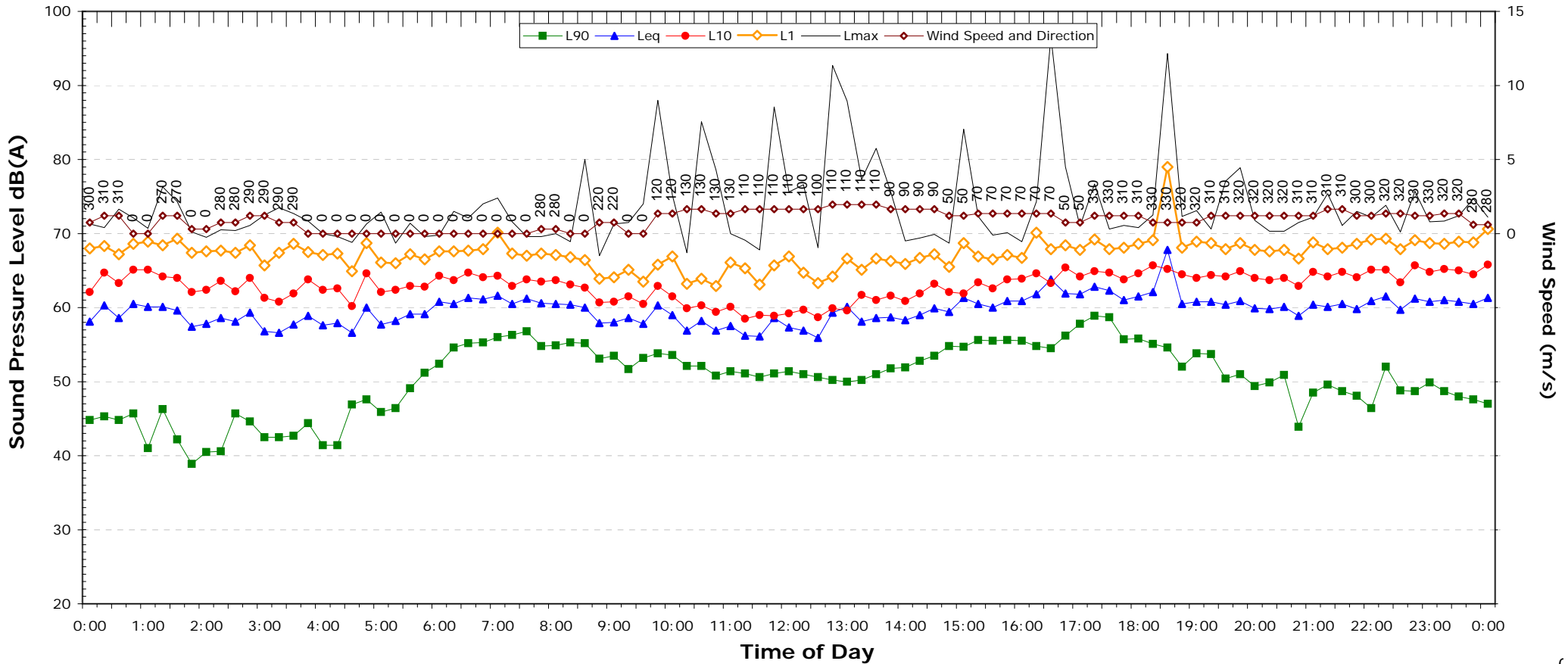
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.7	59.5
L _{eq} 1hr upper 10 percentile	63.9	61.1
L _{eq} 1hr lower 10 percentile	58.4	57.8

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	73.5	to	76.3
L _{max} - Leq (Range)	15.7	to	17.4

EXISTING AMBIENT NOISE LEVELS

3001 - 127 Keevers Dr, Raleigh

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.6	46.4	39.3
Leq (see note 3)	59.9	61.5	59.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

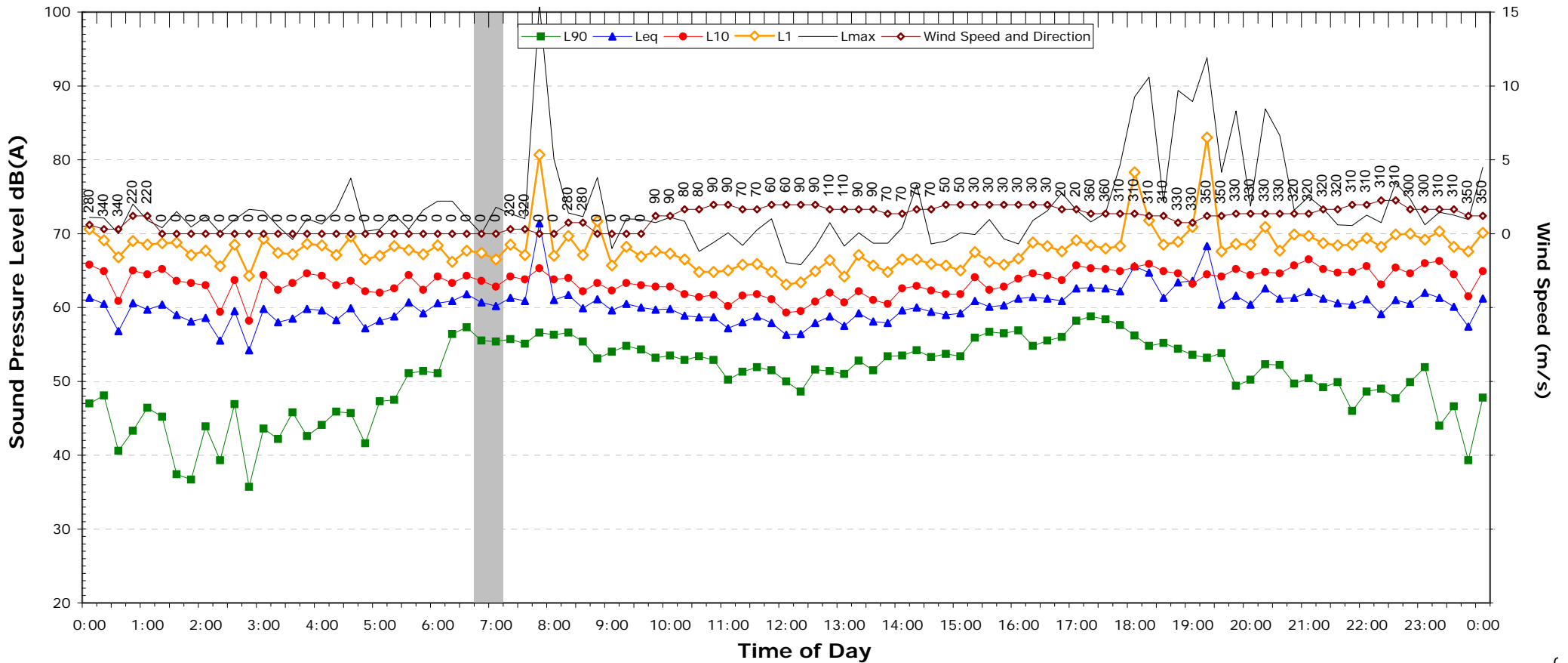
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.4	59.7
L _{eq} 1hr upper 10 percentile	63.3	61.4
L _{eq} 1hr lower 10 percentile	57.3	57.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	73.3	to	77.5
Lmax - Leq (Range)	15.4	to	19.0

EXISTING AMBIENT NOISE LEVELS

3001 - 127 Keevers Dr, Raleigh

Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.3	48.6	39.9
Leq (see note 3)	61.3	62.7	59.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

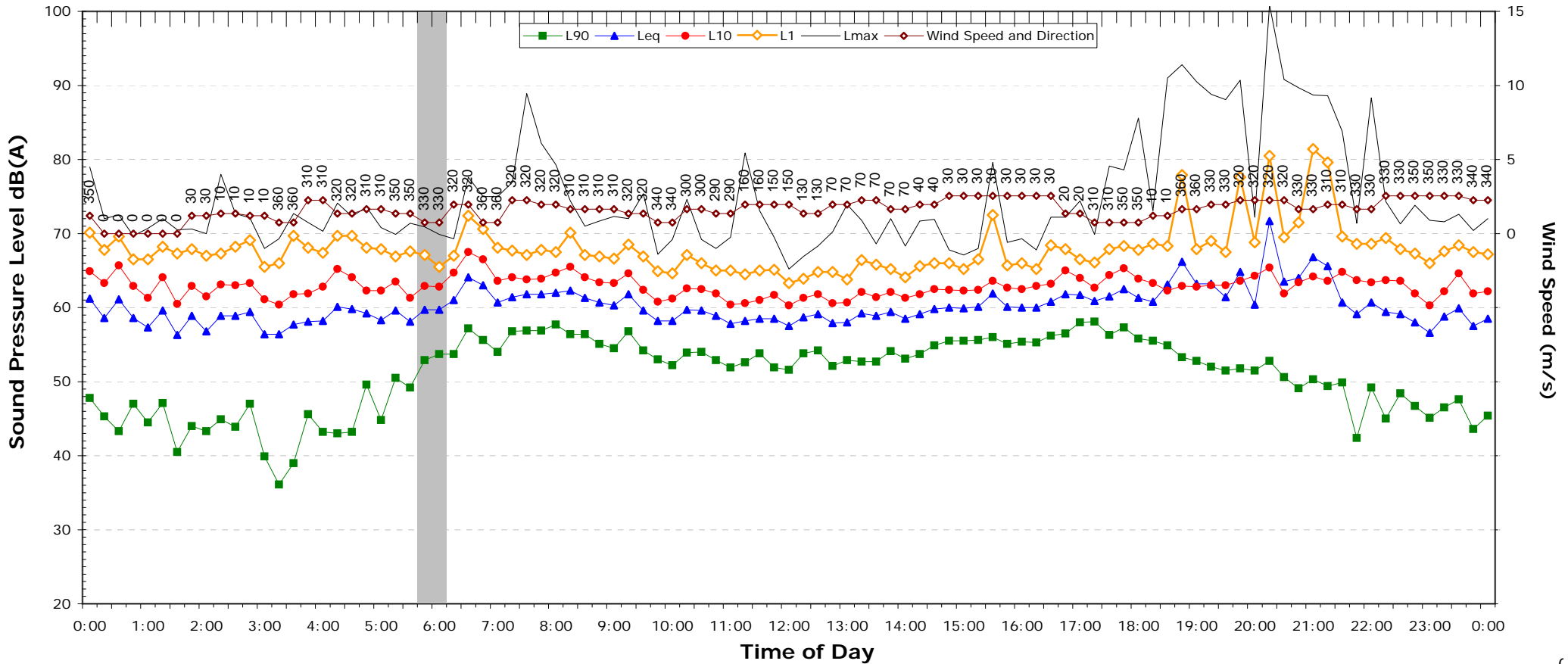
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.8	59.8
L _{eq} 1hr upper 10 percentile	65.4	62.4
L _{eq} 1hr lower 10 percentile	57.8	57.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	72.7	to	79.0
Lmax - Leq (Range)	15.0	to	19.5

EXISTING AMBIENT NOISE LEVELS

3001 - 127 Keevers Dr, Raleigh

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	52.2	49.1	-
Leq (see note 3)	60.2	64.8	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

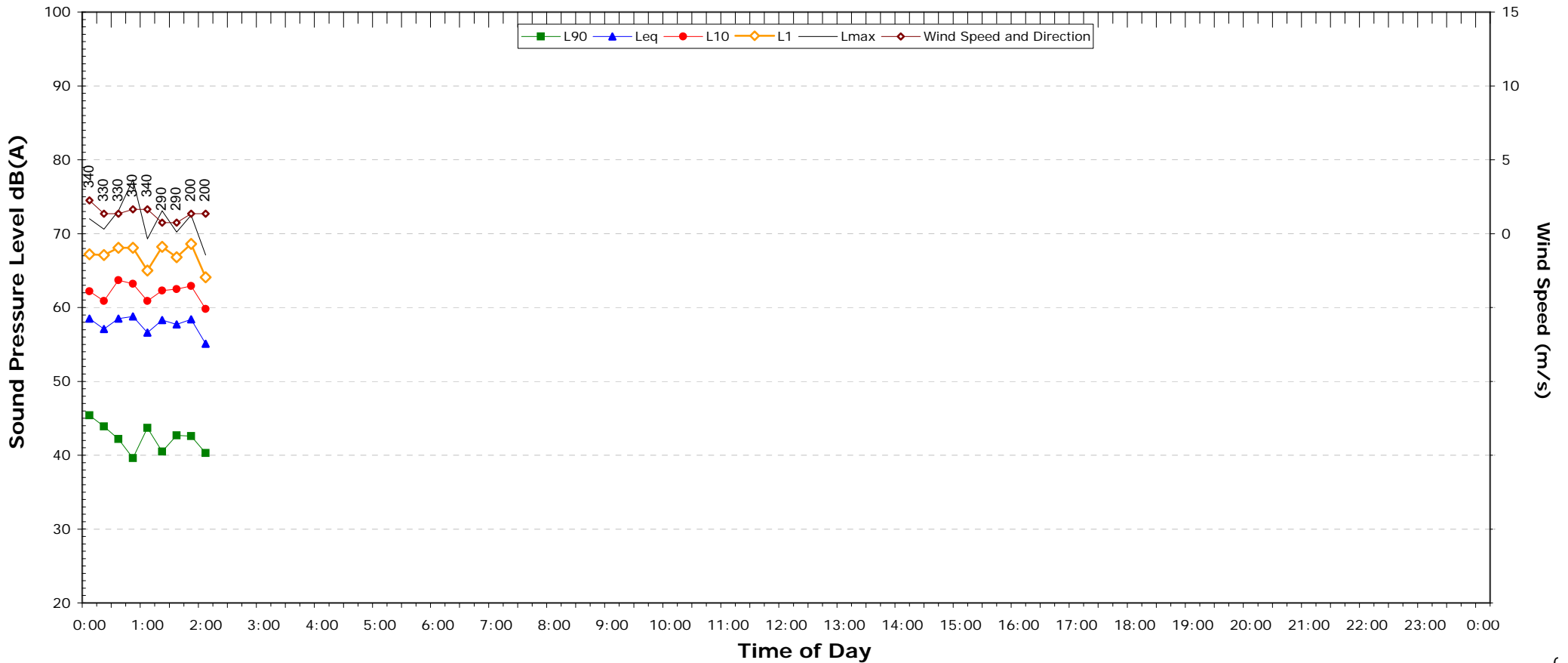
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.0	58.2
L _{eq} 1hr upper 10 percentile	66.3	58.8
L _{eq} 1hr lower 10 percentile	58.3	57.6

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	73.1	to	77.3
L _{max} - L _{eq} (Range)	15.5	to	19.5

EXISTING AMBIENT NOISE LEVELS

3001 - 127 Keevers Dr, Raleigh

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq (see note 3)	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.

2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-L_{eq} ≥ 15dB(A)

NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	-	-
L _{eq} 1hr upper 10 percentile	-	-
L _{eq} 1hr lower 10 percentile	-	-

Night Time Maximum Noise Levels (see note 4)			
	Day	to	Night
L _{max} (Range)	-	to	-
L _{max} - L _{eq} (Range)	-	to	-

APPENDIX H - MODEL TO MEASURED NOISE: COMPARISON GRAPHS

Noise Model Verification Results Nambucca Heads to Urunga

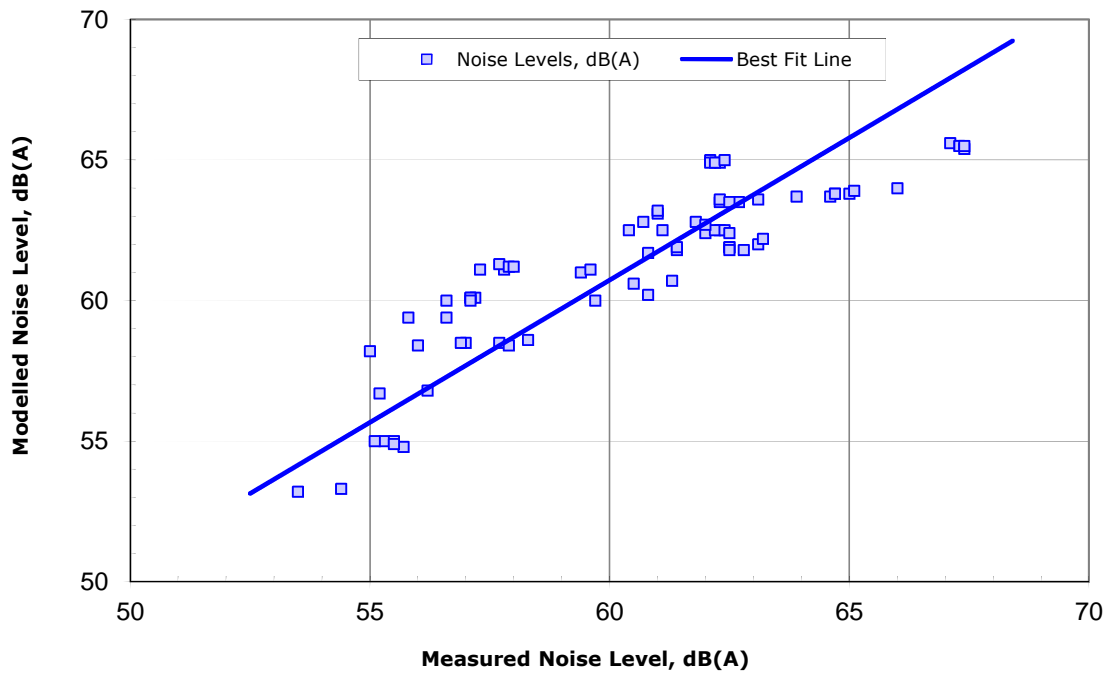
Noise Modelling Software: SoundPLAN

Road Traffic Noise Model: CoRTN 88

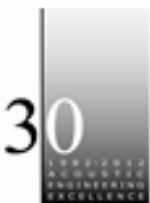
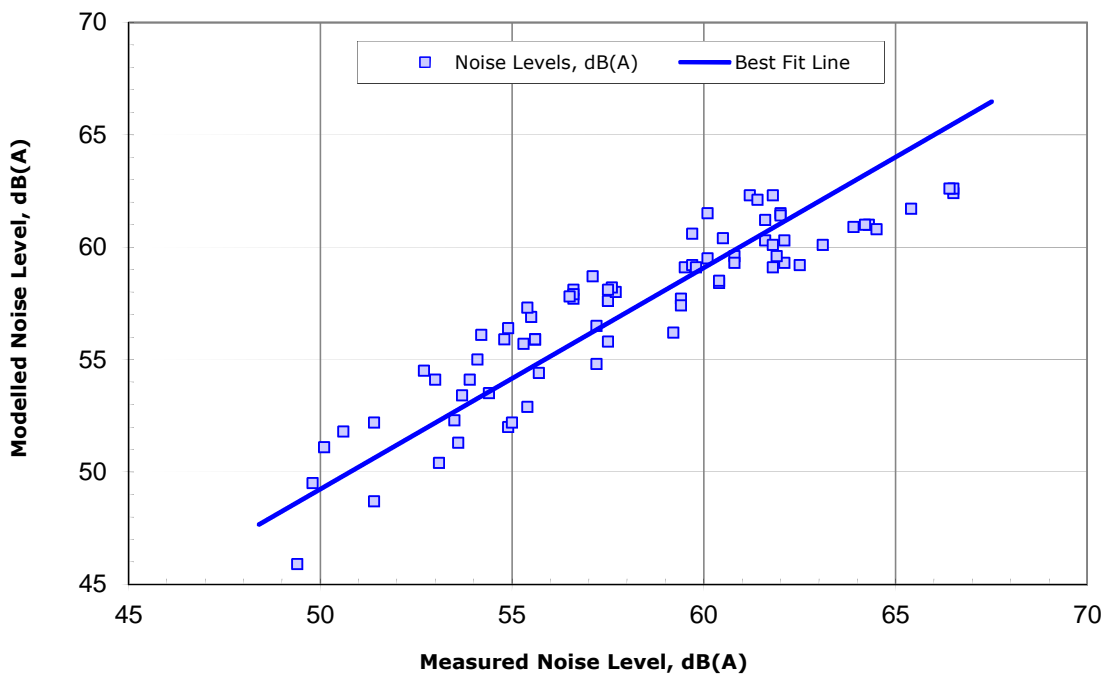
Noise Measurement Period: 2 May 2012 - 15 May 2012

noise model verification

Modelled -v- Measured: Day $L_{Aeq,15hr}$



Modelled -v- Measured: Night $L_{Aeq,9hr}$



APPENDIX I - MAXIMUM NOISE LEVEL ASSESSMENT

Table I1 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 1641

Wednesday, 2 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	62	62	61	60	59	59	60	61	61
L _{av} max	79	-	78	77	-	-	-	78	-	78
No Events	1	0	1	2	0	0	0	1	0	5
Thursday, 3 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	62	62	61	61	61	59	61	62	61
L _{av} max	78	-	-	-	77	76	81	-	78	78
No Events	1	0	0	0	2	1	1	0	1	6
Friday, 4 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	60	61	60	60	60	59	58	58	60	60
L _{av} max	-	-	-	77	-	75	-	-	78	77
No Events	0	0	0	3	0	1	0	0	1	5
Saturday, 5 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	57	56	54	53	55	53	53	54	56	55
L _{av} max	-	-	69	70	-	71	69	71	-	70
No Events	0	0	1	4	0	3	3	3	0	14
Sunday, 6 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	58	56	55	56	53	55	55	59	61	57
L _{av} max	-	-	73	72	69	73	71	-	78	73
No Events	0	0	3	6	5	2	2	0	3	21

Monday, 7 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	61	60	60	59	60	59	59	60	62	60
L _{av max}	-	-	77	-	-	-	-	79	78	78
No Events	0	0	1	0	0	0	0	1	1	3
Tuesday, 8 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	62	62	61	61	60	61	60	62	61
L _{av max}	-	77	-	77	-	76	77	-	-	77
No Events	0	1	0	2	0	1	4	0	0	8
Wednesday, 9 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	62	63	61	61	61	61	61	63	62
L _{av max}	-	-	-	-	78	-	-	79	-	79
No Events	0	0	0	0	5	0	0	3	0	8

Table I2 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 1825

Thursday, 3 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	56	56	57	56	56	56	54	55	56	56
L _{av max}	-	-	-	73	72	73	-	-	-	72
No Events	0	0	0	2	1	1	0	0	0	4
Friday, 4 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	54	56	55	55	55	54	52	52	54	54
L _{av max}	-	72	-	74	-	70	-	68	-	71
No Events	0	2	0	2	0	1	0	1	0	6
Saturday, 5 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	51	50	49	50	50	48	50	51	52	50
L _{av max}	67	-	-	66	66	-	68	-	67	67

No Events	1	0	0	1	2	0	2	0	2	8
Sunday, 6 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	53	53	51	52	51	50	52	54	56	53
L _{av max}	-	-	68	69	70	68	68	-	72	69
No Events	0	0	2	3	1	3	1	0	1	11
Monday, 7 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	57	56	56	55	56	55	55	55	56	56
L _{av max}	72	-	72	70	71	71	-	-	-	71
No Events	1	0	2	4	1	2	0	0	0	10
Tuesday, 8 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	57	58	57	57	56	55	56	55	56	57
L _{av max}	-	74	74	75	-	72	72	-	-	74
No Events	0	1	1	2	0	2	2	0	0	8
Wednesday, 9 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	58	57	58	56	56	56	56	55	57	57
L _{av max}	-	-	-	-	74	-	-	-	74	74
No Events	0	0	0	0	1	0	0	0	1	2
Thursday, 10 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	57	58	57	56	56	55	55	55	56	56
L _{av max}	-	74	73	-	-	71	-	-	-	73
No Events	0	1	1	0	0	2	0	0	0	4

Table I3 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 3003

Thursday, 3 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	57	57	57	57	56	56	55	56	57	57
L _{av} max	-	-	-	-	71	73	-	72	-	72
No Events	0	0	0	0	2	2	0	1	0	5
Friday, 4 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	54	55	55	55	55	54	53	54	56	55
L _{av} max	-	70	-	73	-	69	72	70	72	71
No Events	0	1	0	1	0	2	3	5	2	14
Saturday, 5 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	51	51	49	48	49	49	51	52	53	51
L _{av} max	66	67	67	66	66	69	67	69	72	68
No Events	2	1	2	1	4	1	3	1	10	25
Sunday, 6 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	53	51	50	51	49	50	51	54	57	53
L _{av} max	-	69	66	68	67	68	68	72	78	69
No Events	0	1	1	3	4	2	3	4	7	25
Monday, 7 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	57	55	55	55	55	55	55	56	57	55
L _{av} max	72	-	-	-	71	70	70	-	-	71
No Events	1	0	0	0	1	2	1	0	0	5
Tuesday, 8 May 2012										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	56	57	57	56	56	55	57	56	58	57
L _{av} max	-	-	-	74	72	-	74	71	76	74

No Events	0	0	0	1	2	0	5	2	4	14
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Wednesday, 9 May 2012

	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	58	58	58	58	56	59	57	57	58	58
L _{av max}	-	-	75	75	73	77	74	73	78	75
No Events	0	0	1	1	1	5	2	2	5	17

Thursday, 10 May 2012

	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	58	59	58	58	58	56	57	57	58	58
L _{av max}	-	-	-	74	73	73	75	-	74	74
No Events	0	0	0	1	2	2	1	0	1	7

Table I4 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 3001

Thursday, 3 May 2012

	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	60	60	59	58	58	58	58	58	60	59
L _{av max}	-	-	-	74	75	73	-	-	-	74
No Events	0	0	0	1	4	1	0	0	0	6

Friday, 4 May 2012

	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	58	59	57	58	57	56	56	56	59	58
L _{av max}	75	-	74	74	-	72	72	72	76	74
No Events	1	0	1	4	0	1	1	1	1	10

Saturday, 5 May 2012

	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	53	54	51	53	50	50	53	57	56	54
L _{av max}	-	69	69	72	68	69	70	80	72	71
No Events	0	1	4	13	6	2	1	8	1	36

Sunday, 6 May 2012

	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	55	55	54	53	51	51	55	57	60	55

Lav max	70	71	71	70	67	67	70	-	-	69
No Events	1	4	7	3	8	8	1	0	0	32
Monday, 7 May 2012										
	10pm - 11pm	11pm - 12am	12am - 1am	1am - 2am	2am - 3am	3am - 4am	4am - 5am	5am - 6am	6am - 7am	Total
LAEq	59	58	57	56	56	56	56	58	60	58
Lav max	77	79	-	-	71	-	-	75	-	75
No Events	1	1	0	0	2	0	0	6	0	10
Tuesday, 8 May 2012										
	10pm - 11pm	11pm - 12am	12am - 1am	1am - 2am	2am - 3am	3am - 4am	4am - 5am	5am - 6am	6am - 7am	Total
LAEq	60	61	59	59	58	58	58	59	61	59
Lav max	-	76	-	76	-	73	-	-	-	75
No Events	0	1	0	2	0	2	0	0	0	5
Wednesday, 9 May 2012										
	10pm - 11pm	11pm - 12am	12am - 1am	1am - 2am	2am - 3am	3am - 4am	4am - 5am	5am - 6am	6am - 7am	Total
LAEq	61	61	60	59	57	59	59	59	61	60
Lav max	-	-	-	-	73	-	77	-	-	75
No Events	0	0	0	0	1	0	2	0	0	3
Thursday, 10 May 2012										
	10pm - 11pm	11pm - 12am	12am - 1am	1am - 2am	2am - 3am	3am - 4am	4am - 5am	5am - 6am	6am - 7am	Total
LAEq	61	60	60	58	59	57	59	59	62	60
Lav max	77	-	78	-	78	73	-	-	78	77
No Events	1	0	3	0	2	1	0	0	1	8

APPENDIX J - SWTC – APPENDIX 4.6

Noise Levels

Noise-sensitive receiver location			2026 operational night levels			2026 operational day levels			
Receiver Number	x_coordinate	y_coordinate	50 dB(A)	55 dB(A)	60 dB(A)	55 dB(A)	60 dB(A)	65 dB(A)	70 dB(A)
1625	497821	6611689	X			X			
1626	497891	6611658	X			X			
1626	497914	6611690	X			X			
1626	497920	6611733	X			X			
1628	497928	6611798	X			X			
1630	497299	6612270			X		X		
1631	497197	6612390		X			X		
1632	497717	6612490			X			X	
1634	497431	6612644			X			X	
1635	497729	6612710			X			X	
1636	497705	6612780			X				X
1637	497303	6612960		X			X		
1638	498090	6613130		X			X		
1639	497967	6613190			X			X	
1640	498033	6613230			X			X	
1642	497994	6613320			X			X	
1643	498038	6613340			X			X	
1644	498202	6613340			X		X		
1647	497743	6613570			X			X	
1649	497691	6613630			X		X		
1650	497865	6613640			X				X
1651	497736	6613670			X		X		
1652	498263	6613670			X			X	
1653	497846	6613720		X			X		
1654	498374	6613820			X				X
1655	498110	6613890			X				X
1656	497814	6613930		X			X		
1657	497712	6613980		X		X			
1659	498860	6614010			X			X	
1660	497856	6614130		X			X		
1661	499295	6614180	X			X			
1663	498477	6614400			X			X	
1664	499355	6614410	X			X			
1666	498548	6614490			X			X	
1669	498813	6614800			X			X	
1677	499217	6615190			X				X
1678	498772	6615220		X			X		
1678	498749	6615560	X			X			
1679	498979	6615300		X			X		
1682	499544	6615500			X			X	
1686	499685	6615620		X			X		
1689	500234	6615630		X			X		
1692	500346	6615670			X			X	
1693	500331	6615680			X			X	
1695	500316	6615680			X			X	
1696	500300	6615690			X			X	
1697	499760	6615690		X			X		
1699	500362	6615720		X			X		
1700	500285	6615700			X			X	
1701	500267	6615700			X			X	
1705	500257	6615720			X			X	
1706	500346	6615710		X			X		
1707	500330	6615720		X			X		
1708	500316	6615730		X			X		
1709	500246	6615730			X			X	
1710	500300	6615730		X			X		
1711	500284	6615740		X			X		
1713	500270	6615760		X			X		
1714	499307	6615770			X		X		
1715	500353	6615770	X			X			
1716	500256	6615770		X			X		
1717	500333	6615780	X			X			
1718	499964	6615780			X			X	
1719	500320	6615790	X			X			
1721	500242	6615790		X			X		
1722	499330	6615800			X		X		
1723	500357	6615810	X			X			
1724	500302	6615800	X			X			
1726	500345	6615810	X			X			
1727	500285	6615810	X			X			
1729	500001	6615830			X			X	
1732	500298	6615830	X			X			

1733	500280	6615840	X			X			
1735	500261	6615840	X			X			
1736	500253	6615860	X			X			
1737	500195	6615870		X		X			
1738	500253	6615880	X			X			
1744	500256	6615950	X			X			
1747	500489	6616030	X			X			
1753	500465	6616110	X			X			
1755	499694	6616110		X			X		
1758	500538	6616120	X			X			
1761	500531	6616148	X			X			
1762	499593	6616150		X			X		
1763	500434	6616160	X			X			
1764	500531	6616168	X			X			
1766	499709	6616180		X			X		
1767	500422	6616180	X			X			
1770	499631	6616190		X			X		
1771	499664	6616190		X			X		
1772	500544	6616200	X			X			
1773	500400	6616200	X			X			
1774	500357	6616210		X		X			
1777	500388	6616230	X			X			
1779	500561	6616238	X			X			
1781	500495	6629980		X			X		
1782	499721	6616280		X			X		
1783	500570	6616290	X			X			
1785	499667	6616310		X			X		
1788	499873	6616350		X			X		
1789	500599	6616350		X		X			
1790	500562	6616350		X		X			
1791	500259	6616450			X			X	
1794	500051	6616580			X			X	
1795	500465	6616800			X			X	
1798	499974	6616940		X		X			
1799	500627	6617050		X			X		
1800	500369	6617350			X				X
1804	500077	6617460		X			X		
1809	500310	6617700			X			X	
1810	500198	6617710			X		X		
1811	499997	6617730		X		X			
1813	499854	6617880		X		X			
1814	500014	6617890		X		X			
1815	500301	6618300			X				X
1816	500555	6618340			X			X	
1817	500793	6619123	X			X			
1818	500873	6619187	X			X			
1819	500900	6619800		X			X		
1823	500696	6629890		X		X			
1824	500957	6620290		X		X			
1825	500697	6620330			X		X		
1826	500935	6620330		X			X		
1827	500919	6620350		X			X		
1828	500899	6620370		X			X		
1841	500523	6629920		X			X		
1845	500517	6630040		X			X		
1860	498577	6624370	X			X			
1922	498342	6624800		X			X		
2200	498137	6625650		X			X		
2260	498157	6625800		X			X		
2267	498218	6625830		X			X		
2268	497498	6625820			X		X		
2294	498069	6625900		X			X		
2318	497719	6625960			X			X	
2736	499538	6627894	X			X			
2741	498939	6627924			X		X		
2744	499542	6627949	X			X			
2748	498968	6627969	X			X			
2749	498914	6627971	X			X			
2751	499550	6627996	X			X			
2752	499058	6628010			X		X		
2753	499838	6628210		X			X		
2754	498779	6628015	X			X			
2757	498823	6628043	X			X			
2759	499503	6628060		X			X		

2762	499044	6628080	X			X			
2763	499755	6628089	X			X			
2764	499549	6628090		X			X		
2767	500080	6628130		X			X		
2768	499056	6628131	X			X			
2769	499830	6628130			X	X			
2770	499970	6628140		X			X		
2771	499884	6628140		X			X		
2772	499754	6628140		X			X		
2775	499665	6628150		X			X		
2778	499086	6628177	X			X			
2779	499934	6628200			X		X		
2782	500023	6628210		X			X		
2785	500218	6628230		X			X		
2786	500257	6628250		X			X		
2787	499095	6628259	X			X			
2788	500125	6628270		X			X		
2799	499156	6628547	X			X			
2803	499029	6628610		X			X		
2817	500637	6629317	X			X			
2821	500706	6629396	X			X			
2827	500503	6629600		X			X		
2828	500554	6629610	X			X			
2829	500547	6629630		X		X			
2830	500545	6629650		X		X			
2832	500543	6629660		X		X			
2833	500488	6629690		X			X		
2835	499841	6629770			X		X		
2836	499501	6629780			X			X	
2837	499911	6629810			X			X	
2838	500468	6629790		X			X		
2839	499863	6629800			X			X	
2840	499586	6629800			X			X	
2841	499874	6629810			X			X	
2842	499739	6629820			X			X	
2843	499650	6629820			X			X	
2844	500462	6629830		X			X		
2845	500444	6629870			X		X		
2846	500919	6629883	X			X			
2848	500654	6629880		X			X		
2850	500844	6629897	X			X			
2851	500411	6629900			X			X	
2853	500897	6629930	X			X			
2854	499879	6629910			X			X	
2855	500445	6629930			X			X	
2856	500446	6629950			X			X	
2858	500624	6629950		X			X		
2859	500833	6629963	X			X			
2862	500412	6630020			X			X	
2863	500494	6630060		X			X		
2864	500299	6630160			X				X
2961	500771	6630000	X			X			
4003	497909	6613200			X			X	
4005	498098	6613010			X		X		
4006	498088	6613270			X			X	
4007	498234	6613240		X			X		
4010	500453	6629900			X			X	
4041	500622	6617970			X			X	
4111	499486	6616280		X			X		
4116	500384	6616030	X			X			
4118	500369	6616130	X			X			
4125	500321	6615820	X			X			
4127	500324	6615820	X			X			
4130	500526	6629153	X			X			
4131	500066	6628260		X			X		
4132	500521	6616350		X		X			
4133	500480	6616360		X		X			
4135	498214	6625700		X			X		
4219	500724	6629840	X			X			
4221	499900	6617715	X			X			
4222	500476	6616198	X			X			
4224	500424	6615778	X			X			
4300	500667	6629960		X			X		
1805A	500812	6617550		X			X		
1805B	500890	6617490		X			X		