



**SUNCORP
STADIUM**

Post Event Report

Elton John

Farewell Yellow Brick Road Tour
21 January 2023



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Event Overview

Suncorp Stadium hosted the Elton John “Farewell Yellow Brick Road” tour on 21 January 2023.

Detailed planning was undertaken to identify and minimise potential adverse impacts on the local community in accordance with the Major Sports Facilities Regulation 2014 for Special Events and the updated Major Sports Facilities Act 2001 (updated 31 October 2022)

A specific Operational and Transport & Traffic Management Plan was developed for the concert and presented to the Stadium Management Advisory Committee (SMAC), Transport Coordination Group (TCG) and Stadiums Queensland as required in the Regulations.

A dedicated Call Centre was established for the concert periods to enable the general public to contact the Stadium on any issues arising either during the bump-in, bump-out periods and during the concert itself. A local community letterbox drop was also conducted to provide residents and local businesses within the Lang Park Traffic Area with relevant information pertaining to the events.

Key deliverables for the concerts were:

Attendance	44,699
Complaints/ Compliments	Patron feedback from the concert was received. The venue received over 5000 positive reactions and over 270 positive comments across social media posts following the concert. There were 6 compliments through direct messages on social media and 9 complaints regarding issues getting in and out of the venue.
Media Social Media/Website	Media coverage leading up to and after the concert was positive. The Stadium website and social media platforms were used to communicate important event information. All incoming messages were monitored, and questions answered where necessary. Patron feedback from the concert was received. The venue received over 5000 positive reactions and over 270 positive comments across social media posts following the concert. There were 9 negative comments regarding issues getting in and out of the venue 6 compliments regarding transport, staff and ease of entry/exit.
Crowd Management Security	The crowd overall was extremely compliant and well behaved. There was 1 Arrest and 8 evictions for intoxication/behaviour. QPS Random wandering and 100% bag searches were conducted at all gates.
Noise Monitoring	The Stadium’s noise consultant, Stantec advised that internal Stadium criteria was complied with at all times during the concert and sound checks. There were also no exceedances in the external locations. Externally, Stantec deployed staff to locations around the Stadium for testing and all levels complied with the legislation. <i>(Attachment B)</i>

Operations

2.1 Attendance and Ticketing

2.1.1. Concert Programme

The concerts concluded before the Stadium's 10.30pm curfew.

The concert running times were as follows:

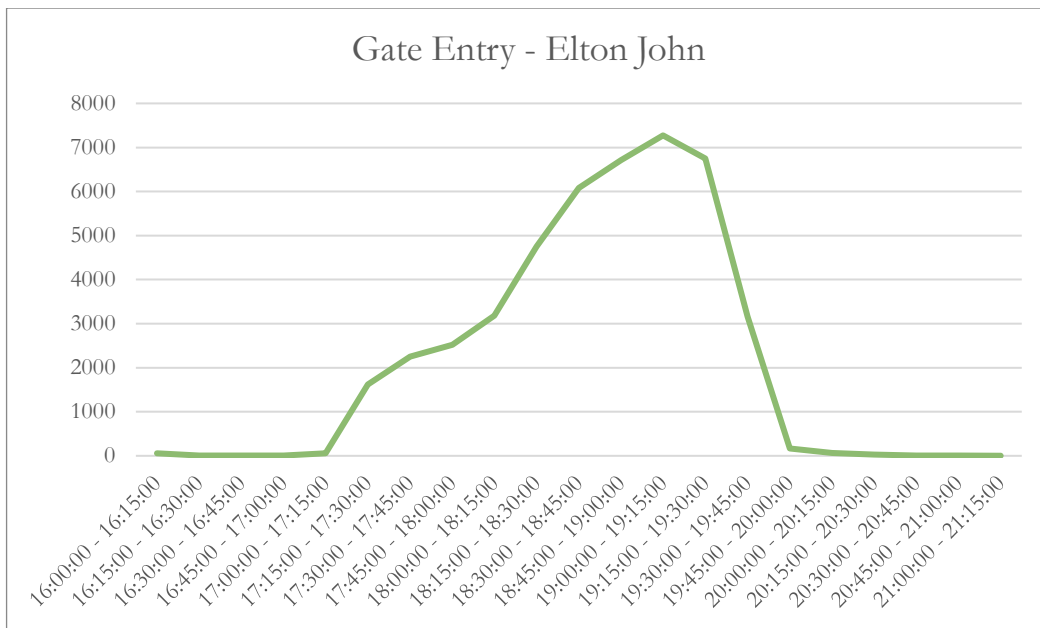
Public Entry Gates A, B, D & E	5:30pm
Main Act Commenced	7:30pm
Main Act Concluded	10:00pm

2.1.2. Tickets Sold

Field – Seating	10,148
Grandstand Seating	34,087
Corporate Seating	1,523
Total Sales	44,788
TOTAL ATTENDANCE	44,699
NO SHOWS	89

2.1.3. Turnstile and Gate Activity

GATE	NUMBER	% PATRONS	OPEN TIME PRIOR TO MAIN ACT
Gate A	9,074	20%	3.5hrs
Gate B	9,674	22%	3.5hrs
Gate C	2,765	6%	3.5hrs
Gate D	7,038	16%	3.5hrs
Gate E	5,688	13%	3.5hrs
Hand Scanners	9,705	22%	3.5hrs
TOTALS	44,699	98%	



2.1.4. Passouts

A passout system operated for patrons wishing to smoke.

2.1.5. Stadium Members

As these concerts were not included in their annual entitlement, Stadium Members were provided with a priority opportunity to purchase tickets. Life Ground Members utilized their seats for the concerts.

2.2 Local Residents Management

2.2.1 Call Centre Operations

The Stadium established a Concert Hotline for local residents and businesses. The Hotline was manned by trained Stadium staff during the following times:

Friday 20 January 2023	0900 – 2030
Saturday 21 January 2023	0900 – 2330

To assist with major complaints or issues, Call Centre operators had direct access to the Stadium's main control room and management team to obtain specific advice.

The general Stadium number (07 3331 5000) was also operational during normal business hours as was the Stadium Security number (07 3331 5168) after hours. All calls logged by Call Centre operators were responded to by a return call from Stadium staff immediately.

2.2.2 Concert Hotline Report

There were a total of 14 complaints during the evening, mainly associated with delays for ingress/egress as well as some complaints on some staffing issues. No complaints received around noise. Readings at locations were compliant.

2.3 Noise Management

Stantec conducted initial modelling to assist with the noise control measures during planning for the concert.

As part of this process, Stantec monitored noise levels at 15 minute intervals from inside the Stadium at the mixing console which was located approximately 50 metres from the front of house loudspeakers. External noise monitoring was also conducted at the following locations as required by the Major Sports Facilities Regulation 2014:

- 8 / 5 Petrie Terrace, Brisbane
- 15 Plunkett Street, Paddington
- 36 Judge Street, Brisbane
- 26 Princess Street, Brisbane*
- 31 Isaac Street, Milton

*Monitoring was conducted at 28 Princess Street due to the property not available for logger placement for this concert.

Stantec measured noise in compliance with the Environmental Protection Agency's Noise Measurement Manual. During the events (including rehearsal and sound test), the Stadium ensured that one of its employees or contractors:

- (a) was present at the sound mixing desk (or in direct communication with the Sound Engineer for the event and was able to exercise ultimate control on the noise levels from the sound amplification equipment;
- (b) could conduct and communicate with all of the acoustic consultants conducting the monitoring of the noise levels from the events; and
- (c) was able to report sound levels to Stadium Management at all times

2.4 Issues Management

2.4.1. Noise Levels

Noise monitoring was carried out at the five residential sites surrounding the Stadium as specified in Clause 7 of the MSFA Regulation and at the mixing console located within the Stadium bowl.

The MSFA Regulation requires that noise monitoring is carried out in accordance with the Queensland Government Environmental Protection (Noise) Policy 1997 (EPP Noise). Therefore the results of the noise monitoring analysis have been compared with the noise emission criteria specified schedule 3A “Acoustic Quality Compliance for Special Events” from this policy.

Stantec noted that the internal Stadium criteria was complied with throughout the concert and during sound checks.

There were no exceedances at the external monitoring points. There were a number of complaints received by local residents however measurements taken at the Paddington and Milton locations were significantly less than the external criteria of 70dB(A). Some complaints were received from further afield in Milton and Taringa however, given the measurements closer to the stadium were compliant, it is not possible for the sound to be louder further away.

Stantec’s detailed report from this event is outlined within this report. (*Attachment B*)

2.4.2. Limousine and Parking

Limousine parking in Parkview and Mayneview Streets was monitored closely and in line with the usual arrangements for other major Stadium events. Barriers and Security guards were located at either end of Blaxland Street to ensure it was not used for drop-offs and pickups and Queensland Police were present in the street post-event to control noise and patron behavior. Limousine take-up for this event was very low.

A total of 25 parking infringement notices were issued during the event

2.4.3. Taxis

Taxis were in high demand after the concert. Since COVID-19, availability of drivers has been an ongoing concern and there were significant queues of patrons waiting for taxis. Staff suggested to patrons to utilize the regular public transport services or head towards the city to catch rides however many chose to remain and wait.

The venue will continue to work with QPS and Security to protect the integrity of the Traffic and Transport Plans which are designed to minimize traffic in the area for the benefit of local residents and the dispersal of patrons. This includes continuing to manage the access of ride sharing services.

2.4.4. Patron Behaviour Post Event

The Suncorp Stadium Traffic Plan was implemented post-concert, ensuring patrons travelled safely to major transportation hubs and other destinations.

Queensland Police and Traffic Control officers were present during these periods to monitor patron behavior and flow to surrounding areas. The Queensland Police also monitored local areas for one hour post-event and were on standby to be dispatched to locations should complaints arise.

There were no patron behavior issues reported after the concert.

2.5 Additional Patron Services

The following requirements were identified and implemented:

- Specific pathways created to enable patrons to move onto and off the field of play area
- Additional catering and toilet facilities provided to cater for patrons in the nearby carpark
- EFTPOS facilities provided in the carpark to ensure patrons didn't have to return to the concourse
- Additional merchandise locations installed around the main concourse to deal with the demand for concert merchandise
- Facilities outside the Stadium for patrons arriving early and for any parents waiting for children after the concert

2.6 Event Staffing

Casual Event staff	264
Security – Stadium & Traffic	301
Security – Catering	21
Venue Presentation	28
Queensland Police – Internal	27
Queensland Police – External	32
Casual Event Staff Absentees	1.5%

2.7 Traffic and Transport

The integrated Transport System operated for this event with services running for three hours prior to the main act. As normal, patronage on public transport services was extremely high, but clearance was achieved within one hour of the conclusion of the concert.

2.8 Safety and Risk Management

The Stadium applied its standard Risk Management procedures to all aspects of the concert and prepared contingency plans on additional risks associated with the specific nature of the concert involving emergency field evacuation and severe weather. As each concert is different, plans are revised based on the stage layout. Neither plan needed to be activated.

2.9 Queensland Police and Security

Given the audience demographic, the crowd was extremely compliant and positive throughout the concert. Additional Queensland Police and Security staff were deployed to support Stadium Staff with ushering and crowd control.

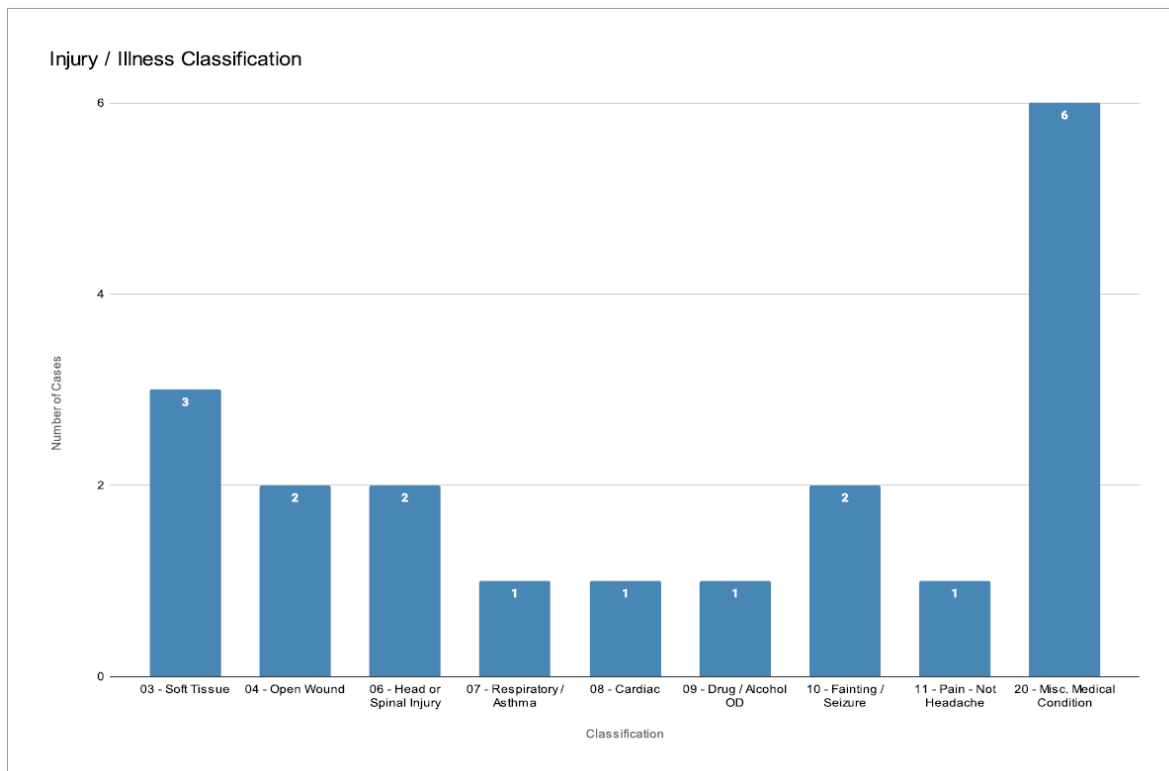
Based on standard Stadium practice, 100% bag searches were implemented for this event. Random wandering was also conducted.

This was also extended to staff entry points. No suspicious items were located. This was implemented with QPS staff on hand to assist where needed.

	FRIDAY
Evictions	8
Liquor Offences	0
Arrests	1
Field/Stage invasions	0
Refusals of Entry	2
Smoking fines	0
Lost children	0
Theft	0

2.10 Medical and First Aid

A full contingent of First Aid Personnel was on duty for this event.



ATTACHMENT A – Patron and Corporate Feedback

COMPLIMENTS

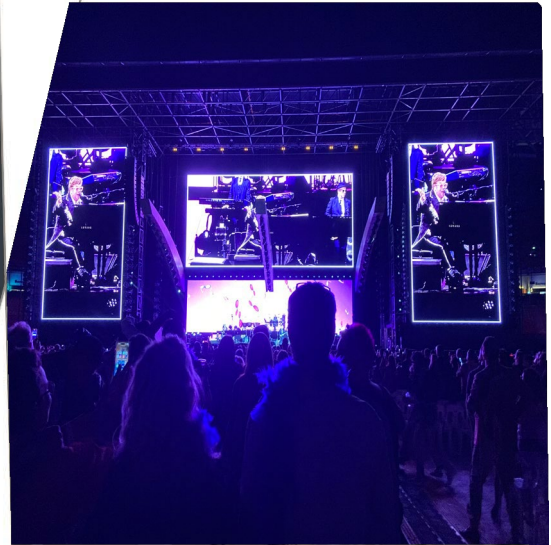
3	Overall Experience
1	Staff

COMPLAINTS

A summary of more specific complaints are below:

1	Ticketing/Seating
5	Crowd Management
1	Miscellaneous
2	Patron Behaviour
1	Security
1	Discrimination
1	PWD Services

ATTACHMENT B – Stantec Noise Monitoring Report



Suncorp Stadium – Elton John
Concert, January 2023

Prepared for

ASM Global (Brisbane) Pty Ltd

31 January 2023

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Executive Summary

This report summarises the results of noise monitoring carried out during the Elton John Concert on 21 January 2023 at Suncorp Stadium, in accordance with Clause 8 of the Major Sports Facilities Authority (MSFA) Amendment Regulation (No.1) 2006, under the Sports Facilities Act 2001.

Noise monitoring was carried out at the five residential sites surrounding the stadium as specified in Clause 7 of the MSFA Regulation and at the mixing console located within the stadium bowl.

The MSFA Regulation requires that noise monitoring is carried out in accordance with the Queensland Government Environmental Protection (Noise) Policy 1997 (EPP Noise). Note that subsequent revisions of the EPP Noise do not affect the requirements of the MSFA Regulation. Therefore, the results of the noise monitoring analysis have been compared with the noise emission criteria specified schedule 3A “Acoustic Quality Compliance for Special Events” from this policy.

The analysis has found that the internal stadium criterion was complied with throughout the concert and sound checks for all time periods.

Measured noise levels associated with the sound checks and concerts complied with the EPA “Special Events” external noise criteria of LAeq,15min 70 dB(A) at all the nominated external monitoring locations throughout the sound checks and the concerts for all time periods, with the exception of external measurements at Isaac Street during the concert. However, the exceedances were a result of residents at 31 Isaac Street having a party at their residence and not as a result of concert noise.

It was noted that there were light to moderate east / south easterly wind conditions, during the line, sound checks and concert which are likely to have influenced the noise emissions from the stadium to sound louder than usual to the north and west of the stadium.

We understand that there was one noise complaint from 68 Upper Cairns Terrace, Paddington recorded during the concert period. Whilst the concert was clearly audible at this location, Noise measurements at this location indicated that the measured level (46 dB(A)) was significantly less than the external criteria of 70 dB(A).

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Glossary of Terms

A-weighted Level	As per dB(A) defined below.
Ambient Sound	Of an environment: the all-encompassing sound associated with that environment, being a composite of sounds from many sources, near and far.
Background Sound Level	The average of the lowest levels of the sound levels measured in an affected area in the absence of noise from occupants and from unwanted external ambient noise sources.
Decibel, dB	Unit of acoustic measurement. Measurements of power, pressure and intensity may be expressed in dB relative to standard reference levels.
L ₉₀ , L ₁₀ etc.	A statistical measurement giving the sound pressure level which is exceeded for the given percentile of an observation period, i.e. L ₉₀ is the level which is exceeded for 90 percent of an observation period. L ₉₀ is commonly referred to as a basis for measuring the background sound level.
L _{Abg, T}	The A-weighted background sound level measured over a time interval T.
L _{Aeq, T}	Equivalent continuous A-weighted sound pressure level. This is the value of the A-weighted sound pressure level of a continuous steady sound that, within a measurement time interval T, has the same A-weighted sound energy as the actual time-varying sound.
Sound Pressure Level, L _p , dB, of a sound	A measurement obtained directly obtained using a microphone and sound level meter. Sound pressure level varies with distance from a source and with changes to the measuring environment. Sound pressure level equals 20 times the logarithm to the base 10 of the ratio of the r.m.s. sound pressure to the reference sound pressure of 20 microPascals.
Sound Power Level, L _w , dB of a source	Sound power level is a measure of the sound energy emitted by a source, does not change with distance, and cannot be directly measured. Sound power level of a machine may vary depending on the actual operating load and is calculated from sound pressure level measurements with appropriate corrections for distance and/or environmental conditions. Sound power level is equal to 10 times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 picoWatt.

1 Referenced Documents

The following documents have been referenced as part of the assessment:

- > “MSFA Amendment Regulation (No. 1) 2006” – Queensland Government.
- > *Environmental Protection and Other Legislation Amendment Act (No. 2) 2008 (EPOLA No. 2)*
- > “*Environmental Protection (Noise) Amendment Policy 1997*” (Reprint No.3) as part of the *Environmental Protection Act 1994* – Queensland Environmental Protection Agency.
- > “*Suncorp Stadium, State of Origin 2003 - Noise Impact Assessment Report*” – Hyder Consulting
- > “*Suncorp Stadium, Robbie Williams Concert - Noise Impact Assessment Report*” – Hyder Consulting
- > “*Suncorp Stadium, The Police Concert - Noise Impact Assessment Report*” – Hyder Consulting
- > “*Suncorp Stadium, Andre Rieu Concert – Noise Impact Assessment Report*” – Hyder Consulting
- > “*Suncorp Stadium, U2 Concert – Noise Monitoring Report*” - Cardno
- > “*Suncorp Stadium, Bon Jovi Concert – Noise Monitoring Report*” - Cardno
- > “*Suncorp Stadium, Justin Bieber Concert – Noise Monitoring Report*” - Cardno.
- > “*Suncorp Stadium, Worlds Biggest Orchestra World Record Attempt – Noise Monitoring Report*” - Cardno
- > “*Suncorp Stadium, Taylor Swift Concert 2013 – Noise Monitoring Report*” - Cardno).
- > “*Suncorp Stadium, Bon Jovi Concert 2013 – Noise Monitoring Report*” - Cardno
- > “*Suncorp Stadium, Eminem Concert 2014 – Noise Monitoring Report*” - Cardno
- > “*Suncorp Stadium, One Direction Concert 2015 – Noise Monitoring Report*” - Cardno
- > “*Suncorp Stadium, Foo Fighters Concert 2015 – Noise Monitoring Report*” - Cardno
- > “*Suncorp Stadium, Ed Sheeran Concert 2015 – Noise Monitoring Report*” - Cardno
- > “*Suncorp Stadium, Taylor Swift Concert 2015 – Noise Monitoring Report*” - Cardno
- > “*Suncorp Stadium, Coldplay Concert 2016 – Noise Monitoring Report*” - Cardno
- > “*Suncorp Stadium, Justin Bieber Concert March 2017 – Noise Monitoring Report*” - Cardno
- > “*Suncorp Stadium, Paul McCartney Concert December 2017 – Noise Monitoring Report*” - Cardno
- > *Suncorp Stadium, Foo Fighters Concert January 2018 – Noise Monitoring Report*” - Cardno
- > *Suncorp Stadium, Ed Sheeran Concerts March 2018 – Noise Monitoring Report*” - Cardno
- > *Suncorp Stadium, Bon Jovi Concert December 2018 – Noise Monitoring Report*” - Cardno
- > *Suncorp Stadium, Phil Collins Concert January 2019 – Noise Monitoring Report*” - Cardno
- > *Suncorp Stadium, U2 Concert November 2019 – Noise Monitoring Report*” - Cardno
- > *Suncorp Stadium, Queen Concert February 2020 – Noise Monitoring Report*” - Cardno
- > *Suncorp Stadium, Guns ‘n’ Roses Concert November 2022 – Noise Monitoring Report*” – Cardno now Stantec

2 Noise Emission Criteria

It should be noted that the EPP (Noise) 1997, which forms part of the EPA 1994, has been superseded by the EPA 2019. However, the Environmental Protection and Other Legislation Amendment Act (No. 2) 2008 (EPOLA No. 2), allows for the previous criteria contained within the EPA 1994 to be retained for special events at Suncorp Stadium, in accordance with the MSFA Regulation (No 1) 2006. Therefore, the following assessment EPA 1994 criteria applies to amplified concert event noise emissions from the Stadium:

1.1 State Government EPA Criteria

The EPA criteria for “Special Events” is as follows:

Schedule 3A - Acoustic quality compliance for special events:

Acoustic quality compliance levels

- 1) *An acoustic quality compliance level is authorised for a special event if the level is equal to or less than at least 1 of the following*
 - a) *100 dB(A) Leq, measured at 15 minute intervals, measured at a point 50m directly in front of the front edge of the performance stage.*
 - b) *70 dB(A) Leq, measured at 15 minute intervals, measured at the locations mentioned in the Major Sports Facilities Regulation 2002, schedule 2, section 7(1).*
- 2) *To remove any doubt, it is declared that subsection (1) is satisfied even if the level measured is greater than 1 of the levels stated in the subsection.*

MSFA Regulation (No 1) 2006

'7

Noise

- 1) *During the event, including rehearsals and sound tests, the operator must ensure that the noise levels from the event are continuously monitored by a suitably qualified acoustic consultant at, or as near as practicable to, the following locations –*
 - > *8.5 Petrie Terrace, City*
 - > *15 Plunkett Street, Paddington*
 - > *(1)36 Judge Street, City*
 - > *(2)26 Princess Street, City*
 - > *31 Isaac Street, Milton*
- 2) *The operator must ensure the taking of the noise measurements complies with the Environmental Protection Agency’s Noise Measurement Manual.*
- 3) *During the event, including rehearsals and sound tests, the Authority must ensure that 1 of its employees or its agent –*
 - a) *is present at the sound mixing desk for the event and is able to exercise ultimate control on the noise levels from the sound amplification equipment; and*
 - b) *can conduct and communicate with all of the acoustic consultants conducting the monitoring of the noise levels from the event.*

Notes:

-
- (1) The original monitoring location in this area was 105 Hale Street. However, an alternative, nearby location has subsequently been selected. It was found from previous concerts, that 105 Hale Street was not an ideal monitoring site given the high levels of traffic noise incident on the site from Hale
-

Street. The traffic noise was found to affect the monitored levels, resulting in difficulty in determining compliance. Therefore, 36 Judge Street was selected as being close to the original location but further away from Hale Street, and therefore, less affected by road traffic noise.

- (2) **Attended monitoring was carried out at this location but unattended noise monitoring was carried out at 28 Princess Street, as access to 26 Princess Street was not available for logger placement for this concert.**

3 Noise Monitoring Methodology

3.1 Noise Monitoring Locations

Continuous noise monitoring was conducted within the stadium bowl to determine whether internal noise levels complied with MSFA criteria. External noise monitoring was also conducted at the following locations as required by the MSFA Regulation:

- > 8.5 Petrie Terrace
- > 15 Plunkett Street
- > 36 Judge Street
- > 26 Princess Street (Note: unattended monitoring was carried out at 28 Princess Street due to access issues with 26 Princess Street).
- > 31 Isaac Street

The above external locations relative to the stadium are shown in Appendix A.

Continuous noise monitoring was also conducted within the stadium bowl to provide correlation with external noise levels.

3.2 Monitoring Methodology

The event noise monitoring was conducted to provide a co-ordinated set of noise level data at the five MSFA external locations and inside the stadium. Noise level loggers were installed at locations 1, 2, 3, 4, 5, and inside the stadium bowl at the mixing console, which was located approximately 40 metres from the front of house loudspeakers.

Manual noise measurements were recorded using sound level meters at locations 1 to 5, and inside the stadium, to confirm the results of the noise loggers, identify any extraneous noise sources not associated with stadium noise emissions, and determine whether the criteria were being exceeded inside or outside the stadium.

There were line and sound checks and one concert providing intermittent audible noise emissions externally between 12:00 and 22:00 on 21 January 2023. Unattended noise monitoring was also carried out on the day before the concert to record representative daytime and evening ambient noise levels without any noise emissions from the stadium. These measurements recorded on 20 January have been included below for information.

The general schedule was as follows:

Saturday 21 January 2023

12:00 to 13:00	Backing tracks through the PA / Line checks / House PA
13:45 to 14:45	Backing tracks through the PA / Line checks / House PA
19:30 to 22:00	Main Act – “Elton John”

3.3 Instrumentation

Appendix B lists the instrumentation used for the noise monitoring. Calibration of all instrumentation was conducted before and after the measurement session with no significant (less than +/- 0.5 dB(A) drift in calibration noted.

All noise logger clocks were synchronised with the noise logger installed in the stadium to ensure a coherent set of measurement data.

1.2 Weather Conditions

Appendix C lists the weather conditions during the measurement session. The weather conditions were fine with no rain. There was a slight to moderate breeze on 21 January predominantly from the E & SE during the line, sound checks and concert.

4 Noise Monitoring Results

The results from the noise monitoring for 21 January 2023 are shown graphically in Figure 4-1 to Figure 4-5 below. The charts show the following information:

- > Noise levels measured in the stadium in terms of LAeq, 15min, on 21 January or the equivalent continuous noise level during each 15-minute sample period.
- > Noise levels at each external location in terms of LAeq, 15min noise levels on 20 & 21 January.
- > The LAeq,15 min relevant noise goal.

Figure 4-1 External Noise Measurements - Site 1, 6/8 Petrie Terrace

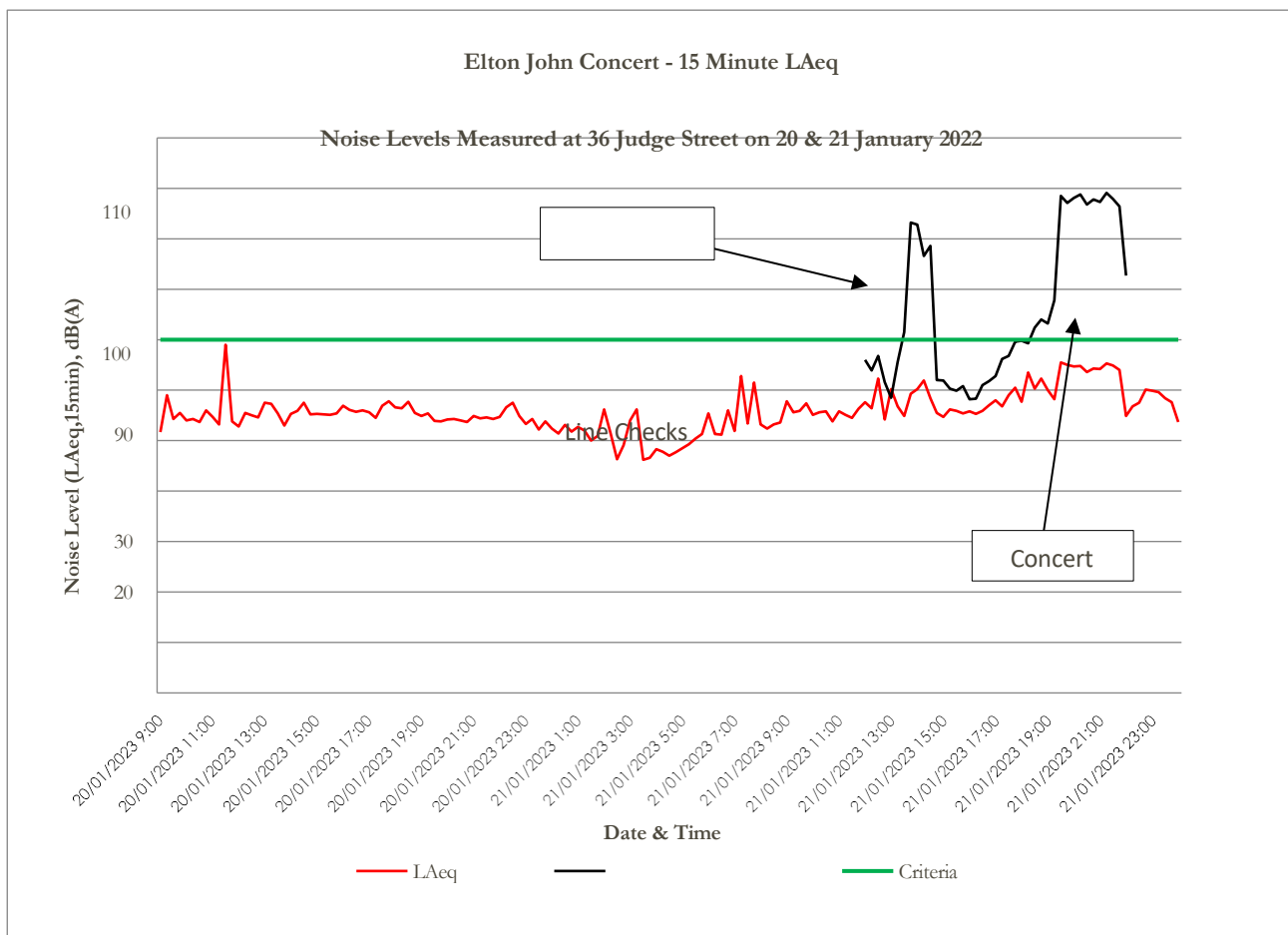


Figure 4-2 External Noise Measurements - Site 2, 15 Plunkett Street



Noise Level (LAeq,15min), dB(A)

Figure 4-3 External Noise Measurements - Site 3, 36 Judge Street

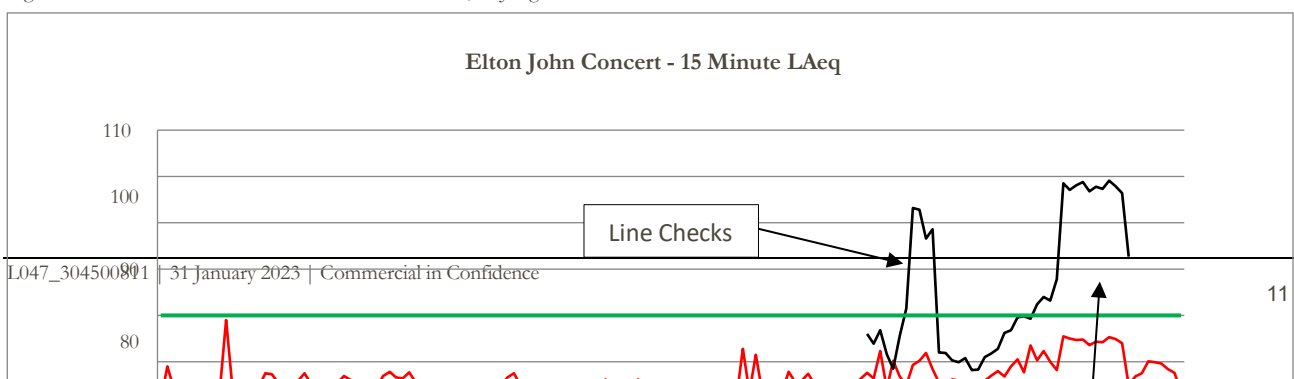
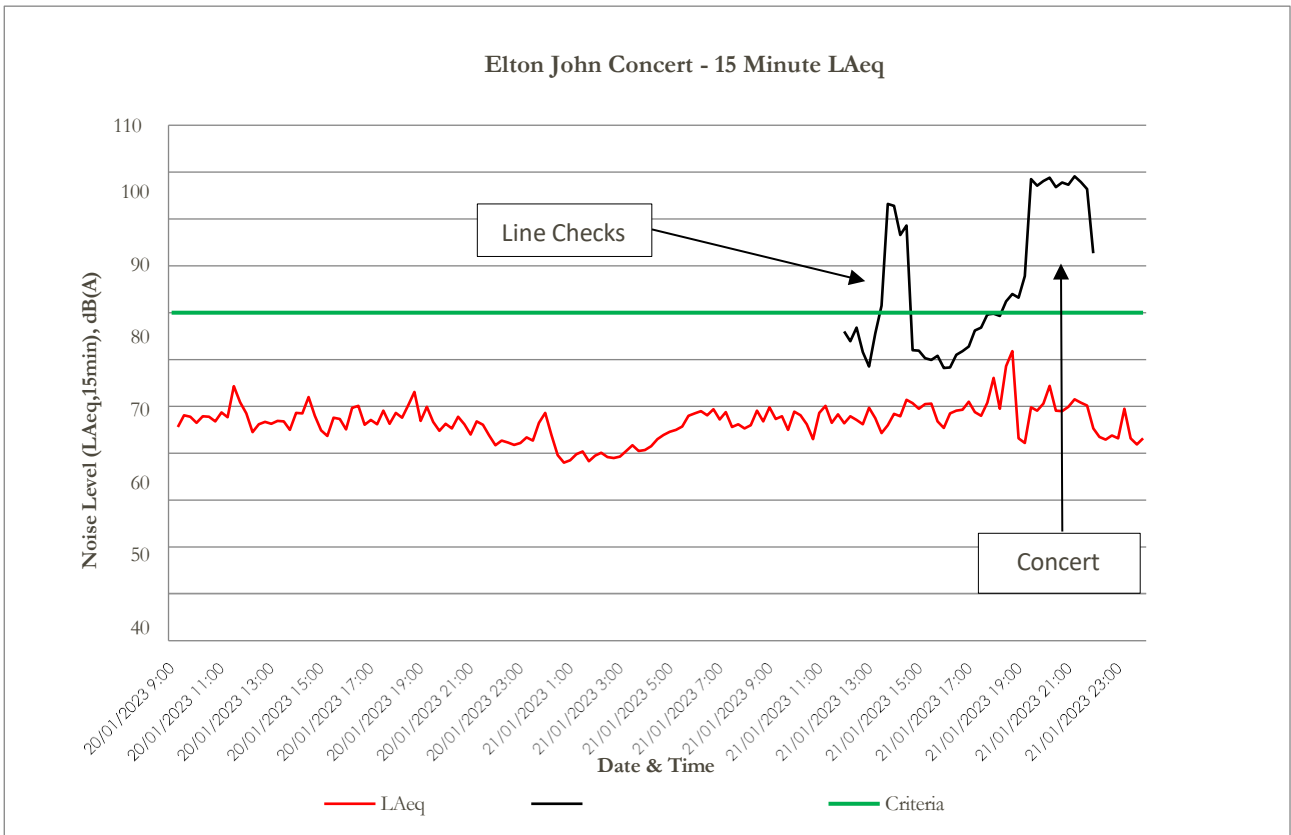
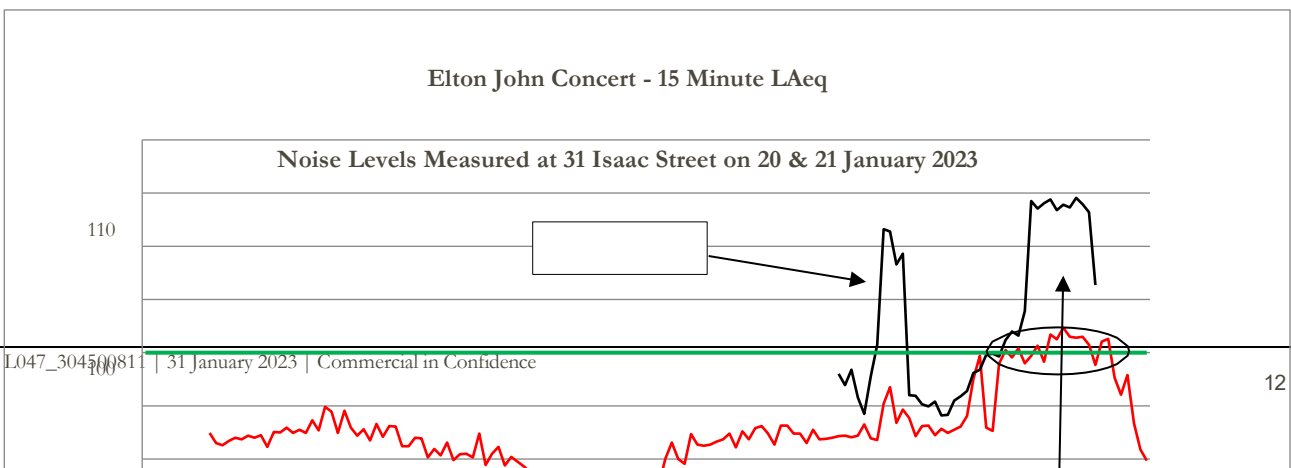


Figure 4-4 External Noise Measurements - Site 3, 28 Princess Street



Sound Pressure Level dB(A)

Figure 4-5 External Noise Measurements - Site 3, 31 Isaac Street



The above graphs indicate that the noise levels measured externally were generally independent of the sound check noise levels inside the stadium at Princess and Plunkett Street but dependent on the Stadium noise level at the locations closest to the Stadium (Locations 1, 3 and 5). However, observations during the concert indicated that measured noise levels at 31 Isaac Street were highly affected by occupancy noise from the residents of 31 Isaac Street having a party on the veranda in proximity to the unattended monitoring device. Attended measurements recorded at the same distance from the stadium (2 dwellings away) but outside the radius of influence of the occupancy noise confirm this.

The concert was audible at all locations during the line checks and the concert. There were loud levels of ambient noise noted at some of the locations that included mechanical plant, fauna, residential occupancy noise (as detailed above) and local traffic, which were not associated with noise emissions from the stadium, particularly at Princess and Isaac Street.

It was noted that there were light to moderate east / south easterly wind conditions, during the day of the concert. This may have slightly increased the noise emissions from the stadium to the west and north west of the stadium during the sound checks and concert.

The unattended measurements recorded were observed to vary considerably as can be seen in Figure 4-1 to Figure 4-5. This was generally observed to be due to a combination of concert and ambient noise, during the soundchecks and the concert, at the locations closest to the stadium. Additional ambient conditions that could have potentially affected the external noise measurements were noted at each site and are detailed below in Table 1-1.

Table 1-1 Summary of External Site Measurement Conditions

Site		Measurement Conditions
1	8.5 Petrie Tce	Road traffic on Petrie Terrace and Hale Street was the primary sources of ambient noise during the day. Crowd noise from the stadium and the concert and sound checks (primarily guitar and vocals) were clearly audible during the concert and were the primary source of noise once the roads in the surrounding area had been closed.
2	15 Plunkett St	Concert mostly faintly audible, clearly audible at times. Vocals were faintly audible during the sound check and clearly audible during the concert. Crowd was audible. Ambient noise consisted of regular traffic pass-bys on Dowse Street and local road traffic on Plunkett Street. Bats and distant traffic on Given Terrace was the main source on noise in the absence of local traffic.
3	36 Judge St	Concert and sound checks were clearly audible at this location. Distant hum of traffic from Hale Street and Caxton Street, and car pass-bys on Judge Street were the main noise sources in addition to concert noise from the stadium. Some continuous plant noise from nearby licensed premises was also continuously audible throughout the monitoring period.
4	26 Princess St	Concert was inaudible during the line checking period. During the concert, concert and crowd noise were faintly audible. Primary source of noise at this location was distant traffic noise and car pass- bys on Princess Street.
5	31 Isaac St	Concert and sound checks were clearly audible at this location. However, road traffic noise on Isaac Street and noise from occupants of 31 Isaac Street was the main source of noise during the concert with one or two aircraft / helicopter flyovers during the sound check.

5 Analysis

Table 1-2 summarises the unattended measured (logger) LAeq, 15min noise levels for the line checks and concert. Measurements were recorded at all times during the line checks and concert when music was audible outside the Stadium.

The LAeq, 15min event noise levels reported below in Table 1-2 are based on an analysis of the noise logger data measured at the monitoring locations. Supplementary manual measurements were also carried out at these locations (Table 1-3) and generally agreed with those recorded by the loggers.

Table 1-2 Continuous Logger LAeq,15min Noise Levels, 21 January 2023, Line & Sound Checks & Concert

Date	Time (recorded Previous 15 Minutes)	Sound Checks & Concert					
		Inside Stadium	8.5 Petrie Terrace	15 Plunkett Street	36 Judge Street	26 Princess Street	31 Isaac Street
Criteria		100	70	70	70	70	70
21/01/2023	12:15	66	57	56	58	46	54
21/01/2023	12:30	64	58	55	56	48	54
21/01/2023	12:45	67	61	57	62	47	54
21/01/2023	13:00	62	59	59	54	46	54
21/01/2023	13:15	59	59	61	60	50	57
21/01/2023	13:30	66	57	58	57	48	54
21/01/2023	13:45	72	58	57	55	44	54
21/01/2023	14:00	93	61	56	59	46	60
21/01/2023	14:15	93	62	59	60	48	64
21/01/2023	14:30	87	62	56	62	48	57
21/01/2023	14:45	89	61	59	58	51	59
21/01/2023	15:00	62	59	55	56	51	58
21/01/2023	15:15	62	60	60	55	50	54
21/01/2023	15:30	60	59	57	56	51	56
21/01/2023	15:45	60	60	58	56	51	56
21/01/2023	16:00	61	57	58	55	47	55
21/01/2023	16:15	58	57	61	56	45	56
21/01/2023	16:30	58	60	58	55	49	55
21/01/2023	16:45	61	66	61	56	49	56
21/01/2023	17:00	62	60	56	57	49	56
21/01/2023	17:15	63	57	56	58	51	58
21/01/2023	17:30	66	59	59	57	49	65
21/01/2023	17:45	67	56	58	59	48	69
21/01/2023	18:00	70	65	58	61	51	56
21/01/2023	18:15	70	60	53	58	56	55
21/01/2023	18:30	69	59	55	64	50	*68
21/01/2023	18:45	72	59	58	60	59	*71
21/01/2023	19:00	74	60	63	62	62	*69
21/01/2023	19:15	73	70	57	60	43	*71
21/01/2023	19:30	78	55	50	58	42	*68
21/01/2023	19:45	99	66	58	66	50	*69
21/01/2023	20:00	97	64	56	65	49	*71
21/01/2023	20:15	98	65	58	65	51	*68
21/01/2023	20:30	99	66	60	65	54	*73
21/01/2023	20:45	97	64	57	64	49	*73
21/01/2023	21:00	98	65	58	64	49	*75

21/01/2023	21:15	97	65	57	64	50	*73
21/01/2023	21:30	99	66	59	65	52	*73
21/01/2023	21:45	98	65	57	65	51	*73
21/01/2023	22:00	96	65	58	64	50	*72
21/01/2023	22:15	83	57	51	55	45	*68

*Noise level affected by ambient sources and not related to concert noise

Table 1-3 Manually Recorded $L_{Aeq,15min}$ Noise Levels, 21 January 2023– Line Checks & Concert

Date	*Time (recorded Previous 15 Minutes)	Sound Checks & Concert					
		Inside Stadium	8.5 Petrie Terrace	15 Plunkett Street	36 Judge Street	**26 Princess Street	31 Isaac Street
Criteria		100	70	70	70	70	70
13/02/2020	12:15	-	53	-	-	-	54
13/02/2020	12:30	-	53	-	-	-	57
13/02/2020	12:45	56	-	-	-	-	56
13/02/2020	13:00	64	54	-	-	-	58
13/02/2020	13:15	56	-	-	-	-	-
13/02/2020	13:30	-	-	-	-	-	-
13/02/2020	13:45	-	-	-	-	-	-
13/02/2020	14:00	88	55	-	-	-	54
13/02/2020	14:15	89	61	-	-	-	60
13/02/2020	14:30	92	65	-	-	-	59
13/02/2020	14:45	86	-	-	64	-	-
13/02/2020	15:00	89	-	54	-	-	-
13/02/2020	15:15	-	-	54	-	-	-
13/02/2020	15:30	-	-	-	-	-	-
13/02/2020	15:45	-	-	-	-	-	-
13/02/2020	16:00	-	-	-	-	-	-
13/02/2020	16:15	-	-	-	-	-	-
13/02/2020	16:30	-	-	-	-	-	-
13/02/2020	16:45	-	-	-	-	-	-
13/02/2020	17:00	-	-	-	-	-	-
13/02/2020	17:15	-	-	-	-	-	-
13/02/2020	17:30	-	-	-	-	-	-
13/02/2020	17:45	-	-	-	-	-	-
13/02/2020	18:00	-	-	-	-	-	-
13/02/2020	18:15	70	-	-	-	-	-
13/02/2020	18:30	71	-	56	-	-	-
13/02/2020	18:45	69	-	55	-	-	-
13/02/2020	19:00	72	-	-	63	-	-
13/02/2020	19:15	73	-	-	62	-	59
13/02/2020	19:30	76	-	-	-	-	60
13/02/2020	19:45	97	-	-	66	-	-
13/02/2020	20:00	95	-	-	65	-	65
13/02/2020	20:15	96	-	-	63	-	62
13/02/2020	20:30	98	-	-	64	-	-
13/02/2020	20:45	96	-	57	-	-	-
13/02/2020	21:00	97	66	58	-	-	-
13/02/2020	21:15	96	65	-	-	-	62
13/02/2020	21:30	98	66	-	-	-	60
13/02/2020	21:45	97	67	-	-	-	-
13/02/2020	22:00	97	-	-	-	-	-
13/02/2020	22:15	83	-	-	-	-	55

*Approximate time period for comparison purposes. The 15-minute measurement period was generally within 1-4 minutes of the stated times.

**Attended measurements were not able to be recorded at this location during the concert due to road closures.

We understand that one complaint was received on the concert day from 68 Upper Cairns Terrace, Paddington, towards the end of the concert. A measurement was recorded at this

location during the concert at 21:30 to 21:40 and the measured level was found to be 46 dB(A) which was well below the external noise criteria.

The above results indicate that all internal measurements recorded within the stadium for the duration of the event, complied with the 100 dB(A) EPA “Special Events” internal LAeq,15 min noise criteria, for all time periods.

Measured noise levels associated with the sound checks and concerts complied with the EPA “Special Events” external noise criteria of LAeq,15min 70 dB(A) at all external locations throughout the sound checks and the concerts for all time periods, with the exception of Isaac Street during the concert. However, exceedances were the result of occupancy noise at 31 Isaac Street rather than from concert noise.

It was noted that there were light to moderate east / south easterly wind conditions, during the line checks and the concert which is likely to have influenced the noise emissions from the stadium to sound louder than usual to the north and west of the stadium.

6 Conclusion

Noise emissions were monitored in accordance with the specified MSFA Regulation and EPP (Noise) 1997 requirements.

Concert noise emissions from Suncorp Stadium measured during the Elton John line checks and concert on 21 January 2023, indicated compliance with the MSFA Regulation for all the external noise monitoring sites for all time periods.

Noise emissions from the Elton John production inside the stadium complied with the internal EPP criteria for the duration of the concert and line checks at the stadium internal monitoring location.

* * * * *

Suncorp Stadium – Elton John
Concert, January 2023

APPENDIX

A

EXTERNAL MEASUREMENT
LOCATIONS

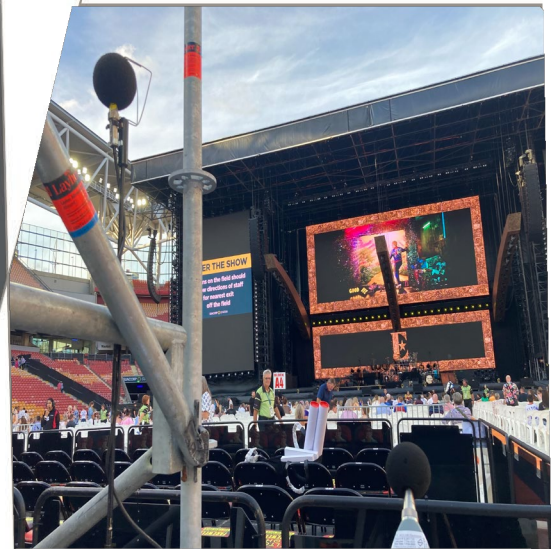


Figure A-1 External Measurement Locations



Suncorp Stadium – Elton John
Concert, January 2023

APPENDIX

B

INSTRUMENTATION

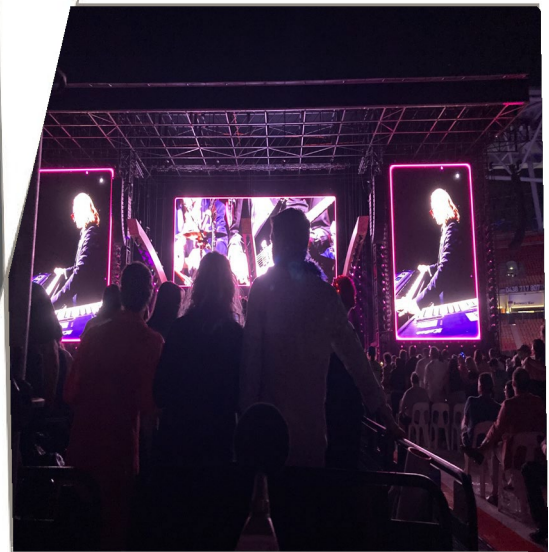


Table B1 Instrumentation

Site		Noise Logger	Serial No.	Sound Level Meter	Serial No.
Sound Level Meters & Loggers					
-	Stadium Bowl	Rion NL-21	00365350	Rion NA-28	00101280
1	6/8 Petrie Terrace	Rion NL-21	00509345	Rion NL-21	00101271
2	15 Plunkett Street	Rion NL-21	00877035	Rion NA-21	00276274
3	36 Judge Street	Rion NL-21	00509343	Rion NL-21	00101271
4	26 Princess Street	Rion NL-21	00509346	Rion NL-21	00101271
5	31 Isaac Street	Rion NL-21	00954854	Rion NA-28	00276274
Calibrators					
		Rion NC-74	34504750		
		WCM 94-114	10089825		
		Rion NC73	10692139		

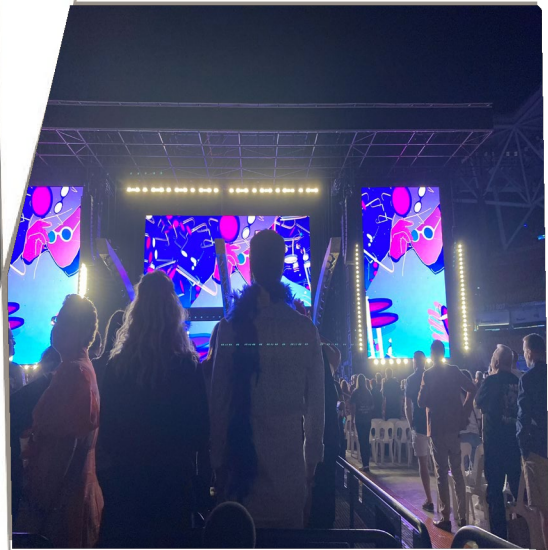
All items- of equipment used for this project hold current NATA Calibration certificates.

Suncorp Stadium – Elton John
Concert, January 2023

APPENDIX

C

DETAILED WEATHER CONDITIONS



Weather Conditions – 21 January 2023

Table C1 Brisbane Weather Conditions – Saturday, 21 January 2023

Date & Time	Temp °C	Humidity %	Wind Speed m/s	Wind Direction	Rain 10 min mm
20/01/2023 0:30	23.9	74	2.4	S	0.0
20/01/2023 1:00	22.6	84	0.9	WSW	0.0
20/01/2023 1:30	22.2	88	0.6	N	0.0
20/01/2023 2:00	22.1	90	0.9	SW	0.0
20/01/2023 2:30	21.9	92	1.3	SW	0.0
20/01/2023 3:00	21.8	92	1.7	SSW	0.0
20/01/2023 3:30	21.5	90	2.0	SSW	0.0
20/01/2023 4:00	21.3	90	1.1	SSW	0.0
20/01/2023 4:30	21.1	90	1.1	WSW	0.0
20/01/2023 5:00	21.1	90	1.1	WSW	0.0
20/01/2023 5:30	21.3	90	1.5	SSW	0.0
20/01/2023 6:00	21.5	89	1.7	SSW	0.0
20/01/2023 6:30	21.8	87	1.7	S	0.0
20/01/2023 7:00	21.7	87	1.3	S	0.0
20/01/2023 7:30	21.5	90	1.7	S	0.0
20/01/2023 8:00	21.7	89	2.1	SSE	0.0
20/01/2023 8:30	22.1	88	1.6	SE	0.0
20/01/2023 9:00	23.0	84	1.1	ESE	0.0
20/01/2023 9:30	23.9	78	1.7	SE	0.0
20/01/2023 10:00	24.7	72	1.2	ESE	0.0
20/01/2023 10:30	24.1	74	1.2	NNE	0.0
20/01/2023 11:00	24.0	76	1.2	NE	0.0
20/01/2023 11:30	24.4	75	0.9	NNE	0.0
20/01/2023 12:00	25.1	74	0.9	NE	0.0
20/01/2023 12:30	26.6	59	1.9	SE	0.0
20/01/2023 13:00	27.2	54	2.5	SE	0.0
20/01/2023 13:30	27.7	53	2.7	ESE	0.0
20/01/2023 14:00	27.6	53	3.1	E	0.0
20/01/2023 14:30	27.0	57	3.4	ESE	0.0
20/01/2023 15:00	27.1	56	3.2	ESE	0.0
20/01/2023 15:30	26.9	56	4.4	ESE	0.0
20/01/2023 16:00	24.8	62	4.3	SE	0.0
20/01/2023 16:30	24.5	60	4.7	SE	0.0
20/01/2023 17:00	24.5	59	3.2	SE	0.0
20/01/2023 17:30	24.3	61	3.8	ESE	0.0
20/01/2023 18:00	24.3	59	5.0	SE	0.0
20/01/2023 18:30	24.2	61	3.1	SE	0.0
20/01/2023 19:00	24.1	61	2.0	SE	0.0
20/01/2023 19:30	24.0	62	2.1	ESE	0.0
20/01/2023 20:00	23.9	63	1.8	ESE	0.0
20/01/2023 20:30	23.7	61	2.1	SE	0.0
20/01/2023 21:00	23.3	61	2.1	SSE	0.0
20/01/2023 21:30	23.1	62	1.7	SSE	0.0
20/01/2023 22:00	22.7	64	1.3	SSE	0.0
20/01/2023 22:30	22.6	64	1.4	SSE	0.0
20/01/2023 23:00	22.6	63	2.5	SSE	0.0
20/01/2023 23:30	22.2	63	0.9	SE	0.0
21/01/2023 0:00	21.7	65	1.6	SSE	0.0
21/01/2023 0:30	21.3	65	0.7	S	0.0
21/01/2023 1:00	21.1	65	1.3	SE	0.0
21/01/2023 1:30	20.7	67	1.1	S	0.0

21/01/2023 2:00	20.4	70	1.3	SW	0.0
21/01/2023 2:30	19.9	73	1.3	SW	0.0
21/01/2023 3:00	19.7	75	1.1	SW	0.0
21/01/2023 3:30	19.6	76	1.1	SW	0.0
21/01/2023 4:00	19.5	76	0.7	SW	0.0

Date & Time	Temp °C	Humidity %	Wind Speed m/s	Wind Direction	Rain 10 min mm
21/01/2023 4:30	19.3	76	1.3	SW	0.0
21/01/2023 5:00	19.2	77	1.1	SW	0.0
21/01/2023 5:30	19.3	76	1.5	SW	0.0
21/01/2023 6:00	19.4	76	0.9	SW	0.0
21/01/2023 6:30	20.4	72	1.8	SW	0.0
21/01/2023 7:00	21.3	69	1.8	SW	0.0
21/01/2023 7:30	22.5	64	1.6	SSW	0.0
21/01/2023 8:00	24.0	60	2.2	S	0.0
21/01/2023 8:30	24.8	54	2.3	SSE	0.0
21/01/2023 9:00	25.6	54	2.3	SSE	0.0
21/01/2023 9:30	26.5	50	2.6	SSE	0.0
21/01/2023 10:00	27.0	48	2.7	SE	0.0
21/01/2023 10:30	26.8	47	2.3	SSE	0.0
21/01/2023 11:00	27.5	46	3.1	SE	0.0
21/01/2023 11:30	28.1	46	2.9	SE	0.0
21/01/2023 12:00	28.1	46	2.5	SE	0.0
21/01/2023 12:30	28.1	46	3.1	ESE	0.0
21/01/2023 13:00	28.1	46	3.3	ENE	0.0
21/01/2023 13:30	28.2	48	3.8	ESE	0.0
21/01/2023 14:00	27.5	49	3.8	E	0.0
21/01/2023 14:30	28.2	48	4.5	E	0.0
21/01/2023 15:00	28.1	48	3.6	E	0.0
21/01/2023 15:30	27.5	50	4.6	E	0.0
21/01/2023 16:00	27.0	51	4.7	E	0.0
21/01/2023 16:30	26.9	50	3.8	E	0.0
21/01/2023 17:00	26.5	51	5	E	0.0
21/01/2023 17:30	25.6	52	4.2	ESE	0.0
21/01/2023 18:00	25.0	58	4.2	ESE	0.0
21/01/2023 18:30	24.3	62	3.1	ESE	0.0
21/01/2023 19:00	23.7	63	2.1	E	0.0
21/01/2023 19:30	23.3	67	1.7	ESE	0.0
21/01/2023 20:00	23.1	69	2.1	ESE	0.0
21/01/2023 20:30	23.0	70	1.9	ESE	0.0
21/01/2023 21:00	22.8	70	1.9	SE	0.0
21/01/2023 21:30	22.6	69	1.5	SE	0.0
21/01/2023 22:00	22.4	69	0.7	SSE	0.0
21/01/2023 22:30	22.2	69	0.9	SSE	0.0
21/01/2023 23:00	22.0	69	0.9	SSE	0.0
21/01/2023 23:30	21.6	71	0.4	S	0.0
22/01/2023 0:00	21.3	72	0.6	S	0.0