IN THE MATTER OF :

S53 LICENSING ACT 2003 PREMISES LICENCE REVIEW

THE MUSEUM GARDENS, YORK

YORK MUSEUMS TRUST

Premise Licence Holder

PREMISES LICENCE HOLDERS BUNDLE

York 2024

Y01 7FR

Future Sounds

we organise chaos

Key:

- FENCE - HERAS
- FENCE - MET BARRIER
- FENCE - STAGE BARRIER
- FENCE - PEDESTRIAN BARRIER
- FENCE - SMART HOARD
- FENCE - HI-HOARD
- TRACKMATT
- PITCH - CONCESSION
- PITCH - MARKET
- PITCH - SPONSOR
- AREA - OUT OF BOUNDS
- SECURITY POINT & EE WIDTH
- SECURITY POINT
- TRAFFIC MGMT POINT
- TOWER LIGHT

No.	Date	Revision Notes

Sheet Title:

Arena

Clare Goodchild	1:5000 @ A3
Project Manager	Issue Date: 22/04/24
Drawn By: Tom Wilkinson	Issue Number: 3.4
Project ID: Y01R24	

Event planner

EVENT TITLE	Live at York Museum Gardens
EVENT ORGANISER	Rachel Hill
VENUE / LOCATION	York Museum Gardens
EVENT START DATE & TIME	Thursday 18th July 2024
ADDITIONAL INFO	Venue Licensee - Richard Saward

EVENT END DATE & TIME: Saturday 20th July 2024

Event Agenda

DATE/TIME	TOPIC	PRESENT
11th October 2023 @ 14:00 - 14:30	Submitted notification of event to SAG via Dom Berry	
29th October 2023	1st Community Engagement letter drop 1	Completed by Rachel
7th November 2023 @ 10:00 - 10:30am	1st SAG to discuss event	All CYC SAG members, Rachel, Dom, Richard, Clare
17th November 2023 @ 16:00 - 20:00	1st Community Engagement Meeting @ Hospitium	Clare, Tom, Rachel, Dom & Richard
13th March 2024 @ 10:15 - 11:15am	2nd SAG to discuss event	As above
22nd March 2024	2nd Community Engagement letter drop 2	Completed by Rachel
22nd May 2024 @ 11:00 - 12:00	3rd SAG to discuss event	As above
17th June 2024 @16:00 - 18:00	2nd Community Engagement Meeting @ Fairfax Room, Yorkshire Museum	Clare, Tom, Rachel, Dom & Richard
26th June 2024 @ 10:15 - 11:15	4th SAG to discuss event	As above
15th July 2024 @ 10:00 - 14:00	Counter Terrorism Training	Event team/emergency services/
16th July 2024	Final Residence information doc	Completed by York Local Link distro team
14th August 2024 @ 10:30 - 11:30am	Post event SAG	All above members (Rachel was unable to attend)

Event notes

DISTRIBUTION LIST
Community engagement distribution list
☐ Marygate
☐ St Leonards Mews
☐ St Leonards Place
☐ St Mary's Lane
☐ Gaimanhoe Lane
☐ Hetherton Street
☐ Frederick Street
☐ Esplanade Court
☐ Star in the city
☐ Dame Judi Dench Walk
☐ St Olaves Church

Event Team

NAME	JOB TITLE	COMPANY	
Rachel Hill	Project Manager	Futuresound	
Andy Smith	Head Booker/Director	Futuresound	
Arron Hutchinson	Finance Director	Futuresound	
Colin Oliver	Managing Director	Futuresound	
Toby Womack	Promoter	Futuresound	
Ryan North	Bars Manager	Futuresound	
Mia Jackson	Asst Promoter	Futuresound	
Controlled Space		Security Company	43
Dom Berry	Safety Officer	Freelance	
Clare Goodchild	Operations Manager	Freelance	
Tom Wilkinson	Site Manager	Freelance	

Dear Resident,

We are very happy to share that from 18th - 20th July 2024, York Museum Gardens will host their inaugural concert series. As some of the closest residents to the Gardens, we wanted to circulate some information to introduce ourselves, share our plans and welcome you to the event in 2024.

Futuresound Events based in West Yorkshire are very pleased to be working in partnership with the Museum Gardens to deliver this series of concerts. Futuresound Events pride themselves on working closely with local suppliers and residents alike, adding to the cultural footprint the city has to offer.

This letter will give you important information about the events and outline steps taken by organisers to minimise the event's impact on local residents.

Please find **key dates below** and **key contacts overleaf.**
Build Phase 15th - 18th July
Live shows 18th - 20th July
Break Phase 21st - 23rd July

Build & Break Period

During this period, public access routes will be maintained wherever possible. Where in the interest of public safety it is not possible, it will be clearly communicated through signage and suitable diversion routes will be in place to minimise inconvenience to users of the Gardens.

All build and break operations will be carried out within parameters set by City of York Council. After the event all public spaces will be returned to the best possible standard.

We apologise for any inconvenience caused during this time and thank you in advance for your understanding.

Timings

INSERT TABLE

Sound Management

Sound Levels set by City of York Council will be monitored by specialist, independent Sound Consultants, both on and off-site. The data from those devices will be available to both our Sound Management Team and City of York Council in real-time to respond to any issues.

We have used sound modelling to inform all of our site and audio design to minimise off-site sound impact and will have Stage Managers and a Sound Management Team to ensure performance end times are adhered to.

In order to minimise noise disruption to residents and businesses, it is required that a noise propagation test is carried out on the stage the day prior to the first event, DATE AND TIME. During this time, sound systems will be individually tested for up to five minutes at any one time to ensure they are set to appropriate levels and are in line with required conditions.

On event days, sound checks are required ahead of opening to allow artists to prepare for their performance and to set appropriate, artist specific levels. These will take place for no more than 90 minutes before the start of the event, as shown in the table above.

If you have any concerns regarding sound levels during any of the live events, please call the Resident Line or contact YMG@futuresoundgroup.com, where we can arrange attendance of a sound management person to investigate and advise.

Traffic

The event will offer no parking, and will advertise this in advance to discourage those who want to attend by car.

Whilst we will have trucks entering and departing from the site in order to construct the event, we are working with the City of York Highways department to ensure impact on traffic is minimised.

On the event days, temporary traffic management will be in place to assist with minimising the impact on the local area. This includes:

- No waiting cones installed on Museum Street around the entrance to Museum Gardens
- Assisted crossing of pedestrians on Museum Street at the end of the concerts each night
- Dynamic closures of Dame Judy Dench Walk and Wellington Row to assist with crowd management

Traffic teams will be positioned to assist with traffic and public movement during these times.

Public Transport

Bus and rail services will run as usual, but please check with relevant operators directly regarding industrial strike action and maintenance works.

Safety

The event organisers work with City of York Council to ensure the events are delivered to the highest standard. During the event, the organisers work closely with the Police and other statutory bodies and meet regularly to respond quickly and effectively to issues raised by residents.

The safety and egress plans have been developed to manage the impact on the surrounding area and include security personnel positioned at key locations, temporary toilets, and waste management.

Contacts

You can contact your **Community Liaison Team** who will do their utmost to support and advise on any issues or concerns you may have.

The team is reachable through the below emails and phone numbers:
YMG@futuresoundgroup.com
Resident Line from 15th July to 22nd July 2024
NUMBER

For FAQs and more information visit the dedicated community web page which is updated regularly https://www.futuresoundgroup.com/york-faqs

If you would like this letter in an Easy Read format, please email YMG@futuresoundgroup.com

Dear Resident,

As we are moving towards the inaugural Live at York Museum Gardens, we would like to invite you to our second community meeting on 5th April 2024. The meeting will be held so you can meet the organisers, discuss the plans, and ask any questions that you may have.

The meeting will take place between 16:00 and 18:00 in The Fairfax Room (within the Yorkshire Museum), Museum Gardens. You can enter the gardens via Marygate or Museum Street entrance. The meeting will be held as a 'drop-in' session, so you can attend anytime between these hours. If you would like to attend the meeting, please use the QR code below to RSVP, to enable us to cater for teas and coffees.

If you cannot attend but would like to be added to our community address book, then please also use the QR code to enter your details. We will use this community address book to send updates over the months as we progress towards the event.

Please see the below to familiarise yourself with the processes Futuresound Events and York Museum Gardens are putting together to reduce any inconvenience you may incur.

Key Information
Show dates are Thursday 18th July - Sunday 21st July 2024
Show times will be 17:00 - 22:30 each day.

Minimising Impact

- The event will offer no parking, and will advertise this in advance to discourage those who want to attend by car.
- Whilst we will have trucks entering and departing from the site in order to construct the event, we are working with the City of York Highways department to ensure impact on traffic is minimised.

- Sound Levels set by City of York Council will be monitored by specialist, independent Sound Consultants, both on and off-site. The data from those devices will be available to both our Sound Management Team and City of York Council in real-time to respond to any issues.
- We have used sound modelling to inform all of our site and audio design to minimise off-site sound impact.
- We will have Stage Managers and a Sound Management Team to ensure performance end times are adhered to.
- Sound checks and working hours will be limited to the shortest possible duration.
- We are working with North Yorkshire Police and our Security Management team to ensure strict controls reduce potential for nuisance, and to enable us to respond quickly and effectively to issues raised.
- A safe egress plan will be developed to manage impact on the surrounding areas.
- The event plans will include cleaning and waste removal, and temporary toilets.
- The event will ensure plans are in place for sustainability and minimal environmental impact, including sorting waste into recycling streams, and banning single use plastics.
- We will minimise the impact on the Gardens and Museum for the public, building in sterile areas where possible to allow the continued use of the space.
- We will have a dedicated community phone line during the construction and live event, to report any issues, which will be logged and responded to as required.

How to contact us
In addition to the scheduled engagement sessions, we have an email address which is monitored year-round. Should you wish to ask us anything, please drop us a line and we will get back to you.

ymg@futuresoundgroup.com

Local Involvement
We will be supporting several local organisations in the immediate neighbourhood, as well as welcoming local business and performers to be part of the event. We will over time extend partnerships into the further surrounding areas and welcome ideas of local organisations that would like to get involved in the event.

We look forward to seeing you at our engagement session.

LOCAL INFORMATION LETTER

Dear Resident,

We are very happy to share that from the 18th – 20th July 2024, York Museum Gardens will host their inaugural concert series. As some of the closest residents to the Gardens, we wanted to circulate some information to introduce ourselves, share our plans and welcome you to the event in 2024.

Futuresound Events, based in West Yorkshire, are very pleased to be working in partnership with the Museum Gardens to deliver this series of concerts. Futuresound Events pride themselves on working closely with local suppliers and residents alike, adding to the cultural footprint the city has to offer.

This letter will give you important information about the event and outline steps taken by the organisers to minimise the event's impact on local residents.

Please find key dates below and key contacts overleaf:
BUILD PHASE: 15th – 18th July
LIVE SHOWS: 18th – 20th July
BREAK PHASE: 21st – 23rd July

CONSTRUCTION PERIOD

During this period, public access routes will be maintained wherever possible. Where in the interest of public safety it is not possible, it will be clearly communicated through signage and suitable diversion routes will be in place to minimise inconvenience to users of the Gardens.

All build and break operations will be carried out within parameters set by City of York Council. After the event, all public spaces will be returned to the best possible standard.

We apologise for any inconvenience caused during this time and thank you in advance for your understanding.

TIMINGS

DAY	THU	FRI	SAT
DATE	18.07	19.07	20.07
EVENT	JACK SAVORETTI	SHED SEVEN	SHED SEVEN
TYPE	TICKETED	TICKETED	TICKETED
SOUND CHECK	14:00 – 17:00	14:00 – 17:00	14:00 – 17:00
EVENT START	17:00	17:00	17:00
LISCENSED UNTIL	22:30	22:30	22:30
STAGE FINISH	22:30	22:30	22:30

SOUND MANAGEMENT

Sound levels set by City of York City Council will be monitored by specialist, independent Sound Consultants, both on and off-site. The data from those devices will be available to both our Sound Management Team and City of York Council in real-time to respond to any issues.

We have used sound modelling to inform all our site and audio design to minimise off-site sound impact and will have Stage Managers and Sound Management Team to ensure performance end times are adhered to.

In order to minimise noise disruption to residents and businesses, a noise propagation test is carried out on the day prior to the first event, Wednesday 17th July. During this time, the stage's sound system will be tested to ensure it is set to appropriate levels and is in line with required conditions.

On event days, sound checks are required ahead of opening to allow artists to prepare for their performance and to set appropriate, artist specific levels. These will take place before the start of the event, as shown in the table above.

If you have any concerns regarding sound levels during any of the live events, please call the **Resident Line** or contact ymg@futuresoundgroup.com, where we can investigate and advise.

TRAFFIC

The event will offer no parking and will advertise this in advance to discourage those who want to attend by car.

Whilst we will have trucks entering and departing from the site to construct the event, we are working with the City of York Highways department to ensure impact on traffic is minimised.

On the event days, temporary traffic management will be in place to assist with minimising the impact on the local area. This includes:

- No waiting cones installed on Museum Street around the entrance to Museum Gardens
- Assisted crossing of pedestrians on Museum Street at the end of the concerts each night
- Dynamic closures of Dame Judy Dench Walk & Wellington Row to assist with crowd management

Traffic teams will be positioned to assist with traffic and public movement during these times.

KEY

TRAFFIC CONTROL ZONE
'No Waiting' cones will be positioned in these areas to control flow of traffic

PEDESTRIAN AREA
Controlled space for pedestrian crossing and foot egress route

TRAFFIC OPERATIVE STATIONS
The car park and approach to the road will be monitored by traffic operatives

FOOTPATH CLOSURES
In the interest of public safety, these footpaths may be closed at certain times on event days.

PUBLIC TRANSPORT

Bus and rail services will run as usual, but please check with relevant operators directly regarding industrial strike action and maintenance works.

SAFETY

The event organisers are working with City of York Council to ensure the events are delivered to the highest standard.

During the event, the organisers work closely with the police and other statutory bodies and meet regularly to respond quickly and effectively to issues raised by residents.

The safety and egress plans have been developed to manage the impact on the surrounding area and include security personnel positioned at key locations, temporary toilets and waste management.

CONTACTS

You can contact our **Community Liaison Team** who will do their utmost to support and advise on any issues or concerns you may have. The team will be reachable through the below email and phone number:

ymg@futuresoundgroup.com

Resident Line from 15th July to 22nd July 2024: 01904 222 021 (Open between 10:00 - 23:00 each live event day and between 08:00 – 18:00 on construction days)

For FAQs and more information, visit the dedicated community web page which is updated regularly

futuresoundgroup.com/york-faqs

If you would like this letter in an Easy Read format, please email ymg@futuresoundgroup.com


Hedley House
St Peter's School 8-13
Bootham Terrace
St Mary's
A19
Portland St
363
Lord Mayor's Walk
Bootham Row Car Park
York Art Gallery
National Trust - Treasurer's House, York
York Minster
Marygate Car Park
Museum Gardens
Duncombe Pl
Deangate
Museum St
Low Petergate
Barley Hall
McDonald's
Railway
River Ouse
Betty's Café Tea Rooms
York's Chocolate Story
Memorial Gardens
Leeman Rd
Bill's York
Shambles Market
Malmaison York
Wellington Row
Coney St
Parliament St
Market St
Principal York
Google My Maps
Radisson Hotel York
Boots

Bootham
North Parade
Queen Anne's road
Bootham terrace
Sycamore Terrace
Longfield terrace
Frederic Street
Marygate Lane
Marygate
St Marys
St Marys Lane
Bootham
Art Gallery
Museum gardens
Scarborough bridge

Minster
Assembly rooms
Deansgate Gate
Deans park
Libary
Ogleforth
Coppergate Pavement
Gov office
Spen Lane
St Andrewgate
Aldwark
Jewbury
Peasholme green
The Stonebow
Hungate
Dundas st
Garden place
Nr Foss Navigation

Railway Museum
Jubilee terrace
Kingsland Terrace
Aldborough way
Carlton St
Carlise St Leeman Road
National Railway Museum
Station road

MUSEUM GARDENS
BACKGROUND NOISE MEASUREMENTS

QUALITY MANAGEMENT

Document Ref: 234/V01/2024
Prepared for: Futuresound & Museum Gardens

Revision	Prepared by	Issue Date
01 – First Issue	Matt Butler MIOA	15/04/2024

Blue Sky Acoustics Ltd
Peter Lane
Popeshead Court Offices
York
YO1 8SU

Contact:
Tel: 01904 234 740
Email: info@blueskyacoustics.co.uk
Registered in England & Wales No 8367593

MUSEUM GARDENS

BACKGROUND NOISE MEASUREMENTS

Appendix A – Measurement Data

The Table below details the background noise measurements (LA90) undertaken in 15-minute periods. The arithmetic average is calculated for all measurement data at each location.

Time	LA90, 15 min, dB (Background Levels)			
	Westgate Apartments	Marygate	Lendal Tower	Leonard's Mews
Saturday 30th March				
18:23	46.2			
18:45		44.9		
19:08			50.5	
19:26				50.3
20:04	44.2			
20:27		43.8		
20:46			49.7	
21:04				51.2
21:31	44.6			
21:58		43.1		
22:23			49.9	
22:40				49.9
Thursday 11th April				
18:36		45.6		
18:58				51.2
19:16			51.1	
19:35		46.7		
19:55	45.6			
20:12			51.0	
20:35		43.8		
20:55				50.4
21:19	44.1			
21:40		43.6		
22:02			48.4	
22:23				49.6
22:44	43.9			
Average	44.8	44.5	50.1	50.4

LS

The Table below details the ambient noise measurements (LAEQ) undertaken in 15-minute periods. The logarithmic average is calculated for all measurement data at each location.

Time	LAEQ, 15 min, dB (Ambient Levels)			
	Westgate Apartments	Marygate	Lendal Tower	Leonard's Mews
Saturday 30th March				
18:23	48.8			
18:45		48.8		
19:08			57.9	
19:26				58.2
20:04	47.1			
20:27		46.3		
20:46			58.4	
21:04				59.9
21:31	48.3			
21:58		46.1		
22:23			57.7	
22:40				61.1
Thursday 11th April				
18:36		47.4		
18:58				62.9
19:16			58.3	
19:35		48.8		
19:55	48.6			
20:12			57.8	
20:35		46.7		
20:55				61.5
21:19	48.2			
21:40		46.4		
22:02			58.1	
22:23				62.8
22:44	48.1			
Average	**48.2**	**47.4**	**58.0**	**61.4**

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Sussex House Business Park. Unit 7
270-274 Old Shoreham Rd
Brighton & Hove. E.Sx. BN3 7DX. UK

SOUND MANAGEMENT PLAN

LIVE AT YORK MUSEUM GARDENS

YORK MUSEUM GARDENS
YORK. YO1 7FR

TH 18 - SA 20 JUL 2024

Draft 03	Subject to client review and approval
Client:	Futuresound Group
Report by:	Gareth Hance. Electric Star Live
Report No:	YML24SMP03
Date:	Fri 12 Jul 2024

Document control[1]

Event	Live at York Museum Gardens
Document	Sound Management Plan (aka Noise Management Plan)
Author	Gareth Hance. Electric Star Live
Review	Claire Hance. Electric Star Live
Contributors	Futuresound Group, We Organise Chaos, City of York Council, York Museum Trust
Document created	26/04/2024
Version	03

Revision

Date	Amendments
26/06/2024	65dBA MNL guideline. Sound system resigned smaller arena coverage & lower audience SPL
12/07/2024	St. Leonards Mews near R3 York Library shall be monitored. Pg 6 Receptors. Pg. 9 Notes.

Definition

CYC	City of York Council
YML24	Live at York Museum Gardens 2024
ESL	Electric Star Live
HSG195	The Event Safety Guide. HSE publication 195 (aka The Purple Guide)
HSG 260	Sound advice: Control of noise at work in music and entertainment
Pop code	Noise Council Code of Practice on Environmental Noise Control at Concerts (1995)
LA03	Licensing Act 2003
DPA	Data Protection Act
NSR	Noise Sensitive Receptor
SLM	Sound Level Meter
PA	Public Address system comprises loudspeakers to deliver audio media to a group of people
BOH	Back of House work areas where public access is prohibited
FOH	Front of House is the mix control position in the audience
dB	Decibel. A relative unit of measurement to express a sound when combined with parameter &
A / C / Z (e.g., dBA or LCeq)	Adjusted measurement to correlate to human ear response. Z = no correction
L90	Background level, noise level exceeded 90% of the measurement period
Leq	Equivalent Level. A logarithmic average of sound level over a given period, e.g. LAeq 15-minute
MNL	Music Noise Level / Specific level
EMOP / EOP / EMP	Event Management & Operational Plan / Event Operating Plan / Event Management Plan
NMP / SMP	Noise Management Plan (aka Sound Management Plan)

[1] Disclaimer: Please ensure you are working from the latest copy of this documents and associated plans. Every reasonable effort has been made to ensure that all information contained in this document is accurate at the time of publication & circulated to relevant recipients as required. Owing to the dynamic nature of live events, certain elements may be subject to change at short notice.
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Please think before you print. This is a dynamic document.

1 Summary

York Museum Gardens is hosting three outdoor concerts Th 18 - Sa 20 Jul 2024 spanning a diverse range across indie rock & pop music for an estimated attendance of up to 4,000.

The concerts are produced by Futuresound Group Ltd, one of the largest independent promoters in the North of England, is known for organising a wide array of live music events & managing several music-related ventures. The Licensee is the York Museums & Gallery Trust. The organisers understand the potential for unwanted noise impact & acknowledge their statutory obligations for robust noise control & Licensing compliance.

Electric Star are contracted to implement a Sound Management Plan (SMP) developed with the key stake holders. The purpose is to discharge our obligations balanced with the demands of delivering an excellent audience experience.

This live document is a Best Practical Means (BPM) framework & appendix of the Event Management Plan (EMP) covering operation details, times & plans. The overarching policy promotes the Licensing Act 2003 objective for the prevention of public nuisance from regulated entertainment. The operational framework contained in this plan serves as a noise Risk Assessment & Method Statement that references relevant guidelines & specific licence conditions.

Collaborative working practices with the responsible authorities and key stakeholders shall be adopted to promote effective & transparent sound control throughout the project. Our aim is to:

- Discharge our obligations, minimising the impact on the local community for the prevention of public nuisance
- Measure & manage acceptable sound levels for compliance, the enjoyment & safety of the public & participants
- Promote good public relations with the local community, operating a helpline with prompt, effective action

Overview: York Museum Gardens, located in the heart of the City, offering a historic setting along the River Ouse. The venue has successfully hosted concerts since the early 20th century & has evolved with a diverse range of events today.

The concert features a south facing main stage located outside the museum main building, providing a good acoustic barrier to the north. The first act goes on stage from early evening. Regulated entertainment operates till 22:30 with a hard curfew. Significant sound sources are listed on page 2. Activities & schedule is detailed in the EMP.

The nearest Noise Sensitive dwellings are on Marygate, circa 130m north-west. See Receptors on page 6.

Controls: Regulated activities shall abide by the licence hours & agreed noise controls. Learnings from previous events have been incorporated in this plan.

The site layout & stage orientation minimises noise impact at the nearest & most populated areas as best practical.

The schedule helps minimise disturbance. The doors open in advance of the first act going on-stage with sufficient time for a gradual build-up. The off-stage time facilitates the peak egress noise to occur before 23:00. Daytime activity is restricted to soundchecks of limited duration.

The music is likely to be clearly discernible in the immediate area but not disruptive. Between 23:00 – 07:00, the combined emissions from activities including plant equipment shall have no observable adverse impact inside dwellings. Build & break noise control shall observe best practice as outlined in BS5228.

Sound shall be proactively managed on & offsite during the events, including sound system checks by a competent[2] person. We shall monitor sound levels, avoid the likelihood of disturbance & respond to any concerns in a practical, timely manner. Measurements, observations & actions will be logged for reference.

Community: Previous concerts were positively received with minimal complaint. All practicable steps shall be taken to maintain good public relations. Information shall be published locally in advance, including helpline contacts operating for the duration. Community noise concern will trigger prompt response to assess & reduce levels as required with follow-up communication where appropriate. The aim will be to avoid complaint in the first instance. The event team shall handle any complaint that does arise promptly reducing likelihood of escalation to the authorities.

Conclusion: The licensing objective to prevent public nuisance can be maintained & adverse noise impact mitigated subject to implementing this robust plan & dynamically assessed on-site controls. We shall adopt relevant guidelines, legislation & Best Practical Means as appropriate.

We conclude that the level of disturbance can be minimised to an acceptable level on the basis that these noise control measures are successfully implemented.

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

Contents

Figures

Tables

1.1 Outline

Event	Live at York Museum Gardens
Location	York Museum Gardens. York. YO1 7FR
Event dates	Th 18 - Sa 20 Jul 2024
Build & break	See EMP for schedule
Attendance	Working capacity 4,000[3], subject to approval
Demographic	Diverse age & gender. Families & mixed groups. Age 5+ restriction, under 13 with adult.
Headline acts	https://www.futuresoundgroup.com/york-museum-gardens
Primary sound sources	Main open-air stage with live & recorded music
Secondary sound sources	Bars, F&B concessions, retail, managed crowds, traffic, build & break

1.2 Schedule

Doors	See EMP	Soundchecks	From 09:00, limited duration
On-Stage	17:00	Build/Break general	08:00 - 20:00
Off-Stage	22:30	Build/Break event days	See EMP

1.3 Control

Regulated entertainment shall be compatible with the agreed controls including but not limited to frequency, duration, timing & intensity. The relevant Premises Licence conditions are provided on page 16. We anticipate the Music Noise Level[4] shall not exceed an operational guideline of 65dBA & 85dBC Leq 15-minute at Noise Sensitive Receptors[5].

1.4 Stakeholders

Licensing Authority	City of York Council	Promoter/Organiser	Futuresound Group Ltd
Licensee	York Museums & Gallery Trust	Production:	We Organise Chaos Ltd
Venue management	York Museums & Gallery Trust		

Licensee & Venue

York Museums & Gallery Trust (CRN 04381647) is the licensee, venue operator & landlord. It is run by experienced professionals with a track record of successfully managing many of the world's best known high-profile venues.

Event Management

Futuresound Group Ltd (CRN 09670519) is the commercial contracting body, project management & the common point of coordination between the management team, production & participants. The independent group is known for its strong local roots while also bringing international artists to Yorkshire. In addition to live venues, a record label & artist management the group annually promotes over 400 events plus popular festivals including Live at Leeds & Slam Dunk.

We Organise Chaos Ltd (CRN 04381647) is a multi-award-winning company renowned for excellence managing large-scale events. Their portfolio includes major music festivals including BST Hyde Park, All Points East, & special projects.

Acoustic Consultant

Electric Star Live (CRN 12473711) is an award-winning independent company specialising in live event sound control. Principle consultants are associate members of the Institute of Acoustics. We work with some of the world's greatest artists & events, including Prince, The Eagles, Elton John, & Michael Bublé, at high-profile venues including The Tower of London & Blenheim Palace. Our customers include BBC, AEG Live, Live Nation, Festival Republic & U-Live.

1.5 References

The applicable legislation & guidelines include, but are not limited to:

- Licensing Act 2003. Premises License conditions & Licensing authority policy
- Noise Council Code of Practice on environmental noise at concerts (1995) & normative references
- The Event Safety Guide (HSG195) & The Purple Guide (www.thepurpleguide.co.uk)

[3] The operating capacity may be lower depending on sales.
[4] The specific free-field immissions from regulated entertainment measured free-field at residential Noise Sensitive Receptors.
[5] Contextual dispensation may be appropriate at specific receptors where Public Nuisance cannot be reasonably evidenced, e.g. Marygate & Westergate Apartments.

2 Location

2.1 Environs

The independent charity owned venue sits in the heart of York, boasts an impressive collection of Roman, Viking, & medieval artifacts. Visitors can also explore beautifully landscaped gardens set against the backdrop of the historic ruins of St. Mary's Abbey. The gardens offer a vibrant destination for both locals & tourists hosting a successful range of cultural events throughout the year, including outdoor concerts, festivals, & educational workshops.

The surrounding built environment consists of residential, leisure, cultural & commercial premises. The mid-density dwellings in the vicinity are typically mid-rise & high-coverage. Sensitive receptors in the catchment area include schools, places of worship & elderly care homes.

The terrain gently undulates around the river Ouse, with the natural environmental providing some ground absorption. See page 25. The prevailing direction is typically south-westerly at around 5m/s gusting to 15m/s, albeit highly variable.

The routine soundscape typically comprises transport sources. Noise map estimates published as part of the Environmental Noise Directive (END) predict residual contribution above 50 dB LA_{16hr}, see page 25.

Figure 1- Aerial view

2.2 Receptors

Locations in Table 1 have been identified by previous events & computer modelling as immission reference positions. These reference points are representative of Noise Sensitive Receptors (NSR). Initial monitoring during sound checks & opening events will help determine the apparent impact, see page 9 for procedure. St. Leonards Mews adjacent to R3 York Library shall be monitored. The relevant monitoring locations shall be dynamically assessed in-situ.

Receptor		Dir	m*	Postcode	W3W	Use	Notes
R1	Bootham 49	N	290	YO30 7BL	vast.chains.serves	Mixed	Main road. Schools, dwellings & retail
R2	King's Manor	NE	140	YO1 7EP	cities.punks.fried	Education	Masked by museum
R3	York Library	E	90	YO1 7DS	chin.dared.cycles	Commercial	Excluded. Reference point only
R4	Star Inn The City	SE	110	YO1 7DR	calculating.hiking.cone	Commercial	Excluded. Reference point only
R5	Aviva	S	230	YO90 1WR	gives.order.wonderfully	Commercial	Normal office hours 08:00 - 18:00
R6	Westgate Apartments	SW	230	YO26 4ZZ	hatch.activism.pepper	Residential	mid-rise, mid-density dwelling on-axis with stage
R7	The Garth	W	130	YO30 7DS	trendy.trace.hers	Residential	Nearest dwelling. Single glazed period property
R8	St Olaves	NW	100	YO30 7EN	wooden.coast.calm	Worship	Substational building, masks Marygate

*Approx distance from centre of site to receptor façade

Table 1- Receptors

3 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).

The concert features a single stage for an audience of up to 4,000. There are no other significant sound sources.

We anticipate music shall be discernible above the residual soundscape within 800m south-west of the stage, albeit not at a level that causes an unacceptable disturbance.

For compliance with the licensing objectives, the MNL shall be compatible with the agreed controls.

See controls on page 13, plus impact assessment on pages 8 & 26. Site plan & schedule is detailed in the EMP.

Source		Aim	WAW	Type	System	Capacity	Off-stage	Notes
S1	Main stage	SW	result.glare.quiet	Open-Air	Line-array	<4k	< 22:30	Evening concert. Live music with changeovers

Table 2- Primary Sources

3.2 Secondary Sources

Secondary Sound Sources (SSS) is incidental entertainment & on-site operations such as waste, plant, or construction.

Secondary sources are unlikely to significantly increase noise levels or cause disturbance in the immediate area. Any contribution shall be of No or Low Observable Adverse Effect Level (N/LOAEL) between 23:00 & 07:00.

Considerate initial planning of the location & schedule for these secondary sources helps to control noise at source. In-situ assessment determines if further mitigation is required. See section 6 for control strategy.

The secondary contributions are inherently self-regulating. For example, most of the traffic noise relates to the audience who will arrive gradually. Some will arrive early to secure a good position, while others may prefer less time on-site.

To minimise likelihood of disturbance, heavy vehicles shall abide by the Traffic Management Plan, also see page 14.

Build & break activities shall be managed as best practical adopting Code of Practice BS5228 as outlined on page 14.

Plant equipment has improved significantly over the last decade. Event & film grade generators & tower lights are no longer the noisy rattling sets of the past. It is less likely static plant equipment will cause a significant disturbance.

Ref.	Location	Activity	Times	Notes
-	Bars & vendors	General F&B activity	Regulated hrs	No/low background music. No observable impact off-site
-	Gates/highways	Traffic	Continuous	Peak Friday & Monday
-	Static plant	Generators & towerlights	Continuous	Silenced equipment. Inaudible off-site
-	Moving plant	Telehandlers & forklifts	Social hours	Peak during build & break
-	Waste	Collection & compacting	Social hours	No/low observable impact off-site
-	Construction	Build/break	Social hours	Site wide. Time limited

Table 3- Secondary Sources

3.3 Noise Impact

Predictions using SoundPlan Noise[6] & accepted methodology are shown on page 26.

The Music Noise Levels (MNL) shown in the acoustic model is the specific impact from regulated entertainment up to 2km from the event without residual contribution.

The outcome of this enhanced noise modelling informs the Best Practicable Means planning such as layout, PA specification & monitoring.

The ISO 9613-1 calculation is considered worst-case. While uncertainty is not calculated, a ±5dB margin is representative of similar projects.[7].

The system design in the model is representative & uses a standardised music profile. The sound sources used in the prediction model are based on representative specifications & levels, see page 18 for details.

It is widely accepted the music level in an audience close to the mixer position is typically 100dBA & anything below 95dBA may be unsatisfactory to an audience[8].

The audience sound level in the model is 95dBA & FOH 94dBA, the lowest guideline level for this music profile.

The prediction indicates populated locations where Music Noise may be discernible:

- R6 Westgate Apartments ≈ 65 dBA
- R7 Marygate ≈ 64 dBA

SoundPlan prediction can be validated by simple calculation. Assuming:

- The sound level in the audience (L_1), 20m (r_1) from the stage is 95dBA
- R6 Westgate Apartments (L_2), is 230m (r_2) from the stage
- The sound system directivity & soft ground absorption provide -9dB attenuation

  L_1 - 20.log(r_2/r_1) – correction attenuation = L_2 ≡ 95 – 20.log(230/20) – 9 = 65dBA
  i.e. the corresponding sound level at R6 Westgate Apartments is circa 65dBA without correction.

Most leading sound system brands are capable manipulating propagation by Digital Signal Processing (DSP)[9]. This means the sound field can be shaped to reduce break-out in the far-field beyond the perimeter by up to 15dB.

We anticipate it is possible to operate the Music Noise Level at most receptors to below a guideline of 65dBA.

The MNL at most residential receptors is below a typically acceptable level of 65dB LAday[10] by a significant margin.

There is good evidence that Music Noise Levels not exceeding 75dB L_{Aday} does not generate excessive disturbance, upholding the licensing objectives, providing robust controls are in place[11], see page 18.

The MNL is likely to be an upper level given the dynamic content & reduced levels during changeovers, i.e., the stage operating times are limited & 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[12]. Nonetheless, for robust control of low-frequency noise, the LCeq MNL shall be monitored in parallel with LAeq. We anticipate the LC-LA value shall not exceed 20dB.

The PA system processing can be refined in-situ to control break-out to minimise the likelihood of disturbance as best practical. The concert music level can be reduced where necessary & appropriate.

In mitigation the residents at the properties listed above were satisfied with the sound level from previous events & have operated with minimal complaint. There is no indication that this arrangement should not continue.

We anticipate these concerts will achieve similar positive results.

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[6] SoundPlan Noise is a global market leading acoustic modelling software application
[7] Owing to source configuration, meteorology, ground effect & boundaries. See ISO9613-1 for influencing factors
[8] Pop Code paragraph 4.3
[9] Beam steering, shaping & gain shading by DSP & Finite Impulse Response (FIR) filtering. E.g. Martin MLA, d&b Array Processing, Meyer Compass/LMBC, et al
[10] As hosting venue & stakeholders, Hill Farm residents shall be exempt from noise limits, albeit any disturbance shall remain reasonable in context
[11] See list of venues & respective limits in the appendix section on the Pop Code
[12] J. Griffith et al *A Study of Low Frequency Sound from Pop Concerts* 1993

4 Monitoring

Monitoring shall be undertaken for compliance with expected standards & minimise the likelihood of complaint. Sound levels will be monitored for the duration both on & offsite, using calibrated attended & unattended equipment. See Instrumentation below & procedure in Appendix E.

A combination of on-site level monitoring, propagation tests & offsite rotational measurements will help maintain acceptable sound levels for the event's duration while open to the public.

Rotational offsite measurements shall focus on the most impacted locations & dynamically assessed in situ, e.g., reverberant boundaries. Measurements shall focus on the most relevant & representative areas.

We shall proactively adapt to changing conditions, e.g., observing changes in wind direction, change of music content or a geographical complaints cluster. Monitoring at greater distance shall be performed to assess unexpected propagation, such as temperature inversion influence. Temperature inversion may increase discernible sound in excess of 1Km from site.

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

Dwellings immediately adjacent to the site are most likely to be at risk from disturbance. Upper floors will be awarded special consideration where ground measurements may not be representative, .e.g., a correctional adjustment of 1dB. Measurements may be conducted at residents' properties on request where safe to do so & observing safe protocols.

The principle of noise control at source shall be adopted. i.e., robustly regulating sound emissions at the stage is an effective methodology. Where appropriate, we shall set up an SLM at the FoH of dominant stages for easy reference by the sound engineer to help maintain continuity & regulate at source. Once the FoH level is determined, we shall monitor the sound levels & take appropriate action as required. We shall maintain direct contact with Stage Managers & Sound Engineers to make any required adjustments.

Bass octave levels close to the venue are considered adequately managed by the A-weight limit[13]. Nonetheless, for robust control of low-frequency (LF) noise, the L_{Ceq} MNL shall be monitored in parallel with L_{Aeq}. Primarily LF management is reliant on L_{Ceq} assessment. FOH meters shall track LC-LA differential informing tonal balance. Consultants & engineers have sufficient experience to determine specific frequencies & characteristics by ear.

The sound log shall record LAeq, LCeq, location, date, time, duration, levels, operator, sound meter & observations at locations shown on the map on page 27 plus any proxy or dynamic locations. Spectral assessment may measure full or partial octave bands & analyse narrow bands to refine control. Specific LZ_{OCT} bands shall be logged where relevant.

For timely response, the Music Noise Level should be monitored over 1',5' & 15'. Where the Leq 5' is likely to result in an Leq 15' value exceeding the controls, the sound contractor should be advised to prepare for a level reduction.

We may deploy unattended SLM at off-site locations subject to dynamic assessment. See Table 4 for deployment.

Instrumentation

The following SLM deployment scheme is proposed & subject to dynamic assessment on-site:

Class 1: Attended	Class 1: Unattended	Class 2: Attended	Class 2: Unattended
Sound consultants	Subject to dynamic assessment	S1 Stage 1	N/A

Table 4- SLM deployment

Notes

Monitoring shall focus on the west & south-west quadrants as the closest developments of mid-rise, mid-density dwellings. Appropriate corrections shall be applied on ground floors in acoustic shadow on Marygate & Museum St.

Westgate Apartments on-axis with the stage is most at risk with least available directivity avoidance. Communication with these residents is critical. Dwellings in the semi-reverent spaces of Marygate Ln & Hetherton St are also likely to be at risk. St. Leonards Mews near York Museum as a semi-reverberant residential space shall be monitored.

Frequent rotational observations shall provide adequate mitigation. From similar concerts, we anticipate the licensing objectives can be adequately upheld & the proposed criteria achievable with Best Practical Means control.

Reporting

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

[13] J. Griffith et al *A Study of Low Frequency Sound from Pop Concerts* 1993

Reference locations

Rotational confirmatory measurements shall be undertaken during peak times focusing on the most impacted locations. The points below shall be dynamically assessed in situ. Measurements shall focus on the relevant & representative areas. Attended measurements at residents' premises shall be carried out on request wherever practicable.

R1 Bootham 49

R2 King's Manor

R3 York Library

R4 Star Inn the City

R5 Aviva Building

R6 Westgate Apartments

R7 The Garth, Marygate

R8 St Olaves, Marygate

5 Community

The management team understand the importance of good public relations & have extensive experience operating similar events at similar venues in partnership with the community. This understanding of how to minimise disturbance, ameliorate & engage in effective communication supports confidence of the robust controls.

5.1 Engagement

Efforts shall be made to facilitate positive communication. We shall take reasonable steps to inform & engage the community in advance via meetings, print & online media. Details shall include an overview, timings & contacts.

Key points

Management	The event is organised by competent professionals with a positive record. Robust planning has been undertaken with the collaboration of the relevant authorities including the local Council and the Police. The venue management are responsible members of the community & committed to good relations. The event operational team have an excellent reputation for managing large events at well-known high-profile events.
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	Main stage is the dominant source & has a 22:30 curfew. 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 system uses 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.
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 that is 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

The organisers shall operate a dedicated local residents' helpline that will be situated in and operated by event control during show days. The contact information shall be distributed to local residents in advance. In the event of a complaint, the organisers shall take proactive steps to engage with the resident, minimise disruption & implement measures to minimise the likelihood of repetition. See procedure on page 22.

Control shall share the complaint locations with the acoustic contractor to enable early identification of any geographical patterns. Visit where helpful, observing safety protocols to help resolve concerns. Event Control shall communicate with those responsible by instant messaging as the primary mechanism to facilitate a logged response. Alternatively, 2-way radio or mobile phone may be used where practical.

6 Control

6.1 Organisation

The organisers acknowledge the importance of robust noise control.

Please refer to the EMP for details of the specific roles, procedures, command & control structure.

The organisation framework & communication shall be compatible with the Pop Code and normative references.

An essential selection criterion for the production team is to successfully ensure that individuals hold the experience, respect & authority to command a proficient & responsive sound department.

Drawing on the experience of similar events, there is a clear line of communication between the silver level management team & those directly in control of the sound, such as engineers & stage managers.

6.2 Collaboration

The acoustic contractor aims to meet with the responsible authorities, key stakeholders, production & technical contractors before doors on the first concert day. Timing to be confirmed in the production schedule. Updated situation reports may be disseminated and reviewed by scheduled meetings, instant messages, and email.

6.3 Communication

An acoustic consultant representative shall convene with the responsible authorities, key stakeholders, production, and technical contractors as best practical to promote collaborative working. This may include, but not limited to, meetings or other forms of communication. For example, a meeting in advance of doors on the first concert day may be helpful. Updated situation reports may be disseminated and reviewed by scheduled discussions, instant messages, & email.

External communication with responsible authorities and the public shall use telephone, email & in-person contact.

During the live event, Instant Messaging (IM) is the primary channel for internal communication between sound management, control, production & technical contractors., e.g., WhatsApp or SMS. Where practical mobile phone or 2-way radio may be used as an alternative, however, these forms of communication are generally not compatible with the responsibilities and workflow of sound management and sound engineering personnel.

6.4 Strategy

This plan adopts SMARTER methodology to deliver effective results:

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

Activities that may potentially cause noise disturbance to neighbours shall be identified. We shall ensure the developed procedures are adequate for these potential hazards. The implementation shall be reviewed in-situ to circumvent unforeseen pitfalls & minimise the likelihood of complaint.

For example, the artists' management shall be informed of sound limits in advance.

Factors such as community engagement, programming, locations, timings & systems shall be carefully considered.

The statutory criterion for noise prejudicial to health or nuisance (e.g., EPA 1990, section 79) have been considered:

Frequency	Adverse cumulative impact is unlikely given the short tenancy & the venue's concert frequency
Duration	The event has limited duration, with the headline performances lasting around 90 minutes.
Timing	Main contribution ends by 22:30 with appropriate sound levels for the day & time
Intensity	A wide dynamic range is typical of the diverse music profile where extended periods of high-intensity music is unlikely. The controls shall be in place to minimise environmental noise impact to an acceptable level. Changeover breaks help to regulate Temporary Threshold Shift.

6.5 Sound Systems

The consultant shall liaise with the sound contractor & technical production in advance regarding system design, noise limits & propagation.

Systems

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

Planning

In general terms, the site layout draws on the experience of similar events & prediction calculations. Please refer to the site plan in the Event Management Plan for the precise position & orientation.

The sound systems shall point away from the nearest sensitive receptors where practicable. The potential for the off-axis bass-spill has been considered during the planning. The stage layout, programming & timings further minimise the opportunity for a soundclash between areas & activities.

The audio specification is designed for use in flagship live shows. It features multiple loudspeaker cabinets connected to form a continuous wavefront. This setup gives the user pinpoint accuracy and control over their sound while reducing noise levels due to its directional dispersion capabilities. It adjusts spectral parameters according to the acoustic environment, which ensures consistent sound quality in any setting. Array processing can reduce immission in the far-field outside the area by up to 15dB. Delays may be deployed where appropriate. System controllers may be fitted with automatic limiters that may further help control levels.

Before arrival, the organisers shall inform artists, sound engineers & contractors of the strict noise control requirements.

Production

Audio systems will be always under the supervision of a competent person. Site levels will always reflect the audience size & dynamics. Audience capacities tend to be lower earlier in the day & transient throughout.

Managing the most significant emissions at source is the most effective method for control. i.e., managing the dominant contribution impact can be more effective at controlling disturbance than all other contributions combined. A relatively minor level adjusts of the emissions from the stage audible off-site is more effective than reducing all other sources. The organisers will endeavour to prohibit portable music equipment that is not part of the licensed entertainment or for the sole purpose of background music at an authorised trader's concession area.

Unexpected adverse effects of acoustic reflection, diffraction, resonance & reverberation are problematic to predict in a large area with a complex mix of temporary sources, temporary structures & variable metrological conditions. However, the noise monitoring procedure should identify such issues & mitigating action shall be taken where practicable.

It is not viable to implement an abrupt or significant music level reduction during the concert. Consequently, any alteration to level, dynamics & tonal character at source shall occur gradually over a period of roughly 15 minutes. There will be no regulated entertainment outside the licensed hours without exception.

Bass

Frequencies (LF) contain the greatest acoustic energy & subject to less geometric & barrier sound attenuation than higher octaves. Specific frequencies may require 'notching' for adequate noise control. Directional sub-array may be deployed to attenuate off-axis radiation by up to -18dB[14]. Pop code advice[15] shall be observed. As general guidance, frequency bands below 31Hz can be safely attenuated by 15dB or more without compromising the creative integrity. Bass octave levels close to the venue are considered to be 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. Guidance states tonal imbalance triggers complaint. We shall track the LC-LA difference to assess tonal balance, see page 18.

Technical Rider

Any third-party technical equipment shall be assessed by Production or audio control for any possible adverse effect it may have on overall sound levels. Equipment such as backline amplifiers or additional PA speakers would be regarded in the context of this document. Members of the technical management team would:

- Prevent the use of any equipment that appears significantly out of line with this plan
- Avoid any external sound engineer operating outside the agreed noise level limits at the Front of House

[14] SSE / Vanguardia Hatfield test of L'Acoustics K1 and Martin MLA line array
[15] Ref 8. Griffiths, J et al *A study of Low-Frequency Sound from Pop Concerts*, (1993). This study considers music noise at 2Km & does not apply to receptors closer to the venue

6.6 Build & Break

Some construction noise is expected during the Build, Break & overnight changeovers. We shall eliminate, reduce & mitigate noise emissions as best practicable. This noise source shall be minimised & confined to General hours between 07:00 – 20:00 whenever possible. Noisy activities of observable significance shall not be undertaken before 08:00. Activity likely to be intrusive & discernible offsite will be scheduled during social hours.

Best practicable means are employed to keep the build & strike noise as low as reasonably possible. Measures to be considered will be consistent with the recommendations of BS5228 & all activities will be carried out with due care:

Construction

- Overseen by management
- Observe BS5228 recommendations
- General hours 08:00 – 20:00
- No excessive noise before 08:00
- Overnight work minimise disturbance

- Overnight build/break & change over activities shall not exceed a No Observable Adverse Effect Level (NOAEL). i.e., discernible at the boundary of any noise-sensitive premises but unlikely to be intrusive & cause excessive 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

On event days, we shall remove the touring artists' equipment from the stage & change over for the following days' line-up. This means immediately after the show, some technical equipment is dismantled & loaded into vehicles & on changeover days other equipment is unloaded & setup. Activities will be of the shortest practical duration, avoid unnecessary noise impact where possible, and shall be supervised by production, stage or site manager. The activities undertaken include lowering equipment from flown positions & repacking into transit cases. Significant impact noise that may be intrusive, such as noisy metal-on-metal operations, shall be limited to social hours between 08:00 – 20:00, wherever practicable. More extensive dismantling work commences the following morning, including dismantling stages & similar temporary structures at the close of the event.

Practical steps to reduce the construction & dismantling noise disturbance will include the following where practicable:

- 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 possible
- 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

6.7 Plant

Plant equipment can be either static or moving noise sources that require attention. Plant will often operate continuously throughout the site &, therefore, may cause disturbance to nearby NSR. The site management team shall consider the type, location & operating hours of any plant.

Network power or hybrid supplies shall be deployed where practical. Plant shall be switched off overnight where practicable. Any essential plant equipment operating during unsocial hours, such as chillers, shall be inaudible within dwellings with windows open for ventilation. Plant fitted with properly lined & sealed acoustic covers shall be closed whenever in use.

Plant

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

6.8 Traffic

All onsite vehicular traffic, including exits onto the public highways, shall be controlled per the EMP &/or Traffic Management Plan (TMP). This plan regulates vehicle movements and minimises disruption. Traffic inherently reduces overnight and will likely be of No Observable Adverse Impact Level (NOAEL). Routes are planned to minimise community impact, unnecessary reversing, hill starts & long periods of vehicle idling. Traffic staff working in residential areas between the hours of 23:00 & 07:00 will be issued with 2-way radio earpieces to minimise disturbance. For compliance with the licence conditions, lorries must not leave site between 00:00 – 07:00, see page 16.

6.9 Unloading & loading

Location of loading operations shall consider abide by TfL Code of Practice for Quieter Deliveries. Low-impact routine activities such as cleansing, consumables & portable equipment items such as backline & instruments are unlikely to cause a disturbance. Bulky items, such as waste & production deliveries, will be carried out as per the production schedule & have been planned to avoid the likelihood of complaints. Loading operations & associated traffic, such as forklifts, will be carried out with due care to minimise potential disturbance between the hours of 23:00-07:00.

6.10 Bars & vendors

Other than incidental use or programmed entertainment, amplified systems are not permitted in bars & concession areas. Responsible staff shall eliminate, reduce & mitigate noise to the lowest practicable levels minimising disturbance.

Operational noise, such as deliveries and waste collection, shall follow the EMP.

Plant such as chillers shall be suitably located & maintained to avoid noise disturbance overnight.

6.11 Noise at Work

The Control of Noise at Work Regulations 2005 (the Noise Regulations) intends to prevent or reduce risks to health and safety from exposure to noise at work, as far as is reasonably practicable. The high noise levels over extended periods are essential elements of a live entertainment event.

In general, everyone employed at a live event is exposed to the upper noise exposure level levels. This means that all event staff need to be aware of this and take personal responsibility to think about their noise exposure & take reasonable care not to damage their hearing or other people.

An overall employer is problematic to determine in this context. Multiple contractors, self-employed visiting performers & sound engineers is a complex environment. Everyone in the production chain has a role in managing the risks.

Occupational

- People who control sound should recognise their role in a safe workplace
- All on-site contractors should acquire & use appropriate hearing protection
- Avoid prolonged periods in loud areas
- Staff should rotate between quieter areas during shifts when practicable
- Find a quiet space to take breaks

This means anyone working in this industry should be responsible for understanding the risks/control of Noise-Induced Hearing Loss (NIHL). As 'tools-of-the-trade', individuals should ensure they have access to hearing protection of at around 10-15dB (SNR15/SNR20) for general ad-hoc use & 20-30+ (SNR25/SNR35) for high exposure areas.

6.12 Public

There is no precedent and no locus of law for controlling human activity or crowd noise. However, the gradual build-up, peak & slow-down nature will help to identify noise hotspots & crowd dynamics.

The management team will implement a customer behaviour policy. Anti-social behaviour is unlikely given the public demographic; however, rowdy, anti-social or disorderly conduct shall not be tolerated & proportionate action will be taken by security staff.

All reasonable steps shall be taken to ensure that customers leave and disperse from the event without causing public nuisance or disorder; staff & notices at exits will remind customers to leave quietly not to disturb residents.

Unlike workers, there is no specific legislation setting noise levels for the audience exposure to noise. However, the guidance strongly recommends that the sound pressure level not exceed 140 dB LC peak & 107 dB LAeq throughout the event (LAeq Event).

Compliance with the LAeq Event guideline is likely given an operational limit on each FoH, the dynamic nature of the programming, quieter periods during changeovers & relatively short concert duration compared to an all-day event.

Compliance with LC Peak is likely given the pit barrier separating a loudspeaker and the audience. Where practicable, the audience will not be permitted within 3m of a loudspeaker & no less than 1m under any circumstance. Warnings are typically published in the Terms & Conditions.

There are no campsites or similar sources of overnight noise.

7 Conclusion

The level of disturbance can be minimised to an acceptable level on the basis that noise control measures are fully implemented. These measures include:

- Uphold the licensing objectives for the Prevention of Public Nuisance
- The provision of a helpline & information for a close working relationship with the community
- Best Practical Means planning to ensure the activities, layout, & equipment minimise the likelihood of disturbance
- Safe, monitored & managed sound levels for the community, public, staff & performers as best practicable

8 Appendix

A. Premises Licence

We understand the Licensee has applied for a minor variation as follows:

Licensing Authority	City of York Council
Licensee	York Museums & Gallery Trust
Premises Licence number	CYC009433
Regulated entertainment	09:00 – 22:00 outdoors (variation proposes extension till 22:30)

Public Nuisance

Current conditions

13. Noise which is likely to cause a nuisance must not be audible at the nearest residential property.

14. Prominent signage will be displayed asking customers to leave the area quietly.

Proposed conditions (TBC – Please refer to application for final details)

Sounds levels will be monitored and sound systems created that restrict the travel of the sound.

For events with live or recorded music or where public nuisance maybe of concern the Trust has undertaken background noise monitoring to provide baseline noise levels and will adhere to the Pop Code.

A noise management plan will be part of the Event Management Plan submitted to the Safety Advisory Group.

Guests will exit from Museum Street & Marygate only. Marygate to be used for those with access issues. A dispersal policy & noise complaint procedure will be part of the Event Management Plan submitted to the Safety Advisory Group.

B. References

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

- Licensing Act 2003 and Premises License conditions
- Noise Council *Code of Practice on environmental noise at concerts* (1995)
- The Event Safety Guide (HSG195) & The Purple Guide https://thepurpleguide.co.uk
- Research into Attitudes to Environmental Noise from Concerts. DEFRA NANR292 (2011)

BS7445-1:2003

BS7445 part 1 specifies the descriptions and measurements of environmental noise. This standard serves as a guideline for the necessary procedures and methodologies to be followed. 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

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 there is no universally accepted guideline for inaudibility but assumes that music just audible outside the noise-sensitive is acceptable.

Concert days per calendar 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 5 - 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 states that where arrangements are satisfactory with either higher or lower noise levels than the proposed guidelines, these existing limits should continue.

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 and 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 Pop 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	Concert days per annum	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 (Total maximum of 40 major events in Lambeth Parks)	75dBA and 90dBC Leq 15' free-field	Non-major on a case-by-case basis. Typically, 65dB LAeq 15'

Table 6 - Venue noise limit

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 under review for some time, particularly in relation to the number of concerts and corresponding levels.

C. Urban venues

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 5 on page 17.

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 either higher or lower values than the suggested guidelines. The revised code suggests more than 3 events per year are acceptable contingent on context.

Table 7 below summarises the conditions currently in use at 25 urban park venues. The local authority is clearly satisfied having issued Premises Licences & there is no evidence to suggest that there is 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'
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 7- Urban venue limits

It is widely recognized that how often a noise occurs plays a significant role in 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 by year are generally considered to have a greater impact than those that happen only 6 days by year.

The community can be adequately protected from excessive Music Noise exposure by controlling the frequency in combination with 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, both 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.

D. 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[16]. 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[17]; 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[18].

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 is more effective at controlling Low-Frequency Noise (LFN) 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, it is unviable to turn the event music on and off to compare the relative residual levels only with combined residual and music noise. 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 a variety of factors, such as variations in environmental conditions, or the acoustic properties used in the prediction model & calculation. Uncertainty can significantly affect the value, reliability, and validity of the results. By quantifying Uncertainty and understanding the cause, we can make more informed decisions[19]. In this application, a margin of +/- 5dB is typical.

Acoustic assessment should be carried out to an appropriate standard[20] & by competent[21] personnel. Monitoring should be carried out by a person who can demonstrate competency in environmental acoustics.

[16] Kang, J. (2007) Urban Sound Environment
[17] Kang J et al (2019) Relationship between urban development patterns and noise complaints in England
[18] Tong H et al (2021) Increases in noise complaints during the COVID-19 lockdown in Spring 2020. A case study in Greater London
[19] Further reading: R Peters et al, Uncertainty in Acoustics Measurement, Prediction and Assessment, 2019
[20] BS7445 - Description and measurement of environmental noise
[21] 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 in 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 to 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 is a better representation of 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 both LA & LC facilitates both MNL & LFN control at any distance from the venue by assessing sound level & tonal balance.

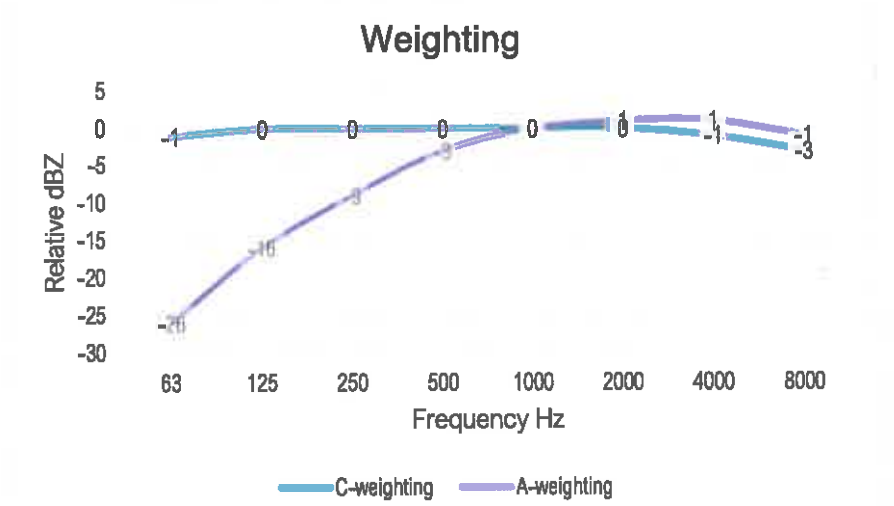


Figure 2 - Spectral weighting

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.

Source: d&b Audiotechnik, 2018

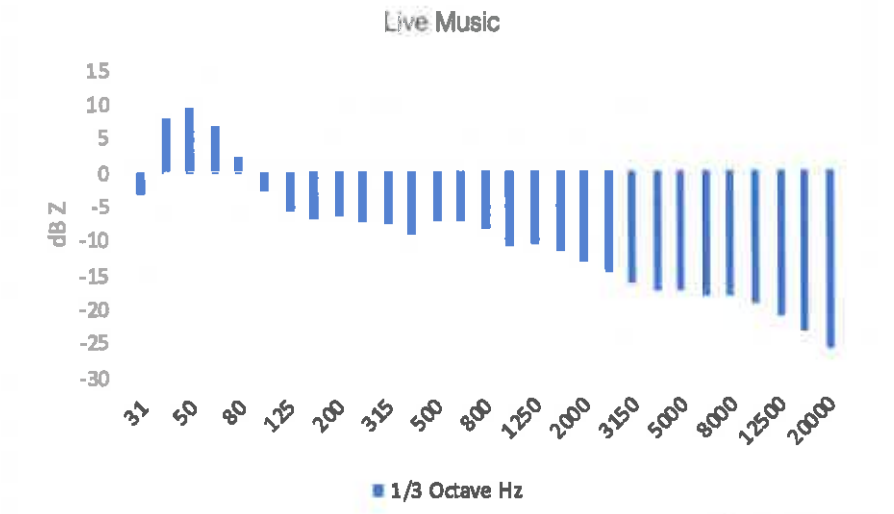


Figure 3 – Music Profile

E. Accreditation

Our experience

Electric Star is the first call for sound management by leading live entertainment companies. We get involved in around 50 concerts & festivals each year for some of the most iconic and creative live music experiences.

At Radio 2 In The Park 2023, the Environmental Protection officer for Leicester City Council described our service as the 'Gold Standard', an accolade of confidence & professional pride.

Electric Star is the incumbent acoustic contractor for BBC Radio 1 Big Weekend, BBC Radio 2 in the Park, Brockwell Live, Cardiff Castle Series, Nocturne at Blenheim Palace, Dreamland Margate & many other urban parks.

As a prominent award-winning independent company with over 30 years of experience in live music, we specialise in the assessment, management & control of environmental acoustics for concerts, festivals, tours & venues.

We work at many events in challenging urban spaces, such as London Southbank, Queen Elizabeth Olympic Park, Dreamland Margate, The Tower of London, & Cardiff Castle. We are recognised as noise control experts in these temporary venues with close residents.

We work with some of the world's greatest artists & events, including Prince, The Eagles, Elton John, Houghton, Bestival, Nocturne Live Blenheim Palace, & UK tours with Michael Bublé, Bryan Adams & Diana Ross.

We aim to deliver a captivating aural experience, prioritising the artists' and audience's creative and commercial demands while protecting the clients' regulatory obligations. As applied practitioners, resourceful thinkers, and problem solvers, we work at the forefront of environmental acoustics, sound system design and noise control.

Managing the environmental impact beyond regulatory requirements is a core principle. We are committed to reducing our environmental impact and continually improving our sustainability performance as an integral part of our strategy & operating methods. We will encourage customers, suppliers, & other stakeholders to do the same.

Our customers include AEG Live, Live Nation, Festival Republic, U-Live, Superstruct, IMG, Wasserman & others.

Current projects include BBC Radio 1 Big Weekend, Brockwell Live, Camp Bestival, We Out Here, & Houghton.

Our blend of practical functionality, sustainable procedures, value & reliability makes us integral production partners.

Our team

We aim to provide a user-friendly, comprehensive service. This capability is rooted in our consultants, who take pride in working in the Culture, Media, & Sports industry. In addition to the relevant qualifications and experience, our team members will have a background in live production, sound engineering, environmental health & licensing.

Director Gareth Hance is an active Associate Member of the Institute of Acoustics and holds an IOA Diploma in Acoustics and Noise Control. Gareth Since the mid-1980s, Gareth has worked in live audio production worldwide with acclaimed artists. Today, his work typically involves detailed computer simulation of complex stage designs and projects with Low-Frequency challenges. He positively enjoys the responsibility of working through the red tape, interpreting the jargon, and communicating in plain language to deliver excellent experiences.

Qualifications

- Institute of Acoustics – Associate member
- IOA Diploma in Acoustics & Noise Control
- IOA Certificate in Environmental Noise Control
- IOA Certificate in Workplace Noise Risk Assessment

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 appointed noise representative[22].

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

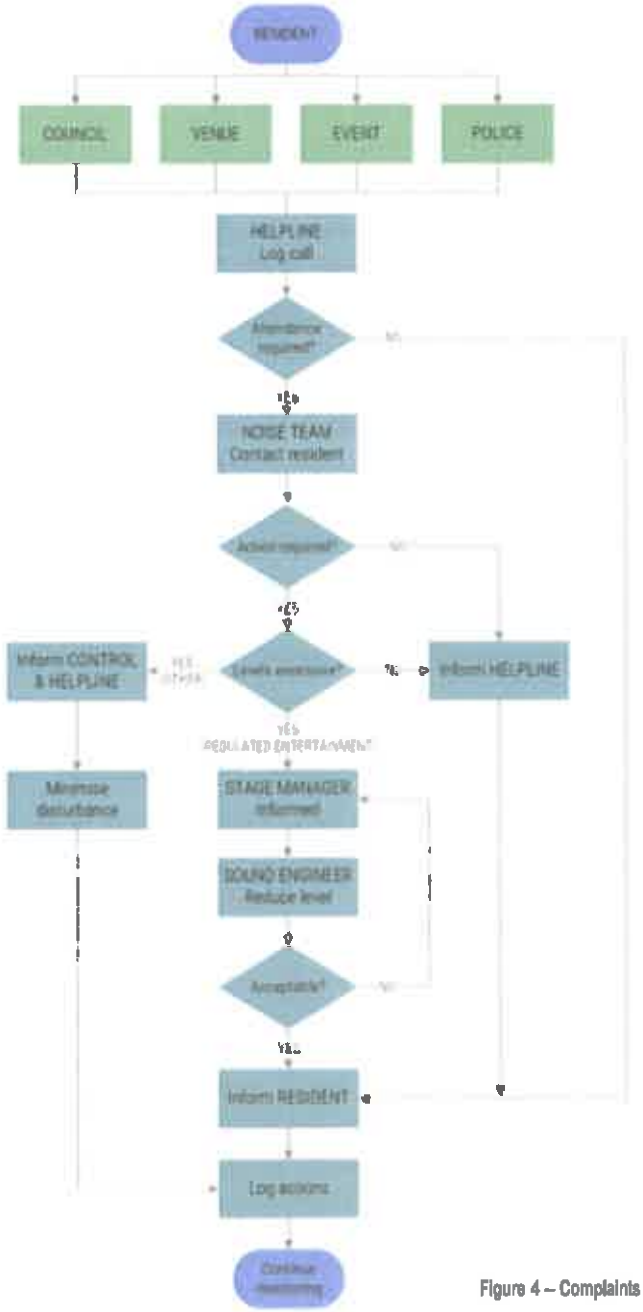


Figure 4 – Complaints

Calls will be directed to a helpline operator:

1. The following information shall be logged:
   - Name, Address &Telephone / email[23].
   - Date & time received.
   - Date & times the noise is occurring
   - The location of the noise.
   - 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 noise representative.
5. The noise representative will take steps to identify the source of the noise. Measurements may also be taken to quantify the disturbance.
6. The noise representative may conclude that the venue is not responsible for the noise and will ask the complainant to refer to the council.
7. Once the activity producing the noise has been identified, the noise representative will discuss the issue with the appropriate manager or engineer 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 noise 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 noise representative will contact the complainant to advise that action has been taken.
11. The noise representative will monitor for recurrence to ensure that the control has been effective.

[22] The Noise Representative may be the Sound Consultant, a member of management team, or a Community Liaison representative.
[23] 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 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.

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

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[24]
   - 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[25]
4. Measure criterion levels over determined periods dB $L_{eq,T}$, e.g., $L_{Aeq15'}$, $L_{Ceq15'}$ plus relevant frequency bands[26]
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[27]
   - 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

[24] 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.
[25] Note any façade contribution where a free-field is not practicable
[26] A reasonable margin for uncertainty is to be expected, nominally between ±3dBA.
[27] 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 off-site 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. Topography

The topography around York Museum Gardens, is predominantly flat to gently undulating, characteristic of the Vale of York. The area includes low-lying floodplains of the River Ouse, with elevations ranging from about 10-15 meters. The soft alluvial soil & vegetation provide good acoustic absorption. https://en-gb.topographic-map.com/

Figure 5 – Topography

I. Road Traffic Noise

Traffic has a significant contribution on the area, significantly audible above the background, especially with a south-westerly wind. The shaded areas indicate zones where traffic noise is above 50-55dBA.
http://www.extrium.co.uk/noiseviewer.html

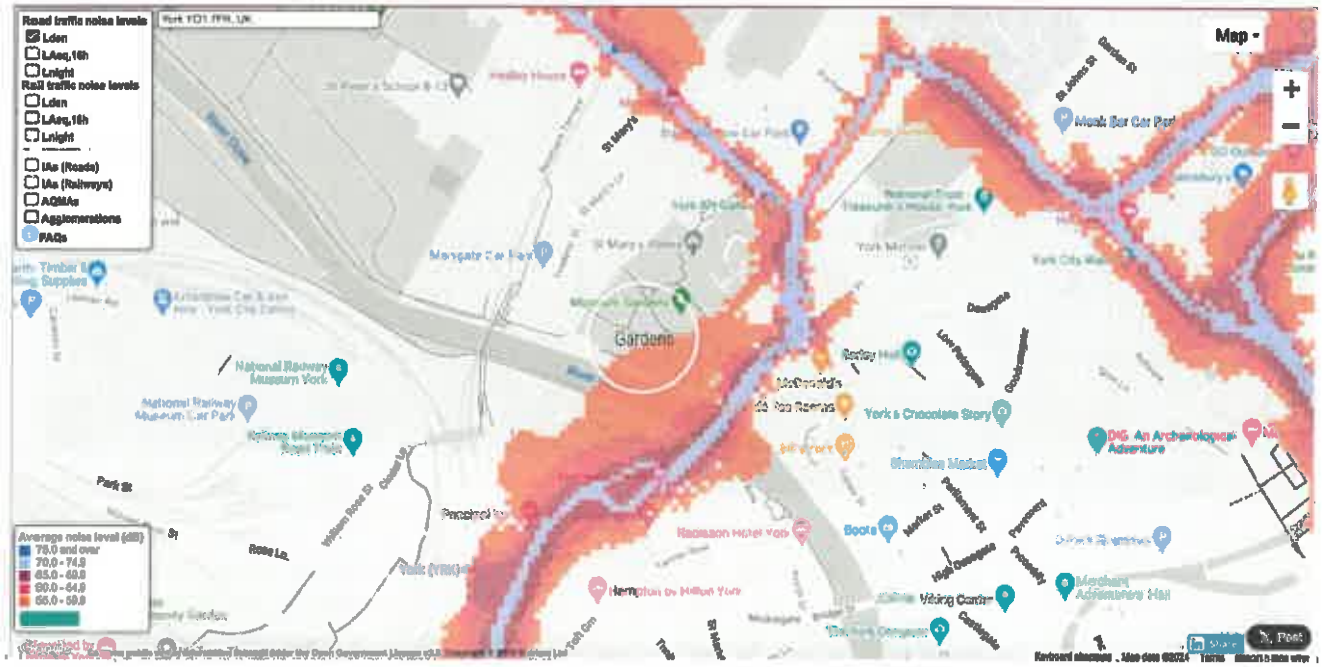


Figure 6 – RTN Lden

J. Prediction

SOURCE	AIM	LAd
S1	SW	94

ID		LAd
R1 Bootham 49	N	51
R2 King's Manor	NE	53
R3 York Library	E	69
R4 Star Inn The City	SE	77
R5 Aviva	S	63
R6 Westgate Apartments	SW	65
R7 The Garth	W	64
R8 St Olaves	NW	64

NOTES:

Line Array system
Live Music profile

0 25 50 100 150 200 m
A4 SCALE 1:5,000

SPECIFIC dB LAeq

<45 <50 <55 <60 <65 <70 <75 <80 <85 <90 <95 <100 >100

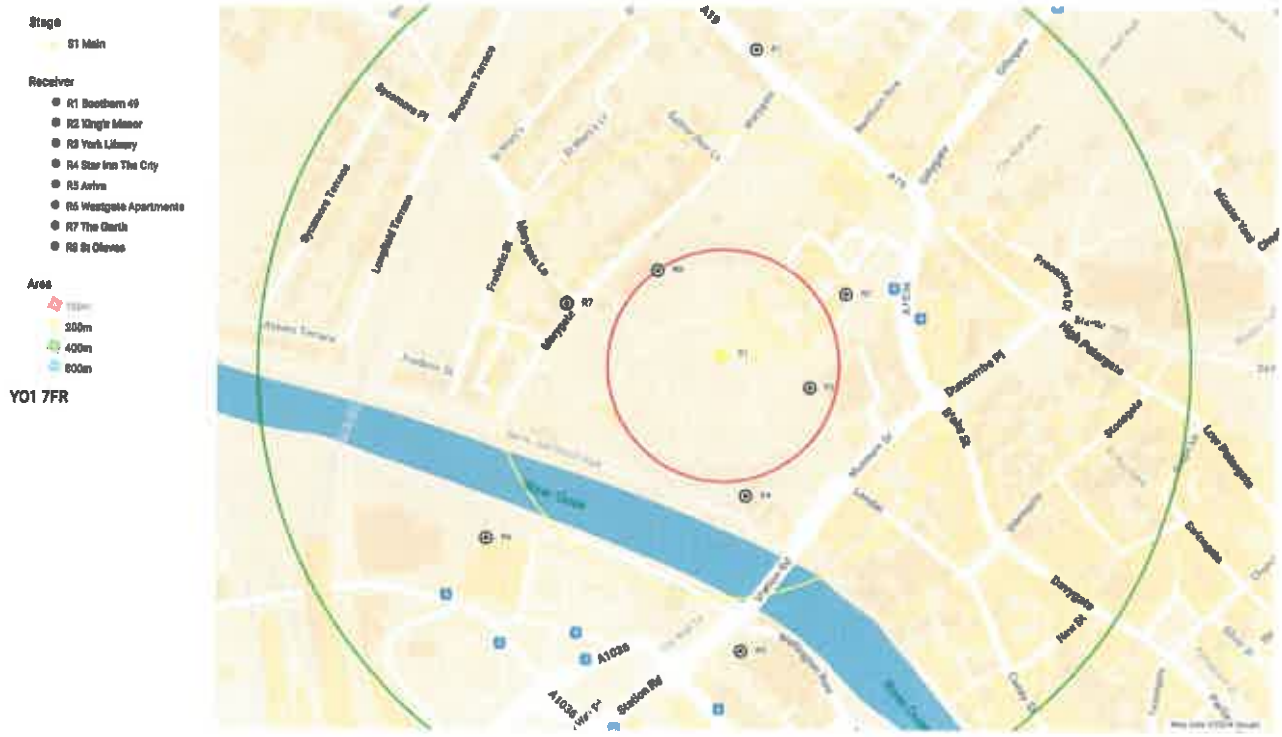
Live at York Museum
MNL dBA Lday
1.5 m above ground

Electric Star Live

K. Map

Online Google map: https://tinyurl.com/ymlmap

York Museum Gardens



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SOUND MANAGEMENT REPORT

LIVE AT YORK MUSEUM GARDENS

YORK MUSEUM GARDENS
YORK. YO1 7FR

TH 18 - SA 20 JUL 2024

Draft 01	Subject to client review and approval
Client:	Futuresound Group
Report by:	Gareth Hance. Electric Star Live
Report No:	YML24SMR01
Date:	Fri 26 Jul 2024

Institute of Acoustics
Associate Member

Audio Engineering Society

NOEA

PSA

Document control[1]

Event	Live at York Museum Gardens
Document	Sound Management Report
Author	Gareth Hance. Electric Star Live
Review	Claire Hance. Electric Star Live
Contributors	Futuresound Group, We Organise Chaos, York Museum Trust
Document created	Fri 26 Jul 2024
Version	01

Revision

Date	Amendments
20/08/24	Pg.10 – Running order included

Definition

CYC	City of York Council
YML24	Live at York Museum Gardens 2024
ESL	Electric Star Live
HSG195	The Event Safety Guide. HSE publication 195 (aka The Purple Guide)
HSG 260	Sound advice: Control of noise at work in music and entertainment
Pop code	Noise Council Code of Practice on Environmental Noise Control at Concerts (1995)
LA03	Licensing Act 2003
DPA	Data Protection Act
NSR	Noise Sensitive Receptor
SLM	Sound Level Meter
PA	Public Address system comprises loudspeakers to deliver audio media to a group of people
BOH	Back of House work areas where public access is prohibited
FOH	Front of House is the mix control position in the audience
dB	Decibel. A relative unit of measurement to express a sound when combined with parameter &
A / C / Z (e.g., dBA or LCeq)	Adjusted measurement to correlate to human ear response. Z = no correction
L90	Background level, noise level exceeded 90% of the measurement period
Leq	Equivalent Level. A logarithmic average of sound level over a given period, e.g. LAeq 15-minute
MNL	Music Noise Level / Specific level
EMOP / EOP / EMP	Event Management & Operational Plan / Event Operating Plan / Event Management Plan
NMP / SMP	Noise Management Plan (aka Sound Management Plan)

[1] Disclaimer: Please ensure you are working from the latest copy of this documents and associated plans. Every reasonable effort has been made to ensure that all information contained in this document is accurate at the time of publication & circulated to relevant recipients as required. Owing to the dynamic nature of live events, certain elements may be subject to change at short notice.

The document is drafted on the basis of the supplied information, scope of works, terms & conditions and has been prepared with all reasonable skill, care & diligence. ESL accepts no responsibility for matters arising outside the scope of works & all parties rely on the content at their own risk. The document represents our reasonable technical assessment of the available information. However, due to the uncertainty inherent in the estimation, we cannot guarantee the correctness & shall not be liable or responsible for any loss, cost damages or expenses incurred or sustained under any circumstance.

Please think before you print. This is a dynamic document.

Contents

1 Summary

York Museum Gardens is hosting three outdoor concerts Th 18 - Sa 20 Jul 2024 spanning a diverse range across indie rock & pop music for an attendance of circa 4,000. The Licensee is the York Museums & Gallery Trust.

The concerts are produced by Futuresound Group Ltd, one of the largest independent promoters in the North of England, is known for organising a wide array of live music events & managing several music-related ventures.

Electric Star are contracted to implement a Sound Management Plan (SMP) developed with the key stake holders.

This report documents the sound control methodology, measurements & observations.

The event complied with the conditions & upheld the licensing objectives as reasonably determined. The environmental Music Noise Level (MNL) remained compatible with the established control values.

On-site level levels were not compatible with a viable concert experience.

At the time of writing, we are aware of three complaints. The specific Music Noise Level (MNL) was compatible with the noise criteria by a significant margin & no further action required.

Audio contractors proactive & responsive throughout. The event operated within the agreed times.

2 Methodology

Pop code & BS 7445 methodology was adopted by competent staff. Environmental measurements were taken using integrating Class 1 (BS 61672-1) Type Approved instruments, field calibrated at the start & end of the event.

Rotational measurements were taken free-field unless otherwise stated in the log. Recorded parameters were LAeq & LCeq of between 1' & 5'. The stage mix position was equipped with a calibrated sound level meter. Locations & measurements are shown in the appendix.

Propagation checks were conducted in advance of doors to set operational limits on-site.

Consultant: Gareth Hance. Technicians: Danny Cordukes, Caitlin Stimpson. All staff have relevant experience & qualification. Consultants hold IOA diploma/Acoustics BSc. Technicians hold IOA CCENM qualification or equivalent

3 Assessment

Emissions fully complied with the criteria as defined by the event Sound Management Plan (SMP): The Music Noise Level[2] shall not exceed an operational guideline of 65dBA & 85dBC Leq 15-minute at Noise Sensitive Receptors[3].

Measurements, observations & actions are detailed in the appendix. The data is summarised as:

- Representative MNL at residential receptors: 60-65dBA / 75-85dBC Leq 15'
- Audience/FOH sound level[4]: 85-90dBA / 95-100dBC Leq 15'

During the 2nd event day CYC Environmental Health instructed an absolute 65dB LAeq 15' MNL limit at any residential receptor without contextual evaluation. Furthermore, any single occurrence of complaint or exceedance would result in Licence Review proceedings & require a Noise Abatement Notice to be issued with immediate effect. This deviates from the event specific SMP where a specific MNL of 65dB LAeq 15' is an operational action level. For context, a change of 3dB is accepted as a "just noticeable" with no perceived difference between 65dBA compared to 67.5dB.

The subsequent achievable music level was not satisfactory for the audience experience. A level of 85-90dBA is comparable to a busy restaurant where you can talk without raising your voice. The Pop Code states The music level in an audience close to the mixer position is typically 100dBA & anything below 95dBA would prove unsatisfactory to an audience. The 10dB LC-LA differential is not representative of this music genre where a 12-15dB balance is normal.

The number of complaints received is appreciably less than similar concerts in other urban environments. The MNL at the complaint receptors was significantly below the action threshold, indicating the intensity was not the primary reason for complaint. It is widely acknowledged that the sound level alone does not relate well to the likelihood of disturbance[5].

We conclude the event upheld the licensing objectives for the Prevention of Public Nuisance. However, the conflicted MNL controls compromised public safety, cultural objectives & commercial sustainability by placing an unreasonable restriction on the event. There is no evidence to indicate sensibly increased MNL would compromise Public Nuisance.

[2] The specific free-field immissions from regulated entertainment measured free-field at residential Noise Sensitive Receptors.
[3] Contextual dispensation may be appropriate at specific receptors where Public Nuisance cannot be reasonably evidenced, e.g. Marygate & Westergate Apartments.
[4] A FOH level exceeding 90dBA corresponded to a MNL in excess of 65dBA at Westergate Apartments.
[5] Kang, J. (2007) Urban Sound Environment

4 Appendix

A. Premises Licence

We understand the Licensee has applied for a minor variation as follows:

Licensing Authority	City of York Council
Licensee	York Museums & Gallery Trust
Premises Licence number	CYC009433
Regulated entertainment	09:00 – 22:30 outdoors

Public Nuisance

A documented noise management plan shall be submitted to the Public Protection team of City of York Council at least 8 weeks prior to each event, once approved it shall be implemented.

The noise management plans will also include a dispersal policy and a procedure for investigating noise complaints.

A draft of the Event Management Plan (EMP) will be produced 2 months prior to the event and will be submitted to the Licensing Authority and all the members of the Safety Advisory Group (SAG).

This shall include a noise management plan and dispersal policy. Following consultation with the SAG, the Licensing Authority shall notify the premises licence holder in writing that the draft EMP is acceptable or unacceptable before the event taking place.

The event shall not take place until the draft Event Management Plan has been agreed by the Licensing Authority in consultation with the SAG.

Once agreed no change shall be made to the draft EMP without the agreement of the Licensing Authority or Police.

B. 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[6]. 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[7]; 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[8].

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 may be more effective at controlling Low-Frequency Noise (LFN) than A-weighted plus the octave bands centred on 63Hz & 125Hz in specific applications. 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, it is unviable to turn the event music on and off to compare the relative residual levels only with combined residual and music noise. 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 a variety of factors, such as variations in environmental conditions, or the acoustic properties used in the prediction model & calculation. Uncertainty can significantly affect the value, reliability, and validity of the results. By quantifying Uncertainty and understanding the cause, we can make more informed decisions[9]. In this application, a margin of +/- 5dB is typical.

Acoustic assessment should be carried out to an appropriate standard[10] & by competent[11] personnel. Monitoring should be carried out by a person who can demonstrate competency in environmental acoustics.

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

C. References

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

- Licensing Act 2003 and Premises License conditions
- Noise Council Code of Practice on environmental noise at concerts (1995)
- The Event Safety Guide (HSG195) & The Purple Guide https://thepurpleguide.co.uk
- Research into Attitudes to Environmental Noise from Concerts. DEFRA NANR292 (2011)

BS7445-1:2003

BS7445 part 1 specifies the descriptions and measurements of environmental noise. This standard serves as a guideline for the necessary procedures and methodologies to be followed. 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

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 there is no universally accepted guideline for inaudibility but assumes that music just discernible outside the noise-sensitive is acceptable.

Concert days per calendar 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 1 - 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 states that where arrangements are satisfactory with either higher or lower noise levels than the proposed guidelines, these existing limits should continue.

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 and 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 Pop 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	Concert days per annum	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 (Total maximum of 40 major events in Lambeth Parks)	75dBA and 90dBC Leq 15' free-field	Non-major on a case-by-case basis. Typically, 65dB LAeq 15'

Table 2 - Venue noise limit

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 under review for some time, particularly in relation to the number of concerts and corresponding levels.

D. Urban venue guidelines

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 1 on page 7.

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 either higher or lower values than the suggested guidelines. The revised code suggests more than 3 events per year are acceptable contingent on context.

Table 3 below summarises the conditions currently in use at 25 urban park venues. The local authority is clearly satisfied having issued Premises Licences & there is no evidence to suggest that there is 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'
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 3- Urban venue limits

It is widely recognized that how often a noise occurs plays a significant role in 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 by year are generally considered to have a greater impact than those that happen only 6 days by year.

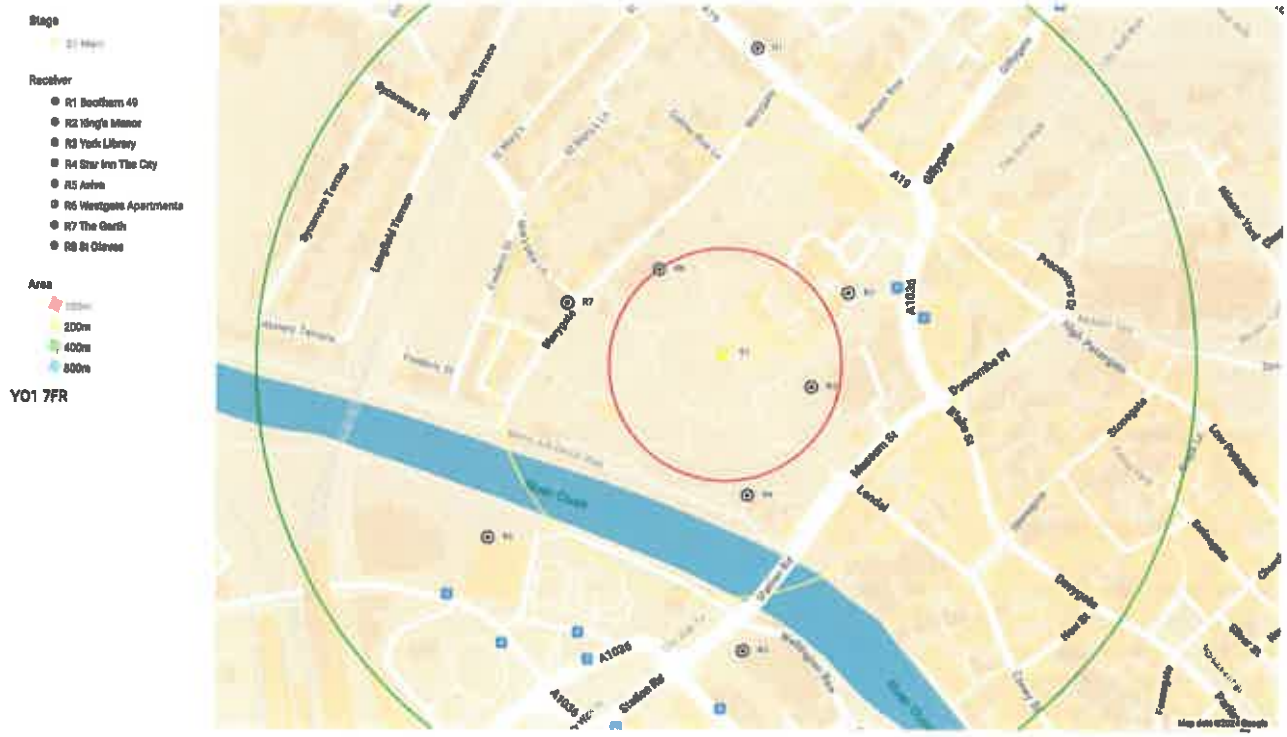
The community can be adequately protected from excessive Music Noise exposure by controlling the frequency in combination with intensity. For example, the Music Noise Level can be safely increased, by limiting the number of days. This concept was considered in the guidelines for outdoor concerts, where 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, both 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. Map

Online Google map: https://tinyurl.com/ymlmap

York Museum Gardens



F. Running order

Thursday - Jack Savoretti

Soundcheck: 13:00 – 13:30
Gates: 17:00
Ellur: 17:45 – 18:15pm
Benjamin Francis Leftwich: 18.30 – 19:15
Foy Vance: 19.45 – 20.30
Jack Savoretti: 21:00 – 22:30

Friday – Shed Seven

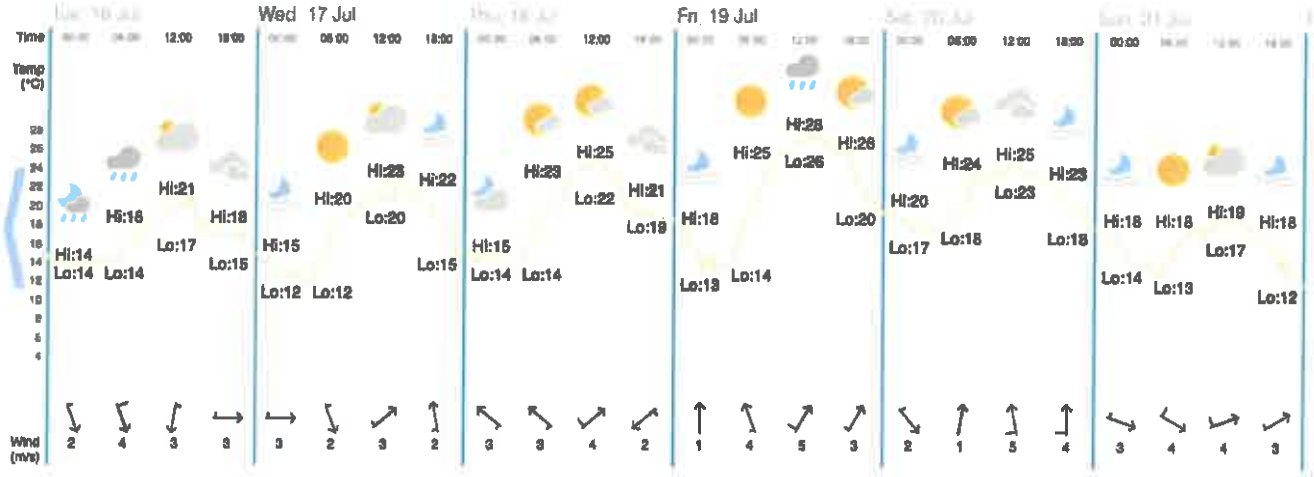
Gates: 5pm
Serotones: 5.40pm – 6.10pm
Lottery Winners: 6.30pm – 7pm
Peter Doherty: 7.20pm – 8.05pm
Shed Seven: 8.30pm – 10.30pm
Sound Curfew: 10.30pm

Saturday – Shed Seven

Gates: 5pm
Apollo Junction: 5.40pm – 6.10pm
Brooke Combe: 6.30pm – 7pm
Peter Doherty: 7.20pm – 8.05pm
Shed Seven: 8.30pm – 10.30pm
Sound Curfew: 10.30pm

G. Weather

https://www.timeanddate.com/weather/uk/york/historic?month=7&year=2024



H. Instrumentation

All sound level meters traceably calibrated within 2-years & field calibrators within 1-year.

Meters field calibrated before & after each day. Drift within 1 dB & within acceptable range.

Danny Cordukes:	Svantek SV971 Sn 34936
Caitlin Stimpson:	Svantek SV971 Sn 34936
FOH:	NTi XL2 Sn. A2A-03261-D1
Calibrator:	Svantek SV31. Sn. 22514

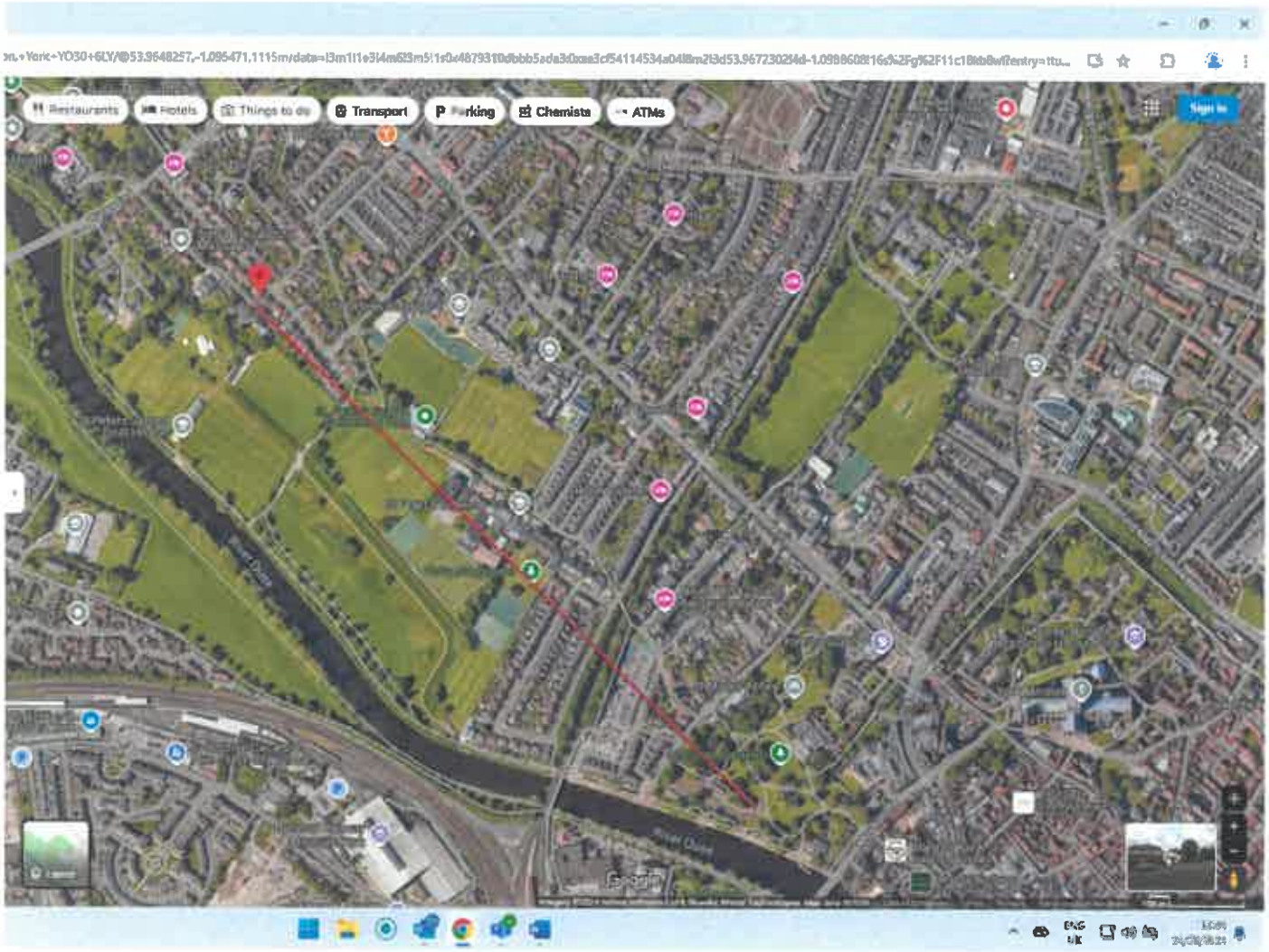
I. Measurements

PROJECT:	YORK MUSEUM GARDENS						OP:	Caitlin Stimson
LOCATION:	YORK, YO1 7FR						BLM:	SV971 Sn 34934
Location		Date	Time	Alt	LAeq	LCeq	LA90	Notes
RESIDUAL								Typical level with music off
R7	Marygate Garth		17/07	20:36	15	50	62	42 Typical activity. RTN, Air Traffic Movement, talking
PROPAGATION								Level on FOH & off-site, plus action taken
R7	Marygate Garth		17/07	19:20	1	65	82	Church Bells
R7	Marygate Garth		18/07	14:23	1	63	76	RTN
R7	Marygate Garth			14:04	1	60	75	FOH 92A
R7	Marygate Garth			14:07	1	62	77	FOH 95A. Pedestrians
R2	King's Manor			14:38	1	52	69	FOH 92A. Barely audible
R2	King's Manor			14:47	1	64	87	FOH 92A. Below residual
R5	Westgate Apartments			15:10	1	68	77	Geese & Bicycle
OFF SITE								Typical level at FOH or in audience
R7	Marygate Garth		18/07	18:18	15	61	64	Change over. ATM. RTN. Talking
R6	Westgate Apartments			18:44	16	65	68	Vocals, guitar, crowd response, local activity
R4	Star Inn The City			19:12	16	63	72	Restaurant diners, loud laughing, sirens
R7	Marygate Garth			20:01	16	68	70	Soft drum beat electric guitar and vocal
r4	Star Inn The City			20:23	15	61	67	Residual dominant + geese
R7	Marygate Garth			21:11	15	63	84	2dBA reduction during measurement
R4	Star Inn The City			21:31	15	60	68	Equal contribution of music & residual
R7	Marygate Garth			21:54	16	64	82	
R7	Marygate Garth		19/07	15:09	1	57	69	Guitars audible
R7	Marygate Garth			15:13	1	65	84	General activity. Music + residual
R7	Marygate Garth			15:14	1	70	74	Soundcheck
R6	Westgate Apartments			15:30	1	60	77	Background music level
R6	Westgate Apartments			15:33	1	63	82	FOH 90dBA
R6	Westgate Apartments			15:35	1	61	81	FOH 91dBA
R6	Westgate Apartments			15:42	1	64	86	FOH 92dBA
R6	Westgate Apartments			15:44	1	64	84	FOH 92dBA. Full array
R5	Westgate Apartments			15:51	1	64	87	FOH 92dBA. Top 3 cabinets off. Residual
R5	Westgate Apartments			15:55	1	65	87	FOH 93dBA. Top 3 cabinets off. Residual
R7	Marygate Garth			17:40	1	60	82	First act on stage
R4	Star Inn The City			17:49	1	66	77	Boar outboard motor dominant
R6	Westgate Apartments			17:57	1	58	69	Between songs. People talking
R6	Westgate Apartments			18:04	1	61	82	Car reversing
R7	Marygate Garth			18:27	1	63	84	RTN dominant
R6	Westgate Apartments			19:20	16	63	70	RTN dominant + car horn
R5	Westgate Apartments			19:36	15	63	71	Air Traffic Movement
R5	Westgate Apartments			19:52	15	61	69	Support act + changeover
R5	Westgate Apartments			20:09	15	66	71	Changeover
R6	Westgate Apartments			20:25	16	63	85	RTN + people talking
R6	Westgate Apartments			20:40	16	65	87	RTN dominant
R6	Westgate Apartments			20:57	16	66	85	Children screaming & RTN dominant
R6	Westgate Apartments			21:12	16	55	83	FOH 92dBA
R5	Westgate Apartments			21:28	15	67	87	FOH 94A - reduction requested
R5	Westgate Apartments			21:45	15	61	86	FOH 94A - reduction requested. RTN
St Marys				22:05	1	60	68	RTN dominant
St Marys				22:17	1	61	64	Residual dominant
R7	Marygate Garth		20/07	14:45	16	66	80	Soundcheck
R8	St Olaves			15:08	16	66	71	RTN & pedestrians
R4	Star Inn The City			18:15	1	59	68	Changeover. Restaurant noise.
R7	Marygate Garth			18:28	15	61	78	Vocal, kick drum, strings
R8	St Olaves			18:47	15	68	72	Box, snare, kick. Off-stage 18:55
R7	Marygate Garth			19:15	15	62	68	RTN, Rail, kids hitting metal pole
R7	Marygate Garth			19:30	16	63	70	Train, cars, motorbike
R7	Marygate Garth			19:48	16	60	70	Boat playing music
32 Westminster Rd				20:37	15	45	58	Complaint. No action required
R7	Marygate Garth			21:13	15	66	86	People talking. RTN
R7	Marygate Garth			21:24	15	65	87	Canoe deflating, dogs barking, kids screaming
R7	Marygate Garth			21:47	16	64	84	Vans
R7	Marygate Garth			22:02	16	66	67	Equal contribution of music & people taking
R7	Marygate Garth			22:18	15	64	85	Crowd singing

PROJECT: YORK MUSEUM GARDENS **OP:** Donny Cordukes

LOCATION: YORK, YO1 7FR **SLM:** SV971 Sn 34935

Location		Date	Time	Δt	LAeq	LCeq	LA90	Notes
PROPAGATION								Level at FOH & off site, plus action taken
R6	Westgate Apartments	17/07	19:25	1	68	89		FOH 95 dBA 1'
R5	Westgate Apartments	18/07	14:03	1	61	79		FOH 90 dBA 1'. No coverage at back of audience
R6	Westgate Apartments		14:05	1	64	82		FOH 92 dBA 1' with marginal coverage
OFF-SITE								Environmental Music Noise Levels
R5	Aviva	18/07	14:22	1	60	86		Site discernible. Road Traffic Noise. Public
R7	Marygate Garth		14:31	1	57	69		RTN & music from local premises dominant
R7	Marygate Garth		15:20	1	62	80		Complaint. Margate #72
R7	Marygate Garth		15:25	1	61	82		Audible but not intrusive
R6	Westgate Apartments		17:45	15	69	[illegible]		RTN contribution, FOH quiet < 90dBA
R6	Westgate Apartments		18:20	1	48	68		Change over music
R5	Aviva		18:35	1	59	69		Car passing by + horn.
R4	Star Inn The City		18:43	1	58	70		RTN & people talking
R3B	St Leonards Mews		18:47	1	59	70		People talking
R3	York Library		18:53	1	47	63		People talking , extractor fans
R2	King's Manor		18:55	1	50	64		Birds and low level rtn
R1	Boothom 49		19:04	1	54	64		Children shouting, church bells
R8	St Olaves		19:17	1	64	72		RTN dominant
R7	Marygate Garth		19:25	1	[illegible]	68		Car passing by + talking
R6	Westgate Apartments		19:47	1	62	70		Tour bus idling
R6	Westgate Apartments		20:05	1	60	71		People talking
R5	Aviva		20:07	1	61	70		Site discernible but not intrusive
R4	Star Inn The City		20:13	1	[illegible]	68		RTN contribution
R7	Marygate Garth		20:18	1	62	66		People talking dominant
R5	Westgate Apartments		20:44	1	51	63		Site discernible but not intrusive
R6	Westgate Apartments		21:16	1	67	91		FOH 92dBA. Requested reduction of -2dB
R6	Westgate Apartments		21:17	1	60	73		Between songs
R5	Westgate Apartments		21:18	5	65	88		FOH 91dBA
R6	Westgate Apartments		21:24	5	65	86		System limit 90A. 40-60Hz -3dB
R6	Westgate Apartments		21:34	5	60	68		Kids shouting in local park and RTN
R5	Westgate Apartments		21:40	[illegible]	59	[illegible]		Local residual noise contributing
R5	Westgate Apartments		21:45	5	64	82		30-63Hz -3dB for LF control
R6	Westgate Apartments		21:53	5	66	85		FOH 90dBA. Further reduction show-stop condition
R6	Westgate Apartments		22:00	5	66	88		Advised levels remain above 65dBA
R6	Westgate Apartments		[illegible]	5	[illegible]	89		Drums & mid range dominant
R6	Westgate Apartments		22:11	5	67	86		Site audible
R5	Westgate Apartments		22:18	[illegible]	65	82		
R6	Westgate Apartments		22:23	5	63	79		
R6	Westgate Apartments	19/07	14:19	1	[illegible]	81		FOH circa 90dBA
R5	Westgate Apartments		14:30	1	62	86		FOH circa 91dBA
R6	Westgate Apartments		14:35	[illegible]	55	78		Drums audible, and some guitar
R6	Westgate Apartments		14:45	[illegible]	54	68		Soundcheck audible not intrusive
R7	Marygate Garth		15:09	1	[illegible]	69		Guitars discernible. People talking
R6	Westgate Apartments		18:00	15	59	81		People talking in car park equal contribution
R7	Marygate Garth		18:22	15	65	85		First song loud. Reduction requested
R6	Westgate Apartments		18:45	[illegible]	63	86		RTN equal contribution
R5	Westgate Apartments		19:01	1	60	71		People talking
R6	Westgate Apartments		19:53	1	62	71		RTN contribution
R6	Westgate Apartments		20:32	1	63	77		RTN contribution
R5	Westgate Apartments		20:48	1	65	88		RTN & people talking
R7	Marygate Garth							
R6	Westgate Apartments	20/07	15:15	15	55	79		Quiet soundcheck
R5	Westgate Apartments		15:30	15	59	82		People talking and RTN
R6	Westgate Apartments		15:58	15	62	85		RTN contribution
R7	Marygate Garth		17:45	[illegible]	64	84		RTN contribution
R5	Westgate Apartments		18:30	15	61	81		Helicopter Air Traffic Movement
R6	Westgate Apartments		18:45	15	58	75		RTN contribution
R6	Westgate Apartments		19:13	15	60	69		Rain + RTN
R6	Westgate Apartments		19:29	15	63	72		Loud motorbike. People talking.
R5	Westgate Apartments		19:45	15	60	71		RTN & people talking
R6	Westgate Apartments		20:05	[illegible]	56	69		Change over. Boat playing music dominant.
R6	Westgate Apartments		20:25	[illegible]	65	89		RTN & people talking
R5	Westgate Apartments		[illegible]	16	[illegible]	[illegible]		RTN contribution
R6	Westgate Apartments		[illegible]	15	64	87		RTN & kids shouting
R6	Westgate Apartments		21:10	15	64	86		RTN contribution
R6	Westgate Apartments		21:30	15	[illegible]	85		RTN dominant
R5	Westgate Apartments		21:47	15	[illegible]	86		Motorbike & car horn
R6	Westgate Apartments		22:03	15	65	89		Site discernible but not intrusive
R6	Westgate Apartments		22:19	10	65	89		



Distance over
1.1km from event to
complaint property

LS

Culture

Ambition: York is renowned for its heritage, culture and cutting-edge approach to creativity, which attracts cultural tourists and supports the city's regenerative visitor economy.

Need and opportunity:

With a diverse music scene, thriving grassroots initiatives, major culture and heritage venues, and status as the UK's only UNESCO Creative City of Media Arts, York is a city where outstanding, renowned heritage meets a cutting-edge and contemporary approach to creativity. York is home to six Arts Council England National Portfolio Organisations; York Museums Trust, York Theatre Royal, Pilot Theatre, Next Door But One, the National Centre for Early Music, and Explore York Libraries and Archives. There are at least 94 professional arts and heritage organisations operating in the city and over 750 creative industries businesses, with over 4,400 employees. The sector is worth £33m to the local economy.

The Commission on Culture and Local Government recently highlighted the essential role culture plays in tourism: "Local cultural infrastructure is essential in supporting a healthy visitor economy. Culture, and particularly heritage, is the main driver of inbound visits and the basis of Britain's reputation overseas."[19]

Group NAO also identified that: "In the broader strategic perspective, long-time leading cultural cities like Berlin and Nantes, see the city's cultural resources as the soft power that will enable them not only to reboot, but also to thrive as attractive urban habitats in the future. For these cities, culture is core to the manifestation of city life and sense of place."

York has an ambitious Culture Strategy, which ensures culture is inclusive, relevant and accessible to everybody in York. It supports residents' health and wellbeing throughout their lives, puts culture at the heart of placemaking, ensures talent development and retention, and has the vision to raise York's profile nationally and internationally: as both a city renowned for its heritage and for its cutting-edge, contemporary approach to creativity[20]. The Culture Executive Group, elected by the Culture Forum, provide the citywide leadership, advocacy, direction and oversight for the Culture Strategy.

Culture has a key role to play in developing a regenerative visitor economy, encouraging higher-spend and longer stay visits, and in promoting York's unique character both locally and to the world. By aligning the Tourism Strategy and Culture Strategy's aims we can ensure an integrated approach to the promotion of culture and tourism across the city and beyond.

The arts can help to support mental and emotional health, reduce hospital attendances, and improve health outcomes. Culture and wellbeing is a priority area of the Culture Strategy, and this aligns with the city's Health and Wellbeing Strategy, ensuring residents, students and visitors can benefit from culture throughout their lives.

[19] Local Government Association, Cornerstones of Culture: Commission on Culture and Local Government Summary Report

[20] York Culture Strategy, Yorks-Creative-Future-York-Culture-Strategy-2020-2025.pdf (makeityork.com)

The Howl and The Hum 19 | credit Nathan Lake


The York Dungeon

York Ice Trail 2023, image credit Visit York

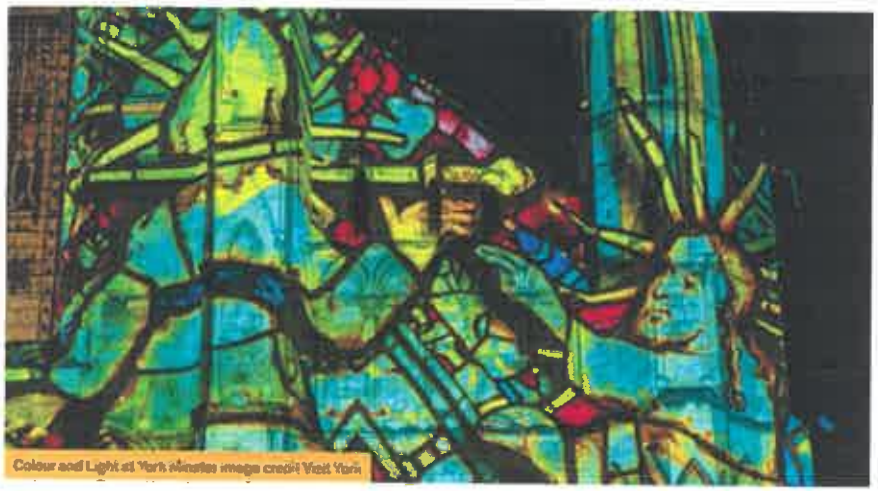

Image credit York 360


Image credit York BID


Image credit Visit England

Recommendations and actions:

- Support the York Culture Strategy's vision to transform York's cultural participation, ambition and reputation: York will become known as a city where outstanding, renowned heritage comes together with a cutting-edge contemporary approach to creativity, reflecting the city's rich history and its status as the UK's first UNESCO Creative City of Media Arts.
- Integrate and maximise the profile of arts and heritage as part of the city's tourism brand, to raise its national profile as a cultural destination and to promote and maximise York's UNESCO Creative City of Media Arts Status and potential to become a UNESCO World Heritage site.
- Implement a citywide Marketing and Communications Strategy for arts and heritage, promoting the key priorities of the Culture Strategy, Tourism Strategy and the UNESCO Creative City of Media Arts designation. This will ensure an effective and joined-up approach, so that both residents and visitors can benefit from opportunities to be creative and to engage with and participate in culture.
- Support cultural organisations' capital aspirations to develop cultural public spaces both in the city centre and in parks, open spaces, and districts beyond York, with national and international profile, ensuring that arts and heritage assets attract residents and cultural tourists. The Culture Strategy will work in tandem with the Tourism Strategy on this action.
- Celebrate York's headline acts and champion up-and-coming local talent, working with the York Music Venue Network and cultural venues, to ensure the diverse roster of cultural events and shows in the city is reflected in our tourism marketing.



Colour and Light at York Minster image credit Visit York

Pop-Up Folie, York Theatre Royal Summer 2020. Photograph by Karen Sayes

Key outcomes:

- York is known as a place where outstanding internationally renowned heritage comes together with a cutting edge, contemporary approach to creativity.
- York's rich and innovative culture offer attracts higher spend cultural tourists, growing the value rather than volume of tourism and supporting the city's regenerative visitor economy. Our potential to become a UNESCO World Heritage Site also brings economic benefits to the city.
- Culture and tourism stakeholders work together in placemaking and creating urban space with national and international appeal in the city centre and beyond.
- York and its wider region will work collaboratively to maximise the profile of arts, culture and heritage as part of the city's tourism brand, raise the city's national profile as a cultural destination and York's UNESCO Creative City of Media Arts status.
- Evidence of a tangible increase in the media profile of York's cultural offer nationally and internationally.