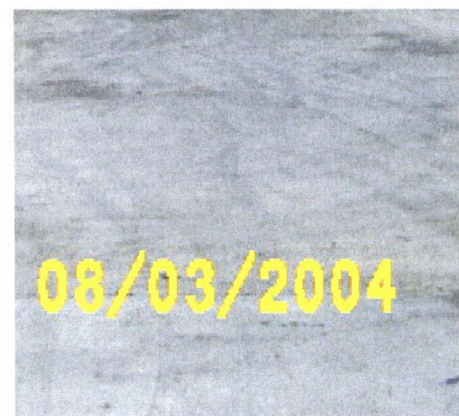
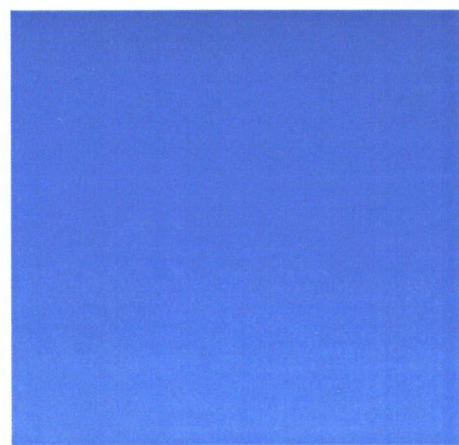
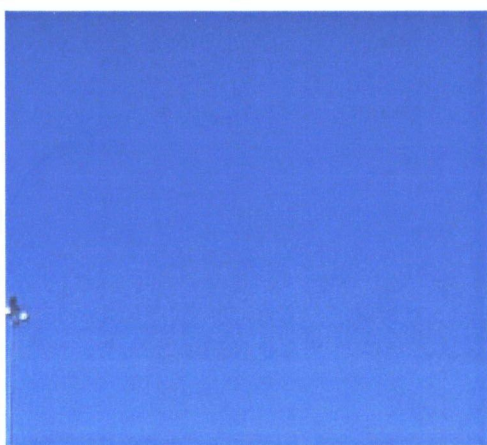
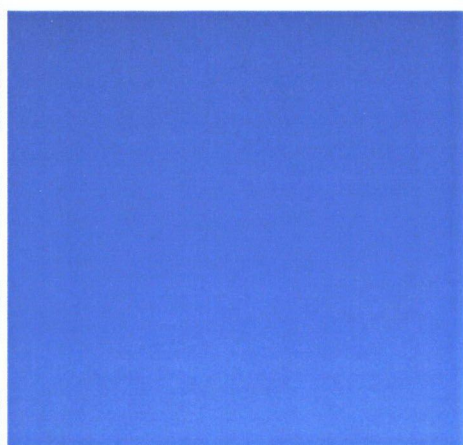




# Proposed heavy vehicle rest area at Berowra.

Review of Environmental Factors

April 2004



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## APPENDICES

Appendix A	Photographs of Site
Appendix B	Concept Design
Appendix C	Correspondence and Results of Database Searches
Appendix D	Noise and Vibration Assessment



# **I Introduction and Methodology**

---

## **I.1 Name of Proposed Activity**

Proposed heavy vehicle rest area at Berowra

## **I.2 Local Government Area**

Hornsby Council

## **I.3 RTA Region**

Sydney Region

## **I.4 Introduction**

The Roads and Traffic Authority (RTA) is proposing to construct a heavy vehicle rest area for the F3 Freeway at Berowra (the Proposal). The proposed heavy vehicle rest area would utilise the cleared land between the F3 Berowra exit road and the Pacific Highway.

This Proforma I Review of Environmental Factors (REF) has been prepared by Environmental Technology Branch (RTA Operations Directorate) on behalf of RTA Hunter Region.

For the purposes of these works, the RTA is the proponent and the determining authority under Part 5 of the *Environmental Planning and Assessment (EP&A) Act 1979*.

The purpose of the REF is to describe the Proposal, to document the likely impacts of the Proposal on the environment, and to detail protective measures to be implemented.

The description of the proposed works and the associated environmental impacts have been undertaken in the context of Clause 228 of the *Environment Planning and Assessment Regulation 2000*, the *Threatened Species Conservation (TSC) Act 1995*, the *Fisheries Management (FM) Act 1994*, and the (Commonwealth) *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*. In doing so, the REF helps fulfil the requirements of Section 111 of the EP&A Act, that the RTA examine and take into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity.

This REF has been prepared in accordance with the RTA's Proforma I REF as presented in the RTA's *Environmental Impact Assessment Policy, Guidelines and Procedures, Version 4* (RTA, April 2001).

The findings of the REF would be considered when assessing:

- whether the Proposal is likely to have a significant impact on the environment and therefore the necessity for an Environmental Impact Statement (EIS) under Section 112 of the EP&A Act;
- the significance of any impact on threatened species as defined by the TSC Act, in Section 5A of the EP&A Act and therefore the requirement for a Species Impact Statement (SIS); and
- the potential for the Proposal to significantly impact a matter of national environmental significance or Commonwealth land and the need to make a referral to the Commonwealth Environment Minister in accordance with the EPBC Act.



## 1.5 Background

The 127km F3 Freeway, part of the National Highway network, is the main road corridor linking Sydney, the Central Coast and Newcastle. It also links with the New England and Pacific Highways, connecting northern NSW regional centres and Queensland (RTA 2001a).

The F3 Freeway is a vital link for more than 60,000 motorists and 7000 freight vehicles travelling between the Central Coast and Hunter regions and Sydney on a daily basis and is also heavily used by motorists travelling to northern NSW and Queensland holiday destinations. As a National Highway, the F3 Freeway is federally funded, with the NSW Government managing its development and maintenance through the RTA.

The opening of the Yelgun to Chinderah bypass on the Pacific Highway in early 2003 resulted in a substantial increase in heavy vehicle traffic on the route and trucking industry complaints that truck stopping opportunities were inadequate. This led to the formation of a steering committee and working group to develop a strategy for rest areas for heavy vehicles on the F3 Freeway-Pacific Highway route, to meet road freight industry needs. A heavy vehicle rest area at the former toll site at Berowra was given a high priority in the resulting Pacific Highway / F3 Freeway Truck Rest Area working group report.

A study in 2000 found that 45 per cent of long distance heavy vehicle drivers in Australia had experienced fatigue during their last trip (RTA 2004). In 2002, 114 people or 20% of the annual road toll in NSW was attributed to fatigued drivers. To combat the high fatigue related fatalities, the RTA is extending its program of building and upgrading rest areas across NSW and is investing in public education and information regarding driver fatigue. The *Road Safety 2010* plan has the following goals in relation to rest areas:

- Provide good quality rest areas at strategic locations;
- Improve rest area location information;
- Improve signage for rest areas; and
- Provide particular attention to the needs of truck drivers.

Heavy vehicle rest areas allow heavy vehicle drivers to observe the statutory obligations in regards to rest breaks, allows drivers to check their loads and fills in log books.

The F3 Freeway was extended from Berowra to Wahroonga in 1989, which resulted in the closure of the toll plaza and heavy vehicle checking station at Berowra. The site has been partially cleared and currently serves as an unofficial heavy vehicle rest area.

The feasibility study for the widening of the F3 Freeway from two lanes to three lanes confirmed that access to and from the site to both directions of the Freeway is feasible. At present only partial access is available between the F3 Freeway and the site.



## 1.6 Methodology

The method in which this document has been prepared is as follows:

1. A discussion was held with the Project Manager to consider the Proposal.
2. RTA Environmental Technology representatives undertook a site visit on 8 March 2004 to provide an overview of the Proposal and discuss any issues relevant to the completion of the REF.
3. Consultation was undertaken with the following agencies and RTA personnel:
  - Hornsby Council;
  - Metropolitan Aboriginal Land Council; and
  - RTA Aboriginal Programs Consultant, Central Coast Region.
4. A search was conducted on the following databases to identify any potential issues:
  - Australian Heritage Council Database;
  - NSW Heritage Office State Heritage Register and State Heritage Inventory;
  - RTA Heritage and Conservation Register (s.170);
  - Local Council Heritage Lists (LEP);
  - NSW Agriculture Noxious Weeds List;
  - DEC Contaminated Land Sites;
  - DEC Aboriginal Heritage Information Management System (AHIMS);
  - DEC Wildlife Atlas threatened flora records;
  - DEC Wildlife Atlas threatened fauna records; and
  - The Commonwealth Department of the Environment and Heritage (EPBC Act) Databases.
5. As part of the environmental assessment undertaken for this REF, an acoustic assessment was undertaken to identify Proposal constraints and to provide mitigative measures with regards to noise and vibration impacts. Details and findings from this relevant investigation are further discussed within Section 5 of this REF and a copy is included as an appendix to this REF.
6. A literature review and review of documentation was undertaken to determine issues relating to:
  - Landform, geology and soils;
  - Local Environment Plan (zoning and heritage);
  - Regional Environmental Plans; and
  - State Environmental Planning Policies.



## **1.7 Description of Proposal Site and Surroundings**

### **1.7.1 General**

The Proposal is located on the Berowra exit ramp of the F3 Freeway approximately 1km north of Berowra (refer to **Figure 1**). On a regional scale, the Proposal is located in Hornsby Local Government Area (LGA) approximately 30km north west of Sydney CBD. Refer to Appendix A for photographs of the site.

For the purposes of this assessment, the 'Proposal site' is defined as the land between the Berowra exit ramp of the F3 Freeway and the Pacific Highway that would be directly affected by the proposed works. The 'study area' is defined as the Proposal site including a buffer extending approximately 500m beyond its boundaries that could be indirectly affected by the proposed works. The decision to choose a buffer of 500m for the study area was based on the small scale of the proposed works and the impacts that would most likely occur as a result of the proposed works.

Land use surrounding the Proposal site is dominated by transport infrastructure to the east and open space bushland to the west. Immediately to the east of the Proposal site are the travel lanes of the Pacific Highway, the Main Northern Railway approximately 150m to the east and the F3 Freeway approximately 200m to the east. To the west of the Proposal is bushland, Joes Craft Creek approximately 500m to the east and the suburbs of Berowra and Berowra Heights approximately 400m to the south west.

### **1.7.2 Topography**

The study area occurs within the Hornsby Plateau region of the Sydney Basin, which is transected to the north by the drowned valley system of the Hawkesbury River (Chapman and Murphy 1989). The Proposal site occurs within the Lucas Heights Soil Landscape area, which is characterised by gently undulating crests ridges pm plateau surfaces of the Mittagong Formation. Local relief to 30m, slopes less than 10%. Rock outcrops are generally absent and the areas are either extensively or completely cleared dry sclerophyll low forest and woodland (Chapman and Murphy 1989).

Generally speaking the Proposal site is very flat. There are slight inclines from south to north over parts of the sealed area, however this would be less than 5 degrees. On the western side of the Pacific Highway northbound lane, a grassy area slopes into the adjoining bushland at approximately 20 degrees.

### **1.7.3 Soils and Geology**

The soils of the Lucas Heights Soil Landscape group are derived by the underlain Hawkesbury Sandstone and are characterised by moderately deep (50-150cm) hardsetting *Yellow Podzolic Soils* and *Yellow Soloths*, *Yellow Earths* on outer edges of crests. The soils are generayll stony, have a low soil fertility levels and a low available water capacity. The erosion hazard of the soils is generally considered low, with only minor gully and sheet erosion along unpaved roads. The erosion hazard for non-concentrated flows is generally moderate but ranges from slight to extreme (Chapman and Murphy 1989). The majority of the Proposal site is sealed, and during the site inspection no evidence of soil erosion was noted.

### **1.7.4 Drainage and Flooding**

Drainage in the Proposal site is characterised by a formal stormwater infrastructure. At the southern end of the Proposal site an open drainage channel approximately 1m wide is present. This open channel connects to an underground system that drains to the north and has a number of pits in the sealed surface area of the site. The on-site stormwater



infrastructure directs water to the north west of the site and empties into the adjacent bushland. There are no natural drainage lines within the Proposal site, although an unnamed creek that drains into Joe Crafts Creek is present approximately 100m to the west of the Proposal site.

#### **1.7.5 Biodiversity**

The Proposal site is located in a region rich in natural biodiversity. National parks and nature reserves are located to the north, south, east and west of the Proposal site and support extensive stands of continuous undisturbed vegetation. To the north and west of the Proposal site is Muogamarra Nature Reserve, to the south west is Berowra Valley Bushland Park and to the east is Ku-ring-gai Chase National Park. The study area is considered to be within an important vegetation corridor that connects the northern suburbs of Sydney to the Hawkesbury River and Central Coast.

Sixty-nine percent of Hornsby Shire LGA is covered by bushland, and a total of 19 threatened fauna species and 24 threatened flora species are considered to occur within the LGA. A further 12 threatened fauna species are listed as possibly occurring in the LGA. There are four Endangered Ecological Communities listed under Schedule 1 of the *Threatened Species Conservation Act 1995* within Hornsby LGA, these are the Blue Gum High Forest, the Sydney Turpentine Ironbark Forest, the Sandstone/Shale Transition Forest and the Sydney Coastal River-flat Forest (Hornsby Shire Council 2004).

Within the Proposal site, all of the natural vegetation has been cleared for the travelling lanes of the F3 Freeway and the Pacific Highway. The Proposal site consists of maintained exotic grasses and a handful of *Eucalypts* sp. Weeds identified within the Proposal site were Couch (*Cynodon dactylon*), Paspalum (*Paspalum dilatatum*), Purpletop (*Verbena bonariensis*) and Cumbungi (*Typha domingensis*). The native trees identified within the boundaries of the Proposal site were Spotted Gum (*Eucalyptus maculata*), Thin-leaved Stringybark (*E. eugenoides*), Grey Ironbark (*E. paniculata*), *Melaleuca* sp. and *Acacia* sp. Of these trees, none supported hollows suitable for native fauna species and all of them were isolated from any other stands of vegetation.

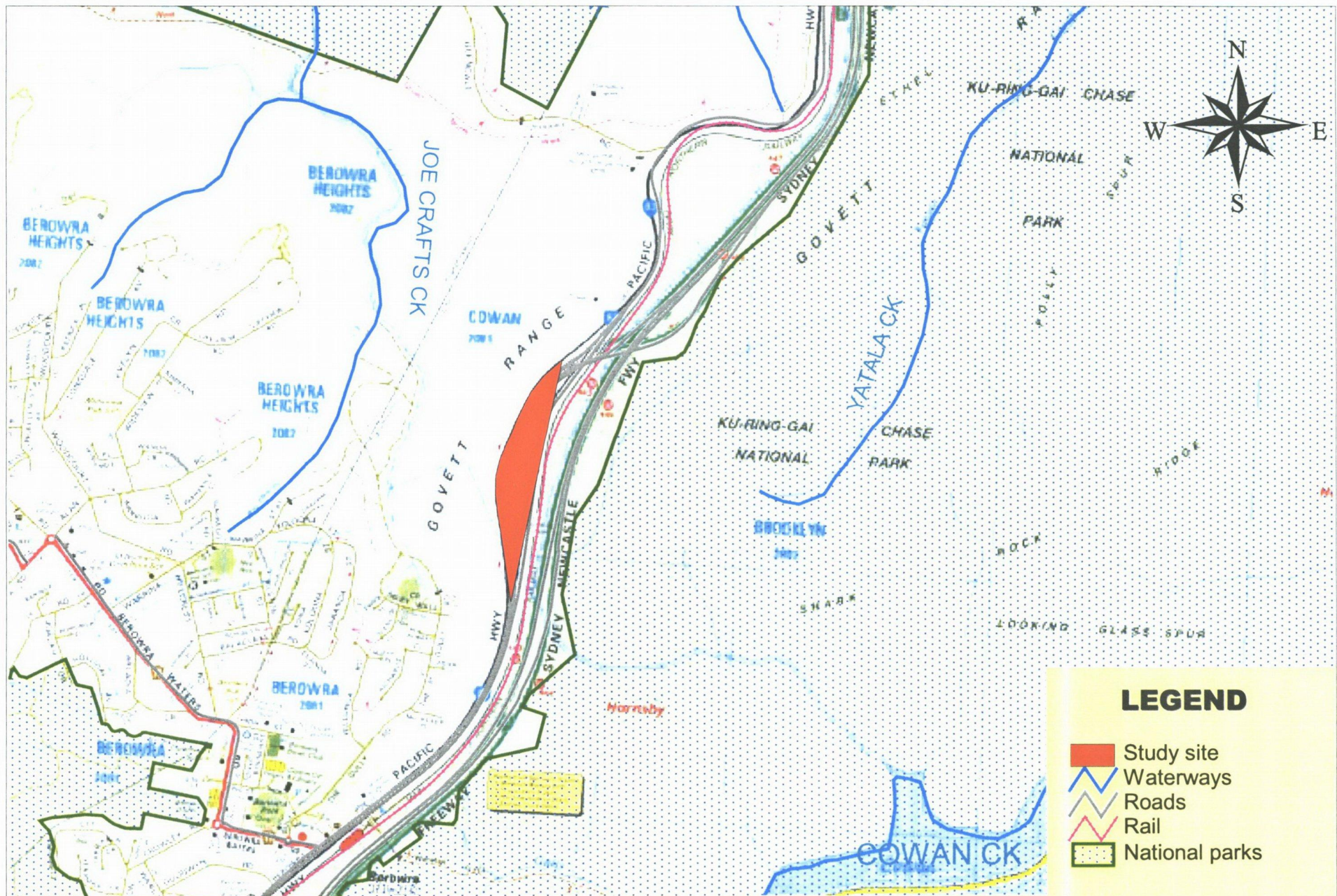
#### **1.7.6 Noise**

The Proposal site occurs in close proximity to the F3 Freeway and the Pacific Highway, which are the main north-south transport routes linking Sydney to the NSW north coast. The land adjoining the study area is characterised by dense stands of bushland with little to no residential development. During the site inspection, it was noted that the background ambient noise levels on site were high and attributed to road traffic noise from the F3 Freeway and the Pacific Highway and to a lesser extent the Main Northern Railway. The nearest noise receiver is a house located approximately 350m to the south west of the Proposal site.

#### **1.7.7 Visual Amenity**

The study area is situated on the narrow crests and ridges of the Hornsby Plateau and is surrounded by rugged bushland and very steep hills. Extensive areas of bushland are present in the conservation reserves and national parks adjacent to the study area and this is the dominant visual feature for motorists travelling along F3 Freeway and the Pacific Highway. The Proposal site has been cleared of remnant vegetation and now consists of a cleared and sealed concrete area of land with only a few scattered trees. There are no houses that have direct views to the site and it is considered that the site would only be viewed by motorists as they use the F3 Freeway or the Pacific Highway to access Berowra. The Proposal site is not considered to provide any visual relief for motorists on the Pacific Highway or the F3 Freeway and it is considered that the Proposal would not alter the visual character of the area in any way or alter any views that any residential houses may have.





**Location Map: Proposed Berowra Truck Parking Area**

0 0.3 Kilometers

Map Data Copyright 2003 Telstra Corporation Limited (Sensis Pty Ltd) and Universal Press Pty Ltd.  
Map produced by RTA Environmental Technology Monitoring Section  
Date: 3 March 2004



### **1.7.8 Climate**

The study area is within one of three relatively high rainfall areas in the greater Sydney metropolitan area. Meteorological details from the Gosford meteorological station (approximately 10km north of the Proposal site) are considered to be indicative of climatic conditions within the study area.

The study area average experiences an average rainfall of approximately 1320mm with a relatively wet season occurring between January and June when 62% of the annual rainfall is received. September is usually the driest month. Very intense rain may occur over the Hawkesbury River system when an active depression is located over the central NSW coast in summer. Mean daily temperature readings at Gosford show a maximum temperature of 27.4°C in January, and a minimum temperature of 4.5°C in July (BOM 2004).

### **1.8 Proposal Description**

The Proposal involves the construction of a heavy vehicle rest area on the Berowra exit ramp of the F3 Freeway approximately 1km north of Berowra. The Proposal would involve utilising an existing sealed area between the Pacific Highway northbound lane and the Berowra exit of the F3 Freeway. The proposed heavy vehicle rest area would have enough room to enable up to 16 trucks to use the facility at once. The Proposal would involve constructing an amenities block with two separate pump out toilets on the eastern edge of the Proposal site adjacent to the Berowra access road of the F3 Freeway.

Access to the heavy vehicle rest area for vehicles travelling south on the F3 Freeway would be via the existing Berowra exit road from the F3 Freeway. Vehicles would continue south along the Pacific Highway past Berowra before joining the F3 Freeway via the Windybanks Interchange. For vehicles travelling north on the F3 Freeway, access to the heavy vehicle rest area would be via the Windybanks Interchange and the Pacific Highway. Vehicles would rejoin the F3 Freeway via the existing northbound merge lanes on the northern side of the proposed heavy vehicle rest area.

The Proposal would involve installation of baffled pits within the Proposal site to contain minor chemical spills and a specified bunded area for sewage trucks to operate in during pump out of the on site toilets. The bunded area for pump out trucks would be located adjacent to the toilet site and would be fitted with 75mm AC bunds to contain minor spills during sewage pump out. The baffled pits would be fitted to the existing and proposed stormwater pits and would be capable of capturing and containing minor spills on site and preventing them from escaping into adjacent bushland. Refer to Appendix B for concept design.

### **1.9 Work Methodology**

#### **1.9.1 Plant and Equipment to be used**

It is expected that the Proposal would require the use of:

- Excavators;
- Graders;
- Rollers;
- Loaders;
- Bituminous surfacing plant;
- Line-marking equipment.
- Backhoe;

- Delivery trucks;
- Concrete trucks;
- Water carts;
- Stabilising equipment; and
- Hand held plant

### ***1.9.2 Construction Process***

The works would be undertaken in one stage and take place using the following methodology:

- Operation of the Traffic Management Plan;
- Installation of sediment control and drainage devices;
- Establishment of works compound and stockpile site;
- Clearing and grubbing of vegetation;
- Stripping of topsoil;
- Construction of sediment basin;
- Construction of the toilet block;
- Excavation and earthworks of the study area;
- Sealing the heavy vehicle rest area;
- Installation of benches garbage bins;
- Landscaping;
- Installation of site furniture;
- Linemarking; and
- Decommissioning of the site compound and stockpile sites, including site clean-up.

### ***1.9.3 Stockpile and Compound Sites***

It is anticipated that all materials and machinery necessary for the Proposal would be stored within the boundaries of the Proposal site for the duration of the construction stage.

### ***1.9.4 Source of Material***

It is expected that materials necessary for the Proposal would be sourced locally depending on the contractor.

### ***1.9.5 Additional Truck Movements***

It is anticipated that the Proposal would generate approximately 5 additional truck movements per day along the F3 Freeway and the Pacific Highway.

### ***1.9.6 Workforce and Working Hours***

The workforce would comprise approximately 10 personnel.

It is anticipated that work would be undertaken during the DEC recommended hours of:

Monday-Friday:	7.00am to 6.00pm
Saturday:	8.00am to 1.00pm



Sunday and Public Holidays: No work

#### **1.10 Commencement of Works**

It is anticipated that construction would start in the May 2004.

#### **1.11 Period of Construction**

It is anticipated that works would be completed approximately 10 weeks after commencement given ideal working conditions.

#### **1.12 Proposal Cost and Source of Funding**

The Proposal would cost approximately \$1.2M and funding allocation would be sourced from the State Government.

## 2 Statutory Position

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### 2.1 Local Environmental Plan

Development within the Hornsby Local Government Area (LGA) is controlled by Hornsby Shire Council under the Hornsby Shire Local Environmental Plan (LEP), 1994.

Through consultation of Hornsby Shire Council's online mapping program, it has been determined that the Proposal site falls within two different land zonings. These are:

- Residential AS Sensitive Land; and
- Special Uses B Transport Corridor.

The majority of the Proposal site occurs within land zoned Residential AS Sensitive Land Zone, with only a narrow section on the eastern side of the Proposal site being within land zoned Special Uses B Transport Corridor. Roadworks within these land zonings are only permitted with Council Consent. However, Hornsby LEP adopts a savings provisions in Clause 6(1), which states:

*That nothing in this plan shall be construed as restricting or prohibiting or enabling the council to restrict or prohibit the carrying out of development described in Schedule A of the LEP.*

Schedule A, Clause 6 (8) includes:

*The carrying out of any development required in connection with the construction, reconstruction, improvement, maintenance or repair of any road, except the widening, realignment or relocation of such road.*

As the proposed work involves improvement to an existing heavy vehicle rest area, it is considered that it is consistent with those activities described in Clause 6 (8) of Hornsby LEP, the RTA would not require Council consent for the Proposal and the works would be undertaken under Part 5 of the EP&A Act 1979.

### 2.2 Regional Environmental Plans

#### 2.2.1 Sydney REP (SREP) 20 – Hawkesbury – Nepean River

The Plan applies to land within the Hornsby Shire Council area. The aim of this Plan is to protect the environment of the Hawkesbury - Nepean River system by ensuring that the impacts of future land uses are considered in a regional context. This REF has been prepared taking into consideration the General Planning Considerations, Specific Planning Policies and Recommended Strategies under Part 2 of the Plan.

### 2.3 State Environmental Planning Policies (SEPPs)

#### 2.3.1 SEPP 44 – Koala Habitat Protection

The Hornsby Shire Council is identified within the Schedules of SEPP 44 as a Local Government Area in which Koalas are known to occur. While the requirements of the SEPP do not technically apply to this Proposal, as it is not subject to Council consent, it is the RTA's practice to consider SEPP 44 criteria in its EIA process. These criteria relate to the percentages of feed tree cover, particularly trees listed under Schedule 2 - Known Feed Trees. The assessment criteria consider the percentage cover of known feed trees, and whether these are greater or less than 15% of the total tree canopy.

Although Koala's have been previously recorded within 10km of the Proposal site, none of the trees within the Proposal site were identified as known Koala feed trees. During the site



investigation, no evidence of Koalas, such as scats or distinctive scratchings were identified on site. Although Koalas may be recorded in the region on a regular basis, it is expected that they would be restricted to the national parks and reserves where extensive amounts of suitable habitat occurs. The Proposal site is not considered potential Koala habitat or core Koala habitat and the proposed works would not be expected to affect any Koala's or Koala habitat.

## **2.4 Confirmation of Part 5 Position**

All relevant statutory planning instruments have been examined for the Proposal. It is confirmed that this Proposal is subject to environmental impact assessment under Part 5 of the EP&A Act 1979.



## 3 Strategic Stage

---

### 3.1 Strategic Planning

The Proposal is part of an ongoing commitment by the RTA to address road safety in accordance with the RTA's responsibilities for ensuring a maximum level of service to road users and to maintain appropriate services for adjacent landholders.

The Proposal supports the *Road Safety 2010*, which operates within the broad long-term safety framework of *Action for Transport 2010*. The *Action for Transport 2010* framework sets out how the road fatality can be halved, saving 2000 lives by the year 2010 by promoting community understanding and involvement in the road safety initiatives and strategies.

Driver fatigue was attributed to 20% of driver fatalities in 2000, and the construction of rest areas, such as the Proposal is a major initiative to combat driver fatigue on the NSW road and reduce the road toll. The provision of rest areas suitable for trucks enables heavy vehicle drivers to observe statutory observations in regards to rest breaks, check their loads and fill in log books.

### 3.2 Need for the Proposal

The F3 Freeway is a major freight route and forms part of the Sydney to Brisbane corridor of the National Highway. Current freight flows exceed 8000 heavy vehicles per day and are expected to double over the next 20 years. With the opening of the Western Sydney Orbital the demand for truck rest areas on the F3 Freeway approaches to Sydney is expected to increase. Truck rest areas are required for heavy vehicle drivers to stop so that they may observe statutory regulations for driving hours and rest breaks. Similar to Driver Reviver sites, the purpose of rest areas is to reduce the number of road accidents related to driver fatigue as well as the number of fatigued drivers on NSW roads.

At present there is no rest facility capable of holding more than 10 trucks between Sydney and the Freeway Service Centre at Wyong. This project was identified in the Pacific Highway/F3 Freeway Rest Area Strategy as being desirable before 2007. The Proposal would provide a heavy vehicle rest area which complements the local natural and built environment by sensitive planning and design.



## 4 Concept Stage

---

### 4.1 Proposal Objectives

The objectives of the Proposal are:

- To provide a safe, accessible heavy vehicle rest area for drivers;
- To provide adequate facilities at the rest area for the use of drivers and other travellers;

### 4.2 Options Considered

The following options were considered for the Proposal:

#### **Option 1: Do Nothing**

The 'do nothing' option would mean that a formal heavy vehicle rest area would not be established in this location and the objectives of the Proposal and the objectives of the RTA strategy on heavy vehicle facilities would not be met. The 'do nothing' option would mean that drivers would not have a facility to rest when they become fatigued and they would continue to select their own ad hoc rest area locations which may not be suitable sites.

#### **Option 2: Construction of a large truck parking facility at the Proposal site.**

One of the options considered was to construct a truck parking facility on the Proposal site with enough room to accommodate approximately 20 trucks. This option would meet the objectives of the Proposal by providing facilities for heavy vehicle drivers. However, it is uncertain whether or not there is a need for such a large facility at this time, and therefore it was considered that the construction of a large heavy vehicle rest area might not be necessary.

#### **Option 3: Construction of a medium size truck parking facility at the Proposal site.**

This option involves the construction of a heavy vehicle rest area that would accommodate approximately 12-14 trucks at one time. This option meets the objectives of the Proposal by providing facilities for heavy vehicles drivers and is considered to be the most justified option.

#### **The Preferred Option: Option 3.**

The construction of a medium size truck parking facility was considered to be the preferred option as it meets all of the objectives of the Proposal and is considered justified.



## 5 Assessment Stage

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### 5.1 Background and Database Searches

The following results were obtained regarding the Proposal from database searches. Refer to **Appendix C** for copies.

#### 5.1.1 *Australian Heritage Council Database*

A search of the Australian Heritage Council Database was conducted on the 27 February 2004 for sites listed in Hornsby LGA. A total of 23 sites were identified, however none of the listings for the Hornsby LGA are located within the Proposal site. The nearest registered site is Muogamarra Nature Reserve approximately 700m west of the Proposal site.

#### 5.1.2 *NSW Heritage Office State Heritage Register*

A search of the State Heritage Register was undertaken on the 27 February 2004 for heritage sites listed in Cowan and Berowra. There are no heritage sites listed on the State Heritage Register, however there are 52 sites listed on the State Heritage Inventory. The nearest site to the study area is Muogamarra Nature Reserve approximately 700m west of the Proposal site.

#### 5.1.3 *RTA Heritage and Conservation Register (s170)*

A search of the RTA Section 170 Heritage and Conservation Register was undertaken on the 27 February 2004 for items listed in Sydney Region. None of the items listed on the register occur within the study area or within the near vicinity of the study area. The nearest site to the study area is Pearces Creek Bridge at Galston Gorge.

#### 5.1.4 *LEP Heritage Listings*

A search of Hornsby Shire LEP was undertaken on the 27 February 2004. A total of 871 items are listed as being of heritage significance within Hornsby Shire. None of the heritage sites occurs within the Proposal site. The nearest site to the study area is Muogamarra Nature Reserve approximately 700m west of the Proposal site.

#### 5.1.5 *DEC Aboriginal Heritage Information Management System (AHIMS)*

A search of the DEC AHIMS was undertaken on the 27 February 2004. A total of 33 Aboriginal sites have been recorded within 2km of the Proposal site, the nearest being approximately 200m north of the Proposal site in bushland on the western side of the Pacific Highway.

#### 5.1.6 *DEC Wildlife Atlas Flora and Fauna Records*

A search of the DEC Wildlife Atlas was undertaken on the 3 March 2004 for recordings of threatened flora and fauna species within 5km of the study area. A total of 10 threatened fauna species and 7 threatened flora species have been previously recorded within 5km of the Proposal site. The nearest recording of a fauna species, was a Red-crowned Toadlet (*Pseudophryne australis*) approximately 400m west of the Proposal site in an adjoining area of bushland. The nearest recording of a threatened flora species, was *Lasiopetalum joyceae* approximately 300m west of the study area.



### **5.1.7 The Commonwealth Department of Environment and Heritage (EPBC Act) Databases**

A search of the EPBC Act database was undertaken on the March 2004 for listed matters of National Environmental Significance (NES) potentially occurring within 5km of the study area. A total of 45 threatened species, 26 listed migratory species, 41 listed marine species, 3 places listed on the Register of the National Estate, and 3 reserves occur within 5km of the Proposal site.

### **5.1.8 NSW Department of Agriculture Noxious Weeds List**

A search of the NSW Department of Agriculture Noxious Weeds List was undertaken on the 10 March 2004 for listings of weeds within Hornsby Shire LGA. A total of 51 flora species are listed as noxious weeds in Hornsby LGA.

### **5.1.9 DEC Contaminated Land Information**

A search of the DEC Contaminated Land Sites Register was undertaken on the 10 March for sites within Hornsby LGA. There are no listed contaminated land sites within Hornsby LGA.

### **5.1.10 Summary of Database Search Results**

The results of the database searches indicate that the Proposal site is situated within an area rich in ecological sensitivity. This is reflected by the large number of threatened species that have been recorded within 5km of the Proposal site and the high number of Aboriginal sites known to occur within 2km of the Proposal site. The database searches indicated that although the area surrounding the Proposal site contains sensitive sites, the Proposal site itself does not contain any sensitive sites.

## **5.2 Consultation**

### **5.2.1 Hornsby Shire Council**

**Table 5. 1:** Summary of issues raised during consultation.

<b>Issue</b>	<b>Response</b>
<b>Hornsby Council</b>	
Recommended that the RTA incorporate landscape works into design details.	Noted, refer to Section 5.3.4
Provide an accurate map of the site and identify vegetation on site and adjacent to the site.	Refer to Section 1.7 & 5.3.4
An Erosion and Sedimentation Control Plan (ESCP) should be prepared.	Refer to Section 5.3.2
Proposed work would not require the consent of Council.	Noted
The RTA would require a permit from Council to install the proposed toilet facilities.	Refer to Section 6.2



### 5.3 Potential Environmental Impacts

This section of the REF identifies potential environmental impacts associated with proposed works and provides appropriate safeguards to mitigate these identified potential impacts. Measures to mitigate or prevent impacts would be implemented prior to construction, during construction and post-construction.

#### 5.3.1 General

A Contractor's Environmental Management Plan (CEMP) would be developed in accordance with the specifications set out in the RTA's *Environmental Protection (Management Plan) – QA Specifications G35, Soil and Water Management (Erosion and Sediment Control Plan) QA Specification G39, RTA's QA Specification R178-Vegetation, and Clearing and Grubbing QA Specification G40*. The CEMP would incorporate additional site specific requirements, outlined below, which are not covered by G35. The CEMP would be reviewed by the RTA Environmental Adviser,, prior to the commencement of any site works.

#### 5.3.2 Geology, Soils and Landform

##### *Potential Impacts*

The Proposal would involve working in soils that are known to have extreme erosion risk to wind and water. There would be an increased risk of erosion on site during the construction stage, particularly during periods of heavy rain and strong winds. However, the Proposal site is flat, is surrounded by sealed roadway and is either sealed or vegetated by maintained grass. It is considered that the potential risk of erosion is low for the Proposal, this is based on the flat topography of the proposal site, the limited amount of excavation and disturbance necessary, the expected short construction phase, and the fact that the Proposal would involve sealing large areas of the Proposal site. It is anticipated that the low risk of erosion would be adequately controlled by the mitigation measures outlined below.

There would be a potential for the Proposal to increase the amount of runoff being directed into the stormwater system and into the adjoining bushland resulting in an increased scour risk. However large areas of the Proposal site are already sealed and the proposed works would not be expected to increase in the amount of sealed area in the Proposal site. Therefore the risk of increased runoff entering the stormwater system causing erosion in the adjoining bushland is considered negligible.

##### *Site Specific Mitigation Measures*

The following site-specific mitigation measures would be implemented to ameliorate the identified impacts of the Proposal:

- An Erosion and Sedimentation Plan (ESCP) would be prepared for the works and developed in accordance with the Department of Housing publication *Managing Urban Stormwater – Soils and Construction* as well DIPNR guidelines; and
- The management of any temporary stockpiles would be in accordance with the RTA's *Stockpile Management Procedures* (November 2001).

#### 5.3.3 Air Quality

##### *Potential Impacts*

During the construction stage there would be the potential for localised deterioration in air quality due to dust and particulates generated from the disturbed surfaces and emissions from construction equipment. The Proposal site is approximately 350m from the nearest house and given that the expected construction duration is short, approximately 10 weeks, and the proposed works would only involve minor construction works, it is considered that the risk of the Proposal affecting air quality is minimal. It is expected that the mitigation



measures outlined below would adequately control potential air quality risk during the construction stage.

During the operation stage, the Proposal would have the potential to lead to a reduction in localised air quality as a result of increases in heavy vehicle traffic on the Pacific Highway between the Proposal site and Windybanks Interchange. It is expected that the air quality in the vicinity of the Berowra would be affected by vehicle emissions on the F3 Freeway, which is located approximately 250m to the east of the Pacific Highway. Although the Proposal would result in an increase in heavy vehicles on the Pacific Highway between the Proposal site and Windybanks Interchange, these vehicles would have been previously using the F3 Freeway, and it is not considered that the shifting of heavy vehicle traffic from the F3 Freeway to the Pacific Highway would result in a major reduction in the existing air quality of the locality.

#### *Site Specific Mitigation Measures*

The following mitigation measures would be implemented to ameliorate the identified impacts of the Proposal:

- Any materials transported to the site in trucks would be covered to reduce dust generation; and
- Tailgates of all vehicles transporting materials to and from the site would be securely fixed prior to loading and immediately after unloading.

### **5.3.4 Water Quality and Hydrology**

#### *Potential Impacts*

During construction of the proposed works, there would be a potential risk that spilt chemicals and fuels would enter the stormwater system on site and reduce the quality of surface water in the study area. There are no natural drainage lines within the boundaries of the Proposal site, however an unnamed tributary of Joe Crafts Creek is present in the bushland approximately 100m west of the Proposal site. The risk of spilt chemicals and fuels entering the stormwater infrastructure on site and affecting the water quality in the adjoining bushland areas is considered low. It is expected that this low risk would be adequately controlled through the implementation of mitigation measures outlined below.

During the operation of the Proposal, there would be potential for minor chemical or fuel spills (between 20 - 30 litres of pollutants) from a truck using the parking facility to affect the water quality in the study area. Spills of this size are considered frequent, as truck operators are known to drain sump and differential oil during rest periods. The Proposal would involve the installation of baffled pits at strategic locations along the existing and proposed on site drainage system to contain minor chemical and fuel spills on site. It is considered that the installation of these baffled pits would adequately contain minor spills on site and prevent pollutants from affecting the water quality of drainage lines to the west of the Proposal site.

During the operation of the heavy vehicle rest area, there would be potential for minor sewage spillages to occur during the pump out of on site toilets. Spillages of sewage on site would have the potential to enter the on site stormwater drains and to flow into the adjoining bushland. As part of the Proposal, a permanent AC bunded area would be constructed adjacent to the proposed toilet site to contain any potential sewage spills. The proposed area would be surrounded by 75mm AC bunds that would adequately contain a sewage spill during the pump out of the toilets.

#### *Site Specific Mitigation Measures*

The following site specific mitigation measures would be implemented to ameliorate the identified impacts of the Proposal:



- An appropriate spill containment kit would be kept on the site at all times during construction;
- Refuelling of machinery and equipment would be undertaken within a suitably bunded area;
- Mud and dirt would be removed from the wheels and bodies of haulage equipment before they enter public roads or other sealed areas. Any washing down of equipment would be undertaken on a grassed or bunded area away from stormwater drains;
- During operation, contract waste handlers would be made aware of the AC bunded area and advised that all septic tank pump outs would be limited to this area only; and
- Should any spillage occur during the construction activity the Environmental Adviser, Hunter Region, would be contacted immediately, and contaminants would be immediately contained, removed, treated (if necessary) and disposed of to the satisfaction of the DEC.

### **5.3.5 Flora Fauna**

#### *Potential Impacts*

During the construction stage, the Proposal would have the potential to impact on flora and fauna species within the Proposal site. However, the majority of the Proposal site has been cleared and sealed as part of previous road building activities, with only maintained grassed areas and a few scattered eucalypt trees being present in the north and western section of the Proposal site. No threatened flora species have been recorded within the boundaries of the Proposal site and none are expected to be affected by the Proposal. None of the trees observed within the Proposal site supported any hollows or showed signs of being used by native fauna species (such as the presence of nests, scratchings or incisions in the bark). Given that the Proposal site is located between the F3 Freeway and the Pacific Highway, it is considered highly unlikely that any threatened fauna species would utilise the resources within the boundaries of the Proposal site. Although a number of threatened fauna species have been recorded within 5km of the Proposal site, these species have specific habitat requirements that are not present within the Proposal site. Although a number of threatened fauna species may be common in the bushland to the west of the Proposal site, it is not considered that the construction of a heavy vehicle rest area would have any impact on these species. It is only expected that highly adaptive fauna species would utilise the trees within the Proposal site from time to time. As the Proposal would retain the mature trees on site for shade and landscaping would be undertaken, it is not expected that those adaptive fauna species would be affected by the proposed work.

#### *Mitigation Measures*

- Stockpile sites and compound sites would be in areas previously disturbed and would not require the clearing of any vegetation;
- Landscaping of the site would be undertaken upon completion of the works; and
- Contractors would be informed of the limits of the proposed works and not allowed to encroach into areas outside the identified heavy vehicle rest area. This would include preventing materials or construction equipment to be stored or used in these areas.

### **5.3.6 Fire Management**

#### *Potential Impacts*

During the construction stage, the use of machinery and hand held plant near areas of vegetation has the potential to be a fire hazard, particularly given the extensive areas of bushland to the west of the Proposal site. Given the expected short duration of the



construction stage and the type of construction work necessary, the potential bush fire risk during the construction stage of the Proposal is considered low and would be adequately managed through mitigation measures outlined below.

There would be an on going bush fire risk during the operational stage of the Proposal from motorists discarding cigarette butts in the heavy vehicle rest area leading to fires in the adjoining woodland. Education of motorists by signs and provision of facilities such as garbage bins would mitigate the potential fire risks at the rest area.

#### *Site Specific Mitigation Measures*

The following site specific mitigation measures would be implemented to ameliorate the identified impacts of the Proposal:

- General purpose fire extinguishes would be kept on site at all times during construction;
- Signs indicating the high fire risk and garbage bins would be provided on the site;
- Cleared vegetation would be removed from the site;
- No burning of any material would occur on site;
- Workers would be informed of the fire risk to the surrounding area.

### **5.3.7 Indigenous Heritage**

#### *Potential Impacts*

The Hornsby LGA is rich in archaeological evidence of Aboriginal occupation. The predominant site types found in Hornsby LGA are engravings, shelters with art and axe grinding grooves. Other site types found in the area include middens and shelters with the potential of containing archaeological deposit (PADs). The Proposal site has been heavily disturbed by previous road building activities and consists of a flat area of maintained grass. The Proposal site does not support rock outcrops or overhangs, features most commonly associated with Aboriginal deposits in the region. A search of the DEC AHIMS register did not identify any registered Aboriginal sites within the Proposal site. The nearest registered site is approximately 200m north of the Proposal site. The Metropolitan Aboriginal Land Council was consulted as part of the preparation of the REF and they did not have any objection to the development on the Proposal site (refer to **Appendix C**).

Based on the results of the AHIMS search, feedback from the Metropolitan Aboriginal Land Council and the disturbed nature of the Proposal site, it is considered that the Proposal's risk of affecting an Aboriginal site is low. The low risk would be adequately controlled through the implementation of the mitigation measures outlined below.

#### *Site Specific Mitigation Measures*

The following mitigation measures would be implemented to ameliorate the identified impacts of the Proposal:

- In the event that any indigenous artefacts or items are located during the works, all work would cease in the vicinity of the find, and the RTA's Environmental Adviser, Central Coast Region, Aboriginal Programs Consultant and DEC's Park Services Division would be contacted immediately; and
- Machinery and equipment necessary for the Proposal would be restricted to the boundaries of the Proposal site and would not access any land outside of it.



### 5.3.8 Noise and Vibration

#### *Potential Impacts*

During the construction stage, there would be the potential for the operation of machinery and vehicles on site to result in an increase in the background ambient noise levels in the study area and affect residential receivers to the west of the Proposal site. During the operation of the proposed heavy vehicle rest area, there would be the potential for residential receivers in the vicinity of the heavy vehicle rest area along the Pacific Highway between the site and the Windybanks Interchange to be adversely affected by an increase in noise levels.

A noise assessment was undertaken by Renzo Tonin and Associates to determine the potential noise impact of the proposed heavy vehicle rest area on the nearest affected residences. A summary of the report is provided below, and the complete report is provided in **Appendix D**. To facilitate the assessment of noise impacts from the proposed heavy vehicle rest area, residential areas along the Pacific Highway between the Windybanks Interchange and the proposed heavy vehicle rest area, and those potentially affected by the parking area itself, were divided into Noise Catchment Areas (NCAs). Four noise NCAs were identified along the proposed heavy vehicle rest area route:

- NCA 1: Residential area in Berowra, west of the Pacific Highway, between Anembo Road and to the south of the Windybanks Interchange. Includes the La Mancha Caravan Park;
- NCA 2: Residential area in Berowra, west of the Pacific Highway, between Waratah Road and Anembo Road;
- NCA 3: Residential area in Berowra, west of the Pacific Highway, between Berowra Waters Road and Waratah Road; and
- NCA 4: Residential area in Berowra, west of the Pacific Highway, between The Gully Road and Berowra Waters Road.

#### Predicted Road Traffic Noise Assessment

Future traffic noise levels upon completion of the proposed heavy vehicle rest area were predicted using the "Calculation of Road Traffic Noise (1988)" known as the CORTN (1988) method. The CORTN traffic noise model was validated using the noise monitoring results undertaken as part of the fieldwork. The results of the noise modelling showed that traffic noise would increase by less than 1 dB(A) at all residential receivers, during the day and night periods, along the section of the Pacific Highway running through Berowra. The minimum detectable change in a constant noise source is 1dB under ideal conditions. Under field conditions, a change in a noise level of less than 1dB would not be noticeable. Therefore, the change in traffic noise level due to the increase in vehicle movements to and from the heavy vehicle rest area along the Pacific Highway is considered insignificant. It would not be reasonable or feasible for traffic noise mitigation measures to be implemented in response to the Proposal, as the traffic noise increase due to the proposed heavy vehicle rest area are less than 1dB, and therefore considered is insignificant.

#### Operational Noise at the Proposed Heavy Vehicle Rest Area

The operational noise impacts from the Proposal were considered in relation to the DEC 'Industrial Noise Policy' (INP). The noise catchment most likely to be affected by noise emission from the heavy vehicle rest area is NCA 4, to the north of Berowra Waters Road. The residential areas to the south of Berowra Waters Road are a considerable distance away from the heavy vehicle rest area (greater than 1km) and are therefore unlikely to experience noise impacts from it's use. Noise impact is assessed in NCA 4 only. Should compliance be achieved at NCA 4, it would also be achieved at NCAs 1-3. Noise levels have been predicted to the nearest affected receivers in NCA 4, taking into consideration



attenuation from distance only. The results showed that noise levels from the operation of the heavy vehicle rest area would comply with the DEC INP criteria in NCA 4, and therefore all of the other NCAs during the day, evening and night periods.

It was considered that the noise generated by the proposed heavy vehicle rest area would be unlikely to cause sleep disturbance to residences in NCA 4, with the exception of truck air brakes. The use of truck air brakes may exceed the criteria by up to 4dB(A). It is arguable that the potential for sleep disturbance is low, based on recent research that shows low-level noises, even though they exceed the background by more than 15dB(A) do not necessarily cause sleep arousal (Carter et al 1992). It is noted that the DEC's *Environmental Noise Criteria Manual* (ENCM) guideline was written in 1985 and there has been new research carried out since then on sleep disturbance, as set out in Appendix B of the "Environmental Criteria for Road Traffic Noise" (ECRTN). The EPA's sleep arousal criterion is currently being reviewed, as the general opinion is that this criterion is conservatively low.

No recommendations are required for the general operation of the proposed heavy vehicle rest area, with the exception that the use of truck air brakes would be restricted to minimise the potential for sleep arousal in NCA 4.

#### Construction Noise and Vibration Impacts

Construction noise and vibration were assessed in accordance with Section 9 of the RTA *Environmental Noise Management Manual* (ENMM). The relevant construction noise criteria in this assessment are set in Chapter 171 of the DEC's ENCM. To assess the Proposal's impact during the construction stage, the construction plant and equipment likely to be used by the contractor to carry out the necessary construction work for the Proposal was examined and the maximum sound power levels identified for each piece of equipment. The assessment was made on the understanding that no piling or blasting would be required during the construction of the heavy vehicle rest area. Each of the four NCAs was examined for potential construction noise impacts. It was predicted that the NCA that would be worst affected by the Proposal would be NCA 4, as it is closest to the Proposal site. Based on the construction noise levels predicted for the Proposal, compliance with the construction noise criteria would be achieved within all noise catchments during the construction stage, with the exception of NCA 4 during the use of the concrete saw. It should be noted however that noise exceedances might occur should two or more items of plant be operating concurrently in close proximity. A combination of noise management measures such as screening, acoustic enclosures and engine silencing would be applied to the site to ensure compliance is achieved.

#### Maximum Noise Level Assessment

The DEC's policy on traffic noise does not specify a night-time  $L_{max}$  noise limit or noise goal. 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.

According to the policy however, the likely maximum or peak noise levels are to be broadly assessed and reported for the night-time period, which is considered by the EPA as being 10pm to 7am.

According to Practice Note (iii) of the RTA's ENMM, a maximum noise event can be defined as any passby for which:

$$L_{max} - L_{eq(1hr)} \geq 15\text{dB(A)}$$

In terms of  $L_{max}$  noise levels, NCA 2 and 3 would be the worst affected receiver locations due to their close proximity to the Pacific Highway. Predicted maximum noise levels there could be as high as 85dB(A), more than approximately 30dB(A) above the ambient  $L_{eq(1hr)}$  noise level. In terms of the  $L_{max} - L_{eq(1hr)}$  metric, NCA 1 and 3 were shown to be the worst



affected locations, with  $L_{\max}$  noise levels reaching up to 31dB(A) above the  $L_{eq(1hr)}$  noise levels.

It should be noted that the  $L_{\max}$  and  $L_{\max} - L_{eq(1hr)}$  noise levels presented above are not expected to change as a result of the proposed heavy vehicle rest area. There would however be a marginal increase in the number of  $L_{\max}$  events over the night period as a result of increased truck numbers using the Pacific Highway to access the heavy vehicle rest area. The expected increase in events is analysed below.

**Table 5.2** Number of heavy vehicle pass-by events along the Pacific Highway, Berowra

Period	Number of Heavy Vehicle Movements			
	Existing	Additional Movements	Future Total	Percentage Increase
Night: 10pm – 7am	480	60	540	12.5%

#### *Site Specific Mitigation Measures*

- The Noise Management Plan required by Section 6.7 of the RTAs QA Specification G35 would be prepared in accordance with the RTAs Environmental Noise Management Manual, *Practice Note vii*;
- Plant and equipment would be properly maintained;
- Provide special attention to the use and maintenance of 'noise control' or 'silencing' kits fitted to machines to ensure they perform as intended;
- Strategically position plant on site to reduce the emission of noise to the surrounding neighbourhood and to site personnel;
- Avoid any unnecessary noise when carrying out manual operations and when operating plant;
- Any equipment not in use for extended periods during construction work would be switched off;
- In addition to the noise mitigation measures outlined above, a management procedure would need to be put in place to deal with noise complaints that may arise from construction activities. Each complaint would need to be investigated and appropriate noise amelioration measures put in place to mitigate future occurrences, where the noise in question is in excess of allowable limits;
- Good relations with people living and working in the vicinity of a construction site would be established at the beginning of a project and be maintained throughout the construction of the Proposal. Keeping people informed of progress and taking complaints seriously and dealing with them expeditiously is critical. The person selected to liaise with the community would be adequately trained and experienced in such matters; and
- During the construction stage, where noise level exceedances cannot be avoided, then consideration would be given to implementing time restrictions and/or providing periods of repose for residents.

#### **5.3.9 Socio-economic Considerations Including Landuse**

##### *Potential Impacts*

During the construction stage it is considered unlikely that the proposed works would have any detrimental socio-economic affects. The Proposal would not restrict traffic into any private properties or adversely affect traffic entering or leaving Berowra via the Pacific



Highway or the F3 Freeway. There would be the potential for increased noise from construction machinery on site, however this is considered only a minor risk, which mitigation measures outlined in Section 5.3.7 of this report are expected to adequately control. There would be the potential for construction activities to result in an increase in road traffic on the F3 Freeway and the Pacific Highway. However it is anticipated that the construction stage would be approximately 10 weeks in duration, during which time an additional 5 trucks per day would be visiting the site. These trucks would either be using the F3 Freeway or the Pacific Highway to access the site, and given the current traffic volumes of traffic on both of these roads, it is not expected that the increase in construction traffic would have any detrimental socio-economic affects.

During the operation stage, the Proposal would result in an increased number of trucks using the Pacific Highway between the Proposal site and Windybanks Interchange south of Berowra. There would be the potential for this increased number of truck traffic to lead to an increase in noise levels around the Pacific Highway and affect traffic flow on the Pacific Highway. The Proposal's impact on noise levels was assessed in Section 5.3.7 of this report, and the potential noise impacts were considered minor.

The proposed heavy vehicle rest area would have a capacity of approximately 12-16 trucks and it is expected that a maximum of 100 trucks would be using the site each day. Of these 100 trucks per day, it is expected that approximately 60 trucks would be using the site between 8pm-6am and approximately 40 trucks would be using the site between 6am-8pm. The existing traffic volumes on the Pacific Highway during the day time (7am-10pm) are over 19,000 vehicles and during the night time (10pm-7am) approximately 3,000 vehicles. It is not considered that the additional heavy vehicle traffic on the Pacific Highway generated from the Proposal would have any noticeable impact on traffic flow on the Pacific Highway between the Proposal site and Windybanks Interchange.

#### **5.4 Summary of Beneficial Effects**

The Proposal would have the following beneficial effects:

- Formalising of a heavy vehicle rest area for heavy vehicles drivers to rest and satisfy their statutory obligations;
- The existing informal heavy vehicle rest area does not have any facilities to contain a chemical spill on site. The Proposal would provide chemical spill trap facilities on site; and
- Provision of heavy vehicle rest area that would also be used by light vehicle drivers as a rest area.

#### **5.5 Summary of Adverse Effects**

- Increased risk to water quality during the construction and operation phase of the Proposal;
- Increase in heavy vehicle use along the Pacific Highway south of the heavy vehicle rest area; and
- Potential for an increase in noise levels of the background noise levels during construction and operation as a consequence of increased heavy vehicle traffic on the Pacific Highway.

## 6 Implementation Stage

### 6.1 Safeguards Process

A Contractor's Environmental Management Plan (CEMP) would be developed in accordance with the specifications set out in the RTA's *Environmental Protection (Management Plan) – QA Specifications G35, Soil and Water Management (Erosion and Sediment Control Plan) QA Specification G39, RTA's QA Specification R178-Vegetation, and Clearing and Grubbing QA Specification G40*. The CEMP would incorporate additional site specific requirements, outlined below, which are not covered by G35. The CEMP would be reviewed and certified by the RTA Environmental Adviser, Hunter Region, prior to the commencement of any site works.

- |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Geology, Soils and Land Form | <ul style="list-style-type: none"><li>• An Erosion and Sedimentation Plan (ESCP) would be prepared for the works and developed in accordance with the Department of Housing publication <i>Managing Urban Stormwater – Soils and Construction</i> as well DIPNR guidelines;</li><li>• The management of any temporary stockpiles would be in accordance with the RTA's <i>Stockpile Management Procedures</i> (November 2001); and</li><li>• Should any spillage occur during the construction activity the Environmental Adviser, Hunter Region, would be contacted immediately, and contaminants would be immediately contained, removed, treated (if necessary) and disposed of to the satisfaction of the DEC.</li></ul>                                                                                                                                                                                                                                                        |
| Water Quality and Hydrology  | <ul style="list-style-type: none"><li>• An appropriate spill containment kit would be kept on the site at all times during construction;</li><li>• Refuelling of machinery and equipment would be undertaken within a suitably bunded area; and</li><li>• Mud and dirt would be removed from the wheels and bodies of haulage equipment before they enter public roads or other sealed areas. Any washing down of equipment would be undertaken on a grassed or bunded area away from stormwater drains;</li><li>• During operation, contract waste handlers would be made aware of the AC bunded area and advised that all septic tank pump outs would be limited to this area only; and</li><li>• Should any spillage occur during the construction activity the Environmental Adviser, Hunter Region, would be contacted immediately, and contaminants would be immediately contained, removed, treated (if necessary) and disposed of to the satisfaction of the DEC.</li></ul> |
| Air Quality                  | <ul style="list-style-type: none"><li>• Any materials transported to the site in trucks would be covered to reduce dust generation; and</li><li>• Tailgates of all vehicles transporting materials to and from the site would be securely fixed prior to loading and immediately after unloading.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Flora and Fauna              | <ul style="list-style-type: none"><li>• Stockpile sites and compound sites would be in areas previously disturbed and would not require the clearing of</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



	any vegetation;
	<ul style="list-style-type: none"> <li>• Landscaping of the site would be undertaken upon completion of the works; and</li> <li>• Contractors would be informed of the limits of the proposed works and not allowed to encroach into areas outside the identified heavy vehicle rest area. This would include preventing materials or construction equipment to be stored or used in these areas.</li> </ul>
Fire Management	<ul style="list-style-type: none"> <li>• General purpose fire extinguishes would be kept on site at all times during construction;</li> <li>• Signs indicating the high fire risk and garbage bins would be provided on the site;</li> <li>• Cleared vegetation would be removed from the site;</li> <li>• No burning of any material would occur on site; and</li> <li>• Workers would be informed of the fire risk to the surrounding area.</li> </ul>
Indigenous Heritage	<ul style="list-style-type: none"> <li>• In the event that any indigenous artefacts or items are located during the works, all work would cease in the vicinity of the find, and the RTA's Environmental Adviser, Central Coast Region, Aboriginal Programs Consultant and NSW DEC would be contacted; and</li> <li>• Machinery and equipment necessary for the Proposal would be restricted to the boundaries of the Proposal site and would not access any land outside of it.</li> </ul>
Noise and Vibration	<ul style="list-style-type: none"> <li>• The Noise Management Plan required by Section 6.7 of the RTAs QA Specification G35 would be prepared in accordance with the RTAs Environmental Noise Management Manual, <i>Practice Note vii</i>;</li> <li>• Plant and equipment should be properly maintained;</li> <li>• Provide special attention to the use and maintenance of 'noise control' or 'silencing' kits fitted to machines to ensure they perform as intended;</li> <li>• Strategically position plant on site to reduce the emission of noise to the surrounding neighbourhood and to site personnel;</li> <li>• Avoid any unnecessary noise when carrying out manual operations and when operating plant;</li> <li>• Any equipment not in use for extended periods during construction work should be switched off;</li> <li>• In addition to the noise mitigation measures outlined above, a management procedure would need to be put in place to deal with noise complaints that may arise from construction activities. Each complaint would need to be investigated and appropriate noise amelioration measures put in place to mitigate future occurrences, where the noise in question is in excess of allowable limits;</li> </ul>

- Good relations with people living and working in the vicinity of a construction site would be established at the beginning of a project and be maintained throughout the construction of the Proposal. Keeping people informed of progress and taking complaints seriously and dealing with them expeditiously is critical. The person selected to liaise with the community would be adequately trained and experienced in such matters; and
- During the construction stage, where noise level exceedances cannot be avoided, then consideration should be given to implementing time restrictions and/or providing periods of repose for residents.

## 6.2 Licences and Approvals

Should water for roadworks need to be drawn locally from natural waterways, a permit would be required from the DIPNR under the *Water Act 1912*.

Section 68 of the *Local Government Act 1993* (LG Act) requires the approval of Council to operate a system of sewage management such as that proposed to be installed as part of the Proposal, as defined in Section 68A of the Act. Construction of the toilet and associated waste disposal facility would therefore be dependant on approval by Hornsby Shire Council under section 68 of the LG Act. Approval would be required prior to commencing construction work on the toilet facilities.



## 7 Consideration of Environmental Factors

### 7.1 Clause 228 Checklist (NSW Legislation)

Factor	Impact
<p><b>a) Any environmental impact on a community?</b>  <b>Comments:</b>            With the implementation of mitigation measures outlined in Section 6 of this report, it is considered unlikely that there would be any environmental impacts on a community.</p>	Nil
<p><b>b) Any transformation of a locality?</b>  <b>Comments:</b>            The Proposal involves the construction of a heavy vehicle rest area on a disturbed area of roadside at Berowra. It is not considered that the scale or impacts from the Proposal would result in the transformation of the locality.</p>	Nil
<p><b>c) Any environmental impact on the ecosystems of the locality?</b>  <b>Comments:</b>            The Proposal would involve the construction of a heavy vehicle rest area on an area of disturbed roadside. The Proposal would not involve clearing any connecting areas of vegetation or works likely to affect a natural drainage line. Although there would be an increased bushfire risk and increased risk to the water quality in the study area during the construction stage, it is not expected that the Proposal would result in any environmental impacts to the ecosystems of the locality.</p>	Nil
<p><b>d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?</b>  <b>Comments:</b>            The Proposal site is not considered to have any aesthetic, recreational, scientific or other environmental quality. It is not considered that the Proposal would result in impacts on any areas with aesthetic, recreational, scientific or other environmental quality, provided the mitigation outlined in Section 6 of this report are implemented.</p>	Nil
<p><b>e) Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?</b>  <b>Comments:</b>            The Proposal site does not contain any buildings or places with aesthetic, anthropogenic, archaeological, architectural, cultural, historical, scientific or social significance and it is not expected that the Proposal would affect any area with this significance.</p>	Nil
<p><b>f) Any impact on the habitat of any protected or endangered fauna (within the meaning of the National Parks and Wildlife Act 1974)?</b>  <b>Comments:</b>            The Proposal site consists of a disturbed roadside environment and it does</p>	Nil

Factor	Impact
not support any habitat considered suitable for any protected or endangered fauna species. It is not expected that the Proposal would result in any impacts on the habitat of any protected or endangered species.	
<b><i>g) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?</i></b>	
<b>Comments:</b> The Proposal would not result in the endangering of any species of animal, plant or any other form of life whether living on land, in the water or in the air.	Nil
<b><i>h) Any long-term effects on the environment?</i></b>	
<b>Comments:</b> The Proposal involves the construction of a heavy vehicle rest area on land already disturbed by previous road building activities. It is not considered that there would be any long term effects on the environment as a consequence of the Proposal.	Nil
<b><i>i) Any degradation of the quality of the environment?</i></b>	
<b>Comments:</b> Provided that the mitigation measures outlined in Section 6 of this report are implemented, it is not considered that the Proposal would lead to any degradation of the quality of the environment.	Nil
<b><i>j) Any risk to the safety of the environment?</i></b>	
<b>Comments:</b> During the construction stage of the Proposal, there would be an increased bushfire risk from machinery and construction and an increased water pollution risk from chemical spills on site.	Short term (-)ve
There would be an increased long-term risk of water pollution from trucks spilling chemicals on site, and an increased risk of bushfires from discarded cigarettes. However it is expected that these risks would be adequately controlled through the implementation of mitigation measures outlined in Section 6 of this report.	Long term (-)ve
<b><i>k) Any reduction in the range of beneficial uses of the environment?</i></b>	
<b>Comments:</b> The Proposal is restricted to a sealed area of road shoulder between the Pacific Highway and the Berowra exit ramp of the F3 Freeway. It is not considered that the development of a heavy vehicle rest area on the site would result in reduced range of beneficial uses of the environment in the Proposal site or the adjoining bushland.	Nil
<b><i>l) Any pollution of the environment?</i></b>	
<b>Comments:</b> The Proposal would not be expected to result in any pollution to the environment if mitigation measures outlined in Section 6 of this report are adequately implemented. There would be increased risks of pollution to the environment, however it is considered that these risks would be	Nil



Factor	Impact
adequately controlled.	
<b><i>m) Any environmental problems associated with the disposal of waste?</i></b>	
Comments: The Proposal could potentially generate excess pavement and construction materials and general putrescible waste. It is not expected that there would be any environmental problems associated with the disposal of this waste.	Nil
<b><i>n) Any increased demands on resources, natural or otherwise which are, or are likely to become in short supply?</i></b>	
Comments: It is not expected that the Proposal would result in increased demands on any resources, natural or otherwise which are, or are likely to become short in supply.	Nil
<b><i>o) Any cumulative environmental effect with other existing or likely future activities?</i></b>	
Comments: The Proposal would be expected to combine with other roadworks on the F3 Freeway to the north to reduce heavy vehicle driver fatigue and improve road user safety.	Long term (+)ve

## 7.2 EPBC Act 1999 (Commonwealth Legislation)

The EPBC Act requires that the following matters of National Environmental Significance (NES) be considered:

Factor	Impact
<p><b>a) Any environmental impact on a World Heritage property?</b> <b>Comments:</b> There are no World Heritage properties within 10km of the Proposal site and it is not expected that the Proposal would have any impacts on a world heritage property.</p>	Nil
<p><b>b) Any environmental impact on National Heritage places?</b> <b>Comments:</b> There are no National Heritage places within 10km of the Proposal site, and it is not considered that any National Heritage Places would be affected by the Proposal.</p>	Nil
<p><b>c) Any environmental impact on wetlands of international importance?</b> <b>Comments:</b> There are no wetlands of international importance within 10k of the Proposal site, and it is not expected that the Proposal would affect any such places.</p>	Nil
<p><b>d) Any environmental impact on Commonwealth listed threatened species or ecological communities?</b> <b>Comments:</b> Although a number of Commonwealth listed threatened species and ecological communities have been recorded within 10km of the Proposal site, these are expected to be restricted to the nature reserves and national parks in the region. The Proposal site does not support any habitat considered suitable for Commonwealth listed threatened species and it is not expected that the Proposal would have any impact on Commonwealth listed threatened species or ecological communities.</p>	Nil
<p><b>e) Any environmental impact on Commonwealth listed migratory species?</b> <b>Comments:</b> Although a number of Commonwealth listed migratory species have been recorded within 10km of the Proposal site, these species are expected to be restricted to the nature reserves and national parks of the region. The Proposal site does not support any habitat considered suitable for Commonwealth listed migratory species and it is not expected that any of these species would be affected by the Proposal.</p>	Nil
<p><b>f) Does any part of the proposal involve a nuclear action?</b> <b>Comments:</b> No part of the Proposal involves a nuclear action.</p>	Nil



Factor	Impact
<b><i>g) Any environmental impact on a Commonwealth marine area?</i></b>	
<b>Comments:</b>	
The Proposal involves construction of a heavy vehicle rest area on an area of disturbed roadside. It is not considered that the Proposal would have any impacts on a Commonwealth marine area.	Nil
<b><i>In addition; Any impact on Commonwealth Land?</i></b>	
The Proposal would not have any impact on Commonwealth land.	Nil

## 8 Certification

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This Review of Environmental Factors provides a true and fair review of the Proposal in relation to its potential effects on the environment. It addresses to the fullest extent possible all matters affecting or likely to affect the environment as a result of the Proposal.

Nicholas Francesconi

Environmental Officer

Date:

  
19/04/04

I have examined this Review of Environmental Factors and the certification by Nicholas Francesconi and accept the Review of Environmental Factors on behalf of the RTA.



Matthew Mate

Project Manager

Date: 19 April 2004 .



## 9 References

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BOM 1994 Bureau of Meteorology Web site <http://www.bom.gov.au/>

Chapman & Murphy 1989 Soil Landscapes of the Sydney 1:100 000 Sheet. Soil Conservation Service of NSW, Sydney.

Hornsby Shire Council 1994: Local Environmental Plan.

RTA 2001a Review of Environmental Factors F3 Widening. *Proposed widening to three lanes in each direction, from 4.2km south of the Mt Whitre Overbridge to 1km north of the Calga Interchange, Sydney Newcastle Freeway.*

RTA. 2001. *NSW Roads and Traffic Authority Environmental Impact Assessment Policy Guidelines and Procedures.* April 2001.

RTA. 2001. *RTA Noise Management Manual.*

RTA. 2001. *QA Specification G35 Environmental Protection (Management Plan).*

RTA 2003. *QA Specification G38 Soil and Water Management (Soil and Water Management Plan).*

RTA 2003. *QA Specification G 40 Clearing and Grubbing.*

RTA 2003. *QA Specification R 178 Vegetation.*

RTA 2004. <http://whome.rta.nsw.gov.au/roadsafety/fatigue/hvfatigue/index.htm>



**Appendix A**  
**Photographs of Site**





Photo 1. The Proposal site being used as an informal truck parking area at the moment. The proposed toilet would be located on the left hand side of this photo.



Photo 2. The south western edge of the Proposal site being used as a temporary stockpile site.





Photo 3. The southern portion of the Proposal site with an isolated stand of trees that will be incorporated into the design of the truck parking area.



Photo 4. A close up of the vegetation shown in Photo 3. Note the growth of weeds.



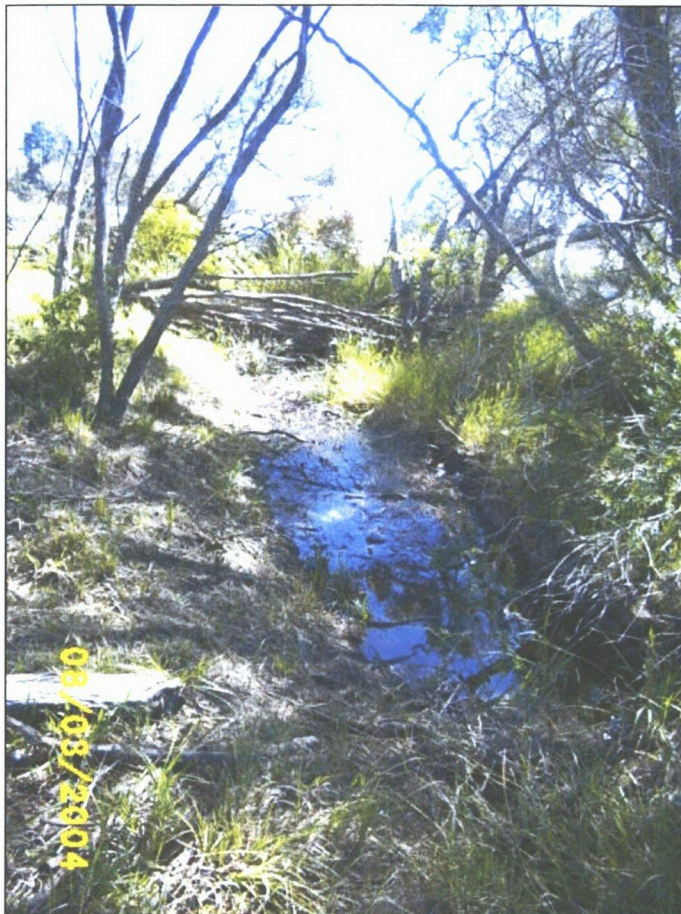


Photo 5. An on site drainage line in the southern portion of the Proposal site. Note that it is a concrete lined channel with considerable weed growth.

Photo 6. The southern extent of the Proposal site. Note the maintained grass lawns and the isolated trees.

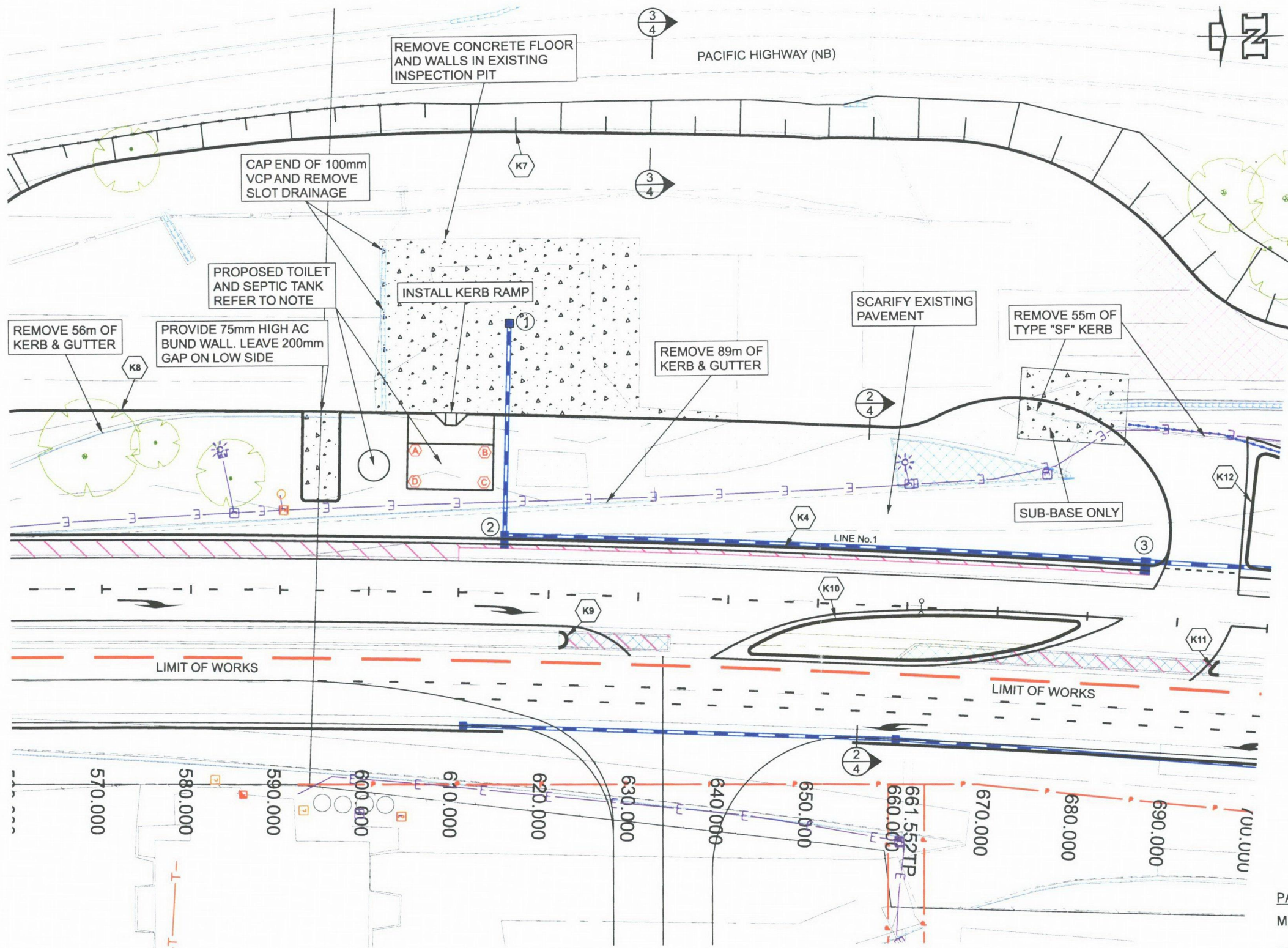




## **Appendix B**

### **Concept Design**





# PUBLIC UTILITIES LEGEND

- TELSTRA MAIN PIT
- TELSTRA SINGLE CONCRETE PIT
- TELSTRA TWIN CONCRETE PIT
- TELSTRA DISTRIBUTION PILLAR
- ABOVE GROUND JOINING POST
- TELSTRA CABLE MARKER
- LOCAL TELSTRA CABLE
- TELSTRA OPTICAL FIBRE
- WATER HYDRANT
- STOP VALVE
- WATER METER
- WATER TAP
- WATER MAIN
- POWER POLE
- POWER POLE WITH LIGHT
- LIGHT POLE
- LIGHT POLE FOUNDATION ONLY
- STAY POLE
- ELECTRICITY CABLE JUNCTION
- ELECTRICITY CABLE MANHOLE
- TRANSFORMER CABINET CENTRE
- MINOR OVERHEAD ELECTRICITY WIRES
- UNDERGROUND ELECTRICITY CABLES
- UNIDENTIFIED SERVICE

## TOILET NOTES:

PROPOSED TOILET TO BE 2 CUBICLE FLUSHING WITH TOWN WATER. SEPTIC PUMP OUT 20,000 LITRE CAPACITY. COLOURS TO BE AS FOLLOWS:  
ROOF: COLORBOND 'SHALE GREY'  
WALLS & POSTS: COLORBOND 'SURFMIST' EQUIVALENT  
FLOOR TILES: OPTIMA 'STEEL GREY'  
WALL TILES: WHITE  
REFER TO JOHN WILLIAMS (49240278), HUNTER PROJECT MANAGEMENT SERVICES, RTA.

## UTILITIES NOTE

The location of utilities which were purported to exist at the time of the survey, was compiled from a combination of field techniques and available data from co-operating utility authorities.  
Whilst all care was taken in locating the utilities, there is no guarantee that the location determined by the survey is without flaw of any kind.  
It is recommended that locations be confirmed where conflict with construction/design may occur.

## TOILET SLAB DATA

POINT	EASTING	NORTHING
A	329215.871	6279394.389
B	329216.085	6279403.937
C	329221.189	6279403.822
D	329220.975	6279394.275

NOTE: SLAB RL 217.900

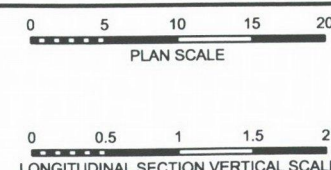
## NOTE

All work to be carried out in accordance with the RTA QA Specifications.

## PAVEMENT LEGEND

- MILL AND REPLACE WITH ASPHALT
- ASPHALT WEARING SURFACE ON FLEXIBLE PAVEMENT
- CONCRETE PAVEMENT
- REMOVE EXISTING CONCRETE PAVEMENT
- REMOVE EXISTING MEDIAN
- CONCRETE PAVING
- AREA TO BE TURFED

No.	Description	Init.	Date
A3 original	AMENDMENT BLOCK		
This plan is prepared using colour and may be incomplete if copied.			



PREPARED BY  
PROJECT DESIGN, NEWCASTLE  
HUNTER TECHNICAL SERVICES

## ROADS AND TRAFFIC AUTHORITY, NSW

SH10 - HORNSBY COUNCIL  
HEAVY VEHICLE REST AREA  
AT BEROWRA  
DETAIL PLAN CH 560.00 TO 700.00

FILE No.  
00/0000.00

No. SHEETS  
61

REG. No.

SHEET No.

20



**Appendix C**  
**Correspondence and Results of**  
**Database Searches**





Your Reference: WBS No: IO 302304  
Our Reference: G35/0028  
Contact Person: Rebecca Maiden  
Hours: 8:30am – 5:00pm  
Telephone: 9847 6879  
Fax: 9847 6929

30 March 2004

Roads and Traffic Authority  
Level 5, Pod D  
99 Phillip Street  
PARRAMATTA NSW 2150

Attention: Mr Nicholas Francesconi

Dear Mr Francesconi,

**Response to Comment: Proposed Truck Parking Area at Berowra**

The Environment Division of Hornsby Shire Council has reviewed the information provided in regard to the abovementioned matter and provides the following response.

For further consideration of the proposed truck parking area at Berowra, the Environment Division requires the following information to be included in the Review of Environmental Factors:

- An accurate site plan showing the locations of existing trees within 10m of the development (including trees on adjoining sites), their canopy diameters and trunk diameters should be plotted to scale and an indicative representation of the canopy diameters should be drawn. Existing native vegetation beneath the canopy must be detailed. Adjacent bushland should also be indicated. The trees and vegetation should be numbered on the plan and on the site and referenced to a table providing details of their species and an assessment of their condition.

An overlay of the proposal over this plan should be provided. Proposed development includes building envelopes, driveways, parking spaces, drainage lines, services and substantial excavation or land filling for any other reason.

- In order to protect the adjoining land and downstream water quality from sedimentation an Erosion & Sediment Control Plan (ESCP) is to be prepared by a suitably qualified/experienced person. The ESCP is to detail the sediment and erosion control measures to be implemented during the construction of the proposed development and is to be submitted incorporating a plan to scale of 1:500 or larger and supporting information.





The following information is a checklist which must be addressed and where applicable included in the ESCP:

- a. site survey which identifies contours and approximate grades and the direction(s) of fall,
- b. locality of site and allotment boundaries,
- c. location of adjoining road(s) and all impervious surfaces,
- d. existing vegetation and site drainage,
- e. nature and extent of clearing, excavation and filling,
- f. location and type of proposed erosion and sediment control measures,
- g. location of site access and stabilisation of site access,
- h. provision for the diversion of run off around disturbed areas,
- i. location of material stockpiles,
- j. proposed site rehabilitation and landscaping; staging of construction works, and
- k. maintenance program for erosion and sediment controls measures.

All design criteria and calculations used to size sediment and erosion control measures should be shown. Construction standard drawings are to be provided on each type of sediment and erosion control measure proposed.

The NSW Department of Housing Managing Urban Stormwater - Soils & Construction (1998) manual should be the basic reference used to prepare the ESCP.

- In order to provide adequate toilet facilities and protect the surrounding environment, details of the proposed onsite sewage management system for the site are to be provided. This should include:
  - the anticipated hydraulic load from the facilities; and
  - the manufacturer's plans and specifications of the installation giving details of capacities, operating techniques, installation details and maintenance schedule.

Following the submission of this information, and the approval of the proposed development, you will be required to submit a separate application to Council to install your proposed onsite sewage management system.

Should you have any queries, please contact Rebecca Maiden, Environmental Protection Officer, on 9847 6879.

Yours faithfully



ADAM DAVIS  
Manager

Environmental Health & Protection Team  
Environment Division





Monday, March 15, 2004

Nicolas Francesconi  
Level 5, Pod D  
99 Phillip Street  
Parramatta NSW 2124

**Re: Proposed Truck Parking Area  
F3 Freeway Berowra**

Dear Nicolas,

An Aboriginal Site survey was carried out on the proposed truck parking area F3 Freeway Berowra for the purposes of identifying any Aboriginal heritage constraints to the proposed development.

The Investigation was undertaken by, myself, Allen Madden Cultural Education Officer and Adam Madden representing Metropolitan Local Aboriginal Land Council.

This report outlines the findings of the Metropolitan LALC and makes recommendations and any constraints that the Land Council feel will protect any identified sites.

Prior to work commenced for the compiling of this report the Metropolitan Local Aboriginal Land Council was informed about this land and discussions took place with Stephen Knight Aboriginal Programs Consultant about the proposal, a register search was undertaken for any known sites in the area of the proposed development and subject to this, no sites were identified that maybe impacted upon.

The Aboriginal site survey was carried out by foot. The area surveyed within the boundaries of the proposed development for the Berowra Truck Rest Area it is still in its natural state (raw land). All exposed Sandstone was carefully examined for cultural material. No cultural material or Aboriginal relics were found within the surveyed inspection area.



MLALC have no objections to the proposed development of the proposed truck parking area F3 Freeway Berowra.

But if any cultural material or relics are unearthed during any stages of development, then all work should cease and the Metropolitan LALC and NSW NPWS are to be notified as soon as possible.

If you require any further information please do not hesitate to call me on my mobile number 0411229217.

Yours Sincerely,

Allen Madden  
**Cultural Education Officer**  
**Metropolitan LALC**





## New South Wales Consolidated Acts

[\[Index\]](#) [\[Table\]](#) [\[Search\]](#) [\[Search this Act\]](#) [\[Notes\]](#) [\[Noteup\]](#) [\[Previous\]](#) [\[Next\]](#) [\[Download\]](#) [\[Help\]](#)

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### LOCAL GOVERNMENT ACT 1993 - SECT 68A

#### Meaning of "operate a system of sewage management"

##### 68A Meaning of "operate a system of sewage management"

(1) In this Part, "operate a system of sewage management" means hold or process, or re-use or discharge, sewage or by-products of sewage (whether or not the sewage is generated on the premises on which the system of sewage management is operated).

(2) Without limiting subsection (1), "operate a system of sewage management" includes the following:

(a) use artificial wetlands, transpiration mounds, trenches, vegetation and other effluent polishing, dispersal or re-use arrangements in related land application areas,

(b) hold or process sewage that is to be subsequently discharged into a public sewer.

(3) However, "operate a system of sewage management" does not include any of the following:

(a) any action relating to the discharge of sewage directly into a public sewer,

(b) any action relating to sewage or by-products of sewage after their discharge into a public sewer.

(4) In this section:

"public sewer" means a sewer operated by a council or county council, a water supply authority (within the meaning of the *Water Management Act 2000*), a State owned corporation specified in Schedule 1 or 5 to the *State Owned Corporations Act 1989* (or a subsidiary of such a corporation) or any other public or local authority.

"related land application area", in relation to a sewage management facility, means the area of land (if any) where it is intended that effluent and bio-solid waste from the facility will be re-used, applied or dispersed into the environment.

"sewage" includes any effluent of the kind referred to in paragraph (a) of the definition of "waste" in the Dictionary to this Act.

"sewage management facility" means:

(a) a human waste storage facility, or

**FAX**

DATE 11 March 2004

NO. PAGES 4

TO Nicholas Francesconi  
ORGANISATION N/A  
FAX NO. 8837 0053  
FROM Jason Rawlin  
TELEPHONE NO. 9347 6728  
FAX NO. 9347 6996  
EMAIL ADDRESS jrawlin@hornsby.nsw.gov.au

**Pacific Highway Street Trees – Berowra and Cowan**

As requested, please find attached a copy of the statements of heritage significance for the above matter.

I trust this information is of assistance.

Regards

JASON RAWLIN  
Strategic Planner  
Town Planning Services



<b>HORNSBY SHIRE HERITAGE STUDY</b> Prepared by P. J. M. Murphy Wm Pty Ltd for Hornsby Shire Council and the NSW Department of Planning			Reference No L181	
Present Name    Roadside Trees			Date Inspected    09 12 92 Survey By    WA	
Location:    Pacific H'way (E. side) Opp Berowra Waters Rd/extend south for about 300m Town/Suburb    BEROWRA                      Postcode    2081 Locality Real Description			Category Sub Category	
Present Owner: Town/Suburb                                      Postcode			Site Area Existing Zoning	
Evaluation Criteria: Historic            Rare <input type="checkbox"/> Associative <input type="checkbox"/> Representative <input type="checkbox"/> Aesthetic           Rare <input type="checkbox"/> Associative <input type="checkbox"/> Representative <input checked="" type="checkbox"/> Social                Rare <input type="checkbox"/> Associative <input type="checkbox"/> Representative <input type="checkbox"/> Scientific           Rare <input type="checkbox"/> Associative <input type="checkbox"/> Representative <input type="checkbox"/> Other                 Rare <input type="checkbox"/> Associative <input type="checkbox"/> Representative <input type="checkbox"/>			Date                      History Architect/Designer Builder	

Significance: Remnant section of bushland and cultural planting beside roadway. Significant visual element on main road. Of regional significance.

Location Plan





Physical Characteristics:  
Architectural Style

Materials: Exterior

Interior

Description: Remnant bushland indigenous trees to 20m high including Smooth Bark Angophora, Red Bloodwood, Black Sheoak (very common) also Pittosporum and small shrubs such as Lambertia.

History Prehistory with individual trees from c1960's and cultural planting from c1970's.



Historical Period:

Pre 1800  
1800 - 1825  
1826 - 1850  
1851 - 1875  
1876 - 1900  
1901 - 1925  
1926 - 1950  
1951 - 1975  
Post 1975

Built	Used
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Heritage Listings:

215-22

<input type="checkbox"/>	Register of the National Estate (AHC) - Registered
<input type="checkbox"/>	Register of the National Estate of Aust (AHC) - Interim
<input type="checkbox"/>	Register of the National Trust (NSW)
<input type="checkbox"/>	Register of Significant Twentieth Cent. Architecture (RAIA)
<input type="checkbox"/>	Department of Public Works Heritage and Cons. Register
<input type="checkbox"/>	Heritage Council Register - Permanent Cons. Order
<input type="checkbox"/>	Heritage Council Register - Interim Cons. Order
<input type="checkbox"/>	Heritage Council Register - Section 130 Order
<input type="checkbox"/>	Heritage Council Register - Nomination
<input type="checkbox"/>	NSW Govt Dept Heritage Register (S.170 Heritage Act)
<input type="checkbox"/>	NP&WS Historic Sites Register
<input type="checkbox"/>	NP&WS Aboriginal Sites Register (Contact Sites)
<input type="checkbox"/>	Institution of Engineers (NSW) Heritage Register
<input type="checkbox"/>	Existing Heritage Study
<input type="checkbox"/>	Regional Environmental Plan Heritage Schedule
<input type="checkbox"/>	Local Environmental Plan Heritage Schedule
<input type="checkbox"/>	Other

Historical Themes:

SHIP

EA CE

Local

Sources



**HORNSBY SHIRE HERITAGE STUDY**Prepared by Fenimal Murphy Wu Pty Ltd for  
Hornsby Shire Council and the NSW Department of Planning

Reference No

L63

Present Name Street Trees

Date Inspected 26 08 92  
Survey By WA

Location:

Pacific Highway  
Town/Suburb COWAN (south entry) Postcode 2252

Category

Sub Category

Locality  
Real Description Road reserve

Present Owner:

Town/Suburb Postcode

Site Area  
Existing Zoning

Evaluation Criteria:

Historic	Rare <input type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input type="checkbox"/>
Aesthetic	Rare <input type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input checked="" type="checkbox"/>
Social	Rare <input type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input type="checkbox"/>
Scientific	Rare <input type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input type="checkbox"/>
Other	Rare <input type="checkbox"/>	Associative <input type="checkbox"/>	Representative <input type="checkbox"/>

Date c1950's

Architect/Designer

Builder

Significance: Mature cultural planting of Eucalypts from c1950's, forming notable element on highway at southern entry in to Cowan. Of local significance.

Location Plan





Physical Characteristics:  
Architectural Style

Materials: Exterior

Interior

Description: Mature stand of Tallowwood trees on both sides of Pacific Highway, at southern end of township. Trees to about 20 metres high, planted possibly about 1950. In sensitive arrangement.

Historical Period:

	Built	Used
Pre 1800	<input type="checkbox"/>	<input type="checkbox"/>
1800 - 1825	<input type="checkbox"/>	<input type="checkbox"/>
1826 - 1850	<input type="checkbox"/>	<input type="checkbox"/>
1851 - 1875	<input type="checkbox"/>	<input type="checkbox"/>
1876 - 1900	<input type="checkbox"/>	<input type="checkbox"/>
1901 - 1925	<input type="checkbox"/>	<input type="checkbox"/>
1926 - 1950	<input type="checkbox"/>	<input type="checkbox"/>
1951 - 1975	<input type="checkbox"/>	<input type="checkbox"/>
Post 1975	<input type="checkbox"/>	<input type="checkbox"/>

Historical Themes:

SHIP

GE

Local

Heritage Listings:

<input type="checkbox"/>	Register of the National Estate (AHIC) - Registered
<input type="checkbox"/>	Register of the National Estate of Aust (AHIC) - Interim
<input type="checkbox"/>	Register of the National Trust (NSW)
<input type="checkbox"/>	Register of Significant Twentieth Cent. Architecture (RAJA)
<input type="checkbox"/>	Department of Public Works Heritage and Cons. Register
<input type="checkbox"/>	Heritage Council Register - Permanent Cons. Order
<input type="checkbox"/>	Heritage Council Register - Interim Cons. Order
<input type="checkbox"/>	Heritage Council Register - Section 130 Order
<input type="checkbox"/>	Heritage Council Register - Nomination
<input type="checkbox"/>	NSW Govt Dept Heritage Register (S.170 Heritage Act)
<input type="checkbox"/>	NP&WS Historic Sites Register
<input type="checkbox"/>	NP&WS Aboriginal Sites Register (Contact Sites)
<input type="checkbox"/>	Institution of Engineers (NSW) Heritage Register
<input type="checkbox"/>	Existing Heritage Study
<input type="checkbox"/>	Regional Environmental Plan Heritage Schedule
<input type="checkbox"/>	Local Environmental Plan Heritage Schedule
<input type="checkbox"/>	Other

Sources



Your Ref:  
Our Ref: AHIMS #9347

RTA  
Level 5 Pod D, 99 Phillip Street  
Parramatta NSW 2150

Wednesday, 10 March 2004

Attention:

Dear Sir or Madam:

**Re: AHIMS Search for the following area at Part of the F3  
Zone 56 Eastings: 326800-333000 Northings: 6275500-6287400**

I am writing in response to your recent inquiry in respect to Aboriginal objects and Aboriginal places registered with the NSW National Parks and Wildlife Service (NPWS) at the above location.

A search of the NPWS Aboriginal Heritage Information Management System (AHIMS) has shown that 163 Known Aboriginal objects and Aboriginal places are recorded in or near the above location. Please refer to the attached report for details.

The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.

The following qualifications apply to an AHIMS search:

- AHIMS only includes information on Aboriginal objects and Aboriginal places that have been provided to NPWS;
- Large areas of New South Wales have not been the subject of systematic survey or recording of Aboriginal history. These areas may contain Aboriginal objects and other heritage values which are not recorded on AHIMS;
- Recordings are provided from a variety of sources and may be variable in their accuracy. When an AHIMS search identifies Aboriginal objects in or near the area it is recommended that the exact location of the Aboriginal object be determined by re-location on the ground; and
- The criteria used to search AHIMS are derived from the information provided by the client and NPWS assumes that this information is accurate.

All Aboriginal places and Aboriginal objects are protected under the *National Parks and Wildlife Act 1974* (NPW Act) and it is an offence to destroy, damage or deface them without the prior consent of the NPWS Director-General. An Aboriginal object is considered to be known if:

- It is registered on AHIMS;
- It is known to the Aboriginal community; or
- It is located during an investigation of the area conducted for a development application.



**NSW  
NATIONAL  
PARKS AND  
WILDLIFE  
SERVICE**

ABN 30 841 387 271

Head Office  
43 Bridge Street  
PO Box 1967  
Hurstville NSW  
2220 Australia  
Tel: (02) 9585 6444  
Fax: (02) 9585 6555  
[www.npws.nsw.gov.au](http://www.npws.nsw.gov.au)



If you are considering undertaking a development activity in the area subject to the AHIMS search, NPWS would recommend that an Aboriginal Heritage Assessment be undertaken. You should consult with the relevant consent authority to determine the necessary assessment to accompany your development application.

Yours Sincerely

A handwritten signature in dark ink, appearing to read 'Paul Houston', with a long horizontal stroke extending to the right.

Paul Houston  
Aboriginal Information Officer  
Information Systems Unit  
Cultural Heritage Division  
Phone: (02) 9585 6471  
Fax: (02) 9585 6094



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EPBC Act

## Protected Matters Search Tool



Australian Government

Department of the Environment and Heritage

[DEH Home](#) > [EPBC Act](#) > [Search](#)

1 March 2004 10:02

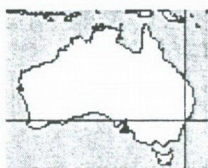
## EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Information on the coverage of this report and qualifications on data supporting this report are contained in the [caveat](#) at the end of the report.

You may wish to print this report for reference before moving to other pages or websites.

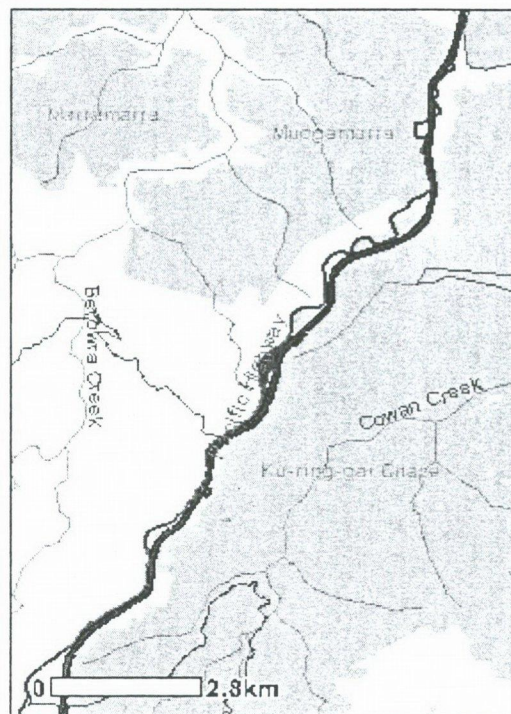
The Australian Natural Resources Atlas at <http://www.environment.gov.au/atlas> may provide further environmental information relevant to your selected area. Information about the EPBC Act including significance guidelines, forms and application process details can be found at <http://www.deh.gov.au/epbc/assessmentsapprovals/index.html>

**Search Type:** Point  
**Buffer:** 5 km  
**Coordinates:** -33.60962, 151.16006



**Report Contents:**

- Summary
- Details
  - Matters of NES
  - Other matters protected by the EPBC Act
  - [Extra Information](#)
- [Caveat](#)
- [Acknowledgments](#)



## Summary

## Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance - see

<http://www.deh.gov.au/epbc/assessmentsapprovals/guidelines/index.html>.

<b>World Heritage Properties:</b>	None
<b>National Heritage Places:</b>	None
<b>Wetlands of International Significance: (Ramsar Sites)</b>	None
<b>Commonwealth Marine Areas:</b>	Relevant
<b>Threatened Ecological Communities:</b>	None



Threatened Species:	45
Migratory Species:	26

## Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate. Information on the new heritage laws can be found at <http://www.deh.gov.au/heritage/index.html>.

Please note that the current dataset on Commonwealth land is not complete. Further information on Commonwealth land would need to be obtained from relevant sources including Commonwealth agencies, local agencies, and land tenure maps.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species. Information on EPBC Act permit requirements and application forms can be found at <http://www.deh.gov.au/epbc/permits/index.html>.

Commonwealth Lands:	1
Commonwealth Heritage Places:	None
Places on the RNE:	3
Listed Marine Species:	41
Whales and Other Cetaceans:	9
Critical Habitats:	None
Commonwealth Reserves:	None

## Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	3
Other Commonwealth Reserves:	None
Regional Forest Agreements:	None

## Details

### Matters of National Environmental Significance

#### Commonwealth Marine Areas [ [Dataset Information](#) ]

Approval may be required for a proposed activity that is likely to have a significant impact on the environment in a Commonwealth Marine Area, when the action is outside the Commonwealth Marine Area, or the environment anywhere when the action is taken within the Commonwealth Marine Area. Generally the Commonwealth Marine Area stretches from three nautical miles to two hundred nautical miles from the coast.

Within 3 Nautical Mile Limit



## Threatened Species [ Dataset Information ]

### Birds

*Diomedea antipodensis*  
Antipodean Albatross

*Diomedea gibsoni*  
Gibson's Albatross

*Lathamus discolor*  
Swift Parrot

*Macronectes giganteus*  
Southern Giant-Petrel

*Macronectes halli*  
Northern Giant-Petrel

*Pterodroma neglecta neglecta*  
Kermadec Petrel (western)

*Rostratula australis*  
Australian Painted Snipe

*Thalassarche bulleri*  
Buller's Albatross

*Thalassarche cauta*  
Shy Albatross

*Thalassarche impavida*  
Campbell Albatross

*Thalassarche salvini*  
Salvin's Albatross

*Thalassarche steadi*  
White-capped Albatross

*Xanthomyza phrygia*  
Regent Honeyeater

### Fishes

*Macquaria australasica* \*  
Macquarie Perch

*Prototroctes maraena*  
Australian Grayling

### Frogs

*Heleioporus australiacus* \*  
Giant Burrowing Frog

*Litoria aurea* \*  
Green and Golden Bell Frog

*Mixophyes balbus* \*  
Stuttering Frog, Southern Barred Frog (in Victoria)

*Mixophyes iteratus* \*  
Southern Barred Frog, Giant Barred Frog

### Mammals

*Chalinolobus dwyeri*  
Large-eared Pied Bat, Large Pied Bat

*Dasyurus maculatus maculatus* (s. lat.)  
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll  
(south-east mainland and Tasmanian subspecies)

*Eubalaena australis* \*  
Southern Right Whale

## Status Type of Presence

Vulnerable	Species or species habitat may occur within area
Vulnerable	Species or species habitat may occur within area
Endangered	Species or species habitat may occur within area
Endangered	Species or species habitat may occur within area
Vulnerable	Species or species habitat may occur within area
Vulnerable	Species or species habitat may occur within area
Vulnerable	Species or species habitat may occur within area
Vulnerable	Species or species habitat may occur within area
Vulnerable	Species or species habitat may occur within area
Vulnerable	Species or species habitat may occur within area
Endangered	Species or species habitat may occur within area
Endangered	Species or species habitat may occur within area
Vulnerable	Species or species habitat likely to occur within area
Vulnerable	Species or species habitat likely to occur within area
Vulnerable	Species or species habitat likely to occur within area
Endangered	Species or species habitat likely to occur within area
Vulnerable	Species or species habitat may occur within area
Vulnerable	Species or species habitat likely to occur within area
Endangered	Species or species habitat may occur within area



<i>Isoodon obesulus obesulus</i> Southern Brown Bandicoot	Endangered	Species or species habitat may occur within area
<i>Megaptera novaeangliae</i> * Humpback Whale	Vulnerable	Species or species habitat may occur within area
<i>Potorous tridactylus tridactylus</i> Long-nosed Potoroo (SE mainland)	Vulnerable	Species or species habitat may occur within area
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox	Vulnerable	Species or species habitat likely to occur within area
<b>Reptiles</b>		
<i>Chelonia mydas</i> * Green Turtle	Vulnerable	Species or species habitat may occur within area
<i>Dermochelys coriacea</i> * Leathery Turtle, Leatherback Turtle, Luth	Vulnerable	Species or species habitat may occur within area
<i>Hoplocephalus bungaroides</i> * Broad-headed Snake	Vulnerable	Species or species habitat likely to occur within area
<b>Sharks</b>		
<i>Carcharias taurus (east coast population)</i> Grey Nurse Shark (east coast population)	Critically Endangered	Species or species habitat may occur within area
<i>Carcharodon carcharias</i> Great White Shark	Vulnerable	Species or species habitat may occur within area
<i>Rhincodon typus</i> Whale Shark	Vulnerable	Species or species habitat may occur within area
<b>Plants</b>		
<i>Acacia bynoeana</i> Bynoe's Wattle, Tiny Wattle	Vulnerable	Species or species habitat likely to occur within area
<i>Cryptostylis hunteriana</i> Leafless Tongue-orchid	Vulnerable	Species or species habitat likely to occur within area
<i>Darwinia biflora</i> *	Vulnerable	Species or species habitat likely to occur within area
<i>Eucalyptus camfieldii</i> Camfield's Stringybark	Vulnerable	Species or species habitat likely to occur within area
<i>Haloragodendron lucasii</i> Hal	Endangered	Species or species habitat likely to occur within area
<i>Kunzea rupestris</i>	Vulnerable	Species or species habitat likely to occur within area
<i>Lasiopetalum joyceae</i>	Vulnerable	Species or species habitat likely to occur within area
<i>Leptospermum deanei</i>	Vulnerable	Species or species habitat likely to occur within area
<i>Melaleuca deanei</i> Deane's Melaleuca	Vulnerable	Species or species habitat likely to occur within area
<i>Micromyrtus blakelyi</i>	Vulnerable	Species or species habitat likely to occur within area
<i>Persoonia hirsuta</i> *	Endangered	Species or species habitat likely to occur within area
<i>Persoonia mollis subsp. maxima</i>	Endangered	Species or species habitat likely to occur within area
<i>Tetradlea glandulosa</i>	Vulnerable	Species or species habitat likely to occur within area

**Migratory Species** [ [Dataset Information](#) ]    **Status**    **Type of Presence**

**Migratory Terrestrial Species**



**Birds**

*Haliaeetus leucogaster* \*  
White-bellied Sea-Eagle

Migratory Species or species habitat likely to occur within area

*Hirundapus caudacutus*  
White-throated Needletail

Migratory Species or species habitat may occur within area

*Monarcha melanopsis*  
Black-faced Monarch

Migratory Breeding may occur within area

*Myiagra cyanoleuca*  
Satin Flycatcher

Migratory Breeding likely to occur within area

*Rhipidura rufifrons*  
Rufous Fantail

Migratory Breeding may occur within area

*Xanthomyza phrygia*  
Regent Honeyeater

Migratory Species or species habitat may occur within area

**Migratory Wetland Species****Birds**

*Gallinago hardwickii*  
Latham's Snipe, Japanese Snipe

Migratory Species or species habitat may occur within area

*Rostratula benghalensis s. lat.*  
Painted Snipe

Migratory Species or species habitat may occur within area

**Migratory Marine Birds**

*Diomedea antipodensis*  
Antipodean Albatross

Migratory Species or species habitat may occur within area

*Diomedea gibsoni*  
Gibson's Albatross

Migratory Species or species habitat may occur within area

*Macronectes giganteus*  
Southern Giant-Petrel

Migratory Species or species habitat may occur within area

*Macronectes halli*  
Northern Giant-Petrel

Migratory Species or species habitat may occur within area

*Thalassarche bulleri*  
Buller's Albatross

Migratory Species or species habitat may occur within area

*Thalassarche cauta*  
Shy Albatross

Migratory Species or species habitat may occur within area

*Thalassarche impavida*  
Campbell Albatross

Migratory Species or species habitat may occur within area

*Thalassarche salvini*  
Salvin's Albatross

Migratory Species or species habitat may occur within area

*Thalassarche steadi*  
White-capped Albatross

Migratory Species or species habitat may occur within area

**Migratory Marine Species****Mammals**

*Balaenoptera edeni* \*  
Bryde's Whale

Migratory Species or species habitat may occur within area

*Caperea marginata* \*  
Pygmy Right Whale

Migratory Species or species habitat may occur within area

*Eubalaena australis* \*  
Southern Right Whale

Migratory Species or species habitat may occur within area

*Megaptera novaeangliae* \*  
Humpback Whale

Migratory Species or species habitat may occur within area

*Tursiops aduncus*  
Spotted Bottlenose Dolphin

Migratory (Arafura/ Timor Sea) Species or species habitat may occur within area

**Reptiles**



*Chelonia mydas* \*  
Green Turtle

Migratory Species or species habitat may occur within area

*Dermochelys coriacea* \*  
Leathery Turtle, Leatherback Turtle, Luth

Migratory Species or species habitat may occur within area

#### Sharks

*Carcharodon carcharias*  
Great White Shark

Migratory Species or species habitat may occur within area

*Rhincodon typus*  
Whale Shark

Migratory Species or species habitat may occur within area

## Other Matters Protected by the EPBC Act

### Listed Marine Species [ [Dataset Information](#) ]

### Status Type of Presence

#### Birds

*Diomedea antipodensis*  
Antipodean Albatross

Listed Species or species habitat may occur within area

*Diomedea gibsoni*  
Gibson's Albatross

Listed Species or species habitat may occur within area

*Gallinago hardwickii*  
Latham's Snipe, Japanese Snipe

Listed - overfly marine area Species or species habitat may occur within area

*Haliaeetus leucogaster* \*  
White-bellied Sea-Eagle

Listed Species or species habitat likely to occur within area

*Hirundapus caudacutus*  
White-throated Needletail

Listed - overfly marine area Species or species habitat may occur within area

*Lathamus discolor*  
Swift Parrot

Listed - overfly marine area Species or species habitat may occur within area

*Macronectes giganteus*  
Southern Giant-Petrel

Listed Species or species habitat may occur within area

*Macronectes halli*  
Northern Giant-Petrel

Listed Species or species habitat may occur within area

*Monarcha melanopsis*  
Black-faced Monarch

Listed - overfly marine area Breeding may occur within area

*Myiagra cyanoleuca*  
Satin Flycatcher

Listed - overfly marine area Breeding likely to occur within area

*Rhipidura rufifrons*  
Rufous Fantail

Listed - overfly marine area Breeding may occur within area

*Rostratula benghalensis s. lat.*  
Painted Snipe

Listed - overfly marine area Species or species habitat may occur within area

*Thalassarche bulleri*  
Buller's Albatross

Listed Species or species habitat may occur within area



<u><i>Thalassarche cauta</i></u> Shy Albatross	Listed	Species or species habitat may occur within area
<u><i>Thalassarche impavida</i></u> Campbell Albatross	Listed	Species or species habitat may occur within area
<u><i>Thalassarche salvini</i></u> Salvin's Albatross	Listed	Species or species habitat may occur within area
<u><i>Thalassarche steadi</i></u> White-capped Albatross	Listed	Species or species habitat may occur within area
<b>Fishes</b>		
<u><i>Acentronura tentaculata</i></u> * Hairy Pygmy Pipehorse	Listed	Species or species habitat may occur within area
<u><i>Festucalex cinctus</i></u> * Girdled Pipefish	Listed	Species or species habitat may occur within area
<u><i>Filicampus tigris</i></u> * Tiger Pipefish	Listed	Species or species habitat may occur within area
<u><i>Heraldia nocturna</i></u> * Upside-down Pipefish	Listed	Species or species habitat may occur within area
<u><i>Hippichthys penicillus</i></u> * Beady Pipefish, Steep-nosed Pipefish	Listed	Species or species habitat may occur within area
<u><i>Hippocampus abdominalis</i></u> * Eastern Potbelly Seahorse, New Zealand Potbelly, Seahorse, Bigbelly Seahorse	Listed	Species or species habitat may occur within area
<u><i>Hippocampus whitei</i></u> * White's Seahorse, Crowned Seahorse, Sydney Seahorse	Listed	Species or species habitat may occur within area
<u><i>Histiogamphelus briggsii</i></u> * Briggs' Crested Pipefish, Briggs' Pipefish	Listed	Species or species habitat may occur within area
<u><i>Lissocampus runa</i></u> * Javelin Pipefish	Listed	Species or species habitat may occur within area
<u><i>Maroubra perserrata</i></u> * Sawtooth Pipefish	Listed	Species or species habitat may occur within area
<u><i>Notiocampus ruber</i></u> * Red Pipefish	Listed	Species or species habitat may occur within area
<u><i>Phyllopteryx taeniolatus</i></u> * Weedy Seadragon, Common Seadragon	Listed	Species or species habitat may occur within area
<u><i>Solegnathus spinosissimus</i></u> * Spiny Pipehorse, Australian Spiny Pipehorse	Listed	Species or species habitat may occur within area
<u><i>Solenostomus cyanopterus</i></u> * Blue-finned Ghost Pipefish, Robust Ghost Pipefish	Listed	Species or species habitat may occur within area
<u><i>Solenostomus paradoxus</i></u> * Harlequin Ghost Pipefish, Ornate Ghost Pipefish	Listed	Species or species habitat may occur within area
<u><i>Stigmatopora argus</i></u> * Spotted Pipefish	Listed	Species or species habitat may occur within area
<u><i>Stigmatopora nigra</i></u> * Wide-bodied Pipefish, Black Pipefish	Listed	Species or species habitat may occur within area
<u><i>Syngnathoides biaculeatus</i></u> * Double-ended Pipehorse, Alligator Pipefish	Listed	Species or species habitat may occur within area
<u><i>Trachyrhamphus bicoarctatus</i></u> * Bend Stick Pipefish, Short-tailed Pipefish	Listed	Species or species habitat may occur within area
<u><i>Urocampus carinirostris</i></u> * Hairy Pipefish	Listed	Species or species habitat may occur within area
<u><i>Vanacampus margaritifer</i></u> * Mother-of-pearl Pipefish	Listed	Species or species habitat may occur within area



**Reptiles**

*Chelonia mydas* \*  
Green Turtle

Listed Species or species habitat may occur within area

*Dermochelys coriacea* \*  
Leathery Turtle, Leatherback Turtle, Luth

Listed Species or species habitat may occur within area

*Pelamis platurus* \*  
Yellow-bellied Seasnake

Listed Species or species habitat may occur within area

## Whales and Other Cetaceans [ [Dataset Information](#) ]

*Balaenoptera edeni* \*  
Bryde's Whale

Cetacean Species or species habitat may occur within area

*Caperea marginata* \*  
Pygmy Right Whale

Cetacean Species or species habitat may occur within area

*Delphinus delphis* \*  
Common Dolphin

Cetacean Species or species habitat may occur within area

*Eubalaena australis* \*  
Southern Right Whale

Cetacean Species or species habitat may occur within area

*Lagenorhynchus obscurus* \*  
Dusky Dolphin

Cetacean Species or species habitat may occur within area

*Megaptera novaeangliae* \*  
Humpback Whale

Cetacean Species or species habitat may occur within area

*Stenella attenuata* \*  
Spotted Dolphin

Cetacean Species or species habitat may occur within area

*Tursiops aduncus*  
Spotted Bottlenose Dolphin

Cetacean Species or species habitat may occur within area

*Tursiops truncatus s. str.*  
Bottlenose Dolphin

Cetacean Species or species habitat may occur within area

## Commonwealth Lands [ [Dataset Information](#) ]

Communications, Information Technology and the Arts  
- Telstra Corporation Limited

## Places on the RNE [ [Dataset Information](#) ]

Note that not all Indigenous sites may be listed.

**Indigenous**

[Mount Kuring-gai Engravings NSW](#)

**Natural**

[Ku-ring-gai Chase National Park \(1980 boundary\) NSW](#)

[Muogamarra Nature Reserve NSW](#)

**Extra Information**

## State and Territory Reserves [ [Dataset Information](#) ]

[Ku-ring-gai Chase National Park, NSW](#)

[Marramarra National Park, NSW](#)

[Muogamarra Nature Reserve, NSW](#)

**Caveat**



The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the *Environment Protection and Biodiversity Conservation Act 1999*. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under "type of presence". For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the migratory and marine provisions of the Act have been mapped.

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites;
- seals which have only been mapped for breeding sites near the Australian continent.

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

## Acknowledgments

This database has been compiled from a range of data sources. Environment Australia acknowledges the following custodians who have contributed valuable data and advice:

- New South Wales National Parks and Wildlife Service
- Department of Sustainability and Environment, Victoria
- Department of Primary Industries, Water and Environment, Tasmania
- Department of Environment and Heritage, South Australia Planning SA
- Parks and Wildlife Commission of the Northern Territory
- Environmental Protection Agency, Queensland
- Birds Australia
- Australian Bird and Bat Banding Scheme
- Australian National Wildlife Collection



- [Natural history museums of Australia](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Atherton and Canberra](#)
- [University of New England](#)
- Other groups and individuals

ANUCLIM Version 1.8, Centre for Resource and Environmental Studies, Australian National University was used extensively for the production of draft maps of species distribution. Environment Australia is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

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Australian Government

Department of the Environment and Heritage



## Australian Heritage Database

### Search Results

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23 results found.

<a href="#"><u>Bar Island Cemetery Precinct</u></a>	Mooney Mooney, NSW	(Indicative Place) Register of the National Estate
<a href="#"><u>Beecroft Post Office</u></a> 95A Beecroft Rd	Beecroft, NSW	(Indicative Place) Register of the National Estate
<a href="#"><u>Big Bay Marramarra Creek Area</u></a>	Canoelands, NSW	(Registered) Register of the National Estate
<a href="#"><u>Blackwood House, Gates and Walling</u></a> 8 & 2/2A Beecroft Rd	Beecroft, NSW	(Registered) Register of the National Estate
<a href="#"><u>Brigadoon</u></a> 2 Brigg Rd	Epping, NSW	(Indicative Place) Register of the National Estate
<a href="#"><u>Galston Gorge Road Bridge</u></a> Galston Rd	Galston, NSW	(Registered) Register of the National Estate
<a href="#"><u>Hawkesbury Reserve (former)</u></a> Pacific Hwy	Brooklyn, NSW	(Indicative Place) Register of the National Estate
<a href="#"><u>Hawkesbury River Rail Bridge</u></a>	Brooklyn, NSW	(Registered) Register of the National Estate
<a href="#"><u>Higgins Family Cemetery</u></a> Quarry Rd	Hornsby, NSW	(Indicative Place) Register of the National Estate
<a href="#"><u>Highlands including Grounds and Trees</u></a> 9 Highlands Av	Wahroonga, NSW	(Registered) Register of the National Estate
<a href="#"><u>Hornsby Diatreme Area</u></a> Quarry Rd	Hornsby, NSW	(Registered) Register of the National Estate
<a href="#"><u>Indigenous Place</u></a>	Canoelands, NSW	(Registered) Register of the National Estate
<a href="#"><u>Indigenous Place</u></a>	Cowan, NSW	(Registered) Register of the



<u>Indigenous Place</u>	Mount Kuring-gai, NSW	National Estate (Registered) Register of the National Estate
<u>Indigenous Place</u>	Wisemans Ferry, NSW	(Registered) Register of the National Estate
<u>Ku-ring-gai Chase National Park (1980 boundary)</u> Ku-ring-gai Chase Rd	Bobbin Head, NSW	(Registered) Register of the National Estate
<u>Long Island Nature Reserve</u>	Brooklyn, NSW	(Registered) Register of the National Estate
<u>Marramarra National Park</u> Old Northern Rd	Wisemans Ferry, NSW	(Indicative Place) Register of the National Estate
<u>Mount Wilga</u> 2A Manor Rd	Hornsby, NSW	(Indicative Place) Register of the National Estate
<u>Muogamarra Nature Reserve</u> Glendale Rd	Cowan, NSW	(Registered) Register of the National Estate
<u>Solomon Wisemans Well</u> Singleton Rd	Wisemans Ferry, NSW	(Indicative Place) Register of the National Estate
<u>St Judes Anglican Church</u> 965 Old Northern Rd	Dural, NSW	(Registered) Register of the National Estate
<u>Stills Creek Area</u> 12 Knights Rd	Galston, NSW	(Indicative Place) Register of the National Estate

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Report Produced: Fri Feb 27 09:52:57 2004





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## Listing Heritage Items

### State Heritage Inventory Search Results

### Statutory Listed Items

Information and items listed in the State Heritage Inventory come from a number of sources. This means several entries for the same heritage item in the database. For clarity, the search results have been divided into two sections.

- The first section contains items listed on the State Heritage Register, covered by an Interim Heritage Order under section 130 of the NSW Heritage Act. This information is provided by the NSW Heritage Office.
- The second section contains items listed by Local Councils & Shires and State Government Agencies. These also contain additional information on some of the items listed in the first section.

Section 1. Items listed under the NSW Heritage Act.

The search results can be resorted by clicking on the **(sort)** option at the top of each column.

Item Name (sort)	Address (sort)	Suburb (sort)	LGA (sort)	State
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There were no records in this section matching your search criteria.

Section 2. Items listed by Local Government and State agencies.

Item Name (sort)	Address (sort)	Suburb (sort)	LGA (sort)	Information
Cowan		Cowan	Hornsby	SGOV
Cowan Railway station	Pacific Highway	Cowan	Hornsby	LGOV
Cowan Railway Station	Pacific Highway	Cowan	Hornsby	LGOV
Glendale Farm	Glendale Road	Cowan	Hornsby	LGOV
House	1177 Pacific Highway	Cowan	Hornsby	LGOV
House	1195 Pacific Highway	Cowan	Hornsby	LGOV
House	26 Alberta Avenue	Cowan	Hornsby	LGOV
Muogamarra Nature Reserve	Pacific Highway	Cowan	Hornsby	LGOV
Quarry (original) and House Ruins (near quarry)	Pacific Highway	Cowan (North of)	Hornsby	LGOV
Street Trees	Pacific Highway	Cowan (South Entry)	Hornsby	LGOV

There were **10** records in this section matching your search criteria.

There was a total of **10** records matching your search criteria.

Key:

LGA = Local Government Area

GAZ= NSW Government Gazette (statutory listings prior to 1997), HGA = Heritage Grant Application, HS = Heritage Study, LGOV = Local Government Agency.

**Note: The Heritage Office seeks to keep the State Heritage Inventory (SHI) up to date, however listings in Local and Regional Environmental Plans (LEPs and REPs) may not yet be included with the relevant Local Council or Shire for the most recent listings.**







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Section 1. Items listed under the NSW Heritage Act.

The search results can be resorted by clicking on the **(sort)** option at the top of each column.

Item Name (sort)	Address (sort)	Suburb (sort)	LGA (sort)	State
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There were no records in this section matching your search criteria.

Section 2. Items listed by Local Government and State agencies.

Item Name (sort)	Address (sort)	Suburb (sort)	LGA (sort)	Info
Bennets Bay Jetty	Berowra Creek (E side)	Berowra Waters	Hornsby	LGOV
Berowra Railway Station		Berowra	Hornsby	SGOV
Berowra Valley Regional Park	Berowra Waters Road	Berowra	Hornsby	LGOV
Boatshed	Berowra Waters Road (at ferry terminal)	Berowra Waters	Hornsby	LGOV
Bungalow	48 Berowra Waters Road	Berowra	Hornsby	LGOV
Community Hall and Grounds	41 Berowra Waters Road	Berowra	Hornsby	LGOV
Garden	2-4 Hillcrest Street	Berowra	Hornsby	LGOV
Garden, including Oak Tree	11-15 Yallambee	Berowra	Hornsby	LGOV
George Peat's Farmhouse Remains	Peats Bight	Berowra Waters	Hornsby	LGOV
Hall	14 Crowley Road	Berowra	Hornsby	LGOV
House	25 Goodwyn Road	Berowra	Hornsby	LGOV
House	1015 Pacific Highway	Berowra	Hornsby	LGOV
House	77 Berowra Waters Road	Berowra	Hornsby	LGOV
House	75 Berowra Waters Road	Berowra	Hornsby	LGOV



House	36-38 Currawong Road	Berowra	Hornsby	LGOV
House	21A Anembo Road	Berowra	Hornsby	LGOV
House	10 Berowra Waters Road	Berowra	Hornsby	LGOV
House	15 Crowley Road	Berowra	Hornsby	LGOV
House	29 Berowra Waters Road	Berowra	Hornsby	LGOV
House	3A Crowley Road	Berowra	Hornsby	LGOV
House	5 Wanill Place	Berowra	Hornsby	LGOV
House	7 Wanill Place	Berowra	Hornsby	LGOV
House and Garden	24 Berowra Waters Road	Berowra	Hornsby	LGOV
Kiosk / Teashop	Berowra Waters Road (at ferry terminal)	Berowra Waters	Hornsby	LGOV
La Mancha Caravan Park Grounds	899-903 Pacific Highway	Berowra	Hornsby	LGOV
Old road	Berowra, Peats Bight	Berowra Waters	Hornsby	LGOV
River Settlement - Capo di Monte	Collingridge Point	Berowra Creek	Hornsby	LGOV
Roadside Trees	Rawson Road	Berowra	Hornsby	LGOV
Scenic Road through Bushland	Berowra Waters Road	Berowra	Hornsby	LGOV
Shop	7 Bridge Street	Berowra Waters	Hornsby	LGOV
Street Trees	Waratah Road	Berowra	Hornsby	LGOV
Street Trees	Crowley Road	Berowra	Hornsby	LGOV
Street Trees	110-112 (outside) Berowra Waters Road	Berowra	Hornsby	LGOV
Street Trees	22 Hillcrest Street	Berowra	Hornsby	LGOV
Street Trees	Pacific Highway (E side)	Berowra	Hornsby	LGOV
Sunbeam	83 Berowra Waters Road	Berowra	Hornsby	LGOV
Taracoonee	Sunny Corner	Berowra Waters	Hornsby	LGOV
The Laurels and Garden	2 Waratah Road	Berowra	Hornsby	LGOV
Toilet block (stone)	Berowra Waters Road (near ferry terminal)	Berowra Waters	Hornsby	LGOV
Trees	Turner Road	Berowra Heights	Hornsby	LGOV
Vehicular Cable ferry	Berowra Waters Road	Berowra Waters	Hornsby	LGOV
Whitianga	24 Turner Road	Berowra	Hornsby	LGOV

There were **42** records in this section matching your search criteria.

There was a total of **42** records matching your search criteria.

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Section 1. Items listed under the NSW Heritage Act.

The search results can be resorted by clicking on the **(sort)** option at the top of each column.

Item Name (sort)	Address (sort)	Suburb (sort)	LGA (sort)
Ahimsa	67 Cobran Road	Cheltenham	Hornsby
Bridge over Tunks (Pearces) Creek	Main Road 161	Hornsby	Hornsby
Edgeworth David's House and Grounds	49 Burdett Street	Hornsby	Hornsby
Gilligaloola	82-84 Pennant Hills Road	Normanhurst	Hornsby
Hawkesbury River rail bridge	Main Northern railway	Brooklyn	Gosford
Hawkesbury River Railway Station group	Main Northern railway	Brooklyn	Hornsby
Higgins Family Cemetery	Quarry Road	Hornsby	Hornsby
Highlands	9 Highlands Avenue	Wahroonga	Hornsby
Hornsby railway Divisional Engineer's furniture	SRA Division Main Northern railway	Hornsby	Hornsby
Mount Wilga House	Rosamond Street	Hornsby	Hornsby
Pipe Organ from Bourke Street Congregational Church (former)	School Road	Galston	Hornsby

There were **11** records in this section matching your search criteria.

Section 2. Items listed by Local Government and State agencies.

Item Name (sort)	Address (sort)	Suburb (sort)	LGA (sort)
Abbotsleigh and Garden	11-15 The Crescent	Pennant Hills	Hornsby



Ahimsa and grounds	130-146 Malton Road	Cheltenham	Hornsby
AMP building	187 Pacific Highway	Hornsby	Hornsby
Araluen	2-4 Brigadoon Court	Epping	Hornsby
Arcadia Community Hall	Arcadia Road	Arcadia	Hornsby
Arcadia General Store	91 Arcadia Road	Arcadia	Hornsby
Arcadia Public School (original Building)	140 Arcadia Road	Arcadia	Hornsby
Armagh	82 Carlingford Road	Epping West	Hornsby
Ashby	94 The Crescent	Cheltenham	Hornsby
Asheldom	47 Essex Street	Epping	Hornsby
Asquith Park	Pretoria Parade	Hornsby	Hornsby
Asquith Railway Station		Asquith	Hornsby
Aston	162 Copeland Road	Beecroft	Hornsby
Baden Powell Scout Centre	19 Orchard Street	Pennant Hills	Hornsby
Ballast heap	Berowra and Murramurra Creek (at junction)	Canoelands	Hornsby
Banksia Cottage Quarry	Sallaway Road	Galston	Hornsby
Barker College	Pacific Highway	Hornsby	Hornsby
Barker College Group of Buildings, Grounds & Gate	91 Pacific Highway	Hornsby	Hornsby
Barker College: Junior School Building	College Crescent	Hornsby	Hornsby
Barncleuth and Grounds	17 The Crescent	Pennant Hills	Hornsby
Beecroft Community Centre	111 Beecroft Road	Beecroft	Hornsby
Beecroft Post Office	95A Beecroft Road	Beecroft	Hornsby
Beecroft Public School (excluding grounds)	90-96 Beecroft Road	Beecroft	Hornsby
Beecroft Railway Station and Gardens	97 Sutherland Road	Beecroft	Hornsby
Beecroft Railway Station Group		Beecroft	Hornsby
Beecroft Treasure House	3 Wongala Crescent	Beecroft	Hornsby
Belmont Restaurant	241 Pacific Highway	Hornsby	Hornsby
Benchmark - Waddell Ridge group	Calabash Road	Arcadia	Hornsby
Bennets Bay Jetty	Berowra Creek (E side)	Berowra Waters	Hornsby
Berowra Railway Station		Berowra	Hornsby
Berowra Valley Regional Park	Berowra Waters Road	Berowra	Hornsby
Berry Park	37X Kur-ing-gai Chase Road	Mount Colah	Hornsby
Beveren and Garden	110 - 112 Sutherland Road	Beecroft	Hornsby
Billiard Room (former)	9 Yallaroi Parade	Dangar Island	Hornsby
Binbrook	7 Rofe Crescent	Hornsby Heights	Hornsby
Bingley Hall	269 Pacific Highway	Hornsby	Hornsby
Blackbutt Trees	Grantham Crescent	Dangar Island	Hornsby



Blackwood House and Garden	8 Beecroft Road (opp Observatory Pk)	Beecroft	Hornsby
Blackwood Memorial Sanctuary	2X Beecroft Road	Beecroft	Hornsby
Blinkbonnie	206 Brooklyn Road	Brooklyn	Hornsby
Boatshed	Berowra Waters Road (at ferry terminal)	Berowra Waters	Hornsby
Boonga	12 Mason Avenue	Cheltenham	Hornsby
Booth Park	82 Sutherland Road	Cheltenham	Hornsby
Bouldrewood	172 New Line Road	Cherrybrook	Hornsby
Bouldrewood Garden	172 New Line Road	Cherrybrook	Hornsby
Bradleys Beach	43X Grantham Crescent	Dangar Island	Hornsby
Braeside	11 Hampden Road	Pennant Hills	Hornsby
Bramhall	12 Britannia Street	Pennant Hills	Hornsby
Brickworks, wall and bushland	Pennant Hills Road	Thornleigh	Hornsby
Brierden - Garden	55 Myra Street	Wahroonga	Hornsby
Brierdene	55 Myra Street	Wahroonga	Hornsby
Brinawa	44 William Street	Hornsby	Hornsby
Brooklyn Cemetery	Brooklyn Road	Brooklyn	Hornsby
Brooklyn Park	87 Brooklyn Road	Brooklyn	Hornsby
Brooklyn Public School (excluding grounds)	106 Brooklyn Road	Brooklyn	Hornsby
Brooklyn Railway Dams	Kurin-gai Chase National Park	Brooklyn	Hornsby
Brooklyn Stationmaster's House	1 William Street (on hillside E of railway station)	Brooklyn	Hornsby
Brown's Boatshed	10-16 James Road	Brooklyn	Hornsby
Brunoy	144-146 Beecroft Road	Beecroft	Hornsby
Bungalow	48 Berowra Waters Road	Berowra	Hornsby
Bushland	Railway Land	Beecroft to Pennant Hills	Hornsby
Bushland	Beecroft Road (btw Carlingford Road & Kandy Ave)	Epping	Hornsby
Bushland	Wongala Crescent	Pennant Hills	Hornsby
Bushland - Cheltenham Park	1X Castle Howard Road	Beecroft	Hornsby
Bushland in Vimiera and Forrester Parks	Albuera Road	Epping	Hornsby
Bushland Reserve	Sutherland Road - Byles	Beecroft	Hornsby
Bushland Reserve	Middle Dural Road	Middle Dural	Hornsby
Cable Ferry	River Road	Wisemans Ferry	Hornsby
Camira Pennant Hills Veterinary Hospital	418 Pennant Hills Road	Pennant Hills	Hornsby
Campbell Park	Wilga Place	Pennant Hills	Hornsby



Carmel	115 Beecroft Road	Cheltenham	Hornsby
Carnralla	368 Pacific Highway	Hornsby	Hornsby
Cemetery, Church Ruins and Memorial	Hawkesbury River	Bar Island	Hornsby
Centenary Design Centre Mc Caskill Music Centre, Develop't Office	The Avenue	Waitara	Hornsby
Cheddington and Stables	402 Pennant Hills Road	Pennant Hills	Hornsby
Cheltenham Recreation Club - Grounds	60-74 The Crescent	Cheltenham	Hornsby
Cherrybrook Pre-school and Community Centre	144 New Line Road	Cherrybrook	Hornsby
Cherrybrook Uniting Church Hall and Cemetery	134 New Line Road	Cherrybrook	Hornsby
Cherrygarth and garden	42 Woonona Avenue	Wahroonga	Hornsby
Chester Street Uniting Church and grounds	4A Chester Street	Epping	Hornsby
Chetwynd	138 Copeland Road	Beecroft	Hornsby
Chilworth Reserve	11-14X Mary Street	Beecroft	Hornsby
Christian Science Church	19 Dural Street	Hornsby	Hornsby
Church and Grounds (former)	179 Beecroft Road	Cheltenham	Hornsby
Cistern - Waddell Ridge group	Calabash Road (north of dwelling and downslope)	Arcadia	Hornsby
Combanning	140 Beecroft Road	Beecroft	Hornsby
Community Hall and Grounds	41 Berowra Waters Road	Berowra	Hornsby
Cottage	70 Chester Street	Epping	Hornsby
Cottage	40 Surrey Street	Epping	Hornsby
Cottage	23 Pacific Highway	Wahroonga	Hornsby
Cottage	238 Pacific Highway	Hornsby	Hornsby
Cottage	180 Brooklyn Road	Brooklyn	Hornsby
Cottage	7 George Street	Brooklyn	Hornsby
Cottage	176 Brooklyn Road	Brooklyn	Hornsby
Cottage	52 Brooklyn Road	Brooklyn	Hornsby
Cottage	1 Halls Road	Arcadia	Hornsby
Cottage	2 Smalls Road	Arcadia	Hornsby
Cottage	78 Kent Road	Epping	Hornsby
Cowan		Cowan	Hornsby
Cowan Railway station	Pacific Highway	Cowan	Hornsby
Cowan Railway Station	Pacific Highway	Cowan	Hornsby
Cranbrook	2 Malton Road	Beecroft	Hornsby
Crosslands Reserve	Sommerville Road (via)	Hornsby Heights	Hornsby



Culvert	Sallaway Road (at bottom of, as it crosses creek)	Galston	Hornsby
Curiosity Shop	37 Alexandria Parade	Waitara	Hornsby
Dal wah	237 Pacific Highway (backs onto Roper Lane)	Hornsby	Hornsby
Dangar's Water Tower	9 Neotsfield Avenue	Dangar Island	Hornsby
Davidson Park	Denman Parade	Normanhurst	Hornsby
Dence Park	Stanley Road	Epping	Hornsby
Devlins Creek Bushland Reserve	Orchard Street	Beecroft	Hornsby
Diatreme, Hornsby Quarry and surrounding vegetation	Quarry Road	Hornsby	Hornsby
Doonba	5 Railway Parade	Pennant Hills	Hornsby
Dumbrell House	79 Arcadia Road	Galston	Hornsby
Dwelling remains - Waddell Ridge group	Waddell Ridge (across creek from)	Arcadia	Hornsby
Edensor	203 Beecroft Road	Cheltenham	Hornsby
Edensor	203 Beecroft Road	Cheltenham	Hornsby
Edgeworth David's House and Grounds	49 Burdett Street	Hornsby	Hornsby
Eltham	74 Beecroft Road	Beecroft	Hornsby
Emmaus Bible College	23-27 Ray Road	Epping	Hornsby
English Oak Tree	67A Murray Farm Road	Beecroft	Hornsby
Epping		Epping	Hornsby
Epping Footbridge	At Station	Epping	Hornsby
Epping Park	66X Norfolk Road	Epping	Hornsby
Epping Public School	2-16 Norfolk Road	Epping	Hornsby
Epping West Public School (excl. other buildings and grounds)	96-104 Carlingford Road	Epping West	Hornsby
Esther's Cottage	35 Hinemoa Avenue	Normanhurst	Hornsby
Eudora and Garden	449 Pennant Hills Rd	Pennant Hills	Hornsby
Eureka	17 Malton Road	Cheltenham	Hornsby
Eureka	17 Malton Road	Beecroft	Hornsby
Fence	37 Wongala Crescent	Beecroft	Hornsby
Fence	34 Ramsay Road	Pennant Hills	Hornsby
Fence	35 Ramsay Road	Pennant Hills	Hornsby
Fenceline - Waddell Ridge group	Calabash Street	Arcadia	Hornsby
Fernleigh Park	86X Hannah Street and Chapman Road (b/w)	Beecroft	Hornsby
Field terracing - Waddell Ridge group	Calabash Road	Arcadia	Hornsby
Fire Trail	from E end of McCallums	Arcadia	Hornsby



	Avenue ( from E end of) to		
Folkestone	87 Oxford Street	Epping	Hornsby
Footings - Waddell Ridge group	Calabash Road	Arcadia	Hornsby
Footpath - sandstone paved	Karoola Street	Brooklyn	Hornsby
Ford's Farm	Singleton Road	Wisemans Ferry	Hornsby
Forest Park	Blaxland Road	Epping	Hornsby
Fretus Hotel Ruins	McCallums Avenue (east end)	Calabash Point	Hornsby
Fruit Trees	54 Crosslands Road	Galston	Hornsby
Galston Branch Library	357 Galston Road	Galston	Hornsby
Galston Community Centre	37 Arcadia Road	Galston	Hornsby
Galston Gorge road buttressing	Galston Road	Galston	Hornsby
Galston Gorge Timber Bridge	Galston Road	Galston	Hornsby
Galston Gorge Water troughs	Galston Road (S side)	Galston	Hornsby
Galston High School, Waddell Cottage and water trough	403 Galston Road	Galston	Hornsby
Galston Park and Memorial	412X Galston Road	Galston	Hornsby
Galston Public School original building and grounds	39-45 Arcadia Road	Galston	Hornsby
Galston Road stone culvert	Galston Road (under road curve at Lookout)	Galston	Hornsby
Garden	1 Pacific Highway	Wahroonga	Hornsby
Garden	8 Beecroft Road	Beecroft	Hornsby
Garden	16 Abuklea Road	Epping	Hornsby
Garden	163 Copeland Road (east)	Beecroft	Hornsby
Garden	161 Copeland Road (east)	Beecroft	Hornsby
Garden	45 Myra Street	Hornsby	Hornsby
Garden	7-9 Myra Street	Wahroonga	Hornsby
Garden	121 Copeland Road	Beecroft	Hornsby
Garden	156 Copeland Road	Beecroft	Hornsby
Garden	547 Pacific Highway	Mount Colah	Hornsby
Garden	27A Chester Street	Epping	Hornsby
Garden	93 Oxford Street	Epping	Hornsby
Garden	154 Copeland Road	Beecroft	Hornsby
Garden	155 Copeland Road	Beecroft	Hornsby
Garden	151 Copeland Road	Beecroft	Hornsby
Garden	149 Copeland Road	Beecroft	Hornsby
Garden	44 Beecroft Road	Beecroft	Hornsby



Garden	68 Beecroft Road	Beecroft	Hornsby
Garden	25 Wongala Crescent	Beecroft	Hornsby
Garden	132 Midson Road	Epping	Hornsby
Garden	92 Dartford Road	Normanhurst	Hornsby
Garden	136 Beecroft Road	Beecroft	Hornsby
Garden	10-12 The Bouvelarde	Cheltenham	Hornsby
Garden	14 The Boulevarde	Cheltenham	Hornsby
Garden	5 The Boulevarde	Cheltenham	Hornsby
Garden	50 The Crescent	Cheltenham	Hornsby
Garden	44 The Crescent	Cheltenham	Hornsby
Garden	46 The Crescent	Cheltenham	Hornsby
Garden	48 The Crescent	Cheltenham	Hornsby
Garden	7 The Promenade	Cheltenham	Hornsby
Garden	7 The Crescent	Pennant Hills	Hornsby
Garden	4 Lisgar Ave	Hornsby	Hornsby
Garden	36 Pennant Hills Road	Normanhurst	Hornsby
Garden	152 Beecroft Road	Cheltenham	Hornsby
Garden	67 Duffy Ave	Thornleigh	Hornsby
Garden	163 New Line Road	Cherrybrook	Hornsby
Garden	46 Bundarra Ave	Wahroonga	Hornsby
Garden	54 Bundarra Ave	Wahroonga	Hornsby
Garden	128 Beecroft Road	Beecroft	Hornsby
Garden	15 Kirkham Street	Beecroft	Hornsby
Garden	43 Bundarra Ave	Wahroonga	Hornsby
Garden	45 Bundarra Ave	Wahroonga	Hornsby
Garden	51 Bundarra Ave	Wahroonga	Hornsby
Garden	55 Bundarra Ave	Wahroonga	Hornsby
Garden	27 Royston Parade	Asquith	Hornsby
Garden	2-4 Hillcrest Street	Berowra	Hornsby
Garden	183 Beecroft Road	Cheltenham	Hornsby
Garden - Eltham	5A Beecroft Road	Beecroft	Hornsby
Garden - The Poplars	64-66 Norfolk Road	Epping	Hornsby
Garden and Fence	44 Bundarra Avenue	Wahroonga	Hornsby
Garden and Trees- Mercy Life Centre	Pacific Highway	Wahroonga	Hornsby
Garden Eudora	449 Pennant Hills Road	Pennant Hills	Hornsby
Garden Gilligaloola	82 Pennant Hills Road	Normanhurst	Hornsby



Garden group	17, 19, 21 & 23 Trelawney Street	Thornleigh	Hornsby
Garden Loch Maree	237 Pennant Hills Road	Thornleigh	Hornsby
Garden Mt Errington	1 Rosemead Road	Hornsby	Hornsby
Garden stable and wall	203 Beecroft Road Edensor	Cheltenham	Hornsby
Garden Tree	12 Rosemead Road	Hornsby	Hornsby
Garden tree	Salmon Close	Asquith	Hornsby
Garden tree	253 Pennant Hills Road	Thornleigh	Hornsby
Garden Tree	121-123 David Road	Castle Hill	Hornsby
Garden Trees	52 Balmoral Street	Waitara	Hornsby
Garden trees	32 Galston Road	Hornsby	Hornsby
Garden Trees	5-7 Essex Street	Epping	Hornsby
Garden Trees	41 Dural Street	Hornsby	Hornsby
Garden, fence and gateposts	142 Beecroft Road	Beecroft	Hornsby
Garden, fence and hedge	116 Beecroft Road	Beecroft	Hornsby
Garden, fence and paths	32 Dural Street	Hornsby	Hornsby
Garden, including Oak Tree	11-15 Yallambee	Berowra	Hornsby
Gardens	28-36 Balmoral Street	Waitara	Hornsby
Gardens	2, 2a & 4 Beecroft Road	Beecroft	Hornsby
Gardens	61-63 Pretoria Street	Hornsby	Hornsby
Gardens	40-56 Hillmont Road	Thornleigh	Hornsby
Gardens	6, 8 & 10 Lisgar Ave	Hornsby	Hornsby
Gardens	7, 9, 11, 15 & 17 Capella Place	Normanhurst	Hornsby
Gardens	2, 3, 5, 6 & 7 Bluegum Street	Normanhurst	Hornsby
Gardens	2-4 Boronia Avenue	Beecroft	Hornsby
Geelan's House	69 Arcadia Road	Galston	Hornsby
Gentlemen's Halt Inn Ruins		Canoelands	Hornsby
George Peat's Farmhouse Remains	Peats Bight	Berowra Waters	Hornsby
Gilligaloola	82 Pennant Hills Road	Normanhurst	Hornsby
Glen-Ayr	23 The Crescent	Pennant Hills	Hornsby
Glenbower	52C Beecroft Road	Beecroft	Hornsby
Glendale Farm	Glendale Road	Cowan	Hornsby
Glenorie	44 Norfolk Road	Epping	Hornsby
Glenorie Memorial Hall	1409 Old Northern Road	Glenorie	Hornsby
Glenowen and Garden	173-177 David Road	Castle Hill	Hornsby
Gordan	8 Britannia Street	Pennant Hills	Hornsby
Gordon Footbridge	At Station	Gordon	Hornsby



Governor Phillip Memorial	Dangar Road	Brooklyn	Hornsby
Great North Road - b/w West Pennant Hills and Dural	New Line Road	West Pennant Hills and Dural (b/w)	Hornsby
Great North Road b/w Baulkham Hills and Wisemans Ferry	Old Northern Road	Baulkham Hills and Wisemans Ferry (b/w)	Hornsby
Greenway Park	69-85X Shepherds Drive	Cherrybrook	Hornsby
Grounds of Waitara Public School	Edgeworth David Ave	Waitara	Hornsby
Group of Shops	10-16 Oxford Street	Epping	Hornsby
Gwydir	40 Norfolk Road	Epping	Hornsby
Hall	14 Crowley Road	Berowra	Hornsby
Hawkesbury Rail Bridge (1946)	Brooklyn, Hawkesbury river, N shore of Long Island,	Brooklyn	Hornsby
Hawkesbury Rail bridge central const. Dock (1946)	Brooklyn, N shore of Long Island, W of present rail	Brooklyn	Hornsby
Hawkesbury Rail Bridge, cast-iron memorial (1889)	Long Island ( on top of 1889 railway pylon on N sh	Brooklyn	Hornsby
Hawkesbury River Railway Station	Dangar Road	Brooklyn	Hornsby
Hawkesbury River Station Group		Brooklyn	Hornsby
Hawkesbury River Underbridge		Brooklyn	Hornsby
Hazelhurst	1509-1517 Old Northern Road	Glenorie	Hornsby
Higgins Family Cemetery	Quarry Road	Hornsby	Hornsby
Highlands House and garden	9 Highlands Avenue	Wahroonga	Hornsby
Hillcrest	16 Sanctuary Close	Cherrybrook	Hornsby
Hilton	4 Dawson Avenue	Thornleigh	Hornsby
Hopeville Park	11X Marine Crescent	Hornsby Heights	Hornsby
Hornsby (North End) Footbridge	At Station	Hornsby	Hornsby
Hornsby (South End) Footbridge	At Station	Hornsby	Hornsby
Hornsby Cinema	155 Pacific Highway	Hornsby	Hornsby
Hornsby Conservation Area		Hornsby	Hornsby
Hornsby Court House	292 Pacific Highway	Hornsby	Hornsby
Hornsby Furniture		Hornsby	Hornsby
Hornsby Girls High School	10-12 Edgeworth David Avenue	Hornsby	Hornsby
Hornsby Hospital	38-76 Palmerston Road	Hornsby	Hornsby
Hornsby Ku-ring-gai Hospital and Community Health Service	26 Pulbrook Parade	Hornsby	Hornsby
Hornsby Park & Lone Pine	203X Pacific Highway (opp Council Chambers)	Hornsby	Hornsby
Hornsby Railway Station	Station Street	Hornsby	Hornsby
Hornsby Railway Station and Yard		Hornsby	Hornsby



Hornsby Rifle Range	Rosamond Street (via Mt Wilga Centre)	North Hornsby	Hornsby
Hornsby Shire Council Chambers	296 Pacific Highway	Hornsby	Hornsby
Hornsby War Memorial	155X Pacific Highway (opp Railway Ped Bridge)	Hornsby	Hornsby
Hornsby War Memorial	2 High Street	Hornsby	Hornsby
House	38 Grantham Crescent	Dangar Island	Hornsby
House	1355 Old Northern Road	Dural	Hornsby
House	32 Abuklea Road	Epping	Hornsby
House	21-23 Abuklea Road	Epping	Hornsby
House	76 Essex Street	Epping	Hornsby
House	84 Essex Street	Epping	Hornsby
House	48 Oxford Street	Epping	Hornsby
House	73A Oxford Street	Epping	Hornsby
House	33 Norfolk Road	Epping	Hornsby
House	61 Norfolk Road	Epping	Hornsby
House	70 Norfolk Road	Epping	Hornsby
House	10 Cheltenham Road	Cheltenham	Hornsby
House	15 Chorley Avenue	Cheltenham	Hornsby
House	3 Chorley Avenue	Cheltenham	Hornsby
House	24 Boronia Avenue	Cheltenham	Hornsby
House	32 Boronia Avenue	Cheltenham	Hornsby
House	1 Murray Road	Beecroft	Hornsby
House	50 The Crescent	Cheltenham	Hornsby
House	52 The Crescent	Cheltenham	Hornsby
House	54 The Crescent	Cheltenham	Hornsby
House	56 The Crescent	Cheltenham	Hornsby
House	158 Beecroft Road	Cheltenham	Hornsby
House	170 Beecroft Road	Cheltenham	Hornsby
House	174 Beecroft Road	Cheltenham	Hornsby
House	15 The Boulevarde	Cheltenham	Hornsby
House	11 The Boulevarde	Cheltenham	Hornsby
House	24 The Boulevarde	Cheltenham	Hornsby
House	26 The Boulevarde	Cheltenham	Hornsby
House	37 Malton Road	Beecroft	Hornsby
House	49 Malton Road	Beecroft	Hornsby
House	28 Malton Road	Beecroft	Hornsby
House	1 Wandeen Avenue	Beecroft	Hornsby



House	39-41 Wongala Crescent (part of Arden School)	Beecroft	Hornsby
House	61 Beecroft Road	Beecroft	Hornsby
House	86 Beecroft Road	Beecroft	Hornsby
House	148 Copeland Road	Beecroft	Hornsby
House	157 Copeland Road	Beecroft	Hornsby
House	188 Copeland Road	Beecroft	Hornsby
House	190 Copeland Road	Beecroft	Hornsby
House	116 Copeland Road	Beecroft	Hornsby
House	112 Beecroft Road	Beecroft	Hornsby
House	23 Fiona Road	Beecroft	Hornsby
House	66 Murray Farm Road	Beecroft	Hornsby
House	559A North Rocks Road	Carlingford	Hornsby
House	72 Carlingford Road	Epping	Hornsby
House	34 Carlingford Road	Epping	Hornsby
House	67 Midson Road	Epping	Hornsby
House	10 Rosebank Avenue	Epping	Hornsby
House	9 Rosebank Avenue	Epping	Hornsby
House	5 Malton Road	Beecroft	Hornsby
House	59 Beecroft Road	Beecroft	Hornsby
House	83 Beecroft Road	Beecroft	Hornsby
House	127 Copeland Road	Beecroft	Hornsby
House	30 Hannah Street	Beecroft	Hornsby
House	38 Hannah Street	Beecroft	Hornsby
House	40 Hannah Street	Beecroft	Hornsby
House	51 Hannah Street	Beecroft	Hornsby
House	42 Hannah Street	Beecroft	Hornsby
House	44 Hannah Street	Beecroft	Hornsby
House	29 Hannah Street	Beecroft	Hornsby
House	88 Carlingford Road	Epping	Hornsby
House	108 Pennant Parade	Epping	Hornsby
House	140 Ray Road	Epping	Hornsby
House	184 Ray Road	Epping	Hornsby
House	80 Ray Road	Epping	Hornsby
House	27 Loftus Road	Pennant Hills	Hornsby
House	51 Loftus Road	Pennant Hills	Hornsby



House	75 Victoria Road	West Pennant Hills	Hornsby
House	5 Fairburn Avenue	West Pennant Hills	Hornsby
House	106 Cardinal Avenue	West Pennant Hills	Hornsby
House	25-27 Stevens Street	Pennant Hills	Hornsby
House	26 Stevens Street	Pennant Hills	Hornsby
House	9 Weemala Road	Pennant Hills	Hornsby
House	28 Greycliffe Avenue	Pennant Hills	Hornsby
House	17 Greycliffe Avenue	Pennant Hills	Hornsby
House	20 Warne Street	Pennant Hills	Hornsby
House	6 Thorn Street	Pennant Hills	Hornsby
House	68 Bellamy Street	Pennant Hills	Hornsby
House	49 Ramsay Road	Pennant Hills	Hornsby
House	22 Westwood Street	Pennant Hills	Hornsby
House	6 Westwood Street	Pennant Hills	Hornsby
House	24 Warne Street	Pennant Hills	Hornsby
House	7 Fulbourne Avenue	Pennant Hills	Hornsby
House	4 The Crescent	Pennant Hills	Hornsby
House	6 The Crescent	Pennant Hills	Hornsby
House	10 The Crescent	Pennant Hills	Hornsby
House	4 Harold Avenue	Pennant Hills	Hornsby
House	23 Pomona Street	Pennant Hills	Hornsby
House	22 Pomona Street	Pennant Hills	Hornsby
House	17 Pomona Street	Pennant Hills	Hornsby
House	15 Pomona Street	Pennant Hills	Hornsby
House	12 Pomona Street	Pennant Hills	Hornsby
House	14 The Crescent	Pennant Hills	Hornsby
House	18 Britannia Street	Pennant Hills	Hornsby
House	43 George Street	Pennant Hills	Hornsby
House	6 George Street	Pennant Hills	Hornsby
House	8 Albion Street	Pennant Hills	Hornsby
House	7 Albion Street	Pennant Hills	Hornsby
House	317-321 Pennant Hills Road	Pennant Hills	Hornsby
House	311 Pennant Hills Road	Thornleigh	Hornsby
House	37 Bellevue Street	Thornleigh	Hornsby
House	3 Pritchard Street	Thornleigh	Hornsby
House	17 Wells Street	Thornleigh	Hornsby



House	80 The Esplanade	Thornleigh	Hornsby
House	17 The Esplanade	Thornleigh	Hornsby
House	28 Duffy Avenue	Thornleigh	Hornsby
House	32 Pennant Hills Road	Normanhurst	Hornsby
House	45 Pennant Hills Road	Normanhurst	Hornsby
House	3 Fraser Road	Normanhurst	Hornsby
House	92 Dartford Road	Thornleigh	Hornsby
House	24 Dartford Road	Thornleigh	Hornsby
House	62 Malsbury Road	Normanhurst	Hornsby
House	40 Malsbury Road	Normanhurst	Hornsby
House	25 Pacific Highway	Wahroonga	Hornsby
House	8 Pacific Highway	Wahroonga	Hornsby
House	22 Pacific Highway	Wahroonga	Hornsby
House	4 Clifford Avenue	Thornleigh	Hornsby
House	9 Station Street	Thornleigh	Hornsby
House	1 Orchard Street	Thornleigh	Hornsby
House	4 Yarrara Road	Pennant Hills	Hornsby
House	6 Yarrara Road	Pennant Hills	Hornsby
House	24 Duffy Avenue	Thornleigh	Hornsby
House	4 Mount Pleasant Avenue	Normanhurst	Hornsby
House	31 Ingalara Avenue	Wahroonga	Hornsby
House	27 Churchill Avenue	Wahroonga	Hornsby
House	34 Highlands Avenue	Wahroonga	Hornsby
House	50 Bundarra Avenue	Wahroonga	Hornsby
House	1A Clarke Road	Waitara	Hornsby
House	1A Brentford Road	Wahroonga	Hornsby
House	52 Ingram Road	Wahroonga	Hornsby
House	62 Ingram Road	Wahroonga	Hornsby
House	59 Edgeworth David Avenue	Waitara	Hornsby
House	33 Palmerston Road	Waitara	Hornsby
House	56 Balmoral Street	Waitara	Hornsby
House	5 Waitara Avenue	Waitara	Hornsby
House	75 Balmoral Street	Hornsby	Hornsby
House	394 Pacific Highway	Hornsby	Hornsby
House	344 Pacific Highway	Hornsby	Hornsby
House	21 Bridge Road	Hornsby	Hornsby



House	33 Bridge Road	Hornsby	Hornsby
House	3 Bridge Road	Hornsby	Hornsby
House	249 Pacific Highway	Hornsby	Hornsby
House	24 William Street	Hornsby	Hornsby
House	33 Dural Street	Hornsby	Hornsby
House	39 Dural Street	Hornsby	Hornsby
House	32 William Street	Hornsby	Hornsby
House	10 Lisgar Road	Hornsby	Hornsby
House	52 William Street	Hornsby	Hornsby
House	64 Pretoria Parade	Hornsby	Hornsby
House	38 Pretoria Parade	Hornsby	Hornsby
House	2 Rosemead Road	Hornsby	Hornsby
House	1 Galston Road	Hornsby	Hornsby
House	45 Rosamond Street	Hornsby	Hornsby
House	34 Rosamond Street	Hornsby	Hornsby
House	2-6 Dilkera Close	Hornsby	Hornsby
House	178 Sherbrook Road	Asquith	Hornsby
House	5 Dudley Street	Asquith	Hornsby
House	32 Royston Parade	Asquith	Hornsby
House	1 Karoola Street	Brooklyn	Hornsby
House	3 Karoola Street	Brooklyn	Hornsby
House	23 Karoola Street	Brooklyn	Hornsby
House	12 Karoola Street	Brooklyn	Hornsby
House	8 Karoola Street	Brooklyn	Hornsby
House	2 Karoola Street	Brooklyn	Hornsby
House	5 George Street	Brooklyn	Hornsby
House	95-97 Brooklyn Road	Brooklyn	Hornsby
House	51 Brooklyn Road	Brooklyn	Hornsby
House	25 Goodwyn Road	Berowra	Hornsby
House	1015 Pacific Highway	Berowra	Hornsby
House	77 Berowra Waters Road	Berowra	Hornsby
House	75 Berowra Waters Road	Berowra	Hornsby
House	155 New Line Road	Cherrybrook	Hornsby
House	175 New Line Road	Cherrybrook	Hornsby
House	295 Galston Road	Galston	Hornsby
House	10 Galston Road	Hornsby	Hornsby



House	27 Old Berowra Road	Hornsby	Hornsby
House	29 Old Berowra Road	Horsnby	Hornsby
House	466 Pacific Highway	Asquith	Hornsby
House	419 Pacific Highway	Asquith	Hornsby
House	121 Sherbrook Road	Asquith	Hornsby
House	10 Dangar Road	Brooklyn	Hornsby
House	131 Brooklyn Road	Brooklyn	Hornsby
House	129 Brooklyn Road	Brooklyn	Hornsby
House	121 Brooklyn Road	Brooklyn	Hornsby
House	117 Brooklyn Road	Brooklyn	Hornsby
House	5 Karoola Street	Brooklyn	Hornsby
House	36-38 Currawong Road	Berowra	Hornsby
House	21A Anembo Road	Berowra	Hornsby
House	10 Berowra Waters Road	Berowra	Hornsby
House	15 Crowley Road	Berowra	Hornsby
House	37 New Line Road	West Pennant Hills	Hornsby
House	208 New Line Road	Cherrybrook	Hornsby
House	70 Arcadia Road	Galston	Hornsby
House	1847 Old Northern Road	Glenorie	Hornsby
House	1475 Old Northern Road	Glenorie	Hornsby
House	1477 Old Northern Road	Glenorie	Hornsby
House	431 Galston Road	Dural	Hornsby
House	671-673 Old Northern Road	Dural	Hornsby
House	150 Castle Hill Road	Cherrybrook	Hornsby
House	309 Malton Road	Epping North	Hornsby
House	8 Kirkham Street	Beecroft	Hornsby
House	41 Loftus Road	Pennant Hills	Hornsby
House	15 -17 Bridge Street	Brooklyn	Hornsby
House	1177 Pacific Highway	Cowan	Hornsby
House	1195 Pacific Highway	Cowan	Hornsby
House	26 Alberta Avenue	Cowan	Hornsby
House	236 New Line Road	Dural	Hornsby
House	839-847 Old Northern Road	Dural	Hornsby
House	857 Old Northern Road	Dural	Hornsby
House	873 Old Northern Road	Dural	Hornsby
House	3 Cobah Road	Arcadia	Hornsby



House	4 Mid-Dural Road	Galston	Hornsby
House	15 Smalls Road	Arcadia	Hornsby
House	26 Blacks Road	Arcadia	Hornsby
House	3-5 Sallaway Road	Galston	Hornsby
House	29 Berowra Waters Road	Berowra	Hornsby
House	153 Copeland Road	Beecroft	Hornsby
House	159 Copeland Road	Beecroft	Hornsby
House	3A Crowley Road	Berowra	Hornsby
House	208 Brooklyn Road	Brooklyn	Hornsby
House	212-214 Brooklyn Road	Brooklyn	Hornsby
House	480 Pacific Highway	Asquith	Hornsby
House	5 Wanill Place	Berowra	Hornsby
House	7 Wanill Place	Berowra	Hornsby
House	57 Chester Street	Epping	Hornsby
House	9 Galston Road	Hornsey	Hornsby
House	534 Pacific Highway	Mount Colah	Hornsby
House	3 Glenview Road	Mount Kuring-gai	Hornsby
House	587 Pennant Hills Road	West Pennant Hills	Hornsby
House	5 Dorset Street	Epping	Hornsby
House	15 Dorset Street	Epping	Hornsby
House	36 Dartford Road	Thornleigh	Hornsby
House	18 Crawford Road	Mount Kur-ing-ai	Hornsby
House	32 Pennant Hills Road	Normanhurst	Hornsby
House	2 Greycliffe Avenue	Pennant Hills	Hornsby
House	33 Stevens Street	Pennant Hills	Hornsby
House	11 Wells Street	Thornleigh	Hornsby
House	33 Yaralla Crescent	Thornleigh	Hornsby
House	122 Sutherland Road	Beecroft	Hornsby
House	33 Dorset Street	Epping	Hornsby
House	10 Mid-Dural Road	Galston	Hornsby
House	18 Rosemead Road	Hornsby	Hornsby
House	29B Albert Road	Beecroft	Hornsby
House	6 Mason Avenue	Cheltenham	Hornsby
House	20 York Street	Epping	Hornsby
House	3-5 Stevens Street	Pennant Hills	Hornsby
House (excl. Northern extension)	549-551 Pacific Highway	Mount Colah	Hornsby



House and Fence	37 Ramsay Road	Pennant Hills	Hornsby
House and Fence	327 Pennant Hills Road	Pennant Hills	Hornsby
House and fence	1 Isis Street	Wahroonga	Hornsby
House and Garden	93 Oxford Street	Epping	Hornsby
House and Garden	3 Wandeen Avenue	Beecroft	Hornsby
House and Garden	151 Copeland Road	Beecroft	Hornsby
House and Garden	45 Beecroft Road	Beecroft	Hornsby
House and Garden	71 Copeland Road	Beecroft	Hornsby
House and Garden	7-9 The Crescent	Pennant Hills	Hornsby
House and Garden	29 Clarke Road	Waitara	Hornsby
House and Garden	352 Pacific Highway	Hornsby	Hornsby
House and Garden	26 Royston Parade	Asquith	Hornsby
House and Garden	110 Beecroft Road	Beecroft	Hornsby
House and Garden	161 Copeland Road	Beecroft	Hornsby
House and Garden	163 Copeland Road	Beecroft	Hornsby
House and Garden	154 Copeland Road	Beecroft	Hornsby
House and Garden	3 Mary Street	Beecroft	Hornsby
House and Garden	9 Norfolk Road	Epping	Hornsby
House and Garden	18 The Boulevarde	Cheltenham	Hornsby
House and Garden	24 Berowra Waters Road	Berowra	Hornsby
House and Garden	84-86 Boundary Road	Pennant Hills	Hornsby
House and Garden	23 Chester Street	Epping	Hornsby
House and Garden	21 Chester Street	Epping	Hornsby
House and outbuildings	10-12 Smalls Road	Arcadia	Hornsby
House and stone sheds	1355 Old Northern Road	Glenorie	Hornsby
House O'Hill Cottage	62 Burdett Street	Hornsby	Hornsby
House ruins	Singleton Road (south on hillside )	Wisemans Ferry	Hornsby
House, former Uniting Church and Chapel	925-937 Old Northern Road	Dural	Hornsby
House, Garden and Outbuilding	72 Beecroft Road	Beecroft	Hornsby
Hovenden	384 Pacific Highway	Hornsby	Hornsby
Hunt Reserve	1X Beryl Road	Mount Colah	Hornsby
Inala School (original house)	160-168 Castle Hill Road	Cherrybrook	Hornsby
Indigenous Vegetation	137-213 Somerville Road	Hornsby Heights	Hornsby
Ingleara	17 Ashley Street	Hornsby	Hornsby
Jenanbee	5 The Boulevarde	Cheltenham	Hornsby



Kelvin Park Garden	454 Galston Road	Dural	Hornsby
Kenley Park and Hornsby Shire Historical Society Drill Hall	134-140 Pennant Hills Road	Normanhurst	Hornsby
Killara Footbridge	At Station	Killara	Hornsby
Kilparra Park Bushland	91X Riverview Avenue	Dangar Island	Hornsby
Kiosk / Teashop	Berowra Waters Road (at ferry terminal)	Berowra Waters	Hornsby
Koala Park Wildlife Sanctuary Grounds	Castle Hill Road	West Pennant Hills	Hornsby
Koombahla	429 Galston Road	Dural	Hornsby
Koorunga and Garden	8 Abuklea Road	Epping	Hornsby
Koorunga Garden	8 Abuklea Road	Epping	Hornsby
Ku-ring-gai Chase National Park	Newcastle Expressway (east of) to Cockle Ck	(not given)	Hornsby
Kunaware and Garden	11 Malton Road	Beecroft	Hornsby
La Mancha Caravan Park Grounds	899-903 Pacific Highway	Berowra	Hornsby
Lakes of Cherrybrook Reserve	56X Shepherd Drives	Cherrybrook	Hornsby
Landskrona	48 Bundarra Ave	Wahroonga	Hornsby
Lauriston	150 Beecroft Road	Cheltenham	Hornsby
Lilian Frazer Garden	1 Lawrence Street	Pennant Hills	Hornsby
Limona	470 Pennant Hills Road	Pennant Hills	Hornsby
Linden	24 Johnson Road	Galston	Hornsby
Lindfield Footbridge	At Station	Lindfield	Hornsby
Linthorpe	9 Mangiri Road	Beecroft	Hornsby
Lisgar Gardens	23, 35X Lisgar Road	Hornsby	Hornsby
Loch Maree House and Garden	237 Pennant Hills Road	Thornleigh	Hornsby
Loonycarn	27 Malton Road	Beecroft	Hornsby
Loretto Convent Group, grounds, gates and Cemetery	91-93 Pennant Hills Road	Normanhurst	Hornsby
Lorna Pass track and rock carving	Ferguson Avenue, Pennant Hills Park	Thornleigh	Hornsby
Lorne	63 Beecroft Road	Beecroft	Hornsby
Lynwood	12 Malton Road	Beecroft	Hornsby
Maitai - trees and gardens	31 Murray Road	Beecroft	Hornsby
Marra Marra National Park	Old Northern Road (East of) from Forest Glen	Wisemans Ferry	Hornsby
Marymount Mercy Centre - grounds	36-56 David Road	Castle Hill	Hornsby
Masonic Hall	127 Pacific Highway	Hornsby	Hornsby
McKell Park - lower, upper, cabbage palms and WWII gun and emplacements	Dangar Road	Brooklyn	Hornsby



Melville	140 Brooklyn Road	Brooklyn	Hornsby
Mill Creek / Mill Ruins	Singleton Road	Wisemans Ferry	Hornsby
Mills Park	2X Chelmsford Road	Asquith	Hornsby
Mindaribba	14-18 Malton Road	Beecroft	Hornsby
Mobbs' House	123 Arcadia Road	Arcadia	Hornsby
Mosbrae	157 Beecroft Road	Cheltenham	Hornsby
Mount Colah Footbridge	At Station	Mount Colah	Hornsby
Mount Errington	1 Rosemead Road	Hornsby	Hornsby
Mount Kuring-gai Public School Grounds	5-9 King Street	Mount Kuring-gai	Hornsby
Mount Kuring-gai Railway Station	790 Pacific Highway	Mount Kuring-gai	Hornsby
Mount Kuring-gai Railway Station		Mount Kuring-gai	Hornsby
Mount St Benedicts Convent and Grounds	449C Pennant Hills Road	Pennant Hills	Hornsby
Mountain View	1229 Old Northern Road	Middle Dural	Hornsby
Mowl Village Group: Gate House	284 Castle Hill Road	Castle Hill	Hornsby
Mowl Memorial Village: Lober House	284 Castle Hill Road	Castle Hill	Hornsby
Mowl Memorial Village: Tower House	284 Castle Hill Road	Castle Hill	Hornsby
Mt Colah Public School Grounds	19-21 Telopea Street	Mount Colah	Hornsby
Mt Orient	106 Bay Road	Berrilee	Hornsby
Mt Wilga and grounds	2A Manor Road	Hornsby	Hornsby
Muogamarra Nature Reserve	Pacific Highway	Cowan	Hornsby
Nakinda	104 Beecroft Road	Beecroft	Hornsby
Nature Reserve Bushland	Hawkesbury River, Long Island	Brooklyn	Hornsby
Neal Park and bushland	Sherbrooke Road	Hornsby	Hornsby
Neringla and Garden	46 Woonona Avenue	Wahroonga	Hornsby
Netherby, farm buildings, packing shed, brick kiln site, clay pit & bushland	30-50X Arcadia Road	Galston	Hornsby
Normanhurst Footbridge	At Station	Normanhurst	Hornsby
Norwood	6 Dural Street	Hornsby	Hornsby
Notrella	31A Malton Road	Beecroft	Hornsby
Oakhill College original building, gatehouse and grounds	421-521 Old Northern Road	Castle Hill	Hornsby
Oakleigh Park	15X Giblett Ave	Thornleigh	Hornsby
Observatory Site and Park	Beecroft Road	Pennant Hills	Hornsby
Old road	Berowra, Peats Bight	Berowra Waters	Hornsby
Our Lady Help of Christians Church	33 Oxford Street	Epping	Hornsby
Pair of shops	1-3 Jersey Street	Hornsby	Hornsby



Pavilion of H.C. Dangar's house	67 Grantham Crescent	Dangar Island	Hornsby
Peat Park	31X Amaroo Avenue	Mount Colah	Hornsby
Peats Ferry Road Bridge	Pacific Highway	Brooklyn	Hornsby
Peats Ferry Road Remains	Peats Ferry Road	Brooklyn	Hornsby
Pedestrian Bridge	Newcastle Freeway	Mount Kuring-gai	Hornsby
Pedestrian Street	Baroona Street	Dangar Island	Hornsby
Pedestrian Street	Grantham Crescent	Dangar Island	Hornsby
Pedestrian Street	Neotsfield Street	Dangar Island	Hornsby
Pennant Hills (O/B) Footbridge	Between Overbridge Abd Station	Pennant Hills	Hornsby
Pennant Hills Footbridge	At Station	Pennant Hills	Hornsby
Pennant Hills Golf Club	Burns Road	Pennant Hills	Hornsby
Pennant Hills High School Grounds(1966)	90 Boundary Road	Pennant Hills	Hornsby
Pennant Hills Park	Brittania Avenue (main entry)	Pennant Hills	Hornsby
Plympton	107A Murray Farm Road	Beecroft	Hornsby
Police Station and Residence (Former)	11 Bridge Street	Brooklyn	Hornsby
Pomona and Garden	333A Pennant Hills Road	Pennant Hills	Hornsby
Post Office	13 Bridge Street	Brooklyn	Hornsby
Presbyterian Church	1 Mary Street	Beecroft	Hornsby
Prison Building		Milson Island	Hornsby
Pukekura Park Garden	452 Galston Road	Dural	Hornsby
Pyes Creek bridge, road and quarry	Woodlark Place (behind)	Cherrybrook	Hornsby
Pymble Footbridge	At Station	Pymble	Hornsby
Quambi	152 Beecroft Road	Cheltenham	Hornsby
Quarry (original) and House Ruins (near quarry)	Pacific Highway	Cowan (North of)	Hornsby
Quarry and zigzag railway track	De Saxe Close (near end)	Thornleigh	Hornsby
Railway Bridge, memorial and construction docks	Long Island	Brooklyn	Hornsby
Railway Bridge, piers, pylon and plaque	Long Island	Brooklyn	Hornsby
Railway Station: cloak room building	4-10 Station Street	Hornsby	Hornsby
Railway Tunnels	Long Island	Brooklyn	Hornsby
Ravenhurst and Garden	114 Beecroft Road	Beecroft	Hornsby
Ray Park	Plympton Road	North Epping	Hornsby
Recreation Reserve	Baroona Street	Dangar Island	Hornsby
Red Hill	21 Beecroft Road	Beecroft	Hornsby
Reddy Park	Pretoria Parade	Hornsby	Hornsby



Remains of Maltworks	1 Pioneer Avenue	Thornleigh	Hornsby
Reserve	1X Briddon Streets	Pennant Hills	Hornsby
Reserve	John Savage Road	Pennant Hills	Hornsby
Reserve	264-266X Sommerville Road	Hornsby Heights	Hornsby
Reserve	1X Westminster Drive	Cherrybrook	Hornsby
Rest Park	Pacific Highway	West Brooklyn	Hornsby
River Settlement - Cape di Monte		Collingridge Point	Hornsby
River Settlement - Capo di Monte	Collingridge Point	Berowra Creek	Hornsby
Road median, lights and palms	Pacific Highway (btw Police Station & Hornsby Park	Hornsby	Hornsby
Road Remains	The Comenarra Parkway	Thornleigh	Hornsby
Road terracing - Waddell Ridge group	Calabash Road (200m from 4WD track)	Arcadia	Hornsby
Road, stone wall, bridge, escarpment and drain	Old Northern Road	Wisemans Ferry	Hornsby
Roadside Trees	Epping Road (b/w Terrys Creek & Pembroke Road)	Epping	Hornsby
Roadside Trees	Beresford Road	Normanhurst	Hornsby
Roadside trees	Old Northern Road	Glenhaven	Hornsby
Roadside Trees	599-601 Old Northern Road	Glenhaven	Hornsby
Roadside Trees	Castle Howard Road	Beecroft	Hornsby
Roadside Trees	Boronia Street (North of Murray Road)	Beecroft	Hornsby
Roadside trees	Galston Road	Hornsby Heights	Hornsby
Roadside Trees	29 Crosslands Road	Galston	Hornsby
Roadside Trees	Rawson Road	Berowra	Hornsby
Roadside Trees	New Line Road	Dural	Hornsby
Roadside Trees	Hannah Street (from York to Pennant Hills Road)	Beecroft	Hornsby
Roadworks	Riverview Avenue	Dangar Island	Hornsby
Roadworks	Crosslands Road	Galston	Hornsby
Rock inscription - Waddell Ridge group	Calabash Road (20m from benchmark on 4WD track)	Arcadia	Hornsby
Rofe Park	100X Galston Road	Hornsby Heights	Hornsby
Roselands	12 John Hughes Place	Wahroonga	Hornsby
Roseleigh	18 Hillcrest Road	Pennant Hills	Hornsby
Rosemount	22 Rosemount Avenue	Pennant Hills	Hornsby
Roseville Footbridge	At Station	Roseville	Hornsby
Ross Homestead and Garden	96 Brooklyn Road	Brooklyn	Hornsby



Rosslyn Hill	166 Ray Road	Epping	Hornsby
Rossmore	89-91 Brooklyn Road	Brooklyn	Hornsby
Row of houses	9, 11 & 15 Sussex Street	Epping	Hornsby
Sandown	70-72 Bay Rd	Berrilee	Hornsby
Scenic Road through Bushland	Berowra Waters Road	Berowra	Hornsby
School of Arts and garden	11-13 Oxford Street	Epping	Hornsby
Seymours Creek - Mangrove Wetland	Brooklyn Road (east of)	Brooklyn	Hornsby
Shamrock Vale	432 Galston Road	Dural	Hornsby
Shop	183-183A Pacific Highway	Hornsby	Hornsby
Shop	175 Pacific Highway	Hornsby	Hornsby
Shop	171 Pacific Highway	Hornsby	Hornsby
Shop	1-3 Bridge Street	Brooklyn	Hornsby
Shop	5 Bridge Street	Brooklyn	Hornsby
Shop	7 Bridge Street	Berowra Waters	Hornsby
Shops	165-169 Pacific Highway	Hornsby	Hornsby
Sillaton	4 Westwood Street	Pennant Hills	Hornsby
Singleton's Mill	Singleton Road (11km down)	Wisemans Ferry	Hornsby
Snaresbrook	45 Chester Street	Epping	Hornsby
Spring Hill and Garden	1231 Old Northern Road	Middle Dural	Hornsby
SRA electricity plant and signal box	Jersey Street	Hornsby	Hornsby
St Albans Anglican Church and Grounds	3 Pembroke Street	Epping	Hornsby
St Columb's Anglican Church	138 Arcadia Road	Arcadia	Hornsby
St Columbs Church grounds	138 Arcadia Road	Galston	Hornsby
St Johns Anglican Church	62 Beecroft Road	Beecroft	Hornsby
St Judes Anglican Church and Grounds	965 Old Northern Road	Dural	Hornsby
St Judes Anglican Church grounds	965 Old Northern Road	Dural	Hornsby
St Luke's Church Hall	323 Pennant Hills Road	Pennant Hills	Hornsby
St Mary's Church of England (former)	156A Brooklyn Road	Brooklyn	Hornsby
St Patricks Church grounds	1 Royston Parade	Asquith	Hornsby
St Pauls Anglican Church Grounds	2-4 Ingram Road	Wahroonga	Hornsby
St. Agathas Primary School Grounds	22-26 Boundary Road	Pennant Hills	Hornsby
St. Peter's Anglican Church & Church Hall	207-207A Pacific Highway	Hornsby	Hornsby
Stanley House	58 Pembroke Street	Epping	Hornsby
State Bank	193 Pacific Highway	Hornsby	Hornsby
Stone causeway over Devlin's Creek	Beecroft Road	Epping	Hornsby
Stone chimney	Singleton Road (S side in	Wisemans Ferry	Hornsby



	orchard of One Tree Hill		
Strathnoon	31 Pacific Highway	Wahroonga	Hornsby
Street Tree	Sherbrook Road	Asquith	Hornsby
Street Tree	Sherbrook Road	Asquith	Hornsby
Street Trees	Ingram Road	Wahroonga	Hornsby
Street Trees	Myra Street	Wahroonga	Hornsby
Street Trees	Belmont Parade	Mount Colah	Hornsby
Street Trees	Edgeworth David Avenue	Hornsby	Hornsby
Street Trees	Fern Avenue	Wahroonga	Hornsby
Street Trees	Lilla Avenue (east end)	Beecroft	Hornsby
Street Trees	Pacific Highway	Cowan (South Entry)	Hornsby
Street Trees	Alexandria Parade	Waitara	Hornsby
Street Trees	Rosemead Road (Jnct Dural St to 100m south jnct Wi	Hornsby	Hornsby
Street Trees	Malton Road	Beecroft	Hornsby
Street Trees	College Crescent (west side, opp. Barker Oval)	Hornsby	Hornsby
Street Trees	Chester Street (east of Norfolk Street)	Epping	Hornsby
Street Trees	Dorset Street	Epping	Hornsby
Street Trees	York Street	Epping	Hornsby
Street Trees	The Boulevarde	Cheltenham	Hornsby
Street Trees	Orchard Street	Beecroft	Hornsby
Street Trees	Waratah Road	Berowra	Hornsby
Street Trees	Harris Road (east side)	Normanhurst	Hornsby
Street Trees	Loch-Maree Avenue	Thornleigh	Hornsby
Street Trees	Britannia Street (south side)	Pennant Hills	Hornsby
Street trees	Castle Hill Road (north side)	Castle Hill	Hornsby
Street Trees	Lawrence Street (Eastend)	Pennant Hills	Hornsby
Street Trees	Murray Road (East of Beecroft Road)	Beecroft	Hornsby
Street Trees	The Crescent (opp Rec. Club)	Cheltenham	Hornsby
Street Trees	22 Cheltenham Road	Cheltenham	Hornsby
Street Trees	The Promenade	Cheltenham	Hornsby
Street Trees	Crowley Road	Berowra	Hornsby
Street Trees	Fraser Road (East side)	Normanhurst	Hornsby
Street Trees	Denman Parade	Normanhurst	Hornsby
Street Trees	Milson Parade (east side)	Normanhurst	Hornsby
Street Trees	Dural Street	Hornsby	Hornsby



Street Trees	107-127 Somerville Road	Hornsby Heights	Hornsby
Street Trees	William Street	Hornsby	Hornsby
Street Trees	Mason Avenue	Cheltenham	Hornsby
Street Trees	Nanowie Ave	Normanhurst	Hornsby
Street Trees	Trebor Road	Pennant Hills	Hornsby
Street Trees	Dean Street	Pennant Hill	Hornsby
Street Trees	Boundary Road	Pennant Hills	Hornsby
Street Trees	Cardinal Ave	Beecroft	Hornsby
Street Trees	Plympton Road	North Epping	Hornsby
Street Trees	Manor Road	Hornsby	Hornsby
Street Trees	Ferndale Road	Normanhurst	Hornsby
Street Trees	Malsbury Road	Normanhurst	Hornsby
Street Trees	Russell Ave	Normanhurst	Hornsby
Street Trees	Edwards Road	Normanhurst	Hornsby
Street Trees	Campbell Ave	Normanhurst	Hornsby
Street Trees	Calga Ave	Normanhurst	Hornsby
Street Trees	Hull Road	Beecroft	Hornsby
Street Trees	Lynden Way	Beecroft	Hornsby
Street Trees	Chapman Ave	Beecroft	Hornsby
Street Trees	Belmont Parade	Mount Colah	Hornsby
Street Trees	Cardinal Street	Pennant Hills	Hornsby
Street Trees	Weemala Road	Pennant Hills	Hornsby
Street Trees	Giblett Avenue	Thornleigh	Hornsby
Street Trees	Bundarra Avenue	Wahroonga	Hornsby
Street Trees	Woonona Avenue	Wahroonga	Hornsby
Street Trees	Beecroft Road (opp Observatory Park)	Beecroft	Hornsby
Street Trees	110-112 (outside) Berowra Waters Road	Berowra	Hornsby
Street Trees	22 Hillcrest Street	Berowra	Hornsby
* Street Trees	Pacific Highway (E side)	Berowra	Hornsby
Street Trees	Sutherland Road (south end)	Epping	Hornsby
Street Trees	Hunter Street	Hornsby	Hornsby
Street Trees	Jersey Street E side)	Hornsby	Hornsby
Street Trees	Pretoria Parade	Hornsby	Hornsby
Street Trees	Royston Parade	Asquith	Hornsby
Street Trees	Lilla Road	Pennant Hills	Hornsby



Sunbeam	83 Berowra Waters Road	Berowra	Hornsby
Suspension bridge	5 Manor Road	Hornsby	Hornsby
Swanes Nursery	490-498 Galston Road	Dural	Hornsby
Sydney Blue Gum	540 Pennant Hills Road	West Pennant Hills	Hornsby
TAFE College: Buildings M & K and grounds	298-300 Pacific Highway (east side)	Hornsby	Hornsby
Taracoonee	Sunny Corner	Berowra Waters	Hornsby
Telephone Exchange	8 William Street	Brooklyn	Hornsby
Tenterfield and Garden	7-9 Myra Street	Wahroonga	Hornsby
Terranova	260-266 New Line Road	Dural	Hornsby
Terrys Crossing in Vimiera Park	121X Essex Street	Epping	Hornsby
The Crescent Conservation Area	The Crescent	Pennant Hills	Hornsby
The Croft	11 Harris Road	Dural	Hornsby
The Glen	16 Lilla Road	Pennant Hills	Hornsby
The Glen	47 Burdett Street	Hornsby	Hornsby
The Junction Stores	173 Pacific Highway	Hornsby	Hornsby
The Lakes of Cherrybrook	10 Kenburn Avenue	Cherrybrook	Hornsby
The Laurels	41 Dartford Road	Thornleigh	Hornsby
The Laurels and Garden	2 Waratah Road	Berowra	Hornsby
The Lodge	Singleton Road (S side of)	Wisemans Ferry	Hornsby
The Lodge	29 Ku-ring-gai Chase Road	Mount Colah	Hornsby
The Lodge	31 Lodge Street	Hornsby	Hornsby
The Manor	1523 Old Northern Road	Glenorie	Hornsby
The Maze	18 Yarrara Road	Pennant Hills	Hornsby
The Village Green, Boer War Memorial, WWI & II Memorials	111X Beecroft Road	Beecroft	Hornsby
Thornleigh Footbridge	At Station	Thornleigh	Hornsby
Thornleigh Uniting Church and Hall	309 Pennant Hills Road	Thornleigh	Hornsby
Thornleigh West Public School Grounds	18 Giblett Ave	Thornleigh	Hornsby
Toilet block (stone)	Berowra Waters Road (near ferry terminal)	Berowra Waters	Hornsby
Trees	1169-1171 Old Northern Road	Dural	Hornsby
Trees	46 Victoria Road	Pennant Hills	Hornsby
Trees	1 The Boulevarde	Cheltenham	Hornsby
Trees	Turner Road	Berowra Heights	Hornsby
Trees, Asquith Station and nature strip	Halden Street	Asquith	Hornsby
Turramurra Footbridge	At Station	Turramurra	Hornsby



Twilight House / Sheen	8 York Street	Beecroft	Hornsby
Two houses (including Headingley)	14-16 Ingram Road	Wahroonga	Hornsby
Tyneside house	8 Baroona Street	Dangar Island	Hornsby
Uniting Church	79 Edgeworth David Avenue	Wahroonga	Hornsby
Uniting Church Grounds	4A Chester Street	Epping	Hornsby
Vehicular Cable ferry	Berowra Waters Road	Berowra Waters	Hornsby
Vintage Cellars Building	100 Beecroft Road	Beecroft	Hornsby
Waddell Ridge group	58-62 Calabash Road	Arcadia	Hornsby
Wahroonga (North) Footbridge	Just North Of Station Online Of Coonanbarra Rd	Wahroonga	Hornsby
Wahroonga Footbridge	At Station	Wahroonga	Hornsby
Wahroonga Heritage Conservation Area	Ingram Road, Cam Street	Wahroonga	Hornsby
Waitara Park	20X Waitara Avenue	Waitara	Hornsby
Wallarobba and Willow Park	25-27 Edgeworth David Avenue	Hornsby	Hornsby
Wallumeda	5 Orchard Street	Thornleigh	Hornsby
Wandeen	2 Wandeen Avenue	Beecroft	Hornsby
War Memorial Hall	120 Brooklyn Road	Brooklyn	Hornsby
War Memorial Precinct	1729 Old Northern Road	Glenorie	Hornsby
Warrawee Footbridge	At Station	Warrawee	Hornsby
Waterfront seawall, whark, trees and Railway Bridge (1889) construction site	Northern Foreshore	Dangar Island	Hornsby
Waveney	84 Beecroft Road	Beecroft	Hornsby
Weatherboard House (original)	1319-1321 Old Northern Road	Glenorie	Hornsby
Weeroona and Garden	109 Arcadia Road	Arcadia	Hornsby
Westpac Bank	370 Pennant Hills Road	Pennant Hills	Hornsby
Westpac Bank	185 Pacific Highway	Hornsby	Hornsby
Whitianga	24 Turner Road	Berowra	Hornsby
Windbreak	Bayfield Road (east side)	Galston	Hornsby
Windbreak	Sunnyridge Road	Arcadia	Hornsby
Windbreak	Old Northern Road (Opp. Windsor Road turn off)	Middle Dural	Hornsby
Windbreak	Galston Road (mainly south side)	Galston	Hornsby
Windbreak	Halls Road	Arcadia	Hornsby
Windbreak and Garden	40-44 Cobah Road	Arcadia	Hornsby
Windermere	12 Albion Street	Pennant Hills	Hornsby
Wirruna and Gardens	33 Frederick Street	Hornsby	Hornsby



Wiseman's Ferry Cemetery	Singleton Road (S side)	Wisemans Ferry	Hornsby
Wiseman's Ferry cemetery	Singleton Road	Wisemans Ferry	Hornsby
Wiseman's Inn	339 River Road	Wisemans Ferry	Hornsby
Wisemans Ferry Inn Grounds	Old Northern Road	Wisemans Ferry	Hornsby
Woodlands	15-17 Duffy Avenue	Thornleigh	Hornsby
Wyndyhaugh and Grounds	42-50 Duffy Avenue	Thornleigh	Hornsby
Wyreema	8 Maranta Street	Hornsby	Hornsby
Wyuni and gardens	23 Dural Street	Hornsby	Hornsby

There were **871** records in this section matching your search criteria.

There was a total of **882** records matching your search criteria.

**Key:**

LGA = Local Government Area

GAZ = NSW Government Gazette (statutory listings prior to 1997), HGA = Heritage Grant Application, HS = Heritage Study, LGOV = Local Government Agency.

**Note: The Heritage Office seeks to keep the State Heritage Inventory (SHI) up to date, however listings in Local and Regional Environmental Plans (LEPs and REPs) may not yet be included with the relevant Local Council or Shire for the most recent listings.**







# New South Wales Consolidated Regulations

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## HORNSBY SHIRE LOCAL ENVIRONMENTAL PLAN 1994 - SCHEDULE 4

### SCHEDULE Schedule D -

(Clauses 18 (1), 23)

In this Schedule:

for the purpose of describing significance, the symbol “L” means local, “R” means regional, “S” means State and “N” means national, and

for the purpose of describing an address, the symbol “X” means adjacent to the address specified.

Address	Property description	Item	Significar
Arcadia 89–91 Arcadia Road	Lot 201, DP 752048	Arcadia General Store	L
109 Arcadia Road	Lot 1, DP 533940	“Weerona” and garden	L
123 Arcadia Road	Pt Lot 7, DP 446220	Mobb’s House	L
136 Arcadia Road	Pt Lot 25, DP 975148	Arcadia Community Hall	L
138 Arcadia Road	Lot 1, DP 598637	St. Columb’s Anglican Church	L
140 Arcadia Road	Lot 1, DP 797478 and Lot 1, DP 597328	Arcadia Public School—original building (excluding other buildings and grounds)	L
26 Blacks Road	Lots 1 and 3, DP 587065	House	L
58–62 Calabash Road	Lot 233, DP 752048	Waddell Ridge Group, dwelling remains, cistern, benchmark, rock inscription, field terracing, road	L



		terracing, fenceline, footings.	
3 Cobah Road	Lot 1, DP 210810	House	L
15 Cobah Road	Lot 2, DP 609304	House	L
40-44 Cobah Road	Lots 1-3, DP 203756	Windbreak and garden	L
Halls Road	Road Reserve	Windbreak	L
1 Halls Road	Lot D, DP 369476	House	L
2 Smalls Road	Lot 3, DP 563428	House	L
10-12 Smalls Road	Lot 2, DP 874443	House and outbuildings	L
15 Smalls Road	Lot 2, DP 564660	House	L
Sunnyridge Road		Windbreak	L
Asquith 2X Chelmsford Street	Lot 1114, DP 822293	Mills Park	L
5 Dudley Street	Lot A, DP 375534	House	L
Halden Street	Road Reserve	Trees, Asquith Station and nature strip	L
419 Pacific Highway	Pt Lot 11, DP 12901	House	L
466A Pacific Highway	Lot 10, DP 845796	House	L
480 Pacific Highway	Lot 14, DP 16107	House	L
Royston Parade	Road Reserve	Street trees	L
1 Royston Parade	Lot 1, DP 702242	Grounds—St Patricks Church	L
26 Royston Parade	Lot 1, DP 502358	House and garden	L
27 Royston Parade	Lot 22, DP 515599	Garden	L
32 Royston Parade	Lot 26, DP 10405	House	L
Salmon Close		Garden tree	L
Cnr			



Sherbrook Road and Balwin Avenue	Road Reserve	Street tree	L
Sherbrook Road	Road Reserve	Street tree	L
121 Sherbrook Road	Lot 34, DP 8797	House	L
178 Sherbrook Road	Lot A, DP 317667	House	L
– Beecroft -			
9 Albert Road	Lot 5, DP 18182	Blue gum at rear	L
29B Albert Road	Lot 105, DP 601734	House	L
Beecroft Road	Road Reserve	Street trees— opposite Observatory Park	L
2, 2A, 4 Beecroft Road	Lots 5–7, DP 237733	Gardens	L
2X Beecroft Road	Lot 6, DP 828179	Blackwood Memorial Sanctuary, including North Road culvert	R
8 Beecroft Road	Lot 1, DP 236171	Blackwood House and garden	R
21 Beecroft Road	Lot 2, DP 232683	“Red Hill”	R
44 Beecroft Road	Lot 1, DP 407029	Garden	L
45 Beecroft Road	Lot A, DP 377005	House and garden	L
52C Beecroft Road	Lot 2, DP 522487	“Glenbower”	L
59 Beecroft Road	Lot 1, DP 7380	House	L
61 Beecroft Road	Lot 10, DP 565264	House	L
62 Beecroft Road	Lot 6, DP 758074	St. John’s Anglican Church	L
63 Beecroft Road	Lot 21, DP 553564	“Lorne”	R
68 Beecroft Road	Lot 3, DP 758074 Section 7	Garden	L



72 Beecroft Road	Lot U, DP 959289	House, garden and outbuilding	L
74 Beecroft Road	Lot 101, DP 775322	"Eltham" and garden	L
83 Beecroft Road	Lot 12, DP 758074	House	L
84 Beecroft Road	Lot A, DP 317698	"Waveney"	L
86 Beecroft Road	Lot C, DP 434825	House	L
90-96 Beecroft Road	Lot U, DP 104459, Lot 1, DP 122581, Lot 1, DP 384982, Lot 1, DP 122580, Lots 1-5 and Pt 6, DP 758074, Lot A, DP 100859, Lot 2, DP 539122	Beecroft Public School—(excluding grounds)	L
95A Beecroft Road	Lot U, DP 947922	Beecroft Post Office	L
100 Beecroft Road	Lot A, DP 356769	"Vintage Cellars" building	L
104 Beecroft Road	Lot 2, DP 609098	"Nakinda"	L
110 Beecroft Road	Lot 5/6 (1), DP 758074	House and garden	L
111 Beecroft Road	Lot 1, DP 121947	Beecroft Community Centre	L
111X Beecroft Road	Lot 979, DP 822292	The Village Green, Boer War Memorial, World War I and II Memorials	L
112 Beecroft Road	Lots 4 and 5, DP 758074	House and garden	L
114 Beecroft Road	Lot 6, DP 221391	"Ravenhurst" and garden	L
115 Beecroft Road	Lots 1, 2, 3, 4 and 5, DP 2073	"Carmel"	L



116 Beecroft Road	Lot 5, DP 214705	Garden, fence and hedge	L
118 Beecroft Road	Lot 1, DP 501547	House	L
128 Beecroft Road	Lot 5, DP 6280	Garden	L
130 Beecroft Road	Lot A, DP 15298	"Romana House" and garden	R
136 Beecroft Road	Lot B, DP 317843	Garden	L
140 Beecroft Road	Lot 1, DP 504734	"Combanning"	L
142 Beecroft Road	Lots 13 and 14, DP 6280	Garden, fence and gate posts	L
144-146 Beecroft Road	Lots 15, 16, 17 and 34, DP 6280	"Brunoy" (Chesalon Nursing Home)	L
2-4 Boronia Avenue	Lots 1 and 2, DP 360108	Gardens	L
Boronia Street	Road Reserve	Street trees	L
Cardinal Avenue	Road Reserve	Street trees	L
Castle Howard Road	Road Reserve	Street trees	L
1X Castle Howard Road	Lots 534-535, 537-544, 823 and 864, DP 752028	Bushland, Beecroft/Cheltenham Park	L
Chapman Avenue	Road Reserve	Street trees between Cardinal Avenue and Hull Road	L
71 Copeland Road	Lot 3, DP 219007	House and garden	L
84 Copeland Road	Lot 4, DP 7931	House	L
116 Copeland Road	Lot C, DP 4369	House	L
121 Copeland Road	Lot 24, DP 758074, Section 4	Garden	L
127 Copeland	Lot 101, DP	House	L



Road	842903		
Copeland Road (east)	Road Reserve	Footpath— especially outside Nos 138–154	L
138 Copeland Road	Lot A, DP 385708	“Chetwynd”	L
148 Copeland Road	Lot 1, DP 205047	House	L
149 Copeland Road	Lot 1, DP 12464	Garden	L
151 Copeland Road	Lot 2, DP 12464	House and garden	L
153 Copeland Road	Lot 3, DP 12464	House	L
154 Copeland Road	Lot 2, DP 596145	House and garden	L
155 Copeland Road	Lot 4, DP 12464	“Holme Lacey” and garden	L
156 Copeland Road	Lot 14, DP 604271	Garden	L
157 Copeland Road	Lot 5A, DP 382779	House	L
159 Copeland Road	Lot 11, DP 556232	House	L
161 Copeland Road	Lot 6, DP 242297	House and garden	L
162 Copeland Road	Lot 1, DP 622711	“Aston”	L
163 Copeland Road	Lot 81, DP 577380	House and garden	L
188 Copeland Road	Lot 3, DP 368286	House	L
190 Copeland Road	Lot 4, DP 368286	House	L
23 Fiona	Lot Y, DP	House	L



Road	364307		
Hannah Street	Road Reserve	Street trees (between York Street and Pennant Hills Road)	L
29 Hannah Street	Lot A, DP 398222	House	L
30 Hannah Street	Lot C, DP 960213	House	L
38 Hannah Street	Lot 1, DP 200138	House	L
40 Hannah Street	Lot 5, DP 514026	House	L
42 Hannah Street	Lot 1, DP 133587 and Lot 20, DP 7788, Section 7	House	L
44 Hannah Street	Lot 18, DP 7788 and Lot 1, DP 168952	House	L
51 Hannah Street	Lot A, DP 963616	House	L
86X Hannah Street	Lot 28, DP 23858	Fernleigh Park	L
Hull Road	Road Reserve	Street trees	L
8 Kirkham Street	Lot Z, DP 395564	House	L
15 Kirkham Street	Lot 1, DP 357713	Garden	L
Lilla Avenue	Road Reserve	Street trees	L
Lynden Way	Road Reserve	Street trees	L
Malton Road	Road Reserve	Street trees	L
2 Malton Road	Lot A, DP 354398	House	L
5 Malton Road	Lot 3, DP 340956	House	L
11 Malton Road	Lot 42, DP 596659	"Kunaware" and garden	L
12 Malton Road	Lot 2, DP 504423	"Lynwood"	L
14-18 Malton Road	Lot A, DP 349021	"Mindaribba"	L
17 Malton Road	Lot 1, DP 924640	"Eureka"	L



27 Malton Road	Lot 1, DP 593755	"Loonycarn"	L
28 Malton Road	Lot 1, DP 537665	House	L
31A Malton Road	Lot 1, DP 628007	"Notrella"	L
37 Malton Road	Lot 101, DP 713750	House	L
49 Malton Road	Lot 602, DP 793873	House	L
7 and 9 Mangiri Road	Lots 19 and 20, DP 715454	"Linthorpe"	L
1 Mary Street	Lot B, DP 356769	Presbyterian Church	L
3 Mary Street	Lot 5 and 6, DP 758074	House and garden	L
7 Mary Street	Lot 8, DP 758074, Section 2	Two angophora trees	L
11-14X Mary Street	Lots 10- 14, DP 758074 Section 2	Chilworth Reserve	L
1 Murray Road	Lots 8 and 9, DP 7132	House	L
Murray Road	Road Reserve	Street trees east of Beecroft Road	L
66 Murray Farm Road	Lot 42, DP 16525	House	L
67A Murray Farm Road	Lot 3, DP 552887	English Oak tree	L
107A Murray Farm Road	Lot 2, DP 512307	House	L
Orchard Street	Lot 12, DP 202545, Lot 15, DP 220904, Lot 66, DP 218185, Lot 72, DP 503715, Lots 2 and 46, DP 217863,	Devlins Creek Bushland Reserve	L



	Lot 75, DP 506963		
Orchard Street	Road Reserve	Street trees	L
589 Pennant Hills Road	Lot 10, DP 801176	Grounds—Pennant Hills Golf Club	R
Sutherland Road— Byles Creek Valley		Bushland Reserve	L
Railway land— Beecroft to Pennant Hills		Bushland	L
82 Sutherland Road	Lots 640 and 641, DP 752028	Booth Park	L
97 Sutherland Road		Beecroft Railway Station and garden	L
110–112 Sutherland Road	Pt Lot 1 and pt. Lot 2, DP 4046	“Beveren” and garden	L
122 Sutherland Road	Lot 2, DP 619164	House	
1 Wandeen Avenue	Lot 14, DP 7154	House	L
2 Wandeen Avenue	Lot 3, DP 523327	House	L
3 Wandeen Avenue	Lot 1, DP 546219	House and garden	L
3 Wongala Crescent	Lot 4, DP 305506	“Treasure House”	L
25 Wongala Crescent	Lots 1 and 2, DP 133462	Garden	L
37 Wongala Crescent	Lot 12, DP 607771	Fence	
39–41 Wongala Crescent	Lot B, DP 368137	House	L
8 York Street Berowra	Lot 1, DP 9786	“Twilight House/Sheen”	L
21A Anembo	Lot 302, DP	House	L



Road	880212		
4 Arcadia Crescent	Lot 31, DP 853409	House	L
14X Berowra Waters Road	Recreation Reserve	Berowra Park	L
10 Berowra Waters Road	Lot 2, DP 417877	"Thaxted"	L
24 Berowra Waters Road	Lot 2, DP 851097	House and garden	L
29 Berowra Waters Road	Lot 21, DP 6107	House	L
41 Berowra Waters Road	Within Recreation Reserve	Community Hall and grounds	L
48 Berowra Waters Road	Pt Lot 13, DP 509198	"Bungalow"	L
75 Berowra Waters Road	Lot 12, DP 562850	House	L
83 Berowra Waters Road	Lot A, DP 419283	"Sunbeam"	L
Berowra Waters Road	Road Reserve	Street trees outside 110-112	L
Berowra Waters Road	Crown Land	Scenic road through bushland	R
Crowley Road	Road Reserve	Street trees	L
3A Crowley Road	Lot 2, DP 509204	House	L
14 Crowley Road	Lot A, DP 326295	Hall	L
15 Crowley Road	Lot 6, DP 6107	House	L
36-38 Currawong Road	Lot 203, DP 749915	House	L
25 Goodwyn Road	Lot 2, DP 578390	House	L
2-4 Hillcrest Street	Lot B, DP 373120	Garden	L
22 Hillcrest Street	Lot 6, DP 217164	Trees associated with 7 Wanill Place	L
899-903 Pacific Highway	Lots 59, 90, 639, 912, DP 752053	Grounds—La Mancha Caravan Park	L
Pacific Highway (eastside)	Road Reserve	Roadside trees	L

1015 Pacific Highway	Lot 8, DP 758096	House	L
Rawson Road	Road Reserve	Street trees	L
24 Turner Road	Lot 1, DP 213153	"Whitianga"	L
5 Wanill Place	Lot 23, DP 218655	House	L
7 Wanill Place	Lot 22, DP 218655	Former servant's quarters	L
Waratah Road	Road Reserve	Street trees	L
2 Waratah Road	Lots 19 and 20, DP 6107	"The Laurels" and garden	L
11-15 Yallambee Road	Lot 2, DP 556142	Garden, including Oak tree	L
Berowra Heights			
Turner Road	Road Reserve	Trees	L
Berowra Waters			
Berowra Waters Road/Bay Road	Waterway	Vehicular cable ferry	R
Berowra Waters Road	Lot 466, DP 727082	Boat shed	L
Berowra Waters Road	Crown Land	Kiosk/teahouse	L
Berowra Waters Road	Crown Land	Toilet block	L
Berowra Waters Road		Rex Jones Memorial	L
Franks Bight adjacent to Kirkpatrick Way		Tidal Bath remains	L
Berrilee			
70-72 Bay Road	Lot A, DP 399112	"Sandown"	L
106 Bay Road	Lot 3, DP 224685	"Mt Orient"	S
Bobbin Head			
Ku-ring-gai Chase Road		"Bobbin Inn"	L



1-3 Bridge Street	Lot 1 and 2, DP 543112	Shop	L
5 Bridge Street	DP 936486	Shop	L
7 Bridge Street	DP 946143	Shop	L
11 Bridge Street	Lots 15, 17 and 19, DP 2746	Brooklyn Police Station	L
13 Bridge Street	Lot 1, DP 521539	Brooklyn Post Office and Residence	L
15-17 Bridge Street	Lots 27 and 28, DP 5043	House	L
Brooklyn Road	Lots 1-5 and 7, DP 752026 and Lot 395, DP 45975	Brooklyn cemetery	L
Brooklyn Road	Waterway	Seymours Creek Mangrove wetland	L
51 Brooklyn Road	Lot 3, DP 5527	House	L
52 Brooklyn Road	Lot 11, DP 2002	House	L
53 Brooklyn Road	Lot 2, DP 5527	Boatshed	L
87 Brooklyn Road	Recreation Reserve	Brooklyn Park	R
89-91 Brooklyn Road	Lot 1, DP 8426	"Rossmore"	L
95 Brooklyn Road	Lot 20, DP 849201	House	L
96 Brooklyn Road	Lot 4, DP 758166	"Ross Homestead" and garden	L
106 Brooklyn Road	Lots 1 and 2, DP 758166, Lots 1, 2, 3, 5 and 6, DP 758166, Section 2 and Lot 11, DP 758166	Brooklyn Public School (excluding grounds)	L

Brooklyn Road	Lot 4, DP 6805	House	L
120 Brooklyn Road	Lot 1, DP 358297	War Memorial Hall	L
121 Brooklyn Road	Lot 3, DP 629260	House	L
129 Brooklyn Road	Lot 1, DP 227335	House	L
140 Brooklyn Road	Lot B, DP 310389	"Melville"	L
156A Brooklyn Road	Lot 9, DP 2105	Old St Mary's Church	L
176 Brooklyn Road	Lot 18, DP 41000	House	L
180 Brooklyn Road	Lot 16, DP 41000	House	L
206 Brooklyn Road	Lot 11, DP 1183 and Lot 12, DP 2746	"Blinkbonnie"	L
208 Brooklyn Road	Lot 1, DP 554808	House	L
212-214 Brooklyn Road	Lots 16, 17 and 18, DP 2746	House	L
Dangar Road	Lot 1, DP 62933, Lot 666, DP 828406 and Lot 1, DP 40000	McKell Park— Lower, upper, cabbage palms and World War II gun and emplacements	R
Dangar Road	Lot 415, DP 52026	Governor Phillip Memorial	L
Dangar Road	Lot 1, DP 734446	Hawkesbury River Railway Station	R
10 Dangar Road	Lot 1 DP 73446	House	L
5 George Street	Lot 1, DP 973865	House	L
7 George Street	Pt Lot 8 and Lots 9 and 10, DP 5043	House	L



10-16 James Road	Lots H, J, K, DP 19744	Brown's boatshed	R
Karoola Street	Road Reserve	Footpath	L
1 Karoola Street	Lots 1 and 2, DP 2746, Sect. F	House	
2 Karoola Street	Lot 1, DP 853918	House	L
3 Karoola Street	Lots 3, 4 and 5, DP 2476, Section F	House	L
5 Karoola Street	Lots 6 and 7, DP 2746, Section F	House	L
8 Karoola Street	Lots 28 and 29, DP 5043, Section C	House	L
12 Karoola Street	Lot A, DP 35735	House	L
23 Karoola Street	Lot 2, DP 32963	House	L
Kuring-gai Chase National Park	Lot 2, DP 545639	Old railway dams	R
Long Island	Lot 1, DP 734446	Railway tunnels	S
Long Island	Lot 1, DP 734446	1889 railway bridge piers, pylon and plaque	S
Long Island	Lot 1, DP 734446	1946 railway bridge, memorial and construction docks	R
Long Island	Crown Land	Nature Reserve—bushland	R
Disused Old Peats Ferry Road	Road Reserve	Road remains	S
Pacific Highway	Crown Land	Peats Ferry road bridge	R
Pacific Highway	Lots 238 and 250, DP 752026	Rest Park	L

1 William Street	Lot 1, DP 431327	Station Master cottage	L
8 William Street	Lot 1, DP 830845	Telephone exchange	L
Calabash Point			
McCallums Avenue	Lot 1, DP 521150, and Lot 78, pt Lot 163 and Lots 168, 185, 194, DP 752048	Fire trail	L
McCallums Avenue fire trail	Lot 1, DP 521150	Fretus Hotel ruins	L
Carlingford 559A North Rocks Road	Lot 2, DP 526724	House	L
Castle Hill			
284 Castle Hill Road	Lot 1, DP 175432	Mowll Village group including "Lober House", "Tower House", "Gate House" entry gates, dairy, stables and grounds	R
Castle Hill Road (west end)	Road Reserve	Street trees	L
36-56 David Road	Lot 2, DP 565458	Grounds—Mary Mercy Centre	L
121-123 David Road	Lot 9820, DP 785153, Lot 9821, DP 785153	Garden	L
173-177 David Road	Lot 2, DP 232014	"Glenowen" and garden	L
423-513 Old Northern Road	Lots 320 and 321, DP 859559 and pt Lot 1, DP 100179	Oakhill College, original building, gate house and grounds	L
Cheltenham			
150 Beecroft	Lot 2, DP		



Road	373724	"Lauriston"	R
152 Beecroft Road	Lot 102, DP 600100	"Quambi"	R
157 Beecroft Road	Lot 2, DP 7123 Pt Lot 3, DP 7132	"Mosbrae"	L
158 Beecroft Road	Lot 4, DP 530116	House	L
170 Beecroft Road	Lot 2, DP 931461	House	L
174 Beecroft Road	Lot 1, DP 527556	House	L
179 Beecroft Road	Lots 83,84, DP 9085	Former Church and grounds	L
183 Beecroft Road	Lot 80, DP 9085	Garden	R
203 Beecroft Road	Lot 13, DP 844078	"Edensor", garden, stable and wall	R
24 Boronia Avenue	Lot 1, DP 391071	House	L
32 Boronia Avenue	Lot 1, DP 556740	House	L
8 Cheltenham Road	Lot 138, 139, DP 12364	House	L
10 Cheltenham Road	Lots 136 and 137, DP 12364	House	L
22 Cheltenham Road	Lot 9, DP 18542	Garden	L
15 Chorley Avenue	Lot 128, DP 12364	House	L
130-146 Malton Road	Lots A and B, DP 393708	"Ahimsa" and grounds	L
Mason Avenue	Road Reserve	Street trees	L
6 Mason Avenue	Lot 3, DP 332084	House	L
12 Mason Avenue	Lot 1, DP 537455	"Boonga"	L
31 Murray Road	Lot B, DP 349965	"Maitai" trees and garden	L
19 Norma Crescent	Lot 1, DP 523362	House	L
The	Road		

Boulevard	Reserve	Street trees	L
1 The Boulevard	Lot 1, DP 576233	Trees	L
5 The Boulevard	Lot 1, DP 580847	House and garden	L
10-12 The Boulevard	Lots 25 and 26, DP 5440	Gardens	L
11 The Boulevard	Lot 2, DP 540033	House	L
14 The Boulevard	Lot B, DP 302976	Garden	L
15 The Boulevard	Lot 1, DP 807998	House	L
18 The Boulevard	Lot 1, DP 526173	House and garden	L
24 The Boulevard	Lot 18, DP 5440	House	L
26 The Boulevard	Lot 17, DP 5440	House	L
The Crescent	Road Reserve	Street trees	L
44 The Crescent	Lot 1, DP 18542	Garden	L
46 The Crescent	Lot 2, DP 18542	Garden	L
48 The Crescent	Lot 3, DP 18542	Garden	L
50 The Crescent	Lots 35, 36, 37, DP 5440	House and garden	L
52 The Crescent	Lot 34, DP 5440	House	L
54 The Crescent	Lot 33, DP 5440	House	L
56 The Crescent	Lot 32, DP 5440	House	L
60-74 The Crescent	Lots 1-5, DP 5440, Lot C, DP 306966, Lot C, DP 328704, Lot 1, DP 335423, Lot G, DP 360935, Lot J, DP 373758, Lot A, DP	Grounds—Cheltenham Recreation Club	L



	303812		
94 The Crescent	Lot 5, DP 9207	"Ashby"	L
The Promenade	Road Reserve	Street trees	L
7 The Promenade	Lot 112, DP 9085	Garden	L
Cherrybrook			
19 Boldrewood Place	Lot 22, DP 846115	"Boldrewood" and garden	L
150 Castle Hill Road	Lot 402, DP 259853	House	L
160-168 Castle Hill Road	Lot 1, DP 511824	"Inala School" (original house)	L
10 Kenburn Avenue	Lot 122, DP 635280	The Lakes of Cherrybrook "Kenburn Hall" and garden	L
134 New Line Road	Lot 108, DP 752053	Cherrybrook Uniting Church, Church hall and cemetery	R
144 New Line Road	Lot 1, DP 619447	"Gumnut Hall"—Cherrybrook Pre-School and Community Centre	L
163 New Line Road	Lot 8, DP 790357	Garden	L
175 New Line Road	Lot B2, DP 162333	House	L
208 New Line Road	Lot 1, DP 777562	House	L
Pyes Creek near Woodlark Place	Pt Lot 163, DP 775483	Bridge, approaches and quarry	L
16 Sanctuary Close	Lot 1021, DP 785501	"Hillcrest"	L
69-85X Shepherds Drive	Lot 1, DP 26375, Pt Lot 4204, DP 706256	Greenway Park	L
56X Shepherds	Lot 4205, DP 706251,	"The Lakes of Cherrybrook	L

Drive	Lot 1, DP 738083	Reserve"	
1X Westminster Drive	Lot 15, DP 771565	Public Reserve	L
Cowan 26 Alberta Avenue	Lot 41, DP 10403	House	L
Glendale Road	Lot 330, DP 752026	Glendale Farm	L
1177 Pacific Highway	Lot 15, DP 10403	House	L
Pacific Highway	Road Reserve	Street trees	L
Pacific Highway	Mining Lease 10	Original Quarry	L
Pacific Highway		Railway Station	L
Pacific Highway	Lots 262,1247, 359 DP 752026	House ruins near quarry	L
Dangar Island			
Baroona Street	Road Reserve	Pedestrian street	L
Baroona Street	Lots 1 and 3, DP 597242	Recreation Reserve	L
8 Baroona Street	Lot 47, DP 10902	Tyneside house	L
Grantham Crescent	Road Reserve	Pedestrian street	R
Grantham Crescent	Road Reserve	Blackbutt trees	R
38 Grantham Crescent	Lot 65, DP 10902	House	L
43X Grantham Crescent	Lot 78, DP 10902	Bradleys Beach	L
Neotsfield Street	Road Reserve	Pedestrian street	R
Northern foreshore	Waterway	Waterfront, seawall, wharf, trees and 1889 Railway Bridge construction site	L
9 Neotsfield Avenue	Lot 1 DP 502013	Sandstone tower	R



Riverview Avenue	Road Reserve	Roadworks	L
91X Riverview Avenue	Lot 2, DP 537659	Kiparra Park bushland	R
9 Yallaro Parade	Lot 2, DP 521484	Former billiard room	R
Dural			
490-498 Galston Road	Lot 2, DP 504406 and Lot 1, DP 87092	Swanes Nursery	L
429 Galston Road	Lot 9, DP 573049	"Koombahla"	L
431 Galston Road	Lot 1, DP 194542	House	L
432 Galston Road	Lot 4, DP 554002	"Shamrock Vale"	L
452 Galston Road	Lot 1, DP 610404	Garden	L
454 Galston Road	Lot 2, DP 610404	Garden—Kelvin Park	L
11 Harris Road	Lot 1, DP 507580	"The Croft"	L
New Line Road	Road Reserve	Street trees	L
New Line Road		Original alignment of New Line Road (Elouera estate)	L
260-266 New Line Road	Lot 84, DP 752053	"Terranova"	L
671-673 Old Northern Road	Lot 1, DP 393694	House	L
857 Old Northern Road	Pt Lot C, DP 349226	House	L
873 Old Northern Road	Lot 2, DP 541989	House	L
885-887 Old Northern Road	Lot 1, DP 616947	Cemetery	L
925-937 Old Northern Road	Lots 1 and 2, DP 618271	House, former Uniting Church and chapel	L
965 Old Northern Road	Lot 1, DP 589402	St Judes Anglican Church and grounds	R

1169-1171 Old Northern Road Epping	Lot 6, DP 239758	"Trees"	L
8 Abuklea Road	Lot 1, DP 19798	"Kooringa" and garden	R
16 Abuklea Road	Lot 33, DP 13411	Garden	L
21-23 Abuklea Road	Lot 14, DP 209831	House	L
32 Abuklea Road	Lot A, DP 411486	House	L
Albuera Road	Lot B, DP 402093	Bushland in Vimiera and Forrester Parks	L
Beecroft Road	Road Reserve	Bushland between Carlingford Road and Kandy Avenue	L
Beecroft Road near southern end of Old Beecroft Road	Road Reserve	Stone causeway over Devlins Creek	L
Blaxland Road	Lot 365, 366, DP 752028, Pt Lot 6 DP 4979	Forest Park	R
2-4 Brigadoon Court	Lots 8 and 9, DP 221577	"Araluen"	L
34 Carlingford Road	Lot C, DP 101970	House	L
72 Carlingford Road	Lot 1, DP 223691	House	L
82 Carlingford Road	Lot A, DP 346625	"Armagh"	L
88 Carlingford Road	Lot 2, DP 7370	House	L
96-104 Carlingford Road	Lot 1, DP 161495, Lot 1, DP 795245, Lot 1, DP 122509	Epping West Public School—original building dated 1927 (excluding other buildings and grounds)	L



Chester Street	Road Reserve	Street trees—east of Norfolk Street	L
4A Chester Street	Lots 1–5, DP 18447	Chester Street Uniting Church and grounds	L
21 Chester Street	Lot 31, DP 850660	House and garden	L
23 Chester Street	Lot 21, DP 262348	House and garden	L
27A Chester Street	Lot 2, DP 541220	Garden	L
45 Chester Street	Lot 1, DP 536152	“Snaresbrook”	L
57 Chester Street	Lot 1, DP 943999	House	L
70 Chester Street	Lot 2, DP 519149	House	L
Dorset Street	Road Reserve	Street trees	L
5 Dorset Street	Lot G, DP 443977	House	L
15 Dorset Street	Lot 10, DP 758390, Section 10	House	L
Epping Road	Road Reserve	Roadside trees—between Terry’s Creek and Pembroke Road	L
5X Essex Street	Lot 3, DP 847018	Garden trees	L
47 Essex Street	Lot 100, DP 860370	“Asheldom”	L
76 Essex Street	Lot A, DP 371633	House	L
84 Essex Street	Lot 44, DP 6719	House	L
121X Essex Street	Pt Lot 255, DP 752028	Terrys Creek crossing in Vimiera Park	S
78 Kent Street	Lot 1, DP 350308	Slab hut	R
67 Midson Road	Lot 1, DP 362225	House	L
132 Midson Road	Lot 3, DP 747324	Garden	L
2–16 Norfolk	Lots 4, 5, 6, 7, 8, 9, 10, 11, 12,	Epping Public School—original building dated 1901 (excluding other	L

Road	13, DP 758390	buildings and grounds)	
9 Norfolk Road	Lot X, DP 410045	House and garden	L
33 Norfolk Road	Lot 3, Section B, DP 19844	House	L
40 Norfolk Road	Lot 1, DP 942564	"Gwydir"	L
44 Norfolk Road	Lot 3, DP 554665	"Glenorie"	L
61 Norfolk Road	Lot 31, DP 854881	House	L
64-66 Norfolk Street	Lot 3, DP 828636	Garden—The Poplars	L
66X Norfolk Street	Lots 437- 440, DP 752028	Epping Park	L
70 Norfolk Road	Lot 1, DP 540890	House	L
10-16 Oxford Street	Lot D, DP 385600	House	L
11-13 Oxford Street	Lot A, DP 375631	"School of Arts" and garden	L
33 Oxford Street	Lot 23, DP 758390	Our Lady Help of Christians Church	L
48 Oxford Street	Lot 1, DP 206646	House	L
73A Oxford Street	Lot 2, DP 840716	House	L
87 Oxford Street	Lot 2, DP 203268	"Folkestone"	L
93 Oxford Street	Lot 11, DP 758390	House and garden	L
3 Pembroke Street	Lot 2, DP 398835	St Albans Anglican Church and grounds	L
58 Pembroke Street	Lot 1, DP 418743	"Stanley House"	R
108 Pennant Parade	Lot 3, DP 27715	House	L
Plympton Road	Road Reserve	Street trees	L
Plympton Road	Pt Lot 2, DP 500461, Lot 12, DP	Ray Park	L



	237797		
23-27 Ray Road	Lot 2, DP 555678	"Emmaus Bible College"	L
80 Ray Road	Lot 2, DP 510642	House	L
140 Ray Road	Lot 20, DP 619827	House	L
166 Ray Road	Lot 2, DP 218333	House	L
184 Ray Road	Lot 4, DP 218235	House	L
9 Rosebank Avenue	Lot B, DP 334278	House	L
10 Rosebank Avenue	Lot 14, DP 16580	House	L
35-37 Stanley Road	Lots 3 and 4, DP 203273	"Tallwood Lodge"	L
Stanley Road	Lots A-C, DP 417846, Lots 100 and 103, DP 810775	Dence Park	L
40 Surrey Street	Lot 1, DP 970607	House	L
9 Sussex Street	Lot 2, DP 513929	House	L
11 Sussex Street	Lot 3, DP 100909	House	L
15 Sussex Street	Lot A, DP 412678	House	L
Sutherland Road	Road Reserve	Street trees—south end	L
York Street	Road Reserve	Street trees	L
20 York Street	Lot 251, DP 861299	House	L
Galston 37 Arcadia Road	Lot 1, DP 632865	Galston Community Centre	L
38-50X Arcadia Road	Lot 1, DP 558731 and Lot 14, DP 975148	Fagan Park group, including Netherby, farm buildings, packing shed, brick kiln site, clay pit and bushland	R
		Galston Public	

39-45 Arcadia Road	Lot 10, DP 717345	School—original building, former teacher's residence and grounds (excluding other buildings)	L
69 Arcadia Road	Lot 14, DP 577251	"Geelans House"	L
70 Arcadia Road	Lot 3, DP 574791	House	L
71-73 Arcadia Road	Lots 2 and 3, DP 227732	Stone wall	L
79 Arcadia Road	Lot 1, DP 565107	"Dumbrell House"	L
138 Arcadia Road	Lot 1, DP 598637	Grounds—St Columbus Church	L
Bayfield Road		Windbreak	L
Crosslands Road	Road Reserve	Roadworks	L
2 Crosslands Road	Lot A, DP 155205	House (includes original slab cottage within)	L
29 Crosslands Road	Lot 1, DP 581060	Windbreak	L
54 Crosslands Road	Lot 18, DP 1056	Fruit trees	L
Galston Road	Road Reserve	Galston Gorge sandstone buttressing	L
Galston Road	Road Reserve	Galston Gorge culvert	L
Galston Road	Road Reserve	Galston Gorge water troughs	L
Galston Road	Road Reserve	Galston Gorge timber bridge	L
295 Galston Road	Lot 64, DP 774512	House	L
357 Galston Road	Pt Lot B, DP 338659	Galston Branch Library—former Church.	L
403 Galston Road	Lot 1, DP 591136	Galston High School—"Waddell Cottage" and water trough (excluding grounds)	R
	Lot 151,		



412X Galston Road	DP 810018, Lots 197 and 216, DP 752048	Galston Park and memorial	L
Galston Road	Road Reserve	Windbreak	L
24 Johnson Road	Lot 201, DP 594075	"Linden"	L
61 Knights Road	Lot 3, DP 517203	House	L
4 Mid-Dural Road	Lot 1, DP 789383	House	L
10 Mid-Dural Road	Lot 4, DP 789383	House	L
3-5 Sallaway Road	Lot A DP 441669	Stone house	L
Sallaway Road	Road Reserve	Culvert	L
Sallaway Road		Banksia cottage quarry	L
Glenhaven 599-601 Old Northern Road	Pt Lot E, DP 412836	Roadside trees	L
Old Northern Road	Road Reserve	Roadside trees	L
Glenorie 1319-1321 Old Northern Road	Lot 4, DP 831026	Original weatherboard house	L
1355 Old Northern Road	Lot 1, DP 615183	House and stone sheds	L
1409 Old Northern Road	Lot 5, DP 752014	Glenorie Memorial Hall (Mission Hall)	L
1475 Old Northern Road	Lot 1, DP 212137	House	L
1477 Old Northern Road	Pt Lot A, DP 344063	Former Church	L
1509-1517 Old	Lot 2, DP	"Hazlehurst"	L

Northern Road	542209		
1523 Old Northern Road	Lot 2, DP 570784	"The Manor"	L
1729 Old Northern Road	Lot 94, DP 752014	War memorial precinct	L
1847 Old Northern Road	Lots 64 and 65, DP 752014	House	L
Hornsby 17 Ashley Street	Lot 2, DP 222907	"Ingleara"	L
3 Bridge Road	Lot 1, DP 17334	House	L
21 Bridge Road	Lot 1, DP 981706	House	L
33 Bridge Road	Lot U, DP 970619 and Lot A, DP 372973	House	L
47 Burdett Street	Lot 31, DP 840973	"The Glen"	L
49 Burdett Street	Lot C, DP 103069	Edgeworth David House ("Coringah") and grounds	S
62 Burdett Street	Lot 100, DP 847306	"House O'Hill Cottage"	L
College Crescent	Lot 1, DP 7463	Barker College Junior school	L
College Crescent (west side)	Road Reserve	Street trees	R
2 Dilkera Close	Lot 4, DP 231944	Sandstone fence	L
4 Dilkera Close	Lot 5, DP 231944	House	L
Dural Street	Road Reserve	Street trees	L
6 Dural Street	Lot 9, Section 1, DP 1880	"Norwood"	L
19 Dural Street	Lot 24 and pt. Lot 25, DP 936819	Christian Science Church	L



23 Dural Street	Lot A, DP 339640	"Wyuni" and gardens	L
32 Dural Street	Lot 2, DP 414827	Garden, fence and paths	L
33 Dural Street	Lot U, DP 971152	House	L
39 Dural Street	Lot U, DP 971374	House	L
41 Dural Street	Lot E, DP 413998, Lot A, DP 306626, Lot 1, DP 125654	Garden	L
Edgeworth David Avenue	Road Reserve	Street trees	L
12 Edgeworth David Avenue	Lots 1-12, DP 2669 and Lots 16-30 Section 2, DP 2669 and Lots 1-15 Section 3 DP 2669	Hornsby Girls' High School—buildings (excluding other school structures and grounds)	R
25-27 Edgeworth David Avenue	Lot G, DP 364260	"Wallarobba" and Willow Park	L
33 Frederick Street	Lot 2, DP 881170	"Wirruna" and gardens	L
1 Galston Road	Lot 2, DP 610671	House	L
9 Galston Road	Lot 5, DP 2053	House	L
10 Galston Road	Lot 1, DP 574472	House	L
34 Galston Road	Lot 11, DP 853365	Garden trees	L
2 High Street	Lot 1, DP 585721	Hornsby War Memorial Hall	R
Hunter Street	Road Reserve	Street trees	L
Jersey Street (east side)	Road Reserve	Street trees	L
1-3 Jersey Street	Lot 4, DP 2947, Section 12.	House	L

Jersey Street	Lot 3, DP 613919	SRA electricity plant and signal box	S
4 Lisgar Road	Lot 2, DP 556814	Garden	L
6 Lisgar Road	Lot A, DP 35299	Garden	L
8 Lisgar Road	Lot 4, DP 505370	Garden	L
10 Lisgar Road	Lot 5, DP 508064	House and garden	L
23, 35X Lisgar Road	Lot 2, DP 421280 and Lot 54, DP 4242	Lisgar Gardens	R
31 Lodge Street	Lot 2, DP 419084	"The Lodge"	L
Manor Road	Road Reserve	Street trees	L
2A Manor Road	Lot 2, DP 792198	"Mount Wilga" and grounds	R
5 Manor Road	Lot 13, DP 15427	Suspension bridge	L
8 Maranta Street	Lot 2, DP 219033	"Wyreema"	L
45 Myra Street	Lot, DP 305358	Garden	L
27 Old Berowra Road	Lot 4, DP 2053	House	L
29 Old Berowra Road	Lot 5, DP 2053	House	L
91 Pacific Highway	Lot 1, DP 915710, Lots 1-5, DP 3145, Lots 5-6, DP 3152	Barker College group of buildings, grounds and gate	S
155 Pacific Highway	Lots 7 and 8, DP 1880	"Hornsby Cinema"	L
155X Pacific Highway	Road Reserve	War Memorial and Palms	L
165-167 Pacific Highway	Lot C, DP 317651	Shop	L
169 Pacific Highway	Lot B, DP 317651	Shop	L
171 Pacific	Pt Lot A,		



Highway	DP 317651	Shop	L
173 Pacific Highway	Lot A, DP 29328	"The Junction Stores"	L
175 Pacific Highway	Lot B, DP 29328	Shop	L
183-183A Pacific Highway	Lot D, DP 418320	Shop	L
185 Pacific Highway	Lot 1, DP 1880	Bank	L
187 Pacific Highway	Lot C, DP 367580	Shop	L
193 Pacific Highway	Lot B, DP 384707	Bank	L
207-207A Pacific Highway	Lot 2, DP 600146, Lot 296, DP 752053	St. Peters Anglican Church and Hall	L
237 Pacific Highway	Pt Lot X, DP 415267	House	L
238 Pacific Highway	Lot 48, DP 41000	Cottage	L
241 Pacific Highway	Pt Lot 6, DP 27439	"Belmont"	L
249 Pacific Highway	Lot A, DP 384457	House	L
269 Pacific Highway	Lot X, DP 372202	"Bingley Hall"	L
292 Pacific Highway	Lot 299, DP 752053	Hornsby Court House	L
296 Pacific Highway	Lot 300, DP 752053, Lot 1, DP 564600 and Lot 1, DP 564599	Hornsby Shire Council Chambers	L
298-300 Pacific Highway	Pt Lot 1, DP 855847	TAFE College— Buildings "K" and "M" and grounds (excluding other buildings)	L
Pacific Highway	Road Reserve	Road median, lights and palms	L
203X Pacific	Lot 1, DP	Hornsby Park and	R

Highway	40000	Lone Pine	
344 Pacific Highway	Lot 5, DP 6447	House	L
352 Pacific Highway	Lot 101, DP 629769	House and garden	L
368 Pacific Highway	Lot 73, DP 545124	"Carnralla"	L
384 Pacific Highway	Lot A, DP 397663	"Hovenden"	L
394 Pacific Highway	Lot B, DP 396653	House	L
406 Pacific Highway	Lot 1, DP 311860	House	L
38-76 Palmerston Road	Lots 1-25, D.P10653, Lots A and B, DP 329121, Lots 1-3, DP 580023	Hornsby Hospital—"Collingridge House" (excluding grounds)	L
Pretoria Parade	Road Reserve	Street trees	L
38 Pretoria Parade	Lot 32, DP 5867	House	L
61-63 Pretoria Parade	Lot 12, DP 816043	Gardens	L
64 Pretoria Parade	Lot F, DP 102630	House	L
Pretoria Parade	Lot 1, DP 22501	Asquith Park	L
Pretoria Parade	Lot 1, DP 6629	Reddy Park	R
26 Pulbrook Parade	Lot A, DP 399538	Hornsby Kuring-gai Hospital and Community Health Service	L
Quarry Road	Lot 1, DP 926103, Lots A and D, DP 318676	Diatreme Hornsby Quarry and surrounding vegetation	S
Quarry Road	Lots A and D, DP 318676	Higgins Family cemetery	L
34 Rosamond Street	Lot 3, DP 9070	House	L



45 Rosamond Street	Lot 21, DP 2053	House	L
48 Rosamond Street	Lot 3, DP 29726	House	L
Rosamond Street	Lot 932, DP 75253, Lot 232, DP 752048	Hornsby Rifle Range	R
Rosemead Road	Road Reserve	Street trees	L
1 Rosemead Road	Lot A, DP 327582	"Mt. Errington" and gardens	R
2 Rosemead Road	Lot 51A, DP 412118	House	L
12 Rosemead Road	Lot 1, DP 620465	Garden tree	L
18 Rosemead Road	Lot 22, DP 7679	House	L
Sherbrook Road	Lot 1, DP 23533	Neal Park and bushland	L
Station Street	Lots 1 and 2, DP 613919	Railway Station	R
4-10 Station Street	Lot 3, DP 813919	Railway Cloak Room buildings.	L
William Street	Road Reserve	Street trees	L
24 William Street	Lots 42 and 43, DP 1880	House	L
32 William Street	Lot 36, DP 1880	House	L
44 William Street	Lot A, DP 306626	"Brinawa"	L
52 William Street	Lot 5, DP 17856	House	L
Hornsby Heights			
100X Galston Road	Lots 405- 420, 364, 682, 882, DP 752053	Rofe Park	L
Galston	Road	Street trees—Ryan	

Road	Reserve	Avenue to Montview Street	L
11X Marine Crescent	Lot 1022, DP 752053	Hopeville Park	L
7 Rofe Crescent	Lot A, DP 368246	"Binbrook"	L
107-127 Somerville Road	Road Reserve	Street trees	L
137-213 Somerville Road	Lot 1, DP 209193	Indigenous vegetation	L
264-266X Somerville Road	Lot 8, DP 248320	Public Reserve	L
Somerville Road	Lot 311, DP 752053, Lot 481, DP 752053	Crosslands Reserve	R
Middle Dural			
Middle Dural Road	Pt Lot 90, DP 752048	Bushland reserve	L
1229 Old Northern Road	Lot A, DP 154144	"Mountain View"	L
1231 Old Northern Road	Lot 31, DP 864916	"Spring Hill" and garden	L
Old Northern Road		Windbreak south of Coppabella Road	L
Mount Colah			
31X Amaroo Avenue	Lot 887, DP 752053	Peat Park	L
Belmont Parade	Road Reserve	Street trees from Berowra Road to Cowan Road	L
1X Beryl Avenue	Lot 1, DP 40000	Hunt Reserve	L
29 Ku-ring-gai Chase Road	Lot 14, DP 14558	"The Lodge"	L
	Lot 1, DP		



37X Kuring-gai Chase Road	588465, Lots 16–23, DP 2052, Section D	Berry Park	L
2–46 Lord Street	Lot 2, DP 586331	Asquith Golf Course	L
534 Pacific Highway	Lot B, DP 350949	House	L
547 Pacific Highway	Lot 5, DP 22580	Garden	L
549–551 Pacific Highway	Lot A, DP 371437	House (excluding northern extension)	L
19–21 Telopea Street	Lots 1 and 2, DP 380552, Lot B, DP 369944, Lot A, DP 391270, Lot 1, DP 205103.	Grounds (excluding buildings)—Mt. Colah Public School	L
Mount Kuring-gai 18 Crawford Road	Lot A, DP 407497	House	
3 Glenview Road	Lot A, DP 393171	House	L
5–9 King Street and Lee Street	Lot 1, DP 410642, Lots A and B, DP 322811, Lot 13, DP 1226, Lot 1, DP 387185, Lot 1, DP 438966, Lots A and B, DP 373625, Lot 10, DP 774997, Lots 11 and 12, DP 774997	Grounds—Mt. Kuring-gai Public School	L
Newcastle Freeway	Road Reserve	Pedestrian Bridge	L
790 Pacific		Mt. Kuring-gai	

Highway		Railway Station	L
Normanhurst			
Beresford Road	Road Reserve	Roadside trees	L
2, 3, 5, 6 and 7 Bluegum Street	Lots 6-8, 10, 11, DP 28826	Gardens	L
Calga Avenue	Road Reserve	Street trees	L
Campbell Avenue	Road Reserve	Street trees	L
7, 9, 11, 15 and 17 Capella Street	Lots 7-11, DP 227308	Rear gardens	L
41 Dartford road	Lot 2, DP 512933	Garden—the Laurels	L
92 Dartford Road	Lot 67, DP 14631	Garden	L
Denman Parade	Road Reserve	Street trees	L
Denman Parade	Lot 1, DP 9413, Lot F, DP 350516	Davidson Park	L
Edwards Road	Road Reserve	Street trees	L
Ferndale Road	Road Reserve	Street trees	L
Fraser Road (east side)	Road Reserve	Street trees	L
3 Fraser Road	Lot 11, DP 9413	House	L
Harris Road (east side)	Road Reserve	Street trees	L
Malsbury Road	Road Reserve	Street trees	L
40 Malsbury Road	Lot 1, DP 219370	House	L
62 Malsbury Road	Lot 1, DP 211880	House	L
Milson Parade (east side)	Road Reserve	Street trees	L
4 Mount Pleasant Avenue	Lot D, DP 366271	House	L
Nanowie Avenue	Road Reserve	Street trees	L



32 Pennant Hills Road	Lot 1, DP 734965	House	L
36 Pennant Hills Road	Lot 1, DP 518285	Garden	L
45 Pennant Hills Road	Lot 16, DP 735131	House	L
82 Pennant Hills Road	Lot 1, DP 262809	"Gilligaloola" and garden	L
91-93 Pennant Hills Road	Lot 1, DP 734955, Lots 15 and 16, DP 6612	Loretto Convent group, grounds, gates and cemetery	R
134-140 Pennant Hills Road	Lot 1, DP 391288	Kenley Park and Hornsby Shire Historical Society drill hall	L
Russell Avenue Pennant Hills	Road Reserve	Street trees	L
7 Albion Street	Lot 2, DP 404428	House	L
8 Albion Street	Lot 1, DP 861075	House	L
12 Albion Street	Lot F, DP 32940	"Windermere"	L
Beecroft Road	Pt Lot 764, DP 712028, Lot 7, DP 828179	Observatory site and park—Observatory Park	R
68 Bellamy Street	Lot A, DP 421252	House	L
Boundary Road	Road Reserve	Street trees (west of Kitchener Road)	L
22-26 Boundary Road	Lots 44, 45, DP 4134 and Lot 47, DP 301835	Grounds (excluding buildings)—St. Agathas Primary School	L
84-86 Boundary Road	Lot 10, DP 220263	House and garden	L
90 Boundary Road	Lot 2, DP 559902, Lot 5, DP 508385, Lot 1, DP 210730 and Lot 7,	Grounds (excluding buildings)—Pennant Hills High School	L

	DP 220263		
1X Bridden Road	Lots 12- 14, DP 216312	Public Reserve	L
Brittania Street	Road Reserve	Street trees	L
8 Brittania Street	Lot 34A, DP 404573	"Gordan"	L
12 Brittania Street	Lot 1, DP 207118	House	R
18 Brittania Street	Lot 1, DP 233176	House	L
Cardinal Street	Road Reserve	Street trees	L
Dean Street	Road Reserve	Street trees	L
7 Fullbourne Avenue	Lot 14, DP 10203	House	L
6 Greycliffe Avenue	Lot 192, DP 865189	House	L
17 Greycliffe Avenue	Lot 87, DP 11134	House	L
28 Greycliffe Avenue	Lot 1, DP 829424	House	L
6 George Street	Lot 50, DP 13079	House	L
43 George Street	Lot 23, DP 4169	House	L
11 Hampden Road	Lot A, DP 357865	House	L
4 Harold Avenue	Lot 8, DP 13079	House	L
18 Hillcrest Road	Lot 24, DP 6740	House	L
John Savage Road	Lot 16, DP 212664	Reserve	L
Lawrence Street	Road Reserve	Street trees	L
1 Lawrence Street	Lots 1 and 2, DP 527529	Lillian Frazer Gardens	L
Lilla Road	Road Reserve	Street trees	L
16 Lilla Road	Lot 1, DP 512282	"The Glen"	L



27 Loftus Road	Lot 4, DP 204012	House	L
41 Loftus Road	Lot 9, DP 208266	House and grounds, including convict brick paths, stone love seat, palm tree, remnant circular drive and beehive well	L
19 Orchard Street	Lots 514 and 575, DP 752053	Gate and grounds—Baden Powell Scout Centre	R
317–321 Pennant Hills Road	Lot 5, DP 808178	House	R
323 Pennant Hills Road	Lot 26, DP 263536	St Luke's Church Hall	L
327 Pennant Hills Road	Lot 24, DP 263536	House and fence	L
333A Pennant Hills Road	Lot 18, DP 263536	"Pomona" and garden	R
333 BandC Pennant Hills Road	Lot 19, DP 263536	Former garden of 333A Pennant Hills Road	L
370 Pennant Hills Road	Pt Lot 23, DP 11134	"Westpac"	L
402 Pennant Hills Road	Lot 5, DP 16057 and Lot 4, DP 622198	"Cheddington" and stables (formerly "Niara")	L
418 Pennant Hills Road	Lot 102, DP 263746	"Camira"	L
449 Pennant Hills Road	Lot 1, DP 34978	"Eudora" and garden	L
449C Pennant Hills Road	Lots 1, 2, 3, 4 and 5, DP 828179	"Mount St Benedict's" Convent and grounds	R
470 Pennant Hills Road	Lot 123, DP 752053	"Limona"	L
12 Pomona Street	Lot 1, DP 531756	House	L
15 Pomona Street	Pt Lot 75, DP 4770	House	L
17 Pomona Street	Lot 1, DP 121087	House	L

22 Pomona Street	Lot 2, DP 507663	House	L
23 Pomona Street	Lot A, DP 371561	House	L
5 Railway Street	Lot 1, DP 222073	"Doonba"	L
34 Ramsay Road	Lot 78, DP 11134	Fence	L
35 Ramsay Road	Lot 1, DP 317985	Fence	L
37 Ramsay Road	Lot A, DP 364826	House and fence	L
49 Ramsay Road	Lot 44, DP 11135	House	L
22 Rosemount Avenue	Lot 1, DP 208583	House	L
25-27 Stevens Street	Lot A, DP 401750	House	L
26 Stevens Street	Lot B, DP 414512	House	L
3 The Crescent	Lot 1, DP 882838	House and garden	L
4 The Crescent	Lot 8A, DP 4592 and Lot B, DP 369863	House	L
6 The Crescent	Lot A, DP 358523	House	L
9 The Crescent	Lot 4, DP 942925 and Lot 1, DP 80733	House and garden	L
10 The Crescent	Lot 1, DP 212400	House	L
11-15 The Crescent	Lot 4A, DP 4592, pt Lot 4, DP 4592 and Lot A, DP 13079	"Abbotsleigh" and garden	R
14 The Crescent	Lot 1, DP 26729	House	L
17 The Crescent	Lot 5, DP 4592	"Barncleuth" and grounds	L
23 The Crescent	Lot Y, DP 388521	"Glen Ayr"	L
6 Thorn	Lot B, DP	House	L



Street	376026		
Trebor Road	Road Reserve	Street trees	L
46 Victoria Road	Lot 1, DP 41516	Trees	L
20 Warne Street	Lot 16, DP 5158	House	L
24 Warne Street	Lot 2, DP 501154	House	L
Weemala Avenue	Road Reserve	Street trees	L
9 Weemala Road	Lot 60, DP 11134	House	L
4 Westwood Street	Lot 11, DP 7505	"Sillaton"	L
6 Westwod Street	Lot 12, DP 7505	House	L
22 Westwood Street	Lot 2, DP 229929	House	L
Wilga Place	Pt Lot 6, DP 181710 Pt Lot 7, DP 181710	Campbell Park	L
Wongala Crescent	Reserve	Bushland	L
4 Yarrara Road	Lot 3, DP 2097	House	L
6 Yarrara Road	Lot 4, DP 2097	House	L
18 Yarrara Road	Lot 1, DP 10203	"The Maze"	L
River Settlements			
Bar Island	Lots 22A, 23A and 24, DP 752040	Cemetery, church ruins and memorial	R
Bennets Bay	Waterway	Jetty	L
Berowra Creek and Murramurra Creek junction	Waterway	Ballast heap	L
Collingridge Point	Lot 17, DP 26377	"Capo di Monte"	L
Gentleman's Halt		Gentleman's Halt Inn ruins	L
Milson	Lot 13, DP		

Island	752026	Prison building	L
Sunny Corner		"Taracoonee"	L
Peats Bight	Lot 8, DP 752026	Remains of George Peat's farmhouse	L
Peats Bight		Old road	R
Thornleigh			
37 Bellevue Street	Lot 10, DP 2033	House	L
4 Clifford Avenue	Lot 23A, DP 7921	House	L
24 Dartford Road	Lot 1, DP 101091	House	L
36 Dartford Road	Lot 1, DP 506283	House	L
41 Dartford Road	Lot 2, DP 512933	"The Laurels"	L
92 Dartford Road	Lot 67, DP 14631	House	L
4 Dawson Avenue	Lot 19, DP 7921	"Hilton"	L
De Saxe Close (near end)	Lots 547 and 1569 DP 752053	Quarry and zigzag railway	L
15-17 Duffy Avenue	Lot 1, DP 200291	"Woodlands"	L
24 Duffy Avenue	Lot 2, DP 28299	House	L
28 Duffy Avenue	Pt Lot 4, DP 484	House	L
42-50 Duffy Avenue	Pt Lot 1, DP 965182	"Windyhaugh" and grounds	L
Giblett Avenue	Road Reserve	Street trees	L
15X Giblett Avenue	Lot 465, DP 752053	Oakleigh Park	L
18 Giblett Avenue	Lot 1, DP 122888, Lot 1, DP 122887	Grounds (excluding buildings)— Thornleigh West Public School	L
40-56 Hillmont Road	Lot 34, DP 28362	Garden	L
1A, 1B, 1C,	Lots 100 and 101, DP 843558,		



1D Kentwell Avenue	and Lots 102 and 103, DP 853809	Trees	L
Loch-Maree Avenue	Road Reserve	Roadside trees	L
1 Orchard Street	Lot X, DP 415964	House	L
5 Orchard Street	Lot 22, DP 7921, Section B	"Wallumeda"	L
Pennant Hills Road	Lot 1, DP 633292	Brickworks wall and bushland	L
Pennant Hills Park	Lot 579, DP 752053	Lorna Pass	L
237 Pennant Hills Road	Lot 1, DP 245272	"Loch Maree House" and garden	L
253 Pennant Hills Road	Lot 43, DP 263535	Garden tree	L
309 Pennant Hills Road	Lot 18, DP 263535	Thornleigh Uniting Church and hall	L
311 Pennant Hills Road	Lot 17, DP 263535	House	L
3 Pritchard Street	Lot 5, DP 2097	House	L
1 Pioneer Avenue	Lot 1, DP 542202	Remains of Maltworks	R
9 Station Street	Lots 22 and 23, DP 1854	House	L
The Comenarra Parkway	Road Reserve	1830's road remains	L
14 The Comenarra Parkway	Lot 14, DP 2033, Section 13	House	L
17 The Esplanade	Lot 1, DP 10930	House	L
80 The Esplanade	Lot 1, DP 14274	House	L
17, 19, 21 and 23 Trelawney Street	Lot K, DP 389092, Lots A and B, DP 373698, Lot E, DP 379102	Gardens	L
11 Wells Street	Lot 12, DP 2097	House	L

33 Yaralla Crescent Wahroonga	Lot 40, DP 31286	House	L
1A Brentford Road	Lot 26, DP 703961	House	L
Bundarra Avenue	Road Reserve	Street trees	L
43 Bundarra Avenue	Lot 11, DP 7975	Garden	L
44 Bundarra Avenue	Lot 2, DP 611318	Garden and fence	L
45 Bundarra Avenue	Pt Lot 9, DP 3021	Garden	L
46 Bundarra Avenue	Lot 1, DP 611318	Tree and fence	L
48 Bundarra Avenue	Lot 1, DP 538770	Garden— “Landskrona”	L
50 Bundarra Avenue	Lot 16, DP 17375	House	R
51 Bundarra Avenue	Lot 117, DP 555779	Garden	L
54 Bundarra Avenue	Lot 15, DP 17375	Garden	L
55 Bundarra Avenue	Lot 15, DP 22621, Lot 15, DP 22621	Garden	L
27 Churchill Avenue	Lot 2, DP 7038	House	L
79 Edgeworth David Avenue	Lots A and D, DP 977963	Uniting Church	L
Fern Avenue	Road Reserve	Street trees	L
9 Highlands Avenue	Lot 5, DP 258247	“Highlands House” and garden	R
34 Highlands Avenue	Lot 38, DP 8606	House	L
31 Ingalara Avenue	Lot B, DP 333577	House	L
Ingram Avenue	Road Reserve	Street trees	L
2–4 Ingram Road	Lots A and B, DP 323414	St. Pauls Church (Pearces Corner) and grounds	L
14 Ingram	Lot 6, DP		



Road	2753	House	L
16 Ingram Road	Lot 5, DP 2753	House	L
52 Ingram Road	Lot 5, DP 2753	House	L
62 Ingram Road	Lot A, DP 311754	House	L
12 John Hughes Place	Lot 10, DP 2870	"Roselands"	L
Myra Street	Road Reserve	Street trees	L
7-9 Myra Street	Lots A and B, DP 405476	"Tenterfield" and garden	R
55 Myra Street	Lots 1 and 2, DP 379794	"Brierdence"	L
1 Pacific Highway	Pt Lot A, DP 9921	Garden	L
8A Pacific Highway	Lot 2, DP 854532	House	L
22 Pacific Highway	Lot B, DP 363455	House	L
23 Pacific Highway	Lot 1, DP 800575	House	L
25 Pacific Highway	Pt Lot B, DP 306729	House	L
31 Pacific Highway	Pt Lot 1, DP 315877	"Strathnoon"	L
Pacific Highway	Lot 1, DP 258852	Garden and trees— Mercy Family Life Centre.	L
Woonona Avenue	Road Reserve	Street trees	L
42 Woonona Avenue	Lot 11, DP 706260	"Cherrygarth" and garden	L
46 Woonona Avenue	Lot 1, DP 563185	"Neringala" and garden	L
Waitara Alexander Parade	Road Reserve	Street trees	L
11-37 Alexandria Parade	Lot 100, DP 848501	Shop	L
	Lots B and C, DP 364173,		

28-36 Balmoral Street	Lot C, DP 388844 and Lot 2, DP 542749	Gardens	L
52 Balmoral Street	Lot A, DP 311111	Garden trees	L
56 Balmoral Street	Lot 6, DP 14623	House	L
75 Balmoral Street	Lot 2, DP 513859	House	L
1X Carden Street	Lot 1, DP 212506	Trees in playground	L
1A Clarke Road	Lot 4, DP 26794	House	L
27-31 Clarke Road	Lot 1, DP 857049	House and garden	L
Edgeworth David Avenue	Lots 9-13, DP 17375	Grounds (excluding buildings)—Waitara Public School	L
59 Edgeworth David Avenue	Lot 2, DP 524141	House	L
19 Orara Street	Lot 111, DP 652566	House	L
33 Palmerston Road	Lot A, DP 362357	House	L
The Avenue	Lot 1, DP 915710, Lots 1-5, DP 3145, Lots 5-6, DP 3152	Barker College, Centenary Design Centre, McCaskill Music Centre, Development Office	R
20X Waitara Avenue	Lot 1, DP 115007	Waitara Park	L
West Pennant Hills			
106 Cardinal Avenue	Lot 2, DP 528360	House	L
Castle Hill Road	Lots 2-3, DP 357453, Pt Lot A, DP 327632	Koala Park	R
5 Fairburn Avenue	Lot 29, DP 27987	House	L



37 New Line Road	Lot 31, DP 857912	House	L
540 Pennant Hills Road	Lot 11, DP 818114	Sydney Blue Gum	L
587 Pennant Hills Road	Lot B, DP 405469	House	R
75 Victoria Road	Lot A, DP 385479	House	L
Wiseman's Ferry			
Old Northern Road	Road Reserve	Road, stone wall, bridge, escarpment and drain	S
River Road	Lot 1, DP 733879	Wiseman's Ferry Inn, grounds	R
River Road	Waterway	Cable ferry	L
80 Singleton Road	Lot 20, DP 856306	Sandstone well/soak	L
Singleton Road	Lot 2, DP 506876	"White Rock" House	L
Singleton Road	Lot 40, DP 752029	Fords Farm	L
Singleton Road	Lot 26, DP 59266	Mill Creek Mill ruins	L
Singleton Road	Ms.1526 Sy. G.G. 22/8/1900	Wiseman's Ferry Cemetery	S
Singleton Road	Lots 15 and 44, DP 752029, Lot 17, DP 752029	Singleton's Mill	S
Singleton Road	Lot 8, DP 752029	House ruins	L
Singleton Road	Lot 50, DP 752029	Chimney	L
Singleton Road	Lot 301, DP 629539	The Lodge	L
Regional Reserves			
Berowra Valley Regional Park		Bushland, including the former Elouera Bushland Reserve and Berowra Valley Bushland Park	S
Ku-ring-gai Chase National		Bushland including Railway Dams, Brooklyn and	S

Park		Bobbin Inn	
Marramurra			
National		Bushland	S
Park			
Muogamarra			
Nature		Bushland	S
Reserve			
New Line	Road	Great North Road	
Road		between West	
		Pennant Hills and	S
		Dural	
Old		Great North Road	
Northern	Road	between Baulkham	
Road		Hills and Wiseman's	S
		Ferry	
Pennant		Bushland	
Hills Park			R

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## Sydney Region

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### Sydney Region

Alfords Point Bridge	<a href="#">15046</a>
Box Girder Bridge over Nepean River, Penrith	<a href="#">12852</a>
Cable Ferry - Mortlake	<a href="#">14052</a>
Cable Ferry, Wisemans Ferry	<a href="#">4300311</a>
Captain Cook Bridge Taren Point, (1965), southern approach	<a href="#">14978</a>
De Burghs Bridge, Macquarie Park	<a href="#">14050</a>
Disused section of MR 181 adjacent to Portion 32	<a href="#">5856</a>
Gladesville Bridge	<a href="#">4300309</a>
Glebe Island Bridge	<a href="#">8791</a>
Hawkesbury River Road Bridge, North Richmond	<a href="#">5481</a>
House - 164 Ramsay St, Haberfield	<a href="#">770</a>
House - 1d River Road, Woronora	<a href="#">15243</a>
House - 46 Martin Street, Haberfield	<a href="#">771</a>
House - 48 Kingston Street, Ashfield	<a href="#">650</a>
Knapsack Viaduct, Lapstone	<a href="#">1584</a>
Lansdowne Bridge	<a href="#">4253</a>
Lennox Bridge, Parramatta	<a href="#">4300301</a>
Macquarie Street Gate House, Parramatta	<a href="#">12597</a>
Milestone - Liverpool Road near corner of Badminton Road, Croydon	<a href="#">2753</a>
Milestone - Parramatta Road near Cheltenham Road	<a href="#">2756</a>
Milestone - Parramatta Road, Stanmore	<a href="#">10321</a>
Old Windsor Road, Seven Hills to Kellyville	<a href="#">1385</a>
Pearces Creek Bridge, Galston Gorge	<a href="#">4300009</a>
Peats Ferry Bridge Crown land	<a href="#">4300308</a>
Pyes Creek Bridge, Cherrybrook	<a href="#">4300310</a>
Queen Anne House, London Terrace, Enmore	<a href="#">10287</a>
Remains of Figtree Bridge	<a href="#">7378</a>
Remains of Wandella and garden, Hunters Hill	<a href="#">7473</a>
Ryde Bridge	<a href="#">14049</a>
Site of Figtree Tea Rooms & Aquatic Tea Rooms	<a href="#">7380</a>
Site of Figtree Wharf and Boatshed	<a href="#">7386</a>
Slab Cottage western end - Neeve Street, Prospect	<a href="#">1365</a>
Southern Gate House in Parramatta Park	<a href="#">12615</a>
St Albans Bridge over MacDonald River	<a href="#">4300129</a>
Stone setting at 1929 Tom Ugly's Bridge, Sylvania	<a href="#">14981</a>
Suspension Bridge, Northbridge	<a href="#">18303</a>
Sydney Harbour Bridge, approaches and viaducts	<a href="#">15492</a>
The Spit Bridge	<a href="#">4300307</a>
Tom Ugly's Bridge (1929)	<a href="#">14982</a>
Tom Ugly's Bridge (1987)	<a href="#">14983</a>

### In This Section

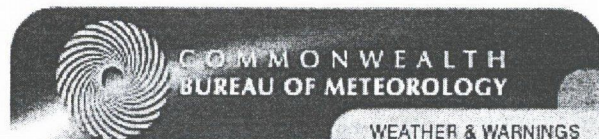
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## What is the weather usually like?

- Climate Averages for Australian Sites -

### Averages for GOSFORD (NARARA RESEARCH STATION) AWS

Make sure you understand what the Climate Averages are all about before you make use of the following information. A comma separated text file of these averages is also available for download which can be graphed in software such as a spreadsheet

061087	GOSFORD (NARARA RESEARCH STATION) AWS						Commenced: 1916		Last record: 2003					
Latitude:-33.3949 S		Longitude: 151.3290 E		Elevation: 20.0 m		State: NSW								
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	No. Yrs	%age comp
Mean Daily Max Temp (deg C)														
27.4	27.0	26.0	23.6	20.2	17.8	17.4	18.8	21.0	23.6	25.0	26.9	22.8	22.8	46
Mean no. Days, Max >= 40.0 deg C														
0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	19.8	51
Mean no. Days, Max >= 35.0 deg C														
2.4	1.3	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.4	1.0	2.2	7.9	19.8	51
Mean no. Days, Max >= 30.0 deg C														
7.3	5.6	4.5	0.9	0.0	0.0	0.0	0.0	0.8	3.3	4.1	6.7	33.1	19.8	51
Highest Max Temp (deg C)														
42.8	43.0	40.1	32.8	28.0	25.0	25.5	29.3	36.1	36.5	39.9	43.0	43.0	20.0	52
Mean Daily Min Temp (deg C)														
16.6	17.1	15.4	11.9	8.4	6.4	4.5	5.4	7.6	10.6	12.7	15.1	10.9	23.1	47
Mean no. Days, Min <= 2.0 deg C														
0.0	0.0	0.0	0.0	0.9	3.0	8.2	4.9	0.9	0.1	0.0	0.0	17.9	20.1	52
Mean no. Days, Min <= 0.0 deg C														

0.0	0.0	0.0	0.0	0.0	0.5	2.1	0.8	0.1	0.0	0.0	0.0	3.4	20.1	52
Lowest Min Temp (deg C)														
7.5	9.7	5.8	3.1	0.1	-1.1	-4.2	-1.1	-0.6	1.1	3.9	6.0	-4.2	20.2	51
Mean 9am Air Temp (deg C)														
22.8	22.4	21.0	18.3	14.2	11.6	10.3	12.7	16.0	19.1	20.4	22.4	17.5	23.1	47
Mean 9am Wet-bulb Temp (deg C)														
19.3	19.7	18.8	15.9	12.3	9.9	8.6	10.2	12.6	15.0	16.2	18.3	14.7	19.8	41
Mean 9am Dew Point Temp (deg C)														
17.1	18.2	17.1	14.3	10.9	8.5	6.9	7.6	9.7	11.4	13.4	15.7	12.5	19.7	51
Mean 9am Relative Humidity (%)														
71	78	78	78	81	82	80	71	67	62	63	66	73	19.8	41
Mean 9am Wind Speed (km/hr)														
8.4	7.3	7.1	6.8	7.0	7.3	7.2	9.2	10.1	11.0	9.7	8.5	8.3	19.5	51
Mean 3pm Air Temp (deg C)														
26.7	25.9	24.5	21.6	18.6	16.3	15.8	17.5	19.5	22.3	22.9	24.9	20.8	7.5	28
Mean 3pm Wet-bulb Temp (deg C)														
20.2	20.7	20.0	16.9	14.9	12.3	11.3	12.4	14.1	16.2	17.4	19.4	15.7	4.5	18
Mean 3pm Dew Point Temp (deg C)														
16.4	17.7	16.5	14.0	11.5	9.2	6.9	6.9	9.6	10.7	13.4	15.5	12.0	8.3	30
Mean 3pm Relative Humidity (%)														
59	59	63	63	64	66	61	55	60	57	58	60	60	5.3	21
Mean 3pm Wind Speed (km/hr)														
13.9	11.6	11.2	9.1	7.9	7.6	8.4	10.3	12.6	11.6	12.9	13.7	10.8	7.8	29
Mean Rainfall (mm)														
139.0	148.1	149.8	136.2	119.1	127.6	79.0	75.9	68.6	82.9	92.4	102.2	1320.8	81.6	99
Median (Decile 5) Rainfall (mm)														
107.0	109.7	132.3	95.9	81.0	79.1	54.1	50.0	54.8	61.2	81.8	76.9	1249.5	83	
Decile 9 Rainfall (mm)														
282.5	342.1	318.2	317.4	302.7	322.6	200.0	212.8	159.7	200.6	191.7	234.8	1892.3	83	
Decile 1 Rainfall (mm)														
28.6	27.0	27.8	32.8	16.3	18.1	9.2	7.5	11.6	13.2	13.2	16.7	889.3	83	
Mean no. of Raindays														
11.1	10.8	11.1	10.6	9.2	9.7	8.0	8.1	8.4	9.0	9.8	10.1	115.8	67.3	82
Highest Monthly Rainfall (mm)														
517.5	597.7	500.3	661.9	634.0	664.0	455.6	426.2	232.1	344.1	361.5	417.1		81.6	99
Lowest Monthly Rainfall (mm)														
4.3	0.0	6.0	4.6	6.1	1.9	0.0	0.0	2.0	1.0	4.1	6.0		81.6	99



## Highest Recorded Daily Rain (mm)

210.8	191.8	205.5	218.4	177.3	170.7	194.8	119.2	106.9	129.3	155.2	155.2	218.4	75.9	93
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------	----

## Mean no. of Clear Days

6.7	8.0	7.3	9.3	7.3	6.6	9.8	12.4	6.2	9.8	5.8	6.8	96.0	4.3	19
-----	-----	-----	-----	-----	-----	-----	------	-----	-----	-----	-----	------	-----	----

## Mean no. of Cloudy Days

11.3	7.7	8.0	5.0	10.0	6.8	6.4	5.0	8.0	6.2	7.2	5.6	87.2	4.3	19
------	-----	-----	-----	------	-----	-----	-----	-----	-----	-----	-----	------	-----	----

## Maximum Wind Gust (km/hr)

53.6	50.0	50.0	57.2	48.2	77.8	50.0	57.2	51.8	51.8	53.6	50.0	77.8	3.1	100
------	------	------	------	------	------	------	------	------	------	------	------	------	-----	-----

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If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the [planning process](#).

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To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

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More information about particular sites may be available from:

- The [POEO public register](#)
- The appropriate planning authority: for example, on a planning certificate issued by the local council under [section 149 of the Environmental Planning and Assessment Act](#).

See [What's in the record](#) and [What's not in the record](#).



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# Noxious weeds



## Noxious Weeds in NSW

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NSW Agriculture

### Hornsby

The following weeds are declared noxious in the Hornsby control area. The 'details' link on each listing provides further information on the legal requirements of the weed's listing and any variation in status within the local control area. [A complete list of all weeds in all control areas is also available as a PDF document.](#)

Common name	Scientific name	Category	
Alligator weed	<i>Alternanthera philoxeroides</i>	W1	<a href="#">details</a>
Asparagus fern	<i>Asparagus densiflorus</i>	W4c	<a href="#">details</a>
Balloon vine	<i>Cardiospermum grandiflorum</i>	W4c	<a href="#">details</a>
Bitou bush	<i>Chrysanthemoides monilifera</i>	W2	<a href="#">details</a>
Boneseed			
Black knapweed	<i>Centaurea nigra</i>	W1	<a href="#">details</a>
Blackberry	<i>Rubus fruticosus (agg. spp.)</i>	W2	<a href="#">details</a>
Bridal creeper	<i>Asparagus asparagoides</i>	W4c	<a href="#">details</a>
Broomrape	<i>Orobanche spp.</i>	W1	<a href="#">details</a>
Cabomba	<i>Cabomba spp.</i>	W4g	<a href="#">details</a>
Camphor laurel	<i>Cinnamomum camphora</i>	W4d	<a href="#">details</a>
Cape broom	<i>Genista monspessulana</i>	W4b	<a href="#">details</a>
Cape ivy	<i>Delairea odorata</i>	W4d	<a href="#">details</a>
Castor oil plant	<i>Ricinus communis</i>	W2	<a href="#">details</a>
Cat's claw creeper	<i>Macfadyena unguis-cati</i>	W4c	<a href="#">details</a>
Climbing asparagus	<i>Asparagus plumosus</i>	W4c	<a href="#">details</a>
Giant reed	<i>Arundo donax</i>	W4a	<a href="#">details</a>
Elephant grass			
Green cestrum	<i>Cestrum parqui</i>	W2	<a href="#">details</a>
Harrisia cactus	<i>Harrisia spp.</i>	W4f	<a href="#">details</a>
Hawkweed	<i>Hieracium spp.</i>	W1	<a href="#">details</a>
Horsetail	<i>Equisetum spp.</i>	W1	<a href="#">details</a>
Karoo thorn	<i>Acacia karroo</i>	W1	<a href="#">details</a>
Kochia	<i>Kochia scoparia</i>	W1	<a href="#">details</a>
Lagarosiphon	<i>Lagarosiphon major</i>	W1	<a href="#">details</a>
Lantana (Pink)	<i>Lantana camara</i>	W2	<a href="#">details</a>

flowered)			
Lantana (Red flowered)	<i>Lantana camara</i>	W2	<a href="#">details</a>
Ludwigia	<i>Ludwigia peruviana</i>	W2	<a href="#">details</a>
Madeira vine	<i>Anredera cordifolia</i>	W4c	<a href="#">details</a>
Mexican feather grass	<i>Nassella tenuissima</i> syn <i>Stipa</i> <i>tenuissima</i>	W1	<a href="#">details</a>
Miconia	<i>Miconia</i> spp.	W1	<a href="#">details</a>
Morning glory	<i>Ipomea indica</i>	W4c	<a href="#">details</a>
Morning glory	<i>Ipomea cairica</i>	W4c	<a href="#">details</a>
Ochna	<i>Ochna serrulata</i>	W4b	<a href="#">details</a>
Pampas grass	<i>Cortaderia</i> spp.	W2	<a href="#">details</a>
Parthenium weed	<i>Parthenium hysterophorus</i>	W1	<a href="#">details</a>
Pellitory	<i>Parietaria judaica</i>	W3	<a href="#">details</a>
Prickly pears	<i>Opuntia</i> spp.	W4f	<a href="#">details</a>
Privet - broadleaf	<i>Ligustrum lucidum</i>	W4b	<a href="#">details</a>
Privet - narrowleaf	<i>Ligustrum sinense</i>	W4b	<a href="#">details</a>
Rhizomatous bamboo	<i>Phyllostachys</i> spp.	W4a	<a href="#">details</a>
Rhus tree	<i>Toxicodendron succedaneum</i>	W2	<a href="#">details</a>
Salvinia	<i>Salvinia molesta</i>	W1	<a href="#">details</a>
Scotch English broom	<i>Cytisus scoparius</i>	W2	<a href="#">details</a>
Senegal tea plant	<i>Gymnocoronis spilanthoides</i>	W1	<a href="#">details</a>
Siam weed	<i>Chromolaena odorata</i>	W1	<a href="#">details</a>
Spotted knapweed	<i>Centaurea maculosa</i>	W1	<a href="#">details</a>
St John's wort	<i>Hypericum perforatum</i>	W2	<a href="#">details</a>
Turkey rhubarb	<i>Acetosa sagittata</i>	W4b	<a href="#">details</a>
Wandering Jew	<i>Tradescantia fluminensis</i>	W4c	<a href="#">details</a>
Water hyacinth	<i>Eichhornia crassipes</i>	W1	<a href="#">details</a>
Water lettuce	<i>Pistia stratiotes</i>	W1	<a href="#">details</a>
Willows	<i>Salix</i> spp.	W4g	<a href="#">details</a>

For further information about weeds or weed control, visit the [NSW Agriculture Weeds page](#) or send an e-mail message to [weeds@agric.nsw.gov.au](mailto:weeds@agric.nsw.gov.au).

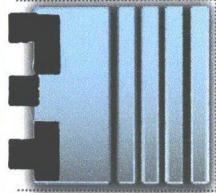
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- there may be changes to the Order(s) users are reminded of the need to ensure that information on which they rely is up to date, and
- some weed declarations of particular weeds have explanatory or qualifying notes and users should check the accuracy, completeness and currency of information by:



**Appendix D**  
**Noise and Vibration Assessment**





# RENZO TONIN & ASSOCIATES PTY LTD

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## PROPOSED F3 BEROWRA TRUCK PARKING AREA - NOISE IMPACT ASSESSMENT

TB514-01F02 (REV 4) F3 TRUCKPARK REF

31 March 2004

Prepared for:

Roads and Traffic Authority  
Environmental Technology Section  
Level 5, Pod D, 93 Phillip St  
Parramatta NSW 2150

Facsimile: 8837 0053

Attention: Mr Nicholas Francesconi

*This report has been prepared on behalf of our client and in accordance with relevant standards. It takes into account our client's particular requirements. It is not intended for and should not be relied upon by a third party and no responsibility is undertaken to any third party.*

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# 1. INTRODUCTION – PROJECT DESCRIPTION AND PURPOSE

---

## 1.1 BACKGROUND & PURPOSE OF PROJECT

The NSW Roads and Traffic Authority (RTA) proposed to construction of a truck parking area north of Berowra on the Pacific Highway, west of the F3 Freeway. The truck parking area, accessed from the F3 via the Pacific Highway, would provide a rest stop for truck drivers travelling north and south along the F3 Freeway.

Renzo Tonin & Associates were engaged to assess the potential noise impact of the proposed truck parking area on the nearest affected residents. Specifically, this report identifies the compliance capability of the proposal with the NSW Department of Environment and Conservation's (DEC, formally known as the Environment Protection Authority) guidelines, including the 'Environmental Criteria for Road Traffic Noise' (ECRTN) and the 'Industrial Noise Policy (INP) and the 'Environmental Noise Control Manual' (ENCM). This assessment is carried out in accordance with the RTA's 'Environmental Noise Management Manual' (ENMM).

The issues addressed in this study include:

- noise emissions from additional truck traffic travelling along the Pacific Highway to the proposed truck parking area; and
- noise emissions from the use of the truck parking area; and
- noise and vibration emissions during construction of the project.

Road traffic noise impact from additional truck traffic travelling along the Pacific Highway is assessed to the base criteria set for *"Land use developments with potential to create additional traffic on existing freeways/arterials"* in the ECRTN.

Potential noise impact from the use of the truck parking area has been assessed against the criteria set by the INP. Potential sleep arousal impacts from the use of the truck parking area have been assessed against the ENCM.

Noise impact from construction activities associated with the proposed truck parking area is also assessed. Construction noise (and vibration) impact is assessed following the RTA's ENMM and the ENCM.

In-principle noise control recommendations are provided to show that the development is capable of complying with the DEC's noise goals.

The work documented in this report was carried out in accordance with the requirements of the Roads and Traffic Authority's 'Environmental Noise Management Manual' and Renzo Tonin & Associates Quality Assurance System, which is based on Australian Standard / NZS ISO 9001.



## 1.2 PROJECT DESCRIPTION

The proposal would involve the construction of a truck parking area north of Berowra on the Pacific Highway, west of the F3 Freeway, for the use of drivers travelling north and south along the F3 Freeway. Access to the truck parking area for vehicles travelling south on the F3 would be via the existing Berowra F3 exit. Vehicles would rejoin the F3 by continuing south along the Pacific Highway through Berowra before rejoining the F3 via the Windybanks Interchange. Access to the truck parking area for vehicles travelling north on the F3 would be via the Windybanks Interchange and the Pacific Highway. Vehicles would rejoin the F3 via the existing northbound merge lanes, north of the proposed truck parking area.

## 1.3 PROPOSED CHANGES TO TRAFFIC CONDITIONS

The construction of the proposed truck parking area would increase truck movements along the Pacific Highway between the Windy Banks interchange and the F3 Berowra exit, as trucks from the F3 Freeway access the parking area, and could therefore potentially increase traffic noise levels in the Berowra area.

## 1.4 ROAD CLASSIFICATION

The Pacific Highway is classed as an arterial road because it is a road that handles through traffic bound for another locality and has characteristically heavy and continuous traffic flows.

## 1.5 NOISE CATCHMENT AREAS

To facilitate the assessment of noise impacts from the proposed F3 truck parking area, residential areas along the Pacific Highway between the Windybanks Interchange and the proposed truck parking area, and those potentially affected by the parking area itself, have been divided into Noise Catchment Areas (NCA's). NCA's are areas that are likely to have similar noise exposures, on the basis of factors such as topography, road design (cuttings, embankments, intersections etc), setbacks, and types of residences and other noise receptors.

Four noise catchment areas were identified along the proposed F3 truck parking area route:

- **NCA 1** Residential area in Berowra, west of the Pacific Highway, between Anembo Road and to the south of the Windybanks Interchange. Includes the La Mancha Caravan Park.
- **NCA 2** Residential area in Berowra, west of the Pacific Highway, between Waratah Road and Anembo Road.
- **NCA 3** Residential area in Berowra, west of the Pacific Highway, between Berowra Waters Road and Waratah Road.
- **NCA 4** Residential area in Berowra, west of the Pacific Highway, between The Gully Road and Berowra Waters Road.

Figure 1 is a locality map showing the noise catchment areas.



## 2. TRAFFIC FLOW AND COMPOSITION SUMMARY

Traffic classification count surveys undertaken along the Pacific Highway between Waratah Road and Anembo Road between Thursday 11<sup>th</sup> March 2004 and Friday 19<sup>th</sup> March 2004 obtained the following traffic volumes and compositions in terms of daytime (15hr) and night-time (9hr) data.

**Table 2.1 – Traffic volumes along the Pacific Highway for 2004**

Period	Northbound Weekdays		Southbound Weekdays	
	Volume	%Heavy	Volume	%Heavy
Day: 7am – 10pm	10,430	5	8,741	5
Night: 10pm – 7am	819	8	2171	19

The weekly, mean speed recorded over the measurement period was 75km/h. The weekly, 85<sup>th</sup> percentile speed limit recorded was 84km/h.

Information provided by the RTA regarding the expected truck usage patterns for the proposed truck parking area are summarised below in terms of expected future traffic volumes along the Pacific Highway.

**Table 2.2 – Traffic volumes along the Pacific Highway with truck parking area**

Period	Traffic Generated by Development		Future Traffic Volume	
	Volume	%Heavy	Volume	%Heavy
Day: 7am – 10pm	40	100	19,211	5
Night: 10pm – 7am	60	100	3,050	18

All traffic noise predictions in Section 6.1 below are based on the above traffic volume and heavy vehicle proportion data.

The traffic classification count location is also shown on **Figure 1**.





Logger location

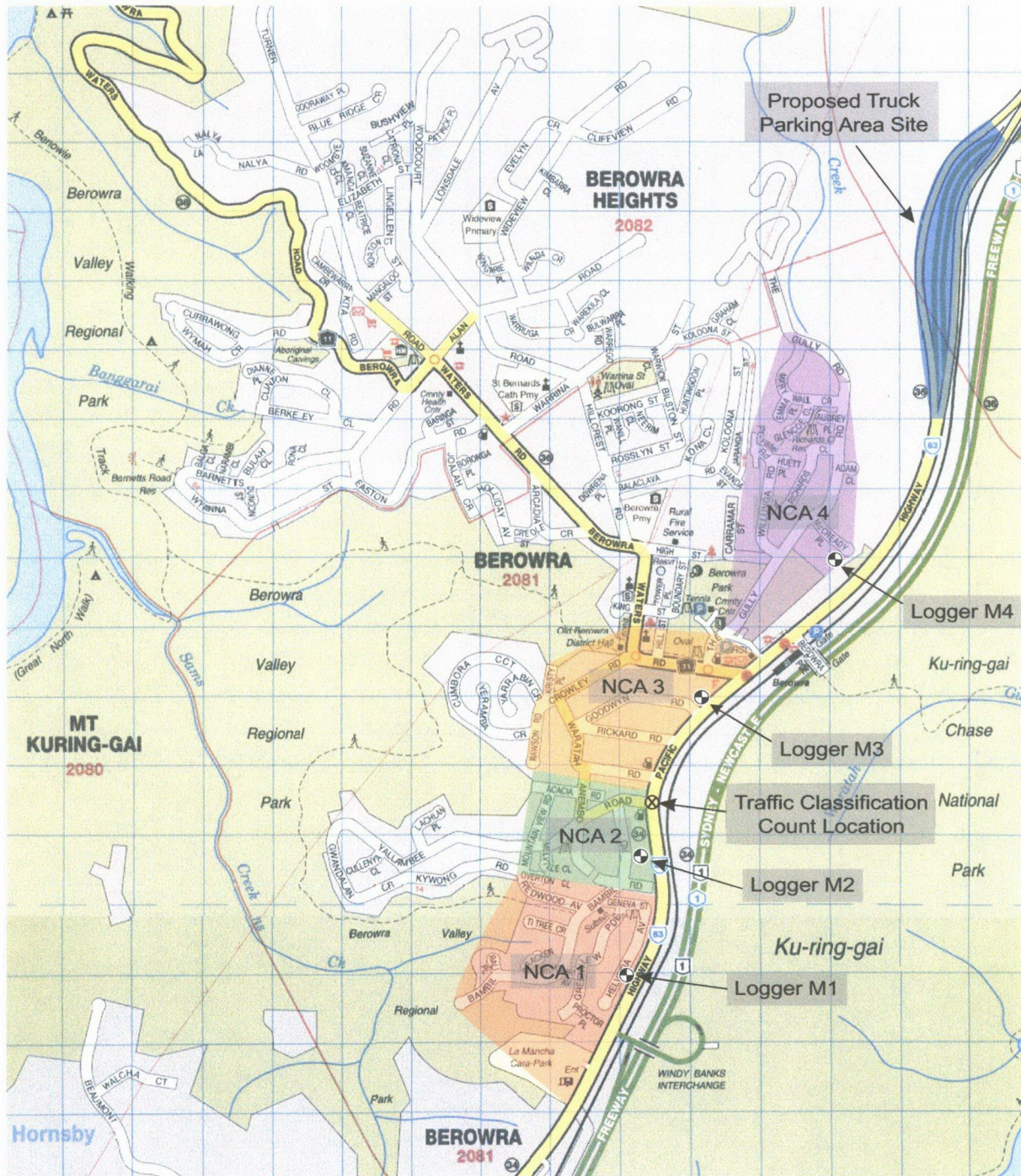


Figure 1 - Locality Map



### 3. EXISTING NOISE ENVIRONMENT

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#### 3.1 STUDY AREA AND NOISE MONITORING LOCATIONS

This study concentrates on the proposed truck parking area on the Pacific Highway north of Berowra and the noise impact on residences in the Berowra area.

To determine current  $L_{eq}$  traffic noise levels and background  $L_{90}$  noise levels along the Pacific Highway, long-term noise monitoring was conducted at four different monitoring locations along the Pacific Highway, Berowra. These locations were selected for monitoring as they are considered to be representative of residences nearest to the road.

Long-term noise monitoring was conducted over 7 days from Wednesday 10<sup>th</sup> March to Wednesday 17<sup>th</sup> March at the following locations:

- Location M1 (NCA 1)** - Approximately 2.8km southwest of the proposed truck parking area;  
*41 Helvetia Avenue, Berowra* - Suburban noise environment dominated by traffic noise along the Pacific Highway, approximately 30m to the west of the monitoring location;  
- Measured at 1.5m above ground level and at 1m from the nearest affected facade to the Pacific Highway.
- Location M2 (NCA 2)** - Approximately 2.3km southwest of the proposed truck parking area.  
*929 Pacific Highway, Berowra* - Suburban noise environment heavily dominated by traffic noise along the Pacific Highway, approximately 15m to the west of the monitoring location;  
- Measured at 1.5m above ground level and at 1m from the nearest affected facade to the Pacific Highway.
- Location M3 (NCA 3)** - Approximately 1.7km southwest of the proposed truck parking area.  
*991 Pacific Highway, Berowra* - Suburban noise environment heavily dominated by traffic noise along the Pacific Highway, approximately 15m to the west of the monitoring location;  
- Measured at 1.5m above ground level and at 1m from the nearest affected facade to the Pacific Highway.
- Location M4 (NCA 4)** - Approximately 1km southwest of the proposed truck parking area.  
*10 McCready Place, Berowra* - Suburban noise environment influenced by traffic noise along the Pacific Highway, approximately 120m to the west of the monitoring location;  
- Measured at 1.5m above ground level and at 1m from the nearest affected facade to the Pacific Highway.

Noise monitoring locations are shown on **Figure 1**.

3.2 NOISE MONITORING PROCEDURES AND INSTRUMENTATION

Monitoring was conducted from Wednesday 10<sup>th</sup> March to Wednesday 17<sup>th</sup> March, 2004. Weather information was obtained from the Bureau of Meteorology for the area over this period and any data adversely affected by rain, wind or extraneous noise was discarded.

The RTA Technology noise monitors were installed near the closest building facade to the road, approximately 1m from the facade and facing the road. The noise monitoring equipment used complies with Australian Standard 1259.2-1990 'Acoustics - Sound Level Meters' and is designated as a Type 2 instrument suitable for field use.

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 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 a Bruel & Kjaer Type 4230 calibrator. No significant drift in calibration was observed.

The graphical recorded outputs of these noise monitors are presented in Appendix B.

3.3 L<sub>eq</sub> TRAFFIC NOISE LEVELS

The 7-day average L<sub>eq</sub> traffic noise levels measured at the monitoring locations are summarised in Table 3.1 below.

The descriptors relevant to arterial roads according to the ECRTN are the L<sub>Aeq(15hr)</sub> daytime and L<sub>Aeq(9hr)</sub> night time descriptors. Daytime represents the period 7am to 10pm and night represents the period 10pm to 7am. The descriptor relevant to the assessment of maximum traffic noise levels, according to the RTA's ENMM is the L<sub>Aeq(1hr)</sub> descriptor.

Table 3.1 – Summary of Traffic Noise Monitoring Along The Pacific Highway

Monitoring Location	7-day Average Traffic Noise Levels, dB(A)				
	L <sub>Aeq(15hr)</sub> (7am - 10pm)	L <sub>Aeq(9hr)</sub> (10pm – 7am)	L <sub>Aeq(1hr)</sub> (7am - 10pm)	L <sub>Aeq(1hr)</sub> (10pm – 7am)	L <sub>Aeq(24hr)</sub>
NCA 1 - 41 Helvetia Ave	56	52	59	58	54
NCA 2 - 929 Pacific Hwy	64	61	66	64	63
NCA 3 - 991 Pacific Hwy	60	58	63	63	59
NCA 4 - 10 McCreedy PI	55	46	60	50	52

A summary of the daily traffic noise levels is provided in the tables following.



**Table 3.2 – Daily Traffic Noise Levels -  $L_{Aeq(15hr)}$  Day and  $L_{Aeq(9hr)}$  Night, dB(A)**

Day	NCA 1 41 Helvetia Ave		NCA 2 929 Pacific Hwy		NCA 3 991 Pacific Hwy		NCA 4 10 McCready PI	
	$L_{Aeq(15hr)}$	$L_{Aeq(9hr)}$	$L_{Aeq(15hr)}$	$L_{Aeq(9hr)}$	$L_{Aeq(15hr)}$	$L_{Aeq(9hr)}$	$L_{Aeq(15hr)}$	$L_{Aeq(9hr)}$
Wednesday 10 March 2004	55	50	63	59	59	56	50	43
Thursday 11 March 2004	55	50	64	59	60	56	54	46
Friday 12 March 2004	55	49	63	58	61	58	56	45
Saturday 13 Marc 2004	56	48	64	58	60	53	55	44
Sunday 14 March 2004	55	50	64	59	59	55	53	47
Monday 15 March 2004	57	57	64	64	61	61	55	49
Tuesday 16 March 2004	56	53	65	63	62	59	53	46
Wednesday 17 March 2004	55	-	65	-	60	-	57	-

**Table 3.3 – Daily Traffic Noise Levels -  $L_{Aeq(1hr)}$  Day and  $L_{Aeq(1hr)}$  Night, dB(A)**

Day	NCA 1 41 Helvetia Ave		NCA 2 929 Pacific Hwy		NCA 3 991 Pacific Hwy		NCA 4 10 McCready PI	
	$L_{Aeq(hr)}$ Day	$L_{Aeq(hr)}$ Ngt	$L_{Aeq(hr)}$ Day	$L_{Aeq(hr)}$ Ngt	$L_{Aeq(hr)}$ Day	$L_{Aeq(hr)}$ Ngt	$L_{Aeq(hr)}$ Day	$L_{Aeq(hr)}$ Ngt
Wednesday 10 March 2004	51	44	60	53	56	50	47	38
Thursday 11 March 2004	51	44	61	52	57	49	46	42
Friday 12 March 2004	53	44	60	53	57	50	50	38
Saturday 13 Marc 2004	51	44	61	52	57	49	48	38
Sunday 14 March 2004	51	47	60	55	55	51	47	42
Monday 15 March 2004	53	52	62	63	57	58	46	45
Tuesday 16 March 2004	51	50	61	58	57	56	45	43
Wednesday 17 March 2004	54	-	64	-	59	-	49	-

3.4 BACKGROUND L90 NOISE LEVELS

Background noise varies over the course of any 24 hour period, typically from a minimum at 3am in the morning to a maximum during morning and afternoon traffic peak hours. Therefore, the NSW DEC's 'Industrial Noise Policy' (INP) requires that the level of background and ambient noise be assessed separately for the daytime, evening and night-time periods. The INP defines these periods as follows:

- **Day** is defined as 7:00am to 6:00pm, Monday to Saturday and 8:00am to 6:00pm Sundays & Public Holidays.
- **Evening** is defined as 6:00pm to 10:00pm, Monday to Sunday & Public Holidays.
- **Night** is defined as 10:00pm to 7:00am, Monday to Saturday and 10:00pm to 8:00am Sundays & Public Holidays.

**Appendix A** of this report presents a description of acoustic terms. **Appendix B** contains the graphical recorded output from long term noise monitoring. The graphs in **Appendix C** were analysed to determine a single assessment background level (ABL) for each day, evening and night period, in accordance with the INP.

3.4.1 Existing Background & Ambient Noise Levels

Existing ambient noise levels are presented in Table 3.4below.

The noise monitors were positioned at 1m from the residential facade. Operational noise from the site should be assessed away from the facade at the potentially most affected residential boundary and therefore the representative Leq noise levels listed in Table 3.4 have been corrected to remove facade reflection. It should be noted that L90 background noise levels do not require correction to remove facade reflection, in accordance with DEC guidelines.

Table 3.4 – Measured Existing Background (L90) & Ambient (Leq) Noise Levels, dB(A)

Location	L90 Background Noise Levels			Leq Ambient Noise Levels		
	Day	Evening	Night	Day	Evening	Night
NCA 1 - 41 Helvetia Ave, Berowra	48	44	35	55	51	50
NCA 2 - 929 Pacific Hwy, Berowra	52	47	36	62	60	58
NCA 3 - 991 Pacific Hwy, Berowra	50	46	40	59	56	55
NCA 4 - 10 McCready Pl, Berowra	41	43	35	53	53	44



## 4. NOISE AND VIBRATION CRITERIA

### 4.1 TRAFFIC NOISE ON PACIFIC HIGHWAY

Road traffic noise impact is assessed in this report in accordance with the DEC's ECRTN and the RTA's ENMM. Potential noise impact may occur along the Pacific Highway as a result of the proposed development. The Pacific Highway is classed as an arterial road because it is a road that handles through traffic bound for another locality and has characteristically heavy and continuous traffic flows.

The  $L_{eq}$  noise level or the "equivalent continuous noise level" correlates best with the human perception of annoyance associated with traffic noise.

#### 4.1.1 Residential Receptors

Table 1 of the ECRTN – 'Road Traffic Noise Criteria for Proposed Road or Residential Land Use Developments' divides land use developments into different categories and lists the respective criteria for each case. The proposed truck parking area has potential to create additional traffic along the Pacific Highway, therefore the category here is Category 7 of the table, reproduced below:

**Table 4.1 - DEC's Environmental Criteria for Road Traffic Noise**

Type of Development	Criteria		
	Day, dB(A)	Night, dB(A)	Where Criteria are Already Exceeded
7. Land use developments with potential to create additional traffic on existing freeways/arterials	$L_{Aeq(15hr)}$ 60	$L_{Aeq(9hr)}$ 55	<p>Where feasible, existing noise levels should be mitigated to meet the noise criteria. Examples of applicable strategies include appropriate location of private access roads; regulating times of use; using clustering; using 'quiet' vehicles; and using barriers and acoustic treatments.</p> <p>In all cases, traffic arising from the development should not lead to an increase in existing noise levels of more than 2 dB</p>

It should be noted that there is an existing road traffic noise exposure at many receivers along the Pacific Highway greater than 60dB(A)  $L_{Aeq(15hr)}$  and 55dB(A)  $L_{Aeq(9hr)}$  (see Table 3.1). As this project does not involve any road redevelopment works along the Pacific Highway, it would not be reasonable to implement additional noise mitigation measures along the Pacific Highway as a result of the proposed development. Therefore, the noise goal for this project would be to restrict any traffic noise increase due to truck movements to and from the truck parking area to a maximum of 2dB.

#### 4.1.2 Other Sensitive Land Uses

The DEC's traffic noise policy also sets guidelines for the assessment of traffic noise on sensitive land uses such as schools, hospitals, places of worship and recreation areas. There are no sensitive land uses in the study area so no noise goals are required to be set.



4.2 TRUCK PARKING AREA USE

The noise catchment most likely to be affected by noise emission from the truck parking area is NCA 4, to the north of Berowra Waters Road. The residential areas to the south of Berowra Waters Road are considerable distance away from the truck parking area (>1km) and are therefore unlikely to experience noise impact from it's use. Noise impact is assessed to NCA 4 only. Should compliance be achieved at NCA 4, it would also be achieved at NCAs 1-3.

4.2.1 Operational Noise Criteria

The use of the truck parking area, which would include noise sources such as opening and closing of doors, trucks accelerating, compression braking, and truck refrigeration condenser units, should be assessed to the INP.

The assessment procedure in terms of the INP has two components:

- Controlling intrusive noise impacts in the short term for residences; and
- Maintaining noise level amenity for particular land uses for residences and other land uses.

In accordance with the INP, noise impact should be assessed in terms of both intrusiveness and amenity. The DEC's industrial noise criteria is based on the background and ambient noise monitoring carried out at the nearest affected residential locations, These are:

Table 4.2 - DEC's Industrial Noise Criteria, dB(A)

Location	Intrusiveness Criteria			Amenity Criteria <sup>1</sup>		
	L <sub>Aeq,15min</sub>			L <sub>Aeq,period</sub>		
	Day	Evening	Night	Day	Evening	Night
NCA 4 - 10 McCready Pl, Berowra	46	48	<b>40</b>	55	45	<b>40</b>

- Notes: 1. Residential locations have been categorised as 'Suburban'. Given that the existing noise environment is not influenced by existing industry, the Amenity Criteria have not been modified in accordance with Table 4.1, NSW DEC's INP.
2. **Bold** indicates strictest noise criteria

4.2.2 Sleep Arousal Criteria

Guidance for assessing sleep disturbance resulting from short-duration high-level noises which occur between 10:00pm and 7:00am is taken from Chapter 19 of the DEC's ENCM, as follows:

*"Noise control should be applied with the general intent to protect people from sleep arousal. To achieve this, the L<sub>1</sub> level of any specific noise source should not exceed the background noise level (L<sub>90</sub>) by more than 15 dB(A) when measured outside the bedroom window."*

$$L_1 \leq L_{90} + 15\text{dB(A)}$$

Table 4.3 – Sleep Intrusiveness Criteria

Location	L <sub>1</sub> Criteria, dB(A)
NCA 4 - 10 McCready Pl, Berowra	L <sub>1</sub> ≤ 35+ 15 = <b>50</b>



4.3 CONSTRUCTION NOISE

Construction noise and vibration are assessed in accordance with *Section 9* of the RTAENMM. The relevant construction noise criteria in this assessment are set in Chapter 171 of the DEC’s ENCM. **Noise Level Restrictions**

- i). *Construction period of 4 weeks and under.*  
The L<sub>10</sub> level measured over a period of not less than 15 minutes when the construction site is in operation must not exceed the background level by **more than 20 dB(A)**.
- ii). *Construction period greater than 4 weeks and not exceeding 26 weeks.*  
The L<sub>10</sub> level measured over a period of not less than 15 minutes when the construction site is in operation must not exceed the background level by **more than 10 dB(A)**.
- iii). *Construction period greater than 26 weeks.*  
The L<sub>10</sub> level measured over a period of not less than 15 minutes when the construction site is in operation must not exceed the background level by **more than 5 dB(A)**.

NCA 4 is the nearest noise catchment to the proposed truck parking area and therefore the potentially worst affected by construction noise. The noise monitoring location at 10 McCready Place was also most removed from existing traffic noise from the Pacific Highway. Measured background noise levels from this location are considered to be representative of the lowest noise levels in the NCA and are suitable for setting construction noise criteria that are consistent with a conservative assessment. Based on the background noise levels measured at 10 McCready Place, the construction noise criteria are summarised below.

Table 4.4 – Summary of Construction Noise Criteria

Length of Construction Period	Construction Noise Criteria, dB(A)
4 weeks and under	46 + 20 = 66
Greater than 4 weeks and not exceeding 26 weeks	46 + 10 = 56
Greater than 26 weeks	46 + 5 = 51

The construction period is anticipated to be within 4 to 26 weeks.

Time Restrictions

- Monday to Friday, 7am to 6pm.
- Saturday, 7am to 1pm if audible on residential premises, otherwise: 8am to 1pm.
- No construction work to take place on Sundays or Public Holidays.

4.4 CONSTRUCTION VIBRATION

Typical construction activities, as shall be used during the construction stage of the F3 Truck Stop, are not likely to generate vibration levels that would cause human discomfort (>2mm/s at night) at distances of more than 100 metres from the construction site. As the closest residence to the proposed truck parking area site is approximately 400 metres from the nearest point of potential construction activity, construction vibration is not likely to be an issue. Construction vibration is therefore not addressed any further in this report.



## 5. NOISE SOURCES

### 5.1 TRAFFIC PREDICTION NOISE MODELLING

The traffic noise prediction model used in this report is based on a method developed by the United Kingdom Department of Environment entitled “Calculation of Road Traffic Noise (1988)” known as the CORTN (1988) method. This method has been adapted to Australian conditions and extensively tested by the Australian Road Research Board. The model predicts noise levels for free flowing traffic and a modified method has been developed which enables an accurate prediction of noise from high truck exhausts to be taken into account. The method predicts the  $L_{10(1\text{hour})}$  noise levels, and a correction of -3dB(A) is applied to obtain the  $L_{eq(1\text{hour})}$  noise levels for every hour in a 24 hour day.

The  $L_{eq(1\text{hour})}$  noise levels for the time period 7.00am to 10.00pm are then collated and logarithmically averaged to derive the daily  $L_{eq(15\text{hour})}$  noise level. Similarly, the  $L_{eq(1\text{hour})}$  noise levels for the time period 10.00pm to 7.00am are collated and logarithmically averaged to derive the night time  $L_{eq(9\text{hour})}$  noise level.

The noise prediction model takes into account the following:

**Table 5 – Summary of Modelling Inputs**

Input Parameters	Data Acquired From
Traffic volumes and mix	Traffic counts data provided by CFE Information Technologies and truck movement data provided by RTA based on expected use of the truck parking area.
Vehicle speed	75km/h – current weekly average, taken from count data provided by CFE Information Technologies
Gradient of roadway	From existing topographical maps
Source height	0.5m for car exhaust, 1.5m for car and truck engines and 3.5m for truck exhaust and detailed within CORTN
Ground topography at receiver and road	From site observations and existing topographical maps
Angles of view from receiver	Determined during site inspections and aerial photos
Reflections from existing barriers, structures & cuttings on opposite side of road	Determined during site inspections
Air and ground absorption	Detailed within CORTN, ground absorption varied along route. Numeric values varied between 0 (hard surface) to 1 (100% absorptive)
Receiver heights	1.5m above ground level for ground floor
Facade correction	+2.5dB(A)
Acoustic properties of road surfaces	Determined during site inspection – dense graded asphalt
Roadside barriers	Existing fencing at properties used for validation purposes only. Prediction model assumes no existing barriers.
Traffic noise levels ( $L_{Aeq}$ )	Based on long term monitoring results

The model was verified and calibrated using the long-term noise monitoring results and traffic classification count data obtained for this project.



5.2 TRUCK PARKING AREA USE

Noise generated by truck parking area activities which may contribute to the overall  $L_{Aeq}$  noise level emission from the site includes vehicle doors closing, vehicle engines starting, vehicles accelerating and vehicles moving. To assess this noise, the  $L_{Aeq}$  noise level was determined for the relevant time period based on the number of vehicle activities expected to occur during that period at the nearest affected residential premises. SEL (sound exposure level) measurements from our database and library files were used for the purpose of this assessment.

The worst case scenario for daytime truck parking area activity has 40 vehicles using the area between 6:00am and 8:00pm. The worst case scenario for evening and nighttime truck parking area activity has 60 vehicles using the area between 8:00pm and 6:00am.

Table 5.6 – Sound Power Levels - Truck Parking Area Activities

Activity	Sound Power Level, dB(A) re 1pW	
	SEL	$L_1$
Vehicle door closing	84	100
Vehicle engine starting	90	100
Truck air brakes	-	116
Truck moving on site (<10km/hr)	106	107
Truck reverse signal	-	107
Truck Mounted Refrigeration Equipment	$L_{Aeq}$ 89	-

### 5.3 CONSTRUCTION NOISE

The following table lists construction plant and equipment likely to be used by the contractor to carry out the necessary construction work for this project. No piling or blasting is expected to be required for the construction of the truck parking area.

**Table 5.7 - Typical Construction Equipment & Sound Power Levels, dB(A)**

Plant Item	Plant Description	L <sub>A10</sub> Sound Power Levels	
		Range	Typical (Mid-Point)
1	Concrete Saw	118 – 118	118
2	Concrete Leveller	115 – 115	115
3	Pneumatic Jack Hammer	110 – 115	113
4	Mobile Crane	110 – 115	113
5	Scraper	110 – 115	113
6	Front End Loader	110 – 115	113
7	Pneumatic Hand Tools (general)	110 – 115	113
8	Compactor	110 – 115	113
9	Pavement Laying Machine	110 – 114	112
10	Bulldozer	105 – 118	112
11	Tracked Excavator	105 – 115	110
12	Grader	105 – 115	110
13	Vibratory Roller	108 – 110	109
14	Concrete Truck	108 – 110	109
15	Dump Trucks	102 – 113	108
16	Water Cart	106 – 108	107
17	Rollers	100 – 113	107
18	Asphalt Truck	106 – 106	106
19	Truck (>20tonne)	103 – 108	106
20	Cherry Picker	105 – 105	105
21	Concrete Pump	100 – 109	105
22	Backhoe	100 – 108	104
23	Power Generator	100 – 106	103
24	Concrete Vibrator	101 – 105	103
25	Silenced Air Compressor	90 – 105	98

Note: The sound power data within the column marked "Typical (Mid-Point)" has been used in this study to calculate typical noise levels at the nominated assessment locations.

The sound power levels for the majority of activities presented in the above table are based on maximum levels given in Table D2 of Australian Standard 2436 - 1981 "Guide to Noise Control on Construction, Maintenance and Demolition Sites", information from past projects and information held in our library files.



## 6. PREDICTED NOISE

### 6.1 ROAD TRAFFIC NOISE ASSESSMENT

Future traffic noise levels upon completion of the proposed truck parking area have been predicted using the CORTN traffic noise model, which was validated using the noise monitoring results in Section 3 of this report. Traffic volumes used in modelling are shown in Section 2 of this report.

Table 6.1 below presents future traffic noise levels at the assessed residential locations after the proposed works are complete. It is expected that approximately 100 trucks will use the truck parking area per day, with 40 using it during the Day period and 60 using it during the Night period.

**Table 6.1 – Predicted Weekday Traffic Noise Increase at Residences**

Assessment Location	Measured Existing Traffic Noise Level, dB(A)		Predicted Traffic Noise Level with Truck Park, dB(A)		Noise Level Increase, dB(A)
	L <sub>Aeq</sub> (15hr) Day	L <sub>Aeq</sub> (9hr) Night	L <sub>Aeq</sub> (15hr) Day	L <sub>Aeq</sub> (9hr) Night	
NCA 1 - 41 Helvetia Ave	56	52	56	52	<1
NCA 2 - 929 Pacific Hwy	64	61	64	61	<1
NCA 3 - 991 Pacific Hwy	60	58	60	58	<1
NCA 4 - 10 McCready Pl	55	46	55	46	<1

Table 6.1 shows that traffic noise will increase by less than 1 dB(A) at all residential receivers, during the Day and Night periods, along the section of the Pacific Highway running through Berowra. The minimum detectable change in a constant noise source is 1dB under ideal conditions. Under field conditions, a change in a noise level of less than 1dB would not be noticeable. Therefore, the change in traffic noise level due to the increase in vehicle movements to and from the truck parking area along the Pacific Highway is considered insignificant. Compliance with the ECRTN allowance of traffic noise increase due to truck movements to be less than 2dB is achieved.

### 6.2 ASSESSMENT OF PARKING AREA USE

#### 6.2.1 Operational Noise

Calculation of noise from truck parking area activity was based on the typical worst case scenario operations during the assessment period (day, evening or night). Information provided by the RTA was that 40 trucks would use the area between 7:00am and 10:00pm. For the assessment of operational noise, the 7:00am to 10:00pm is divided into two periods, 'Day', which refers to the period 7:00am to 6:00pm, and 'Evening', which refers to the period 6:00pm to 10:00pm. For assessment purposes it was assumed that 30 trucks would use the area between 7:00am and 6:00pm, and 10 trucks would use the parking area between 6:00pm and 10:00pm.

Noise levels have been predicted to the nearest affected receivers in NCA 4, taking into consideration attenuation from distance only.



**Table 6.2 - Noise Impact Assessment – Truck Parking Area Activities**

Assessment Location	Predicted Noise Levels, dB(A)					
	Intrusiveness $L_{Aeq,15min}$			Amenity $L_{Aeq,period}$		
	Day	Evening	Night	Day	Evening	Night
<i>Criteria</i>	46	48	40	55	45	40
NCA 4 - 10 McCready Pl	33	33	34	<30	<30	32

Table 6.2 shows that noise levels from the operation of the truck parking area would comply with the INP criteria in NCA 4, and therefore all of the other Noise Catchment Areas during the Day, Evening and Night periods.

### 6.2.2 Sleep Arousal

Calculation of potential sleep arousal impacts from truck parking area activity was based on the typical worst case scenario operations during the night period. Noise levels have been predicted to the nearest affected receivers in NCA 4, taking into consideration attenuation from distance only. Predicted noise levels have been compared to the sleep arousal criteria determined in Section 4.2.2.

**Table 6.3 – Sound Power Levels - Truck Parking Area Activities**

Activity	Predicted L1 Noise Level at NCA 4, dB(A)
<i>Sleep Arousal Criteria</i>	50
Vehicle door closing	38
Vehicle engine starting	38
Truck air brakes	<b>54</b>
Truck moving on site (<10km/hr)	45
Truck reverse signal	45

In general, noise generated by truck parking area activities is unlikely to cause sleep disturbance to residences in NCA 4, with the exception of truck air brakes. The use of truck air brakes may exceed the criteria by up to 4dB(A). It is arguable that the potential for sleep disturbance is low, based on recent research that shows low-level noises, even though they exceed the background by more than 15dB(A) do not necessarily cause sleep arousal [see Carter et al, Acoustics Australia vol 20 No 2 August 1992 pp49-55]. It is noted that the EPA's ENCM guideline was written in 1985 and there has been new research carried out since then on sleep disturbance, as set out in Appendix B of the "Environmental Criteria for Road Traffic Noise" (ECRTN). The EPA's sleep arousal criterion is currently being reviewed, as the general opinion is that this criterion is conservatively low.

The recent research shows that a suitable criterion which will ensure that 90% of the population (including the aged) are protected in their sleep, is:

- An emergence level ( $L_1$ ) of "background plus 15dB(A)" outdoors; and
- Where the emergence level is less than 65dB(A), a value of 65dB(A) outdoors.



The L<sub>1</sub> noise level generated by truck air brakes at the residential receptors is less than 65dB(A), therefore the potential for sleep disturbance is considered low. However, in line with a conservative assessment, it is recommended that the use of truck air brakes be restricted at the truck parking area to reduce the potential for sleep arousal.

### 6.3 CONSTRUCTION NOISE ASSESSMENT

Noise levels at any receptors resulting from construction would depend on the location of the receptor with respect to the area of construction, shielding from intervening topography and structures, and the type and duration of operation being undertaken. Furthermore, noise levels at receivers will vary significantly over the total construction program due to the transient nature and large range of plant and equipment that could be used.

Table 6.4 presents predicted external construction noise levels over a range of distances across the nearest and potentially worst affected areas, i.e. along The Gully Road, Berowra.

**Table 6.4 – Predicted L<sub>10</sub> Construction Noise Levels, dB(A)**

Plant Item	Plant Description	NCA 1	NCA 2	NCA 3	NCA 4
<i>Noise Criteria</i>		56	56	56	56
1	Concrete Saw	43	45	47	58
2	Concrete Leveller	40	42	44	55
3	Pneumatic Jack Hammer	38	39	42	52
4	Mobile Crane	38	39	42	52
5	Scraper	38	39	42	52
6	Front End Loader	38	39	42	52
7	Pneumatic Hand Tools (general)	38	39	42	52
8	Compactor	38	39	42	52
9	Pavement Laying Machine	37	39	41	52
10	Bulldozer	37	38	41	51
11	Tracked Excavator	35	37	39	50
12	Grader	35	37	39	50
13	Vibratory Roller	34	36	38	49
14	Concrete Truck	34	36	38	49
15	Dump Trucks	33	34	37	47
16	Water Cart	32	34	36	47
17	Rollers	32	33	36	46
18	Asphalt Truck	31	33	35	46
19	Truck (>20tonne)	31	32	35	45
20	Cherry Picker	30	32	34	45
21	Concrete Pump	30	31	34	44
22	Backhoe	29	31	33	44

Plant Item	Plant Description	NCA 1	NCA 2	NCA 3	NCA 4
23	Power Generator	28	30	32	43
24	Concrete Vibrator	28	30	32	43
25	Silenced Air Compressor	23	24	27	37

Based on the construction noise levels predicted above, compliance with the construction noise criteria will be achieved within all noise catchments during the construction phase, with the exception of NCA 4 during the use of the concrete saw. It should be noted however that noise exceedances may occur should two or more items of plant are operating concurrently in close proximity. Noise management measures should be applied to the site to ensure compliance is achieved.



## 7. MAXIMUM NOISE LEVEL ASSESSMENT

The DEC's policy on traffic noise does not specify a night-time  $L_{\max}$  noise limit or noise goal. 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.

According to the policy however, the likely maximum or peak noise levels are to be broadly assessed and reported for the night-time period, which is considered by the EPA as being 10pm to 7am.

According to Practice Note (iii) of the RTA's ENMM, a maximum noise event can be defined as any passby for which:

$$L_{\max} - L_{\text{eq}(1\text{hr})} \geq 15\text{dB(A)}$$

Recent noise monitoring shows that  $L_{\max}$  traffic noise levels at night along the Pacific Highway can reach approximately 80dB(A) as a repeatable maximum level for residences close to the road (eg. 991 Pacific Highway).

The  $L_{\max}$  noise level for a truck travelling at 80km/hour, the maximum posted speed for the Pacific Highway, was calculated to be approximately 85dB(A) at a distance of 20m from the US Federal Highway Administration (FHWA) traffic noise model. At 80km/hr the  $L_{\max}$  level is calculated to be approximately 82dB(A) at 20m. These source levels were used to predict  $L_{\max}$  noise levels at the facades of each assessed residence.

**Table 7.1 – Maximum Night Time Noise Levels – Road Traffic Noise, dB(A)**

Nearest Affected Residences	Noise Levels at Receiver Location		
	Modeled* $L_{\max}$ Trucks at posted speed	Typical Weekday $L_{\text{eq}(1\text{hr})}$ at night	$L_{\max} - L_{\text{eq}(1\text{hr})}$
NCA 1 - 41 Helvetia Ave	79	48	31
NCA 2 – 929 Pacific Hwy	85	58	27
NCA 3 – 991 Pacific Hwy	85	54	31
NCA 4 –10 McCready Pl	67	42	25

*Note: \* Conservative noise modelling assuming no noise attenuation due to shielding from intervening topography and ground effects.*

In terms of  $L_{\max}$  noise levels, NCA 2 and 3 are the worst affected receiver locations due to their close proximity to the Pacific Highway. Predicted maximum noise levels there could be as high as 85dB(A), more than approximately 30dB(A) above the ambient  $L_{\text{eq}(1\text{hr})}$  noise level.

In terms of the  $L_{\max} - L_{\text{eq}(1\text{hr})}$  metric, Locations 1 and 3 are shown to be the worst affected locations, with  $L_{\max}$  noise levels reaching up to 31dB(A) above the  $L_{\text{eq}(1\text{hr})}$  noise levels.

It should be noted that the  $L_{\max}$  and  $L_{\max} - L_{\text{eq}(1\text{hr})}$  noise levels presented above are not expected to change as a result of the proposed truck parking area. There would however be a marginal increase in the number of  $L_{\max}$  events over the night period as a result of increased truck numbers using the Pacific Highway to access the truck parking area. The expected increase in events is analysed below.

Table 7.2 below presents number of truck pass-bys during the night period at present and in future, after the proposed truck parking area is completed.

**Table 7.2 – Number of Heavy Vehicle Pass-by Events Along the Pacific Highway, Berowra**

Period	Number of Heavy Vehicle Movements			
	Existing	Additional Movements	Future Total	Percentage Increase
Night: 10pm – 7am	480	60	540	12.5%



## 8. NOISE MITIGATION RECOMMENDATIONS

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### 8.1 TRAFFIC NOISE

Existing traffic noise levels along the Pacific Highway in Berowra exceed the ECRTN criteria at some residences. However, it would not be reasonable or feasible for traffic noise mitigation measures to be implemented in response to this project, as the traffic noise increase due to the proposed truck parking area are less than 1dB, and therefore considered is insignificant.

Applying the ECRTN's 2dB allowance criteria above existing traffic noise levels, compliance with the ECRTN is achieved.

### 8.2 TRUCK PARKING AREA USE

No recommendations are required for the general operation of the proposed truck parking area, with the exception that the use of truck air brakes should be restricted to minimise the potential for sleep arousal.

### 8.3 CONSTRUCTION NOISE

The following recommendations provide in-principle noise control solutions to reduce noise impacts to residential receivers. Where actual construction activities differ from those assessed in this report, more detailed design of noise control measures may be required once specific items of plant and construction methods have been chosen and assessed on site.

The advice provided here is in respect of acoustics only. Supplementary professional advice may need to be sought in respect of fire ratings, structural design, buildability, fitness for purpose and the like.

Implementation of noise control measures, such as those suggested in Australian Standard 2436-1981 "Guide to Noise Control on Construction, Maintenance and Demolition Sites", are expected to reduce predicted construction noise levels. Reference to Australian Standard 2436-1981, Appendix E, Table E1 suggests possible remedies and alternatives to reduce noise emission levels from typical construction equipment. Table E2 in Appendix E presents typical examples of noise reductions achievable after treatment of various noise sources. Table E3 in Appendix E presents the relative effectiveness of various forms of noise control treatment.

Table 8.1 below presents noise control methods, practical examples and expected noise reductions according to AS2436 and according to Renzo Tonin & Associates' opinion based on experience with past projects.



**Table 8.1– Relative Effectiveness of Various Forms of Noise Control, dB(A)**

Noise Control Method	Practical Examples	Typical noise reduction possible in practice		Maximum noise reduction possible in practice	
		AS 2436	Renzo Tonin & Assoc.	AS 2436	Renzo Tonin & Assoc.
Screening	Acoustic barriers such as earth mounds, temporary or permanent noise barriers	7 to 10	5 to 10	15	15
Acoustic Enclosures	Engine casing lagged with acoustic insulation and plywood	15 to 30	10 to 20	50	30
Engine Silencing	Residential class mufflers	5 to 10	5 to 10	20	20
Substitution by alternative process	Use electric motors in preference to diesel or petrol	15 to 25	15 to 25	60	40

The Renzo Tonin & Associates' listed noise reductions are conservatively low and should be referred to in preference to those of AS2436, for this assessment.

Table 7.4 below identifies possible noise control measures which are applicable on the construction plant likely to be used on site.

**Table 8.2– Noise Control Measures for Likely Construction Plant**

Plant Description	Screening	Acoustic Enclosures	Silencing	Alternative Process
Mobile Crane	✓	✓	✓	x
Pneumatic Hand Tools (general)	✓	✓	✓	✓
Dump Trucks	✓	x	✓	x
Concrete Truck	✓	x	✓	x
Water Cart	✓	x	✓	x
Truck (> 20 tonne)	✓	x	✓	x
Power Generator	✓	✓	✓	x
Concrete Vibrator	✓	x	x	x
Silenced Air Compressor	✓	✓	✓	✓
Jack hammers	✓	x	✓	x
Excavator (30 tonne)	✓	x	✓	x
Bulldozer	✓	x	✓	x
25 tonne truck	✓	x	✓	x
Concrete Truck	✓	x	✓	x
Excavator (25 tonne)	✓	x	✓	x

To ensure efficient noise attenuation performance is achieved using any of the methods listed above, it is recommended acoustic engineers work closely with the construction contractors and carry out preliminary testing prior to commencement of works.



In addition to physical noise controls, the following general noise management measures should be followed:

- Plant and equipment should be properly maintained.
- Provide special attention to the use and maintenance of 'noise control' or 'silencing' kits fitted to machines to ensure they perform as intended.
- Strategically position plant on site to reduce the emission of noise to the surrounding neighbourhood and to site personnel.
- Avoid any unnecessary noise when carrying out manual operations and when operating plant.
- Any equipment not in use for extended periods during construction work should be switched off.
- Noise compliance monitoring for all major equipment and activities on site should be undertaken prior to their commencement of work on site.
- In addition to the noise mitigation measures outlined above, a management procedure would need to be put in place to deal with noise complaints that may arise from construction activities. Each complaint would need to be investigated and appropriate noise amelioration measures put in place to mitigate future occurrences, where the noise in question is in excess of allowable limits.
- Good relations with people living and working in the vicinity of a construction site should be established at the beginning of a project and be maintained throughout the project, as this is of paramount importance. Keeping people informed of progress and taking complaints seriously and dealing with them expeditiously is critical. The person selected to liaise with the community should be adequately trained and experienced in such matters.

Where noise level exceedances cannot be avoided, then consideration should be given to implementing time restrictions and/or providing periods of repose for residents.

## 9. CONCLUSION

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An assessment of traffic noise and construction noise emissions from the proposed truck parking area off the F3 Freeway in Berowra has been undertaken.

Traffic noise levels due to trucks accessing the truck parking area are expected to increase by less than 1dB(A) at the nearest affected residential receiver locations. This increase would not be detectable in the field and complies with the relevant noise goals set out in the DEC's ECRTN.

Overall noise impact from the proposed truck parking area operational activities has been determined and is expected to comply with the criteria set out in the DEC's INP. The DEC's recommended sleep arousal criteria may be exceeded by the use of air brakes in the truck parking area during the night period. It is recommended that the use of air brakes be restricted on the truck parking area.

It was found that construction noise is may cause noise impacts to residences in NCA 4 located close to the proposed truck parking area. In-principle noise and vibration mitigation measures are provided to reduce construction noise impacts to acceptable levels.



## APPENDIX A – GLOSSARY OF ACOUSTIC TERMS

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

<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>Ambient Noise</i>	The general environmental noise at any specific location, being a composite of sounds from many sources, both near and far.																				
<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>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>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>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 sounds:</p> <table><tr><td>0 dB</td><td>the faintest sound we can hear</td></tr><tr><td>30 dB</td><td>a quiet library or in a quiet location in the country</td></tr><tr><td>45 dB</td><td>typical office space; ambience in the city at night</td></tr><tr><td>60 dB</td><td>Martin Place at lunch time</td></tr><tr><td>70 dB</td><td>the sound of a car passing on the street</td></tr><tr><td>80 dB</td><td>loud music played at home</td></tr><tr><td>90 dB</td><td>the sound of a truck passing on the street</td></tr><tr><td>100 dB</td><td>the sound of a rock band</td></tr><tr><td>115 dB</td><td>limit of sound permitted in industry</td></tr><tr><td>120 dB</td><td>deafening.</td></tr></table>	0 dB	the faintest sound we can hear	30 dB	a quiet library or in a quiet location in the country	45 dB	typical office space; ambience in the city at night	60 dB	Martin Place at lunch time	70 dB	the sound of a car passing on the street	80 dB	loud music played at home	90 dB	the sound of a truck passing on the street	100 dB	the sound of a rock band	115 dB	limit of sound permitted in industry	120 dB	deafening.
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100 dB	the sound of a rock band																				
115 dB	limit of sound permitted in industry																				
120 dB	deafening.																				
<i>dB(A)</i>	Unit used to measure 'A-weighted' sound pressure levels.																				
<i>Diffraction</i>	The distortion around solid obstacles of waves travelling past.																				
<i>Fluctuating Noise</i>	Noise that varies continuously and to an appreciable extent over the period of observation.																				

<i>Frequency</i>	Of a periodic quantity: the time rate of repetition or the reciprocal of the period. It is also synonymous with <i>pitch</i> and is often used to describe the character of a sound. Frequency is measured in Hertz (Hz).
<i>Heavy Vehicle</i>	A truck, transporter or other vehicle with a gross weight above a specified level (for example: over 8 tonnes).
<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.
$L_1$	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 DEC's Traffic Noise Policy it represents the highest tenth percentile hourly A-weighted Leq 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.
$L_{eq(24hr)}$	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>Reflection</i>	Sound wave changed in direction of propagation due to a solid object obscuring its path



<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>	An alteration in pressure, stress, particle displacement, or particle velocity which is propagated in an elastic material or the superposition of such propagated alterations.
<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.

**APPENDIX B – LONG TERM NOISE MONITORING RESULTS**

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## 929 Pacific Hwy Logger 92

### BACKGROUND & AMBIENT NOISE MONITORING RESULTS NSW EPA's 'INDUSTRIAL NOISE POLICY', 2000

Day	L90 Background Noise Levels <sup>5</sup>			Leq Ambient Noise Levels		
	Day	Evening	Night	Day	Evening	Night
Wednesday-10-March-2004	61.8	48.6	31.4	63.9	59.9	56.8
Thursday-11-March-2004	52.1	46.5	36.3	61.6	59.5	56.1
Friday-12-March-2004	51.1	45.1	33.4	61.2	59.6	55.2
Saturday-13-March-2004	54.3	45.7	33.3	62.0	59.9	55.0
Sunday-14-March-2004	48.1	46.1	36.1	61.8	58.7	56.5
Monday-15-March-2004	51.4	48.0	38.4	62.2	60.1	61.8
Tuesday-16-March-2004	56.2	47.1	39.5	63.2	59.1	60.3
Wednesday-17-March-2004	51.5	-	-	62.1	-	-
Thursday-18-March-2004	-	-	-	-	-	-
Friday-19-March-2004	-	-	-	-	-	-
Saturday-20-March-2004	-	-	-	-	-	-
Sunday-21-March-2004	-	-	-	-	-	-
Monday-22-March-2004	-	-	-	-	-	-
Tuesday-23-March-2004	-	-	-	-	-	-
Wednesday-24-March-2004	-	-	-	-	-	-
Thursday-25-March-2004	-	-	-	-	-	-
<b>Representative Level</b>	<b>52</b>	<b>47</b>	<b>36</b>	<b>62</b>	<b>60</b>	<b>58</b>

Notes:

1. Day is taken to be 7:00am to 6:00pm
2. Evening is taken to be 6:00pm to 10:00pm.
3. Night is taken to be the remaining periods.
4. Partial day's monitoring
5. Assessment Background Level (ABL)
6. Rating Background Level (RBL) for L90 and logarithmic average for Leq

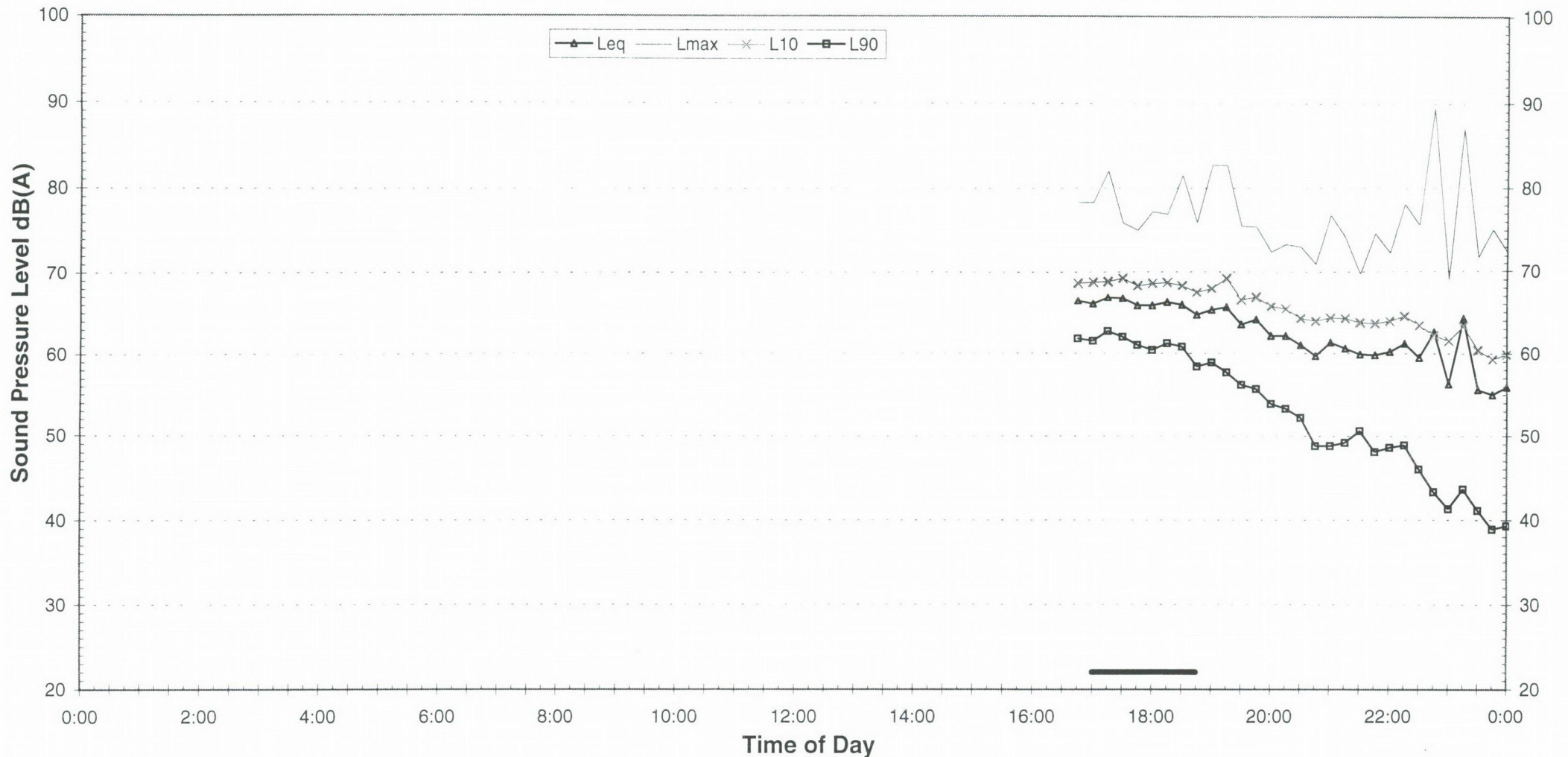
### TRAFFIC NOISE MONITORING RESULTS NSW EPA 'ENVIRONMENTAL CRITERIA FOR ROAD TRAFFIC NOISE', 1999

Day	Leq Noise Levels		Leq 1hr Noise Levels			
	Day	Night	Day - Up	Day - Low	Night - Up	Night - Low
Wednesday-10-March-2004	62.9	59.3	66.4	60.1	63.7	53.0
Thursday-11-March-2004	63.6	58.6	65.4	60.6	63.6	52.2
Friday-12-March-2004	63.4	57.7	65.2	60.1	61.2	52.9
Saturday-13-March-2004	64.0	57.5	65.3	60.7	60.5	52.3
Sunday-14-March-2004	63.6	59.0	65.9	59.5	64.1	55.2
Monday-15-March-2004	64.3	64.3	65.4	61.7	67.3	62.7
Tuesday-16-March-2004	65.1	62.8	66.9	61.4	64.6	58.0
Wednesday-17-March-2004	64.6	-	66.2	63.7	-	-
Thursday-18-March-2004	-	-	-	-	-	-
Friday-19-March-2004	-	-	-	-	-	-
Saturday-20-March-2004	-	-	-	-	-	-
Sunday-21-March-2004	-	-	-	-	-	-
Monday-22-March-2004	-	-	0.0	-	-	-
Tuesday-23-March-2004	-	-	-	-	-	-
Wednesday-24-March-2004	-	-	-	-	-	-
Thursday-25-March-2004	-	-	-	-	-	-
<b>Representative Weekday</b>	<b>64.0</b>	<b>61.3</b>	<b>66.0</b>	<b>61.5</b>	<b>64.6</b>	<b>57.9</b>
<b>Representative Weekend</b>	<b>63.8</b>	<b>58.3</b>	<b>65.6</b>	<b>60.1</b>	<b>62.7</b>	<b>54.0</b>



# EXISTING AMBIENT NOISE LEVELS

929 Pacific Hwy Looger 92  
Wednesday, 10 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	61.8	48.6	31.4
Leq (see note 3)	63.9	59.9	56.8

NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

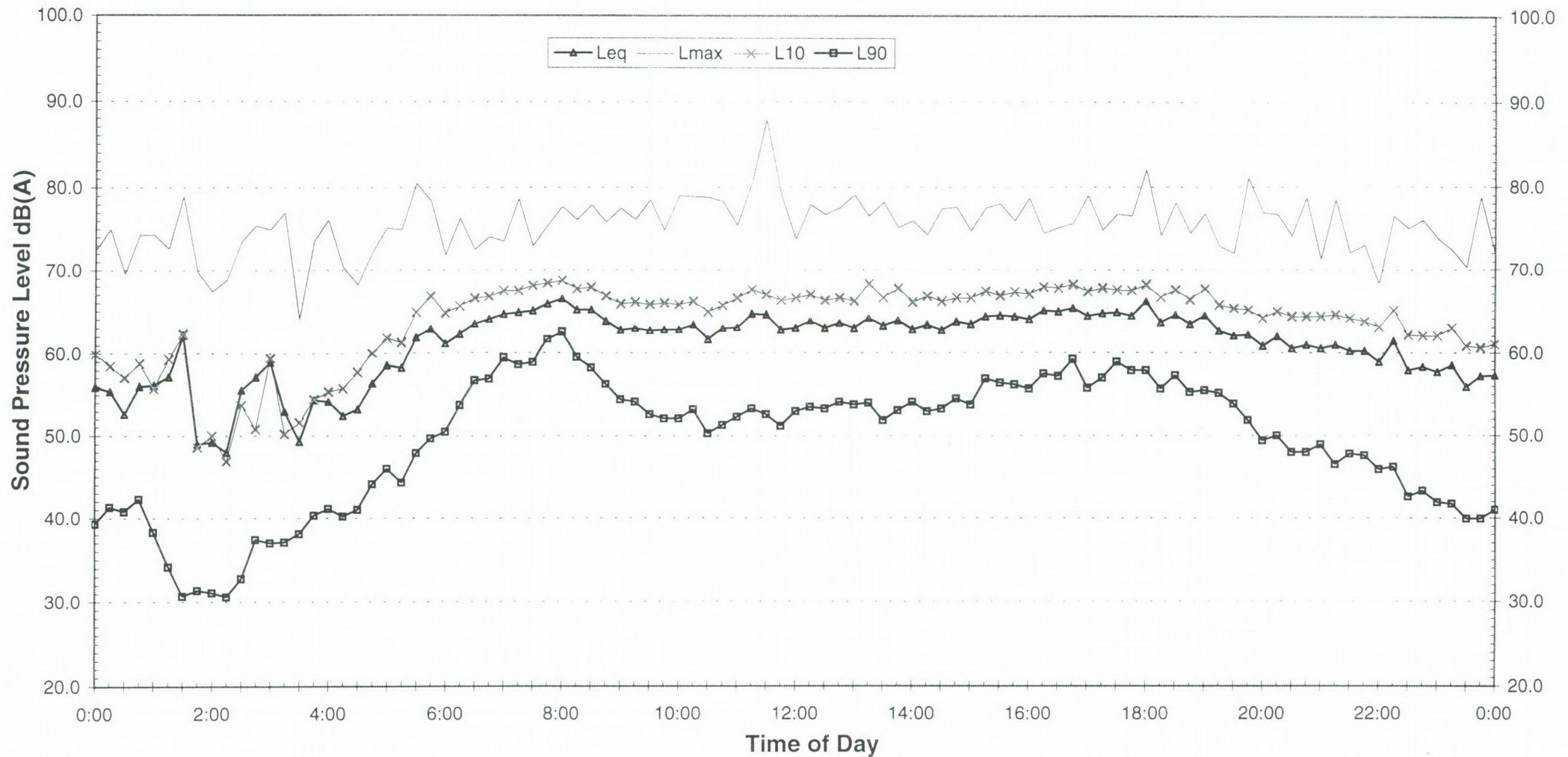
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	62.9	59.3
Leq 1hr upper 10 percentile	66.4	63.7
Leq 1hr lower 10 percentile	60.1	53.0



# EXISTING AMBIENT NOISE LEVELS

## 929 Pacific Hwy Looger 92

### Thursday, 11 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	52.1	46.5	36.3
Leq (see note 3)	61.6	59.5	56.1

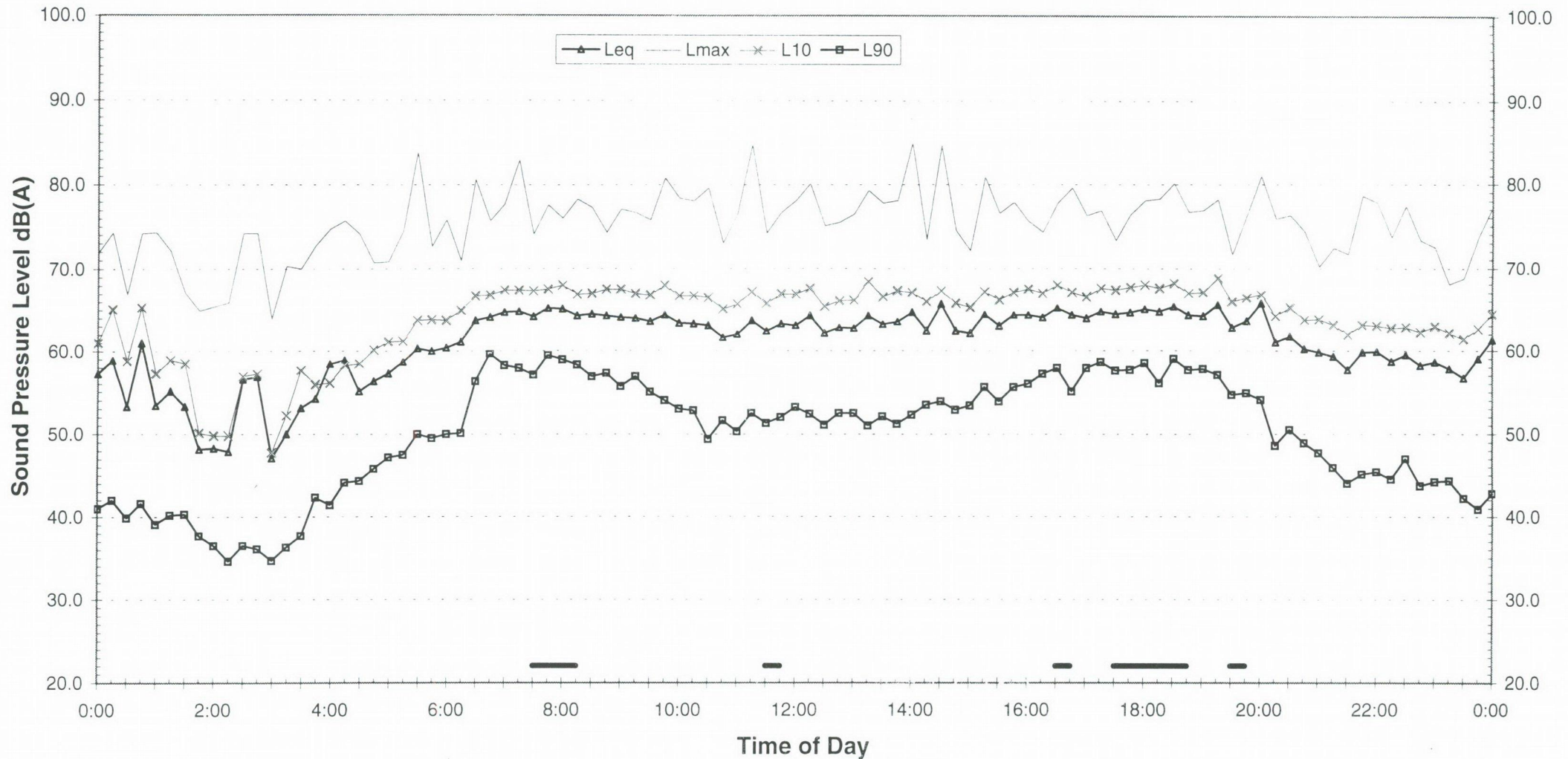
NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	63.6	58.6
Leq 1hr upper 10 percentile	65.4	63.6
Leq 1hr lower 10 percentile	60.6	52.2

# EXISTING AMBIENT NOISE LEVELS

## 929 Pacific Hwy Logger 92

### Friday, 12 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	51.1	45.1	33.4
Leq (see note 3)	61.2	59.6	55.2

NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

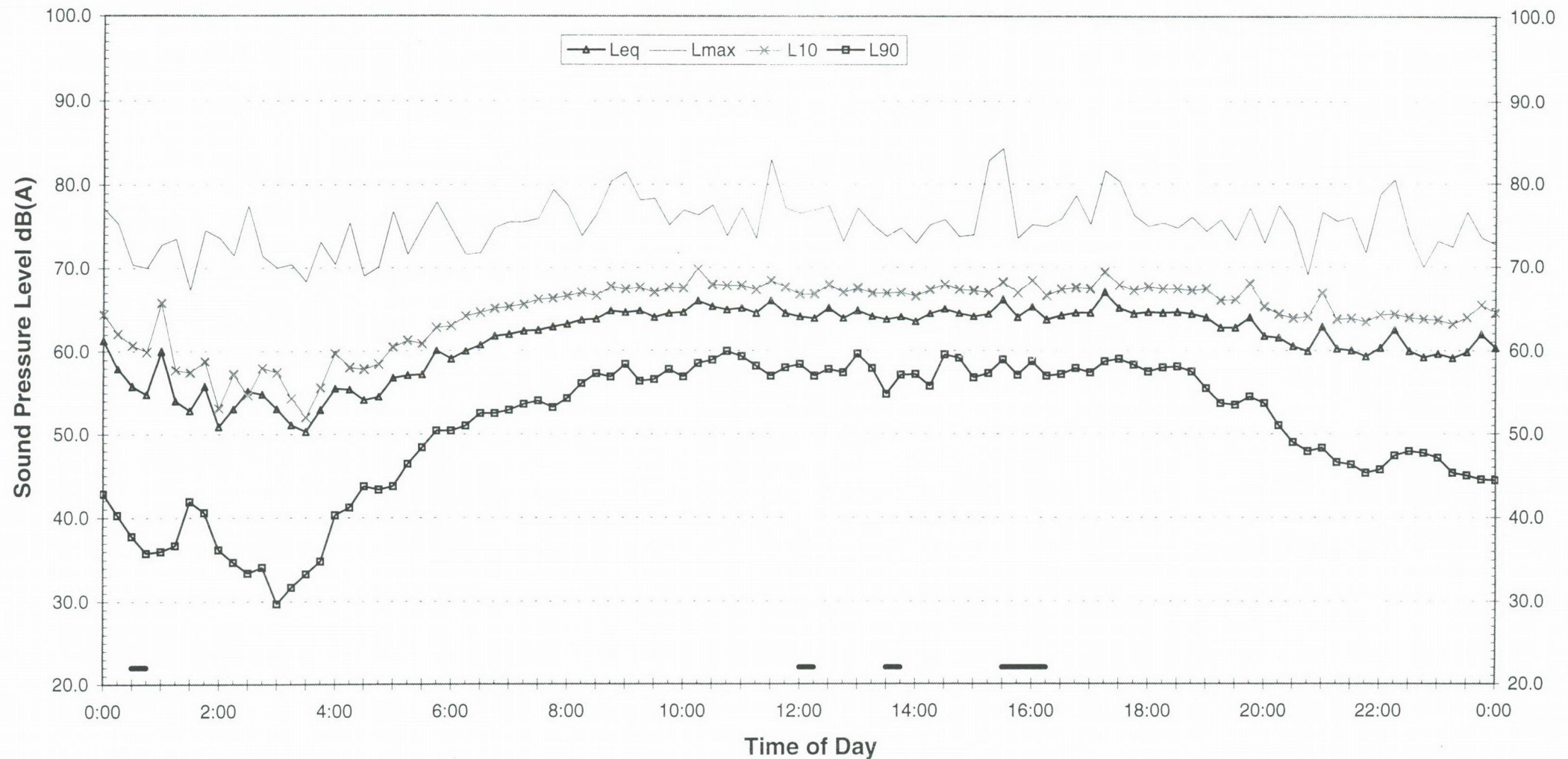
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	63.4	57.7
Leq 1hr upper 10 percentile	65.2	61.2
Leq 1hr lower 10 percentile	60.1	52.9



# EXISTING AMBIENT NOISE LEVELS

929 Pacific Hwy Logger 92

Saturday, 13 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	54.3	45.7	33.3
Leq (see note 3)	62.0	59.9	55.0

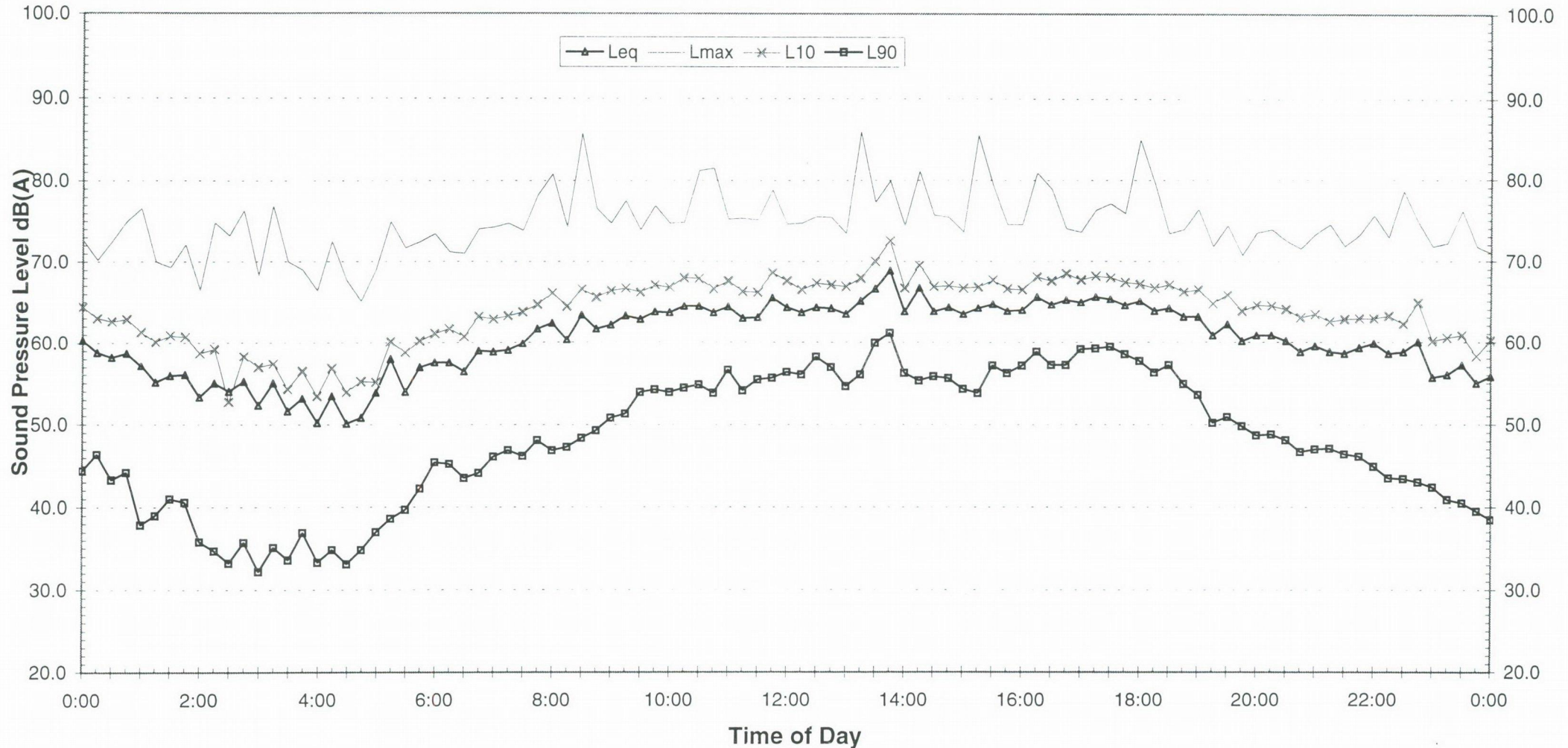
NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	64.0	57.5
Leq 1hr upper 10 percentile	65.3	60.5
Leq 1hr lower 10 percentile	60.7	52.3

# EXISTING AMBIENT NOISE LEVELS

929 Pacific Hwy Logger 92

Sunday, 14 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	48.1	46.1	36.1
Leq (see note 3)	61.8	58.7	56.5

NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

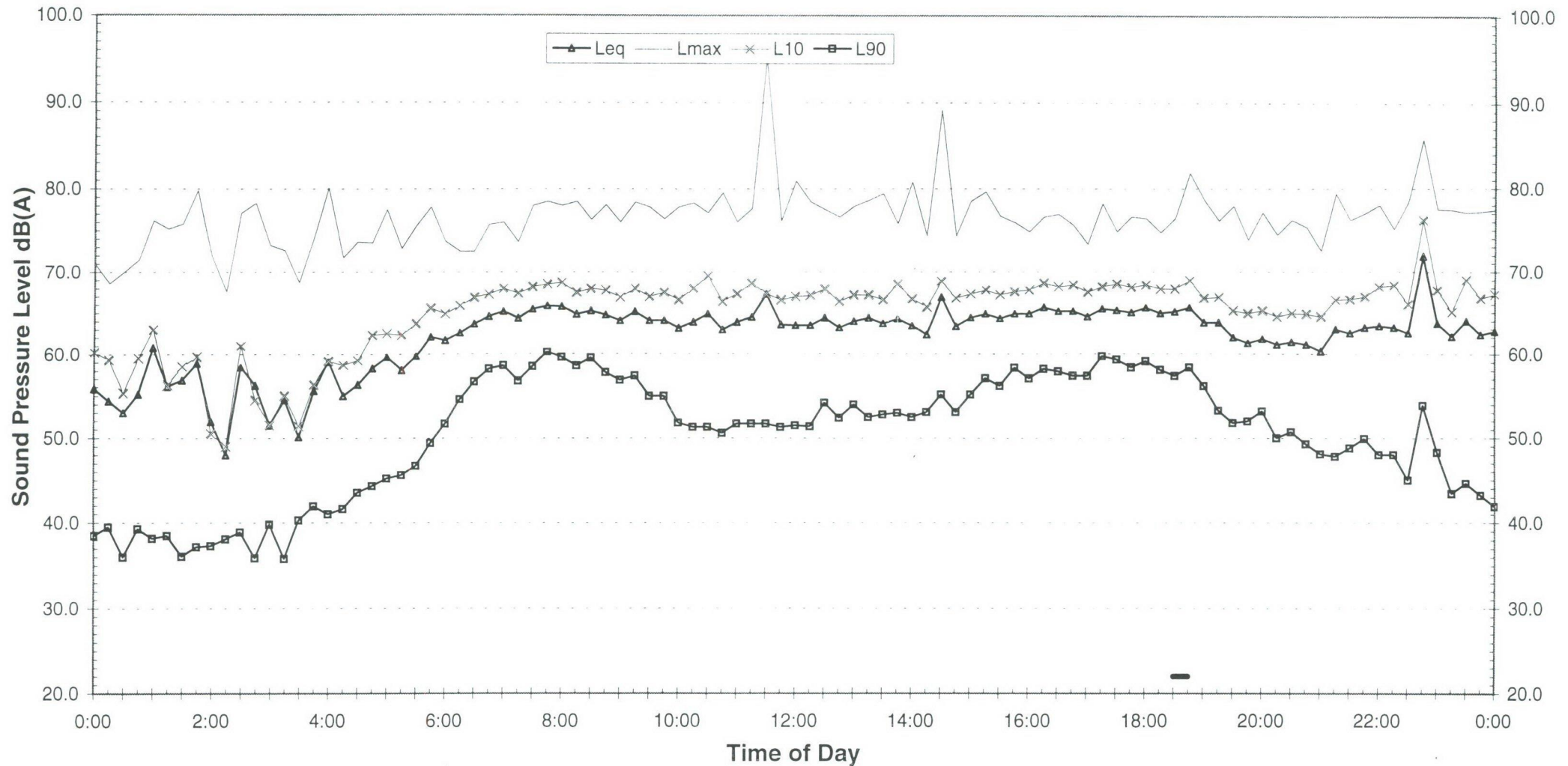
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	63.6	59.0
Leq 1hr upper 10 percentile	65.9	64.1
Leq 1hr lower 10 percentile	59.5	55.2



# EXISTING AMBIENT NOISE LEVELS

929 Pacific Hwy Logger 92

Monday, 15 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	51.4	48.0	38.4
Leq (see note 3)	62.2	60.1	61.8

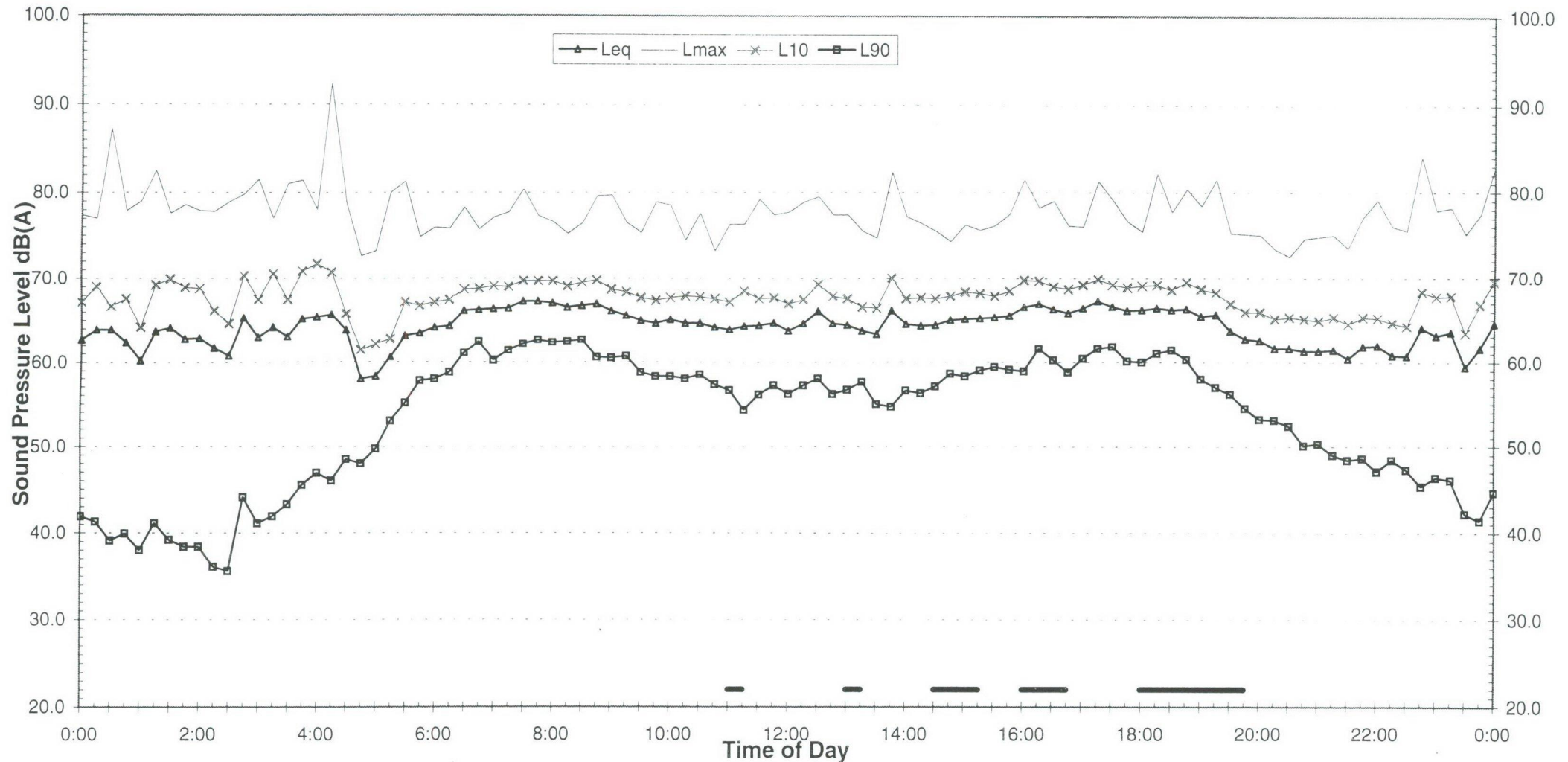
NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	64.3	64.3
Leq 1hr upper 10 percentile	65.4	67.3
Leq 1hr lower 10 percentile	61.7	62.7

# EXISTING AMBIENT NOISE LEVELS

929 Pacific Hwy Logger 92

Tuesday, 16 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	56.2	47.1	39.5
Leq (see note 3)	63.2	59.1	60.3

## NOTES:

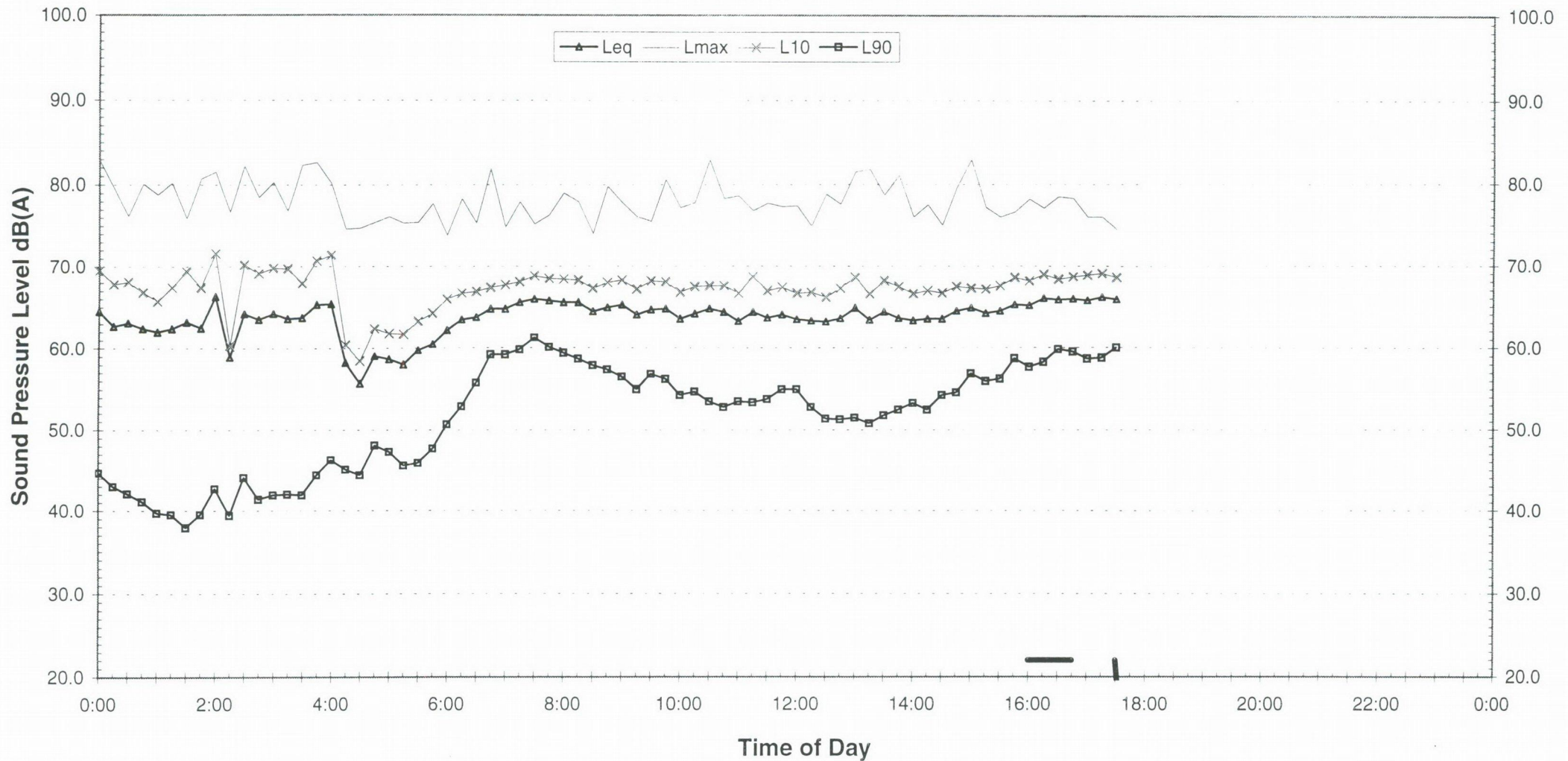
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	65.1	62.8
Leq 1hr upper 10 percentile	66.9	64.6
Leq 1hr lower 10 percentile	61.4	58.0



# EXISTING AMBIENT NOISE LEVELS

929 Pacific Hwy Logger 92  
Wednesday, 17 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	51.5	-	-
Leq (see note 3)	62.1	-	-

NOTES:
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	64.6	-
Leq 1hr upper 10 percentile	66.2	-
Leq 1hr lower 10 percentile	63.7	-



# 41 Helvetia Ave Berowra

## BACKGROUND & AMBIENT NOISE MONITORING RESULTS NSW EPA's 'INDUSTRIAL NOISE POLICY', 2000

Day	L90 Background Noise Levels <sup>5</sup>			Leq Ambient Noise Levels		
	Day	Evening	Night	Day	Evening	Night
Wednesday-10-March-2004	55.6	45.2	29.5	60.1	51.2	47.1
Thursday-11-March-2004	46.9	43.4	35.3	52.8	50.9	47.5
Friday-12-March-2004	47.8	43.6	31.0	52.4	51.8	46.7
Saturday-13-March-2004	50.3	43.5	31.4	54.1	50.6	45.7
Sunday-14-March-2004	46.0	46.0	37.2	53.0	50.3	47.0
Monday-15-March-2004	45.9	47.2	38.0	54.9	53.1	54.7
Tuesday-16-March-2004	50.7	43.1	37.4	54.4	49.2	50.6
Wednesday-17-March-2004	48.1	-	-	52.8	-	-
Thursday-18-March-2004	-	-	-	-	-	-
Friday-19-March-2004	-	-	-	-	-	-
Saturday-20-March-2004	-	-	-	-	-	-
Sunday-21-March-2004	-	-	-	-	-	-
Monday-22-March-2004	-	-	-	-	-	-
Tuesday-23-March-2004	-	-	-	-	-	-
Wednesday-24-March-2004	-	-	-	-	-	-
Thursday-25-March-2004	-	-	-	-	-	-
<b>Representative Level</b>	<b>48</b>	<b>44</b>	<b>35</b>	<b>55</b>	<b>51</b>	<b>50</b>

Notes:

1. Day is taken to be 7:00am to 6:00pm
2. Evening is taken to be 6:00pm to 10:00pm.
3. Night is taken to be the remaining periods.
4. Partial day's monitoring
5. Assessment Background Level (ABL)
6. Rating Background Level (RBL) for L90 and logarithmic average for Leq

## TRAFFIC NOISE MONITORING RESULTS NSW EPA 'ENVIRONMENTAL CRITERIA FOR ROAD TRAFFIC NOISE', 1999

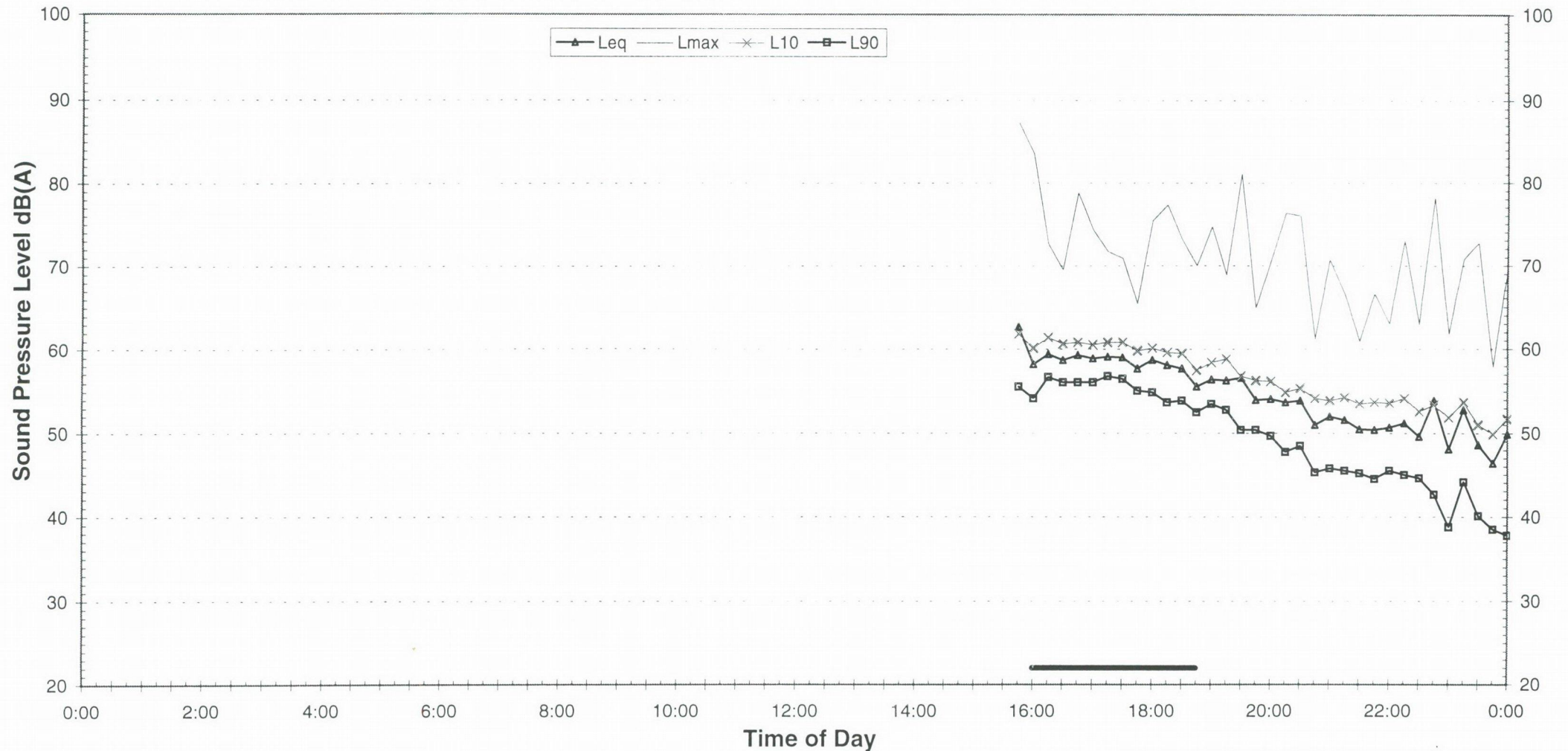
Day	Leq Noise Levels		Leq 1hr Noise Levels			
	Day	Night	Day - Up	Day - Low	Night - Up	Night - Low
Wednesday-10-March-2004	55.4	49.6	62.6	50.8	54.0	44.1
Thursday-11-March-2004	54.8	50.0	56.4	51.3	55.2	43.7
Friday-12-March-2004	54.7	49.2	57.2	52.6	53.3	43.8
Saturday-13-March-2004	55.8	48.2	59.0	50.5	50.5	43.8
Sunday-14-March-2004	55.0	49.5	56.7	50.8	53.7	46.6
Monday-15-March-2004	57.0	57.2	62.1	52.9	63.9	52.2
Tuesday-16-March-2004	56.1	53.1	58.0	51.3	55.1	49.7
Wednesday-17-March-2004	55.3	-	57.4	54.0	-	-
Thursday-18-March-2004	-	-	-	-	-	-
Friday-19-March-2004	-	-	-	-	-	-
Saturday-20-March-2004	-	-	-	-	-	-
Sunday-21-March-2004	-	-	-	-	-	-
Monday-22-March-2004	-	-	0.0	-	-	-
Tuesday-23-March-2004	-	-	-	-	-	-
Wednesday-24-March-2004	-	-	-	-	-	-
Thursday-25-March-2004	-	-	-	-	-	-
<b>Representative Weekday</b>	<b>55.6</b>	<b>53.0</b>	<b>59.7</b>	<b>52.3</b>	<b>58.6</b>	<b>48.2</b>
<b>Representative Weekend</b>	<b>55.4</b>	<b>48.9</b>	<b>58.0</b>	<b>50.7</b>	<b>52.4</b>	<b>45.4</b>



# EXISTING AMBIENT NOISE LEVELS

## 41 Helvetia Ave Berowra

### Wednesday, 10 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	55.6	45.2	29.5
Leq (see note 3)	60.1	51.2	47.1

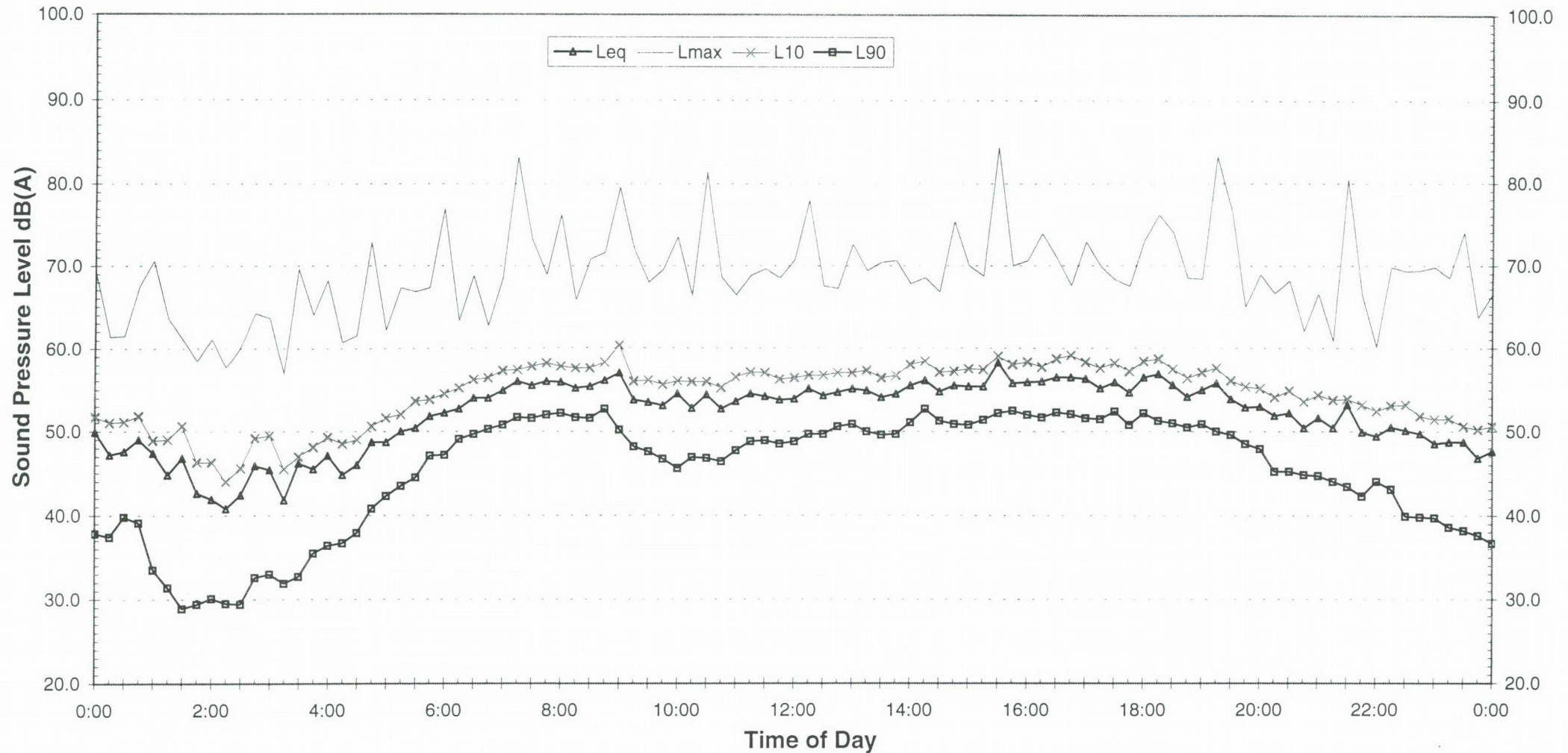
NOTES:
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

EPA Traffic Noise Policy (1m from facade)		
	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Descriptor		
Leq 15 hr and Leq 9 hr	55.4	49.6
Leq 1hr upper 10 percentile	62.6	54.0
Leq 1hr lower 10 percentile	50.8	44.1

# EXISTING AMBIENT NOISE LEVELS

41 Helvetia Ave Berowra

Thursday, 11 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	46.9	43.4	35.3
Leq (see note 3)	52.8	50.9	47.5

NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

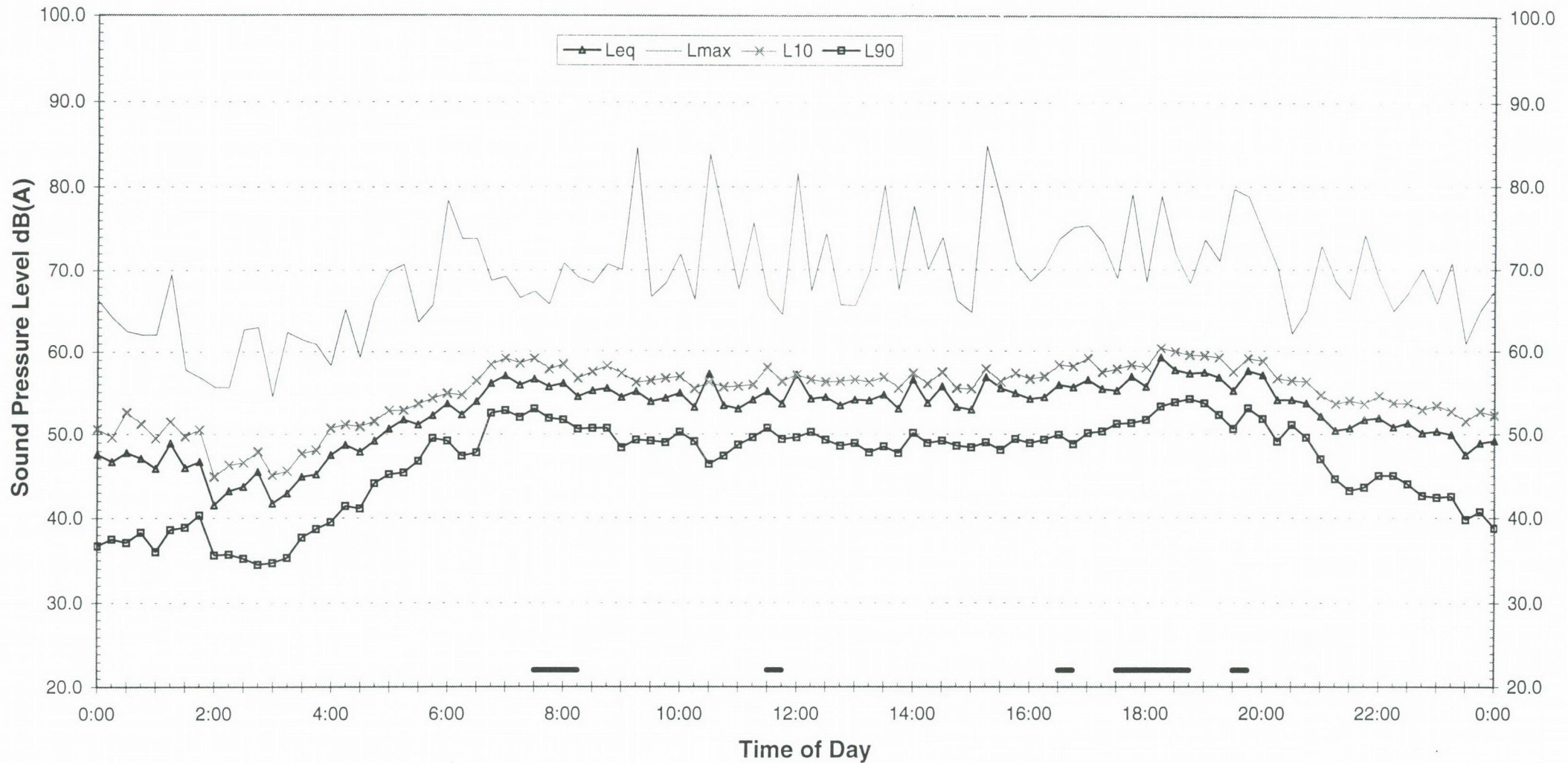
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	54.8	50.0
Leq 1hr upper 10 percentile	56.4	55.2
Leq 1hr lower 10 percentile	51.3	43.7



# EXISTING AMBIENT NOISE LEVELS

41 Helvetia Ave Berowra

Friday, 12 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	47.8	43.6	31.0
Leq (see note 3)	52.4	51.8	46.7

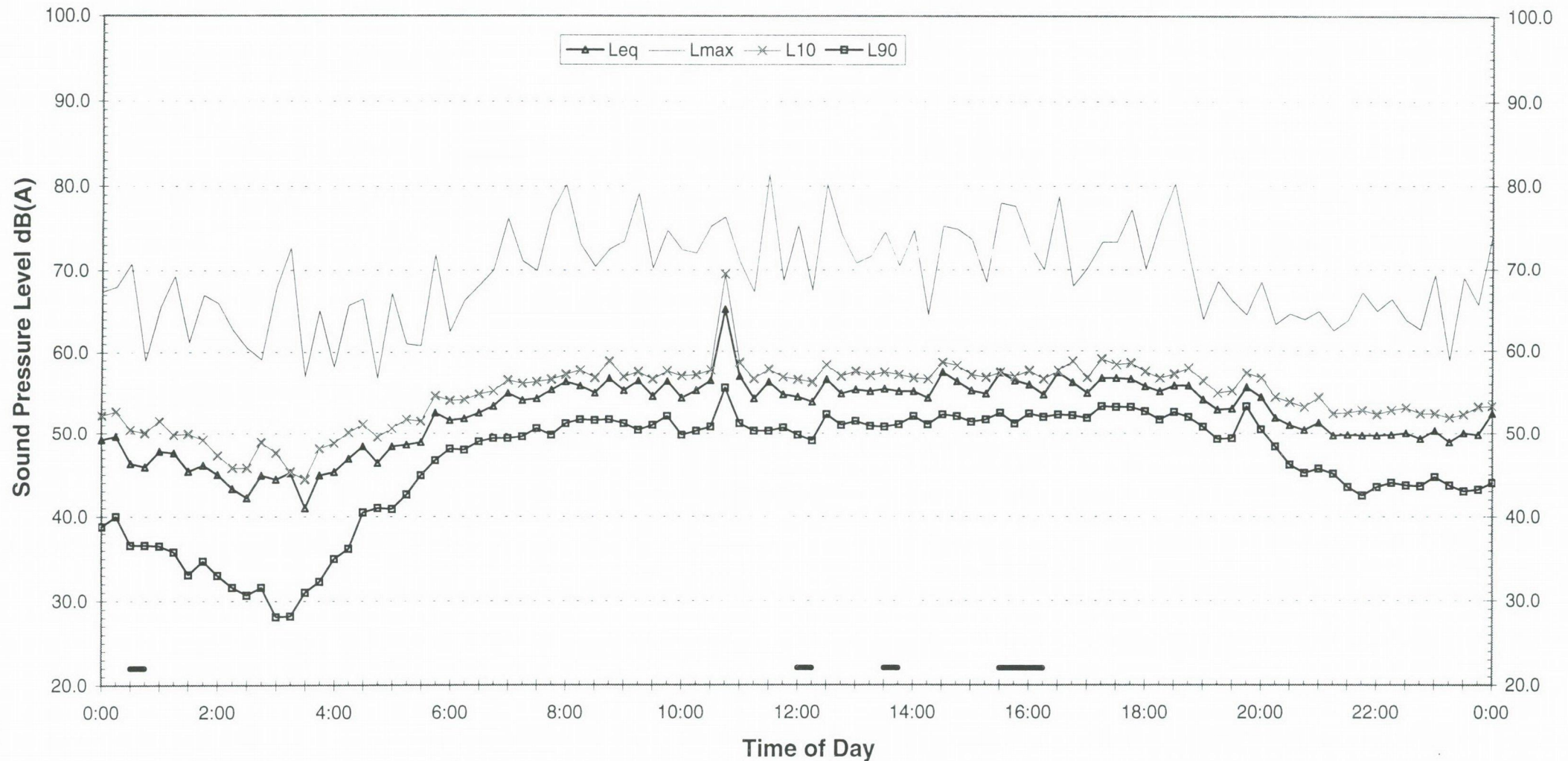
NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	54.7	49.2
Leq 1hr upper 10 percentile	57.2	53.3
Leq 1hr lower 10 percentile	52.6	43.8

# EXISTING AMBIENT NOISE LEVELS

41 Helvetia Ave Berowra

Saturday, 13 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	50.3	43.5	31.4
Leq (see note 3)	54.1	50.6	45.7

NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

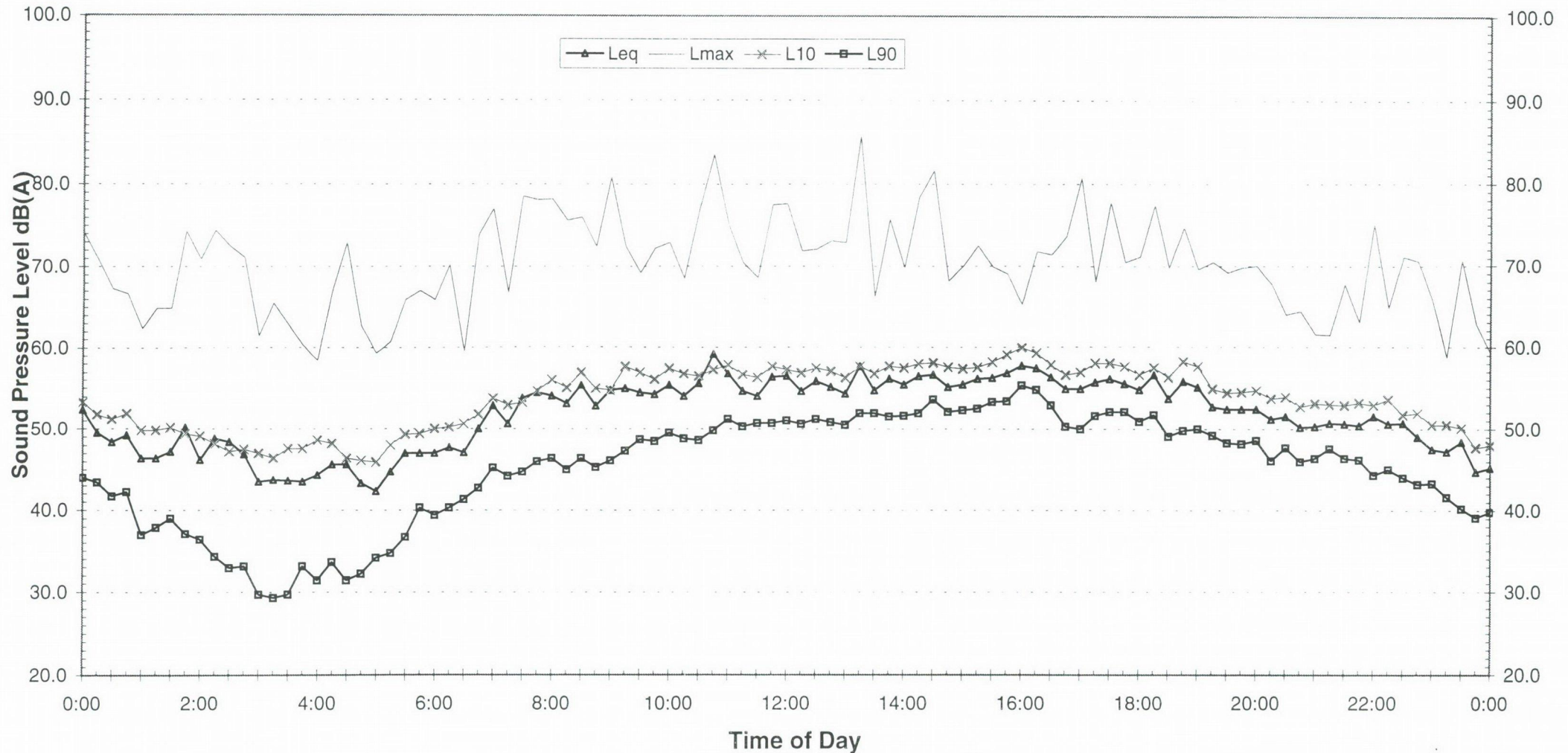
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	55.8	48.2
Leq 1hr upper 10 percentile	59.0	50.5
Leq 1hr lower 10 percentile	50.5	43.8



# EXISTING AMBIENT NOISE LEVELS

41 Helvetia Ave Berowra

Sunday, 14 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	46.0	46.0	37.2
Leq (see note 3)	53.0	50.3	47.0

## NOTES:

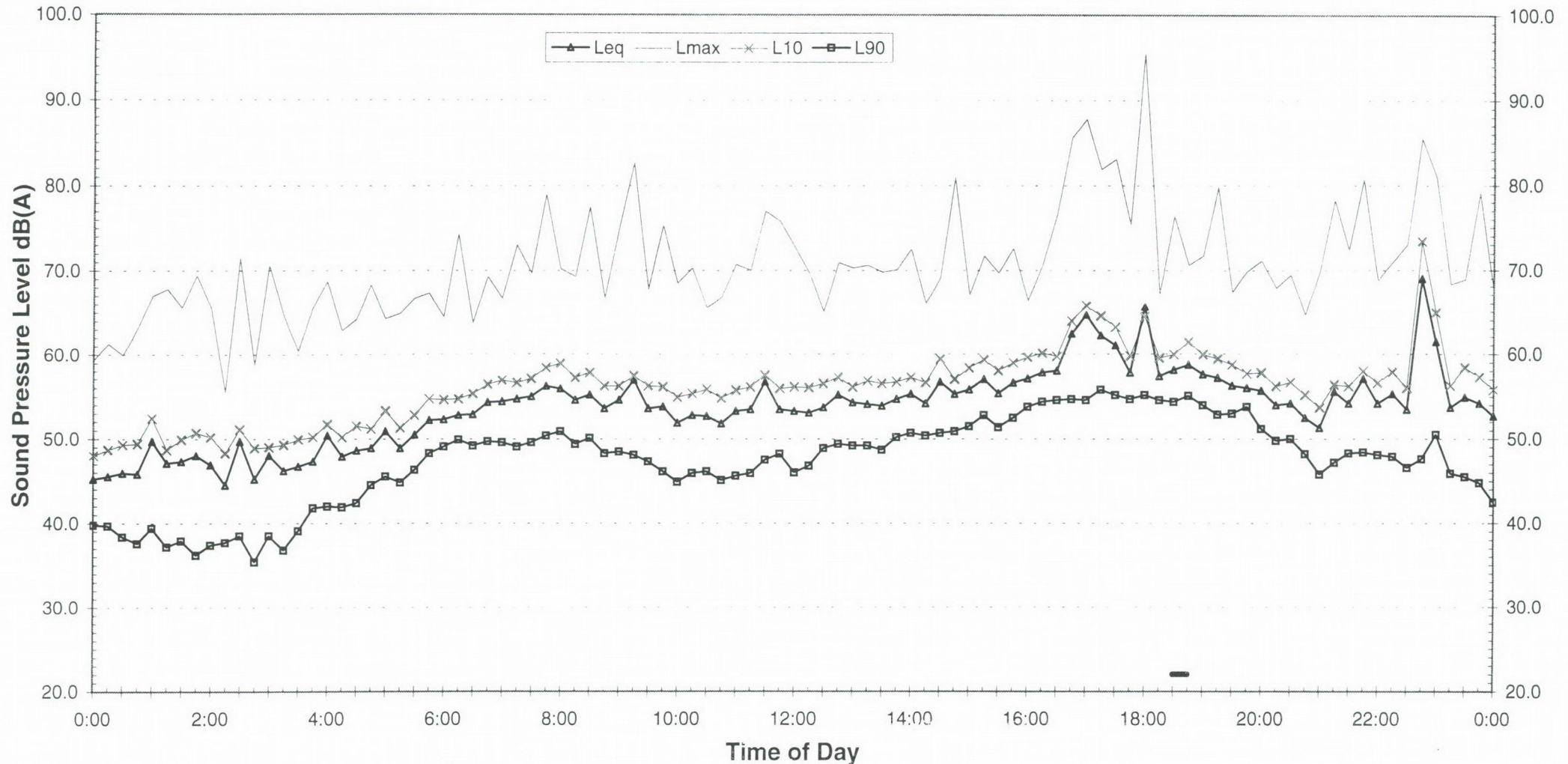
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	55.0	49.5
Leq 1hr upper 10 percentile	56.7	53.7
Leq 1hr lower 10 percentile	50.8	46.6

# EXISTING AMBIENT NOISE LEVELS

41 Helvetia Ave Berowra

Monday, 15 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	45.9	47.2	38.0
Leq (see note 3)	54.9	53.1	54.7

## NOTES:

1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

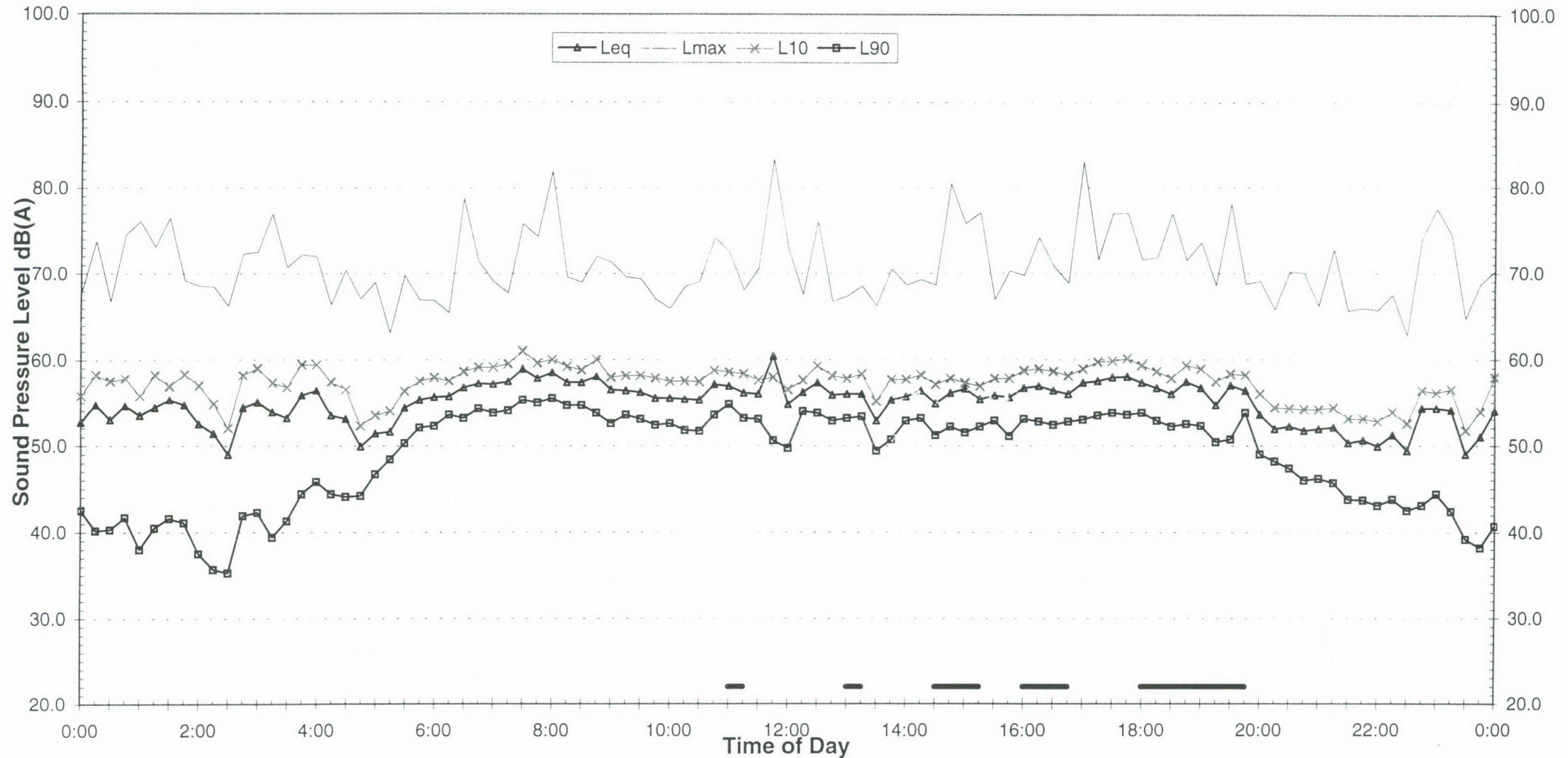
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	57.0	57.2
Leq 1hr upper 10 percentile	62.1	63.9
Leq 1hr lower 10 percentile	52.9	52.2



# EXISTING AMBIENT NOISE LEVELS

41 Helvetia Ave Berowra

Tuesday, 16 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	50.7	43.1	37.4
Leq (see note 3)	54.4	49.2	50.6

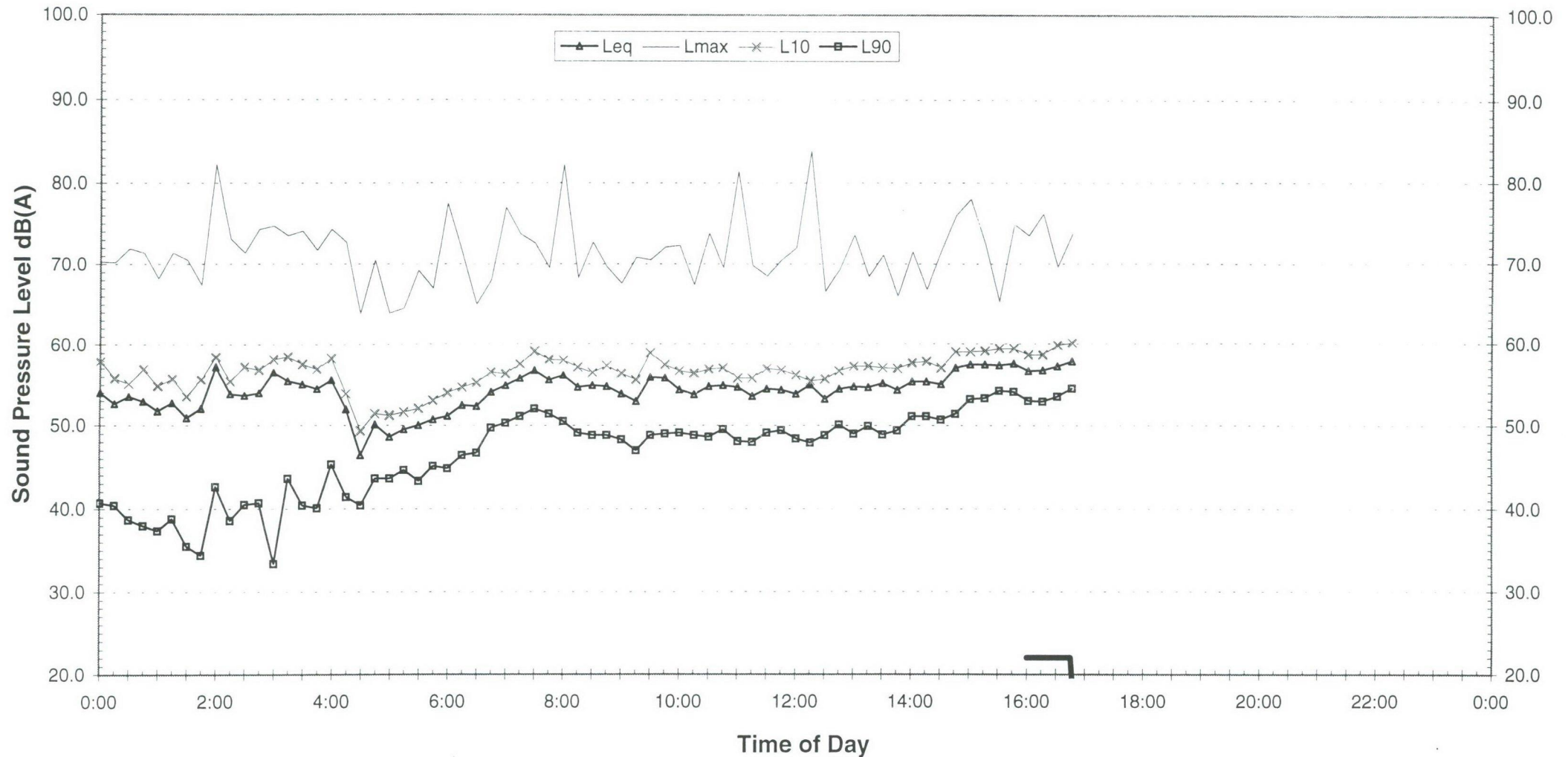
NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	56.1	53.1
Leq 1hr upper 10 percentile	58.0	55.1
Leq 1hr lower 10 percentile	51.3	49.7

# EXISTING AMBIENT NOISE LEVELS

41 Helvetia Ave Berowra

Wednesday, 17 March 2004



## EPA Industrial Noise Policy (Free Field)

Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	48.1	-	-
Leq (see note 3)	52.8	-	-

## NOTES:

1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

## EPA Traffic Noise Policy (1m from facade)

Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	55.3	-
Leq 1hr upper 10 percentile	57.4	-
Leq 1hr lower 10 percentile	54.0	-



# 10 McCready Pl. Berowra

## BACKGROUND & AMBIENT NOISE MONITORING RESULTS NSW EPA's 'INDUSTRIAL NOISE POLICY', 2000

Day	L90 Background Noise Levels <sup>5</sup>			Leq Ambient Noise Levels		
	Day	Evening	Night	Day	Evening	Night
Wednesday-10-March-2004	45.8	42.0	28.6	54.6	46.5	41.0
Thursday-11-March-2004	42.9	39.8	35.1	52.2	51.0	43.6
Friday-12-March-2004	43.6	44.0	33.1	54.3	51.8	42.1
Saturday-13-March-2004	39.5	46.6	29.3	53.1	51.9	41.6
Sunday-14-March-2004	39.8	41.8	36.8	50.9	47.8	44.1
Monday-15-March-2004	38.2	45.5	36.4	51.3	54.3	46.6
Tuesday-16-March-2004	40.0	39.5	34.8	50.5	51.7	43.3
Wednesday-17-March-2004	41.6	51.6	-	53.8	57.5	-
Thursday-18-March-2004	-	-	-	-	-	-
Friday-19-March-2004	-	-	-	-	-	-
Saturday-20-March-2004	-	-	-	-	-	-
Sunday-21-March-2004	-	-	-	-	-	-
Monday-22-March-2004	-	-	-	-	-	-
Tuesday-23-March-2004	-	-	-	-	-	-
Wednesday-24-March-2004	-	-	-	-	-	-
Thursday-25-March-2004	-	-	-	-	-	-
<b>Representative Level</b>	<b>41</b>	<b>43</b>	<b>35</b>	<b>53</b>	<b>53</b>	<b>44</b>

### Notes:

1. Day is taken to be 7:00am to 6:00pm
2. Evening is taken to be 6:00pm to 10:00pm.
3. Night is taken to be the remaining periods.
4. Partial day's monitoring
5. Assessment Background Level (ABL)
6. Rating Background Level (RBL) for L90 and logarithmic average for Leq

## TRAFFIC NOISE MONITORING RESULTS NSW EPA 'ENVIRONMENTAL CRITERIA FOR ROAD TRAFFIC NOISE', 1999

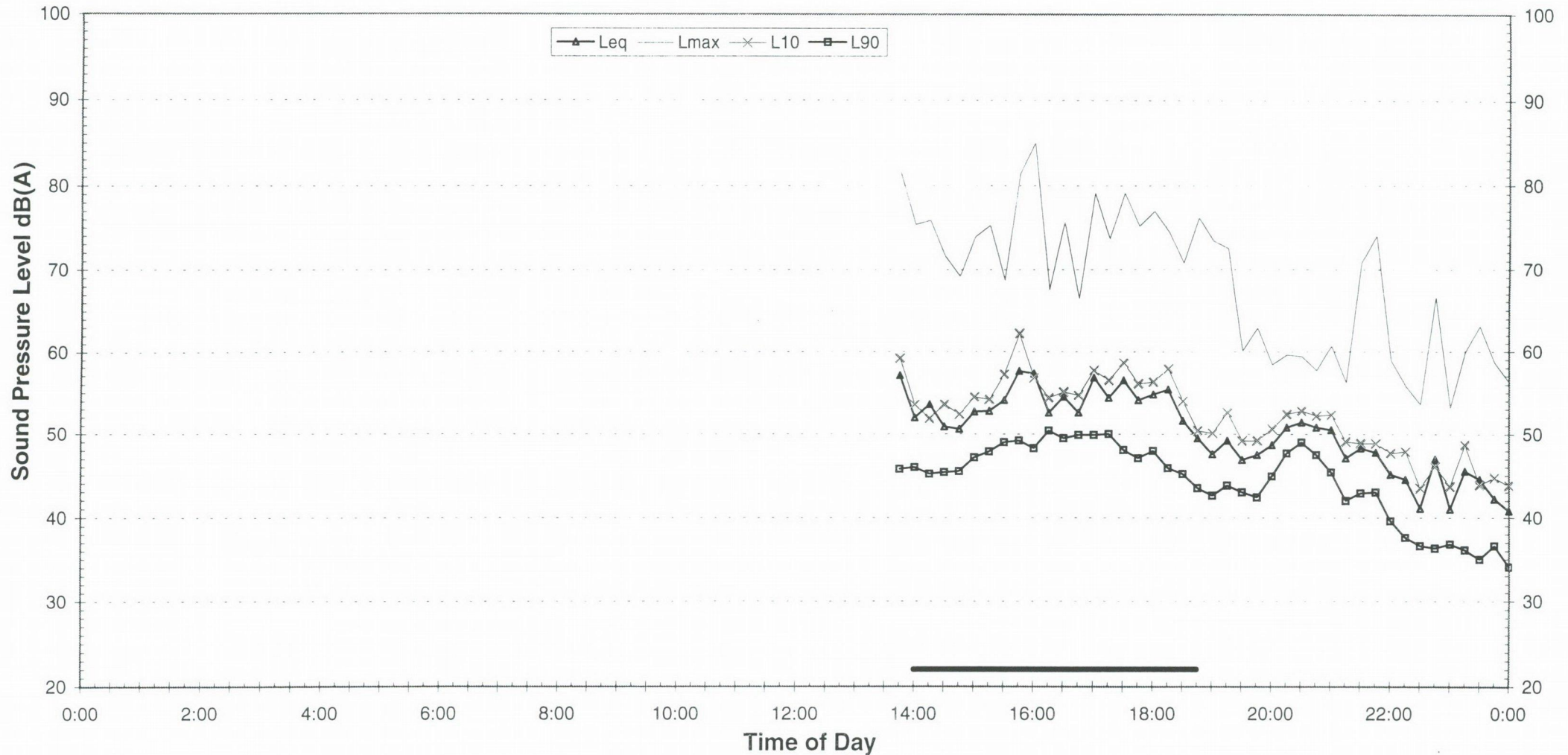
Day	Leq Noise Levels		Leq 1hr Noise Levels			
	Day	Night	Day - Up	Day - Low	Night - Up	Night - Low
Wednesday-10-March-2004	50.4	43.5	57.1	47.2	46.6	37.5
Thursday-11-March-2004	54.4	46.1	58.5	45.6	48.0	42.1
Friday-12-March-2004	56.3	44.6	60.8	49.8	48.9	38.5
Saturday-13-March-2004	55.3	44.1	61.7	48.3	47.6	38.1
Sunday-14-March-2004	52.8	46.6	55.6	47.4	48.6	42.5
Monday-15-March-2004	54.8	49.1	60.2	45.7	54.0	45.0
Tuesday-16-March-2004	53.3	45.8	59.7	44.8	47.3	42.5
Wednesday-17-March-2004	56.7	-	60.7	48.9	-	-
Thursday-18-March-2004	-	-	-	-	-	-
Friday-19-March-2004	-	-	-	-	-	-
Saturday-20-March-2004	-	-	-	-	-	-
Sunday-21-March-2004	-	-	-	-	-	-
Monday-22-March-2004	-	-	0.0	-	-	-
Tuesday-23-March-2004	-	-	-	-	-	-
Wednesday-24-March-2004	-	-	-	-	-	-
Thursday-25-March-2004	-	-	-	-	-	-
<b>Representative Weekday</b>	<b>54.8</b>	<b>46.3</b>	<b>59.7</b>	<b>47.4</b>	<b>49.9</b>	<b>42.0</b>
<b>Representative Weekend</b>	<b>54.2</b>	<b>45.5</b>	<b>59.7</b>	<b>47.9</b>	<b>48.1</b>	<b>40.8</b>



# EXISTING AMBIENT NOISE LEVELS

10 McCreedy Pl. Berowra

Wednesday, 10 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	45.8	42.0	28.6
Leq (see note 3)	54.6	46.5	41.0

NOTES:	
1.	Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2.	"Night" relates to period from 10pm on this graph to 7am on the following graph.
3.	Graphed data measured 1m from facade; tabulated results free-field corrected

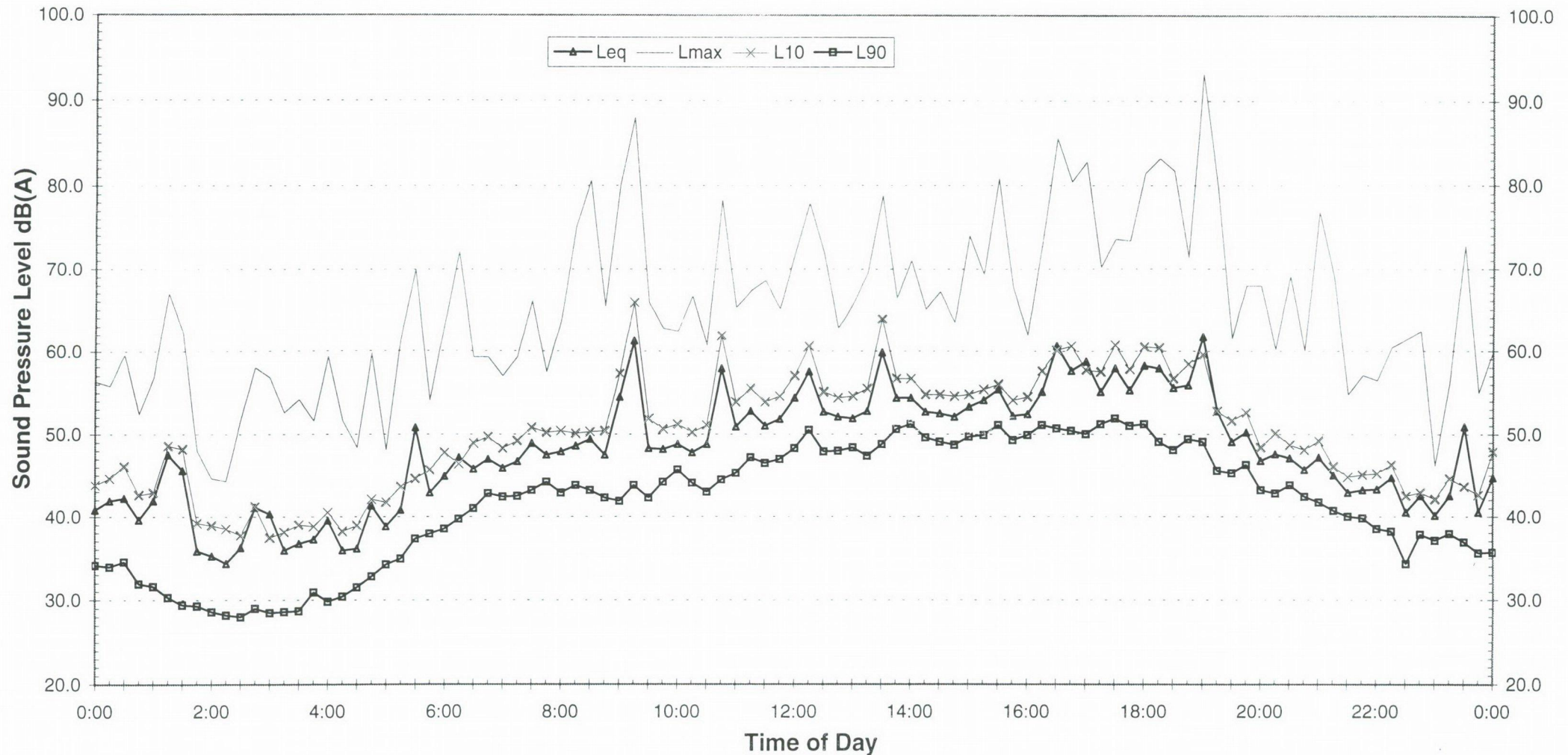
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	50.4	43.5
Leq 1hr upper 10 percentile	57.1	46.6
Leq 1hr lower 10 percentile	47.2	37.5



# EXISTING AMBIENT NOISE LEVELS

10 McCreedy Pl. Berowra

Thursday, 11 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	42.9	39.8	35.1
Leq (see note 3)	52.2	51.0	43.6

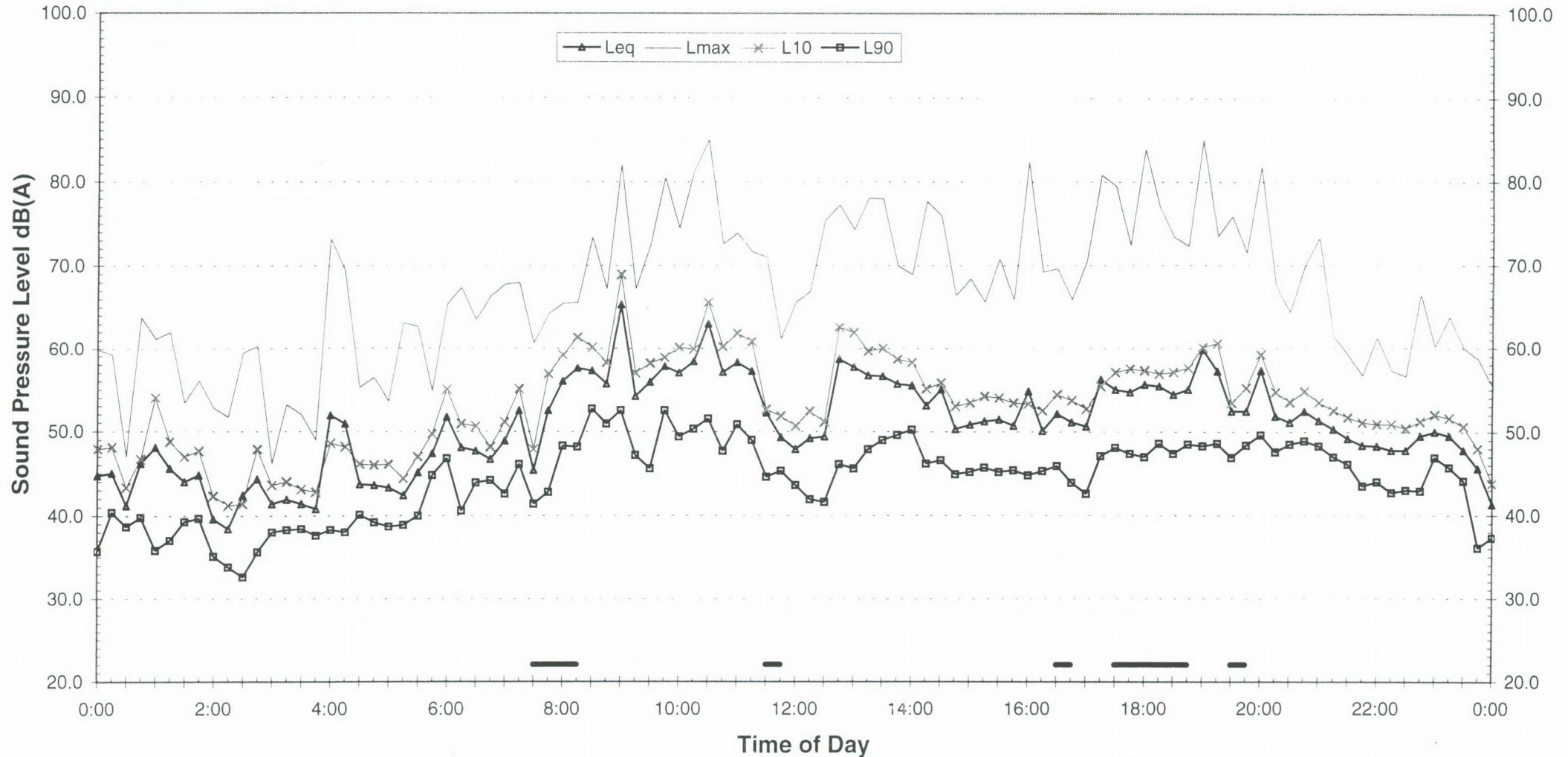
NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	54.4	46.1
Leq 1hr upper 10 percentile	58.5	48.0
Leq 1hr lower 10 percentile	45.6	42.1

# EXISTING AMBIENT NOISE LEVELS

10 McCreedy Pl. Berowra

Friday, 12 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	43.6	44.0	33.1
Leq (see note 3)	54.3	51.8	42.1

NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

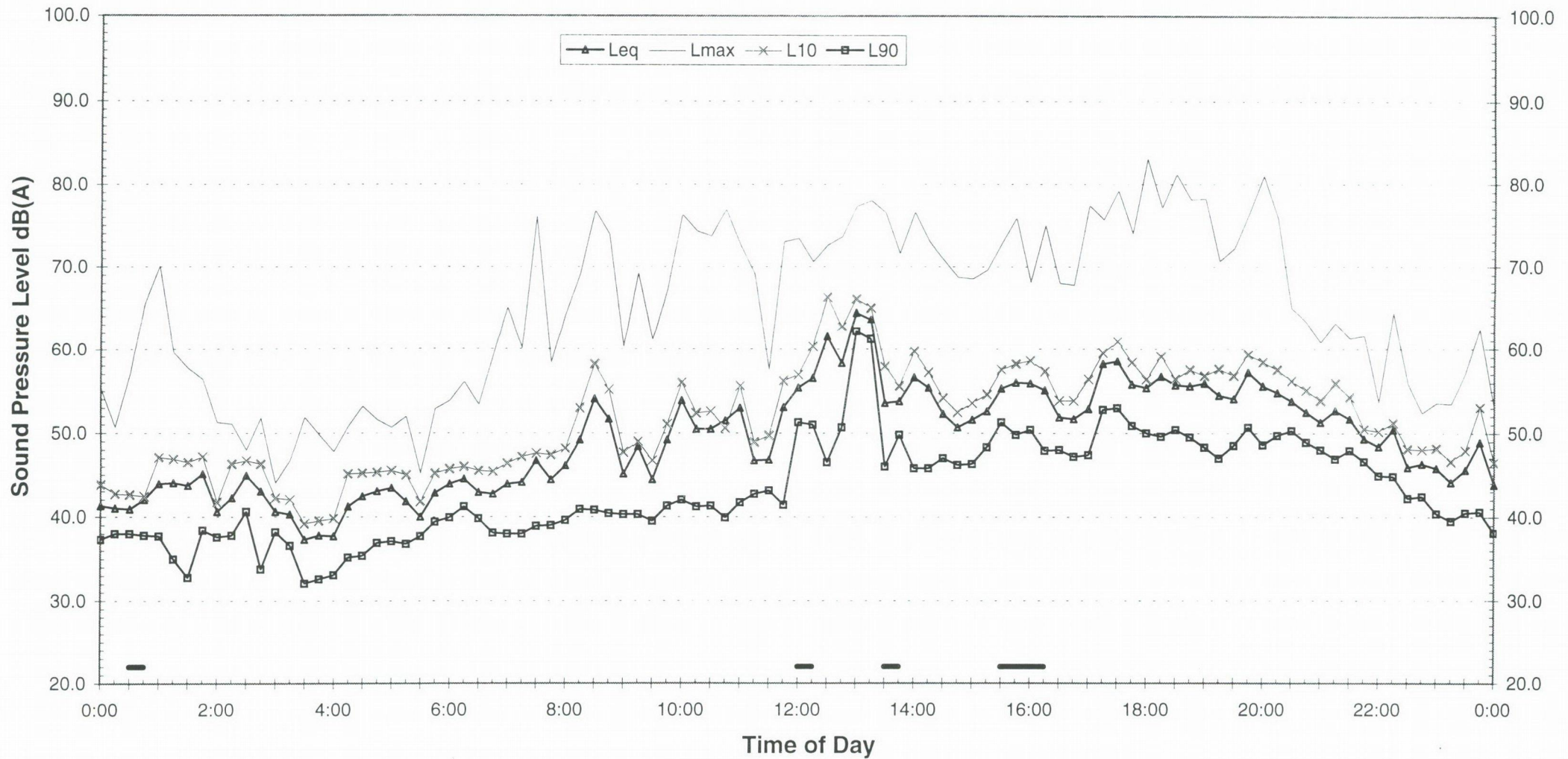
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	56.3	44.6
Leq 1hr upper 10 percentile	60.8	48.9
Leq 1hr lower 10 percentile	49.8	38.5



# EXISTING AMBIENT NOISE LEVELS

## 10 McCreedy Pl. Berowra

### Saturday, 13 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	39.5	46.6	29.3
Leq (see note 3)	53.1	51.9	41.6

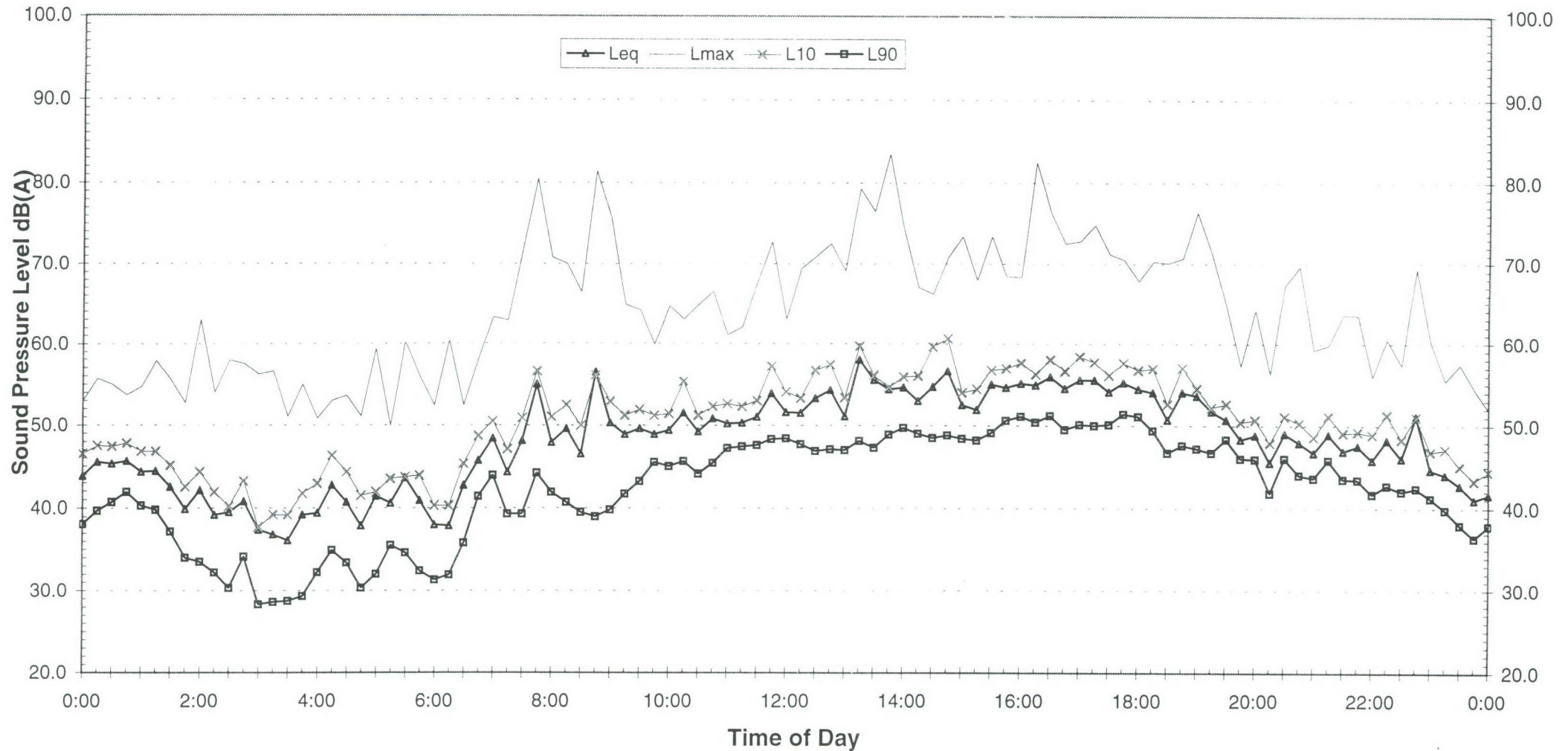
NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	55.3	44.1
Leq 1hr upper 10 percentile	61.7	47.6
Leq 1hr lower 10 percentile	48.3	38.1

# EXISTING AMBIENT NOISE LEVELS

10 McCreedy Pl. Berowra

Sunday, 14 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	39.8	41.8	36.8
Leq (see note 3)	50.9	47.8	44.1

## NOTES:

1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

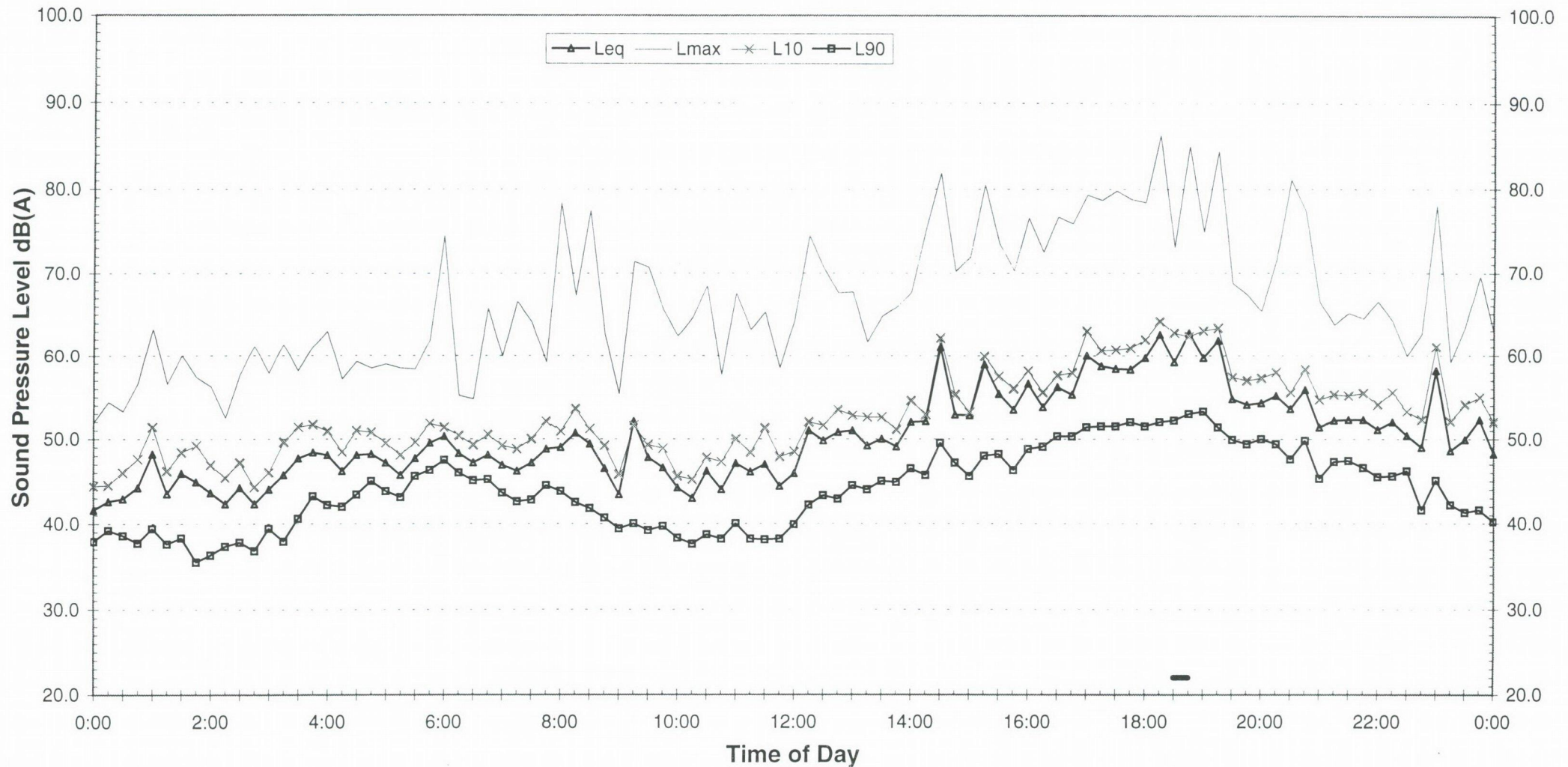
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	52.8	46.6
Leq 1hr upper 10 percentile	55.6	48.6
Leq 1hr lower 10 percentile	47.4	42.5



# EXISTING AMBIENT NOISE LEVELS

10 McCreedy Pl. Berowra

Monday, 15 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	38.2	45.5	36.4
Leq (see note 3)	51.3	54.3	46.6

## NOTES:

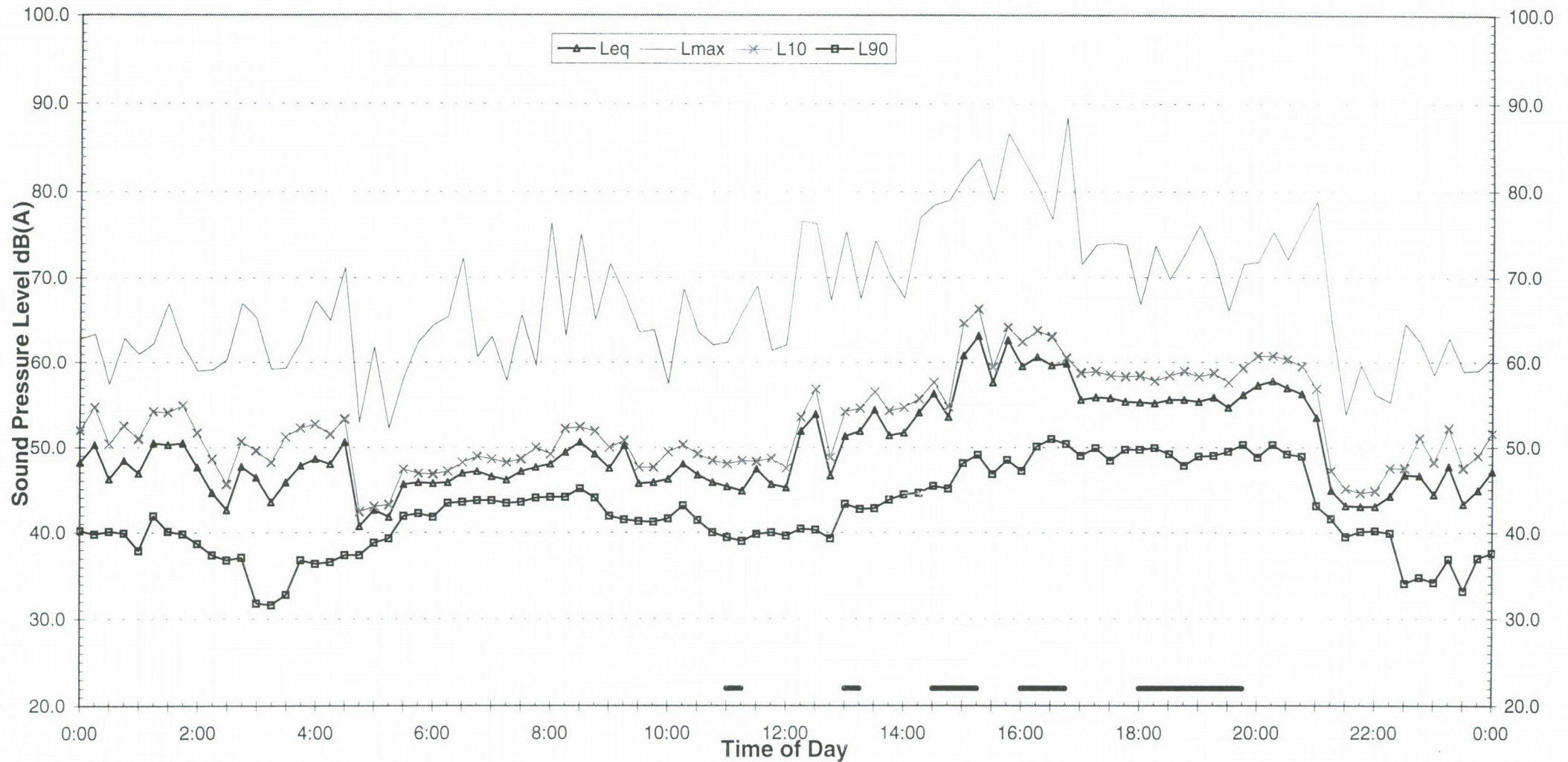
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	54.8	49.1
Leq 1hr upper 10 percentile	60.2	54.0
Leq 1hr lower 10 percentile	45.7	45.0

# EXISTING AMBIENT NOISE LEVELS

## 10 McCreedy Pl. Berowra

### Tuesday, 16 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	40.0	39.5	34.8
Leq (see note 3)	50.5	51.7	43.3

NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

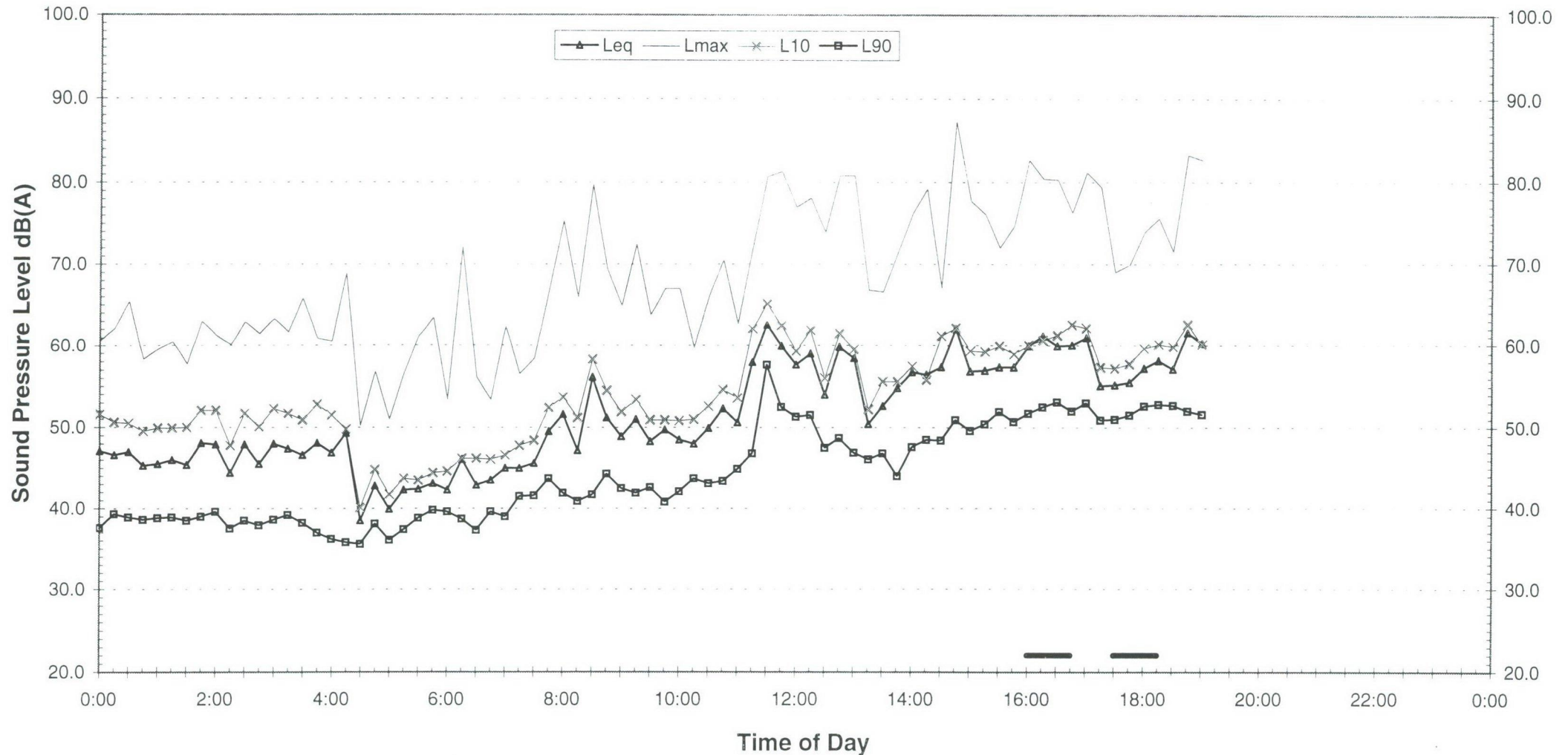
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	53.3	45.8
Leq 1hr upper 10 percentile	59.7	47.3
Leq 1hr lower 10 percentile	44.8	42.5



# EXISTING AMBIENT NOISE LEVELS

10 McCready Pl. Berowra

Wednesday, 17 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	41.6	51.6	-
Leq (see note 3)	53.8	57.5	-

## NOTES:

1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	56.7	-
Leq 1hr upper 10 percentile	60.7	-
Leq 1hr lower 10 percentile	48.9	-



## 991 Pacific Hwy Berowra

### BACKGROUND & AMBIENT NOISE MONITORING RESULTS NSW EPA's 'INDUSTRIAL NOISE POLICY', 2000

Day	L90 Background Noise Levels <sup>5</sup>			Leq Ambient Noise Levels		
	Day	Evening	Night	Day	Evening	Night
Wednesday-10-March-2004	60.6	48.7	39.6	61.6	56.3	53.5
Thursday-11-March-2004	50.5	46.3	40.7	58.0	55.7	53.1
Friday-12-March-2004	48.5	44.3	40.0	58.7	56.4	55.9
Saturday-13-March-2004	52.7	46.1	36.8	58.6	55.8	50.3
Sunday-14-March-2004	48.2	45.5	38.1	56.9	54.7	52.3
Monday-15-March-2004	48.6	46.1	40.6	59.3	55.9	58.8
Tuesday-16-March-2004	53.7	48.5	43.5	59.9	55.0	56.6
Wednesday-17-March-2004	49.2	-	-	57.8	-	-
Thursday-18-March-2004	-	-	-	-	-	-
Friday-19-March-2004	-	-	-	-	-	-
Saturday-20-March-2004	-	-	-	-	-	-
Sunday-21-March-2004	-	-	-	-	-	-
Monday-22-March-2004	-	-	-	-	-	-
Tuesday-23-March-2004	-	-	-	-	-	-
Wednesday-24-March-2004	-	-	-	-	-	-
Thursday-25-March-2004	-	-	-	-	-	-
<b>Representative Level</b>	<b>50</b>	<b>46</b>	<b>40</b>	<b>59</b>	<b>56</b>	<b>55</b>

Notes:

1. Day is taken to be 7:00am to 6:00pm
2. Evening is taken to be 6:00pm to 10:00pm.
3. Night is taken to be the remaining periods.
4. Partial day's monitoring
5. Assessment Background Level (ABL)
6. Rating Background Level (RBL) for L90 and logarithmic average for Leq

### TRAFFIC NOISE MONITORING RESULTS NSW EPA 'ENVIRONMENTAL CRITERIA FOR ROAD TRAFFIC NOISE', 1999

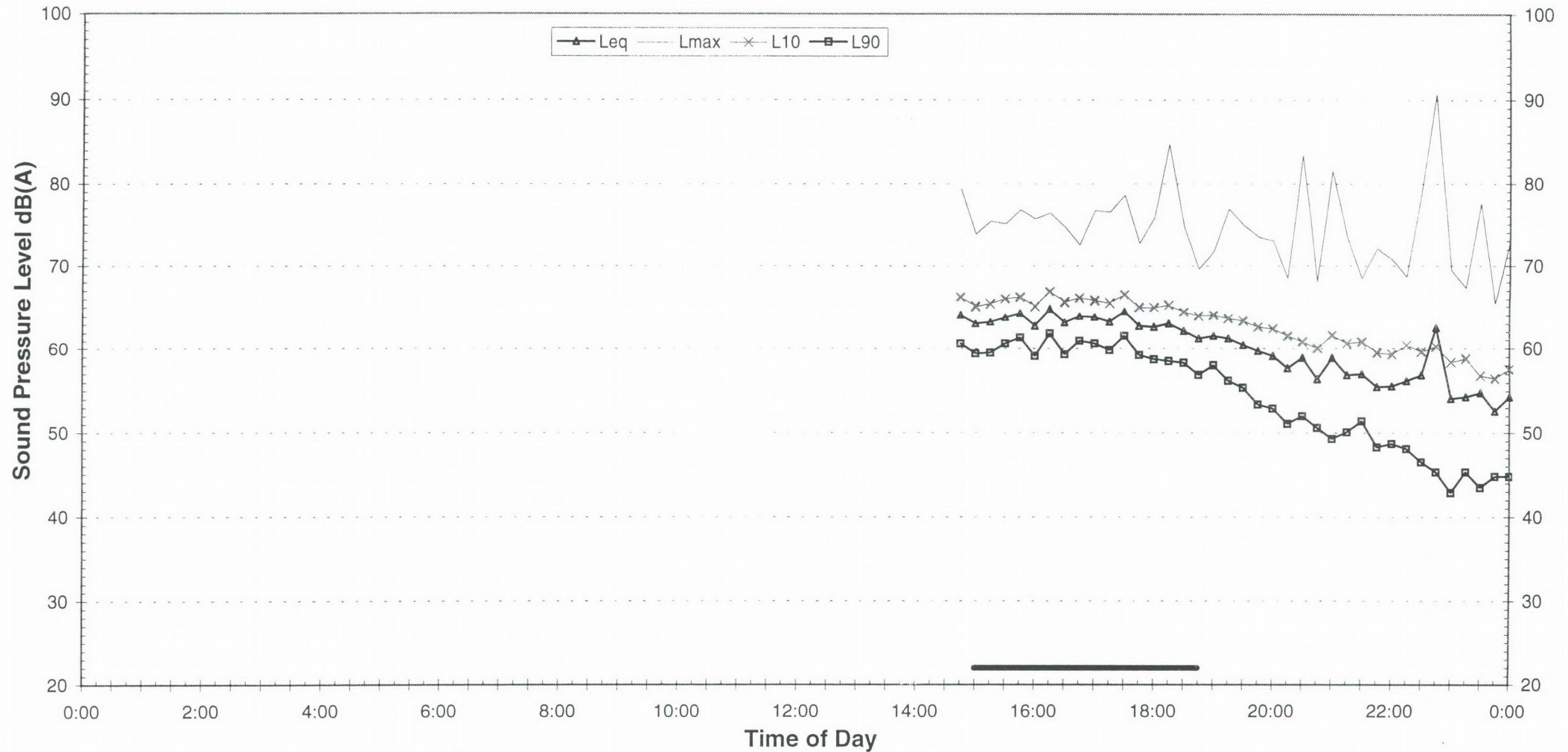
Day	Leq Noise Levels		Leq 1hr Noise Levels			
	Day	Night	Day - Up	Day - Low	Night - Up	Night - Low
Wednesday-10-March-2004	59.5	56.0	64.1	56.3	60.7	49.8
Thursday-11-March-2004	60.0	55.6	61.9	56.8	61.3	49.0
Friday-12-March-2004	60.8	58.4	63.2	57.5	67.8	49.8
Saturday-13-March-2004	60.4	52.8	62.7	57.0	54.9	48.9
Sunday-14-March-2004	58.9	54.8	60.1	55.2	60.0	50.8
Monday-15-March-2004	61.2	61.3	65.4	57.3	64.9	57.8
Tuesday-16-March-2004	61.7	59.1	64.1	57.2	60.7	55.7
Wednesday-17-March-2004	60.3	-	62.0	59.4	-	-
Thursday-18-March-2004	-	-	-	-	-	-
Friday-19-March-2004	-	-	-	-	-	-
Saturday-20-March-2004	-	-	-	-	-	-
Sunday-21-March-2004	-	-	-	-	-	-
Monday-22-March-2004	-	-	0.0	-	-	-
Tuesday-23-March-2004	-	-	-	-	-	-
Wednesday-24-March-2004	-	-	-	-	-	-
Thursday-25-March-2004	-	-	-	-	-	-
<b>Representative Weekday</b>	<b>60.6</b>	<b>58.6</b>	<b>63.6</b>	<b>57.5</b>	<b>64.1</b>	<b>54.0</b>
<b>Representative Weekend</b>	<b>59.7</b>	<b>53.9</b>	<b>61.6</b>	<b>56.2</b>	<b>58.2</b>	<b>50.0</b>



# EXISTING AMBIENT NOISE LEVELS

991 Pacific Hwy Berowra

Wednesday, 10 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	60.6	48.7	39.6
Leq (see note 3)	61.6	56.3	53.5

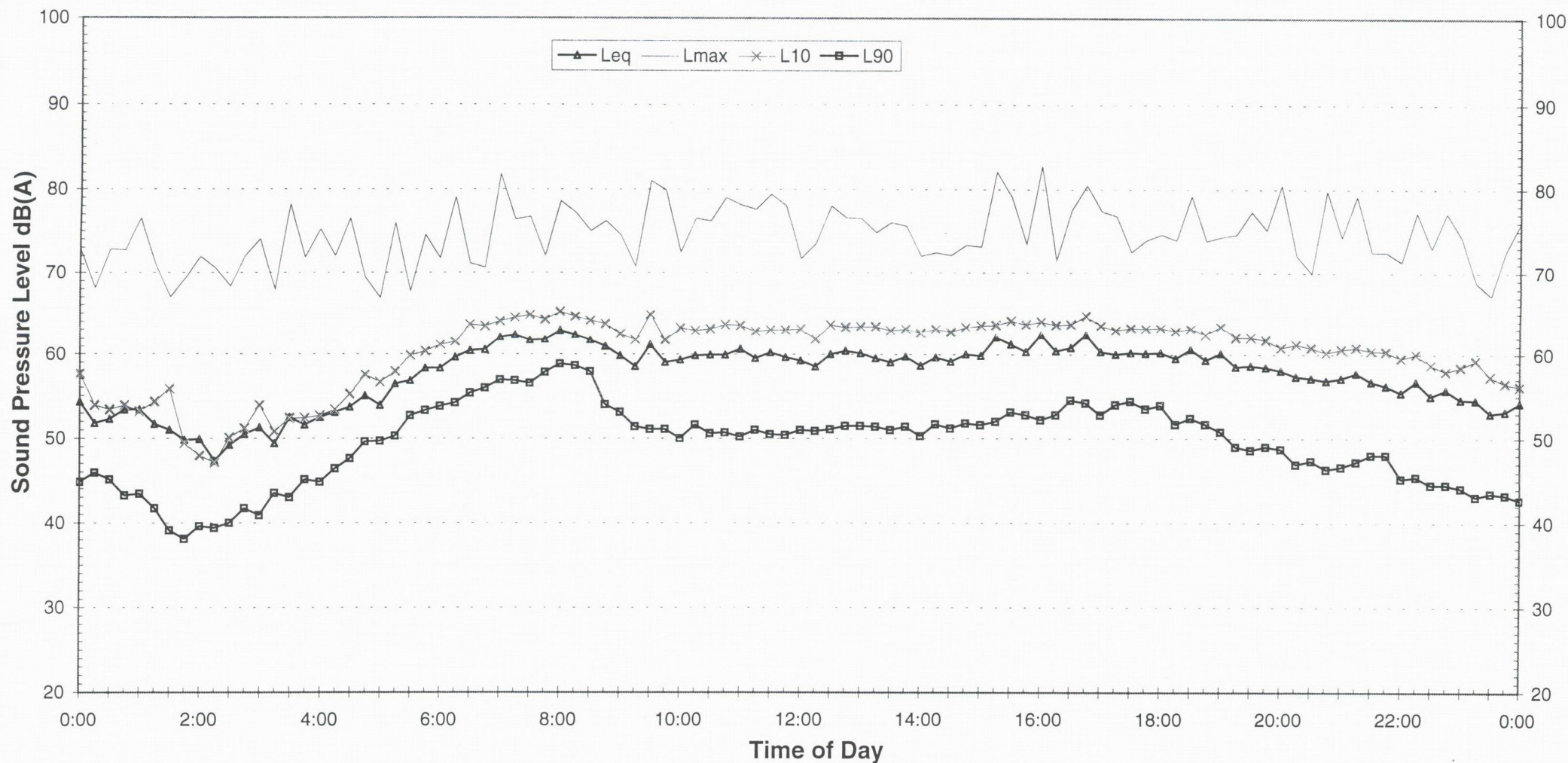
NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	59.5	56.0
Leq 1hr upper 10 percentile	64.1	60.7
Leq 1hr lower 10 percentile	56.3	49.8

# EXISTING AMBIENT NOISE LEVELS

991 Pacific Hwy Berowra

Thursday, 11 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	50.5	46.3	40.7
Leq (see note 3)	58.0	55.7	53.1

## NOTES:

1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

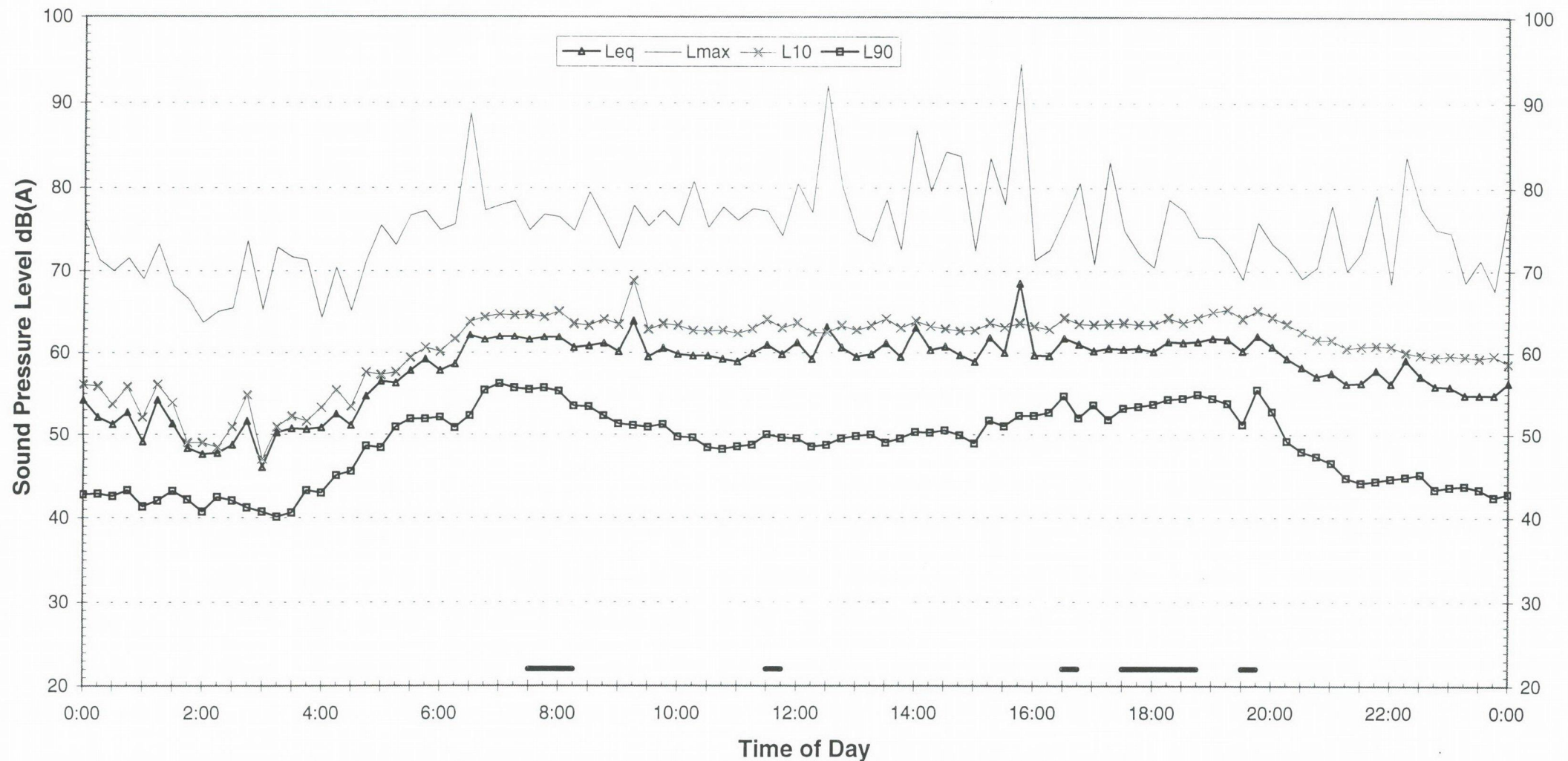
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	60.0	55.6
Leq 1hr upper 10 percentile	61.9	61.3
Leq 1hr lower 10 percentile	56.8	49.0



# EXISTING AMBIENT NOISE LEVELS

991 Pacific Hwy Berowra

Friday, 12 March 2004



## EPA Industrial Noise Policy (Free Field)

Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	48.5	44.3	40.0
Leq (see note 3)	58.7	56.4	55.9

## NOTES:

1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

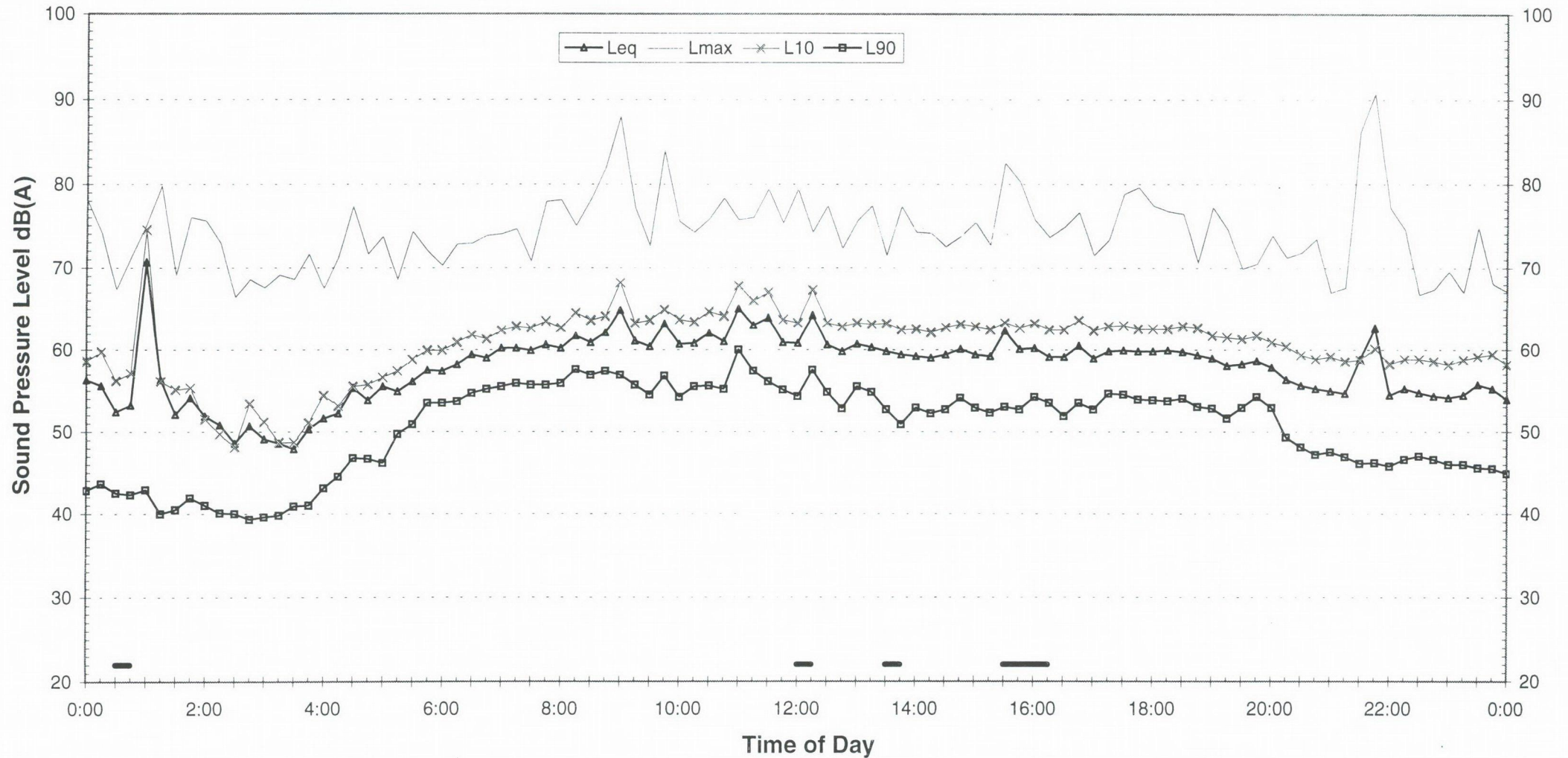
## EPA Traffic Noise Policy (1m from facade)

Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	60.8	58.4
Leq 1hr upper 10 percentile	63.2	67.8
Leq 1hr lower 10 percentile	57.5	49.8

# EXISTING AMBIENT NOISE LEVELS

991 Pacific Hwy Berowra

Saturday, 13 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	52.7	46.1	36.8
Leq (see note 3)	58.6	55.8	50.3

## NOTES:

1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

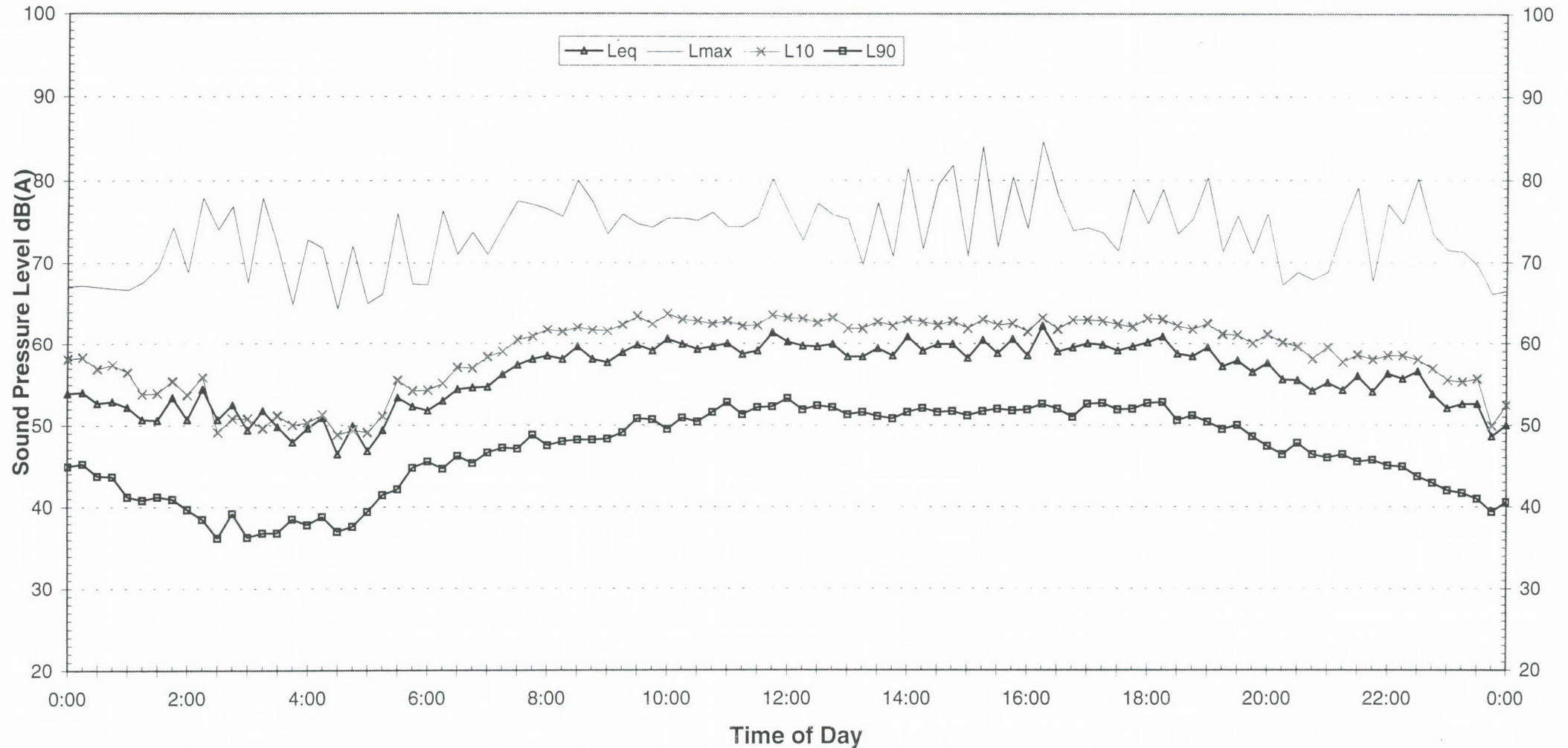
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day 7am-10pm	Night <sup>2</sup> 10pm-7am
Leq 15 hr and Leq 9 hr	60.4	52.8
Leq 1hr upper 10 percentile	62.7	54.9
Leq 1hr lower 10 percentile	57.0	48.9



# EXISTING AMBIENT NOISE LEVELS

991 Pacific Hwy Berowra

Sunday, 14 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day 7am-6pm	Evening 6pm-10pm	Night <sup>2</sup> 10pm-7am
L90	48.2	45.5	38.1
Leq (see note 3)	56.9	54.7	52.3

## NOTES:

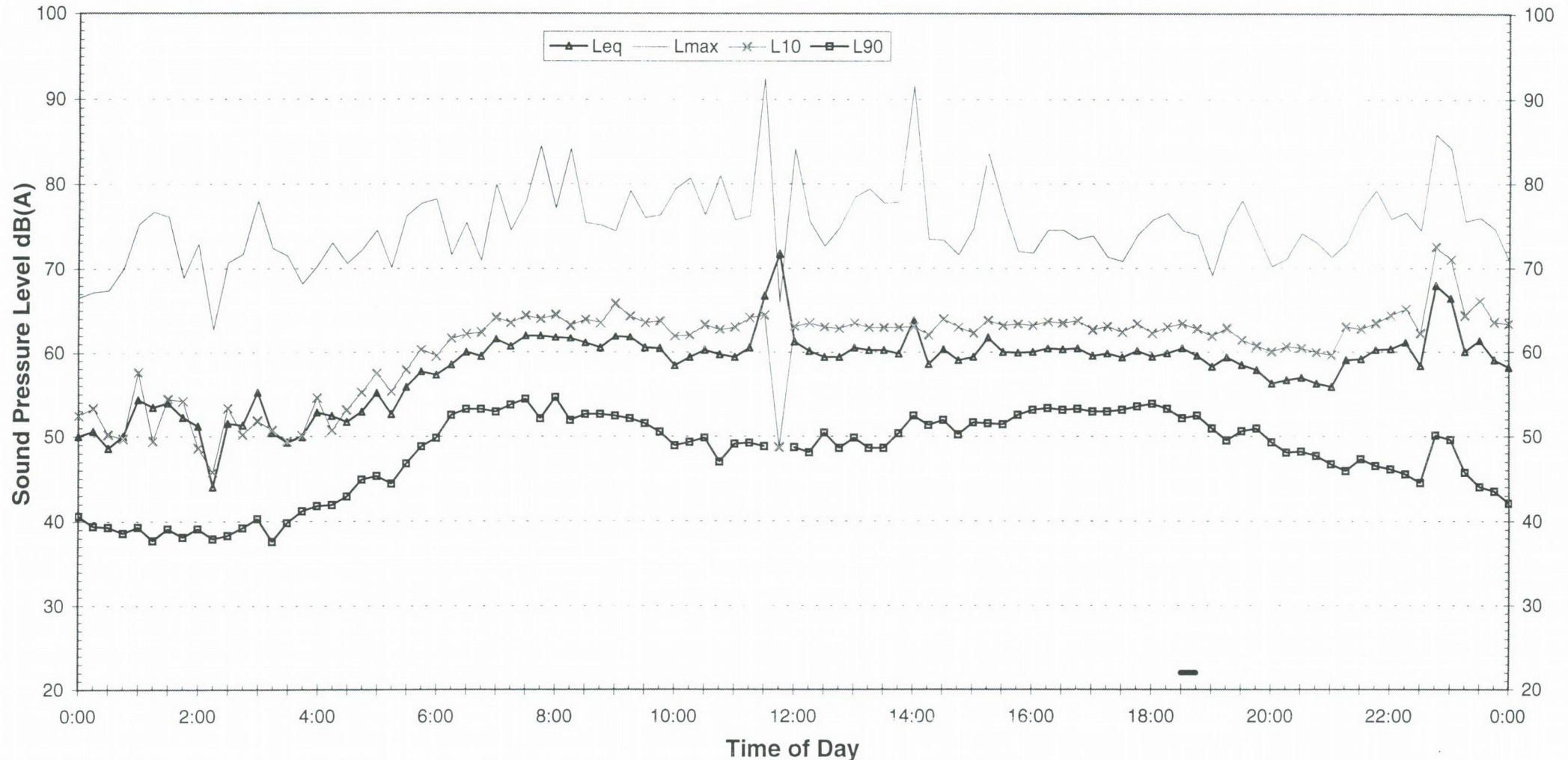
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

EPA Traffic Noise Policy (1m from facade)		
	Day	Night <sup>2</sup>
Descriptor	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	58.9	54.8
Leq 1hr upper 10 percentile	60.1	60.0
Leq 1hr lower 10 percentile	55.2	50.8

# EXISTING AMBIENT NOISE LEVELS

## 991 Pacific Hwy Berowra

### Monday, 15 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	48.6	46.1	40.6
Leq (see note 3)	59.3	55.9	58.8

NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

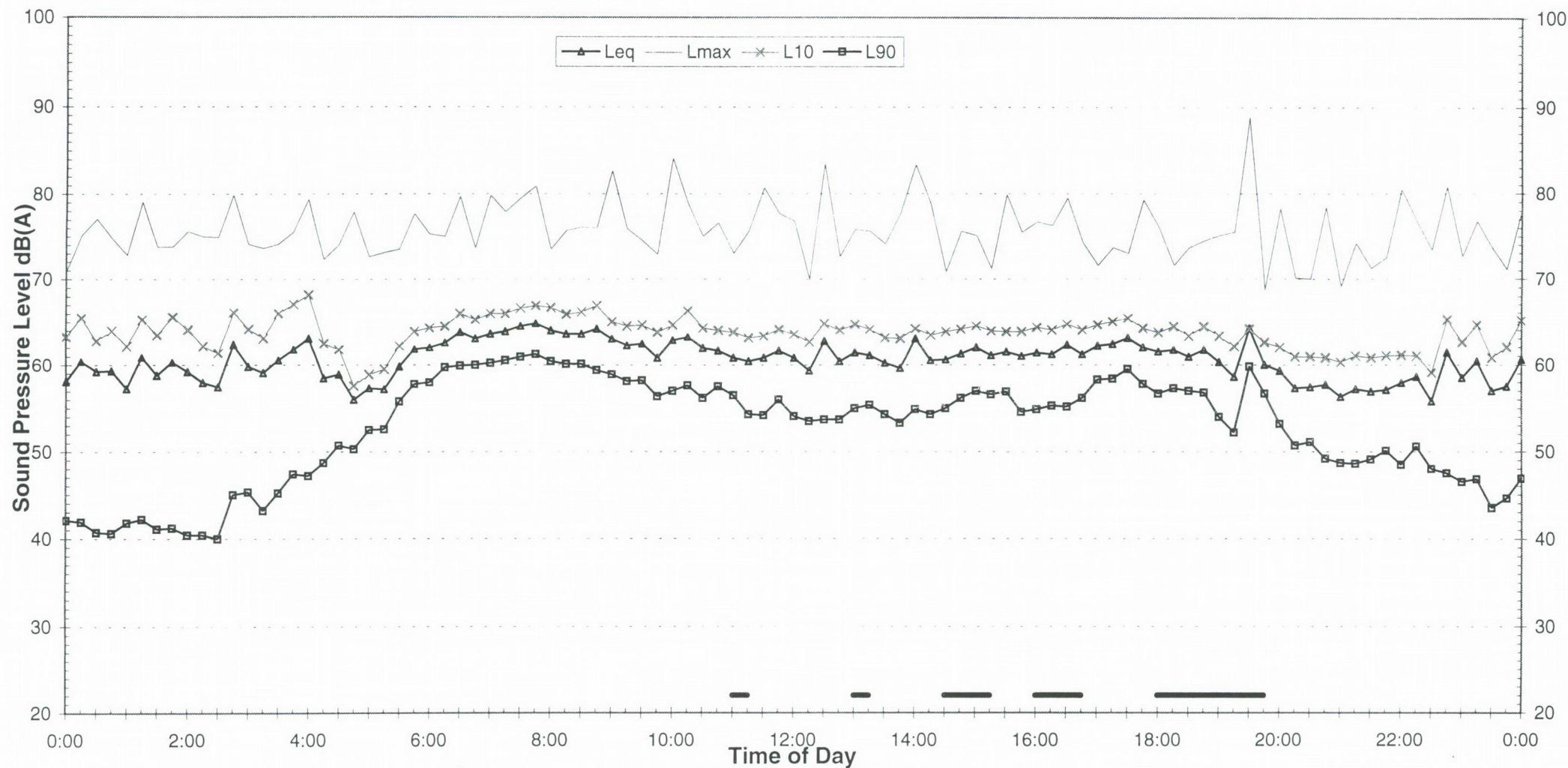
EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	61.2	61.3
Leq 1hr upper 10 percentile	65.4	64.9
Leq 1hr lower 10 percentile	57.3	57.8



# EXISTING AMBIENT NOISE LEVELS

991 Pacific Hwy Berowra

Tuesday, 16 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	53.7	48.5	43.5
Leq (see note 3)	59.9	55.0	56.6

## NOTES:

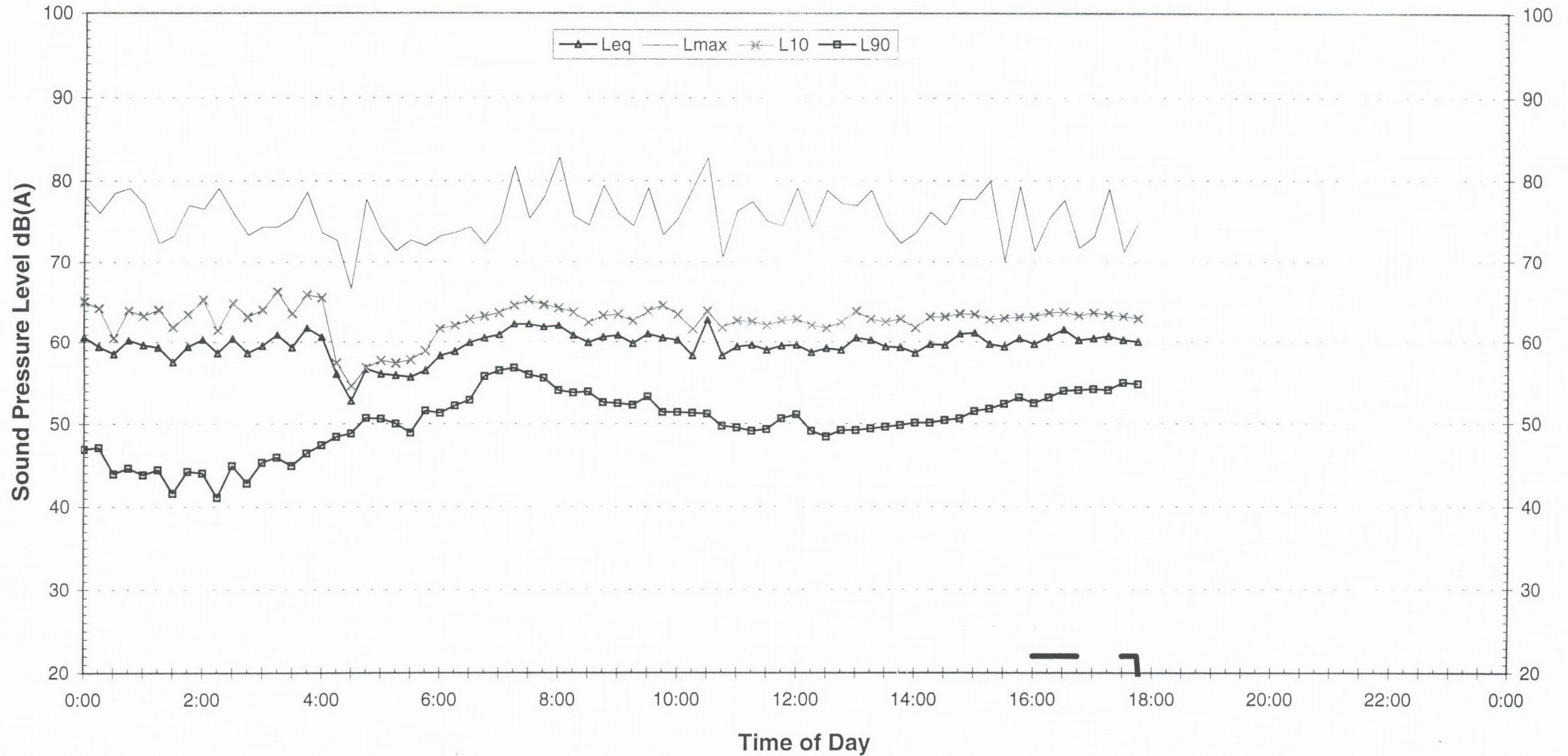
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	61.7	59.1
Leq 1hr upper 10 percentile	64.1	60.7
Leq 1hr lower 10 percentile	57.2	55.7

# EXISTING AMBIENT NOISE LEVELS

991 Pacific Hwy Berowra

Wednesday, 17 March 2004



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night <sup>2</sup>
	7am-6pm	6pm-10pm	10pm-7am
L90	49.2	-	-
Leq (see note 3)	57.8	-	-

NOTES:	
1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.	
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.	
3. Graphed data measured 1m from facade; tabulated results free-field corrected	

EPA Traffic Noise Policy (1m from facade)		
Descriptor	Day	Night <sup>2</sup>
	7am-10pm	10pm-7am
Leq 15 hr and Leq 9 hr	60.3	-
Leq 1hr upper 10 percentile	62.0	-
Leq 1hr lower 10 percentile	59.4	-