



Ref: P3867/L02/WJK(email attachment)

18 March 2021

To:	Ian Gallagher	of:	ISG
Cc:	As per email body	of:	

Roundwood SEMH – Planning Condition 12

1.0 INTRODUCTION AND BACKGROUND

Further to our initial noise assessment and comments received from Manchester City Council's Environmental Health Department, Acoustic and Engineering Consultants (AEC) have carried out a further noise assessment of the proposed Multi Use Games Area (MUGA) at the site of the proposed Roundwood School. This assessment is required to provide additional information to discharge Condition 12 of the planning consent which states:

Before the use hereby approved commences, details of how to limit the breakout of noise from the MUGA hereby approved in accordance with a further noise study that has been submitted to and approved in writing by the City Council as local planning authority.

In addition to the above, concerns have been raised by the Environmental Health Department with regard to the types of uses / games, noise levels from impact sound at noise sensitive receptors, calculation of noise levels at noise sensitive receptors and hours of use.

Most of these concerns have been addressed in the response to consultee comments dated April 2020 and issued by Cassidy + Ashton and are discussed in brief below. This assessment addresses the ambient and impact noise levels at noise sensitive properties from the use of the MUGA.

2.0 USAGE DETAILS

The proposed MUGA is to be used for football at break times and PE lessons following the national curriculum. Sport England's guidance on AGP states that '*the most significant noise levels were found to be generally derived from the voices of players, with the exception of hockey where impact noises of balls hitting perimeter strike boards and goal back boards were more noticeable*'. It is therefore considered that with the exception of hockey, noise levels are not influenced by the type of games and activities taking place. As discussed in the consultee comments, it is not expected that hockey would be played on the MUGA and would be played in the sports hall using plastic sticks and air flow balls. This has therefore not been considered further.

The MUGA is to be enclosed within metal weldmesh fencing, securely clamped with resilient fixings.

The MUGA is only to be used during school hours (0900-1400h) apart from rare occasions when it may be in use until 1500h on a 1:1 basis with a member of staff.

3.0 ASSESSMENT METHODOLOGY

The most relevant available guidance for MUGA's is contained in the Sport England Artificial Grass Pitch (AGP) 'Acoustics – Planning Implications' Design Guidance Note. The document states that *The determining noise criteria for AGPs proximity to residential properties, to avoid moderate annoyance in the daytime and evenings, as set by The World Health Organisation's (WHO) 'Guidelines for Community Noise':=50dBL_{Aeq, 1hour} upper noise limit external to residential properties and within external living areas.'*

Whilst there is no specific guidance relating to maximum levels from impact noise during the daytime, it seems reasonable to consider the advice provided in Department for Education and Skills document, BB93 'Acoustic Design of Schools' which suggests that maximum noise levels, due to external sources, should not regularly exceed 60dBL_{A1, 30 minutes}, in classrooms which have an equivalent general ambient noise limit to habitable rooms during the daytime (i.e. 35dBL_{Aeq}). However, due to the character of the maximum noise levels, an internal noise limit of 50-55dBL_{Amax} has been adopted for similar noise assessments carried out by AEC.

The suggested internal noise limit equates to a maximum noise level of 65dBL_{Amax} outside noise sensitive properties, allowing for 10-15dB attenuation provided by a window open in a typical manner for ventilation.

4.0 SOURCE NOISE LEVELS

In terms of noise break-out, Sport England's guidance on AGP provides a typical free-field noise level from an AGP of 58dBL_{Aeq, 1hour} measured at 10m from the sideline halfway marking. The guidance determines this to be representative for noise from an AGP. The noise levels provided in the guidance are in line with extensive noise measurements previously carried out by AEC at numerous similar games pitches during matches of football, rugby and hockey.

Previous measurements carried out by AEC of similar pitches showed maximum noise levels from ball impacts on perimeter fences to be from 70-75dBL_{Amax} at a distance of 15m. For the purposes of this assessment, a worst-case maximum noise level of 75dBL_{Amax} has been used in the noise predictions and do not account for any attenuation provided by the resilient fixings to be used in this case.

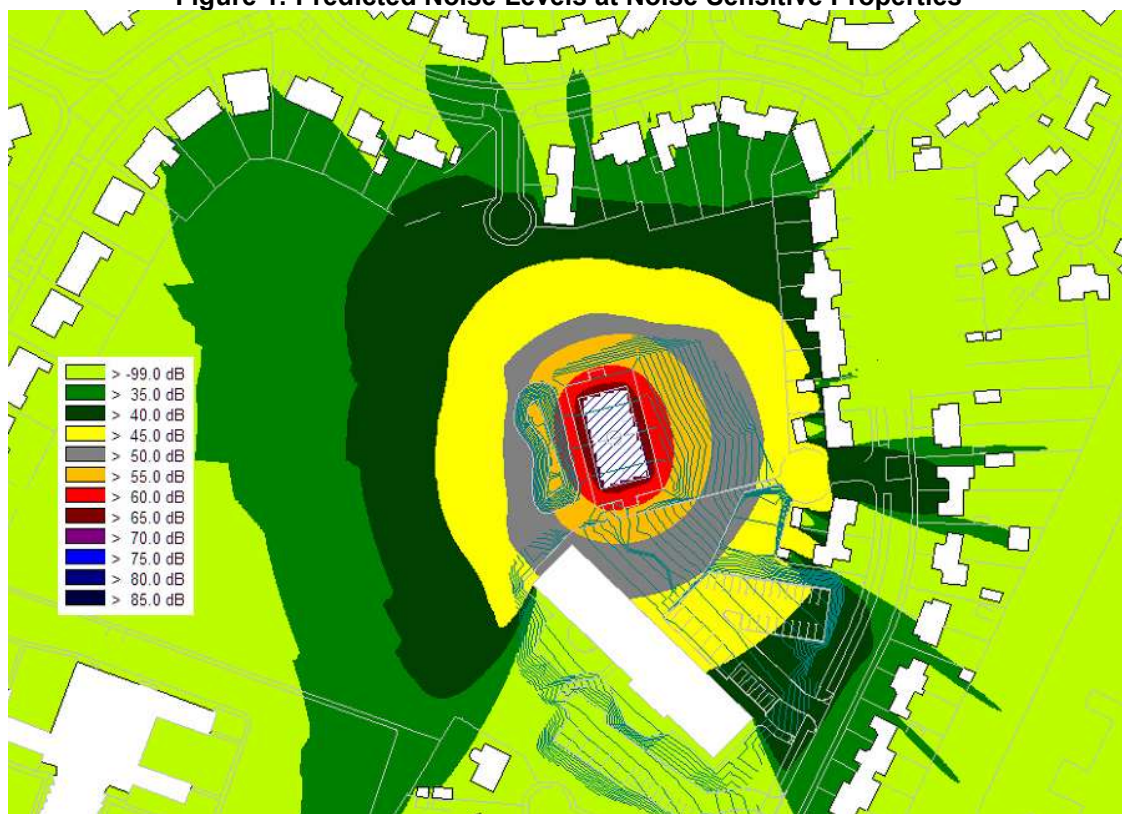
5.0 ASSESSMENT

With reference to the above, noise levels affecting the nearest noise sensitive properties have been predicted using CadnaA noise mapping software which predicts environmental noise levels in accordance with the guidance in ISO 9613-2:1996 'Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation'.

As the MUGA is only to be in use during daytime (0900-1500h), noise predictions have been carried out at ground floor only. No attenuation has been considered for the effect of any barriers such as garden fences between the noise source and receivers.

The predicted noise levels at noise sensitive properties are shown in the following Figure 1:

Figure 1: Predicted Noise Levels at Noise Sensitive Properties



Based on typical noise levels from MUGA's, the predictions show noise levels are between 45 and 50dB_{L_{Aeq,T}} external to all noise sensitive properties. The predicted noise levels are significantly below the WHO guidance to avoid 'moderate annoyance' and hence the Sport England planning guidance limit during the daytime. Furthermore, the model has not considered attenuation from the rear garden fences of the houses which appear to be solid to all properties and hence, would further reduce noise levels.

The following figures 2-4 show the predicted maximum noise levels at noise sensitive properties caused by the impact of balls on the perimeter fences. Predictions have been carried out on the north, east and south perimeter fences.

Figure 2: Predicted Maximum Noise Levels at Noise Sensitive Properties (North)

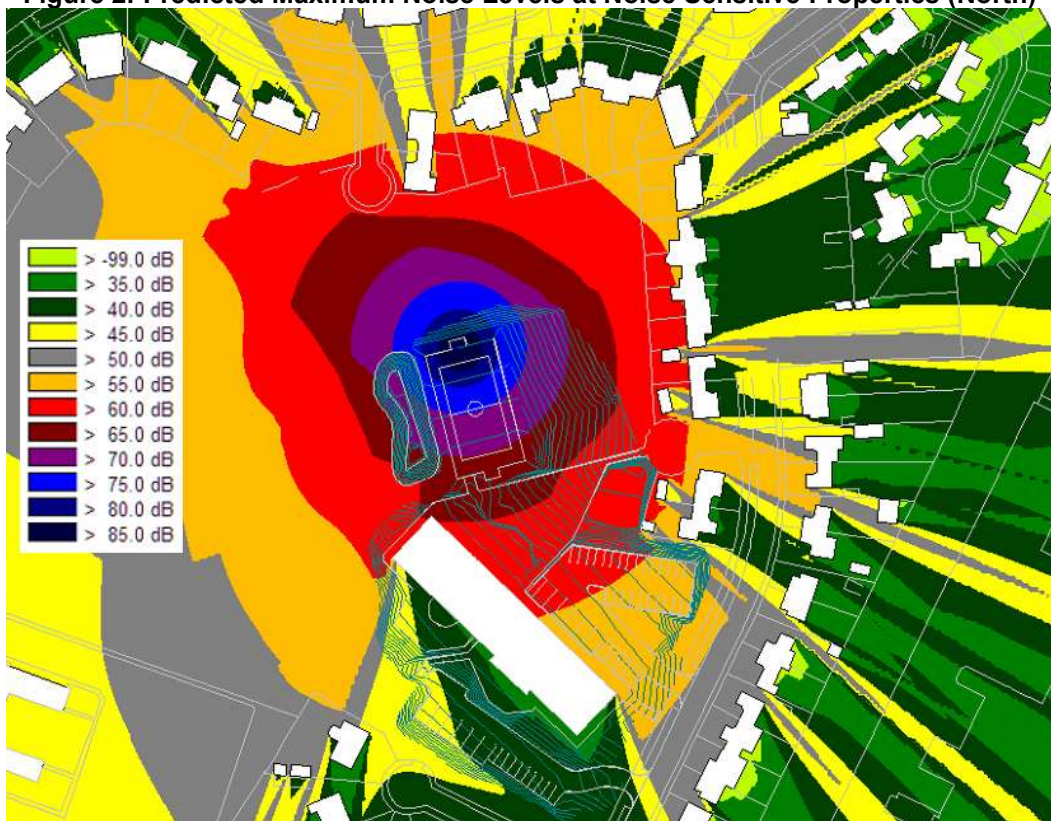


Figure 3: Predicted Maximum Noise Levels at Noise Sensitive Properties (East)

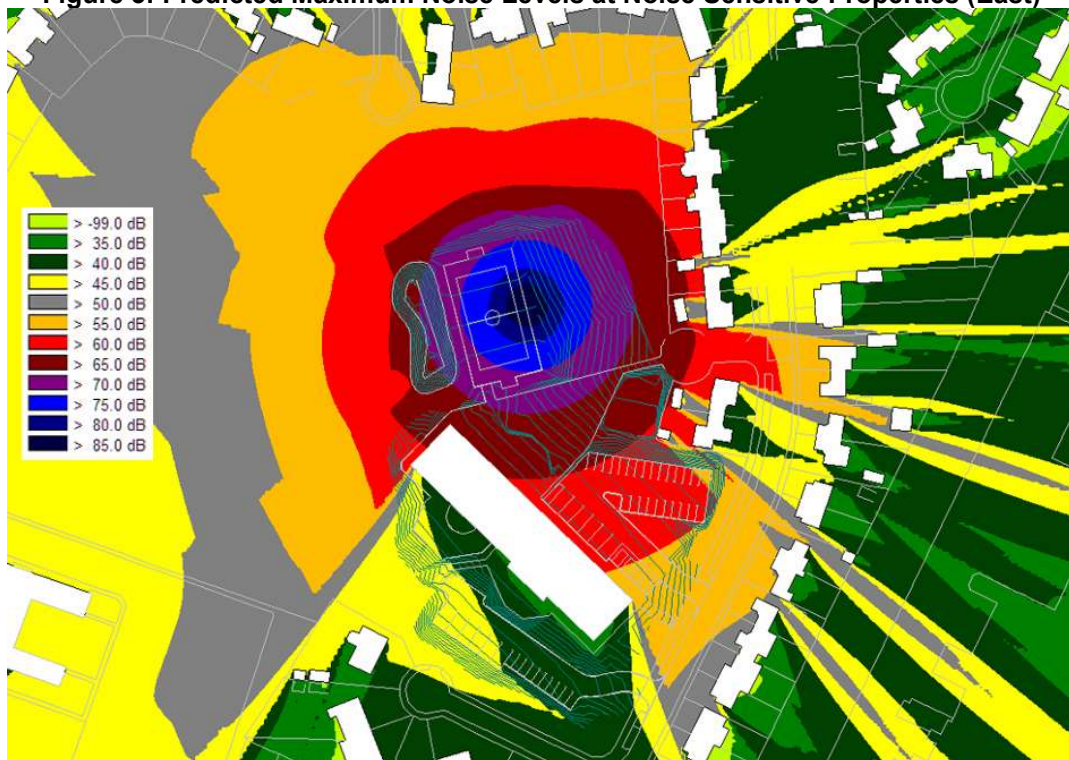
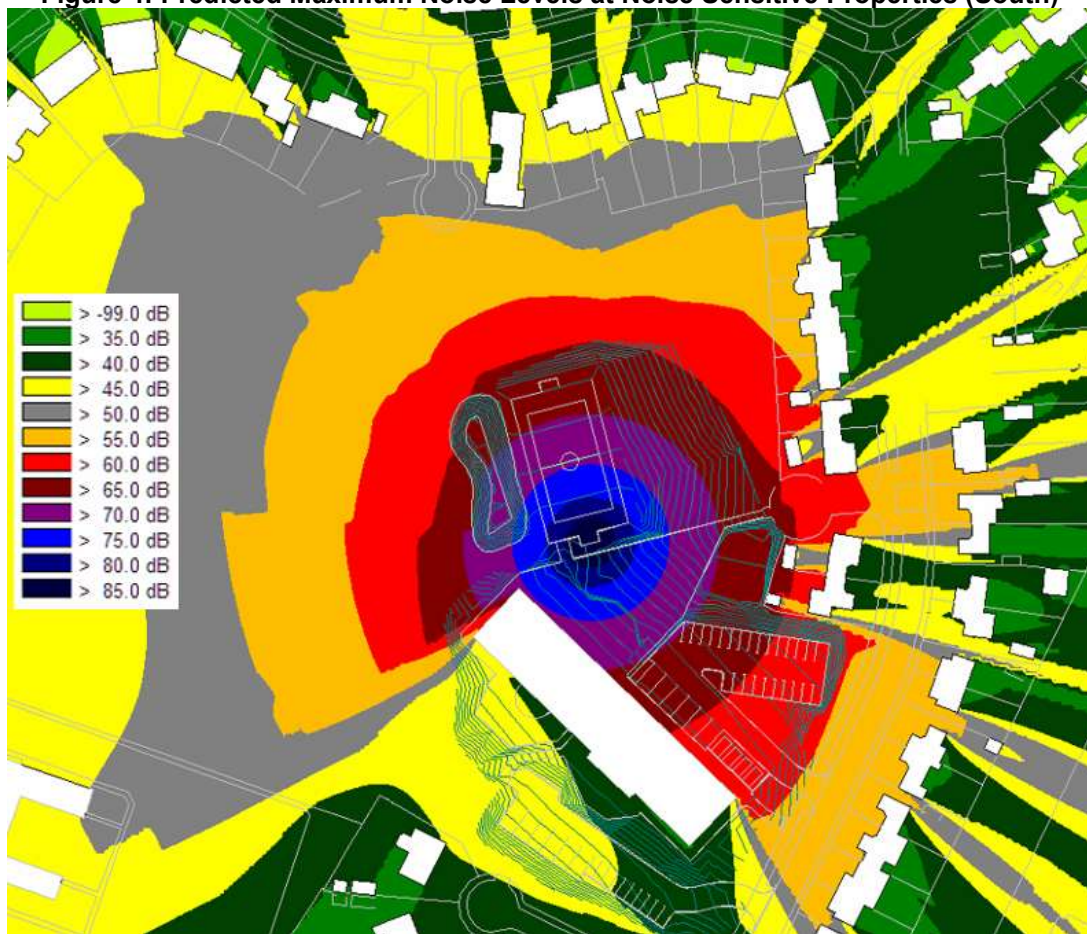


Figure 4: Predicted Maximum Noise Levels at Noise Sensitive Properties (South)



The predictions show maximum noise levels below 65 dBL_{Amax} at all noise sensitive properties. This equates to internal noise levels at the nearest noise sensitive properties below the suggested maximum internal noise limit of 50-55dBL_{Amax}. In addition to this, it must be noted that this assessment has not considered the reduction in ball impact noise that will occur based on the use of resilient fence connections, which is anticipated to be at least 5dB.

The above assessment demonstrates that noise from the MUGA pitch will be lower than the criteria suggested in the Sport England planning guidance for 'average' (dBL_{Aeq}) noise levels. Furthermore, anticipated maximum noise levels would be significantly lower than reasonable limits that have been set by extrapolating other available guidance relating to maximum events.

6.0 CONCLUSION

This assessment demonstrates that 'average' and maximum noise levels from the MUGA will be below the relevant criteria provided in the appropriate guidance for its proposed use. It is therefore considered that no mitigation measures would be required.

As such, this assessment should serve to discharge planning Condition 12 associated with the development.

I trust the above is clear and of assistance. Please do not hesitate to contact me if you have any further queries.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Warren King', written in a cursive style.

Warren King

Checked by: 