








Sound Management Plan

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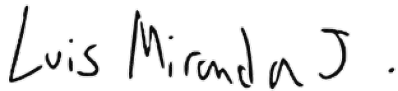
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A. Introduction

This document is the Sound Management Plan for  to be held within the grounds of Sydney Olympic Park. The event includes a number of stages and areas that will be used for the show's filming. The areas will include live audiences at times. The purpose of this plan is to ensure that the event does not produce adverse effects on nearby residents while at the same time providing the best experience to the audience.


Should there be any questions about this document, please don't hesitate to contact me.

Yours sincerely,



Luis Miranda Jofre PhD
Senior Consultant
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A.1 Purpose of the Sound Management Plan

The purpose of the Sound Management Plan is to minimise the impact of noise produced by the activities associated with the production of . The Sound Management Plan provides the guidelines to be followed by the event's organisers working with the authorities and Sydney Olympic Park representatives.

A.2 Site information

The area of interest is shown below. The main locations where noise could occur are shown in green. The nearest potentially affected receivers are shown in blue.




The production sites shown in green are the White Pavilion, McIntosh Pavilion, Schmidt Arena and Hordern Arena. Please refer to additional submitted information for additional details.

In terms of noise sensitive receivers, the site shown to the northwest are residences in the Newington area, primarily located on Pearce Avenue and Nurmi Avenue and with directly facing Haslams Creek. The buildings highlighted to the southeast are the Novotel Sydney Olympic Park and Ibis Sydney Olympic Park. These sites are approximately 650 m away from the nearest sound source.

A.2.1 Site assessment

We have conducted a noise assessment of the site to understand the existing background noise levels and their characteristics. Measurements were carried out on the evening and night periods of the 27th and 28th of April, 2022.

For the site of interest to the south of the production site (Ibis and Novotel hotels), we found an RBL of 51 dBA during the evening period and an RBL of 48 dBA during the night period. We note that this area is heavily influenced by noise of local traffic and local businesses. We further note that the site is separate by several buildings from possible noise sources from the production. We do not envision that sound from the production will result in annoyance at this location.

For the site of interest to the north of the production site (Newington primarily along Haslams Creek), we found an RBL of 44 dBA for the evening period and 40 dBA for the night period. This is contrasted with the RBL as measured in the previous edition's Noise Management Plan titled *Noise Management Plan – Endemol Shine*  prepared by Gardiner Stuckey Acoustical Services. The levels have risen by 1 dB compared to the previous year, likely caused by increased activity from fewer lockdown restrictions.

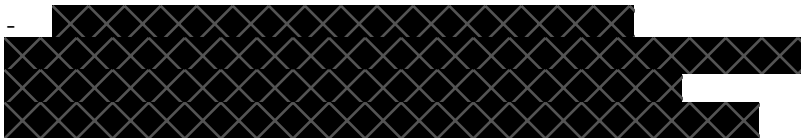
B. Project overview

The project's primary activity period is the filming of the show. All activities scheduled serve this primary purpose. The filming period primarily occurs indoors within the White Pavilion and McIntosh Pavilion. Additional outdoor filming occurs in the Schmidt Arena. [REDACTED] additional outdoors filming will occur with an audience present and would occur in the Hordern Arena area. The show records the participants continuously throughout the filming period. However, there is no significant noise associated to this when happening indoors and the risks of noise when filming outdoors can be mitigated.

The schedule of the show includes a set build period, a rehearsal period, a filming period and a de-rig period. Sound from activities from these different periods will differ and are treated differently.

B.1 Schedule

The tentative schedule for the show is indicated below (subject to change):



B.2 Primary sources of noise

The primary sources of noise from the event can be categorised as follows:

- Noise from indoor production activities. This is the noise associated with the filming of the show and associated rehearsals. Possess a very low risk. These include equipment noise, communications between the crew and noise from participants.
- Noise from outdoor production activities. This is noise from activities related to the show but occurring outdoors. There is an increased risk compared to indoor activities; however, the activities are still conducted at a low level and unlikely to yield any issues at sensitive receivers.
- Noise from PA. A small PA is in use sparsely in the outdoor areas. This includes the Schmidt Arena. A PA is in use in the Hordern Arena when filming with an audience. This is also a small PA.
- Drone noise. Some noise from drones in the area when drones are in use can be expected. This noise sources are transitory and at a long distance from nearby sensitive receivers. Drones are flown exclusively over the showground's land and are only flown prior to 11 PM.
- Noise from plant. Plant items such as generators and air condition units can be expected. Distance to the receivers and the size of the production and plant items required makes this a low risk item.
- Crowd noise. Some crowd noise on [REDACTED] could be expected. [REDACTED] with a crowd only occurs once during the filming period and would finish prior to 11 PM.

C. Sound mitigation strategies

There are two primary means to limit the impact of noise to sensitive receivers: by limiting the noise levels and by limiting the time when it occurs. These two mechanisms are used to ensure that the amenity of nearby residents is preserved.

An important point should be made that is that none of the noise sources used in the production of the show produce high levels. There is no large PA in use which could produce very high levels. Similarly, the construction methods for the set do not involve large or noisy machinery typically associated with larger construction sites.

C.1 Operational hours

The following operational hours are projected for the production of the show:

- Set building – 7AM to 7 PM
- Indoor filming (primarily White and McIntosh Pavilions) – 24 hours
- Outdoor filming (primarily Schmidt Arena and Hordern Arena) – 7 AM to 7 PM with additional considerations for extended hours if complying with additional recommendations as set below
- Rehearsals – 7AM to 10 PM

C.2 Noise level restrictions

The proposed level limits for the production are based on best practice limits used for limiting noise from developments and contained in the NSW Noise Policy for Industry. We have also reviewed the Environmental Guidelines Sydney Olympic Park 2008 and understand the objectives outlined in that document.

The maximum permissible levels are based on the existing background noise in the area. The existing background noise or Rating Background Level (RBL) is described by the L_{AF90} descriptor. The maximum permissible levels to limit annoyance would be the RBL + 5 dB when measured as an $L_{Aeq(15min)}$ and an RBL + 15 when measured as an L_{Amax} . The first number aims to protect the general amenity while the second number aims to limit sleep disturbances. Please note that this is the strategy used in previous sound management plans for the production in the same location.

The proposed level limits for the production, based on the levels include in section A.2.1, are:

Location	Time	Maximum Level
Newington	Evening (7 PM to 10 PM)	$L_{Aeq(15min)}$ 49
Newington	Night (10 PM to 7 AM)	$L_{Aeq(15min)}$ 45 L_{Amax} 55

It is not envisioned that these levels will be breached during normal operations (i.e. indoor filming, bump in, bump out, etc.) during the day time period. To ensure that the amenity of residential areas during the filming period is preserved, particularly during the evening and night time periods, we would propose a test to provide assurance that these levels will not be breached.

C.2.1 Operational noise test

The main filming activities occurring outdoors are participant challenges occurring at Schmidt Arena. The Arena is fitted with a small PA, primarily used for addressing the participants and exclusively used for voice announcements. This would be the primary noise source from the venue. Additional lower level noise is produced by cast and crew.

To demonstrate compliance with the targets above, a test will be performed either with a fully operational system prior to the first outdoor filming session or during the first filming session at the periods of concern. The test will entail a set of measurements while the activities are taking place during the evening and/or night time

periods as required in the area that could be impacted (i.e. Newington and in particular residences next to Haslams Creek). Results to be presented to the Sydney Olympic Park Authority. While we note that no complaints have been received previously and we do not envision that the filming activities will have an impact on the residents, this test provides an additional safeguard to ensure noise from filming does not have an adverse impact.

C.3 Additional strategies

The following additional strategies should be implemented to ensure that noise from the production is minimised:

- The use of distributed PA is encouraged. Small clusters or single loudspeakers closer to the audience are preferred to large clusters further from the audience. The design of the PA should be considered so that loudspeakers are not facing sensitive receivers as feasibly as possible.
- Levels of the PA to be managed to provide an adequate experience but considering sensitive receivers. If in doubt and outside of the 7 AM to 7 PM period, checks should be conducted to ensure compliance at the location of sensitive receivers and the noise restrictions set out in this plan. Please see the note on compliance test.
- Noise from crowds to be limited to the 7 AM to 11 PM period. Please note that this is a one-time occurrence.
- Noise from drones to be limited to the 7 AM to 11 PM period. Drones to be flown only above the showgrounds land.
- Ensure that all buildings that are in use 24 hours are sealed acoustically as feasibly possible. Note that limiting noise to the exterior has the additional benefit of limiting noise to the interior providing a more comfortable environment to participants and crew.
- Set building and de-rig to occur within the hours proposed in the scheduling section.
- That all feasible and reasonable measures are taken to decrease operation times of machinery that produces high sound pressure levels.
- That all feasible and reasonable measures are taken to minimise activities that can produce noise. Examples of this are scaffolding construction and truck load in and outs.
- In regards to mechanical services, it is recommended that all generators are baffled and fitted with silencers. Equipment operation times shall be restricted to the times when this services are required by the event. Please note that generators are only in use in the case of a power failure.

C.4 Considerations from previous editions and reporting

It should be noted that there have been no complaints associated to noise in previous editions of the production. The configuration and activities are the same as in previous series and it should be expected that the impacts will remain the same.

Should any complaints arise, these are to be logged and included in future planning for the production. Communication of complaints should they occur between the Sydney Olympic Park Authority and the production is of paramount importance for future planning of the event.