ACT Government
Chief Minister, Treasury and Economic Development

Freedom of Information Publication Coversheet

The following information is provided pursuant to section 28 of the *Freedom of Information Act 2016*.

FOI Reference: CMTEDDFOI 2022-240

Information to be published	Status
1. Access application	Published
2. Decision notice	Published
3. Documents and schedule	Published
4. Additional information identified	No
5. Fees	Waived
6. Processing time (in working days)	50
7. Decision made by Ombudsman	N/A
8. Additional information identified by Ombudsman	N/A
9. Decision made by ACAT	N/A
10. Additional information identified by ACAT	N/A

From: [redacted]
To: CMTEDD FOI
Subject: FOI Request
Date: Monday, 8 August 2022 9:55:03 PM

Hello

I would appreciate access under the FOI Act to the following documents:

- The fully copy of the Noise Management Reports for the following events:
    - Groovin the moo 2022
    - Summernats 2022
    - National Folk Festival 2022

For clarity, section 6 of the Noise Management Plans for each of these events list a Noise Management Report as being required to be produced within 8 weeks of each event.

Thanks

[redacted]

ACT Government
Chief Minister, Treasury and Economic Development

Our ref: CMTEDDFOI 2022-240

[redacted]

FREEDOM OF INFORMATION REQUEST

I refer to your application under section 30 of the *Freedom of Information Act 2016* (the Act), received by the Chief Minister, Treasury and Economic Development Directorate (CMTEDD) on 8 August 2022.

Specifically, you are seeking: "*The full copy of the Noise Management Reports for the following events: Groovin the moo 2022; Summernats 2022; National Folk Festival 2022.*"

Authority

As an appointed Information Officer under section 18 of the Act, I am authorised to make a decision on access or amendment to government information in the possession or control of CMTEDD.

Timeframes

In accordance with section 40 of the Act, CMTEDD is required to provide a decision on your access application by 5 September 2022 however, following on an extension of time and third-party consultations, the due date is now 19 October 2022.

Decision on access

Searches were completed for relevant documents and three documents were identified that fall within the scope of your request.

I have included as **Attachment A** to this decision the schedule of relevant documents. This provides a description of the documents that fall within the scope of your request and the access decision for those documents.

I have decided to grant partial access to all documents.

My access decisions are detailed further in the following statement of reasons and the documents released to you are provided as **Attachment B** to this letter.

In accordance with section 54(2) of the Act a statement of reasons outlining my decisions is below.

Statement of Reasons

In reaching my access decisions, I have taken the following into account:

- the Act;
- the content of the documents that fall within the scope of your request;
- the *Human Rights Act 2004*.

Exemption claimed

My reasons for deciding not to grant access to the identified documents and components of these documents are as follows:

Public Interest

The Act has a presumption in favour of disclosure. As a decision maker I am required to decide where, on balance, public interest lies. As part of this process, I must consider factors favouring disclosure and nondisclosure.

In *Hogan v Hinch* (2011) 243 CLR 506, [31] French CJ stated that when 'used in a statute, the term [public interest] derives its content from "the subject matter and the scope and purpose" of the enactment in which it appears'. Section 17(1) of the Act sets out the test, to be applied to determine whether disclosure of information would be contrary to the public interest. These factors are found in subsection 17(2) and Schedule 2 of the Act.

Taking into consideration the information contained in the documents found to be within the scope of your request, I have identified that the following public interest factors are relevant to determine if release of the information contained within these documents is within the 'public interest'.

Factors favouring disclosure in the public interest under schedule 2.1:

(a) disclosure of the information could reasonably be expected to do any of the following:

(xiii) *contribute to the administration of justice generally, including procedural fairness.*

Having considered the factors identified as relevant in this matter, I consider that release of the information contained in the documents may contribute to procedural fairness by allowing you to have a copy of the documents that fall within the scope of your request.

Factors favouring nondisclosure in the public interest under schedule 2.2:

(a) disclosure of the information could reasonably be expected to do any of the following:

(ii) Prejudice the protection of an individual's right to privacy or other rights under the Human Rights Act 2004.

Having reviewed the documents, I consider that the protection of an individual's right to privacy, is a significant factor as the parties involved have provided their personal information for the purposes of working with the ACT Government. This, in my opinion, outweighs the benefit which may be derived from releasing the personal identities of the individual's involved in this matter.

Individuals are entitled to expect that the personal information they have supplied as part of this process will be dealt with in a manner that protects their privacy. Considering the type of information to be withheld from release, I am satisfied that the factors in favour

of release can still be met while protecting the personal identities of the individuals involved. I therefore weigh the factor for nondisclosure more highly than the factor in favour of release in this instance. As a result, I have decided that release of this information (names, addresses and email addresses) could prejudice their right to privacy under the *Human Rights Act 2004*.

Having applied the test outlined in section 17 of the Act and deciding that release of personal information contained in the documents is not in the public interest to release, I have chosen to redact this specific information in accordance with section 50(2). Noting the pro-disclosure intent of the Act, I am satisfied that redacting only the information that I believe is not in the public interest to release will ensure that the intent of the Act is met and will provide you with access to the majority of the information held by CMTEDD within the scope of your request.

Charges

Processing charges for this request have been waived in line with section 107 of the Act.

Online publishing – Disclosure Log

Under section 28 of the Act, CMTEDD maintains an online record of access applications called a disclosure log. Your original access application, my decision and documents released to you in response to your access application will be published on the CMTEDD disclosure log 3 days after the date of my decision. Your personal contact details will not be published.

You may view CMTEDD disclosure log at https://www.cmtedd.act.gov.au/functions/foi.

Ombudsman Review

My decision on your access request is a reviewable decision as identified in Schedule 3 of the Act. You have the right to seek Ombudsman review of this outcome under section 73 of the Act within 20 working days from the day of my decision, or a longer period allowed by the Ombudsman.

We recommend using this form *Applying for an Ombudsman Review* to ensure you provide all of the required information. Alternatively, you may write to the Ombudsman at:

The ACT Ombudsman
GPO Box 442
CANBERRA ACT 2601

Via email: actfoi@ombudsman.gov.au

ACT Civil and Administrative Tribunal (ACAT) Review

Under section 84 of the Act, if a decision is made under section 82(1) on an Ombudsman review, you may apply to the ACAT for review of the Ombudsman decision. Further information may be obtained from the ACAT at:

ACT Civil and Administrative Tribunal
Level 4, 1 Moore St
GPO Box 370
Canberra City ACT 2601
Telephone: (02) 6207 1740
http://www.acat.act.gov.au/

Should you have any queries in relation to your request please contact me by telephone on 6207 7754 or email CMTEDDFOI@act.gov.au.

Yours sincerely

Katharine Stuart
Information Officer
Chief Minister, Treasury and Economic Development Directorate

19 October 2022

ACT Government
Chief Minister, Treasury and Economic Development

FREEDOM OF INFORMATION REQUEST SCHEDULE

WHAT ARE THE PARAMETERS OF THE REQUEST	Reference NO.
The full copy of the Noise Management Reports for the following events: • Groovin the Moo 2022; • Summernats 2022; • National Folk Festival 2022.	CMTEDDFOI 2022-240

Ref No	Page number	Description	Date	Status	Reason for Exemption	Online Release Status
1	1-21	Noise Monitoring – Summernats 2022	11 Feb 2022	Partial Release	Sch 2 s2.2 (a)(ii)	Yes
2	22-41	Noise Management Plan – Groovin The Moo (GTM) 2022	20 Jun 2022	Partial Release	Sch 2 s2.2 (a)(ii)	Yes
3	42-59	Noise Monitoring – National Folk Festival 2022	5 Jul 2022	Partial Release	Sch 2 s2.2 (a)(ii)	Yes

Total No of Docs
3

Noise Monitoring

Of

Summernats 2022

Held at

Exhibition Park In Canberra (EPIC)

Mitchell ACT

Prepared for: Amal Davis
Director
Exhibition Park In Canberra (EPIC)
Mitchell ACT

By: Sch 2.2(a)(ii)
Acoustic Consultant
GUZ BOX design + audio

Date issued: 11 February 2022

GUZ BOX design + audio
PO Box 830, Wollongong NSW 2520
ABN 26 141 879 892
t: 02 4227 3040
w: www.guzbox.com.au
e: info@guzbox.com.au

GUZ BOX design + audio

GUZ BOX design + audio has been engaged by *Exhibition Park In Canberra (EPIC)* to assist with the development of a Noise Management Plan and to provide independent assessment of noise levels for the *Summernats 2022* event in accordance with the requirements of an Environmental Authorisation issued by ACT Government.

1.0 Details of acoustic consultant

Sch 2.2(a)(ii) *GUZ BOX design + audio*, carried out the attended noise measurements for this event and has prepared of this report.

Sch 2.2(a)(ii)

Contact details:

address:	*GUZ BOX design + audio* Sch 2.2(a)(ii)
mail:	PO Box 830, Wollongong NSW 2520
mobile:	Sch 2.2(a)(ii)
email:	Sch 2.2(a)(ii)@guzbox.com.au

2.0 Description of event site and program

Summernats is an annual event held at *Exhibition Park in Canberra* (EPIC) and caters to a wide range of car enthusiasts. The *Summernats 2022* event was held from Thursday 6 January until Sunday 9 January 2022. The objectives of the NMP are to identify actions that will assist the Event Management to comply with the requirements of an Environmental Authorisation (EA 0006 of 24 October 2019) provided by ACT Government.

3.0 Requirements of the Authorisation

Environmental Authorisation No. 0006 (variation dated of 24 October 2019) contains conditions for the annual *Summernats* event held at *Exhibition Park In Canberra*. The applicable conditions in relation to noise are listed below:

1. Definitions

Compliance Point – has the same meaning as in the Environment Protection Regulation 2005

Event – any activity which involves either:

- *A motor vehicle race pr practice for a motor vehicle race or a motor vehicle reliability trial or speed test; or*
- *An outdoor concert using amplified equipment*

Event credit – can be used to purchase an increase in the noise limit applying to an event.

Go to Whoa Strip – is the area identified at Attachment 2 as the "Go to Whoa Strip"

Noise limit – the maximum noise from motor sports or outdoor concerts permitted at the compliance point. The noise limit is 45dB(A) unless a higher limit has been authorised or "purchased" using event credits.

2. Hours of Operation

2.3 Motor sports and outdoor concert activities may only be conducted as part of the Summernats between the hours of 9:00am and 11:00pm. Use of the "Go to Whoa Strip" as part of the Summernats is permitted during the hours specified at Attachment 3.

3. Compliance Points

3.1 Compliance point for the noise monitoring of each event are:

a) on that part of Sch 2.2(a)(ii) *; and*

b) the road reserve area between the Federal Highway and Sch 2.2(a)(ii) *, between* Sch 2.2(a)(ii) *Federal highway, Watson.*

4. Compliance Requirements

4.3 ***Summernats*** *– 55dB(A)* $_{LA10}$*, 10 min during the permitted hours of operation on the Thursday, Friday, Saturday and Sunday in January of each year. Noise levels for the "Go to Whoa Strip" are specified in Attachment 3.*

4.4 Event Credits may be used for ***Summernats*** *outdoor concerts on the Friday and Saturday night of the event. Maximum noise limits permitted to be purchased is 65dB(A).*

5. Modifying Factor Corrections

5.1 The corrections specified for tonal, impulsive, intermittent and low frequency noise, as set out in Table 1 of the Noise Measurement Manual, are to be added to the measured noise levels at the compliance point before comparison with the authorised noise limit.

6. Monitoring/Reporting

6.1 ***Summernats*** *- The Authorisation holder is required to demonstrate that noise from the event does not exceed the noise limit at the compliance points. The Authorisation holder must submit a proposal prepared by a person qualified in the assessment of environmental noise to the Authority at least 8 weeks before the events. The proposal must be acceptable to the Authority. The events are to be monitored by means of independent noise monitoring at the compliance points. Noise monitoring must be undertaken by a person qualified in the assessment of environmental noise. Attended monitoring is to be undertaken for all events at the compliance points. Results from noise monitoring must be submitted to the Authority eight (8) weeks from the end of the event.*

6.4 A Noise Monitoring Report must be provided, in writing to the Authority, within eight (8) weeks of completion of the event. The report must contain the following information:

i. the name, address and telephone number(s) of the person who prepared the report;

ii. the experience and qualifications of persons who undertook the noise monitoring in the assessment of environmental noise;

iii. the dates, commencement and completion times of sound measurements;

iv. a description of the location(s) at which the sound measurement(s) were taken;

v. details of the equipment and methods used to take the sound measurements;

vi. details of any measured non-compliances associated with noise emissions from the... event. Including, what actions were taken to ensure compliance with the requirements of clause 4 of this schedule; and

vii. the details are to be provided by email to environment.protection@act.gov.au

9. Public Notification

9.1 The Authorisation holder must advertise, in the Canberra Times and the Canberra Weekly, each upcoming event at least eight weeks in advance of the event.

9.2 The advertisement should state the date on which it is proposed to conduct the event and, if desired by the authorisation holder, an alternative date in case the event has to be cancelled due to rain.

9.3 The Authority must be notified within two working days of the placement of the advertisement notifying an upcoming event or the cancellation of the event.

ATTACHMENT 2: GO TO WHOA STRIP

ATTACHMENT 3: Permitted hours of operation for the Go To Whoa Strip

Time	Thursday	Friday	Saturday	Sunday
8.00				
9.00		9.00		9.00
10.00		10.00	10.00	
11.00		12.00		12.00
12.00		12.00-13.00	13.00	12.00-13.00
13.00		13.00	13.00-14.00	13.00
14.00			14.00	
15.00	15.00-16.00			
16.00	16.00-17.00			
17.00	17.00-18.00	18.00	18.00	18.00
18.00				
19.00				

65 dB(A)

55 dB(A)

4.0 Equipment used for measurements

Measurements were carried out in accordance with the *"Noise Measurement Manual – Environmental Protection Authority – September 2009"* and with reference to Australian Standard *AS 1055.1 1997 "Acoustics - Description and measurement of environmental noise - General procedures".*

4.1 Environmental Noise Logger @ Sch 2.2(a)(ii) :

The following Type 1 environmental noise logger was located at the compliance location prior to commencement of the event:

Brand: Acoustic Research Laboratories Pty Ltd
Model: NGARA - Type 1 Environmental Noise Logger
Serial #: 87806F

A wind shield was used during the measurement period.
Height of microphone: Approx.1.2m above ground level.

The noise logger was calibrated before measurements and again at the end of testing. No calibration drift was noted. The logger was set to record continuous noise measurements over the event period. The data from the noise logger was analysed over 10-minute periods in accordance with the requirements ACT EPA.

4.2 Environmental Noise Logger @ Sch 2.2(a)(ii) , Watson:

The following Type 1 environmental noise logger was located at the compliance location prior to commencement of the event:

Brand: Acoustic Research Laboratories Pty Ltd
Model: NGARA - Type 1 Environmental Noise Logger
Serial #: 878077

A wind shield was used during the measurement period.
Height of microphone: Approx.1.2m above ground level.

The noise logger was calibrated before measurements and again at the end of testing. No calibration drift was noted. The logger was set to record continuous noise measurements over the event period. The data from the noise logger was analysed over 10-minute periods in accordance with the requirements ACT EPA.

4.3 Type 1 Handheld Sound Level Meter (SLM) at Sch 2.2(a)(ii) compliance location:

The following equipment was used to obtain attended noise measurements:

Brand: *NTi Audio*
Model: XL2 Analyser (Serial #: A2A-06746-EO)
Firmware: V4.80
Software: XL2 STI-PA Option (Serial #: 2081)
XL2 Data Explorer Option (Serial #: 1237)
XL2 Extended Acoustics Option
XL2 Sound Insulation Option
Microphone: M2230 Class 1 measurement microphone (Serial #:7048)
Microphone preamplifier: MA220 (Serial #: 2630)
Calibrator: *NTi Audio/Larson Davis* CAL200 (Serial #:13765)

A wind shield was used during the measurement period.
Height of microphone: Approx.1.2m above ground level.

The SLM was calibrated before measurements and again at the end of testing. No calibration drift was noted. The SLM was set to record continuous noise measurements over test periods with minimum 10 minutes duration.

4.4 Portable Weather Station @ compliance location:
The following weather and environmental meter was used to gather environmental data at the compliance location:

Brand: Kestrel
Model: 5500BT
Serial #: 712331

5.0 Description of Noise Monitoring

5.1 Unattended noise monitoring at compliance locations
Two (2) NGARA noise loggers where provided at the following nominated compliance locations for the duration of the event:

- Sch 2.2(a)(ii)
-

An NGARA noise logger (S/N 87806F) was located within the rear yard of Sch 2.2(a)(ii) , providing continuous noise logging from 11am on 6 January until 2:30pm, 10 January 2022.

An NGARA noise logger (S/N 878077) was located in a concealed location at the entrance to Sch 2.2(a)(ii) facing Federal Highway, providing continuous noise logging from 9:30am on 6 January until 12:30pm, 10 January 2022. A secure location at the units identified in the EA was not possible at this time.

Refer attached images showing location of the NGARA loggers at the compliance locations.

5.2 Attended noise monitoring
The *NTi-Audio XL2* sound level meter was used for attended noise measurements at the compliance location identified within Environmental Authorisation No.0006 as Sch 2.2(a)(ii)). The performance of the meter was checked with the portable calibrator, *NTi Audio/Larson Davis CAL200*. The sound level meter was set up so that the microphone, with windshield, was 1.2m above the ground and over 3m from any reflecting surfaces. Noise levels were monitored over 10-minute periods and the data stored in the meter for subsequent downloading and analysis. Where possible, the analysis was paused when extraneous noises were present.

The *Kestrel* portable weather station provided measurements for temperature, humidity and wind speed during noise monitoring.

Attended noise monitoring was carried out during the following times:

- 7 January 2022, 7:00pm – 11:00pm
- 8 January 2022, 2:40pm – 10:30pm
- 9 January 2022, 11:30am – 6:30pm

6.0 Details of measurements

6.1 Noise Level Descriptors

The metric used for noise level assessment in the ACT, $L_{A10,T}$ takes into consideration the time variation of the noise:

- $L_{10,T}$ - the level exceeded for 10% of the time period, T, is similar to the average of the maximum noise levels and is often used as the descriptor for a noise under investigation.

It is often useful to compare the value for this metric with one used to describe background noise;

- $L_{90,T}$ - the level exceeded for 90% of the time period, T, is often used as the descriptor for background noise in the area, i.e. without the noise from the source under investigation.

Another useful metric for environmental noise assessment is:

- $L_{eq,T}$ - the equivalent energy level and is the level of a constant sound that over the time period T has the same total sound energy as the time varying sound.

Measurements are noted using the A-weighting filter, which has a similar response to human hearing.

6.2 Unattended measurements at compliance locations

Unattended measurements were carried out at the two compliance locations.

Refer attached charts showing summary of measured L_{A10} and L_{A90} noise data at each compliance location.

6.3 Attended measurements at Sch 2.2(a)(ii) compliance location

Attended measurements at the Sch 2.2(a)(ii) compliance location were carried during anticipated noisier periods during the event and included the Friday and Saturday night concerts. The following table provides a summary of measured data obtained from the attended measurements at this compliance location. Modifying Factor Corrections have been applied in accordance with Table 1 of the *Noise Measurement Manual* and are indicated in brackets.

Table 6.3.1: Attended measurements at Sch 2.2(a)(ii) – Friday 7 January 2022

Meas.start Time(24hr)	*dB(A) (10 minute)*				*Comments + observations*
	L_{10}	L_{eq}	L_{90}	C-A	
19:00					Temp: 21ºC Relative Humidity: 89% Wind: NIL Sky: Heavy cloud (8 Oktas), raining heavily
Notes:	Due to heavy rain and storms and in accordance with the *Noise Measurement Manual*, measurements could not be carried out.				
19:30					Received SMS from Amal (EPIC) – final decision on concert due in 30 minutes. Rain noise constant, noise from burnouts, engine revs audible from event site. Cars on Northbourne audible – wheels on wet road

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
20:20					Vox announce, crowd noise cheering from event site clearly audible
20:30					Amal has advised concert going ahead. Concert started shortly after, LF & vox clearly audible
20:44					Received phone call from stage manager to check levels. Indicated that rain is affecting any measurement data.
21:00					Temp: 19.5ºC Relative Humidity: 92% Wind: NIL Sky: Heavy cloud (8 Oktas), raining
21:15					Amal sent SMS to check levels – results still affected by rain noise
21:30					Rain easing. Noise from wet roads still audible. Vox, LF & cheering from concert clearly audible
22:30					Concert has finished. Traffic on Northbourne + some louder vehicles in event site audible. Temp: 18.8ºC Relative Humidity: 99% Wind: NIL Sky: Heavy cloud (8 Oktas) Some light rain, roads still very wet.
22:47	52.7	50.4	44.5	13.9	No rain. Meas. without concert noise. Traffic on Northbourne increasing – less noise from wet roads. Some louder vehicles and noise from patrons leaving site.
	End of measurements - no further measurements				

Table 6.3.2: Attended measurements at Sch 2.2(a)(ii) – Saturday 8 January 2022

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
14:52 *SLM_000*	68.7	66.2	59.4	13.7	Temp: 28ºC Relative Humidity: 48% Wind: <2.2m/s NW-WNW Sky: Typically clear with some scattered cloud (1 Oktas) Burnouts clearly audible with skids, engine rec etc. at closer range. Vehicles constant on Northbourne (not significant) with some noisier vehicles at times. Noise from the event is the dominant noise source.
15:10 *SLM_001*	67.3 *(72.3)*	65.1	60.8	16.4	Some back-firing/exhaust sounds are very loud @85dB $L_{AF\,max}$
15:32 *SLM_002*	69.8	66.9	60.4	13.8	Burnouts clearly audible – louder at times. Helicopter flyover @ 15:39 Some PA/vox + crowd noise at times

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
15:43 *SLM_003*	69.4	65.8	59.3	14.7	
16:00 *SLM_004*	64.5 *(69.5)*	61.9	57.3	16.7	Temp: 27ºC Relative Humidity: 38% Wind: 1.1 <>2.0m/s WNW Sky: Clear with some cloud (0-1 Oktas)
16:15 *SLM_005*	68.9 *(73.9)*	65.8	58.5	15.5	Helicopter flyover @ 16:20
16:31 *SLM_006*	66.7 *(71.7)*	64.1	58.3	16.1	Sent previous meas. result to Amal. He has advised Summernats
16:46 *SLM_007*	70.9	67.9	58.9	12.2	Spoke with Amal. Local noise is burnouts and skids near Fitzroy Pavillion. 2x skid/burnout locations are further away – both clearly audible. Designated 'Go-To-Whoa' burnout area and 'Skid Row' near Quokka Pavillion.
17:00 *SLM_008*	66.7 *(71.7)*	63.7	56.7	16.3	Advised Amal of previous. Temp: 27ºC Relative Humidity: 38.5% Wind: 1.1 -1.5m/s W-NW Sky: Clear (0 Oktas)
17:10 *SLM_009*	68.5	65.2	59.1	14.8	Sent previous meas. result to Amal. Sent current to Amal
Note:	In the absence of local noise sources, noise from burnout area would typically be compliant with EPA Environmental Authorisation				
17:27 *SLM_010*	68.6 *(72.6)*	65.5	60.4	16.5	Sent current to Amal
17:41 *SLM_011*	67.3 *(72.3)*	64.4	58.8	16.6	Traffic on Northbourne typically not audible over noise from event site. Some noisier vehicles at time, but not dominant. Helicopter @ 17:46
Note:	Speed limit on Northbourne is posted at 40km/hr. Police vehicles appear active between Flemington Road + Stirling Avenue				
17:52 *SLM_012*					Restarted meas. due to excessively noisy vehicle – overloaded mic input on SLM. $L_{AF\,max}$ >80dB+
17:53 *SLM_013*	67.3 *(72.3)*	64.1	57.5	16.4	Sent current to Amal

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
18:05 *SLM_014*	67.7	64.9	59.8	15.0	Sent current to Amal Noise + smoke from burnouts is continuous. Have had nearby residents express concern that this is going back 20 years. Temp: 27ºC Relative Humidity: 40.3% Wind: 1.1 -1.5m/s W-NW Sky: Clear (0 Oktas)
Note:	Received a call from Tim @EPA.				
18:25 *SLM_015*	69.3 *(74.3)*	66.3	60.5	15.1	Sent current to Amal
18:36 *SLM_016*	69.9	66.9	60.9	15.0	Paused meas. for noisy pedestrians. Noise from event site is dominant noise source - revs, burnouts, skids continuous
18:51 *SLM_017*	67.5 *(72.5)*	64.4	59.0	15.3	Sent current to Amal.
Note:	Dinner break Received phone call from Pat @ EPA to discuss noise levels – also wanted Amal's phone #				
20:08 *SLM_018*	70.3	69.6	61.2	12.3	Checked calibration prior to measurement. Revs, skids, burnout noise still dominant noise source. Some vox audible at times – not sure of source location. Advised Amal of current noise levels.
20:25					Queried Sirens audible from within event site. Amal unsure of origin – no incidents
20:25 *SLM_019*	66.0	64.0	57.0	14.5	Noise from Summernats is the dominant noise source. Traffic on Northbourne masked by noise from event site.
Note:	Staff from EPIC came to compliance point to observe noise levels				
20:42 *SLM_020*	79.9	75.6	56.8	8.2	Fireworks starting @ 20:46
21:02 *SLM_021*	61.5	61.0	52.9	17.8	Temp: 20ºC Relative Humidity: 73% Wind: 1.1 -2.5m/s E-NE Sky: Clear (0 Oktas) Concert started Some vehicle noise still audible Wind increasing at times
21:23 *SLM_022*	61.3	59.1	55.6	19.4	Advised Amal of previous meas. period. David + Pat @EPA arrived during meas. period. Traffic on Northbourne audible, louder at times

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
21:34 *SLM_023*	61.3	59.0	55.3	20.1	Wind variable N>E 3.5m/s Advised Amal and concert/stage manager of current levels – working to bring levels down
21:48 *SLM_024*	61.4	59.6	53.6	20.0	Some noisier vehicles on Northbourne in this meas. period. Levels seem a little lower. Loud cars and motorbikes towards end of meas. period – resulted in higher levels
21:59 *SLM_025*	63.1	67.3	53.8	11.7	Music levels changing with styles LF @40-63Hz seem dominant Fireworks from 20:05
22:11 *SLM_026*	58.6	63.8	49.3	11.8	Temp: 18ºC Relative Humidity: 83% Wind: Variable N - E, gusts to 3.0m/s Sky: Clear (0 Oktas) Concert appears to have finished after fireworks. Traffic on Northbourne clearly audible. Wind increasing, wind through trees audible. No music or noise from venue during this meas. period.
	End of measurements - no further measurements				

Table 6.3.3: Attended measurements at Sch 2.2(a)(ii) – Sunday 9 January 2022

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
11:44 *SLM_000*	63.5 *(68.5)*	60.9	53.4	16.5	Temp: 22ºC Relative Humidity: 70% Wind: variable NW – NE <1.5m/s Sky: overcast (8 Oktas) Truck nearby @ start of meas. period. Noisy pedestrians + helicopter flyover @11:51 Burnouts clearly audible, street cruise vehicles louder at times with accelerations, skids. Some noise from traffic on Northbourne – not significant. Noise from the event is the dominant noise source.
11:55 *SLM_001*	60.7 *(65.7)*	57.7	53.0	17.8	Traffic on Northbourne relatively constant, speed limited posted @ 40km/hr. Police appear to be active again driving up/down Northbourne between Watson Mc.D's and Flemington Drive. In absence of all other noise, burnouts are typically 55-58dBA (L_{Aeq}). Some amplified speech audible during quieter times.
12:13					SMS to Amal. Queried constant skidding/tyre squeal noises that appear to be coming from Watson end of site. Amal replied - possibly informal burnouts on street cruise or activity on Skid Row area

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
12:15 *SLM_002*	62.8 *(67.8)*	60.8	53.5	17.2	Light aircraft @ 12:19, helicopter at end of meas. period. Advised Amal of current levels. Noise levels between 12-1pm Sunday should be 55dB L_{A10} Helicopter @ 12:35 Noise from cruise circuit appears to be getting louder. Extended burnouts audible from Go-To-Whoa area.
12:36 *SLM_003*	64.0 *(69.0)*	61.1	53.9	16.5	Advised Amal of levels Also queried burnout comp – sounds like burnouts are continuing. Amal advised possibly from Skid Row behind grandstand or from cruise circuit
12:50 *SLM_004*	59.5 *(64.5)*	56.7	51.5	18.6	Temp: 24ºC Relative Humidity: 62% Wind: E – NE <1.5m/s Sky: overcast (8 Oktas)
13:01 *SLM_005*	62.5 *(67.5)*	59.3	53.6	16.0	Appears burnout area is active again. Meas. paused for nearby siren.
13:13 *SLM_006*	63.6	61.8	53.8	14.5	Meas. paused for noisy car in Darley Place. Burnout noise from event approx. 58-62dB L_{Aeq} Meas. paused to talk with nearby resident
13:33 *SLM_007*	60.5 *(65.5)*	57.6	50.3	17.7	Noise from cruise circuit appears to be reduced. Burnouts at Skid Row audible. Traffic on Northbourne not significant – some louder vehicles. Police still patrolling. Can hear at least 2 different burnout areas from within event site
13:47 *SLM_008*	60.3 *(65.3)*	57.0	50.7	17.6	As previous
14:03 *SLM_009*	60.9 *(65.9)*	58.5	51.9	16.3	Temp: 24ºC Relative Humidity: 65% Wind: N – NE <1.5m/s Sky: clearing, scattered cloud (5-6 Oktas) Burnouts continuing. Some other revs, skids + burnouts audible from cruise circuit. Local dogs barking with loud backfire noises.
14:22 *SLM_010*	61.0 *(66.0)*	58.2	50.9	15.6	As previous
14:50 *SLM_011*	56.1 *(61.1)*	54.7	47.5	15.9	Let Amal know current levels
15:01 *SLM_012*	57.7 *(62.7)*	55.2	48.9	15.3	Amal has advised cruise circuit has pretty much closed.

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
15:16 *SLM_013*	58.7 *(63.7)*	55.9	49.3	16.7	Temp: 25ºC Relative Humidity: 65% Wind: Nil < 1.5m/s NE Sky: Generally clearing, with some cloud patches (0-1 Oktas)
15:32 *SLM_014*	60.3 *(65.3)*	56.0	46.5	15.3	Burnouts continuing. Occasional louder car on cruise circuit (@15:34)
15:45 *SLM_015*	57.4 *(62.4)*	53.9	46.6	15.4	
16:00 *SLM_016*	57.9 *(62.9)*	54.2	47.6	16.6	
16:15 *SLM_017*	62.4	61.6	46.1	9.1	Very loud car on burnout track @ start of meas period
16:30 *SLM_018*	64.8	61.1	49.1	11.3	Several noisy cars doing burnouts during this meas. period. PA vox announce + some crowd noise audible between burnouts
16:41 *SLM_019*	66.9	63.5	48.9	13.2	Advised Amal of current levels
16:52 *SLM_020*	71.8	66.6	48.7	6.2	Advised Amal of levels this meas. period. Noise from burnouts on Go-To-Whoa is dominant noise source.
17:05 *SLM_021*	61.9	56.7	47.3	14.4	Amal advised burnouts finished @ 5:10pm. Traffic on Northbourne becoming audible again. Some noisier cars still on event site.
17:19 *SLM_022*	58.9	56.2	50.2	15.5	Temp: 25ºC Relative Humidity: 56% Wind: Nil < 1.5m/s, variable N - E Sky: clear (0 Oktas) Still some noise from event site. Increased traffic on Northbourne, some noisier vehicles. Burnouts still audible – including in nearby streets
	End of measurements - no further measurements				

6.4 Additional comments + observations

As noted during attended measurements at Sch 2.2(a)(ii) , noise originating from the *Summernats 2022* event site was the dominant noise source and exceeded the compliance requirement for much of the measurement period. Noise associated with the cruise circuit within the event site contributed the greatest noise with extended burnouts, skidding and excessive noise associated with back-firing or other explosive engine noises. Impulsive noise at times exceeding 95dB L_{AFmax} at Sch 2.2(a)(ii) compliance point.

Constant communication via text/SMS was maintained during periods of attended monitoring with Amal, Director @ EPIC, with occasional phone calls to discuss activities on site.

Sirens noted during Saturday evening were security vehicles trying to clear the cruise circuit with the event site and manage the burnouts etc. from this area.

Constant skidding/tyre squeal noise noted during Sunday noise monitoring was associated with the Motorkhana and Drift Track events.

Unattended measurements obtained from the noise logger located at the Sch 2.2(a)(ii) compliance point should be considered for reference purposes only. Secure installation of a noise logger at the specific location identified in the EA has been problematic due to availability and access to properties during the time of the event. For the purposes of this assessment and as no other secure suitable locations were found, the noise logger was placed in a concealed location at the entrance to Sch 2.2(a)(ii) . The logger was placed facing Federal Highway, with the microphone capsule less than 1m from a bounding wall surface. It is expected that noise from traffic on the Federal Highway may contribute a higher proportion of noise at this location, compared to theSch 2.2(a)(ii) compliance point.

7.0 Assessment in accordance with Environmental Authorisation

7.1 Hours of operation

The *Summernats 2022* event held at EPIC from Thursday 6 January until Sunday 9 January 2022 complied with the hours specified in the Noise Management Plan.
The evening concerts on Friday 7 and Saturday 8 January were completed by 10:30pm, with no further amplified music or announcements audible after this time.

7.2 Compliance points

The compliance points for assessment of noise generated by this event were carried out at the locations as identified by EPA and as noted in *Environmental Authorisation No. 0006*. Attended noise monitoring was carried out at the Sch 2.2(a)(ii) compliance point.

7.3 Compliance requirements

Generally

Noise originating from the Summernats event site was the dominant noise source and exceeded the compliance requirement for much of the measurement period.

Go-To-Whoa

As noted during the attended monitoring, in the absence of all other noise, the noise originating from burnouts at the Go-To-Whoa area typically complied with Attachment 3 of the Environmental Authorisation, with the exception of the Burnout Championship Final where noise during this period exceeded the compliance requirement. It was also noted that burn-outs continued through the period 12pm-1pm on Sunday 9 January, exceeding the noise levels indicated in Attachment 3 for this time period.

Concert

Measurements during the evening concert on Friday 7 January were significantly affected by heavy rain and noise associated with wet roads, rain in trees, etc. No valid noise measurements were carried out during this concert.
Measurements during the concert on the evening of Saturday 8 January generally complied with the $L_{A10,\ 10\ minute}$ noise level of 60dBA permitted in the *Environmental Authorisation.*

7.4 Event credits

Two (2) event credits have been used in hosting this event as permitted in the letter from EPA dated 14 December 2021. 1 each event credits have been used for the evening concerts held on Friday 7 and Saturday 8 January 2022.

7.5 Modifying Correction Factors

Modifying Factor Corrections *for low-frequency noise* have been applied in accordance with Table 1 of the *Noise Measurement Manual* and are indicated in the above tables.

7.6 Noise monitoring and reporting

An environmental noise logger was placed at each of the compliance points identified in the EA. Attended monitoring was undertaken at the Sch 2.2(a)(ii) compliance point in accordance with the requirements of the Environmental Authorisation. Summary of logged noise data and observations from the attended monitoring have been included in this report.

7.7 Details of non-compliances

Based on the attended noise measurements carried out at the Sch 2.2(a)(ii) compliance point during the event, $L_{A10,\ 10\ minute}$ noise levels associated with the event exceeded the compliance requirement for much of the measurement period. Details of the attended noise measurements and observations are indicated in the above tables.

During the evening concert on Saturday 8 January, non-compliances were communicated to the stage manager and Amal @ EPIC. The main concern was the low-frequency energy, particularly in the range 40-63Hz. The stage manager worked to reduced the sound levels. Vehicle noise originating from other areas of the event site and from increasing wind at compliance location affected further measurements.

7.8 Record of Complaints

5 complaints were received by *Access Canberra* and were referred to EPA:

Date	*Time (24 hr)*	*Location*	*Nature of complaint*
8 January	14:34	Watson	Air and noise pollution from Summernats
8 January	20:34	Watson	Air and noise pollution from Summernats
8 January	20:51	Watson	Air pollution, smoke and rubber smells from Summernats
8 January	21:26	O'Connor	Loud noise and air pollution from Summernats
8 January	22:11	Kaleen	Music from Summernats

1 complaint was received by EPIC. No further details have been provided.

It is understood additional noise complaints were received by *Access Canberra* following the event. No further details have been provided.

Several comments including complaints from nearby residents specifically relating to noise from Summernats were noted during attended measurements at the Sch 2.2(a)(ii) compliance point. No further details were recorded – complainants were referred to Access Canberra phone and website contact.

8.0 Summary + Conclusion

Noise originating from the *Summernats 2022* event site exceeded the compliance requirement for much of the measurement period. The venue (EPIC) were advised of measurement results on a regular basis during attended monitoring at the Sch 2 2(a)(ii) compliance point. EPIC were responsive to noted exceedances and made the Summernats event organisers aware of the noise levels.

During the afternoon of Saturday 8 January 2022, noise levels associated with activities on the cruise circuit could not be brought under control and increased in volume until 8:30pm. Very loud impulsive/explosive sounds from vehicles were noted during the measurement periods.

Noise levels observed on Sunday 9 January 2022 were typically lower in level compared with the previous day. At times, several louder vehicles were noted.

It is the opinion of *GUZ BOX design + audio* that the outdoor concerts held on Friday and Saturday evenings of the event have met the requirements of the Environmental Authorisation through purchase of event credits.

9.0 References

"Noise Management Plan, Summernats 2022", dated 14 December 2021 by *GUZ BOX design + audio*

"Noise Measurement Manual – Environmental Protection Authority – September 2009"

ACT Environmental Protection Act 1997

www.actmapi.act.gov.au

10.0 Photos

Photo 10.1: NGARA noise logger location at Sch 2.2(a)(ii)

Photo 10.2: NGARA noise logger at Sch 2.2(a)(ii)

11.0 Charts

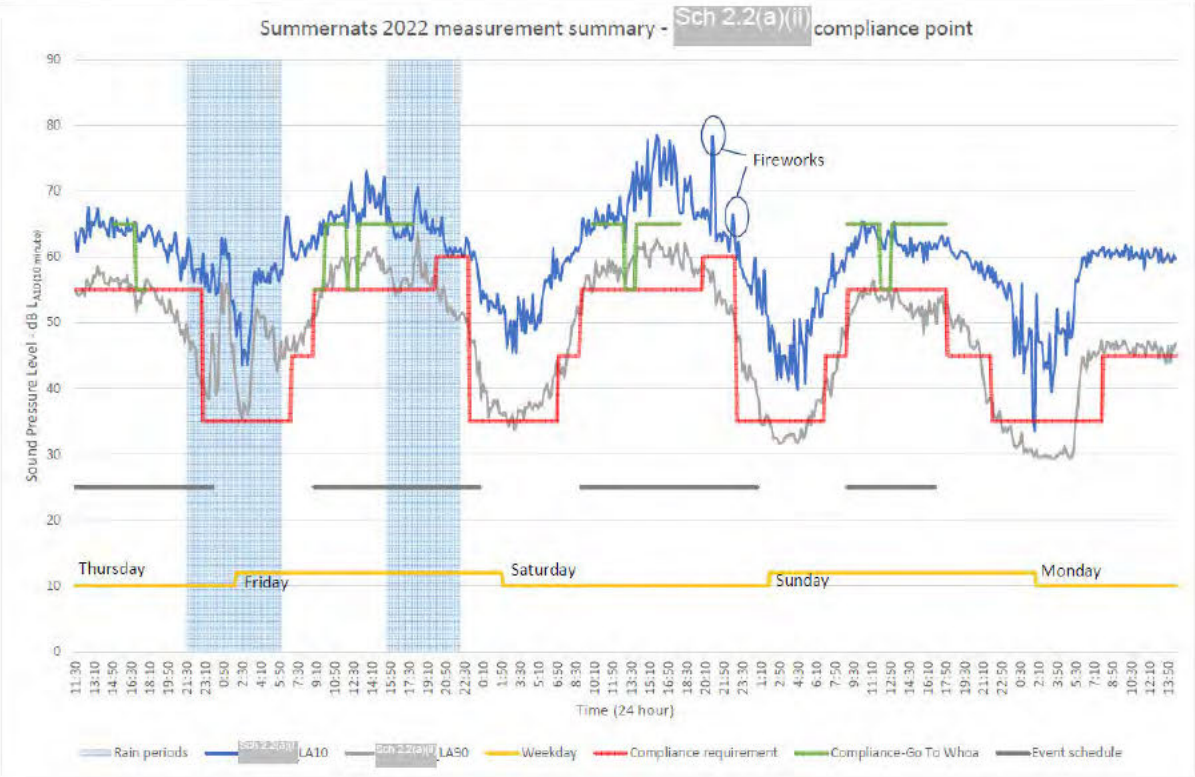

Chart 11.1: Showing summary of measured noise data at Sch 2.2(a)(ii) compliance point, 6-10 January 2022.

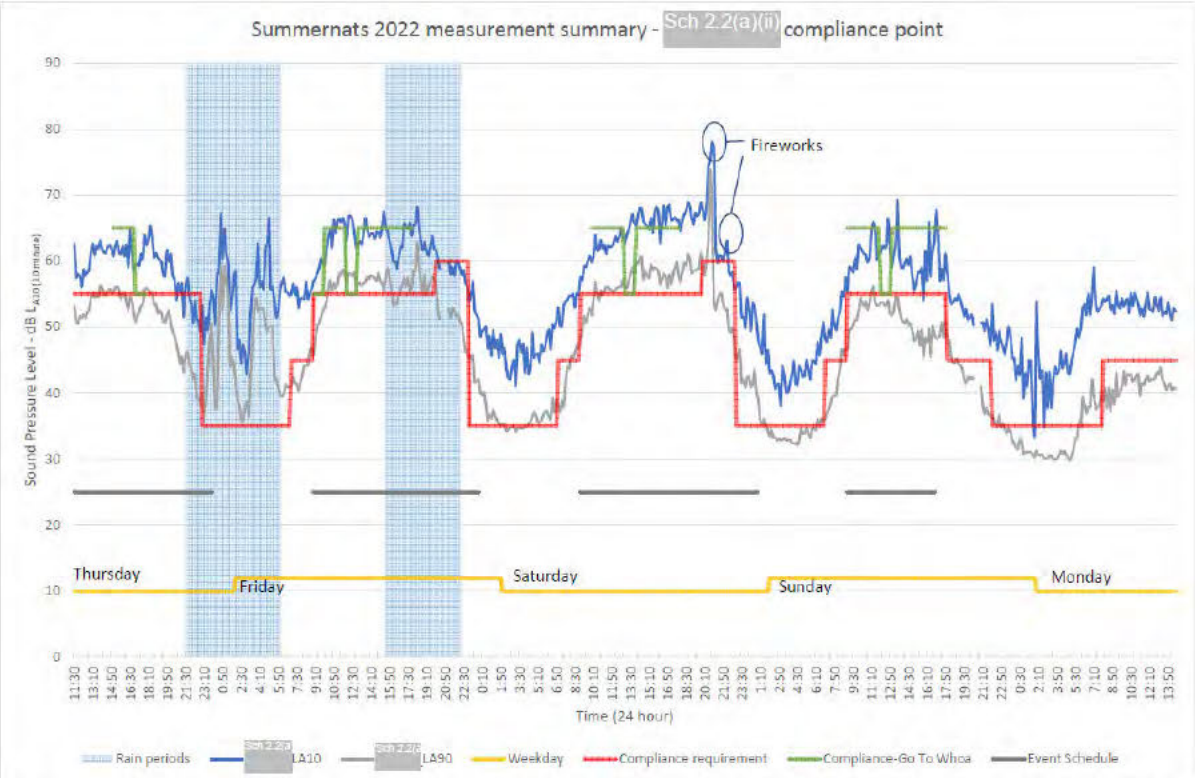

Chart 11.2: Showing summary of measured noise data at Sch 2.2(a)(ii) compliance point, 6-10 January 2022.

Noise Monitoring

Of
National Folk Festival 2022

Held at
Exhibition Park In Canberra (EPIC), Mitchell ACT

Prepared for: Amal Davis
Director
Exhibition Park In Canberra (EPIC)
Mitchell ACT

By: Sch 2.2(a)(ii)
Acoustic Consultant
GUZ BOX design + audio

Date issued: 20 June 2022
Amended 23 June 2022

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GUZ BOX design + audio

GUZ BOX design + audio has been engaged by *Exhibition Park In Canberra (EPIC)* to assist with the development of a Noise Management Plan and to provide independent assessment of noise levels for the *National Folk Festival 2022* event in accordance with the requirements of an Environmental Authorisation issued by ACT Government.

1.0 Details of acoustic consultant

Sch 2.2(a)(ii) *GUZ BOX design + audio*, carried out the attended noise measurements for this event and has prepared of this report.

Sch 2.2(a)(ii)

Contact details:

address: *GUZ BOX design + audio*
Sch 2.2(a)(ii)

mail: PO Box 830, Wollongong NSW 2520
mobile: Sch 2.2(a)(ii)
email: Sch 2.2(a)(ii)@guzbox.com.au

2.0 Description of event site and program

National Folk Festival is an annual event which has been held at *Exhibition Park in Canberra* (EPIC) since 1992. The event has traditionally been held over the Easter long weekend, attracting artists and attendees from across the country. The *National Folk Festival 2022* event was held from Thursday 14 April until Monday 18 April 2022.

The event program provided live entertainment on outdoor stages and marquees and was active from 10:00am until 11:00pm each day of the event. Performances were also carried out within indoor venues and enclosed marquees which continued for up to 2 hours beyond 11pm. Not all of these were music venues or concert stages with sound systems.

3.0 Requirements of the Authorisation

Environmental Authorisation No. 0006 (variation dated of 24 October 2019) contains conditions for the event held at *Exhibition Park In Canberra*. The applicable conditions in relation to noise are listed below:

1. Definitions

Compliance Point – has the same meaning as in the Environment Protection Regulation 2005

Event – any activity which involves either:

- *A motor vehicle race pr practice for a motor vehicle race or a motor vehicle reliability trial or speed test; or*
- *An outdoor concert using amplified equipment*

Event credit – can be used to purchase an increase in the noise limit applying to an event.

Go to Whoa Strip – is the are identified at Attachment 2 as the "Go to Whoa Strip"

Noise limit – the maximum noise from motor sports or outdoor concerts permitted at the compliance point. The noise limit is 45dB(A) unless a higher limit has been authorised or "purchased" using event credits.

2. Hours of Operation

2.2 Outdoor concert activities may only be conducted as part of the National Folk Festival between the hours of 9:00am and 11:00pm Thursday to Monday. Sound check may be conducted between the hours of 9:00am and 5:00pm on the Wednesday

3. Compliance Points

3.1 Compliance point for the noise monitoring of each event are:

a) on that part of Sch 2.2(a)(ii) *; and*

b) the road reserve area between the Federal Highway and Sch 2.2(a)(ii) *, between* Sch 2.2(a)(ii) *Federal highway, Watson.*

4. Compliance Requirements

4.2 ***National Folk Festival*** *– 55dB(A)* $_{LA10}$*, 10 min during the permitted hours of operation on the Thursday, Friday, Saturday, Sunday and Monday of the Easter weekend each year*

Note: These compliance requirements relate to noise from activities associated with motor sports and outdoor concerts. Other activities must comply with the normal requirements of the Environment Protection ACT 1997*.*

5. Modifying Factor Corrections

5.1 The corrections specified for tonal, impulsive, intermittent and low frequency noise, as set out in Table 1 of the Noise Measurement Manual, are to be added to the measured noise levels at the compliance point before comparison with the authorised noise limit.

6. Monitoring/Reporting

6.2 ***National Folk Festival****… - The Authorisation holder is required to demonstrate that noise from the events does not exceed the noise limit at the compliance locations. The Authorisation holder must submit a proposal prepared by a person qualified in the assessment of environmental noise to the Authority at least 8 weeks before the events. The proposal must be acceptable to the Authority. In the absence of a proposal, which is acceptable to the Authority, monitoring will be by means of independent noise monitoring at the compliance locations. Noise monitoring must be undertaken by a person qualified in the assessment of environmental noise. If noise monitoring is performed then results the monitoring must be submitted eight (8) weeks from the end of the event.*

6.4 A Noise Monitoring Report must be provided, in writing to the Authority, within eight (8) weeks of completion of the event. The report must contain the following information:

i. the name, address and telephone number(s) of the person who prepared the report;

ii. the experience and qualifications of persons who undertook the noise monitoring in the assessment of environmental noise;

iii. the dates, commencement and completion times of sound measurements;

iv. a description of the location(s) at which the sound measurement(s) were taken;

v. details of the equipment and methods used to take the sound measurements;

vi. details of any measured non-compliances associated with noise emissions from the... event. Including, what actions were taken to ensure compliance with the requirements of clause 4 of this schedule; and

vii. the details are to be provided by email to environment.protection@act.gov.au

9. Public Notification

9.1 The Authorisation holder must advertise, in the Canberra Times and the Canberra Weekly, each upcoming event at least eight weeks in advance of the event.

9.2 The advertisement should state the date on which it is proposed to conduct the event and, if desired by the authorisation holder, an alternative date in case the event has to be cancelled due to rain.

9.3 The Authority must be notified within two working days of the placement of the advertisement notifying an upcoming event or the cancellation of the event.

4.0 Equipment used for measurements

Measurements were carried out in accordance with the *"Noise Measurement Manual – Environmental Protection Authority – September 2009"* and with reference to Australian Standard *AS 1055.1 1997 "Acoustics - Description and measurement of environmental noise - General procedures".*

4.1 Environmental Noise Logger @ Sch 2.2(a)(ii) :

The following Type 1 environmental noise logger was located at the compliance location prior to commencement of the event:

Brand: Acoustic Research Laboratories Pty Ltd
Model: NGARA - Type 1 Environmental Noise Logger
Serial #: 87806F

A wind shield was used during the measurement period.
Height of microphone: Approx.1.2m above ground level.

The noise logger was calibrated before measurements and again at the end of testing. No calibration drift was noted. The logger was set to record continuous noise measurements over the event period. The data from the noise logger was analysed over 10-minute periods in accordance with the requirements ACT EPA.

4.2 Type 1 Handheld Sound Level Meter (SLM) at Sch 2.2(a)(ii) compliance location:

The following equipment was used to obtain attended noise measurements:

Brand: *NTi Audio*
Model: XL2 Analyser (Serial #: A2A-06746-EO)
Firmware: V4.80
Software: XL2 STI-PA Option (Serial #: 2081)
XL2 Data Explorer Option (Serial #: 1237)
XL2 Extended Acoustics Option
XL2 Sound Insulation Option
Microphone: M2230 Class 1 measurement microphone (Serial #:7048)
Microphone preamplifier: MA220 (Serial #: 2630)
Calibrator: *NTi Audio/Larson Davis* CAL200 (Serial #:13765)

A wind shield was used during the measurement period.
Height of microphone: Approx.1.2m above ground level.

The SLM was calibrated before measurements and again at the end of testing. No calibration drift was noted. The SLM was set to record continuous noise measurements over test periods with minimum 10 minutes duration.

4.3 Portable Weather Station @ compliance location:

The following weather and environmental meter was used to gather environmental data at the compliance location during attended monitoring:

Brand: Kestrel
Model: 5500BT
Serial #: 712331

5.0 Description of Noise Monitoring

5.1 Unattended noise monitoring at compliance locations

One (1) NGARA noise logger was provided at the Sch 2.2(a)(ii) compliance location for the duration of the event, as nominated

The noise logger provided continuous noise logging from 4:30pm on Thursday 14 April until 12:30pm Tuesday 19 April 2022.

Refer attached image showing location of the NGARA environmental noise logger at this compliance location.

5.2 Attended noise monitoring

The *NTi-Audio XL2* sound level meter was used for attended noise measurements at the compliance location identified within Environmental Authorisation No.0006 as Sch 2.2(a)(ii) Watson (between No. Sch 2.2(a)(ii)). The performance of the meter was checked with the portable calibrator, *NTi Audio/Larson Davis CAL200*. The sound level meter was set up so that the microphone, with windshield, was 1.2m above the ground and over 3m from any reflecting surfaces. Noise levels were monitored over 10-minute periods and the data stored in the meter for subsequent downloading and analysis. Where possible, the analysis was paused when extraneous noises were present.

The *Kestrel* portable weather station provided measurements for temperature, humidity and wind speed during noise monitoring.

Attended noise monitoring was carried out during the following times:

- 15 April 2022, 6:00pm – 11:30pm
- 16 April 2022, 6:00pm – 11:45pm
- 17 April 2022, 5:45pm – 11:50pm
- 18 April 2022, 5:45pm – 11:00pm

6.0 Details of measurements

6.1 Noise Level Descriptors

The metric used for noise level assessment in the ACT, $L_{A10,T}$ takes into consideration the time variation of the noise:

- $L_{10,T}$ - the level exceeded for 10% of the time period, T, is similar to the average of the maximum noise levels and is often used as the descriptor for a noise under investigation.

It is often useful to compare the value for this metric with one used to describe background noise;

- $L_{90,T}$ - the level exceeded for 90% of the time period, T, is often used as the descriptor for background noise in the area, i.e. without the noise from the source under investigation.

Another useful metric for environmental noise assessment is:

- $L_{eq,T}$ - the equivalent energy level and is the level of a constant sound that over the time period T has the same total sound energy as the time varying sound.

Measurements are noted using the A-weighting filter, which has a similar response to human hearing.

6.2 Unattended measurements at compliance locations

Unattended measurements were carried out the Sch 2.2(a)(ii) compliance location. Refer attached chart showing summary of measured L_{A10} and L_{A90} noise data at this compliance location.

6.3 Attended measurements at Sch 2.2(a)(ii) compliance location

Attended measurements at the Sch 2.2(a)(ii) compliance location were carried from Friday through to Monday evenings. The following table provides a summary of measured data obtained from the attended measurements at this compliance location. Modifying Factor Corrections have been applied in accordance with Table 1 of the *Noise Measurement Manual* and are indicated in brackets.

Table 6.3.1: Attended measurements at Sch 2.2(a)(ii) – Friday 15 April 2022

Meas.start Time(24hr)	*dB(A) (10 minute)*				*Comments + observations*
	L_{10}	L_{eq}	L_{90}	*C-A*	
18:03 *SLM_000*	52.1 *(57.1)*	49.9	45.9	15.1	Temp: 16.4ºC Relative Humidity: 67% Wind: NIL Sky: 3 Oktas – some high-level scattered cloud Music from NFF audible – mostly LF + some vox, drums. Traffic appears louder and is constant through meas. period
18:24 *SLM_001*	52.3 *(57.3)*	50.1	46.6	15.1	Cheering + clapping appears louder than music – similar level to traffic. Crickets audible at times (@4kHz)

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
18:47 *SLM_002*	51.4	48.7	44.6	11.4	Not much music audible – some singing + clapping. Aircraft audible in this meas. period. Traffic on Northbourne/Fed Hwy
19:07 *SLM_003*	52.0	48.7	43.2	11.5	Temp: 13.6ºC Relative Humidity: 75% Wind: NIL Sky: 3 Oktas –high-level cloud
19:25 *SLM_004*	53.4	51.5	44.4	13.0	Louder music @ start of this meas. period. Truck horn @19:32
20:00 *SLM_006*	50.6	48.3	44.1	13.8	Drumming is clearly audible through this meas. period. Traffic still constant and masking event noise. Temp: 13.0ºC Relative Humidity: 83% Wind: NIL Sky: 4-5 Oktas – cloud increasing, moon + some stars still visible
20:18 *SLM_007*	50.7 *(55.7)*	47.7	43.1	16.0	As previous
20:37 *SLM_008*	51.3 *(56.3)*	48.4	43.4	17.2	Female vocalist + band during this period. [redacted]? Vox + bass clearly audible, traffic still audible and masks singing – trucks, motorbikes louder at times
20:52 *SLM_009*	52.5 *(57.5)*	50.4	46.4	21.4	Traffic noise still affecting measurements. Vocals are audible, LF from bass + drums clearly audible – resulting in higher C-A
21:05 *SLM_010*	50.1 *(55.1)*	47.2	41.9	22.4	Meas. paused each time a vehicle was audible – aiming to capture music content only. Crickets still audible @ 4kHz Temp: 11.6ºC Relative Humidity: 88% Wind: NIL Sky: 0-1 Oktas, skies clearing
21:26 *SLM_011*	52.8 *(57.8)*	50.8	47.4	22.5	Other venues onsite also audible
21:42 *SLM_012*	52.4 *(57.4)*	49.7	43.1	19.4	Advised Alex + Johnny @ EPIC of previous levels. C-A needs to be closer to 15
21:54 *SLM_013*	50.0 *(55.0)*	47.6	42.9	19.3	
	Note: Johnny @ EPIC came to compliance location to review levels and discuss options				

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
22:29 *SLM_014*	49.6 *(54.6)*	46.7	41.2	16.8	Temp: 11ºC Relative Humidity: 92% Wind: NIL Sky: 6-7 Oktas, thin, high cloud Johnny has advised main tent FOH @90dBA, 99dBC
22:45 *SLM_015*	51.2 *(56.2)*	48.6	43.1	17.6	Vox + drum/bass clearly audible, traffic still audible – not as frequent as previous/earlier. Quite a few noisier vehicles during this meas. period
22:57 *SLM_016*	49.8 *(54.8)*	47.1	42.1	18.0	Main tent stage finished at 11pm. Burlesque tent near Burrawang still audible – mainly LF content. Sent message to Johnny/EPIC.
23:10 *SLM_017*	48.4	44.9	39.3	14.6	Temp: 10.5ºC Relative Humidity: 93% Wind: NIL Some music still audible – Johnny has advised this is from Scrumpy Bar
23:25	Note: music appears lower level – masked by traffic noise				
	End of measurements - no further measurements				

Table 6.3.2: Attended measurements at Sch 2.2(a)(ii) – Saturday 16 April 2022

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
18:17 *SLM_000*	52.6	50.0	46.2	11.3	Temp: 18.2ºC Relative Humidity: 54% Wind: <1.2m/s E-SE Sky: 0 Oktas, clear Traffic on Northbourne/Fed Hwy constant throughout meas. period. Some music audible from event, vox + guitar
	Note: Speed on Federal Highway = 80km/hr				
18:43 *SLM_001*	51.4	49.1	45.2	13.2	As previous
19:00 *SLM_002*	50.6	47.9	44.0	13.7	Wind increasing at times. Audible in pines + tree leaves. Small music group audible. Traffic constant. Some vox announce audible.
19:13 *SLM_003*	51.6	48.5	44.0	11.9	Temp: 18.2ºC Relative Humidity: 54% Wind: <1.2m/s E-SE Sky: 0 Oktas, clear
19:30 *SLM_004*	49.9	47.0	42.7	11.3	Some cheering + clapping – maybe choir performing. Mostly traffic noise.

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
19:47 *SLM_005*	51.9	48.6	43.4	12.5	Music from NFF not audible for much of meas. period. Some LF towards end.
20:20 *SLM_007*	50.6	48.3	44.7	14.4	Some music audible – several venues. Traffic masking music
20:41 *SLM_008*	50.2	53.7	43.3	11.4	Temp: 15.6ºC Relative Humidity: 66% Wind: 0.5 - 1.2m/s N-NE Sky: 0 Oktas, clear Dog barking nearby @20:41, meas paused.
21:00 *SLM_009*	50.2	47.7	43.2	13.6	Music from event audible – not dominant. Still traffic, occasional truck or noisier car. Wind has dropped off – almost no wind.
21:21 *SLM_010*	50.4	47.4	42.4	12.7	As previous
21:35 *SLM_011*	50.5 *(55.5)*	47.6	42.0	16.1	Temp: 12.6ºC Relative Humidity: 76% Wind: NIL Sky: 0 Oktas, clear Music from event appears louder, traffic still regular
21:55 *SLM_012*	51.0	57.8	41.6	5.3	Meas. paused for noisy dog
22:08 *SLM_013*	50.9 *(55.9)*	48.2	43.6	18.5	Music becoming louder with LF beating, female vox. Vehicles still audible through meas. period
22:25 *SLM_014*	50.2 *(55.2)*	47.7	42.4	15.8	Temp: 11.4ºC Relative Humidity: 83% Wind: NIL Sky: 0 Oktas, clear Music from venue audible. Steve @ EPIC send SMS to check levels – all good
22:45 *SLM_015*	49.8 *(54.8)*	47.8	42.5	19.8	Meas. paused to talk with local resident + again for noisy dog. Main stage (tent) minished at 11pm. Some other LF from another venue clearly audible. Send message to Steve @ EPIC
23:07 *SLM_016*	47.3 *(52.3)*	44.0	38.7	15.7	Beating sound still audible @ start of meas. period. Rest of event site appears relatively quiet. Temp: 10.1ºC Relative Humidity: 87% Wind: NIL Sky: 0 Oktas, clear Meas. paused for car in street. Rang Steve @ EPIC – burlesque area now finished. Vox from venue still audible

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
23:23 *SLM_017*	47.5	44.7	39.7	12.1	Steve returned call. He'll look to review levels + turn down.
	End of measurements - no further measurements				

Table 6.3.3: Attended measurements at Sch 2.2(a)(ii) – Sunday 17 April 2022

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
17:49 *SLM_000*	55.6	53.3	49.0	11.9	Temp: 16.4ºC Relative Humidity: 66% Wind: NIL Sky: 0 Oktas, clear Music audible from event site. Traffic continuous on Northbourne/Federal Highway. Cockies + birds in nearby trees
18:17 *SLM_001*	53.6	51.3	48.1	13.9	Electronica-type music clearly audible. Other venues also audible. Traffic still constant and noisy. Some cheering, clapping + vox announce
18:38 *SLM_002*	53.1	50.6	46.9	14.3	Same as previous
19:02 *SLM_003*	52.6	50.1	45.2	12.1	Temp: 16.4ºC Relative Humidity: 66% Wind: NIL Sky: 0 Oktas, clear
19:44 *SLM_004*	52.5	50.4	45.4	13.7	Same as previous – some 'beating' audible @ times, not dominant. Traffic continuous.
	Note: Dinner break – went to NFF event site, spoke with Johnny @ EPIC about electronic music and LF beating. This noise not coming from NFF event site and is clearly coming from the direction of the Racecourse.				
20:57 *SLM_005*	53.0 *(58.0)*	50.9	47.3	18.1	Temp: 16.4ºC Relative Humidity: 66% Wind: NIL Sky: 0 Oktas, clear Electronica noted previously appears to be coming from Racecourse – music + lights visible when leaving EPIC site. Music from NFF also audible – drum beating. Traffic still pushing levels up over 50dB L_{A10} LF has increased.
21:10 *SLM_006*	52.3 *(57.3)*	49.8	44.9	17.1	In the absence of traffic noise, NFF is still tracking around 50dB L_{A10}

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
21:28 *SLM_007*	51.9 *(56.9)*	49.8	46.6	17.7	As previous
21:49 *SLM_008*	49.2 *(54.2)*	46.6	42.4	16.1	Traffic appears to be decreasing. Music from NFF audible. Temp: 10ºC Relative Humidity: 90% Wind: NIL Sky: 0 Oktas, high cloud (thin layer) Electronic music from Racecourse audible between NFF sessions.
22:04 *SLM_009*	50.0 *(55.0)*	47.0	42.9	18.0	Recorded audio during this session
22:15 *SLM_010*	50.9 *(55.9)*	48.4	44.5	20.0	Texted Johnny @EPIC, it appears most of the C-A content is from Racecourse – now clearly audible.
10:30	Rang Access Canberra ph:132281 Spoke with Robin Brown @EPA, duty officer Requested advice on best way to proceed.				
22:41 *SLM_011*	51.2 *(56.2)*	48.9	45.8	19.3	Music from NFF audible. Music from Racecourse audible – LF, beats, drops + dance vox
22:53 *SLM_012*	51.1 *(56.1)*	49.3	46.1	18.3	Recorded audio this meas. period
	Note: Event at Racecourse is DigiCulture www.digifestival.com.au Robin @EPA returned call – *GUZ BOX* to continue taking notes				
23:04 *SLM_013*	49.9 *(54.9)*	47.9	44.8	18.5	Checked with Johnny @EPIC that all main venues have finished – one venue @ NFF still going. Temp: 8.9.4ºC Relative Humidity: 93% Wind: NIL Sky: 0 Oktas, clear Johnny advised that NFF venue @ Fitzroy now finished
23:19 *SLM_014*	48.9 *(53.9)*	45.9	41.8	16.5	Johnny working with Burlesque to turn down LF. We think Racecourse event has now finished. Johnny & EPIC staff observed the noise from Racecourse event clearly audible from across road @ carpark.
23:36 *SLM_015*	47.9	44.8	40.4	12.8	LF has been reduced. Traffic noise still pushing levels around 50dB L_{A10} Generally, levels are now OK Temp: 8ºC Relative Humidity: 95% Wind: NIL Sky: 0 Oktas, clear

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
	End of measurements - no further measurements				

Table 6.3.4: Attended measurements at Sch 2.2(a)(ii) – Monday 18 April 2022

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
17:55 *SLM_000*	54.0	51.0	45.3	11.6	Temp: 19ºC Relative Humidity: 63% Wind: NIL Sky: 6-7 Oktas, high cloud cover Traffic continuous on Northbourne/Federal Highway – appears busier than previous. Some music from NFF – barely audible. No LF Traffic is dominant noise source
18:15 *SLM_001*	53.7	51.4	45.3	11.5	Some cheering @ 18:22 Mostly traffic noise
18:32 *SLM_002*	52.6	49.8	45.0	10.5	As above
	Note: went to NFF site. Most venues appear closed or packing up. 3 or 4 smaller venues + main tent still active.				
19:35 *SLM_003*	51.8	48.9	43.6	11.2	Temp: 14ºC Relative Humidity: 83% Wind: NIL Sky: 6 Oktas, thin high cloud cover with some clear areas Traffic appears reduced, still dominant. Music from venue barely audible. Audible feedback/ringing @ 19:42, cheering at 19:43 + didge + vox. *Yothu Yindi* clearly audible
19:46 *SLM_004*	55.6 *(60.6)*	53.5	47.4	20.4	Noisier vehicle >60dB L_{AF} Concert clearly audible – vox + bass
19:59 *SLM_005*	49.4 *(54.4)*	47.7	45.2	18.9	Note: Noise measurement taken up street @ #1 Sch 2.2(a)(ii) , to remove sound of vehicle on Fed Hwy. Traffic still audible as 'constant' noise source but 'direct' sound from pass-by reduced. Concert still clearly audible. Dogs @ 3min Traffic ≈45dB L_{Aeq} continuous
20:13 *SLM_006*	53.0 *(58.0)*	50.4	46.2	20.4	Meas. @ Sch 2.2(a)(ii) compliance point. Traffic from pass-by louder at this location. Concert noise appears about the same. LF does dominate the meas. period Sent message to Johnny @ EPIC advising levels

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
20:28 *SLM_007*	53.2 *(58.2)*	51.0	47.4	18.4	Temp: 13ºC Relative Humidity: 86% Wind: NIL Sky: 5 Oktas, high cloud cover with some gaps – stars and moon visible.
20:40 *SLM_008*	53.6 *(58.6)*	51.4	47.4	18.9	IN the absence of vehicles, concert sound is approx. 51dB L_{AF}
20:55 *SLM_009*	53.1 *(58.1)*	51.0	45.5	20.1	Same as previous
21:18 *SLM_010*	51.6	48.4	42.7	13.6	No music or noise from NFF at all during this meas. period. Only vehicles on Fed Hwy. Traffic appears to have reduced
21:31 *SLM_011*	43.9	41.7	38.8	13.2	This meas period @Sch 2.2(a)(ii) again. Airplane flyover at start of meas. period, noisy vehicles still audible. No amplified music audible
22:05 *SLM_012*	49.1	46.6	40.1	12.7	Meas. @ Sch 2.2(a)(ii) compliance point. Some music audible – not significant, reversing beeper audible from NFF site. Temp: 13ºC Relative Humidity: 90% Wind: NIL>slight Sky: 6-7 Oktas, cloud increasing
22:38 *SLM_013*	48.0	45.3	38.1	13.3	No music, only traffic.
	End of measurements - no further measurements				

6.4 Attended measurements at Sch 2.2(a)(ii) compliance location

Following difficulties with noise monitoring at the Sch 2.2(a)(ii) compliance location it was determined that occasional noise measurements near to Sch 2.2(a)(ii) would be suitable to assess noise from the NFF event site. The following table provides a summary of measured data obtained from the attended measurements at this compliance location.

Table 6.4.1: Attended measurements at Sch 2.2(a)(ii)

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
19:42 *SLM_005* *(15.04.2022)*	53.4	50.6	45.6	10.5	Music barely audible. Traffic is dominant + continuous noise source at this location. Distant traffic further north clearly audible. Accelerations and braking at traffics lights louder at times

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
19:42 *SLM_006* *(16.04.2022)*	51.9	48.6	43.4	12.5	Music from NFF not audible for much of meas. period. Some LF towards end. Traffic is the dominant noise source at this location.
20:00 *(17.04.2022)*	Attended Sch 2.2(a)(ii) meas. point. Music not audible. Traffic is dominant noise source at this location. No measurement carried out.				

6.5 Additional comments + observations

Generally

As noted during attended measurements at Sch 2.2(a)(ii) , noise originating from the *National Folk Festival 2022* event site generally complied with the Environmental Authorisation. Passing traffic on Federal highway has significantly affected noise measurements at the compliance point.

Kalowna Court

Measurements and observations were noted during the NFF event at Sch 2.2(a)(ii) . Traffic is the dominant noise source at this location, with very little audible contribution from the NFF event site.

Noise from Digifestival

As noted during attended measurements on the evening of Sunday 17 April, the Digifestival event was clearly audible at the compliance point and affected noise measurements, particularly with regard to low-frequency noise observations.

7.0 Assessment in accordance with Environmental Authorisation

7.1 Hours of operation

The *National Folk Festival 2022* event held at EPIC from Thursday 14 April until Monday 18 January 2022 complied with the hours specified in the Noise Management Plan.

The evening concerts were completed by 11:00pm, with no further amplified music from outdoor concerts audible after this time.

7.2 Compliance points

The compliance points for assessment of noise generated by this event were carried out at the locations as identified by EPA and as noted in *Environmental Authorisation No. 0006*. Attended noise monitoring was carried out at the Sch 2.2(a)(ii) compliance point.

7.3 Compliance requirements

Generally

Noise originating from the National Folk Festival event site was typically masked by traffic noise for much of the measurement periods. The dominant noise source

during most of the noise measurements at the compliance points was from traffic on Federal Highway.

Outdoor Concerts
Measurements during the evening outdoor concerts generally complied with the $L_{A10,\ 10\ minute}$ noise level of 55dBA permitted in the *Environmental Authorisation.*

7.4 Event credits
No event credits have been purchased

7.5 Modifying Correction Factors
Modifying Factor Corrections *for low-frequency noise* have been applied in accordance with Table 1 of the *Noise Measurement Manual* and are indicated in the above tables.

7.6 Noise monitoring and reporting
An environmental noise logger was placed at each of the Sch 2.2(a)(ii) compliance point identified in the EA. Attended monitoring was undertaken at the Sch 2.2(a)(ii) compliance point in accordance with the requirements of the Environmental Authorisation. Summary of logged noise data and observations from the attended monitoring have been included in this report.

7.7 Details of non-compliances
Based on the attended noise measurements carried out at the Sch 2.2(a)(ii) compliance point during the event, $L_{A10,\ 10\ minute}$ noise levels associated with the event generally did not exceed the compliance requirement for much of the measurement period. Details of the attended noise measurements and observations are indicated in the above tables.
During the evening concert on Monday 18 April, minor non-compliances were noted and communicated to the site manager @EPIC.

7.8 Record of Complaints
It is understood that there were no noise complaints received by *Access Canberra* regarding the National Folk Festival event.

8.0 Summary + Conclusion

It is the opinion of *GUZ BOX design + audio* that outdoor concert noise originating from the *National Folk Festival 2022* event site has satisfied and met the compliance requirements of the Environmental Authorisation No. 0006.

The venue (EPIC) were advised of measurement results on a regular basis during attended monitoring at the Sch 2.2(a)(ii) compliance point. EPIC were responsive to noted exceedances and when levels were observed to be trending upwards and have made the National Folk Festival event organisers aware of the noise levels.

9.0 References

"Noise Management Plan, National Folk Festival 2022", dated 12 April 2021 by *GUZ BOX design + audio*

"Noise Measurement Manual – Environmental Protection Authority – September 2009"

ACT Environmental Protection Act 1997

www.actmapi.act.gov.au

10.0 Photos

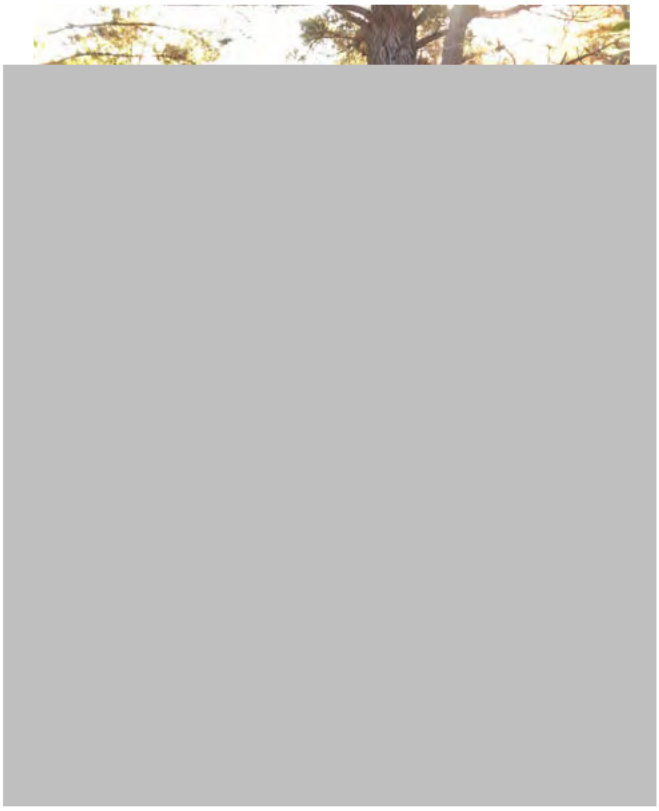

Photo 10.1: NGARA noise logger within rear yard of Sch 2.2(a)(ii)

Photo 10.2: View from Sch 2.2(a)(ii) compliance point towards event site

11.0 Charts

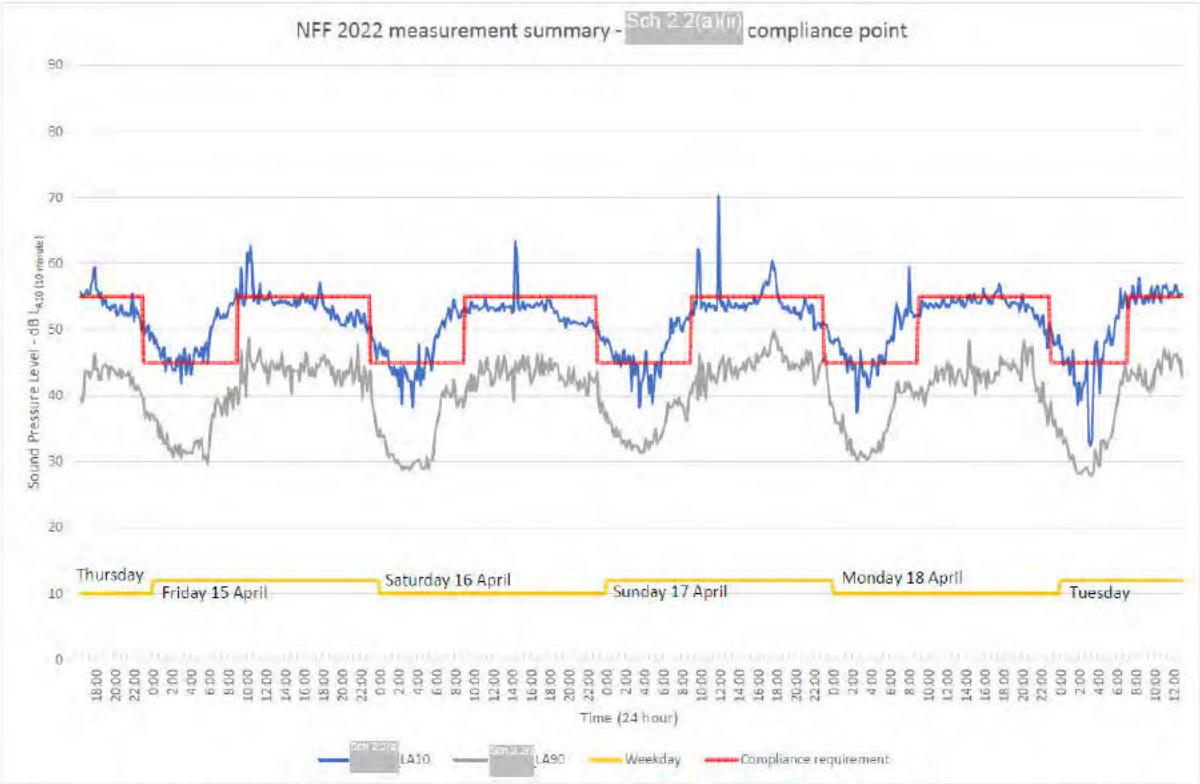

Chart 11.1: Showing summary of measured noise data at Sch 2.2(a)(ii) compliance point, 14-19 April 2022.

Noise Monitoring

Of

Groovin' The Moo 2022

Held at

Exhibition Park In Canberra (EPIC), Mitchell ACT

Prepared for: Tamara Murray
Groovin The Moo 2022
Canberra Event Manager.

Cattleyard Promotions
Suite 4, 50 Reservoir Street
SURRY HILLS NSW 2010

By: Sch 2.2(a)(ii)
Acoustic Consultant
GUZ BOX design + audio

Date issued: 5 July 2022

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GUZ BOX design + audio

GUZ BOX design + audio has been engaged by *Cattleyard Promotions Pty Ltd* to assist with the development of a Noise Management Plan and to provide independent assessment of noise levels for the *Groovin The Moo 2022* live music event in accordance with the requirements of an Environmental Authorisation issued by ACT Government.

1.0 Details of acoustic consultant

Sch 2.2(a)(ii) *GUZ BOX design + audio*, carried out the attended noise measurements for this event and has prepared of this report.

Sch 2.2(a)(ii)

Contact details:

address: *GUZ BOX design + audio*
Sch 2.2(a)(ii)

mail: PO Box 830, Wollongong NSW 2520

mobile: Sch 2.2(a)(ii)

email: @guzbox.com.au

2.0 Description of event site and program

The *Groovin The Moo* (GTM) live music event was held at *Exhibition Park in Canberra* (EPIC) on Sunday 24 April 2022. A Noise Management Plan (NMP) dated 28 Match 2022 documented by *GUZ BOX design + audio* identified actions to assist the GTM Event Management to comply with the requirements of an Environmental Authorisation (EA 0006 of October 2019) provided by ACT Government.

The GTM 2022 Canberra event occupied a large area of the EPIC event site typically centred on the EPIC Arena. The event site was host to several venues providing performances throughout the day and included:

- *Triple-J* and *Cattleyard* stages (the outdoor stages) – a dual-stage setup providing live bands on stage for between 20 and 50 minute sets with minimum 5 minute breaks between change-over to adjacent stage
- *Moulin Rouge* and *Moolin Studio* (tent stage) – a large tent venue providing live music and DJ performances between 15 to 50 minute duration, with very short breaks between sets
- *Plot Stage* – a smaller tent venue primarily used for DJ performances with sets up to 60 minutes in duration.

The GTM 2022 Canberra event operated between the period 11:00 to 22:30 hours.

3.0 Requirements of the Authorisation

Environmental Authorisation No. 0006 (variation dated of 24 October 2019) contains conditions for the *Groovin The Moo* event held at *Exhibition Park in Canberra*. The applicable conditions in relation to noise are listed below:

2. Hours of Operation

2.4 Outdoor concert activities may only be conducted as part of the ***Groovin the Moo*** *event between the hours of 10:00am and 11:00pm. Sound checks may be conducted on the Saturday or Sunday prior to the event for two hours between the hours of 9:00am and 9:00pm.*

3. Compliance Points

3.1 Compliance point for the noise monitoring of each event are:

a) on that part of Sch 2.2(a)(ii) *between Nos* Sch 2.2(a)(ii) *; and*

b) the road reserve area between the Federal Highway and Sch 2.2(a)(ii) *, between* Sch 2.2(a)(ii) *Federal highway, Watson.*

4. Compliance Requirements

4.5 ***Groovin the Moo*** *– 65dB(A)* $_{LA10}$*, 10 min during the permitted hours of operation.*

5. Modifying Factor Corrections

5.1 The corrections specified for tonal, impulsive, intermittent and low frequency noise, as set out in Table 1 of the Noise Measurement Manual, are to be added to the measured noise levels at the compliance point before comparison with the authorised noise limit.

5.2 The correction factor for low frequency noise for the ***Groovin the Moo*** *event will be applied when the difference between C-weighted and A-weighted noise level is 20dB or more.*

6. Monitoring/Reporting

6.1 ***Groovin the Moo*** *- The Authorisation holder is required to demonstrate that noise from the event does not exceed the noise limit at the compliance points. The Authorisation holder must submit a proposal prepared by a person qualified in the assessment of environmental noise to the Authority at least 8 weeks before the events. The proposal must be acceptable to the Authority. The events are to be monitored by means of independent noise monitoring at the compliance points. Noise monitoring must be undertaken by a person qualified in the assessment of environmental noise. Attended monitoring is to be undertaken for all events at the compliance points. Results from noise monitoring must be submitted to the Authority eight (8) weeks from the end of the event.*

6.2 A Socio-Economic report must be provided, in writing to the Authority, within eight (8) weeks of completion of the 2020 Groovin the Moo event. The report must contain:

i. economic and social benefits; and

ii. other benefit/s that may have been derived.

6.4 A Noise Monitoring Report must be provided, in writing to the Authority, within eight (8) weeks of completion of the event. The report must contain the following information:

i. the name, address and telephone number(s) of the person who prepared the report;

ii. the experience and qualifications of persons who undertook the noise monitoring in the assessment of environmental noise;

iii. the dates, commencement and completion times of sound measurements;

iv. a description of the location(s) at which the sound measurement(s) were taken;

v. details of the equipment and methods used to take the sound measurements;

vi. details of any measured non-compliances associated with noise emissions from the... event. Including, what actions were taken to ensure compliance with the requirements of clause 4 of this schedule; and

vii. the details are to be provided by email to environment.protection@act.gov.au

9. Public Notification

9.1 The Authorisation holder must advertise, in the Canberra Times and the Canberra Weekly, each upcoming event at least eight weeks in advance of the event.

9.2 The advertisement should state the date on which it is proposed to conduct the event and, if desired by the authorisation holder, an alternative date in case the event has to be cancelled due to rain.

9.3 The Authority must be notified within two working days of the placement of the advertisement notifying an upcoming event or the cancellation of the event.

4.0 Equipment used for measurements

Measurements were carried out in accordance with the *"Noise Measurement Manual – Environmental Protection Authority – September 2009"* and with reference to Australian Standard *AS 1055.1 1997 "Acoustics - Description and measurement of environmental noise - General procedures".*

4.1 Environmental Noise Logger @ Sch 2.2(a)(ii) :

The following Type 1 environmental noise logger was located at the compliance location prior to commencement of the event:

Brand: Acoustic Research Laboratories Pty Ltd
Model: NGARA - Type 1 Environmental Noise Logger
Serial #: 87806F

A wind shield was used during the measurement period.
Height of microphone: Approx.1.2m above ground level.

The noise logger was calibrated before measurements and again at the end of testing. No calibration drift was noted. The logger was set to record continuous noise measurements over the event period. The data from the noise logger was analysed over 10-minute periods in accordance with the requirements ACT EPA.

4.2 Type 1 Handheld Sound Level Meter (SLM) at Sch 2.2(a)(ii) compliance location:

The following equipment was used to obtain attended noise measurements:

Brand: *NTi Audio*
Model: XL2 Analyser (Serial #: A2A-06746-EO)
Firmware: V4.80
Software: XL2 STI-PA Option (Serial #: 2081)
XL2 Data Explorer Option (Serial #: 1237)
XL2 Extended Acoustics Option
XL2 Sound Insulation Option
Microphone: M2230 Class 1 measurement microphone (Serial #:7048)
Microphone preamplifier: MA220 (Serial #: 2630)
Calibrator: *NTi Audio/Larson Davis* CAL200 (Serial #:13765)

A wind shield was used during the measurement period.
Height of microphone: Approx.1.2m above ground level.

The SLM was calibrated before measurements and again at the end of testing. No calibration drift was noted. The SLM was set to record continuous noise measurements over test periods with minimum 10 minutes duration.

4.3 Type 2 Handheld Sound Level Meter (SLM):

The following equipment was used to obtain attended noise measurements:

Brand: *NTi Audio*
Model: XL2 Analyser (Serial #: A2A-04210-D1)
Firmware: V4.80
Software: XL2 STI-PA Option (Serial #: 2081)
XL2 Extended Acoustics Option
Microphone: M4260 Class 2 measurement microphone (Serial #:002351)
Microphone preamplifier: MA220 (Serial #: 2630)

A wind shield was used during the measurement period.

This SLM was used to carry out measurements at the Sch 2.2(a)(ii) compliance location and for reference noise measurements within the venue at front-of-house locations. Continuous noise measurements with minimum 10 minutes duration were carried out at Sch 2.2(a)(ii) . Measurements within the event site were carried out over 2-minute duration, where possible and are used as a reference only.

4.4 Portable Weather Station @ compliance location:
The following weather and environmental meter was used to gather environmental data at the compliance location:

Brand: Kestrel
Model: 5500BT
Serial #: 712331

5.0 Description of Noise Monitoring

5.1 Unattended noise monitoring at compliance locations

One (1) NGARA noise logger was provided at the Sch 2.2(a)(ii) compliance location for the duration of the event. The noise logger was placed on site at 5:00pm 23 April 2022 and provided continuous noise logging for the duration of the GTM2022 event.

Refer attached image showing location of the NGARA environmental noise logger at this compliance location.

5.2 Attended noise monitoring

The *NTi-Audio XL2* sound level meter was used for attended noise measurements at the compliance location identified within Environmental Authorisation No.0006 as Sch 2.2(a)(ii) (between Sch 2.2(a)(ii)). The performance of the meter was checked with the portable calibrator, *NTi Audio/Larson Davis CAL200*. The sound level meter was set up so that the microphone, with windshield, was 1.2m above the ground and over 3m from any reflecting surfaces. Noise levels were monitored over 10-minute periods and the data stored in the meter for subsequent downloading and analysis. Where possible, the analysis was paused when extraneous noises were present.

The *Kestrel* portable weather station provided measurements for temperature, humidity and wind speed during noise monitoring.

Attended noise monitoring was carried out during the following times:

- 23 April 2022, 5:00pm – 6:00pm (setting of sound levels)
- 24 April 2022, 9:30am – 10:45pm

6.0 Details of measurements

6.1 Noise Level Descriptors

The metric used for noise level assessment in the ACT, $L_{A10,T}$ takes into consideration the time variation of the noise:

- $L_{10,T}$ - the level exceeded for 10% of the time period, T, is similar to the average of the maximum noise levels and is often used as the descriptor for a noise under investigation.

It is often useful to compare the value for this metric with one used to describe background noise;

- $L_{90,T}$ - the level exceeded for 90% of the time period, T, is often used as the descriptor for background noise in the area, i.e. without the noise from the source under investigation.

Another useful metric for environmental noise assessment is:

- $L_{eq,T}$ - the equivalent energy level and is the level of a constant sound that over the time period T has the same total sound energy as the time varying sound.

Measurements are noted using the A-weighting filter, which has a similar response to human hearing.

6.2 Unattended measurements at compliance locations

Unattended measurements were carried out at the Sch 2.2(a)(ii) compliance location. Refer attached charts showing summary of measured L_{A10} and L_{A90} noise data at the Sch 2.2(a)(ii) compliance location.

6.3 Attended measurements at Sch 2.2(a)(ii) compliance location

Attended measurements at the compliance location were carried during anticipated noisier periods during the event and included the Friday and Saturday night concerts. The following table provides a summary of measured data obtained from the attended measurements at this compliance location. Modifying Factor Corrections have been applied in accordance with Table 1 of the *Noise Measurement Manual* and are indicated in brackets.

Table 6.3.1: Attended measurements at Sch 2.2(a)(ii) – Saturday 23 April 2022

Meas.start Time(24hr)	*dB(A) (10 minute)*				*Comments + observations*
	L_{10}	L_{eq}	L_{90}	C-A	
17:08	58.3	57.6	46.3	9.8	Temp: 18ºC Relative Humidity: 63% Wind: NIL Sky: 0 Oktas, clear
Notes:	Francis (JPJ) @ FOH rang to discuss levels. He's running 90-95dBA @ FOH. Music @ compliance point is @60dB L_{A10}, C-A @14dB.				
	End of measurements - no further measurements				

Table 6.3.2: Attended measurements at Sch 2.2(a)(ii) – Sunday 24 April 2022

Meas.start Time(24hr)	*dB(A) (10 minute)*				*Comments + observations*
	L_{10}	L_{eq}	L_{90}	C-A	
9:36 *SLM_000*	53.4	50.2	41.9	16.0	Temp: 18ºC Relative Humidity: 64% Wind: <1.0m/s, S-SE variable Sky: 0 Oktas, clear
Notes:	Francis (JPJ) @ FOH rang to discuss levels – bass heavy track @ compliance point is @60dB L_{A10}, C-A @19.5dB. 'Rock' track is @55dB L_{A10}, C-A @15dB.				
9:50 *SLM_001*	50.3	49.6	40.7	12.3	Cockies, magpies, traffic dominant noise source during this meas. period
Notes:	Traffic on Federal Highway/Northbourne has been reduced to 40km/hr for event between Flemington Road and Stirling Avenue, Watson				
10:17 *SLM_002*	51.0	50.6	42.5	12.9	Some audio from event site audible – not significant
11:00 *SLM_003*	49.4	49.6	42.5	12.7	Temp: 19ºC Relative Humidity: 61% Wind: <1.5m/s, S-SE variable, gusts to 2.0m/s Sky: 0 Oktas, clear
11:15 *SLM_004*	52.3 *(57.3)*	49.7	44.3	20.7	Music started at event site – Main Stage. Tent Stage started @ 11:25. Music audible – mainly LF from kick + bass, some vox. Traffic continuous + audible
Notes:	Darren 'Daggers' @GTM range to check levels				
11:37 *SLM_005*	52.4 *(57.4)*	50.0	44.5	20.6	Temp: 21ºC Relative Humidity: 60% Wind: <1.5m/s, E-NE variable Sky: 1-2 Oktas, some cloud cover
11:55 *SLM_006*	52.4	49.6	45.0	19.6	Music audible – louder at times. Both main stage + tent stage audible. Traffic still dominant noise source. Wind gusts >3.0m/s SE Plot Stage audible from 12:10?
12:17 *SLM_007*	50.4	49.4	44.6	18.3	As previous Screams from ride audible
12:36 *SLM_008*	56.1 *(61.1)*	53.5	49.5	21.2	Temp: 18ºC Relative Humidity: 55% Wind: 1.0>2.3m/s, E-SE Sky: 1-2 Oktas, scattered cloud LF beating @12:42 (from tent?). Music louder this meas period
13:00 *SLM_009*	57.9 *(62.9)*	55.0	50.3	23.8	LF levels going up – texted Darren. He's working to bring sown from Tent stage. Meas paused for local traffic in street

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
13:31 *SLM_010*	55.3 *(60.3)*	52.7	48.5	20.4	Communication with Darren – levels are better this period Temp: 19ºC Relative Humidity: 49% Wind: <1.5m/s, E-NE variable, gusts to 2.0m/s Sky: 2-3 Oktas, clear
13:50 *SLM_011*	55.6	53.3	49.1	19.7	Paused for local traffic Darren rang to check levels ✓ Signage has been placed at FOH locations
14:32 *SLM_012*	54.8	53.1	50.1	18.0	Main stage audible. Traffic audible – louder at times with trucks, motorbike… Crowd cheering audible
14:45 *SLM_013*	55.9	53.7	50.0	18.2	Traffic contributing to noise measurement ≈52dB
15:00 *SLM_014*	55.6	57.2	50.4	15.5	Temp: 18ºC Relative Humidity: 52% Wind: <2.5m/s, NE-SE variable Sky: 0 Oktas, clear 'Hockey Dad'
15:20 *SLM_015*	58.0 *(63.0)*	55.7	51.1	21.3	Crowd cheering + singing along with performers. LF has increased this meas. period. Only louder vehicles audible @ this volume
15:38 *SLM_016*	56.2	54.3	50.9	19.2	
15:49 *SLM_017*	55.9	54.1	50.2	17.5	Can hear the 2 main venues. LF + vox from main stage Sch 2.2(a)(ii)'
16:02 *SLM_018*	57.2	56.2	52.2	19.3	Temp: 17.6ºC Relative Humidity: 49% Wind: <1.5m/s, NE-E Sky: 0 Oktas, clear Tent is dominating LF
16:22 *SLM_019*	56.2 *(61.2)*	54.1	50.1	20.5	LF in tent reduced (Darren) Main stage would like to go louder
16:40 *SLM_020*	57.6	56.1	51.2	19.0	Dog barking nearby Heavier sounding band on main stage
16:52 *SLM_021*	59.0	58.4	53.7	19.8	Temp: 16.7ºC Relative Humidity: 52% Wind: <1.5m/s, E-SE variable Sky: 0 Oktas, clear
17:12 *SLM_022*	60.5	59.7	53.1	17.6	Phone call from Darren to discuss levels

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
17:29 *SLM_023*	56.4	55.3	49.9	13.3	Sch 2.2(a)(ii)' Power tool being used nearby in this meas. period
17:44 *SLM_024*	56.9	54.7	50.7	19.3	Power tool being used nearby in this meas. period
18:06 *SLM_025*	56.2 *(61.2)*	54.1	50.8	20.9	Sch 2.2(a)(ii)' Dog barking @18:15
18:29 *SLM_026*	56.9 *(61.9)*	54.9	51.0	20.7	Wind increasing towards end of meas period
19:00 *SLM_027*	57.6	55.7	52.7	19.3	Temp: 14ºC Relative Humidity: 75% Wind: 0.8 - 3.0m/s, NE-E Sky: 0 Oktas, clear 'Lime Cordiale'
19:20 *SLM_028*	58.0	55.7	52.2	17.6	Music from concert is dominant noise source. Traffic reduced, still audible at times. Crowd singing along with band
19:41 *SLM_029*	57.5	54.5	48.8	19.2	Concert audible Wind variable
20:04 *SLM_030*	58.3 *(63.3)*	55.5	50.5	20.1	Temp: 11ºC Relative Humidity: 85% Wind: NIL Sky: 0 Oktas, clear
20:23 *SLM_031*	54.5	51.9	47.4	20.9	Music appears to have dropped off this meas period. Change over on main stage
20:40 *SLM_032*	59.0	56.5	51.8	15.4	Sch 2.2(a)(ii) ' on stage. Music is dominant noise source. Tent stage audible when main stage levels drop off. Crowd noise + cheering
20:53 *SLM_033*	60.1	57.6	52.9	16.7	Messaged Darren - levels OK ✓
21:10 *SLM_034*	57.9	55.8	51.9	17.4	Temp: 10ºC Relative Humidity: 92% Wind: NIL Sky: 0 Oktas, clear
21:24 *SLM_035*	60.5	58.1	52.2	19.1	'Sch 2.2(a)(ii) ' at end of this meas period
21:35 *SLM_036*	60.6	58.0	54.0	17.9	Same as previous. Some bass-heavy tracks

Meas.start Time(24hr)	dB(A) (10 minute)				Comments + observations
	L_{10}	L_{eq}	L_{90}	C-A	
21:46 *SLM_037*	59.5	57.0	52.6	19.5	Same as previous
22:00 *SLM_038*	58.8 *(63.8)*	56.2	51.7	20.0	Temp: 11.4C Relative Humidity: 91% Wind: NIL Sky: 0 Oktas, clear
22:11 *SLM_039*	58.7	55.7	49.7	19.3	Same as previous
22:22 *SLM_040*	55.6	50.9	42.9	17.3	Music finished shortly after meas. started. No more music audible from event site. Traffic dominant noise source
	End of measurements - no further measurements				
22:50	Note: Rodney Dix @EPA rang. Had received complaint from Kaleen relating to amplified music. I have advised that GTM has finished and no concert noise was audible from GTM event site after 10:20pm				

6.4 Additional comments + observations

As noted during attended measurements at Sch 2.2(a)(ii) , noise originating from the *GTM 2022* event site was audible for much of the event. Traffic on Federal Highway was also audible and continuous for most of the day with typical levels measured at the compliance point from daytime traffic around 52dB L_{Aeq}. Traffic noise reduced from the early evening, with some noisier periods at times, including louder vehicles and the occasional heavy vehicle.

6.5 Attended measurements at Sch 2.2(a)(ii) compliance location

Following difficulties with noise monitoring during previous events at the Sch 2.2(a)(ii) compliance location, it was determined that occasional noise measurements near to Sch 2.2(a)(ii) would be suitable to assess noise from the GTM event site. The following table provides a summary of measured data obtained from the attended measurements at this compliance location.

Table 6.4.1: Attended measurements at Sch 2.2(a)(ii)

Meas.start Time(24hr)	*dB(A) (10 minute)*				*Comments + observations*
	L_{10}	L_{eq}	L_{90}	C-A	
12:00	51.0 *(56.0)*	48.8	44.4	20.8	Traffic is dominant + continuous noise source at this location. Accelerations and braking at traffic lights louder at times. Pedestrians talking nearby. Some LF audible from event site.
13:05	54.1 *(60.1)*	51.7	47.1	20.7	As previous
14:38	54.2	51.9	46.8	17.8	Loud motorbike @14:42 Noisy group of people @ 14:44
16:39	53.5	51.1	46.8	18.0	
17:48	53.5	52.1	48.5	19.4	
18:06	56.2 *(61.2)*	54.1	50.8	20.9	
18:28	56.9 *(61.9)*	54.9	51.0	20.7	
21:50	52.7	50.7	47.8	19.4	Sch 2.2(a)(ii) A few groups of people walking past, traffic noise

7.0 Assessment in accordance with Environmental Authorisation

7.1 Hours of operation

The *GTM 2022* event held at EPIC on 24 April 2022 complied with the hours specified in the Noise Management Plan. The event started shortly after 11:00am and was completed by around 10:20pm, with no further amplified music or announcements audible after this time.

7.2 Compliance points

The compliance points for assessment of noise generated by this event were carried out at the locations as identified by EPA and as noted in *Environmental Authorisation No. 0006*. Attended noise monitoring was carried out at the Sch 2.2(a)(ii) compliance point for the duration of the event. Attended noise measurements were carried out near to the Sch 2.2(a)(ii) compliance point throughout the event.

7.3 Compliance requirements

Noise originating from the *GTM 2022* event site complied with the *Environmental Authorisation* for the duration of the event.

7.4 Event credits

No event credits have been purchased

7.5 Modifying Correction Factors

Modifying Factor Corrections *for low-frequency noise* have been applied in accordance with Table 1 of the *Noise Measurement Manual* and are indicated in the above tables.

7.6 Noise monitoring and reporting

An environmental noise logger was placed at each of the Sch 2.2(a)(ii) compliance point identified in the EA. Attended monitoring was undertaken at the Sch 2.2(a)(ii) compliance point in accordance with the requirements of the Environmental Authorisation. Summary of logged noise data and observations from the attended monitoring have been included in this report.

7.7 Details of non-compliances

Based on the attended noise measurements carried out at the Sch 2.2(a)(ii) compliance point during the event, $L_{A10,\ 10\ minute}$ noise levels associated with the event did not exceed the compliance requirement of 65dB $L_{A10\ (10\ minute)}$.

7.8 Record of Complaints

EPIC has advised that 8 complaints were received by *Access Canberra*. Details of these complaints have not been provided. Information regarding these complaints includes:

- 1 complaint from Lyneham on the night prior to the event regarding sound test occurring after midnight
- 6 complaints during event regarding exceeded noise levels
- 1 complaint regarding attendee with COVID19
- Complaints were received from suburbs of McKellar, Mitchell, Kaleen, Crace

No complaints were received at the compliance point.

8.0 Summary + Conclusion

GTM 2022 have followed the recommendations provided in the Noise Management Plan. A letter box drop was carried out and public notices were published in the Canberra Times prior to the event. A wall of shipping containers was placed around 2 sides of the main stage and logged noise data from FOH locations has been provided to GUZ BOX.

Noise originating from the *GTM 2022* event site complied the compliance requirements for the duration of the event. The GTM event management were advised of measurement results on a regular basis during attended monitoring from Sch 2.2(a)(ii) compliance point. GTM were notified where levels were trending towards non-compliance and have made adjustments within the venue to maintain compliance with the environmental authorisation.

It is the opinion of *GUZ BOX design + audio* that the *GTM2002* event held at EPIC on Sunday 24 April 2022 has complied with the requirements of *Environmental Authorisation No.0006*.

9.0 References

Environmental Authorisation No. 0006 (variation dated of 24 October 2019)

"Noise Management Plan, Groovin The Moo (GTM) 2022, Canberra", dated 28 March 2022 by *GUZ BOX design + audio*

Australian Standard *AS 1055.1 1997 "Acoustics - Description and measurement of environmental noise - General procedures".*

"Noise Measurement Manual – Environmental Protection Authority – September 2009"

ACT Environmental Protection Act 1997

www.actmapi.act.gov.au

10.0 Photos

Photo 10.1: NGARA noise logger within rear yard of Sch 2.2(a)(ii)

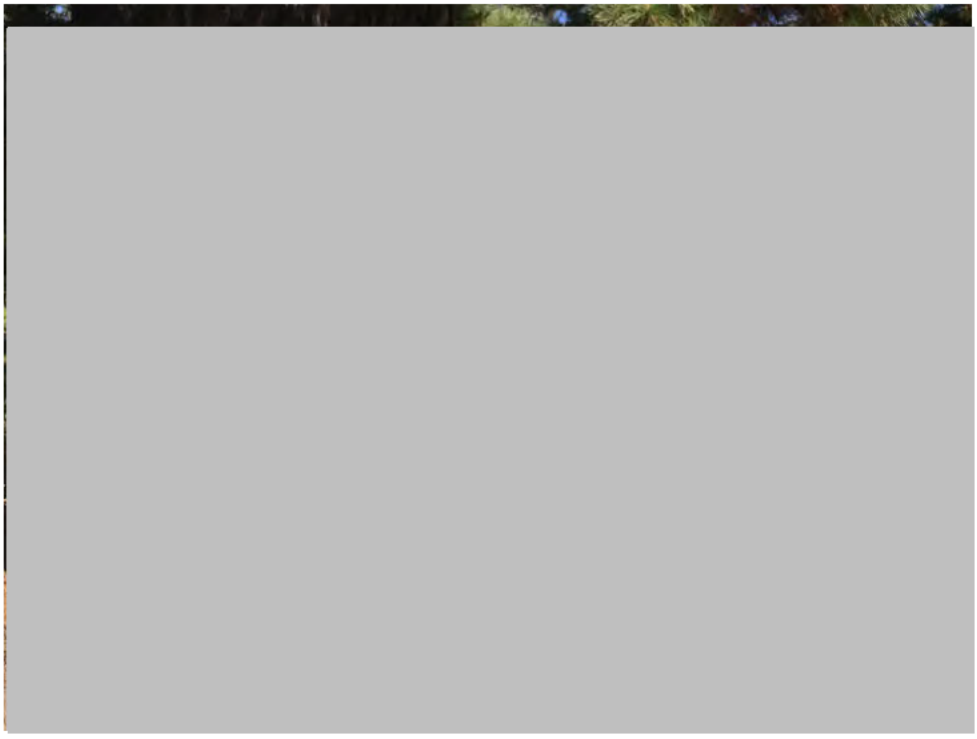

Photo 10.2: View from Sch 2.2(a)(ii) compliance point towards event site, showing *NTi-Audio XL2* sound level meter and *Kestrel 5500* weather station.

Photo 10.3: Image showing main stage, FOH hang, container wall behind stage

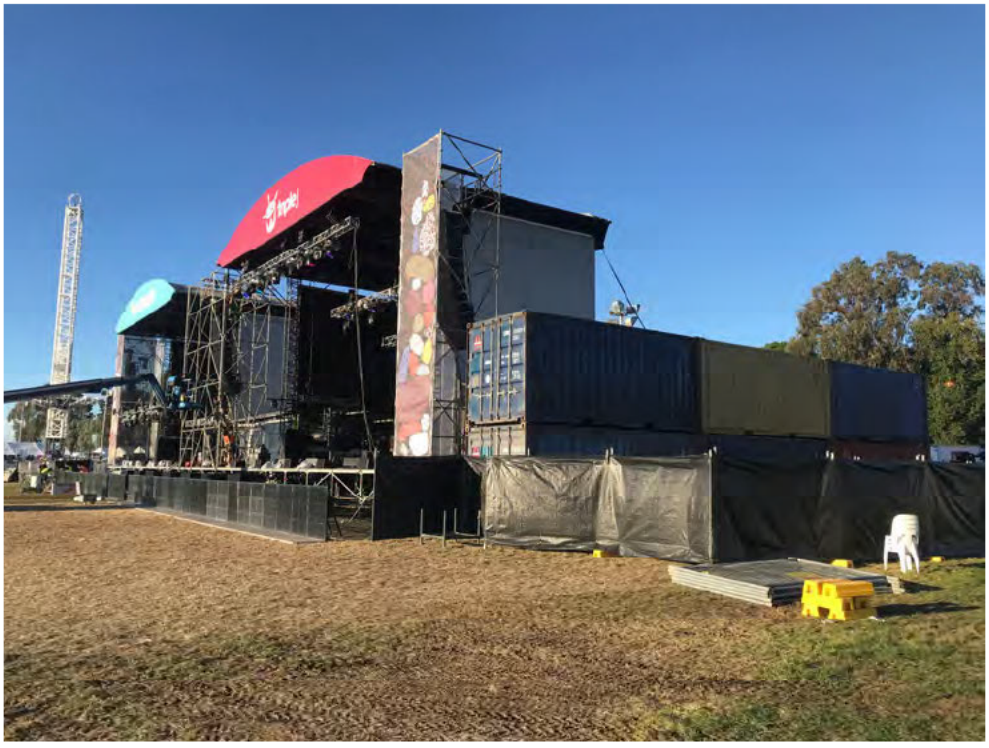

Photo 10.4: Image showing main stage, container wall to southern side of stage

11.0 Charts

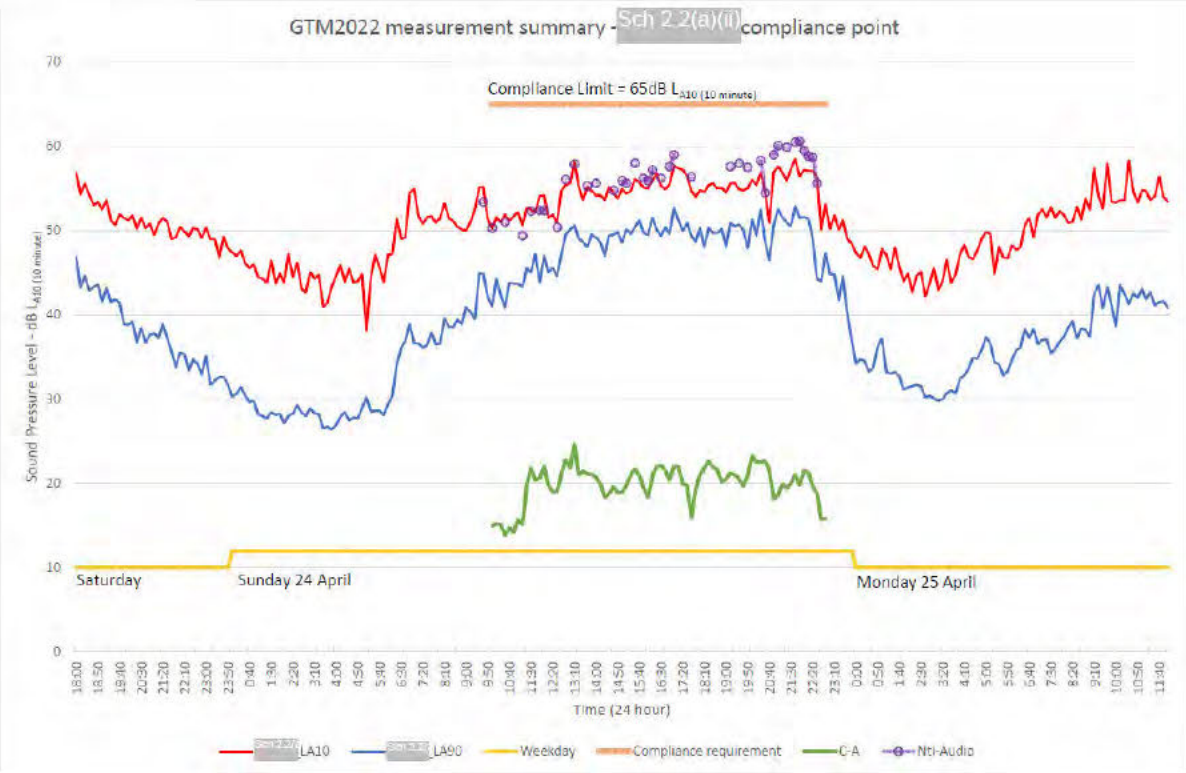

Chart 11.1: Showing summary of measured noise data at Sch 2.2(a)(ii) compliance point, Saturday evening 23 April – Monday 25 April 2022.