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Growth and Investment
Rugby Borough Council

Ensafe Consultants
Osprey House
Pacific Quay
Broadway
Manchester
M50 2UE
Our Reference: AC107085-1r0

1st July 2021

Dear Ms Buchanan,

Coventry Stadium, Rugby Road (A428), Brandon

Due to the ongoing restrictions due to the COVID-19 pandemic, road traffic is not considered yet typical of normal circumstances, and Ensafes has contacted Rugby Borough Council to confirm if the ambient surveys carried out in 2017, could still be used to carry out the review. The Council response to Ensafes request (email dated Monday 7th June 2021, 12:58pm) is copied below: -

“ ...

I agree that the original noise survey is nearest to the "normal" noise levels and would be the best option for reference. In addition, the comments below from EH on the original survey concluded that they were satisfied with the report.

Noise

The REC Noise Constraints Assessment Ref: AC103800-1R1 dated 13th October 2017 submitted with this application has been reviewed. The report notes that the main sources of noise likely to affect the proposed residential dwellings is from the A428 Rugby Road and that acoustic attenuation measures will be required once a detailed masterplan is available. Recommendations for different options of acoustic protection including glazing, ventilation, acoustic fencing/barriers and layout are provided. The report is accepted and once a masterplan is available, specific acoustic attenuation measures must be identified and submitted for approval, having regard to the comments in sections 3.2.2, 4.1.1 and 4.1.2 of the report.

You could update the original survey to cover the comments, alternatively this could be covered by condition. An explanatory note may be useful.

Therefore, this technical letter is to be considered as an addendum to the submitted noise impact assessment REC report¹, reference AC103800-1r1, dated 13th October 2017 which can be found as Appendix II of this letter.

The proposed Masterplan is now available and has been forward to Ensafes, which has been used with the CadnaA 3D calculation software to evaluate the ambient noise levels across the site and at the proposed facades.

¹ Please note that REC has since been incorporated to Ensafes Consultants and Ensafes has access to all related data and information.

The proposed facades seem to have receded from Rugby Road in comparison with the original outline layout, which has resulted in reducing the noise impact on most of the proposed facades, apart from four Plots, nearest to Rugby Road.

Those four Plots would need closed windows and alternative ventilation to comply with daytime and night-time indoors criteria. The noise breaking-in evaluation is included in Appendix I as Figures 2 to 5.

Additionally, the proposed amenity areas are located behind the houses and indicates levels below LAeq,55dB which indicates compliance with the World Health Organisation WHO outdoor precautionary levels and no further mitigation seems necessary.

There is one 3G ATP pitch proposed at the western side of the development site.

Figure 6, Appendix I, shows the likely levels across the area due to games and vehicles arriving and departing from the carpark. The noise contour indicates levels to be in the order of LAeq,T 38dB at the nearest noise sensitive receptors.

Based on the ambient noise survey carried out previously and reported in the attached REC report, the lowest recorded ambient background levels, LA90,T dB during survey was in the order of 45dB (rounded to the nearest decibel).

The survey was carried out at circa 8metres from the centre of Rugby Road. According to the path difference calculation, a fully screened receptor from the road, would benefit from a noise abatement in the order of 10dB. If that is the case, the ambient background levels at the back of the affected houses, with the rear façade and amenity areas facing directly to the proposed carpark, would be in the order of LA90,T 35dB and the predicted levels would exceed background by circa 3dB which is considered a moderate “NOAEL” effect, i.e., noticeable but not intrusive.

In conclusion, the proposed 3G pitch would introduce a slightly increase in sound levels during games however characterised by NOAEL where: - *“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.”*

Trust the information provided in the letter have addressed and complemented the submitted noise impact assessment, however Ensaf e will be happy to clarify and inform any related additional request.

Yours faithfully

A handwritten signature in black ink, appearing to read 'D. Monteiro'.

Diana O'Monteiro
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APPENDIX I – UPDATED MATERPLAN



FIGURE 1 – UPDATED MASTERPLAN



FIGURE 2 – INDICATIVE GLAZING OUTLINE

- window open for ventilation
- window closed with alternative ventilation

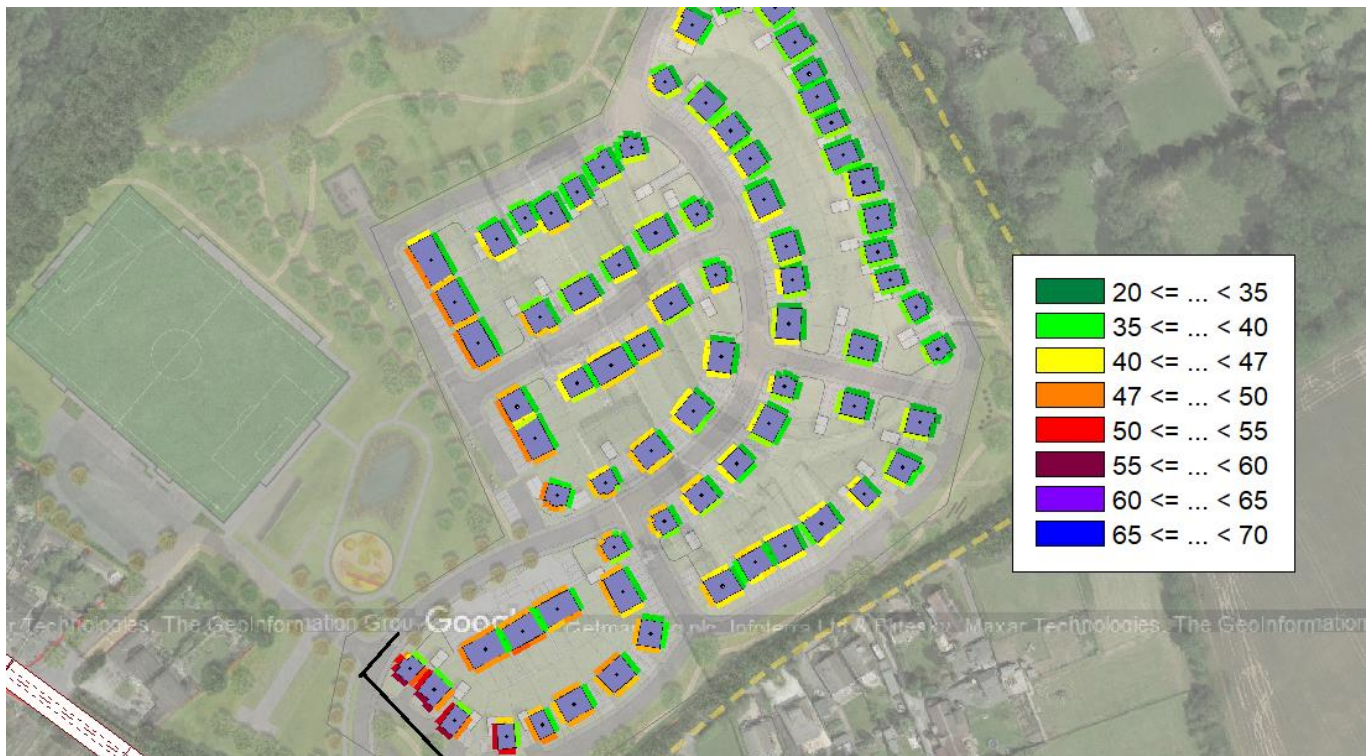


FIGURE 3 – NOISE BREAKING-IN CALCULATION – NIGHT-TIME – windows partially open for ventilation

NOISE BREAKING-IN CALCULATION IN RELATION TO RUGBY ROAD TRAFFIC NOISE

During the night-time facades exposed to levels above $L_{Aeq,T} 49\text{dB}$ would need windows closed to comply with the $L_{Aeq,t} 30\text{dB}$ night-time indoor criterion.

According to the CadnaA noise propagation assessment shown in Figure 3, only the facades near and direct facing to Rugby Road (A428) would need to close windows to comply with indoor criterion.

The black line indicates the Plots that during the night-time would need alternative ventilation. The minimum transmission loss of the ventilation should be not less than $D_{n,e,w} 32\text{dB}$ open. That could be provided by trickle ventilators or similar system.

Note that the night-time levels take into consideration the maximum $L_{Amax, T} \text{ dB}$ recorded during survey.

All other facades are less than 49dB and therefore likely to comply with night-time indoor levels with windows partially open for ventilation.

Figure 4 shows the noise breaking-in calculation procedure according to the BS8233:2014 Guidance on sound insulation and noise reduction for buildings.

Façade Calculation Sheet					
Contract Title: Brandon Coventry Stadium					Job No.
Subject : night-time windows partially open					Calc Sheet
Calc By					Date 02/07/2021
Freq	Level dB(Lin)	Shift	A-WTING	dB(A)	Facade dimensions
63	70.6	53.3	-26.2	27.1	Length 4
125	69.1	51.8	-16.1	35.7	Height 4
250	62.6	45.3	-8.6	36.7	Area 16
500	62.1	44.8	-3.2	41.6	Window area
1000	61.8	44.5	0	44.5	
2000	60.1	42.8	1.2	44	
4000	53.1	35.8	1	36.8	
8000	52.6	35.3	-1.1	34.2	
Shift = -17.3					Wall area 14.5
49.2 dB(A)					Room dimensions
					Length 3
					Height 2.4
					Width 3.5
					Volume 25.2
Freq	SRI Window	SRI Wall		Calculated SRI Wall (inc glazing)	
		(Rw 52dB)			
63	15	38	25.07		
125	15	41	25.18		
250	15	44	25.23		
500	15	46	25.25		
1000	15	52	25.27		
2000	15	61	25.28		
4000	15	69	25.28		
8000	15	70	25.28		
Freq	External Lp at facade	Input RT	Indoors dB	A-WTING	dB(A)
63	53.3	0.5	31.20	-26.2	5
125	51.8	0.5	29.60	-16.1	13.5
250	45.3	0.5	23.00	-8.6	14.4
500	44.8	0.5	22.50	-3.2	19.3
1000	44.5	0.5	22.20	0	22.2
2000	42.8	0.5	20.50	1.2	21.7
4000	35.8	0.5	13.50	1	14.5
8000	35.3	0.5	13.00	-1.1	11.9
(average 0.5)					
Using Internal L = External L -SRI Facade +10logS/A					LP indoors 30 dB(A)

FIGURE 4 – SAMPLE OF NOISE BREAKING-IN CALCUALTION



FIGURE 5 – NOISE BREAKING-IN CALCULATION – DAYTIME – windows partially open for ventilation

Similar to the calculations carried out for the night-time period, facades exposed to levels above $L_{Aeq,T} 56\text{dB}$ would need windows closed to comply with the $L_{Aeq,t} 35\text{dB}$ daytime indoor criterion.

According to the CadnaA noise propagation assessment shown in Figure 5, only the facades near to Rugby Road (A428) would need to close windows to comply with indoor criterion.

The minimum transmission loss of the ventilation should be not less than $D_{n,e,w} 32\text{dB}$ open. That could be provided by trickle ventilators or similar system.

Note that during the night-time or the daytime only the nearest façade to Rugby Road would need closed windows to comply with the indoors criteria.

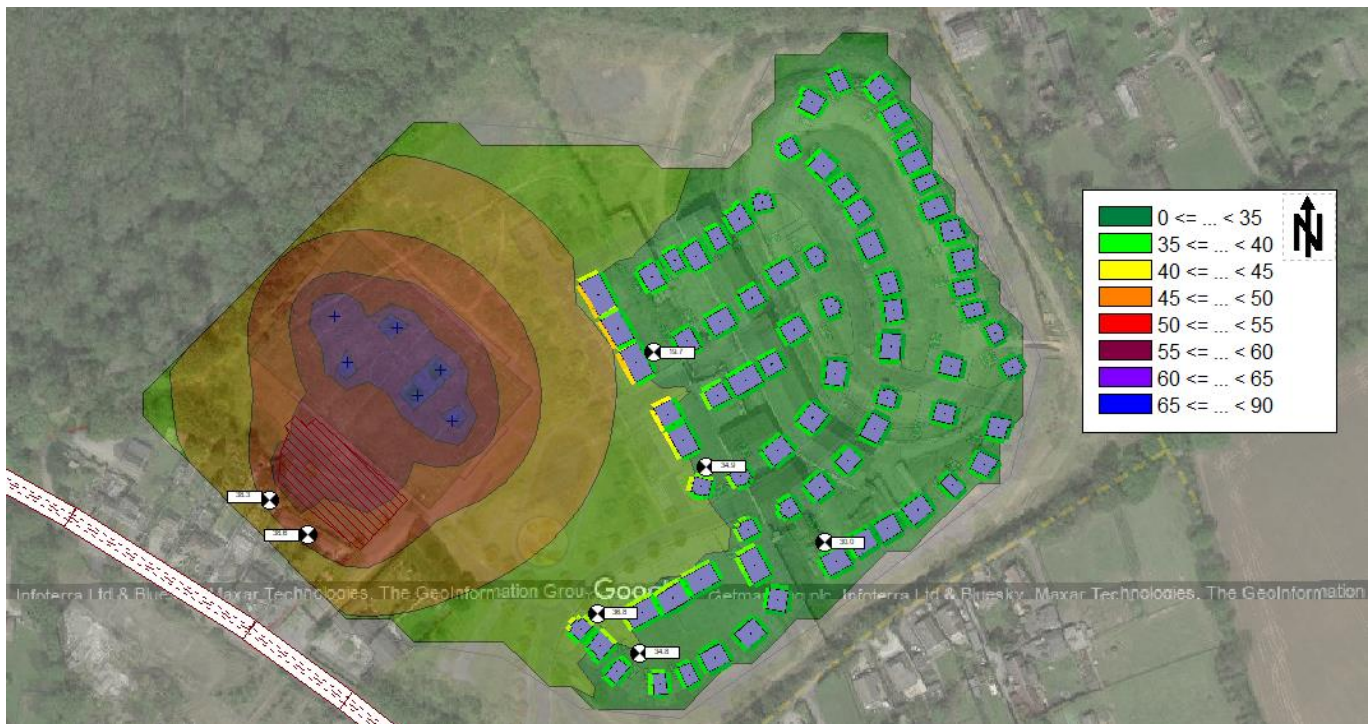


FIGURE 6 – PROPOSE 3G PITCH.

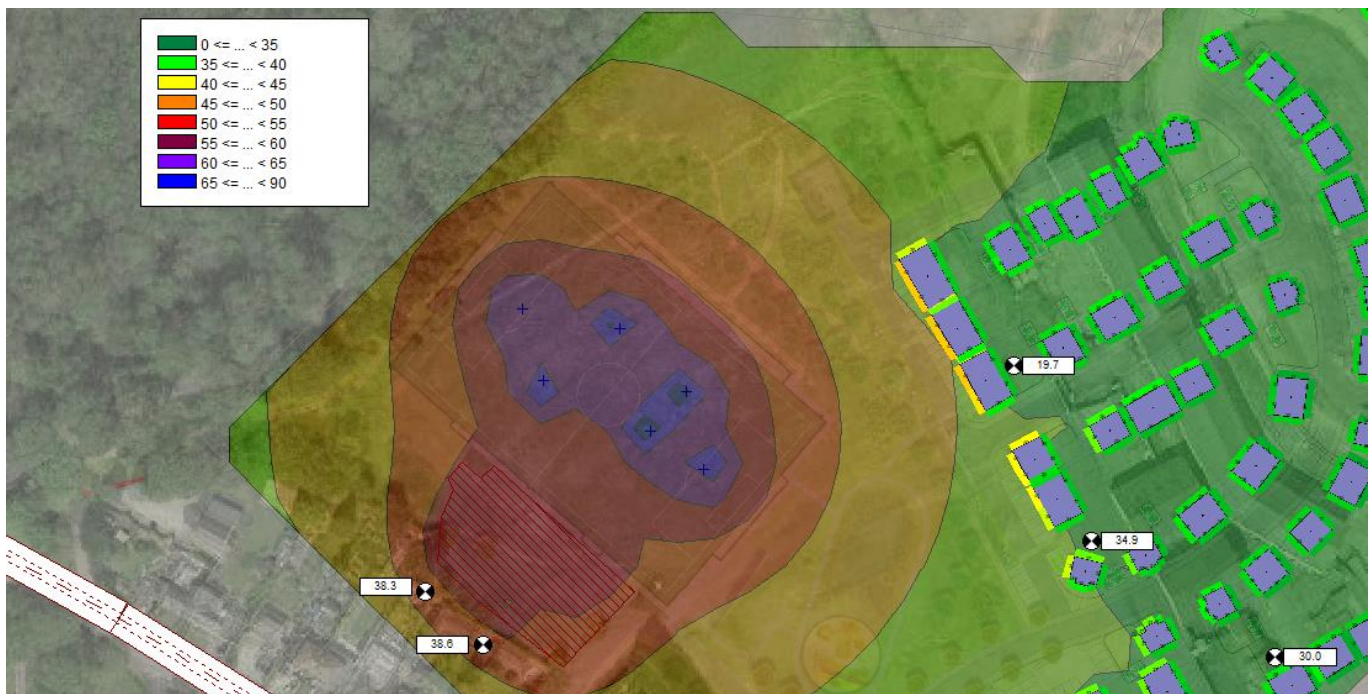


FIGURE 7 – PROPOSE 3G PITCH CLOSE-UP

APPENDIX II – PREVIOUS SUBMITTED REPORT