

|| January 2024 || Version 1.1 ||

# Noise Management Strategy

Highlights

Barking Park, Barking

31<sup>st</sup> May – 2<sup>nd</sup> June 2024



**JOYNES NASH**  
ACOUSTIC CONSULTANTS

Client Percolate  
Date: 31<sup>st</sup> January 2024  
Author: Peter Nash  
Status: Client Draft  
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Signature:



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## About The Team

Peter Nash BSc(Hons), MSc, CEnvH, MCIEH, MIOA, TechIOSH

Peter Nash has 16 years' experience as a Local Authority Environmental Health Officer, up to Technical Manager Level and has 15 years of Professional Practice within the Environment Industry. He holds a BSc(Hons) in Environmental Health, the IOA Diploma in Acoustics and Noise Control and an MSc in Applied Acoustics. He is a Chartered Environmental Health Practitioner and registered with the Environmental Health Registration Board. Peter is a Member of the Chartered Institute of Environmental Health, and a Member of the Institute of Acoustics. He has appeared as an expert witness in a number of significant noise nuisance and planning cases, public inquiries and appeals.

Simon Joynes BSc(Hons), MSc, CEnvH, MCIEH, AMILM, AMIOA

Simon Joynes has over 20 years' experience in both Private Sector and Local Government. He has acted as a senior advisor and has significant experience in the technical aspects and practical application of environmental law, including acting as an expert witness in courts and planning enquiries and the preparation and reviewing of environmental reports and mitigation strategies. (Air Quality, Land Contamination, Acoustics, Water Quality, Odour Management & Industry Regulation). He holds a BSc (Hons) Environmental Health, MSc in Contaminated Land Remediation, the IOA Diploma in Acoustics and Noise Control, Certificates of Competence Environmental Impact Assessments. He also holds affiliations with the Chartered Institute of Environmental Health, the Institute of Acoustics and is an Associate Member of the Institute of Leadership and Management.

## An introduction to Joynes Nash

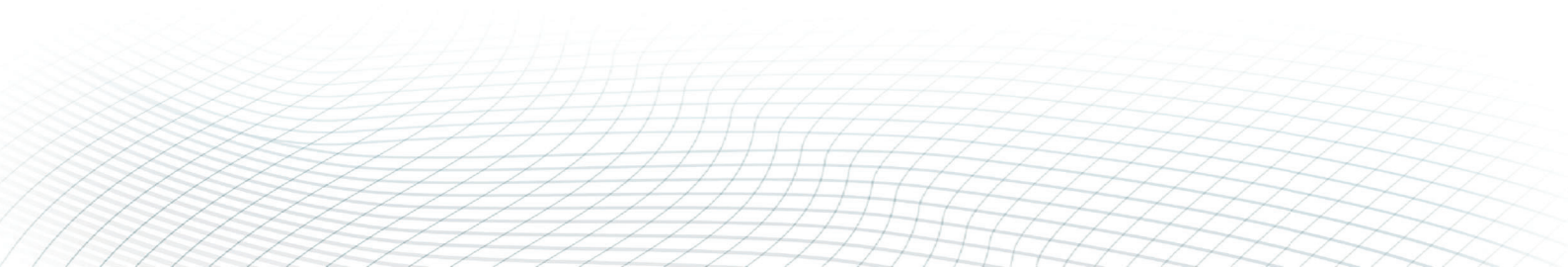
Joynes Nash is a leading consultancy for the live events industry. We have extensive experience of live music events and a proven track record of working with event organisers to enhance the audience's experience, whilst preserving the image of events and venues.

Our consultants experience has ranged from relatively small scale to major events staged both in urban and residential environments, providing for tens of thousands of people. Projects and clients have included Junction 2, Carfest (North and South), Garage Nation Festival, BBC Introducing, Guards Polo Club, Tramlines Festival, Liverpool Sound City, Red Bull Music Academy. We are also responsible for looking after the interests of venues such as Donington Park Racing Circuit, Saracens Rugby Club and Tobacco Dock with respect to live events.

We consider despite the many technical challenges that events bring, that relationships between all interested parties are of paramount importance and that each and every one of these understands situations clearly. We therefore approach each event not in isolation, but carefully consider the public image of events, the venues and the thoughts of the wider community to make events successful and to secure venues for future years.

## Contents

1.	Introduction.....	- 1 -
2.	About the Noise Management Strategy.....	- 1 -
3.	Event Outline.....	- 1 -
4.	Site Context.....	- 1 -
5.	Premises Licences.....	- 2 -
6.	Permitted Noise Levels.....	- 2 -
7.	Predicted Noise Levels.....	- 3 -
8.	Sound System Design and Setup.....	- 6 -
9.	Sound Check and Rehearsals.....	- 6 -
10.	Noise Control Monitoring.....	- 7 -
11.	Procedure for Responding to and Dealing with complaints.....	- 7 -
12.	Noise Management Resource.....	- 8 -
13.	Local Authority Liaison.....	- 8 -
14.	Post Event Reporting.....	- 9 -
15.	Setting Up, Dismantling of Venues.....	- 9 -
16.	People and Crowd Noise.....	- 9 -
17.	Conclusion.....	- 9 -



## 1. Introduction

Joynes Nash has been tasked to consider the approach to noise management, for a High Lights Festival at Barking Park, Barking in 2024.

## 2. About the Noise Management Strategy

The event promoters and their advisors are committed to proactively manage noise and have successfully held events of a similar nature for many years throughout the UK. This Strategy looks to consider the feasibility of the venue, outline mechanisms for the control of noise during any event, ensure that any event accords with relevant guidance, does not cause a Public Nuisance and ensure that mechanisms are in place to effectively manage complaints.

## 3. Event Outline

Highlights is a 7,000 capacity two stage electronic dance music festival, looking to be held for the first time in 2024. The event will run from the 31<sup>st</sup> May – 2<sup>nd</sup> June 2024. The operating hours for Regulated Entertainment will be 12:00 – 22:30 (22:00 on Sunday).

The event is a Percolate Event, Percolate have run music events across London over the last 10 years in a number of the largest dance music venues within the city with their own dedicated festival previously taking place at 3 Mills.

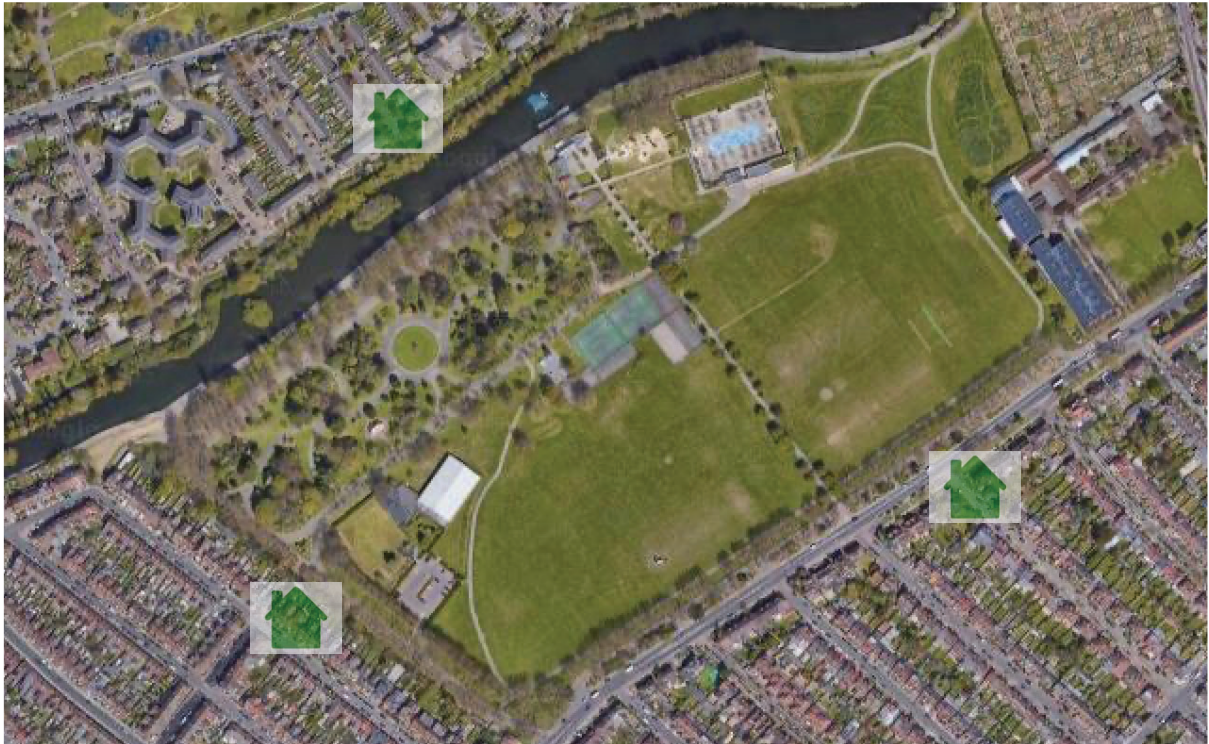
## 4. Site Context

Barking Park is a large park consisting of some 30 Hectares in the London Borough of Barking and Dagenham. Like many urban parks it is managed and owned by the borough council and presents many challenges in terms of receptors, mainly in the form of residential premises around the site.

To our knowledge the venue has held several events but has not held an event of this scale previously and it is expected that 2024 will in fact be a trial year for the venue. It is accepted that residents and the Local Authorities will remain nervous ahead of the event. However, it is not uncommon to hold such events in urban parks with similar challenges and providing that appropriate management is in place there is no reason that such events cannot successfully take place.

The map extract below identifies the main residential areas and the critical isolated properties.





## 5. Premises Licences

It is understood that the organisers are intending to apply for the appropriate licences and this strategy looks to fulfil part of the agreed conditions with the Environmental Health Team at Dagenham and Barking.

## 6. Permitted Noise Levels

The agreed noise conditions with set limits are shown below:-

### 1. Amplified Music/Entertainment Noise Control

The level of amplified music sound energy emitted from the festival site during any individual 15-minute period, and that arises at the compliance assessment locations detailed below (and on the attached plan for illustrative purposes) or other representative locations, shall not exceed 75dB LAeq,15 minutes and 90dB LCeq,15minutes for up to six event days per year and thereafter shall not exceed the 2 representative background level LA90,15minute and LC90,15minute by more than 15dB(A) and 15dB(C) or 85dB(C) whichever is the lower value.

Measurements shall be made at a height of 1.2 – 1.5 metres above the adjacent ground level and at least 3.5 metres from any sound reflecting surfaces other than the ground or the measurement value adjusted to remove the additional sound energy contribution from reflected surfaces other than from the ground.

Noise Monitoring shall include, but maybe not limited to the following locations,

1. MP1 Longbridge Rd Junction Shirley Gardens
2. MP2 Longbridge Rd Junction Wilmington Gardens
3. MP3 Park Ave rear gardens facing onto Park
4. MP4 Alder Walk Junction Buttsbury Road
5. MP5 15 Alder Walk
6. MP6 Brixham Gardens

In addition to the listed monitoring locations it has been requested through the SAG process that Buttsbury Road in the London Borough of Redbridge is included within the monitoring locations, which the event are happy to do.

## **2. Noise Management Plan**

A Noise Management Plan (NMP) shall be submitted for approval by the Local Responsible Authority (Environmental Health & Public Protection) 6 weeks prior to the event. The NMP shall include as a minimum, written details of the following information.

1. Organisational responsibility for noise control
2. Event information, hours of operation, numbers of stages, capacity, type of music, cultural significance etc.
3. Imposed or proposed music limits and Premises Licence conditions related to noise control.
4. Noise predictions and site viability and impact assessment including noise modelling of both A Weighted and C Weighted predicted noise levels.
5. Details of background sound levels around the site, if required by condition 1 above.
6. Physical and managerial noise controls processes and procedures including propagation testing, internal stage sound system design and external residential/business noise monitoring.
7. Details of how compliance with control limits will be achieved and procedure to address non-compliance.
8. Details of community liaison and complaints logging and investigation including Telephone contact number for residents and businesses and communication procedures to share complaint information and responses with Local Authority.
9. Details of review of NMP.

## **7. Predicted Noise Levels.**

The PA specification for the event is yet to be confirmed. Once this is known the modelling required as part of the licence condition will be undertaken and the NMP updated to include this.

A feasibility assessment looking at the two most impacted residential areas of Alder Walk and Park Avenue and is based on a simple line array system.

The following assumptions have been made in predicting noise levels.

- An orientation correction of between 0dB and 15dB is assumed for noise sensitive properties depending on the location relative to the stage location.
- Distance attenuation is based on progressive attenuation under neutral meteorological conditions
- Where appropriate, attenuation has been considered for the effect of barriers between the noise sources and noise sensitive premises. BS5228 Code of Practice for noise and vibration control of construction and open sites (2009) gives a working approximation of the effect of a barrier or other topographical features. An attenuation of 10dB is assumed when the noise screen completely hides the source from the receiver.

#### Predicted Receiver Levels

The predicted receiver levels have been determined using a distance attenuation correction of  $(L_2=L_1-20\log(r_2/r_1))$ . The source levels utilised are based on experience from similar events.

The results of the feasibility assessment were:-

#### Stage 1

Based on 95dB @ 30m from speakers with main stage and 2 delay stacks, low barrier obscuring delays not main stage.

#### Alder Walk

Speakers	Distance to receptor (m)	Distance reduction (dB)	Directionality reduction (dB)	Barrier Reduction (dB)	Level at receptor (dB)
Main stage	201	16	8	0	71
Delay 1	201	16	8	5	66
Delay 2	206	16	8	5	66

Total level at receptor = 73dB

#### Park Avenue

Speakers	Distance to receptor (m)	Distance reduction (dB)	Directionality reduction (dB)	Barrier Reduction (dB)	Level at receptor (dB)
Main stage	160	14	15	0	66
Delay 1	180	15	15	0	65
Delay 2	210	16	15	0	64

Total level at receptor = 70dB



For the LC levels a level of 115dB @30m was utilized with barrier reductions as per BS7445.

With a low barrier reduction

#### Alder Walk

Speakers	Distance to receptor (m)	Distance reduction (dB)	Directionality reduction (dB)	Barrier Reduction (dB)	Level at receptor (dB)
Main stage	201	16	6	5	88
Delay 1	201	16	6	5	88
Delay 2	206	16	6	5	88

Total level at receptors = 93dB

And for a high barrier completely obscuring the subs

#### Alder Walk

Speakers	Distance to receptor (m)	Distance reduction (dB)	Directionality reduction (dB)	Barrier Reduction (dB)	Level at receptor (dB)
Main stage	201	16	6	10	83
Delay 1	201	16	6	10	83
Delay 2	206	16	6	10	83

Total level at receptors = 88dB

#### Park Avenue

Speakers	Distance to receptor (m)	Distance reduction (dB)	Directionality reduction (dB)	Barrier Reduction (dB)	Level at receptor (dB)
Main stage	160	14	12	5	84
Delay 1	180	15	12	5	83
Delay 2	210	16	12	5	82

Total level at receptors = 88dB

#### Stage 2

Based on 95dB @ 30m from speakers

#### Impact on Park Ave

Speakers	Distance to receptor (m)	Distance reduction (dB)	Directionality reduction (dB)	Barrier Reduction (dB)	Level at receptor (dB)
Main stage	92	9	12	0	74

#### Impact on Alder Walk

Speakers	Distance to receptor (m)	Distance reduction (dB)	Directionality reduction (dB)	Barrier Reduction (dB)	Level at receptor (dB)
Main stage	140	13	15	0	67

For the LC levels a level of 115dB @30m was utilized

#### Impact on Park Ave

Speakers	Distance to receptor (m)	Distance reduction (dB)	Directionality reduction (dB)	Barrier Reduction (dB)	Level at receptor (dB)
Main stage	92	9	8	5	93

#### Impact on Alder Walk

Speakers	Distance to receptor (m)	Distance reduction (dB)	Directionality reduction (dB)	Barrier Reduction (dB)	Level at receptor (dB)
Main stage	140	13	12	5	85

The outcome of this exercise shows that the event is feasible in its current layout. The slight exceedances predicted will be worked on as part of the PA design exercise and compliance with the licence limits should be readily achievable at all locations.

## 8. Sound System Design and Setup

There is significant variation in the directivity of different sound systems provided by the various manufacturers, largely around the horizontal dispersion of the loudspeaker.

Therefore, the sound systems would be designed and set up in such a way as to minimise noise impact at noise sensitive properties. Sound systems would be flown to focus the noise into the audience area, with a requirement for array style systems. This configuration would also aim to minimise horizontal and vertical dispersion to reduce overspill from the intended coverage areas. To achieve this any hung system would be positioned as low as possible to achieve full audience cover. Given the long thin layout of the main stage area then a number of delay speakers will be used to achieve satisfactory audience cover, whilst not using excessive sound power from the stage.

Sub bass systems will also be set up to provide a cardioid dispersion patterns to maximise the directivity of sound systems and minimise low frequency noise levels behind the stages.

During the event any guest engineers or individual acts would have only limited control over the main PA system in their area. The maximum level at sound sites would be directly under the control of the Festival Organiser or its contractors and adjusted only by them.

## 9. Sound Check and Rehearsals

Sound propagation checks will be conducted immediately before the event. Typically they last for no more than 2hrs but at times dependant on artist they may be longer. Such will not start before 09.00hrs. These will be used to calibrate levels both internally within the event site and externally at receiver positions. Such levels will then be used as a guide throughout the event and will be established using music of a similar type. System checks may also take place. Technical checks may take place at other times but shall be restricted from 09.00 to 20.00hrs.

## 10. Noise Control Monitoring

Prior to any stage running, the stage manager and sound engineers would be briefed by Joynes Nash on the importance of limiting any off-site disturbance and compliance restrictions.

The engineers would be encouraged to leave some “headroom” early in the event to provide a safety margin to allow for some upward movement of levels, should that be necessary to maintain audience satisfaction or permit headline acts.

The intention would be to initially run the systems at an anticipated audience satisfaction level), based on the audience levels of 95 - 98dB(A) and to modify them should that be necessary following off-site level monitoring throughout the event. Likewise, on site levels would always reflect audience size and dynamics (for example earlier in the day overall levels may be lower to reflect smaller audience size).

Provision would be made for a fixed monitoring position at an appropriate position, either at a mid-way point between the event and receptors or at front of house position(s). This position would be used to continually monitor levels throughout the event and provide a visual reference of levels to engineers and/or consultants. Arrangements will also be made to ensure that front of house levels at each of the individual stages will be periodically monitored during the event.

Throughout the event consultants would remain responsible for proactively monitoring noise. This would be done through conducting measurements at predetermined locations both internally and externally of the arena. Such positions would be dependent on final site layout, weather conditions etc.

Typically, we'd expect measurements to be conducted over a 15 minute period, albeit shorter measurement periods may be undertaken to determine compliance in line with the code of practice (i.e. it is typical that 5 minute measurements give a good indication of compliance over 15 minutes). All measurements would be recorded and be available for inspection at any time by the local Authority during the course of any event.

The sound monitoring team will be in contact with event control should any action need to be taken during the event and have authority to instruct the sound engineers to adjust sound levels.

## 11. Procedure for Responding to and Dealing with complaints

Good Public relations is a key pre-requisite of any work conducted by either Joynes Nash or the organisers as it has been repeatedly proven that prior awareness of a festival is important in managing resident's expectations and allaying concerns. Research by DEFRA supports the fact that as prior awareness of an event increases, the likelihood of being annoyed by noise falls.

The promoters would therefore ensure that an appropriate form of communication will be made with local residents, such as by letter or newspaper advertisement prior to the event; informing them of the details and including start and finish times of both the event and any sound checks. The form of communication will also include a dedicated number for noise complaints.

A telephone complaints line would be available for the duration of the event. Should any noise complaints be received, a consultant would investigate the complaint and if noise levels are deemed unacceptable, immediate action would be taken to reduce the levels of the noise source.

A complaints log would be maintained throughout the event, detailing addresses of complaints, times and actions. Such would also be available to the Local Authority on request along with actions taken, etc. The consultant would be contactable by officers of the Local Authority and available to deal with any matters arising at all times throughout the event.

## 12. Noise Management Resource

The size of any team deployed would allow for sufficient persons to conduct off-site measurements and on-site measurements to facilitate any reduction in noise levels.

All sound level meters used for the purposes of environmental monitoring would be integrating meters to Class 1 specification and subject to current calibration. At least one meter will be capable of real-time octave and/or one third octave band analyses.

Measurements within the sound sites would be made from fixed datum locations to provide representative levels against which changes can be made and measured. Where practical, meters and displays will be set up at Front of House positions with A weighted rolling 5 min  $L_{Eq}$ 's as well as SPL to provide a reference points for sound engineers. All measurements will be logged.

## 13. Local Authority Liaison

The Local Authority will be provided with contact details of those responsible.

Acoustic Consultants would work closely with the Local Authority, agreeing any changes to off-site monitoring positions, sharing noise data observations and other information wherever possible. The role performed by consultants is to ensure that any requests by the Local Authority are actioned by the festival organisers. All requests relating to noise would be routed through them to ensure that any noise issues are properly managed and dealt with as soon as possible. Results of any investigations and actions will be fed back to the Local Authority as soon as practicable or as agreed.



References to contact with Local Authority Officers are obviously dependent upon whether they wish to attend the event and does not infer any commitment on the part of any Authority.

## 14. Post Event Reporting

Following completion of the event, a report would be made available to the Local Authority, detailing the findings during the event and any recommendations for future events.

## 15. Setting Up, Dismantling of Venues

During any event set up and dismantling, all works which would be likely to cause disturbance at residential properties would be conducted between the hours of 08:00 and 20.00hrs. Within these times and as so far as reasonably practicable, all measures to minimise noise would be undertaken to ensure that no undue noise disturbance is caused to residential premises.

Deliveries of goods and equipment will only be carried out between 08.00 and 20.00hrs.

## 16. People and Crowd Noise

Whilst there is no formal mechanism for evaluating or controlling crowd noise, consideration would be given to minimising such as critical points such as during arrival and dispersal from the event. This would generally be done by ensuring that queuing where possible would be conducted internally rather than externally of the venue. Likewise, appropriate mechanisms to stagger arrival and departure, temporary screening, marshalling and signage etc. would be considered for any event.

Marshals would marshal and monitor the entrance and egress from the premises including the behaviour of those within the vicinity of the premises. This would help achieve orderly arrival and departure of persons and will reduce the risk of nuisance occurring.

## 17. Conclusion

The United Kingdom has a diverse and vibrant music festival sector, which has been established for many years at numerous sites throughout the Country. The team behind this proposal have chosen to fulfil their ambitions to bring this event to a new venue and accept all the challenges that go with such.

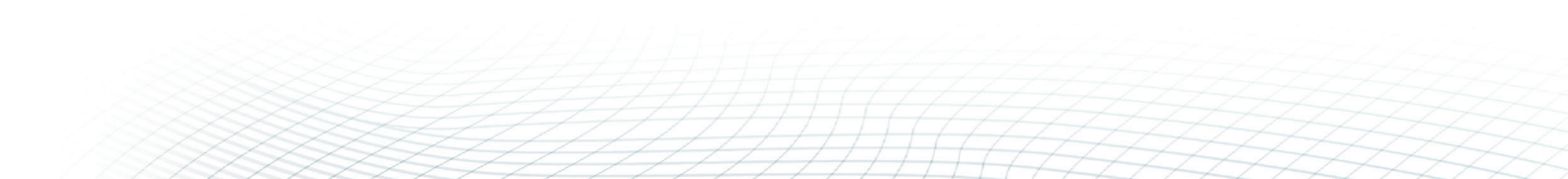
The key as always is to also engage with all stakeholders throughout the lifecycle of the event, manage their expectations and listen and learn for future years. The team are committed to making this work and would engage in a P.R campaign prior to the event and conduct a review process after the event to review the outcomes.

The noise management plan presented above aims to address all the challenges and look to ensure that an acceptable balance is maintained between the needs of the event organisers and the local residents.

Finally, well organised festivals and events are recognised for their ability to produce benefits for the local economy, bring life to an area and create interest in an area. It is hoped that in principle that the controls stated in this strategy can be agreed with the Local Authority.

DRAFT

## Appendix A – Site Plan



# PERCOLATE LOUDER

EVENT:  
**HIGH LIGHTS 2024**

EVENT DATES:  
**31.05.24 - 02.06.24**

VENUE:  
**BARKING PARK**

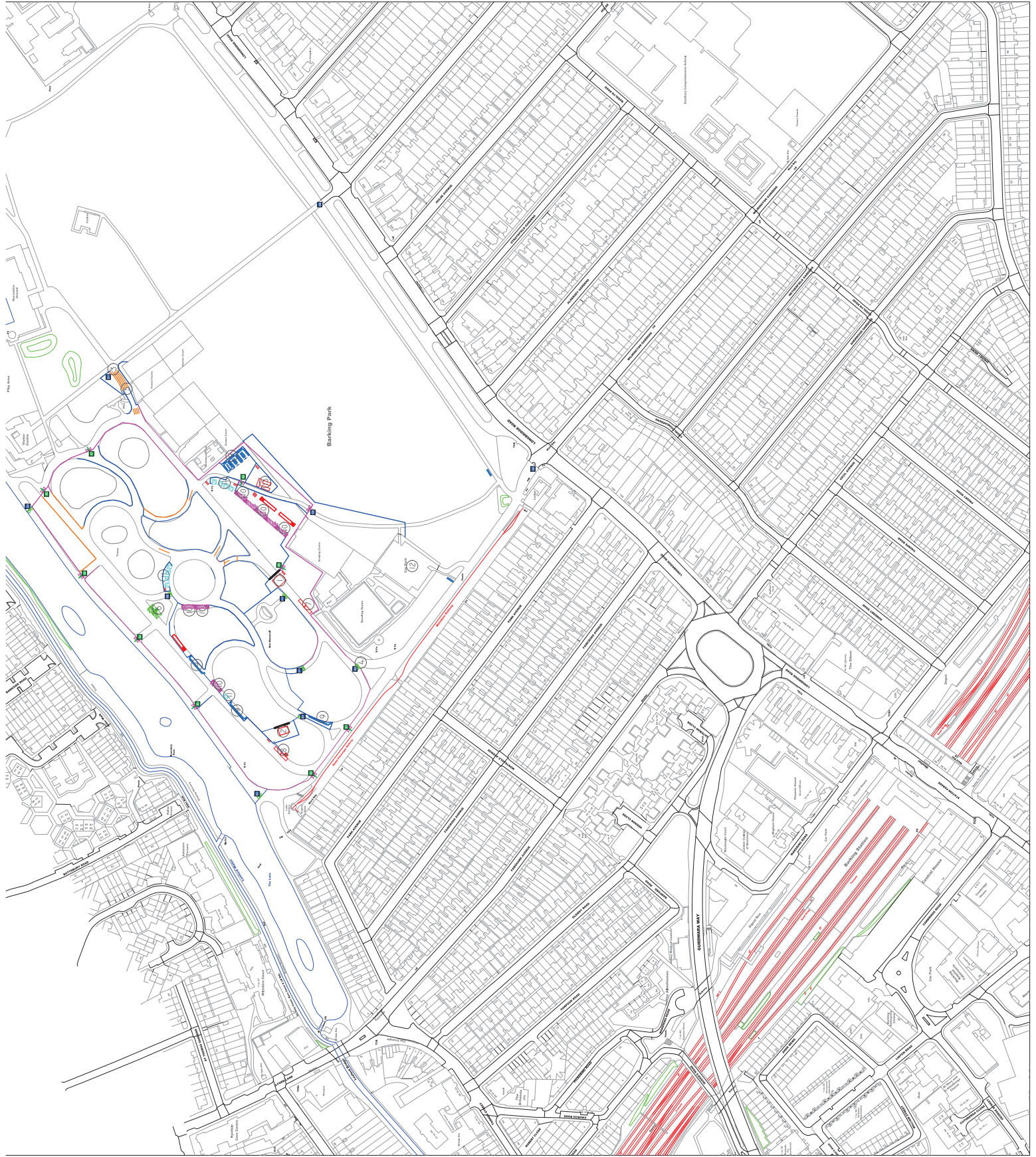
- KEY:**
- 1 INSTALLATION STAGE
  - 2 LIVE STAGE
  - 3 MAIN ENTRANCE
  - 4 ACCESSIBLE ENTRANCE
  - 5 SEARCH
  - 6 MEDICAL MARQUEE
  - 7 DRESSING ROOMS
  - 8 OFFICES
  - 9 TOILETS
  - 10 PUBLIC BAR
  - 11 FOOD STALL
  - 12 PUDDO

- SYMBOLS USED:**
- PEDESTRIAN BARRIER
  - HERAS FENCE
  - STEELSHIELD FENCE
  - STAGE BARRIER
  - BAR MARQUEE
  - MEDICAL MARQUEE
  - FOOD TRADER
  - TOILET UNIT
  - STAGING
  - TRACKWAY
  - GATES
  - GATE LABEL

DRAWN BY: **D McC**    DATE: **16.01.24**

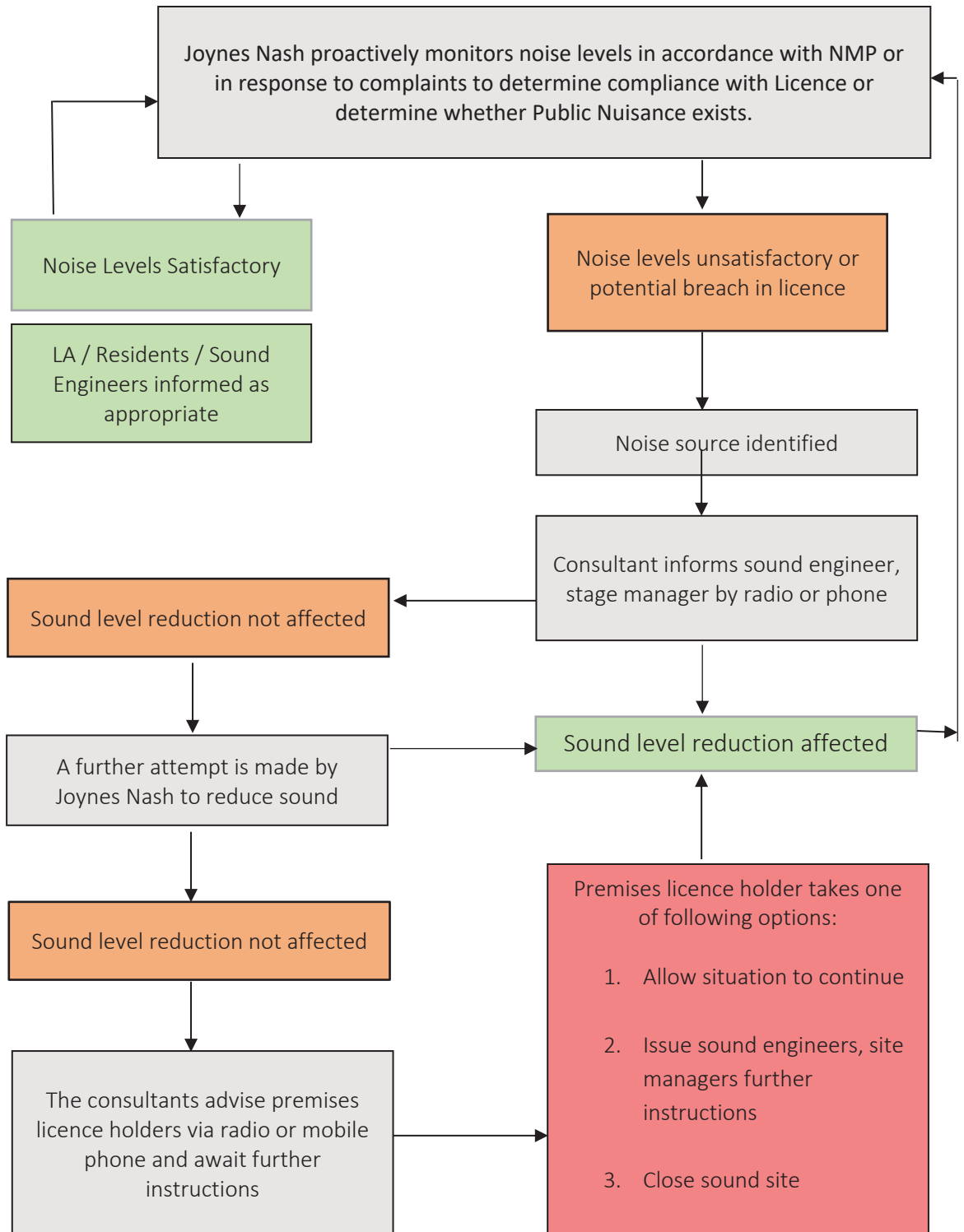
DRAWING TITLE: **BP-HL-SITE004**    REV: **01**

SCALE: **DO NOT SCALE**





## Appendix B –Indicative Noise Response Flowchart



## Appendix C - Contact Numbers and Responsibilities

### Event Hotline Number

TBC

### Licence Holders

TBC

### Event Management

TBC

### Noise Consultants

Simon Joynes Director

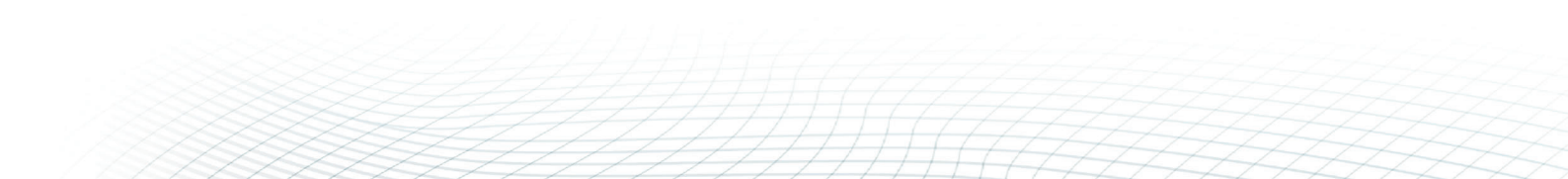
Joynes Nash

07870 508492

Peter Nash Director

Joynes Nash

07769 202073



## Appendix D – Noise Units

1. Noise is defined as unwanted sound. The range of audible sound is from 0 dB to 140 dB. The frequency response of the ear is usually taken to be about 18 Hz (number of oscillations per second) to 18000 Hz. The ear does not respond equally to different frequencies at the same level. It is more sensitive in the mid-frequency range than the lower and higher frequencies and because of this, the low and high frequency components of a sound are reduced in importance by applying a weighting (filtering) circuit to the noise measuring instrument. The weighting which is most widely used and which correlates best with subjective response to noise is the dB(A) weighting. This is an internationally accepted standard for noise measurements.
2. For variable noise sources such as traffic, a difference of 3 dB(A) is just distinguishable. In addition, a doubling of a noise source would increase the overall noise by 3 dB(A). For example, if one item of machinery results in noise levels of 30 dB(A) at 10 m, then two identical items of machinery adjacent to one another would result in noise levels of 33 dB(A) at 10 m. The 'loudness' of a noise is a purely subjective parameter but it is generally accepted that an increase/decrease of 10 dB(A) corresponds to a doubling/halving in perceived loudness.
3. External noise levels are rarely steady but rise and fall according to activities within an area. In an attempt to produce a figure that relates this variable noise level to subjective response, a number of noise metrics have been developed. These include:

**LAeq** noise level - This is the 'equivalent continuous A-weighted sound pressure level, in decibels' and is defined in BS 7445 [1] as the 'value of the A-weighted sound pressure level of a continuous, steady sound that, within a specified time interval, T, has the same mean square sound pressure as a sound under consideration whose level varies with time'. It is a unit commonly used to describe community response plus, construction noise and noise from industrial premises and is the most suitable unit for the description of other forms of environmental noise. In more straightforward terms, it is a measure of energy within the varying noise.

**LA90** noise level - This is the noise level that is exceeded for 90% of the measurement period and gives an indication of the noise level during quieter periods. It is often referred to as the background noise level and issued in the assessment of disturbance from industrial noise.

**LA10** noise level - This is the noise level that is exceeded for 10% of the measurement period and gives an indication of the noisier levels. It is a unit that has been used over many years for the measurement and assessment of road traffic noise.