APPENDIX D

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SOUND MANAGEMENT PLAN

SOUND LIVE FESTIVAL

TEWINBURY

HERTFORDSHIRE. AL6 0JB

Licence Application Draft

Date: 2025-10-24
Report No: SLF26SMP01

Institute of Acoustics

Audio Engineering Society

PSA LIVE PRODUCTION · CONNECTED

NOEA

Document control[1]

Project	Sound Live Festival
Document	Sound Management Plan (aka Noise Management Plan)
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Date	Amendments

Definition

EHDC	East Hertfordshire District Council
FAB	Far & Beyond
ESL	Electric Star Live
dB	Decibel. Not a measurement of perceived loudness. A relative ratio unit
Noise	Persistent intrusive sound that unreasonably affects property amenity or harms health & well-being
MNL	Specific Music Noise Level of regulated entertainment in dB Leq at Noise Sensitive Receptor
Leq	Equivalent sound level. A logarithmic average of sound level over a specified period
L90	Background sound level exceeded 90% of the measurement period
A / C / Z (e.g., dBA or LCeq)	Weighted Sound Measurements to correlate to human ear response. dB or dBZ means no correction
EMOP / EOP / EMP / OM	Event Management and Operational Plan / Event Operating Plan / Event Management Plan / Operation Manual
SMP / NMP	Sound Management Plan (aka Noise Management Plan)
NSR	Noise Sensitive Receptor. Offsite locations such as dwellings & schools are sensitive to environmental noise levels
PSS / SSS	Primary Sound Source / Secondary Sound Source
SLM	Sound Level Meter used for sound measurements
PA	Public Address system comprises loudspeakers to deliver audio media to a group of people
FOH / BOH	Front of House is the sound control position at any stage / Back of House areas where public access is prohibited
HSG195/Purple Guide	The Event Safety Guide. HSE publication 195 (withdrawn) / The Purple Guide – Events Industry Forum (EIF) guide
Pop Code	Noise Council Code of Practice on Environmental Noise Control at Concerts 1995 (withdrawn)
LA03	Licensing Act 2003
DPA	Data Protection Act

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Contents

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Tables

1 Summary

Sound Live Festival is a proposed music event to be held at Tewinbury, subject to a successful licence application.

The stakeholders & contractors collectively understand the potential for unwanted noise impact & acknowledge their statutory obligations for robust noise control & Licensing compliance.

Electric Star is contracted to prepare a robust Sound Management Plan (SMP) developed with the key stakeholders.

This Sound Management Plan has been prepared to support a Premises Licence application for the proposed event. All timings, limits, and procedures are indicative and subject to agreement with East Hertfordshire District Council.

This Best Practical Means framework is an appendix of the Premises Licence application. Our aim is to:

- Implement controls to discharge our obligations
- Deliver an enjoyable & safe guest experience
- Protect the community from unreasonable noise
- Promote constructive community relations

The plan upholds the Licensing Act 2003 objective of Preventing Public Nuisance, acknowledging that the licensing scheme exists to support viable events. Built on collaboration & shared responsibility, it promotes constructive dialogue to balance event integrity with effective & pragmatic community protection. This live document is a Risk Assessment & Method Statement referencing relevant legislation, guidelines, & conditions. Key areas covered include:

- Stakeholder consultation process
- Applicable compliance criteria
- Impact assessment & mitigation
- Context, noise sources, & sensitive receptors
- Monitoring procedures & Operational controls
- Constructive community engagement & helpline

Overview: Tewinbury is a private hospitality venue successfully hosting music events. The venue is bordered by mixed use rural, residential & commercial areas, with the prevailing soundscape influenced by road & rail traffic. The primary event contribution is an east facing main stage, concluding in social hours.

Control: Sound shall be proactively managed by a competent team[2]. Controls based on an agreed Music Noise Level (MNL) shall be implemented to minimise disturbance. Music will be discernible at certain locations; however, breakout shall be pragmatically controlled, drawing on past events considering, duration, and context. Specific controls include:

- Community Helpline & proactive engagement
- Stakeholder collaboration & planning
- Clear on-location roles & communication
- Appropriate timing, duration, & intensity
- In-situ compliance monitoring & robust procedures
- Strict MNL limits, low-frequency control & curfews
- Optimised site design & directional sound systems
- Managed ingress & egress

Community: Previous events have been positively received, with minimal noise complaint. The organisers shall continue to take all practicable steps to maintain constructive relations, including advance consultation and publicising Helpline details. Concerns shall be assessed promptly, with monitoring & action to minimise escalation.

Conclusion: Implementing this robust plan, supported by dynamic on-location assessment, demonstrates a proactive Best Practical Means approach to upholding the licensing objective of preventing public nuisance. Adverse impact shall be ameliorated through adoption of relevant guidance & the application of responsive controls. The likelihood & severity of disturbance can be effectively managed to acceptable levels, provided these measures are appropriately applied.

[2] Competency means the necessary skills, knowledge, & relevant experience. Supervisor shall be MIOA & IOAdip or higher. Key staff shall have IOA CCENM or higher.

1.1 Outline

Title	Sound Live Festival
Location	Tewinbury. Hertfordshire. AL6 0JB
Live dates	Subject to agreement
Build & break	Subject to agreement
Attendance/profile	Working capacity: 19,999. Diverse age, gender, social demographic
Content	TBA. Rock, Pop & Dance plus acclaimed family friendly artists
Primary sound sources	Main open-air stage with live music & DJs. Four supporting stages
Secondary sound sources	Bars & VIP. Attractions. Ancillary: F&B, retail & activities (no camping)

Schedule

Date	Programme	Start	End	Curfew
Day 1		12:00	23:00	23:00
Day 2		12:00	23:00	23:00

Notes	See Licence application for further information
Soundchecks/Propagation	After 09:00 on concert days – see schedule on page 28 for details.
Build / Break general hours	08:00 – 20:00
Site operation (Staff & general activity)	24hrs. Quiet offsite 23:00 – 08:00

Table 1 - Timings

1.2 Music Noise Limit

Regulated entertainment shall abide by the agreed controls including but not limited to the levels, timing & duration. The proposed conditions relevant to noise control are provided on page 19. It is anticipated that a Music Noise Level (MNL) limit in the order of 75 dBA/90 dBC Leq 15' may be appropriate, subject to agreement with Environmental Health.

1.3 Stakeholders

Licensing Authority:	East Hertfordshire District Council	Event Applicant:	Sound Live Ltd
Venue Management:	Tewinbury Farm	Project Management:	Sound Live Ltd

Management

Sound Live Ltd (CRN 02948536) is an independent entertainment company created to deliver large-scale, high-quality music events with a strong focus on creative programming and community engagement. Founded by Francis Warren and Steve Durham, the organisation combines extensive experience in live broadcasting, stadium production, major sporting events, and UK festivals including the award-winning We Are FSTVL.

The company's operations prioritise safety, sustainability, and robust compliance, ensuring an enjoyable and responsibly delivered event experience.

Far & Beyond (CRN 09790819) are an award-winning global production company specialising in large-scale events. They are the principle contractor & the common coordination point. With extensive experience in delivering high-profile events, they provide end-to-end management. Known for their work on major events such as Download & the Eurovision Song Contest Liverpool in 2023, they excel in coordinating complex multi-stage productions.

Acoustic consultant

Electric Star Live (CRN 12473711) is an award-winning independent company with over 30 years in live audio production, specialising in acoustics & compliance. Led by Institute of Acoustics-accredited founders Gareth & Claire Hance, their expertise spans concerts with artists like Prince, Sting & Coldplay for clients including Live Nation, AEG, & Superstruct.

1.4 References

There are several applicable legislation & guidelines, including, but not limited to:

- Licensing Act 2003, Premises License conditions & Licensing Authority policy
- Noise Council Code of Practice on environmental noise at Concerts 1995 (withdrawn 2018)
- The Event Safety Guide (HSG195) & The Purple Guide (www.thepurpleguide.co.uk)

1.5 Context

Activities

Key sound-related programming includes:

- Live performance & DJs across five stages
- A family-friendly second day
- Background music for 'walk-in', change overs and public announcements

The event includes a main open-air stage with live & recorded music, plus four supporting stages.

Programming reflects a balanced mix of established and emerging artists, operating within daytime and early-evening hours. The broad format appeals to an adult and family audience, particularly those seeking a relaxed, high-quality festival experience with strong cultural identity and consistently creative curation.

Discussion

Music events present a range of challenges, including noise control, community relations, and sustainable delivery.

As production partners, Sound Live, with Far and Beyond, works in close collaboration with local authorities, contractors, and residents to mitigate potential impacts and deliver a compliant, community-conscious experience.

Tewinbury Farm provides an acoustically favourable location with natural containment, established infrastructure, and excellent transport access via the A1(M) and A414. Its rural setting supports effective sound control and audience enjoyment while safeguarding local amenity.

These characteristics make Tewinbury a credible and practical venue for hosting a music event, supporting the organisers' ambition to enhance cultural vibrancy in East Hertfordshire.

2 Location

2.1 Environs

Tewinbury Farm is a privately owned hospitality and events venue located within open valley parkland on the eastern edge of Welwyn Garden City, inside the East Hertfordshire District Council boundary.

The venue benefits from established infrastructure supporting its hotel, restaurant, and outdoor hospitality operations. The venue has hosted seasonal events such as the Farm Yard in the Field and the Tewinbury Family Farm Festival.

The site occupies gently undulating land along the River Mimram, with open pasture, mature woodland margins and hedgerows providing some acoustic absorption. Surrounding land use is mixed rural–residential, with isolated dwellings to the west and south, and larger settlements at Tewin, Burnham Green, and Digswell within approximately 2 km.

Regional connectivity is provided via the A1(M) to the west and the A414 to the south, linking the site to Hertford, Welwyn Garden City, and Hatfield. Ambient soundscape in the wider area is influenced primarily by traffic on these routes, with background sound levels decreasing across the river corridor toward the venue. DEFRA's Environmental Noise Directive mapping suggests daytime levels under 55 LAeq,16hr around the site perimeter (see page 28).

The combination of private ownership, topography, vegetative screening and noise masking creates a contained environment for outdoor performance, supporting geospatial attenuation to mitigate impacts at sensitive receptors.

2.2 Receptors

Reference Noise Sensitive Receptors (NSR) have been identified from predictive calculations as locations where music noise emissions may potentially have an adverse impact (see the map on page 36).

These reference locations have been selected to capture the acoustic character of the area, reflecting the interface between the event site and the adjacent built environment, prevailing land use patterns, and community receptors.

The points broadly adopt eight 'compass point' vectors, to facilitate calculations at other positions along similar directions, enabling calculated extrapolation to other receptors.

Initial monitoring during sound checks & opening events will help assess the apparent impact. The environmental noise monitoring procedure is outlined in section 5.

Name	Dir	m*	Use	Postcode	Notes	W3W
R1 Burnham Green Village Hall	N	1760	Residential	AL6 0HW	Community hall in residential area	glow.speeds.pigs
R2 Seven Acres 11	ENE	1240	Residential	AL6 0FD	Private dwelling in new development	bottom.choice.volunteered
R3 Folly	E	560	Residential	AL6 0JB	Private dwelling. Mixed used area.	scan.nerve.enjoy
R4 Tewinbury Farm Hotel	SE	720	Residential	AL6 0JB	Hotel & mixed use	tone.soaks.hurt
R5 Tewin Lodge	S	510	Residential	AL7 2ED	Private dwelling	deny.remind.badly
R6 Salmon Close 25	WSW	670	Residential	AL7 1TR	Mid density residential area & school	forgot.actual.enjoyable
R7 The Old Court	W	210	Residential	AL6 0BZ	Nearest dwelling	piano.deals.kings
R8 Mornington 16	NW	1210	Residential	AL6 0AJ	Mid density residential area	saints.calm.glaze

**Approx. distance from main stage*

Table 2 - Receptors

3 Sources

Sound Sources is the collective term for regulated entertainment, construction & associated sound emission sources.

3.1 Primary Sources

Primary Sound Sources (PSS) concern the significant amplified sound systems & regulated entertainment forming the primary Music Noise Level (MNL) contribution at Noise Sensitive Receptors (NSR).

Music impact will be intermittently discernible within ≈ 2km radius but unlikely to cause an unreasonable disturbance. The content has mainstream public appeal. The diverse programming is less likely to cause cumulative impact annoyance associated with extended periods of bass-beat & low-frequencies.

S1 Mainstage is the dominant contribution. Walk-in recorded music is played on the stage from when the gates are open (doors), with live & recorded music. See Table 1 on page 5 for timings and the appendix for impact calculations.

Stage position & orientation is strategically selected to reduce noise impact, optimising geometric & ground absorption.

Selected sound systems are designed for events in sensitive locations with precise directivity & noise control. Unlike traditional systems, which radiate in all directions below around 500Hz, the chosen system features advanced directivity. Advanced Digital Signal Processing (DSP) & Finite Impulse Response (FIR) filtering enhance clarity, tonal balance, and coverage. Optimisation algorithms influence the transition between line & point source propagation (-3dB vs -6dB per distance doubling), improving audience coverage while achieving rapid attenuation beyond. A directional sub-array may be deployed to further reduce off-axis radiation by up to -18dB[3].

There are no other significant amplified contributions.

Name		Aim	Close*	Notes	W3W
S1	Mainstage	ESE	< 23:00	Open-air. Headline acts, largest crowd	*phones.bolt.pinks*
S2	Stage 2	ENE	< 23:00	Open sided tent	*quarrel.wage.bills*
S3	Stage 3	N	< 23:00	Big Top	*rival.play.bottle*
S4	Stage 4	WNW	< 23:00	Open sided tent	*sticks.vent.cult*
S5	VIP	ESE	< 23:00	VIP	*flip.warns.lance*

**See EMP for timings*

Table 3- Primary Sources

[3] SSE / Vanguardia Hatfield test of L'Acoustics K1 and Martin MLA line array

3.2 Secondary Sources

Incidental entertainment, waste management, plant, & construction are unlikely to cause unreasonable disturbance. Considerate initial planning helps to control the source, as outlined in Section 7. The secondary contributions are inherently self-regulating & less likely to cause significant disturbance in the immediate area (See map on page 36).

- Any contribution shall remain within a reasonable level in context of the character & timings (see timings on page 5)
- Careful planning of location and scheduling helps control noise at the source
- Traffic noise is inherently self-regulating, as audience arrivals are staggered
- Heavy vehicles shall follow the Traffic Management Plan (TMP)
- Build & break activities shall be managed as best practical adopting Code of Practice BS5228 (see page 15)
- Modern plant equipment has significantly improved, reducing the likelihood of significant disturbance
- There are no public campsites or other significant sources of overnight noise

Location	Activity	Times	Notes
Gates/highways	Traffic & pedestrians	See EMP	Build/break & production traffic. Live: gradual public ingress & egress
Static plant	Generators/towerlights	Continuous	Silenced equipment. Inaudible offsite
Moving plant	Telehandlers/forklifts	See EMP	Peak during build & break
Waste	Collection/compacting	See EMP	Peak during break
Concessions	General activity	Regulated hours	Traders without music. No observable impact
VIP/bars	General activity	Regulated hours	VIP/Bars/Activations with no/low incidental music. No observable impact
Attractions	General activity	Regulated hours	Attractions outside the scope of regulated entertainment

Table 4- Secondary Sources

3.3 Prediction

The Music Noise Levels (MNL) shown in the prediction models the specific sound from regulated entertainment up to 2km from the perimeter without residual contribution. The outcome informs the Best Practicable Means of planning.

Predicted noise levels at all representative receptors are within recognised Pop Code limits and indicate compliance with the proposed licensing criteria. The estimated impacts are shown in Table 5 and heatmap on page 30.

Predictions are generated using SoundPlan Noise[4] and accepted methodology, adopting representative geospatial and meteorological datasets from verified commercial sources. The model assumes worst-case conditions with a standardised live-music spectrum and calibrated source level.

Eight reference locations around the site perimeter capture the principal 'compass-point' propagation paths. These reference points enable extrapolation to other receptors along similar directions or vectors. In-situ monitoring locations may differ from points used for predictive assessment purposes.

The prediction indicates the most impacted locations are below the proposed limit. The MNL at all residential receptors beyond the immediate boundary is significantly below the proposed limit. If the predicted immission exceeds the MNL criteria, we shall review the audio system design in advance & apply dynamic controls on location.

The MNL is likely to be an upper level given the dynamic content & reduced levels during changeovers, i.e., stages do not operate all the time & the sound level at source reflects audience sizes & content. Bass octave levels close to the venue are considered adequately managed by the A-weight limit. Nonetheless, for robust control of Low-Frequency Noise (LFN), the LCeq MNL shall be monitored in parallel with LAeq.

There is strong evidence that sound level alone has a weak correlation with complaint. To protect the community & validate controls on-location, regular rotational checks shall be conducted, focusing on the most impacted areas.

Table 5 below illustrates the margin between the proposed MNL limit and the calculated impact at reference[5] locations.

Name		Dir	m	Use	Postcode W3W		Notes	dBA	Margin
Reference									
R1	Burnham Green Village Hall	NNE	1750	Residential	AL6 0HW	*glow.speeds.pigs*	Community hall in residential area	44	31
R2	Seven Acres 11	ENE	1260	Residential	AL6 0FD	*bottom.choice.volunteered*	Private dwelling in new development	60	15
R3	Folly	E	610	Residential	AL6 0JB	*scan.nerve.enjoy*	Private dwelling. Mixed used area	72	3
R4	Tewinbury Farm Hotel	SE	770	Residential	AL6 0JB	*tone.soaks.hurt*	Hotel & mixed use	67	8
R5	Tewin Lodge	S	540	Residential	AL7 2ED	*deny.remind.badly*	Private dwelling	71	4
R6	Salmon Close 25	WSW	640	Residential	AL7 1TR	*forgot.actual.enjoyable*	Mid density residential area & school	61	14
R7	The Old Court	W	160	Residential	AL6 0BZ	*piano.deals.kings*	Nearest dwelling	67	8
R8	Mornington 16	NW	1170	Residential	AL6 0AJ	*saints.calm.glaze*	Mid density residential area	52	23
On-Site									
S1	Mainstage	ESE	50	Audience	AL7 2ED	*phones.bolt.pinks*	Open-air. Headline acts, largest crowd	99	-
S2	Stage 2	ENE	30	Audience	AL6 0JB	*quarrel.wage.bills*	Open sided tent	96	-
S3	Stage 3	N	10	Audience	AL6 0JB	*rival.play.bottle*	Big Top	96	-
S4	Stage 4	WNW	10	Audience	AL6 0JB	*sticks.vent.cult*	Open sided tent	96	-
S5	VIP	ESE	10	Audience	AL6 0JB	*flip.warns.lance*	VIP	93	-

Table 5- MNL prediction

[4] SoundPlan Noise is a global market leading acoustic modelling software application
[5] Locations identified by acoustic modelling & representative of the area

4 Monitoring

Monitoring shall assess compliance with expected standards and minimise the likelihood of complaints. We shall liaise closely with the Responsible Authorities, sharing information to support transparent and effective control.

Sound will be monitored using calibrated equipment (see Table 6). A combination of rotational offsite measurements, and continuous onsite level monitoring will help maintain acceptable sound levels for the event's duration.

Propagation measurements during system checks shall be undertaken during social hours as an early indicator of apparent levels (see page 5 for timings).

Monitoring

- Overseen by competent person
- Robust procedure in place
- Calibrated instrumentation
- Continuous cover during live event
- On & off-site measurements logged
- Rotational attended assessment
- Attend premises as required
- Inform if levels are excessive

Regular rotational measurements shall initially focus on the nearest & most adversely affected premises. The monitoring locations may be reviewed during the planning & dynamically reassessed as required. Additional measurements may be conducted at residents' properties upon request, provided it is relevant & per safe working protocols.

The level should be monitored for timely response over 1', 5' & 15'. Where the Leq 5' is likely to result in a Leq 15' value exceeding the controls, the audio contractor shall be advised to prepare for a level reduction.

The mix position of stages in Table 6 shall be issued with an SLM for easy reference by the sound engineer to help maintain level continuity. Once the FOH level is determined, the corresponding environmental levels shall be monitored, & action taken as appropriate (e.g., wind direction change or a complaint).

Direct contact with Stage Managers & Sound Engineers shall be maintained to make any required adjustments.

The sound report log shall record LAeq, LCeq, location, date, time, duration, levels, operator, sound meter & observations at locations shown on the map on page 36.

Reporting

A log containing measurements, actions, complaints & conclusions will be available within 28 days of the request.

Instrumentation

The following SLM deployment scheme is proposed & subject to dynamic assessment & redeployment onsite:

Class 1: Attended	Class 1: Unattended	Class 2: Attended	Class 2: Unattended
Consultants	Assessed during planning process	Stages 1 & 2	N/A

Table 6- SLM deployment

Notes

Dwellings in the eastern quadrant are most likely to experience the greatest impact. Where upper floors of neighbouring dwellings have line-of-sight of the site, a dynamic assessment for MNL correction above street level measurement shall be applied. The experience from similar events supports this assessment.

We anticipate measurements shall focus on the Tewin area to the east & Digswell in the southwest.

5 Community

Efforts shall be made to take pragmatic steps towards maintaining constructive community relations through proactive engagement. The management team has extensive experience delivering events in challenging locations.

Through early consultation with the relevant authorities, key parties & regular information-sharing, we aim to create a collaborative approach to noise planning, ensuring community concerns are addressed before they escalate.

These insights inform our approach, reinforcing the importance of planning, proactive mitigation, dynamic monitoring and effective community engagement to minimise unreasonable disturbance.

Regular updates support transparency & maintain confidence.

5.1 Engagement

We shall inform the community through traditional and online channels, sharing key event details, timings, and contacts:

Key points

Management	Experienced professionals organise the event with a positive track record and a commitment to maintaining constructive community relations. Robust planning has been carried out in coordination with the relevant authorities, including the Council and Police.
Communication	The community helpline will be in operation for the duration to engage with residents, addressing any specific concerns in a timely & effective fashion. We are the first point of contact & take noise concerns seriously.
Timings	The event ends by the agreed time without exception. The sound checks will be limited to the shortest possible duration. Noise impact from soundchecks & setup/dismantling is limited to social hours where practical.
Sound systems	The site layout minimises community noise, with the stage facing away from the nearest neighbours. The sound systems use highly directional speakers to contain noise within the event as reasonably practical. The sound level & bass will be carefully controlled to ensure they are not excessive. The sound checks are necessary to ensure the sound system functions as expected & identify how the sound travels.
Monitoring	We have a qualified team patrolling the area, measuring the sound levels. Sound meters shall record the combined sound emissions from the site. Event management & sound engineers shall be alerted to excessive levels & will follow specific instructions for immediate & appropriate action
Limits	We aim to operate within the permissible sound levels. The music is likely to be discernible at some distance but not at an excessive level likely to cause unreasonable disturbance. The licence conditions & associated guidelines are not a target but the upper action limit. Staff will be alerted to a lower threshold so action can be taken before approaching or exceeding the maximum permissible level.

5.2 Helpline

A dedicated helpline shall be available for the duration of the event. See procedures in the appendix.

Calls shall be logged on a management system to track operational incidents, including noise complaints.

The helpline shall be adequately staffed during live event days, with the call log shared dynamically in real-time.

In the event of a complaint, organisers shall take proactive steps to engage with the resident, minimise disruption, and, where appropriate, implement measures to prevent recurrence.

Complaints shall be relayed to the sound management contractor via instant text messaging (WhatsApp) to ensure a timely response. Where practical, mobile phones or two-way radios may also be used.

Complaint locations shall be logged to identify any emerging geographical patterns. Where appropriate, we shall visit complaint locations, following safety protocols to assess concerns and support resolution.

6 Control

6.1 Organisation

Effective sound management is a team effort. The organisers acknowledge the importance of robust noise control & accept their shared responsibilities in ensuring effective management.

The collaborative planning involves responsible authorities, key stakeholders, production, and technical contractors. The sound management contractor shall also be available for a meeting before doors on the first concert day.

A key selection criterion for the production team is that individuals possess the necessary proficiency, authority, and professional regard. For details on specific roles, procedures, and command & control structure, refer to the EMP.

A clear line of communication will be maintained between event organisers, local authorities, and the community to ensure real-time collaboration. Regular updates and open dialogue will help address concerns before they escalate.

Based on experience from similar events, a clear line of communication shall be maintained between the silver-level management team and those directly responsible for sound control, including sound engineers & stage managers.

The planning procedure & organisational framework shall be aligned with the Pop Code & accepted good practice. It is proposed that we intend to comply with agreed controls & limits as best practicable under the licensing objectives.

Strategy

This plan adopts SMARTER methodology to deliver effective results:

Specific, Measurable, Achievable, Relevant, Timely, Evaluated, Reviewed

Potential noise disturbance risks shall be identified in advance, and procedures will be developed to address them. The implementation shall be reviewed on location to manage unforeseen challenges and minimise the likelihood of complaints as far as practicable. For example, artists' management shall be informed of sound limits in advance.

Key factors such as community engagement, programming, locations, timings, & impact shall be carefully considered. The statutory criterion for noise preludial to health or nuisance (e.g., EPA 1990, section 79) have been considered:

Repetition	Adverse cumulative impact is unlikely due to the short tenancy & structured operational schedule
Duration	The event is limited to a short-term schedule, with daily activities operating within controlled hours
Timing	Timings consider the time of day & shall eliminate adverse impact during unsocial hours as best practical
Intensity	The event's diverse music profile features a wide dynamic range, making sustained high-intensity periods unlikely. Controls and changeover breaks help regulate Temporary Threshold Shift (TTS).

Communication

A sound management representative shall liaise with responsible authorities, key stakeholders, and technical teams as part of a Best Practicable Means approach to maintain a coordinated strategy. Communication may include pre-show meetings, routine updates, and real-time exchanges via instant messaging, email, or in-person contact.

External communication with authorities and the public shall occur via phone, email, messaging, or face-to-face as needed. During the event, instant messaging (e.g., WhatsApp or SMS) shall be the primary internal communication tool. While mobile phones or radios may be used where practical, they are generally unsuitable for the workflow of acoustic consultants and sound engineers.

6.2 Sound Systems

Systems

- Good layout & specification
- Advance information before arrival
- Under the control of an engineer
- Maintain appropriate levels
- Local monitoring
- Strict time keeping

Planning

The acoustic consultant coordinates with the audio contractor & technical production in advance regarding system design, noise limits & propagation.

The site layout is based on similar events & predictive modelling. Speaker orientation shall minimise noise impact, considering off-axis bass spill. The layout, programming, & scheduling are designed to minimise level creep.

Systems shall be selected & configured to deliver spectrally balanced, phase-coherent coverage with adequate sound pressure levels, maintaining consistent polar directivity across the spectrum to minimise breakout.

Audio contractors, managers, artists/engineers shall be informed of strict noise control requirements before arrival.

Live

A competent person shall be responsible for & supervise systems at all times without exception. Any noise curfews shall be strictly adhered to, except for emergency safety purposes. The engineer shall implement any necessary changes as instructed by the Production Manager or Acoustic Consultant without exception or delay.

Tuning, propagation, & sound checks occur during social hours with sufficient time for review before doors. Acoustic anomalies (e.g., weather, absorption, or resonance) are variable & uncertain to predict in temporary event settings but shall be identified & mitigated through monitoring. Sound checks shall be controlled to avoid pre-sensitising residents.

Sound systems shall not be used at a level likely to cause unreasonable disturbance beyond the licence boundary outside the agreed times, except in emergencies. This means engineers & artists may prepare, move, or secure instruments & equipment, but the noise immission from this activity shall not result in disturbance. During the event, the onsite levels shall reflect audience size and dynamics, typically lower earlier in the day & transient throughout. Compressors & limiters may be used for complementary level control where appropriate.

Music equipment not associated with licensed entertainment or background use by authorised traders is prohibited.

Bass

Low frequencies (LF) carry the greatest acoustic energy and experience less geometric & barrier attenuation than higher octaves. Specific frequencies may require discrete noise control with due regard to Pop Code[6] advice (withdrawn 2018). Frequency bands between 25–160Hz shall be assessed, as excessive tonal components in this range may cause annoyance. Frequencies below 31Hz can often be attenuated by 15dB or more without unreasonably compromising the creative integrity. The tonal balance of the LC-LA differential shall not exceed 20dB.

Technical Rider

The Production or Technical Manager shall assess any touring equipment for any possible adverse effect and:

- Limit the use of any equipment that appears incompatible with this plan
- Avoid sound engineers operating outside the agreed noise level limits at the Front of House

[6] Ref 8. Griffiths, J et al *A study of Low-Frequency Sound from Pop Concerts*, (1993) – Beyond 2km a level above 80dBZ in 63Hz or 125Hz octave bands is considered significant

6.3 Build & Break

Some noise is expected during the Build, Break, & overnight changeovers. Best Practicable Means (BPM) shall be applied to eliminate, reduce, and mitigate noise emissions wherever possible.

Noise shall be minimised & confined to general hours (08:00–20:00) whenever feasible. Noisy activities of observable significance shall not commence before 08:00, & activities likely to be intrusive offsite shall be scheduled during social hours.

Construction

- Overseen by management
- Observe BS5228 recommendation
- General hours 08:00 – 20:00
- No excessive noise before 08:00
- Minimise disturbance overnight

Best Practicable Means (BPM) shall be employed to keep noise as low as reasonably possible, in line with BS5228 recommendations, including:

- Overnight build/break & change over activities maintain the lowest practical level. i.e., discernible at the boundary of any noise-sensitive premises but unlikely to be intrusive & cause unreasonable disturbance
- Careful selection of plant and construction methods
- Use of site enclosures, where practicable & necessary, to provide acoustic screening at the earliest opportunity
- Choice of transport routes & scheduling shall minimise public disruption

Changeover & load-out

Equipment shall be removed from the stage at the end of each event day. On changeover days, equipment shall be set up for the next day's lineup. Unless backline instruments & equipment are shared, items shall be dismantled, secured & loaded into vehicles immediately after each performance, allowing the following performance to be set up once the area is clear. These activities shall be appropriately supervised and pragmatically conducted to minimise noise impacts.

Disruptive activities, such as lowering equipment from flown positions and repacking into transit cases, shall be carefully managed. Significant impact noise, such as metal-on-metal operations, shall be restricted to general hours (08:00–20:00) wherever practicable. More extensive dismantling shall commence the following morning, including staging and similar temporary demountable structure removal.

Practical measures

- Significant impact noise, such as metal-on-metal operations, shall be limited to the agreed hours
- Minimise impact noise: metal-on-metal operations. Refrain from dropping heavy or metal items, e.g., tubes & decks
- Temporary use of damping/packing materials when lowering equipment or loading vehicles
- Avoid unnecessary noise: Keep conversations to a minimum. Use a 2-way radio & refrain from shouting
- Where practical, reduce idling & switch off. Request vehicles with pink noise reversing alarm where pragmatic
- Efficient handling: Optimise the handling operation & time taken to complete the task safely. Use bulk transit cases to minimise handling operations. Locate vehicles as near as possible

6.4 Plant

Plant equipment may function as static or moving noise sources, requiring careful consideration to minimise disturbance. As plant often operates continuously throughout the site, it can potentially affect nearby Noise Sensitive Receptors (NSRs). The site management team shall assess plant type, location, & operating hours to mitigate impact. Where practicable:

- Network power or hybrid supplies shall be deployed where practical
- Plant shall be switched off overnight unless essential for operations
- Overnight plant shall ensure no observable adverse effect within dwellings
- Operating plant fitted with properly lined & closed sealed acoustic covers

Plant

- Overseen by management
- Consider sensitive receptor proximity
- Observe BS5228 recommendations
- Use maintained/silenced equipment
- Minimise operating times
- Follow manufacturers procedures

6.5 Traffic

All onsite vehicular traffic, including exits onto public highways, shall be controlled following the Traffic Management Plan (TMP). Routes shall be planned to reduce community impact, unnecessary reversing, hill starts, & idling. Traffic levels inherently decrease overnight and are expected to remain reasonable. Staff working at the site interface are familiar with practices to minimise noise, such as unnecessary shouting and similar potential disturbance.

Unloading & loading

Where practicable, the location of loading operations shall consider proximity to noise-sensitive receptors. Low-impact activities such as cleaning, restocking, & handling portable equipment (e.g., backline) are less likely to cause disturbance. Bulky production deliveries shall follow the production schedule to minimise complaints. Loading operations and traffic, including forklifts, shall be managed carefully during unsocial hours to avoid disturbance. Relevant beyond London, we shall adopt the compatible guidance in the TfL Code of Practice for Quieter Deliveries.

6.6 Bars & vendors

Amplified systems are prohibited in bars and concession areas except for incidental use. Responsible staff shall minimise noise to the lowest practicable levels to prevent unreasonable disturbance. Operational noise, including deliveries and waste collection, shall be managed per the Event Management Plan (EMP). Plant equipment, such as chillers, shall be suitably located and maintained to reduce overnight noise disturbance.

6.7 Pyrotechnics

Short-duration fireworks and other pyrotechnic effects are sometimes used as part of performances at events. Any use shall be satisfactorily coordinated. A schedule of regulated displays shall be submitted to the relevant authorities in advance and operate in accordance with an agreed schedule. Any concerns will be discussed with the production team, safety contractor, and responsible authorities. Where appropriate, information may be shared with residents.

Although no specific UK guidance exists, all materials shall comply with the Pyrotechnic Articles (Safety) Regulations and BS EN 15947, limiting F2/3 category effects to $\leqslant$120 dBA impulse at 15 m. Cold Spark machines (Sparkulars) may be deployed on stage for visual effect and are generally treated as non-pyrotechnic, producing minimal noise (typically 65–75 dBA during operation). Pragmatic efforts shall be made to minimise environmental noise disturbance.

The organisers prohibit unauthorised fireworks and flares. Anyone in possession may be evicted or detained in accordance with standard procedures. This policy is clearly communicated via the website and ticket entry terms.

6.8 Noise at Work

The Control of Noise at Work Regulations 2005 (NAW) aims to prevent or reduce health & safety risks from workplace noise exposure as far as reasonably practicable. High noise levels over extended periods are inherent to live entertainment, making awareness & personal responsibility essential. Risk management is a shared responsibility across the production chain.

At a live event, most personnel are exposed to upper noise levels, requiring them to consider their noise exposure & take reasonable precautions to protect their hearing and that of others.

Occupational

- Everyone must recognise their role for providing a safe workplace
- All individuals working on-site should acquire & use appropriate hearing protection (earplugs etc.)
- Minimise time in high-volume areas
- Rotate shifts between quieter areas when practicable
- Take breaks in quiet spaces

Multiple contractors, self-employed performers & technicians are a complex environment with no single employer. Consequently, everyone must take responsibility for their hearing protection and the protection of others to help manage Noise-Induced Hearing Loss (NIHL).

Anyone working in live events should understand the risks of Noise-Induced Hearing Loss (NIHL) & the importance of effective noise control. As part of their personal 'tools of the trade', individuals should use hearing protection rated at 10-20dB (SNR15-25) when necessary, & 20-30dB+ (SNR25-35) when working in high-exposure areas such as directly in front of the stage. Further reading: Sound advice: Control noise at work in music and entertainment. HSG 260.

6.9 Public

There is no history of crowd noise issues associated with this event, & anti-social behaviour is neither typical nor tolerated. While there is no precedent or specific locus of law for controlling human activity, managing crowd noise is essential for constructive neighbour relations.

The gradual build-up, peak, and slow-down of the event shall help identify environmental noise hotspots and assess the practicability of managing crowds to minimise disturbance.

Customer dispersal shall be managed to prevent public nuisance or disorder. Staff and exit signage will remind attendees to leave quietly and respect residents.

Noise exposure

Unlike workers, no specific legislation sets noise limits for audience exposure. However, guidance recommends that:

- Sound pressure levels should not exceed 140 dB LC peak
- LAeq for the event (LAeq Event) should not exceed 107 dBA

Compliance with LAeq Event is expected due to operational FoH limits, the dynamic nature of programming, quieter changeover periods, and the event's relatively short duration compared to festivals operating after 23:00.

Compliance with LC Peak is also expected, as a pit barrier separates the loudspeakers from the audience. Where practicable, attendees shall be kept at least 3m from loudspeakers and no less than 1m under any circumstances. Audience exposure warnings are typically included in the Terms & Conditions.

Campsites

There are no public campsites or similar sources of overnight noise.

7 Appendix

A. Accreditation

This report is prepared by Gareth Hance, MIOA & checked by Claire Hance, IOAtech of Electric Star Live.

Electric Star is an award-winning independent acoustic consultancy specialising in live entertainment. With over three decades of experience, we are at the forefront of acoustic assessment and control for concerts, festivals, tours, permanent and temporary venues. We are honoured to be the incumbent acoustic contractor for BBC Radio 1's Big Weekend (2024 & 2025) and Radio 2 in the Park (2023, 2024 & 2025).

Our involvement in iconic events helps deliver compelling audience experiences while balancing creative ambition, commercial priorities, and rigorous regulatory compliance. Our portfolio includes performances by legendary artists such as Prince, Sting, and The Eagles, and our work with leading clients, including AEG Live, Live Nation, Festival Republic, and Superstruct, reflects our recognised standing within the industry.

- Institute of Acoustics – Corporate member
- IOA Diploma in Acoustics & Noise Control
- IOA Certificate of Competence in Environmental Noise Control
- IOA Certificate of Competence in Workplace Noise Risk Assessment
- IOA Certificate of Competence in Building Acoustic Measurement

B. Responsibilities

The table below outlines the key roles and responsibilities related to sound management using the RICA model.

Responsibility	Licensee	Local Authority	Event Management	Acoustic Consultant	Production & contractors	Sound Engineer	Community
Enforcement	A	R	I	I	I	-	-
Planning	A	C	R	C	C	-	-
Consultation	A	C	R	C	I	-	C
Helpline	A	I	R	C	I	-	C
Operations	A	I	R	C	C	-	-
Mitigation	A	I	R	C	R	-	-
SMP	A	C	C	R	C	I	-
Monitoring	A	I	C	R	C	I	-
Guidance	A	I	C	R	C	I	-
Reporting	A	C	C	R	C	-	-
Audio control	A	I	C	C	R	R	-

Table 7- RICA

Role Definitions

- R. Responsible: Carries out the task
- I. Informed: Must be kept updated
- C. Consulted: Provides input or guidance
- A. Accountable: Ultimately answerable for the outcome

Summary

- Licensee is accountable for almost all regulatory and strategic compliance areas
- Event Management Team & Promoter is responsible for planning, operations, review & community engagement
- Acoustic Consultant is responsible & consulted on operations, & technical decisions & control strategies
- Sound Engineers are responsible for real-time level control within operational constraints
- Local Authority maintains an oversight role with accountability for legal enforcement
- Community provides feedback & receives information. May be consulted or responsible for initiating complaints

C. Premises Licence

To follow – Application in progress.

Policy

Tewinbury Farm resides within the East Hertfordshire District Council boundary, and borders Welwyn Garden City. This neighbouring authority provides a helpful contextual guide for noise control: Statement of Licensing Policy 2025–2030.

The policy expects applicants to demonstrate, through their operating schedules, how they will promote the licensing objective of the prevention of public nuisance. Specifically, licence holders must assess and control the potential for noise disturbance arising from regulated entertainment and how these might impact sensitive receptors. The policy emphasises that any conditions attached to licences must be appropriate, precise and tailored to the individual characteristics of the venue and event location.

The policy does not prescribe a fixed noise limit. Instead, the Sound Management Plan must set out agreed control measures and reference the following relevant guidance:

- Noise Council Code of Practice on Environmental Noise Control at Concerts (1995)
- The Purple Guide to Health, Safety and Welfare at Music and Other Events (HSG195, 2014)
- Environmental Protection Act 1990
- Control of Pollution Act 1974
- Noise Act 1996
- Anti-Social Behaviour, Crime and Policing Act 2014

D. References

There are a number of relevant legislation and guidelines including, but not limited to:

- Licensing Act 2003, Premises License conditions & Local Authority Policy
- Environmental Protection Act 1990
- Noise Council Code of Practice on environmental noise at concerts 1995 (withdrawn)
- The Event Safety Guide (HSG195) & The Purple Guide https://thepurpleguide.co.uk
- Research into Attitudes to Environmental Noise from Concerts. DEFRA NANR292 (2011)
- TfL Code of Practice for Quieter Deliveries

BS7445-1:2003

BS7445 part 1 specifies the descriptions and measurements of environmental noise. This standard is a guideline for the necessary procedures and methodologies. Accurate, repeatable & traceable assessment is supported by application.

BS5228-1:2014

As the code of practice for noise and vibration control on construction and open sites, BS 5228 refers to the need for the protection against noise and vibration of persons living and working in the vicinity of and those working on construction and open sites. This Standard provides effective practical procedures for the control of noise & vibration.

Code of Practice on Environmental Noise Control at Concerts 1995 (withdrawn 2018)

The Code of Practice on Environmental Noise Control at concerts (1995) also known as the Pop Code (Pop) provides guidelines for managing music noise disturbance. The Pop Code is a guideline & endorses flexibility for different levels & criteria to address site-specific context. When assessed, the Music Noise Level (MNL) must not exceed the guidelines shown below at 1 metre from the façade of any noise-sensitive premises between 09:00 and 23:00. For events running between 23:00 and 09:00, music should not be audible inside noise-sensitive premises with the window open (PPG approximates 15-20dB attenuation). The Pop accepts no universally accepted guideline for inaudibility but assumes that music just discernible outside the noise-sensitive is acceptable.

Days/ year	Venue Category	Guideline
1-3	Urban Stadia or Arenas	The MNL should not exceed 75dB LAeq 15'
1-3	Other Urban and Rural Venues	The MNL should not exceed 65dB LAeq 15'
4-12	All Venues	The MNL should not exceed the background noise level by more than 15dB'

Table 8 - Pop code criteria

As a note to the table above, the Pop states; For those venues with more than three events per calendar year are expected, the frequency and scheduling of the events will affect the level of disturbance. In particular, additional disturbance can arise if events occur on more than three consecutive days without reducing the permitted MNL. The Pop Code states that these existing limits should continue when arrangements are satisfactory with either higher or lower noise levels than the proposed guidelines.

The MNL in an audience close to the mixer position is typically 100dBA and anything below 95dBA would prove unsatisfactory to an audience. The Pop includes a footnote regarding bass; 'Although no precise guidance is available the following may be found helpful (ref 8) a level up to 70dB in either the 63Hz or 125 Hz Octave Band is satisfactory; a level of 80dB or more in either of these octave frequency bands causes significant disturbance'. This is often misused as Ref 8 relates to 'A study of Low-Frequency Sound from Pop Concerts, J.E.T. Griffiths, J. Staunton and S Kamath (Proc IOA, Vol 15, Part 7, 1993)' which assessed disturbance beyond 2km and therefore should not be applied to receptors closer than 2km. From experience, the low-frequency sound is adequately controlled by the LAeq limit. Note to Guideline 3.4 states it is the frequency imbalance that causes a disturbance. Consequently, there is less of a problem from low-frequency content near an open-air venue.

Edinburgh Napier University researched attitudes to environmental noise from concerts (Defra NANR 292). It suggests the perceived level of entertainment noise and not the category of a venue that is significant, stating that 'annoyance' rates for urban venues appear to be linked to MNL rather than a category or concert days. The report also suggests that resident's disturbance is linked to a subjective perception of how loud the noise must be at the source. It concludes a significant percentage of the population will form an opinion of the noise's subjective annoyance irrespective of the actual level. Because of this research, events adopt similar noise criteria to Stadia or Arenas, as provided by the criteria table above. There is good evidence of licensing authorities successfully applying MNL limits of 75dBA/90dBC Leq15' to temporary venues with more than 3 and as many as 40 concert days per year.

Venue	Days/Year	Licence condition	Notes
Alexandra Palace Pk, Tower Hamlets	30 (3x type A, 4x B, 23 x C)	A: 75dB, B: 65dB, C: 55dB LAeq 15'	No low-frequency limit
Victoria Park, Tower Hamlets	Unknown	75dB LAeq 15' at 1m from façade	
Trafalgar Sq., Westminster	40 amplified events	75 dB LAeq 15' at 1m from façade	No low-frequency limit
Central Park, East Ham, London	Unknown	75dB LAeq 15' at 1m from façade	
Lambeth parks: (Clapham Common, Brockwell Park, Kennington Park, Streatham Cmn, Norwood Park)	Up to 8 major events per venue (Maximum of 40 major events)	75dBA and 90dBC Leq 15' free-field	Non-major on a case-by-case basis. Typically, 65dB LAeq 15'

Table 9- Pop Code examples

Since the publication of the Pop in 1995, best practice has progressed following changes in the events industry, increase demand for outdoor events and changes to associated guidelines and legislation such as the Licensing Act 2003. Thus, it has been withdrawn.

Licensing Act 2003

The Act (LA03) is a unified system of regulation of the activities of the sale and supply of alcohol, the provision of regulated entertainment, and the provision of late-night refreshment. In the Act, these activities are referred to collectively as “the licensable activities”. The purpose is to promote fundamental objectives including “The prevention of public nuisance” from noise.

The prevention of public nuisance is most often linked to noise & the explanatory notes advise that: “The four licensing objectives aim to ensure that the carrying on of licensable activities on or from premises is done in the public interest. The third licensing objective, the prevention of public nuisance, will not extend to every activity which annoys another person but will cover behaviour which, when balanced against the public interest, is found to be unacceptable.”

The Licensee must demonstrate how they intend to meet this objective within their operating schedule. When noise is being considered, Local Authority “responsible authorities” (typically Environmental Health departments) must regard this objective when making a representation or applying for a review of a Premises Licence.

Public Nuisance: Responsible authorities may make representations based on the public nuisance objective. Neither the Licensing Act 2003 nor the Statutory Guidance defines public nuisance, although the Guidance adopts a "broad common law" meaning. A Public Nuisance is a nuisance which is so widespread in its range and indiscriminate in its effect that it would not be reasonable to expect one person to take proceedings on their own to put a stop to it, but that it should take on the responsibility of the community. Nuisance is assessed qualitatively in terms of context, character, recurrence, duration, timing, & impact, & must materially unreasonably interfere with the ordinary use of property. Authorities can place proportionate restrictions & conditions on a licence, to ensure that noise from regulated entertainment is below the threshold for public nuisance, appropriate to the circumstances.

Conditions: The guidance accompanying the Licensing Act 2003 states that each application must be considered on its own merits. Any conditions attached to licences and certificates must therefore be tailored to the individual style and characteristics of the premises and associated events taking place & standardised conditions applied to every licensed premises should be avoided. Conditions attached to a licence must be appropriate to promote one or more of the four licensing objectives. Any conditions must also be expressed unequivocally and unambiguously to avoid legal disputes. Conditions must also be precise and proportionate to avoid duplication of legislation such as the Health & Safety at Work Act 1974 and the Environmental Protection Act 1990 (EPA).

Inaudibility: Inaudibility conditions have been prevalent in the past but have faced sufficient criticism in the courts, e.g., R (Developing Retail Ltd) v Southeast Hampshire Magistrates Court, Administrative Court, 04 Mar 2011, and now have been determined that the phrase is incompatible with the requirements of the Licensing Act 2003, as it is imprecise, unreasonable & disproportionate with the Licensing Act 2003 objectives or planning requirements under National Planning Policy Guidance (NPPG)

Environmental Protection Act 1990

The EPA90 provides powers for a Local Authority to serve a Noise Abatement Notice under section 80 to prevent unnecessary or objectionable noise emissions. Statutory nuisance is defined in Section 79 of the EPA. Local authorities are obligated to take action if noise emission is prejudicial to health or a nuisance. A nuisance means a serious & unreasonable interference with ammenity. Local authorities have a duty to investigate complaints. If a statutory nuisance is confirmed, a Section 80 abatement notice can be issued to require the nuisance to stop or be reduced. If amplified sound from an event unreasonably affects nearby residents, it may be deemed a statutory nuisance, regardless of licence conditions or levels, factoring the context, timing, character & proximity.

Control of Pollution Act 1974

The Act regulates noise, waste, and water pollution, giving authorities powers to control environmental impacts from construction, industry, and events. Under Section 61 of the Act, a proactive agreement with the council faciliates controlled noise & reduces the risk of complaints or legal action. In practice it is a voluntary application, submitted before the activity commences, setting out the working hours, impact, equipment to be used, and control measures. If granted, it offers limited protection from enforcement action under noise nuisance laws, as long as the work complies with the approved details.

Noise Act 1996 & Environment Act 2005

The NA96 introduces a ‘night noise’ offence (23:00 – 07:00) in addition to Statutory Nuisance provisions. Where the permitted level is exceeded, the LA may impose an on-the-spot Fixed Penalty Noise (FPN) &/or enter the premises to remove equipment. The Environment Act 2005 extends the NA96, supplementing the EPA90 & the Noise and Statutory Nuisance Act 1993 (NSNA93) on statutory nuisance. In practice, a local authority may investigate a complaint & may issue a warning or FPN. A warning or FPN may be served on the venue if the LA is satisfied that the noise at a complainant’s dwelling exceeds permitted levels without taking any measurements. A level not exceeding a limit may nevertheless be a statutory nuisance. Prompt remedial action is recommended.

The Control of Noise at Work Regulations 2005

NAW05 intends to prevent or reduce risks to health from noise induced hearing loss, so far as is reasonably practicable. Action is required where the Lower Exposure Action Value exceeds a daily dose of 80dB $L_{Aeq\ 8hr}$ or 140dBC_{peak}.

Transport for London: Code of Practice for Quieter Deliveries

Relevant to any residential location with routine deliveries this Code of Practice provides businesses, delivery companies & regulators with simple, practical guidance on minimising noise at the delivery point. Includes advice for assessing & managing noise impact, specific control measures, supporting information & guidance. The guide is relevant to all business sectors & promotes good practices for minimising unnecessary noise disturbance from commercial premises. The guide accepts restrictions are practical at every location & recommends a risk-based approach.

Music Noise Level examples

The Code of Practice on Environmental Noise Control at Concerts, Noise Council, 1995 (Pop Code) has been withdrawn by The Chartered Institute of Environmental Health (CIEH). While the replacement remains in consultation, the 1995 Pop Code continues to provide guidance, including 'Table 1' relating to the type of venue and number of concert days per calendar year & reproduced in Table 8 on page 20.

The table indicates a level of up to 75dB LAeq 15' is satisfactory for up to 3 concert days for some venues. The code advocates alternatives to Table 1 where arrangements are satisfactory with higher or lower values than the suggested guidelines. The revised code suggests more than 3 events per year are acceptable contingent on context.

Table 10 below summarises the conditions currently used at 25 venues. The local authority is satisfied having issued Premises Licences & there is no evidence to suggest any public nuisance caused.

Urban venues	Days per Year	Music Noise Level guidance
Rochester Castle, Rochester	4	75dB LAeq 15'
Queen Elizabeth Park, London	6	75dB LAeq 15'
Hyde Park, London	6	75dB LAeq 15'
Victoria Park, London	9	75dB LAeq 15'
Lambeth parks (5 parks), London	8	75dB LAeq 15'
Heaton Park, Manchester	6	75dB LAeq 15'
Crystal Palace Park, London	6	75dB LAeq 15'
Central Park, East Ham, London	4	75dB LAeq 15'
Beckenham Place Park, London	3	75dB LAeq 15'
Alexandra Park, London	3	75dB LAeq 15'
Bellahouston Park, Glasgow	3	75dB LAeq 15'
Sefton Park, Liverpool	6	75dB LAeq 15'
Morden Park, Merton	3	75dB LAeq 15'
Dreamland, Margate	8	75dB LAeq 15'
Victoria Park, Leicester	3	75dB LAeq 15'
York Sports Club, York	3	75dB LAeq 15'
Victorious Festival, Southsea	3	75dB LAeq 15'
High Tide Festival, Bournemouth	3	75dB LAeq 15'
Stockwood Park, Luton	3	75dB LAeq 15'
Moor Park, Preston	3	75dB LAeq 15'
On The Beach, Brighton	6	75dB LAeq 15'
Eastville Park, Bristol	6	75dB LAeq 15'

Table 10 - Example MNL limits

It is widely recognised that how often a noise occurs significantly affects how much annoyance or disturbance it causes. This means that when assessing the impact of noise, it is not just about the intensity or how loud it is perceived, but also the recurrence or how frequently it happens. For instance, large music events that occur 12 days a year are generally considered to have a greater impact than those that happen only 6 days yearly.

The community can be adequately protected from excessive Music Noise exposure by controlling the frequency and intensity. For example, the Music Noise Level can be safely increased, by limiting the number of days. This concept was considered in the guidelines for outdoor concerts, where recommended noise limits were influenced by how often these events took place.

Since the 1995 Code of Practice, there has been a significant increase in the number of outdoor events in the UK, in terms of venues used and their frequency. Surprisingly, this growth has not led to disproportionately adverse effects on communities. This suggests that the original thresholds based on frequency of occurrence, while cautious at the time, may have been unduly limiting in context. Therefore, there is scope to adjust these thresholds for a contextual increase in Music Noise Level or event days without causing unacceptable disturbance to affected communities.

E. Terminology

This section is meant as a primer to those unfamiliar with the subject and hopefully will serve to navigate some of the most basic principles & common misunderstandings. Unfortunately, deciBel (dB) values are often used with poor insight. A classic example is the newspaper headline of the "horrifying" music played at 120dB! intended to sensationalise & provide no helpful information.

Not all sound is noise. Noise is defined as unwanted sound, typically loud, annoying, or disturbing neighbours. The noise's character and tone may be more significant than the relative loudness. The bass & repetitive beat components of music have the potential to trigger complaints. Most of the jargon used relates to deciBels (dB) and the different methods sound level is assessed:

- The term "dB" is often misused & does not describe how "loud" something is
- dB is a relative unit of sound level measurement
- A change of 3dB is typically considered a "just noticeable" difference in sound level
- An increase or decrease of 10dB is perceived as a doubling or halving of the sound level
- A typical conversation is around 60dBA, a moderately busy bar is around 80dBA and 100dBA for a concert or club

A decibel is simply a way of stating a ratio between two numbers. It originates from a method to describe telegraph signal loss over long-distance cables. It does not describe how loud something is without a reference informing what, where, when & how. With the availability of cheap domestic noise meters & smartphone applications, the general public routinely shares confident nonsense with dB values that are misleading & factually inaccurate.

When the sound level is below about 65-70 dBA, the sound level does not relate well to people's noise evaluation[7]. Non-acoustic factors, including socio-economic & contextual factors such as built environment, air quality & odour, play a dominant role. Consequently, there is active discussion in the acoustics community about the validity of using decibels to determine the likelihood of nuisance. Complaint rates have strong linear relationships with urban density[8]; i.e., complaints are likely to increase in higher-density areas. The poor correlation between disturbance and sound level alone has been further demonstrated after the Covid-19 lockdown, the prevailing noise level decreased significantly, but the noise complaints increased almost three times, suggesting that reducing noise level would not always mitigate annoyance[9].

The ear is naturally less sensitive to low bass and high treble sounds than mid-range. To approximate how the ear responds, sound levels are often measured with adjustments or 'weightings' to represent the human ear. A-weighting is the most common adjustment when measuring environmental noise and reduces the level of bass and treble measured to mimic our ear's frequency response. Consequently, it is common for sound levels to be expressed as dBA. i.e., dB with A-weighting adjustment. Other weightings include C-weighting, which approximates how the ear responds in a loud environment like a concert. C-weighted criterion controls Low-Frequency Noise (LFN) more effectively than A-weighted plus the octave bands centred on 63Hz & 125Hz. Z-weighting, which means unweighted or linear response where no adjustment is applied.

Music Noise Level (MNL) is the specific noise level of the music from the venue, excluding the residual noise, which is the combination of routine noises in the environment, such as traffic, but excluding any specific noise from an event or venue. The true MNL must be calculated as the measured level less the residual. In practice, turning the event music on and off to compare the relative residual levels only with combined residual and music noise is unviable. Consequently, it is necessary to take measurements when the music is inaudible to determine a representative residual level. Decibels are logarithmic & the residual level is logarithmically subtracted from the measured level to determine the music level, not simply subtracted like regular values.

Entertainment sound levels typically fluctuate over time. A Sound Level Meter (SLM) will measure over time and calculate the Equivalent Level (Leq), an overall level similar to an average, representing the sound level while moderating transitory noises such as a door slamming or passing vehicle. The Leq measurement may also be A-weighted and expressed as $L_{Aeq\,T'}$, where T is the minutes. E.g., $L_{Aeq\,15'}$. Noise limits aim to protect neighbours from disturbance, so noise limits often refer to a sound level measured 1m from the façade of a neighbour's property where the MNL should not exceed 65dB $L_{Aeq\,15'}$ at 1m from the receptor façade.

Background levels have a specific meaning describing a statistical assessment of the level that was exceeded 90% of the time and is expressed as L_{90}. The L_{90} approximates the background or ambient sound level when 90% of the loudest sounds are omitted. Licence conditions are often derived from the Noise Council Code of Practice, which defines the background as the L_{A90} over the last 4 hours of a proposed event or the entire event if shorter. A reasonable rule of thumb is the background L_{A90} will be 5 – 10dB lower than the residual L_{Aeq} during the day. The difference will be 3 – 5 dB or less at night-time when there is less general activity.

Every measurement or calculation comes with inherent Uncertainty caused by various factors, such as variations in environmental conditions, or the acoustic properties used in the prediction model & calculation. Uncertainty can significantly affect the results' value, reliability, and validity. By quantifying Uncertainty and understanding the cause, we can make more informed decisions[10]. A margin of +/- 3dB is typical in this application.

Acoustic assessment should be carried out to an appropriate standard[11] & by competent[12] personnel. Monitoring should be carried out by someone who can demonstrate competency in environmental acoustics.

[7] Kang, J. (2007) Urban Sound Environment
[8] Kang J et al (2019) Relationship between urban development patterns and noise complaints in England
[9] Tong H et al (2021) Increases in noise complaints during the COVID-19 lockdown in Spring 2020. A case study in Greater London
[10] Further reading: R Peters et al, Uncertainty in Acoustics Measurement, Prediction and Assessment, 2019
[11] BS7445 - Description and measurement of environmental noise
[12] Institute of Acoustics Diploma or BSc in Acoustics or a Certificate of Competence in Environmental Noise Measurement, with relevant experience

A/C-Weighting

The ear not equally sensitive to sound at all frequencies at all sound pressure levels.

A-weighting is typically used to represent human response at moderate sound pressure levels. Notably A-weighting is not sensitive to low-frequencies, adjusting 50Hz by -30dB. Every 10dB reduction is perceived a half. A-weighting effectively ignores the Low-Frequency Noise (LFN) emissions.

The Pop Code references a study of LFN at 2Km from a pop concert series 1987 at Wembley Stadium by artists including U2, David Bowie, Genesis & Madonna. The study found the main sound energy occurs between 31-125Hz. It concluded that A-weighted criterion minimises complaints near the venue but can underestimate LFN annoyance at greater distances. A level over 80dBZ $63Hz_{oct}$/$125Hz_{oct}$ is likely to increase complaint in excess of 2Km from source.

Unfortunately, licence conditions often misinterpret the Pop Code applying a LFN limit closer than 2Km from the venue.

C-weighting better represents perception at higher sound pressure levels such as concerts & festivals. Unlike A-weighting, it is influenced by MNL in the significant range between 31-125Hz. Consequently, monitoring LA & LC facilitates MNL & LFN control at any distance from the venue by assessing sound level & tonal balance.

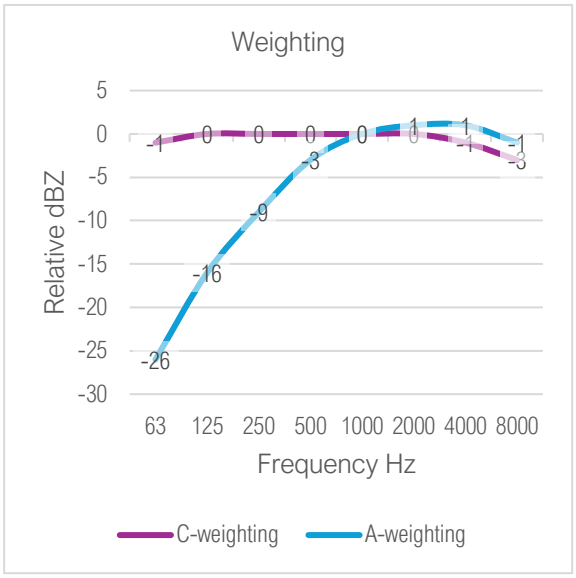

Figure 1 - Spectral weighting

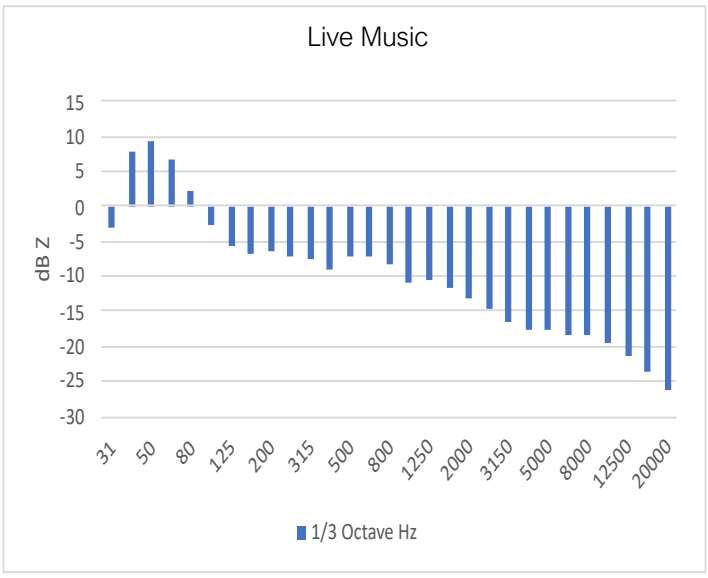

Figure 2 – Music Profile

Music profile

The acoustic model uses reference music profiles with representative spectral characteristics. The “Live Music” profile is normalised & features a 14dB LC-LA differential typical of a wide range of music genres (d&b Audiotechnik, 2018).

F. Helpline procedure

Contacts will be published locally in advance.

The objective is to resolve any issues to the satisfaction of all parties. The time scale from the first contact to resolution depends on the nature of the complaint; however, all steps will be taken in a timely fashion for any given action.

The event management team will deal with any complaints in the first instance. In the event of a complaint, the operator will immediately respond to the complainant to acknowledge contact. This will be followed by further investigation & response by the noise representative where relevant[13].

The helpline shall adopt a Data Protection Act (DPA) complaint procedure. The complaints log will be shared with responsible authorities, subject to DPA compliance.

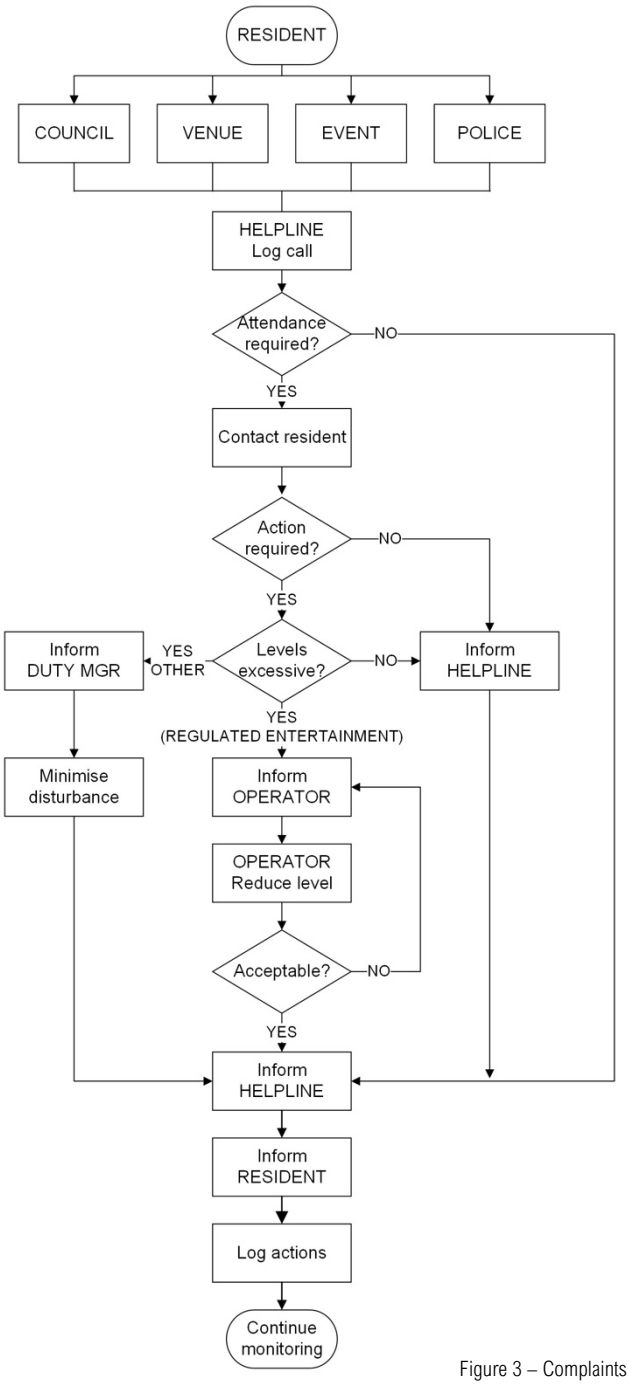

Figure 3 – Complaints

Calls will be directed to a helpline operator:

1. Relevant information shall be logged as best practical:
   - Contact details (if provided)[14].
   - Date & time received.
   - Date & times the noise is occurring
   - The location of the noise (if provided).
   - Type of noise, e.g., music, plant, etc.
   - Other relevant notes
2. A recurring complaint shall be linked to the initial incident for context & continuity.
3. The operator will attempt to discuss the matter with the complainant to understand the issues better, reassure the complainant that the event will conduct business responsibly, & advise of what steps are being taken.
4. The operator will immediately contact the sound representative.
5. The representative will take steps to identify the source of the disturbance. Measurements may be taken on request to quantify the disturbance where relevant.
6. The representative may conclude that the venue is not responsible and ask the complainant to refer to the council.
7. Once the activity producing the noise has been identified, the representative will discuss the issue with the appropriate manager, engineer or operator for that area.
8. Where simple measures can be implemented to reduce, or eliminate the disturbance, i.e., turn the bass down, the appropriate person will carry out the changes without delay. Where the issue or resolution is more complex, the representative will refer the matter to the production manager.
9. Once controls have been put in place, all relevant managers will be advised of the change.
10. The representative will contact the complainant to advise that action has been taken.
11. The representative will monitor for recurrence to ensure that the control has been effective.

[13] The Noise Representative may be the Acoustic Consultant, a member of management team, or a Community Liaison representative.
[14] For DPA compliance callers will be asked if their personal information may be retained for the purposes of assessing disturbance and shared with the responsible authorities. In absence of clear and recordable authorisation any personal information shall not be shared or retained.

G. Measurement procedure

Environmental assessment

Attended measurements shall be conducted procedurally & compliant with guidance in BS7445-1. Measurements should be representative of normal operations under typical conditions. i.e., measurement is not necessarily representative during changeovers unless a baseline survey is conducted, while the stage will be quiet.

A competent operator should take the measurement using a calibrated BS61672-1 compliant sound level meter fitted with a windshield & mounted on a tripod. The measurement procedure should generally comply with the guidance in BS7445-1. Class 1 meters shall be field-calibrated before & after events. All class 1 instruments are subject to an ISO BS61672-3 calibration scheme.

The operator shall dynamically assess the survey-associated risks & take appropriate safeguards. Risks include but are not limited to Lone working, slips & trips, moving vehicles & personal safety, including relevant safe working protocols.

The Sound Level Meter (SLM) should be placed on the tripod at a height of approximately 1.5m &, where practicable, not within 3 meters of any sound-reflecting surface other than the ground. Measurements within 3m of any surface other than ground shall be annotated as having a façade contribution. Where possible, maintain a direct line of sight to the noise source.

The operator should log the LAeq & LCeq and any relevant notes about where the measurement was taken, the time, the predominant noise observed & conditions such as traffic & weather. The advice given in BS7445/BS4142 regarding meteorological conditions should be complied with where possible primarily, the weather should be dry & wind speed should be less than 5m/s. Any tonal or impulsive characteristics should be noted, quantifying the frequency band or L_{peak} values where relevant using part octave band or FFT filters.

Measurement should be paused in the event of interfering noise sources such as non-event-related traffic or plant equipment. The meter should be field calibrated at the start & end of each day with any deviation noted in the log.

Measurements should be logged & kept on file for review purposes. A reasonable margin of error is expected to allow for meteorological conditions & the accuracy of measurements, such as practicable access to locations.

The SLM operator should communicate with the sound engineer or stage manager by messaging app/radio &/or phone, relaying any level adjustments needed. In addition to controlling the overall sound level, frequency adjustments can be made to reduce the sound at specific frequencies, often characterised as a bass beat. Where noise reductions are required, address predominant noise.

The Music Noise Level should be monitored over 1' & 15' for timely response. The sound contractor should be advised to prepare for a level reduction where the Leq 1' is likely to result in an Leq 15' value exceeding the controls.

A reasonable margin for Uncertainty is to be expected, nominally between ±3dBA.

Checklist

1. Check all equipment is ready & in working order:
    - SLM & field calibrator charged & calibrated[15]
    - Radio &/or mobile phone charged
    - Tripod or pole & windshield
    - PPE & logbook
2. Mount SLM on a tripod at 1.2-1.5m height or a pole if appropriate, e.g., upper floors
3. Position SLM no less than 3m distance from any sound-reflecting surface except the ground[16]
4. Measure criterion levels over determined periods dB $L_{eq,T}$, e.g., $L_{Aeq15'}$, $L_{Ceq15'}$ plus relevant frequency bands[17]
5. Log all relevant observations, including:
    - Sound Pressure Level using appropriate metrics for the given assessment
    - Tonal or impulsive characteristics. Predominant & secondary sound contribution
    - Weather conditions[18]
    - Boundary / façade contribution
6. Record each measurement for inclusion in a final report
7. Take appropriate action where levels exceed an acceptable range & disturbance is likely

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[15] SLM should be BS61672-1 compliant & calibrated with the guidance given in ISO17025. It is recommended that sound calibrators are traceably calibrated at intervals not exceeding 1 year, and SLM at intervals not exceeding 2 years.
[16] Note any façade contribution where a free-field is not practicable
[17] A reasonable margin for uncertainty is to be expected, nominally between ±3dBA.
[18] BS7445-1 stipulates dry weather conditions with wind speed below 5 m/s

Source control

Controlling emissions at source is critical to minimising disturbance.

The stage meters shall display $L_{Ceq\ 15'}$ & $L_{Ceq\ 1'}$, with a clear 'traffic light' to indicate the level & warn if exceeding the limit.

The meter shall display an amber warning as the level approaches the limit.

A red display indicates that a level reduction is required.

L_C reliably indicates the human response to music at performance levels.

L_C-L_A correlation adequately manages A-weighted & Low-Frequency environmental impact.

Tracking L_{Ceq} at the source provides low-frequency control with single-value simplicity.

Proactively adjusting level, tone, & dynamic settings as appropriate for the audience & artists ameliorates offsite impact by minimising rapid changes whilst delivering a good audience experience employing a gradual threshold shift.

Modern line array sound systems are the de facto standard in professional settings due to their powerful yet precise audio. These systems use multiple speakers arranged in a vertical plane, allowing for a more consistent sound projection over long distances.

Cardioid sub-bass speaker arrays are also typical, helping to address the audience while keeping the unwanted LF breakout to acceptable levels. Arrays involve multiple loudspeakers in a phase-alignment configuration to form active noise cancellation at the rear & sides of the array. This makes it ideal for situations where focus & accuracy is required.

Professional sound consoles & loudspeaker management systems provide the necessary tools for the sound engineer & system engineer to fine-tune the audio experience with features such as dynamic tone equalisation, optimised low-frequency control & time-aligned speakers for better distribution.

The engineers are competent professionals, able to balance the sometimes-conflicting demands of the artist, audience & environmental impact concerns. Ultimately, the engineer is contracted to perform their duties as instructed by their employer, the event organiser & the relevant authorities.

When asked to make necessary adjustments to the sound output, they are able & willing to comply without exception.

Collaboration & communication between the responsible authorities, organiser, sound control team & audio contractor shall be unimpeded. We recognise our regulatory obligations & the need for robust controls while delivering a good experience for the artist & audience.

H. Schedule

The table below represents the current framework. Further information will be available as planning progresses.

Details	Day 1		Day 2	
	Open	Close	Open	Close
Doors	12:00	23:00	12:00	23:00
Recorded Music	12:00	23:00	12:00	23:00
Live Music	12:00	23:00	12:00	23:00
Performance of Dance	12:00	23:00	12:00	23:00
Films	12:00	23:00	12:00	23:00
Alcohol served	12:00	23:00	12:00	23:00

I. Topography

The venue lies within gently undulating valley parkland east of Welwyn Garden City, framed by rising ground toward Burnham Green and Bramfield Woods. The River Mimram runs west–east through the site, forming a shallow floodplain with elevations typically between 40–55 m Above Ordnance Datum (AOD), rising to over 120 m AOD on the surrounding ridges. These higher landforms, together with mature woodland and hedgerow boundaries, provide effective natural acoustic screening and gradual attenuation of sound propagation toward nearby settlements. The landscape comprises open pasture, tree-lined field margins, and small wooded areas, offering both visual enclosure and topographical absorption beneficial for sound containment.

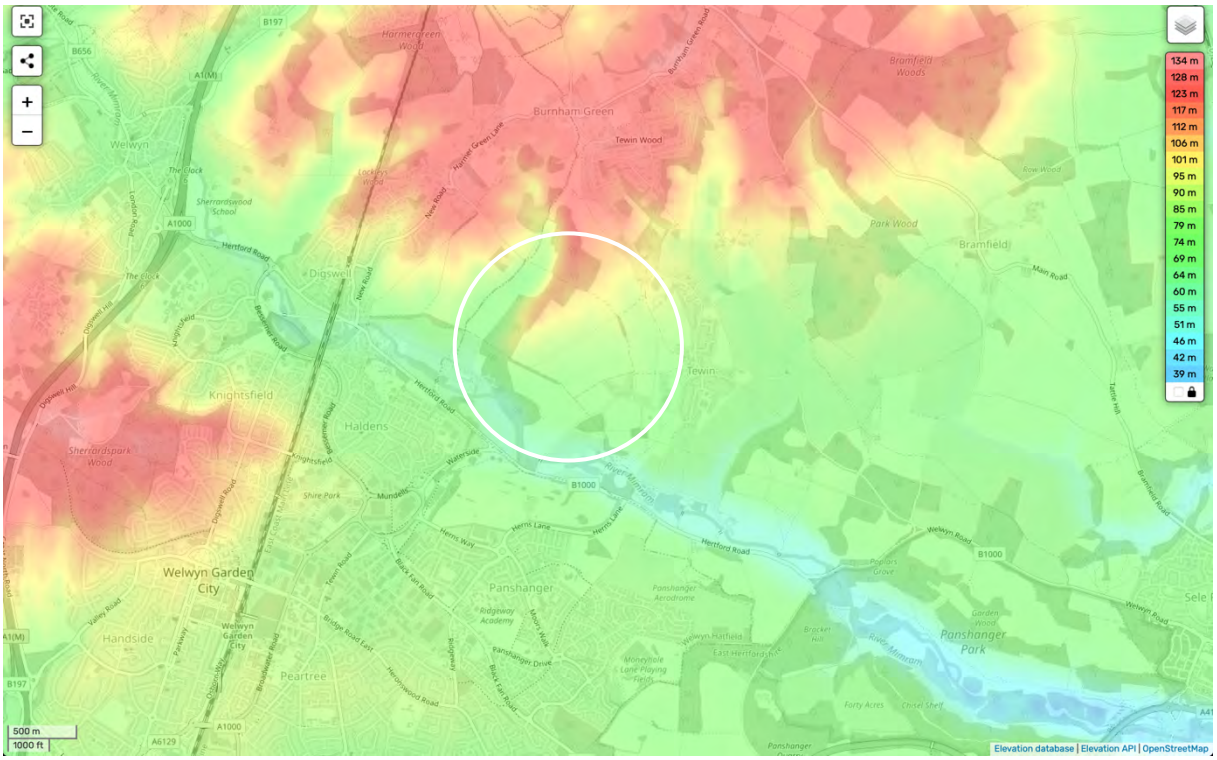


Figure 4 - Topography

J. Road Traffic Noise

Road Traffic Noise (RTN) around Tewinbury is primarily influenced by the A1(M) to the west and the A414 (Hertford Road) corridor to the south. Both routes carry consistent diurnal traffic. DEFRA's 2019 Environmental Noise Directive mapping indicates average daytime levels of approximately 60–65 dB Lden along the A1(M) corridor, with levels reducing rapidly across agricultural land toward Tewin Bury Farm, where ambient conditions are notably quieter, typically below 55 dB Lden.

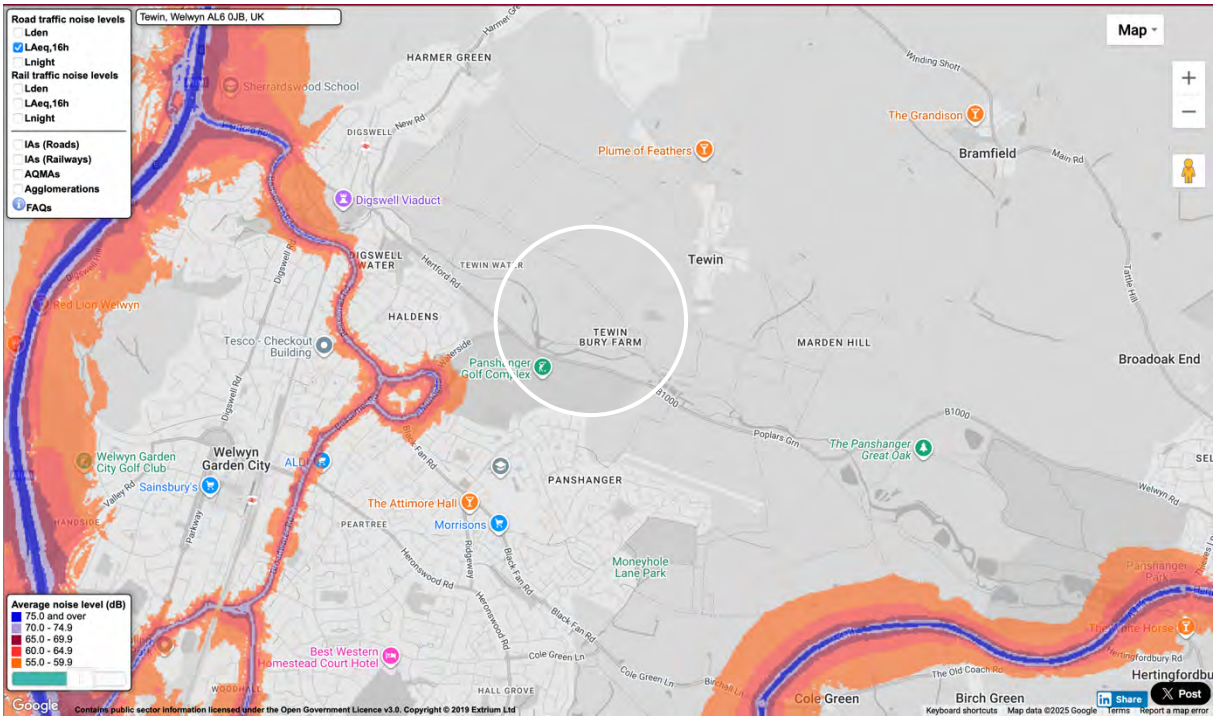


Figure 5 –RTN Lden

K. Predictions

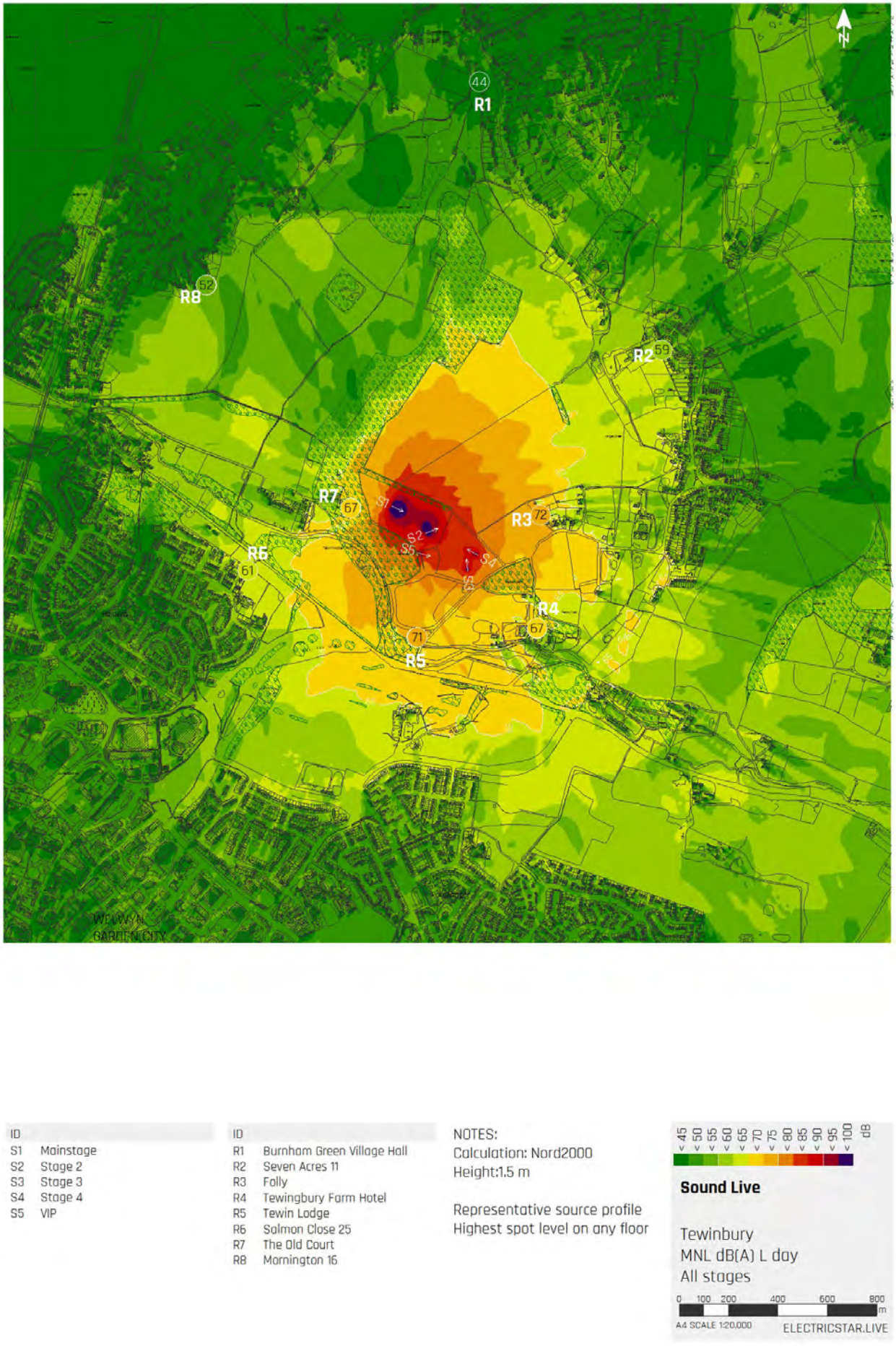
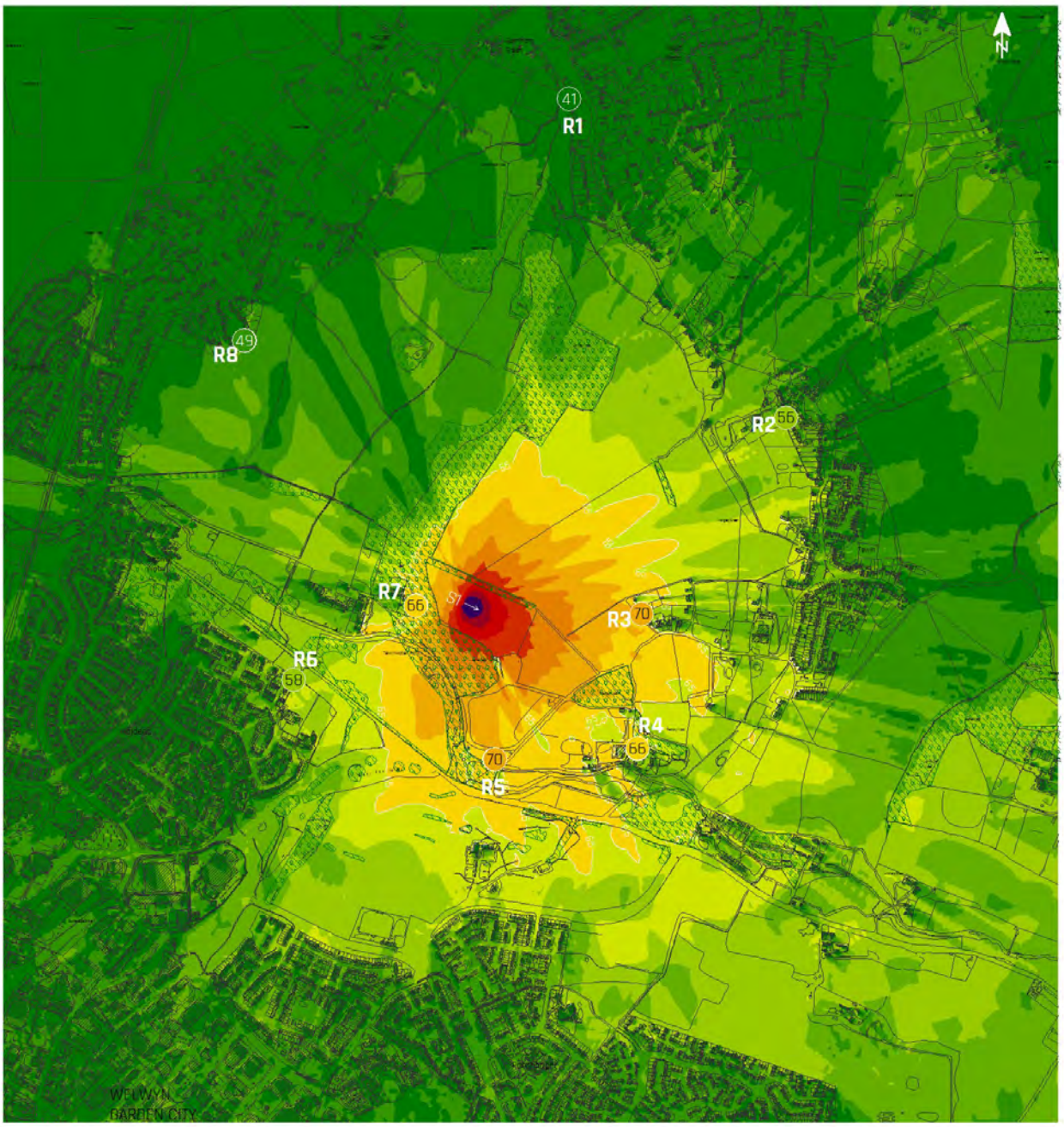


Figure 6 – MNL dBA

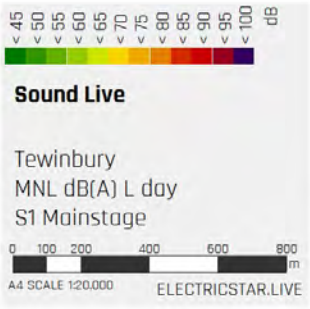


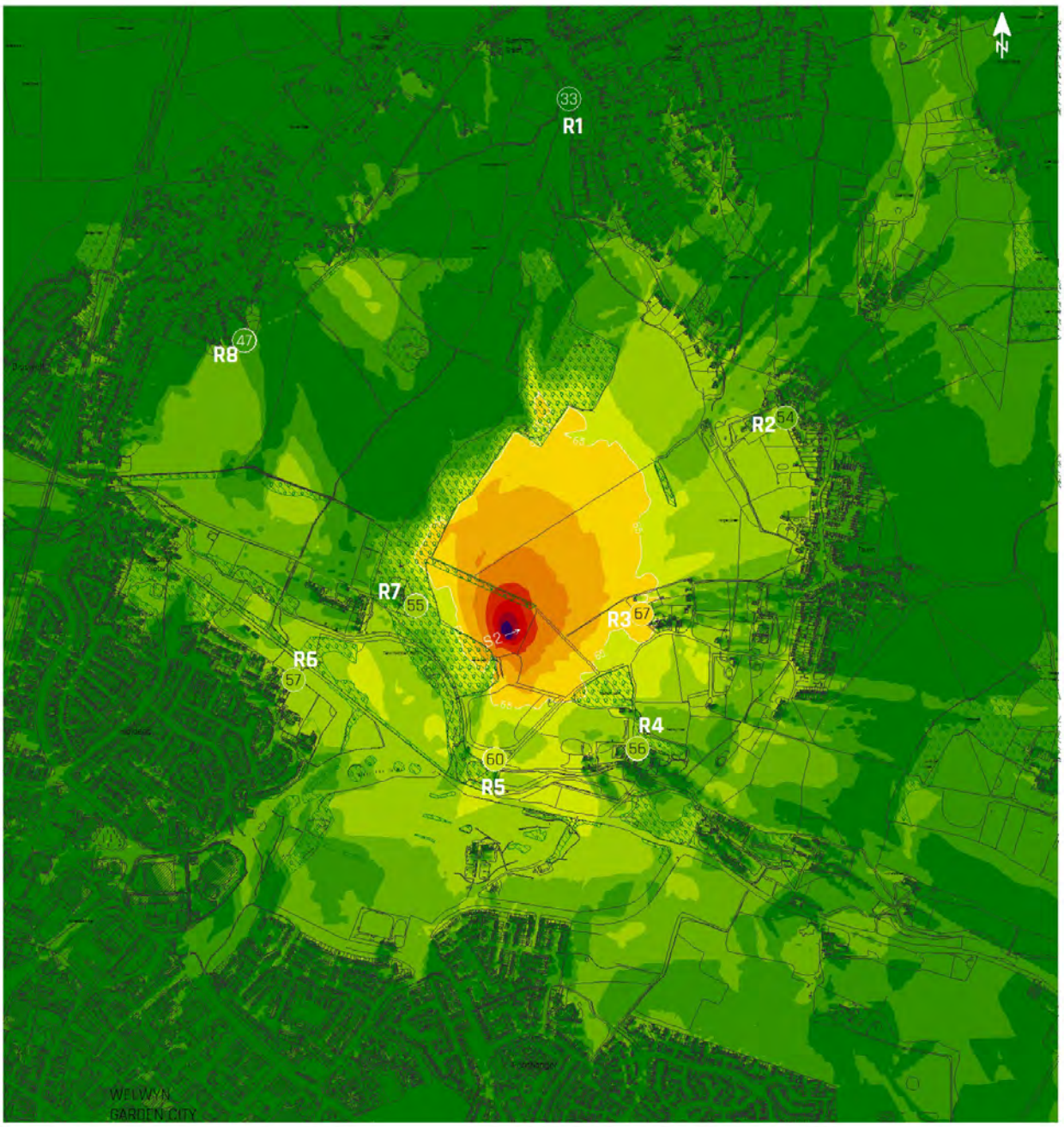
ID	
S1	Mainstage
S2	Stage 2
S3	Stage 3
S4	Stage 4
S5	VIP

ID	
R1	Burnham Green Village Hall
R2	Seven Acres 11
R3	Folly
R4	Tewingbury Farm Hotel
R5	Tewin Lodge
R6	Salmon Close 25
R7	The Old Court
R8	Mornington 16

NOTES:
Calculation: Nord2000
Height:1.5 m

Representative source profile
Highest spot level on any floor





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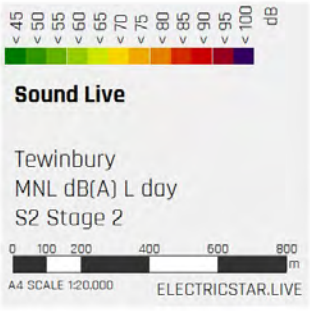

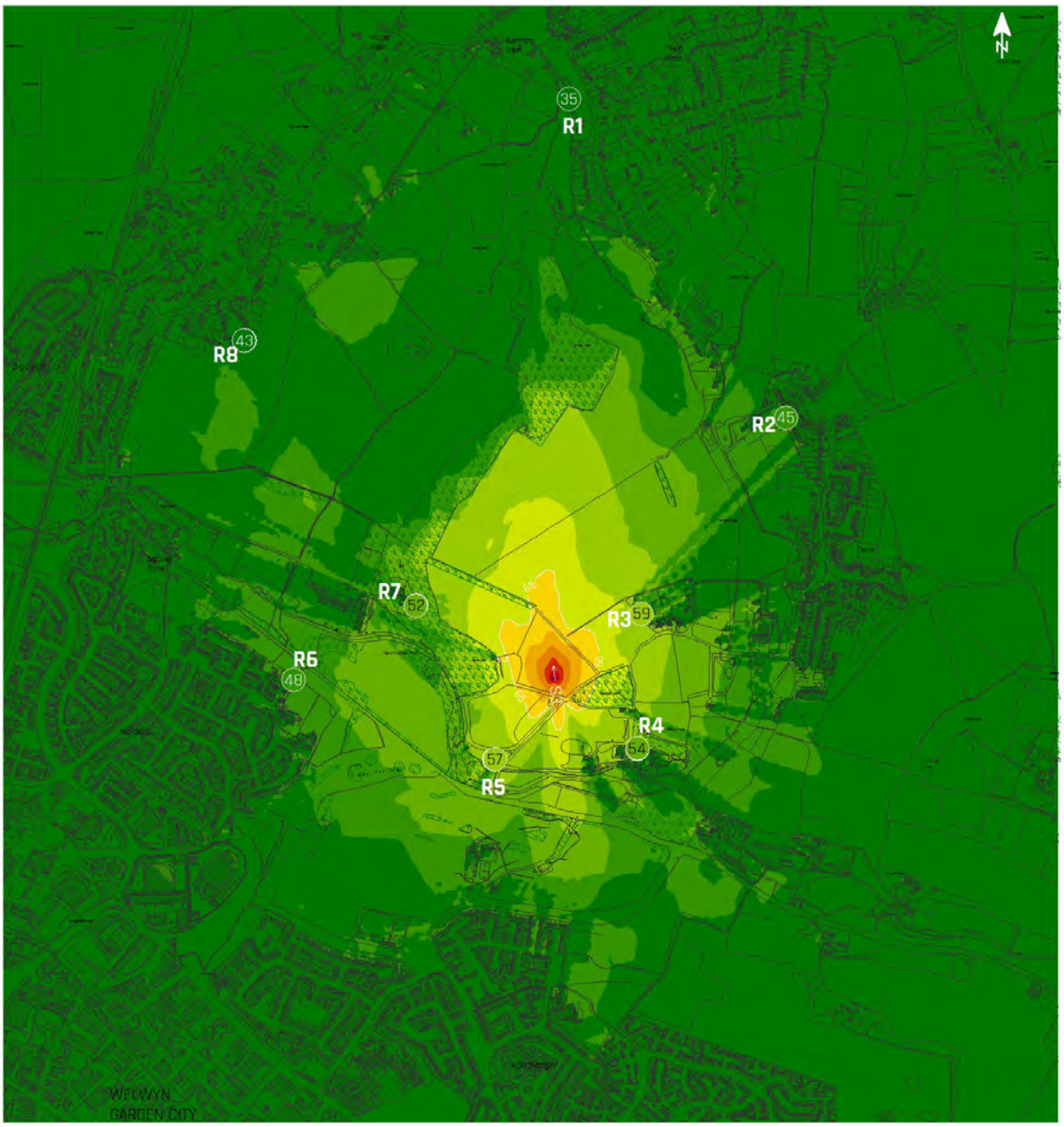

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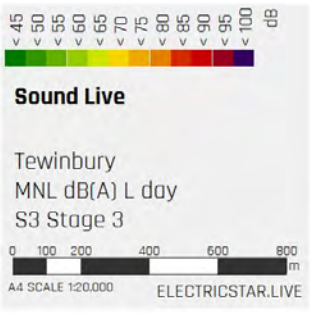
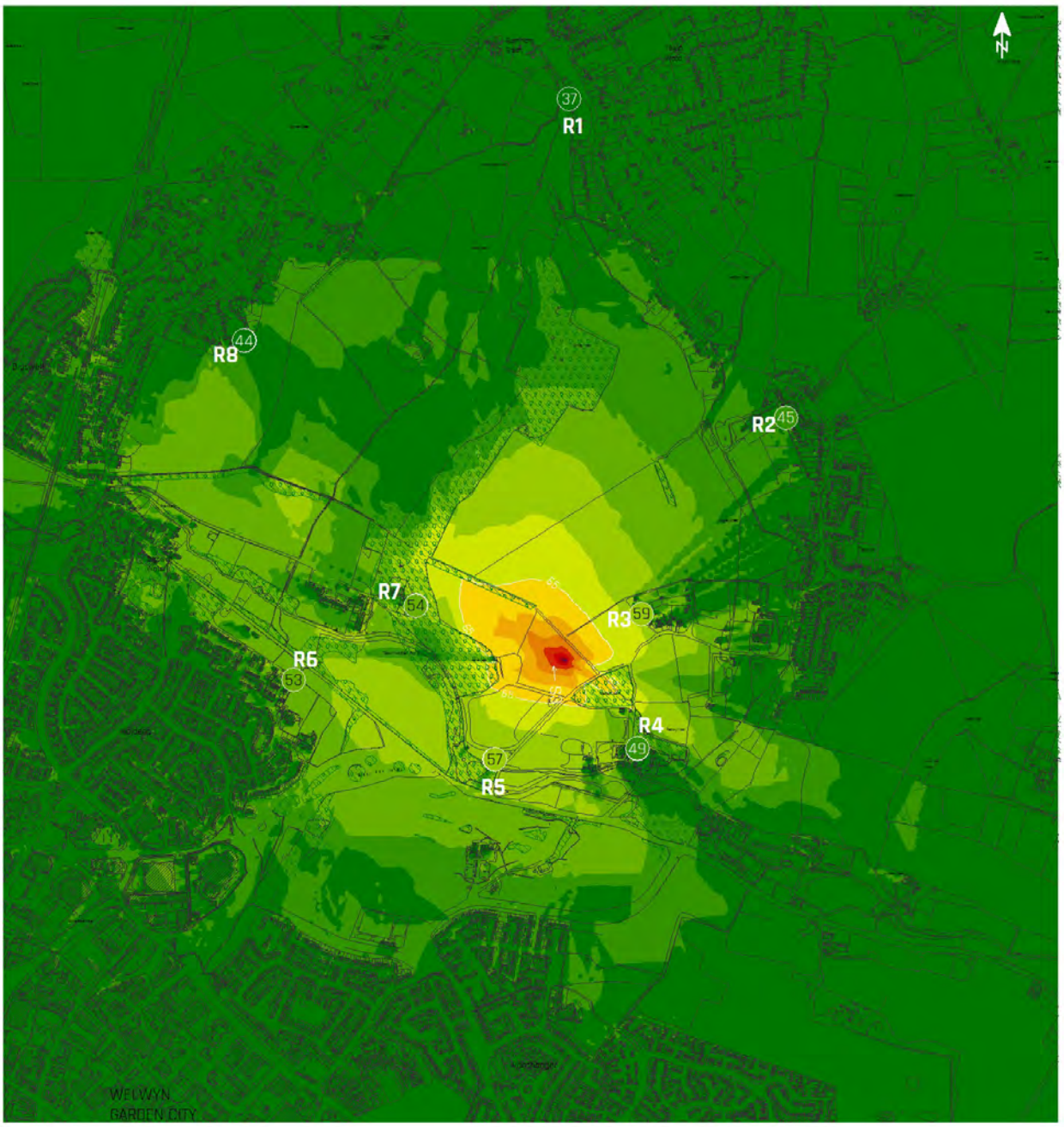
R8	Mornington 16

NOTES:
Calculation: MNL dBA S3
Height:1.5 m

Representative source profile
Highest spot level on any floor





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NOTES:
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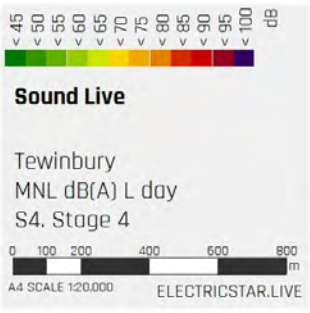
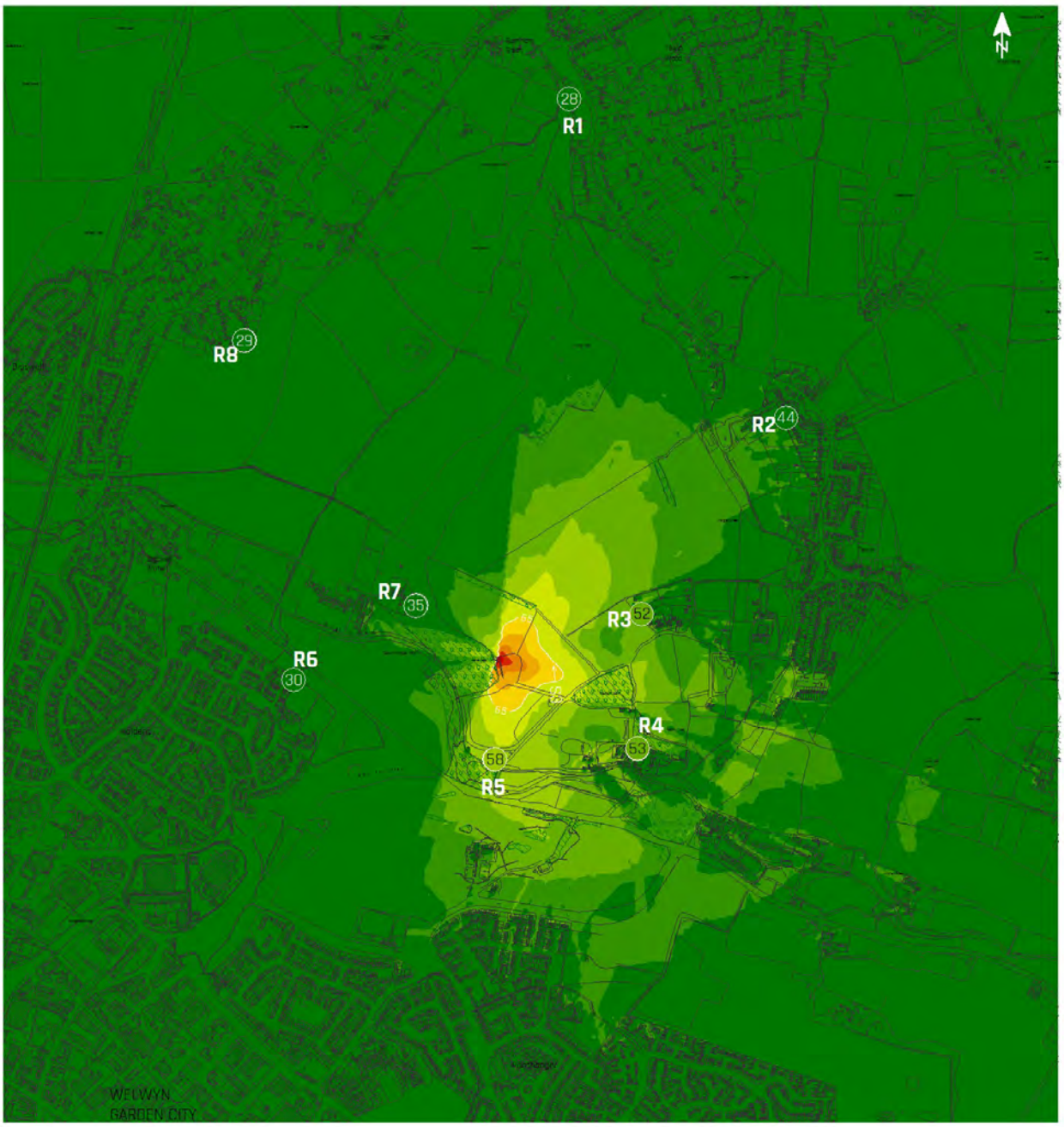
Height:1.5 m

Representative source profile
Highest spot level on any floor





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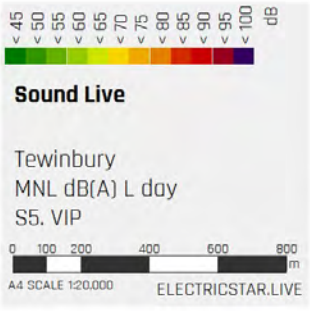

L. Map

Figure 8 - Aerial

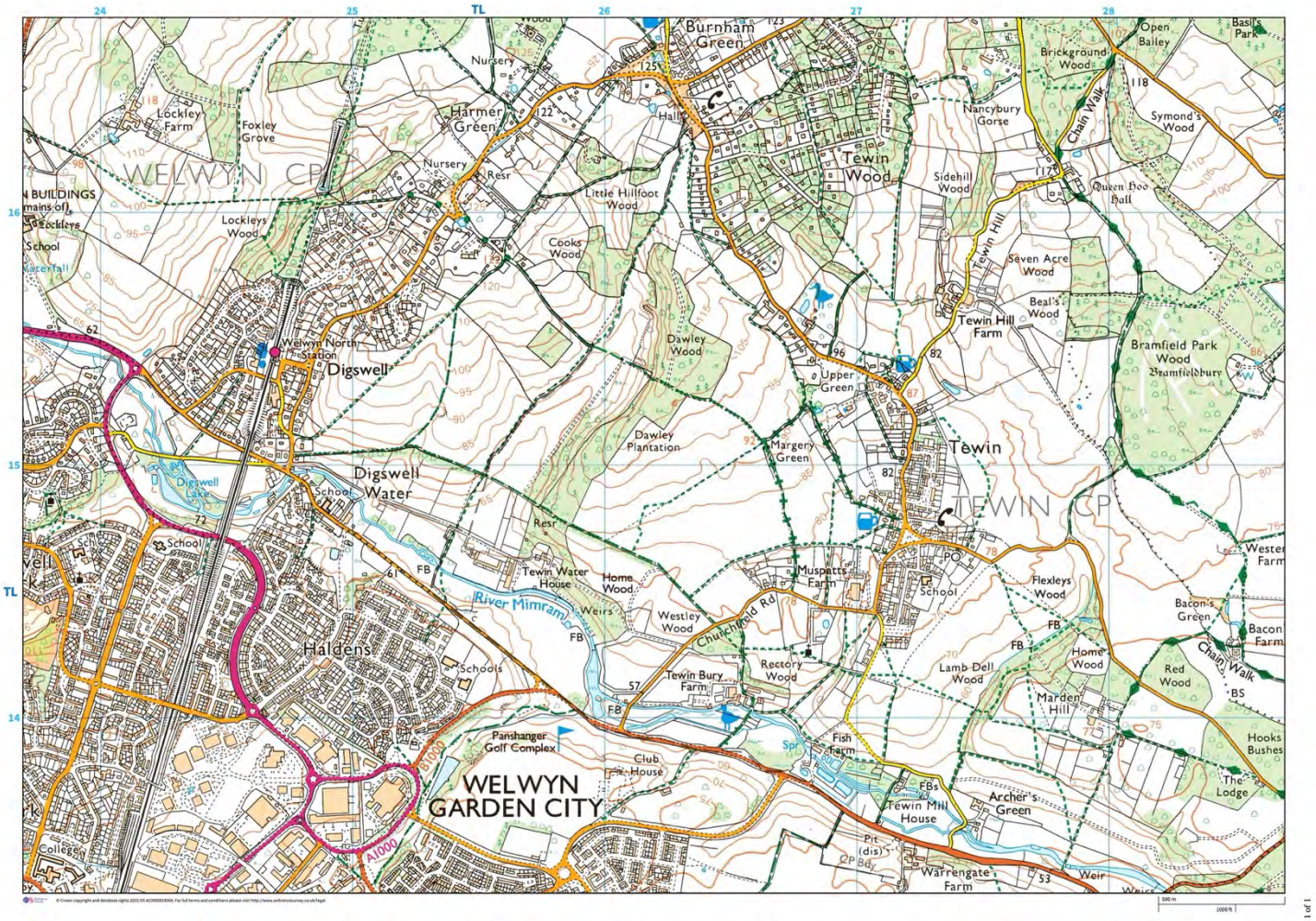

Figure 7 – OS Map

Sound Live

Distance
- 500m
- 1km
- 2km

Stage
- S1
- S2
- S3
- S4
- S5

Receptor
- R1 Burnham Green Village Hall
- R2 Seven Acres 11
- R3 Folly
- R4 Tewingbury Farm Hotel
- R5 Tewin Lodge
- R6 Salmon Close 25
- R7 The Old Court
- R8 Mornington 16

AL6 0JB