

# Noise Management Plan

## Albany Motorcycle Club Great Southern Motorplex

Prepared For

**The Albany Motorcycle Club Inc**

**September 2011**

Reference: 11071896-01A





Acoustics

## Report: 11071896-01A

<b>Lloyd George Acoustics Pty Ltd</b> ABN: 79 125 812 544  PO Box 717 Hillarys WA 6923				
<b>Offices:</b>	<b>Ocean Reef</b>	<b>Padbury</b>	<b>Scarborough</b>	<b>Waterford</b>
Phone:	9300 4188	9401 7770	9245 3223	9313 3655
Fax:	9300 4199	9401 7770	9300 4199	9300 4199
Email:	<a href="mailto:daniel@lgacoustics.com.au">daniel@lgacoustics.com.au</a>	<a href="mailto:terry@lgacoustics.com.au">terry@lgacoustics.com.au</a>	<a href="mailto:mike@lgacoustics.com.au">mike@lgacoustics.com.au</a>	<a href="mailto:rebecca@lgacoustics.com.au">rebecca@lgacoustics.com.au</a>
Mobile:	0439 032 844	0400 414 197	0438 201 071	0427 388 876
Member of the Association of Australian Acoustical Consultants – (AAAC)				

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<b>Prepared By:</b>	Daniel Lloyd 
<b>Position:</b>	Project Director
<b>Verified</b>	Terry George 
<b>Date:</b>	28 September 2011

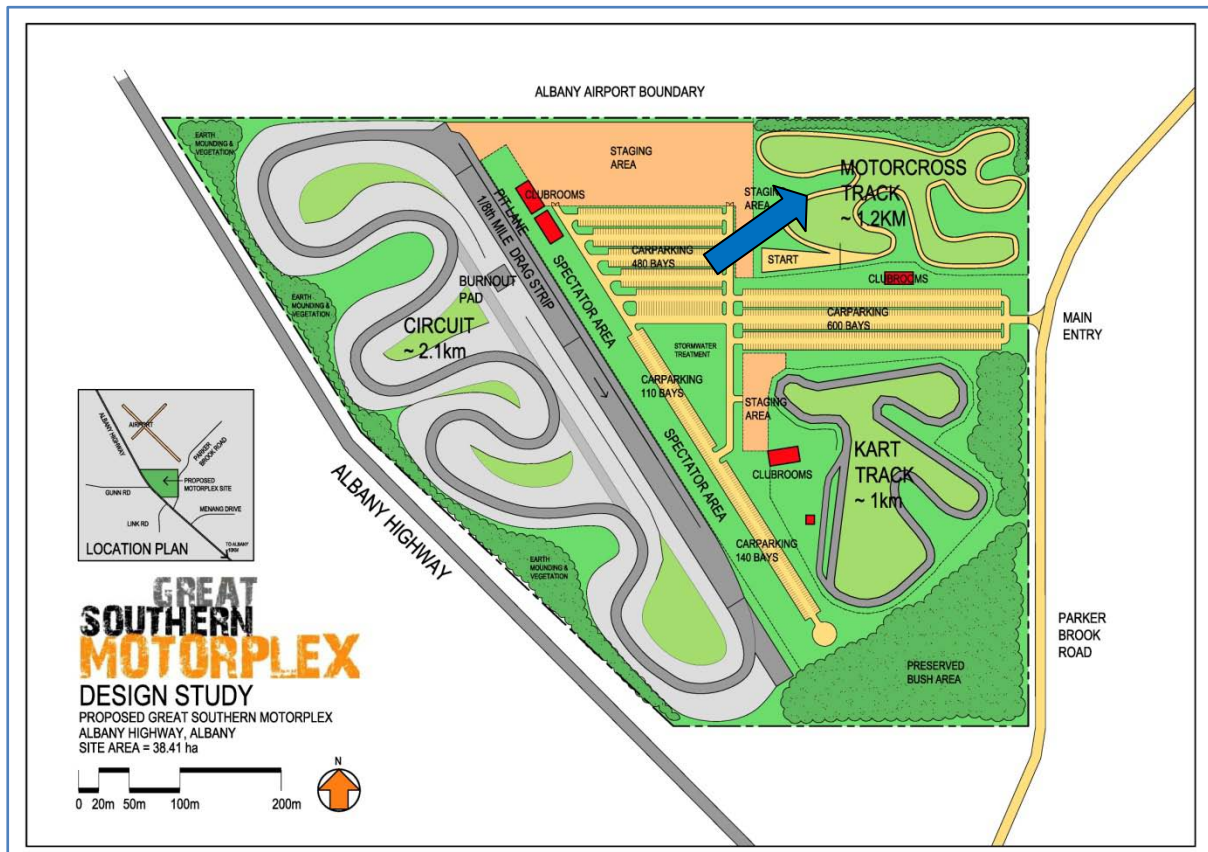
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Appendix A Details of Track Usage Plan

## 1 INTRODUCTION

The Albany Motorcycle Club is relocating to the proposed Great Southern Motorplex located on Reserve 1974 Parkerbrook Road, just south of the Albany Regional Airport. The location of the Motocross track is in the northeast corner of the Motorplex as shown in *Figure 1.1*.



**Figure 1.1** Location of the Motocross Track Within Motorplex

This Noise Management Plan has been prepared for the Albany Motorcycle Club to ensure that any noise impacts to neighbouring properties are minimised as far as practicable. The plan includes predicted noise levels during racing and provides details of the Club's commitments in managing the noise emissions.

## 2 NOISE PREDICTION METHODOLOGY

### 2.1 Site Measurements

Noise resulting from a typical motocross race were measured on 2 August 2009 at the previous Albany Motorcycle Club on Roberts Road, Albany. The results of these measurement have been used as a basis for the noise modelling and are considered typical for motocross racing. As a cross-check, these results correlate well with the German national database of noise emissions.

## 2.2 Noise Modelling

Computer modelling has been used to support the hand held measurements. The advantage of modelling is that it is not affected by background noise sources and can provide the noise level for various weather conditions. It can also evaluate the effect of noise bunds and other noise amelioration methods.

The software used to predict the noise was *SoundPLAN 7.1* together with the CONCAWE algorithms. These algorithms have been selected as they are one of the few that include the influence of wind and atmospheric stability. Input data required in the model are:

- ❑ Meteorological Information;
- ❑ Topographical data;
- ❑ Ground Absorption; and
- ❑ Source sound power levels.

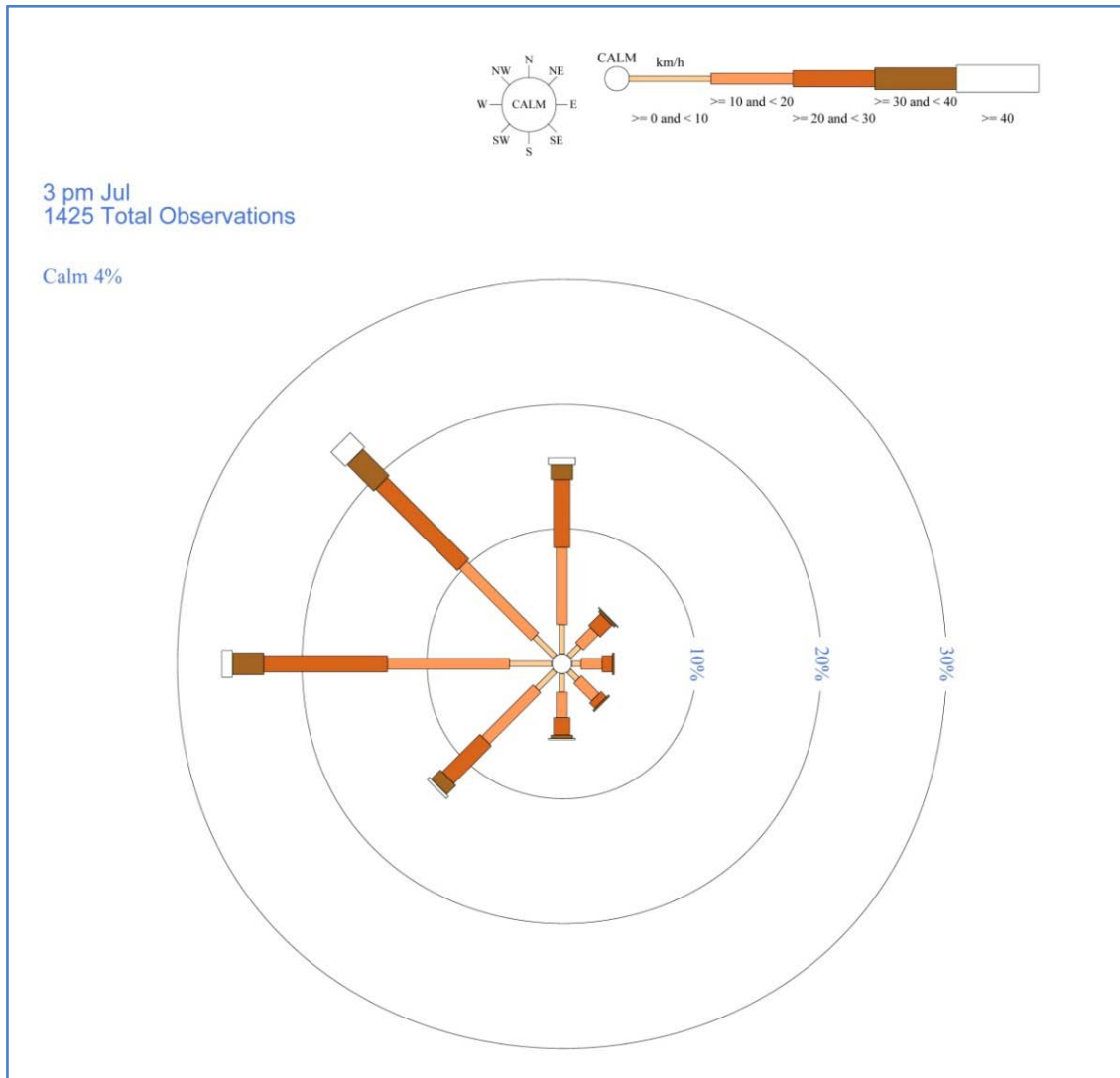
### 2.2.1 Meteorological Information

Meteorological information utilised is based on that specified in the EPA draft *Guidance for the Assessment of Environmental Factors No.8 Environmental Noise*. These conditions approximate the typical worst-case for enhancement of sound propagation. For this assessment we have assessed the noise for the wind in all directions and for the wind coming from the west, which is the dominant directions for the winter months. The meteorological conditions used in the modelling are provided in *Table 3.1* and the dominant wind directions during the racing season (Bureau of Meteorology - Albany Airport) is shown in *Figure 3.1*. It should be noted that at wind speeds greater than those shown in *Table 3.1*, sound propagation may be further enhanced, however background noise from the wind itself and from local vegetation is likely to be elevated and dominate the ambient noise levels.

**Table 3.1 –Modelling Meteorological Conditions**

Parameter	Day (0700-1900)
Temperature (°C)	20
Humidity (%)	50
Wind Speed (m/s)	4
Wind Direction*	All & NW
Pasquil Stability Factor	E

\* Note that the modelling package used allows for all wind directions to be modelled simultaneously.



**Figure 3.1** Dominant Wind Direction during the Winter Months at Albany Airport (Courtesy of Bureau of Meteorology)

### 2.2.2 Topographical Data

Although topographical data was not available, we understand it is reasonable to assume that the ground around the Motorplex is flat.

### 2.2.3 Ground Absorption

Ground absorption varies from a value of 0 to 1, with 0 being for an acoustically reflective ground (e.g. water or bitumen) and 1 for acoustically absorbent ground (e.g. grass, trees). As this area is predominantly rural, a value of 1.0 has been used for the study area.

### 2.2.4 Source Sound Levels

Table 3.2 shows the sound power levels used in the modelling. As described previously, this data was obtained from measurements undertaken at the previous Albany Motorcycle Club track on Roberts Road, Albany.

**Table 3.2 – Source Sound Power Levels, dB(A)**

Description	One-third Octave Band Frequency (Hz, dBA)								Overall
	63	125	250	500	1k	2k	4k	8k	
Motorcross Race (Senior Division)	75	97	105	117	117	121	117	104	128
	82	102	113	116	118	120	114	100	
	91	100	117	114	119	120	109	97	
Motorcross Race (Junior Division)	72	81	87	105	104	105	103	94	114
	75	81	92	102	103	104	100	91	
	78	87	99	100	103	105	98	90	

## 3 NOISE MODELLING RESULTS

The results of the noise modelling together with the location of the nearest noise sensitive premises are provided in *Figures 3.1 to 3.4*. The figures show the following scenarios:

*Figure 3.1* Noise from a Senior Division Race with Wind from All Directions;

*Figure 3.2* Noise from a Junior Division Race with Wind from All Directions;

*Figure 3.3* Noise from a Senior Division Race with Wind from the West; and

*Figure 3.4* Noise from a Junior Division Race with Wind from the West.

## 4 NOISE MANAGEMENT MEASURES

From *Figures 3.1 to 3.4*, it can be seen that the noise from the Albany Motorcycle Club Motocross track would be audible at nearby residential premises during racing. To minimise the impact of noise, the following management measures will be enforced by the Albany Motorcycle Club at all racing, training and practice sessions.

Generally, the most effective noise management techniques for motocross venues are:

- ❑ Ensure noise emissions for motorcycles are within best practice guidelines;
- ❑ Limit the use of the track to prescribed times only; and
- ❑ Maximising buffer distances to sensitive receivers.

The location of the track within the Great Southern Motorplex ensures that the greatest distance between the track and noise sensitive premises is achieved.

### 4.1 Noise Testing of Motorcycles

All motorcycles using the track will be tested to ensure that they comply with Motorcycling Australia and FIM (Federation of International Motocross) Guidelines on noise output. The club has a sound level meter for this purpose and a number of club members are accredited Noise Control Officers.

Testing will also be carried out randomly or on motorcycles suspected of exceeding the Guidelines. Any motorcycles failing the test will not be permitted to race until they conform with the Guidelines.

### 4.2 Operating Times

The track will only be open at prescribed times. When the track is closed, it will be securely locked and riding will be strictly prohibited .

On days that the track is open, a curfew will be enforced. Training days will be under the supervision of officials, and only officials that are rostered on will have access to a gate key.

The Albany Motorcycle Club has a five year plan in place which incorporate State Title Event and Open Events.

#### 4.2.1 Events

Sunday, fourteen per year, (some events may be held on a Saturday) Race days start at approx 8.30 am and finish at approx 5pm. These events will include race days and coaching days – This is a maximum number and the club may not hold this many events.

#### 4.2.2 Training Days

From March to November, training will occur on three days per week between 12pm and 6.30pm (curfew time will be drastically reduced in mid winter due to daylight).



From December to February, training will occur on two days per week between 12pm and 6.30pm.

Club members and officials will be informed of curfew times for training days.

The Albany Motorcycle Club commits to supplying our neighbours with a copy of our race calendar at the beginning of our season. The club will also inform neighbours of any changes to the calendar that may occur during the year.

More detail regarding operating times can be found at *Appendix A*.

### **4.3 Notification of Events and Operating Times**

The Albany Motorcycle Club will provide information on race dates and operating times to all affected residents. Should any unexpected changes to the calendar occur, the revised times will be conveyed to all affected residents at least one week before the event where practicable.

### **4.4 Complaint Response**

The Albany Motorcycle Club wishes to maintain a good relationship with their neighbours and will ensure that systems are in place to address any concerns our neighbours have.

The Albany Motorcycle Club will provide all affected residents with a complaints number. All complaints will be answered as soon as possible and no later than 24 hours after the complaint was received. The reason for the complaint will be investigated and any remedial action will be conveyed to the complainant.

A log of any complaints will be kept on record and will be presented to the City of Albany upon request.

### **4.5 Noise Bunds**

Noise bunds are to be constructed as part of the overall Great Southern Motorplex strategy. However, it should be noted that due to the large distance between one side of the Motocross track to the other, the installation of noise bunds will not have a significant effect on the noise propagation, except for receivers located close to the track (within the acoustic shadow of the bund). This is illustrated in *Figure 4.1*.

## **5 CONCLUSION**

Albany Motorcycle Club has dealt with the issue of noise for a number of years and is conscious of the impact it has on its neighbours. The Clubs senior management will ensure that the strategies adopted in the Noise Management Plan will be adhered to at all times. In addition, a periodic review the effectiveness of the Plan will be undertaken to ensure it addresses any issues that may arise over time.

Appendix A  
Details of Track Usage Plan