

APPLICATION OF THE SPORT ENGLAND GUIDANCE

Daniel Oldaker
Director of Acoustic Consultants Limited



ANC Conference, 21st June 2017



Its role is to build the foundations of a community sport system by working with national governing bodies of sport, and other funded partners, to grow the number of people doing sport; sustain participation levels; and help more talented people from all diverse backgrounds excel by identifying them early, nurturing them, and helping them move up to the elite level.

Noise from Artificial Grass Pitches

- ▶ Identified by the Pitch Sports Group (national sports governing bodies) and Sport England planners as a recurring planning issue.
- ▶ Local Planning Authorities imposing strict noise limits that were considered not to be achievable and restricting development
- ▶ No noise guidance provided by Sport England to aid in the planning process and development of AGP/MUGA sites

Criteria typically applied by LPA's

- ▶ LAeq comparison with background
- ▶ Change in LAeq or LAmax
- ▶ LAeq or LAmax against WHO or BS8233
- ▶ Assessment of specific noise sources (e.g. whistles, impact noise, etc.)
- ▶ Maximum noise levels no more than 5dB above background!

Initial Scope

- An explanation of what the noise issues are and how these can be resolved during the planning process
- What are the typical performance standards
- What is the nature and level of sound produced by an AGP or MUGA?
- Identifying appropriate organisations and bodies that can help
- What on site tests may have to be taken and where to get help with getting these carried out
- Simple diagrams showing the design and location of acoustic bunds and fencing plus other relevant attenuation measures.
- Easy to interpret tables demonstrating the impact of how sound can be controlled.
- Links to all key reference materials
- There will also need to be a short section on the management implications.

What does the guidance provide?

- ▶ Context of noise within planning policy
- ▶ Reviews current noise guidance
- ▶ Identifies relevant noise criteria
- ▶ Provides objective noise levels for typical AGP use
- ▶ Provides general guidance on noise propagation from an AGP
- ▶ Demonstrates in general terms the benefits that can be provided by acoustic barriers and bunds.

What is an AGP?



- ▶ A single pitch with a surface of artificial fibres
- ▶ Typically surrounded by a weld mesh fence and often floodlit
- ▶ Markings typically for football, rugby or hockey
- ▶ Often used by schools or sports clubs

Other common pitch types



- ▶ Multi-Use Games Area (MUGA)
- ▶ A hard court for netball, tennis, etc.
- ▶ Or. An enclosed play space with basketball hoops and goals



- ▶ 5 A-Side Football Centre
- ▶ A commercial operation
- ▶ Multiple pitches with competitive leagues
- ▶ Pitches surrounded by plywood boards

National Planning Practice Guidance

Noise

How to determine the noise impact?

Local planning authorities' plan-making and decision taking should take account of the acoustic environment and in doing so consider:

- whether or not a significant adverse effect is occurring or likely to occur;
- whether or not an adverse effect is occurring or likely to occur; and
- whether or not a good standard of amenity can be achieved.

<u>Perception</u>	<u>Examples of Outcomes</u>	<u>Increasing Effect Level</u>	<u>Action</u>
Not noticeable	No Effect	No Observed Effect	No specific measures required
Noticeable and Not Intrusive	Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Noticeable and Intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Noticeable and Disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Relevant Noise Guidance

- ▶ World Health Organisation Guidelines on Community Noise 1999
- ▶ British Standard 8233:2014
- ▶ British Standard 4142:2014

WHO 1999

*“Community noise (also called environmental noise, residential noise or domestic noise) is defined as noise emitted from all sources except noise at the industrial workplace. Main sources of community noise include road, rail and air traffic, industries, construction and public work, and the neighbourhood. Typical neighbourhood noise comes from premises and installations related to the catering trade (restaurant, cafeterias, discotheques, etc.); from live or recorded music; **sport events** including motor sports; **playgrounds**; car parks; and domestic animals such as barking dogs.”*

Table 1: Guideline values for community noise in specific environments.

Specific environment	Critical health effect(s)	L_{Aeq} [dB(A)]	Time base [hours]	L_{Amax} fast [dB]
Outdoor living area	Serious annoyance, daytime and evening	55	16	-
	Moderate annoyance, daytime and evening	50	16	-
Dwelling, indoors	Speech intelligibility & moderate annoyance, daytime & evening	35	16	
Inside bedrooms	Sleep disturbance, night-time	30	8	45
Outside bedrooms	Sleep disturbance, window open (outdoor values)	45	8	60

British Standard 4142

Section 1.3 'Scope':

The standard is not intended to be applied to the rating and assessment of sound from:

- a) recreational activities, including all forms of motorsport;

Proposed Noise Limits

It is proposed that a noise limit of 50 dB $L_{Aeq(1 \text{ hour})}$ is desirable at the façade of people's houses and in gardens for community noise, of which recreation noise is included on WHO.

The threshold of the onset of Moderate annoyance in outdoor living areas

Does not adversely affect speech intelligibility and causes moderate annoyance indoors

No Observed Adverse Effect - Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.

Noise Specific to an AGP

- ▶ Impact sounds from balls hitting the catch fencing
- ▶ Use of neoprene isolators to separate panels from posts
- ▶ Nets in front of fence
- ▶ Damping material in posts



Hockey Pitches

- ▶ Impact sounds from balls hitting the goal board and perimeter boards
- ▶ Cover boards in artificial turf



Noise Levels from an AGP

Nine sessions at three locations

- ▶ Hockey
- ▶ 11 a-side football
- ▶ Rugby training
- ▶ Multiple small pitch games
- ▶ Adults and children



58 dB LAeq(1 hour) at 10 metres from the perimeter at the half way line

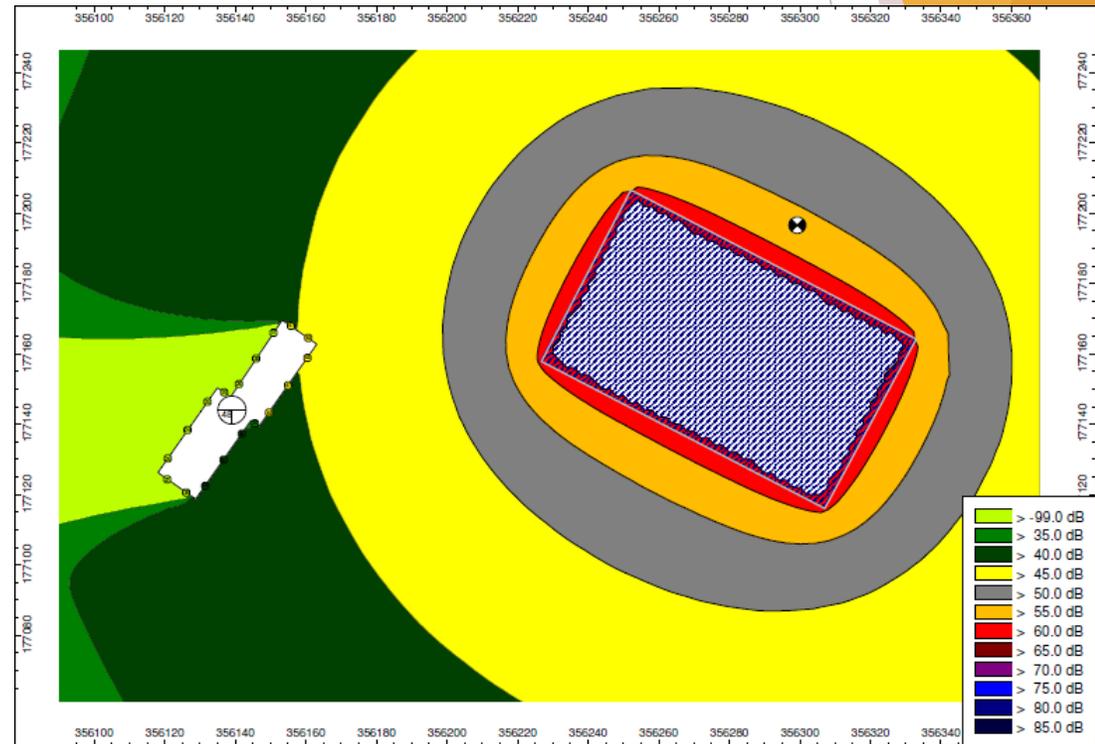
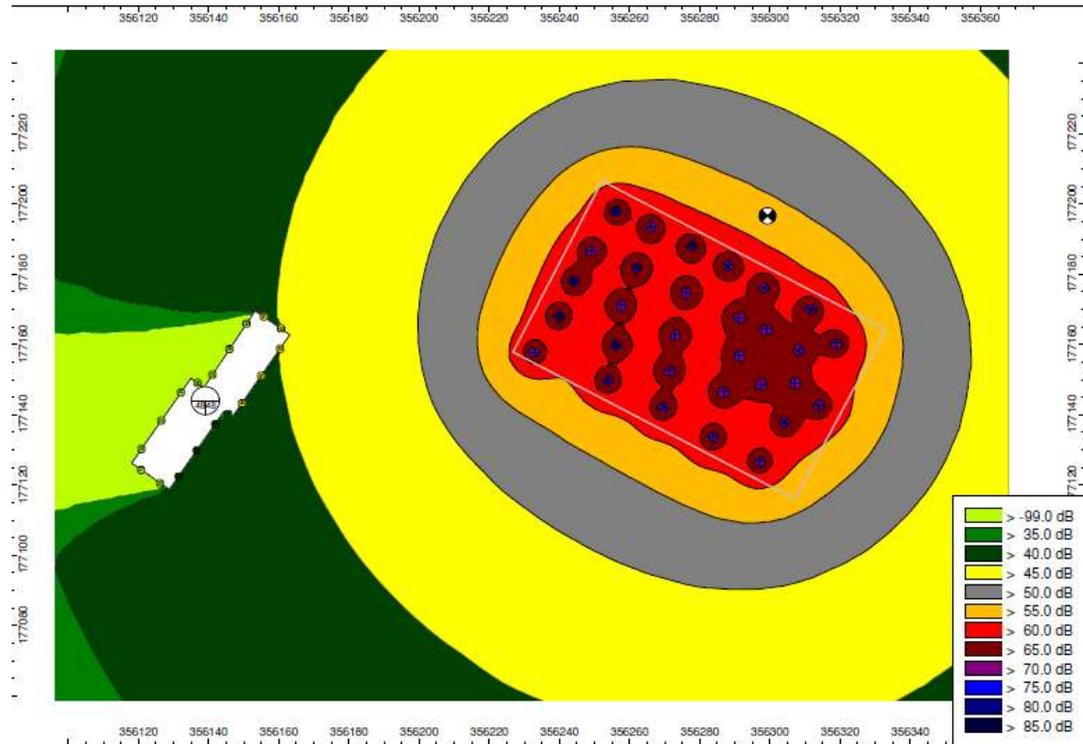
Noise Modelling - Repeatable and Accurate

Single Point Source - Repeatable but not representative of the number or location of sources

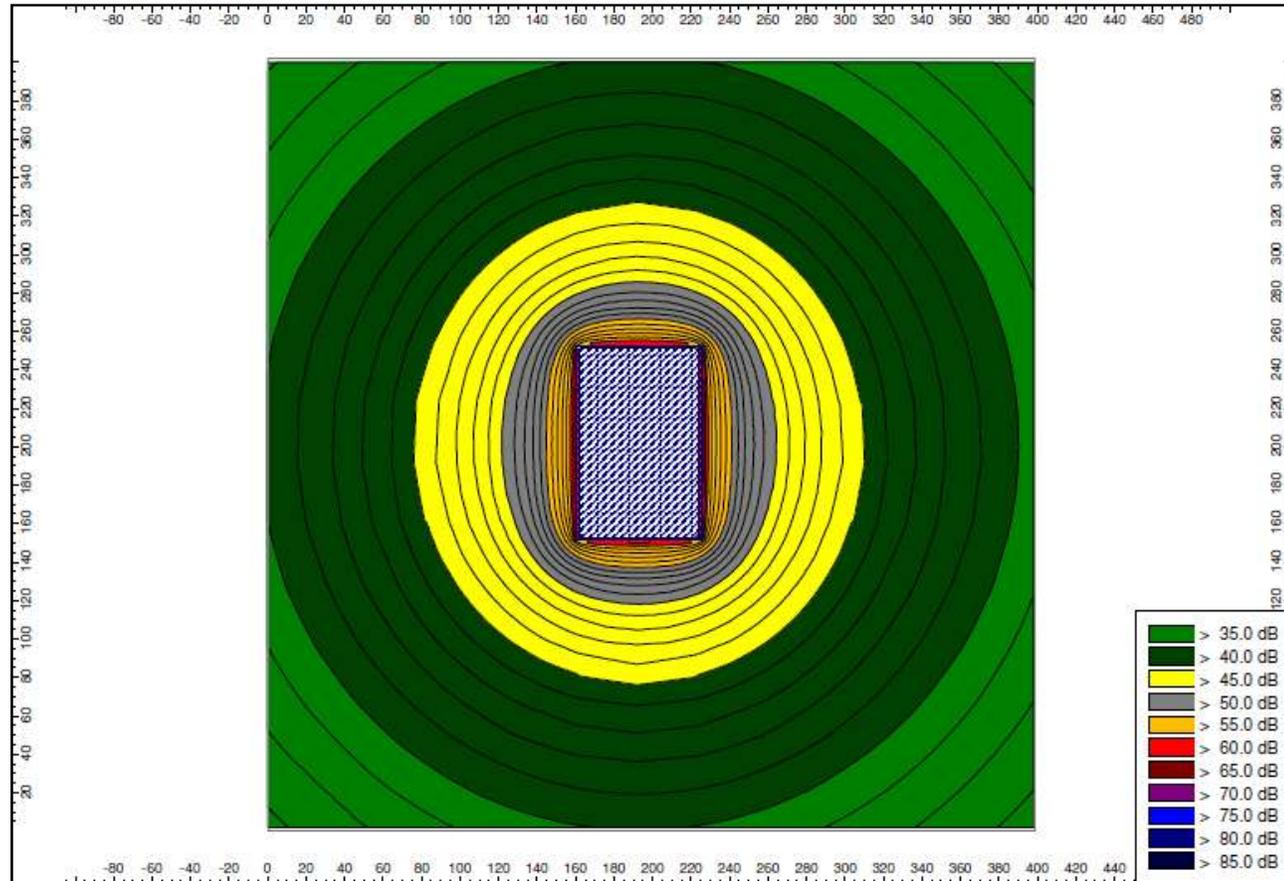
Multiple Point Sources - reflective of the noise sources from an AGP but not truly repeatable

Area Source - Considers noise generated from all areas of an AGP and is repeatable. Not clear to the lay person.

Multiple Point Source Vs Area Source

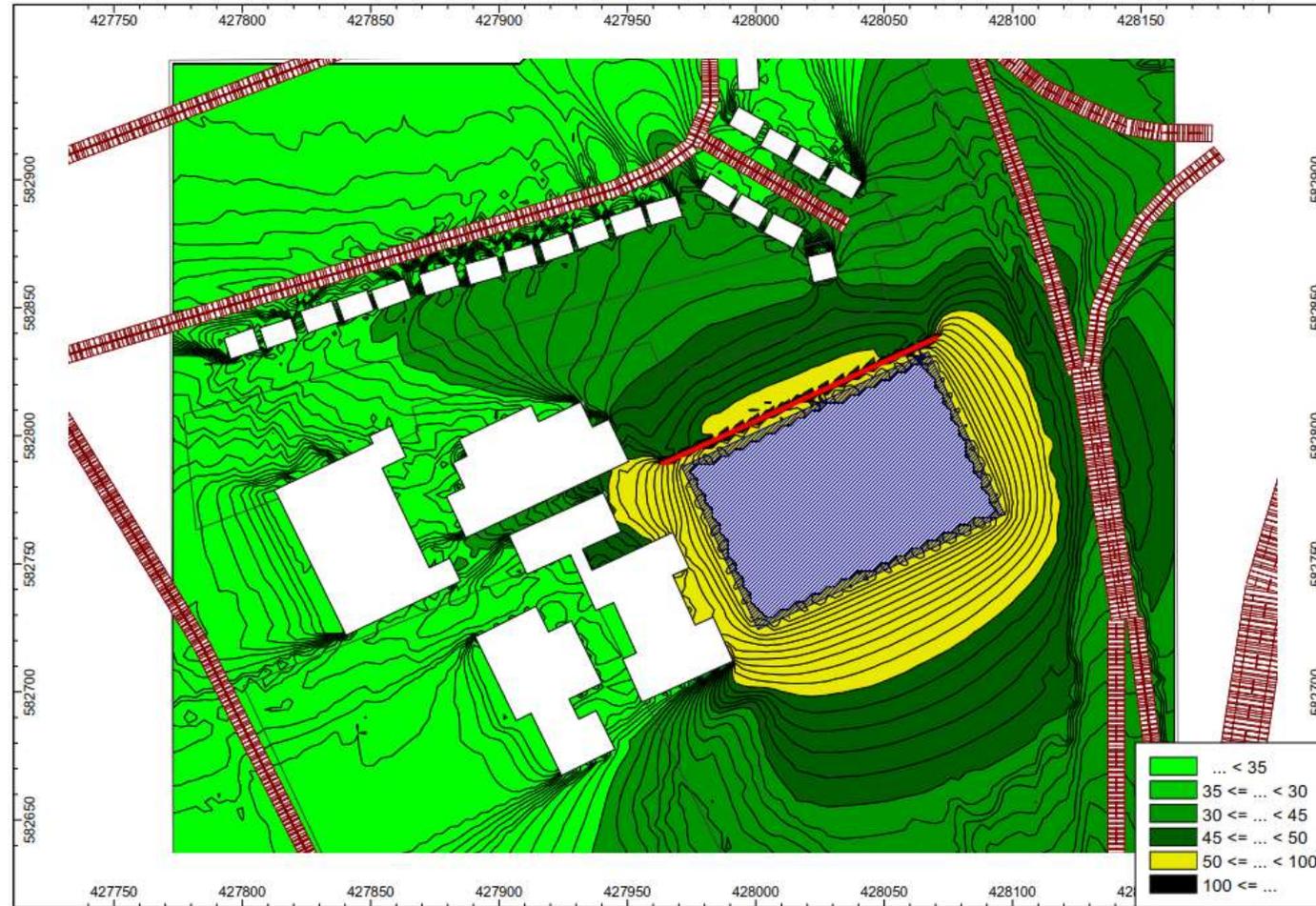


Noise Modelling



The standard model - Noise reduced to 50 dB $L_{Aeq}(1 \text{ hour})$ at 40 metres

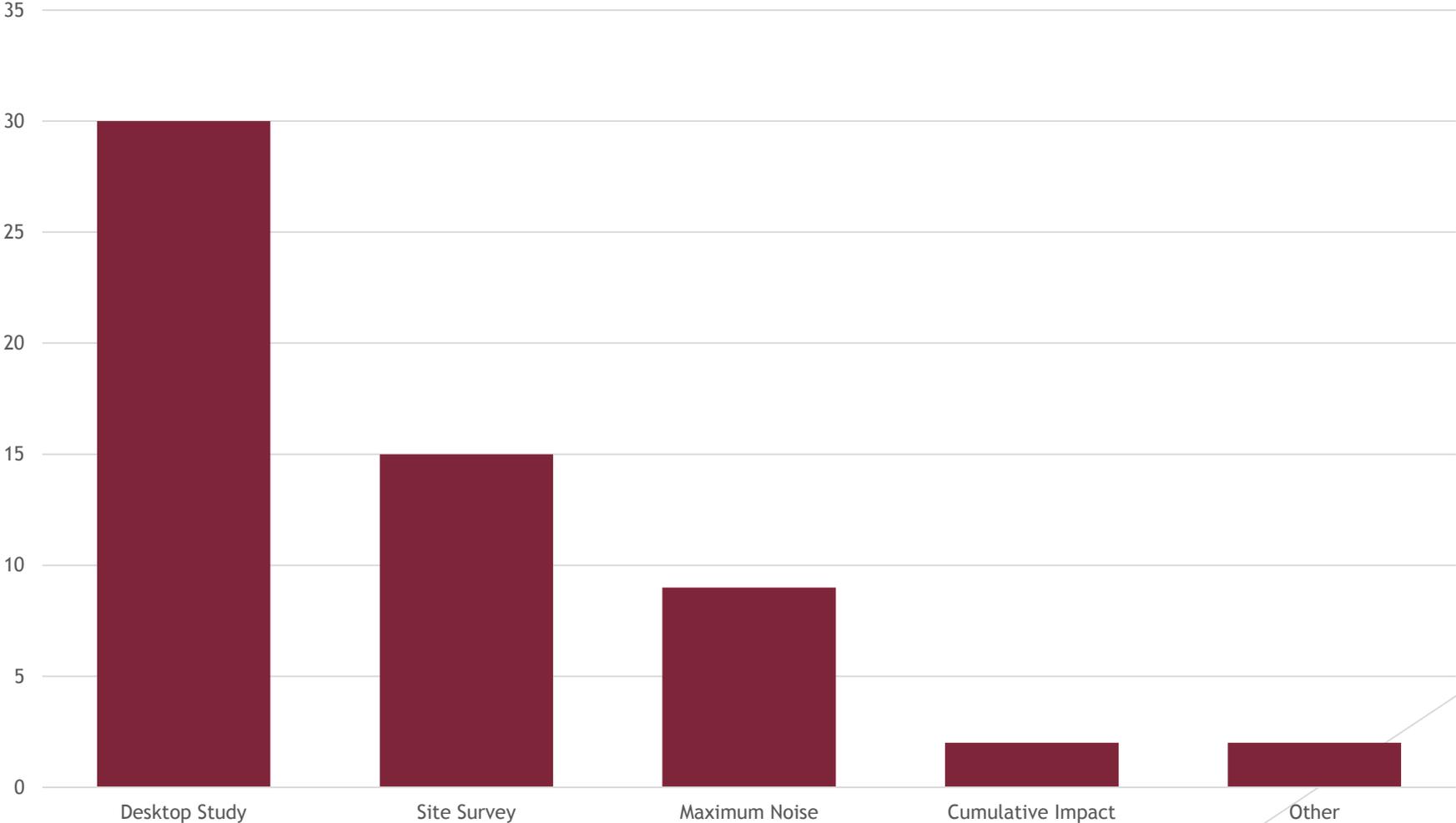
Noise Modelling



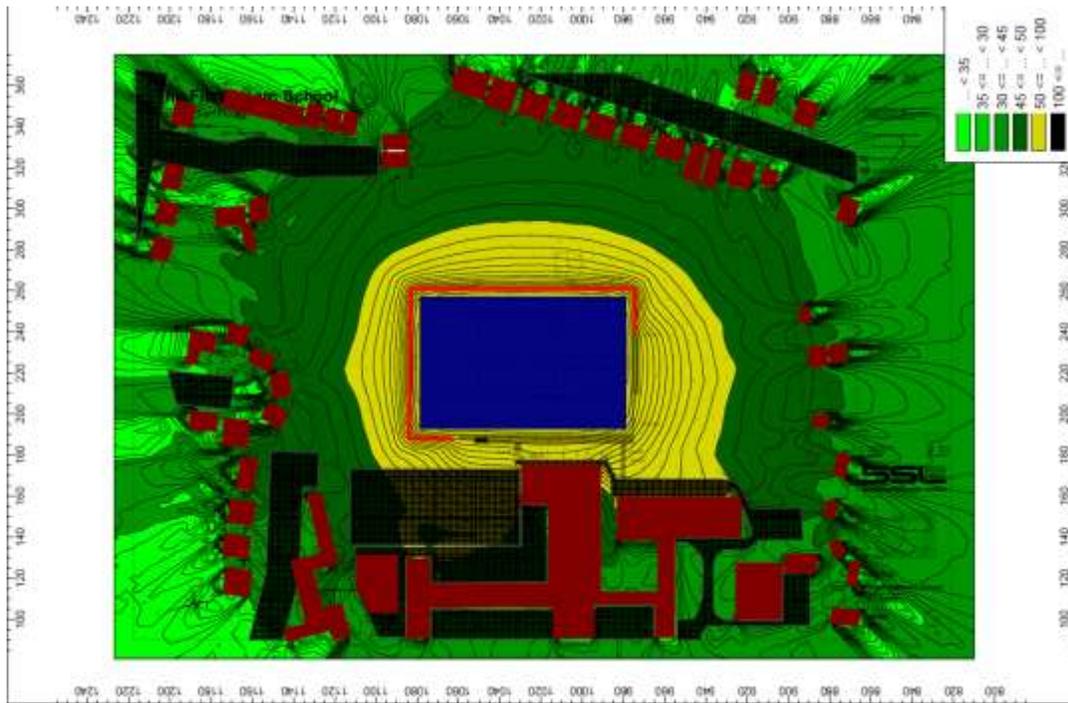
Application of the Guidance



Response to Application of Guidance



It's not always enough!



It is considered that due to the lack of objection from the Council's specialist advisor on noise together with the mitigation proposed i.e. the acoustic fencing, that the Council would not be justified in refusing the proposal on the basis of potential noise implications. Whilst the noise generated would be greater than that currently experienced by neighbouring properties, it is not considered that such an increase would be sufficiently detrimental to justify refusal.

Planning Refused

The Officers report stated that ‘the noise generated would be greater than that currently experienced by neighbouring properties, it is not considered that such an increase would be sufficiently detrimental to justify refusal’ Notwithstanding the views of Officers the Members considered that a moderate increase in noise would not be acceptable. Furthermore activity generated by the use of the pitch would likely continue after the proposed 10pm curfew as facility users packed up afterwards and left the site.

Appeal Dismissed

When I visited the site a small group of children was active on the rugby pitch in the south-west corner of the site, playing on the half of the pitch closest to the school. Standing adjacent to the rear garden boundaries of dwellings on Helena Road, I could clearly hear the instructions to the children and the noise of the whistle was particularly shrill....

Consequently, I conclude that the current level of noise and disturbance, necessarily limited by daylight hours, would not be as acceptable to occupiers of nearby dwellings when extended across considerable periods of time on a daily basis, and after dark. Furthermore, the unpredictable nature of the noise, would perhaps be more annoying than a steady state and predictable level of noise. ...

Whilst the noise levels would not be sufficiently high to have a significant observed adverse effect, where health is affected, I conclude that the development would change the acoustic character of the area and would have the potential to cause small changes in behaviour such as closing windows, not sitting in the garden, or speaking more loudly. This would constitute an observed adverse effect.

