

28 Thornton Close  
Girton  
Cambridge  
CB3 0NG

30<sup>th</sup> March 2017

Dear Sirs,

**Planning Application at Howes Close Sports ground (S/2084/16/FL)**

We write in response to the committee report and comments from the Council's Environmental Health Officer and your acoustic consultant, Acoustic Control Consultants (ACC). We apologise for responding so close to the committee meeting date however the need for a response has only recently been identified and in order to verify our comments we have commissioned some work from an independent noise consultant which has taken some time to organise.

We note that the EHO comments are dated 16<sup>th</sup> November 2016 and could not therefore have taken account of the Anglia Consultant's report and the recent residents' responses to the application.

The ACC comments appear to be based on reviewing the original Adrian James' noise report, the Anglia Consultant's report and additional information supplied by Adrian James. Without the additional information it is difficult for us to reconcile ACC's critical comments with their overall conclusion. They may rely on ignoring the consistently high noise levels of 65.2dB, 64dB and 66dB in para 4.2.2.1 and 65.2dB in para 4.3.2.1 recorded by Adrian James at actual matches in favour of the much lower levels suggested in the Sport England Design Guidance Note. We would take issue with this on the grounds that actual recorded levels will be the most representative given that the basis for the Sport England advice is unclear. Having looked online for other sources of information on noise from all-weather pitches, we see that levels less than 60dB may be representative of junior games whereas levels above 60dB are common for adult games.

The plans in the Adrian James' noise report and technical memorandum do not show the nearest noise receptors which will be in the residential housing on the adjacent Darwin Green site. ACC and the EHO may have completely unaware of the Darwin Green residents when preparing their comments. Even if they were aware of their existence they may not have known how close the Darwin Green residents will be to the all-weather pitches and pavilion.

Paragraph 71 of the committee report indicates that the 3G pitches will be more than 60m from the nearest residential units on the Darwin Green site. However, measuring accurately off the Darwin Green detail development plans the nearest residential properties will be approximately 40m from the 3G pitches. This is acknowledged in the Adrian James Technical Memorandum.

Paragraph 71 of the committee report states that the impact on the future residents of Darwin Green will be similar to the residents of Thornton Close. We strongly disagree. The Darwin Green properties will include 4-storey blocks of flats with balconies overlooking the all-weather pitches. The flats themselves will be approximately 40m from the all-weather

pitches which compares to approximately 70m for the nearest houses on Thornton Close. There is no acoustic fencing on the Darwin Green side of the all-weather pitches. It is doubtful whether acoustic fencing would give any benefit to the Darwin Green residents other than those in ground floor flats. The Darwin Green residents will also be much closer to the pavilion and spectators shouting on the roof terrace. Section 8 of the Adrian James noise report addresses this issue referring to the closest receptors being Thornton Close gardens at 100m and Thornton Close houses at 127m. This ignores the Darwin Green properties/flats at approximately 65m from the pavilion. The Darwin Green development proposals closest to the pavilion are not known so other future residents may be even closer.

The distance of 40m between the 3G pitches and the Darwin Green properties makes it possible to make an easy comparison with the noise modelling in the Sport England Design Guidance Note. The figures in the Design Guidance Note show an 8dB noise reduction from 10m to 40m of 58dB down to 50dB. Given that the proposed development is for two pitches with higher noise levels in excess of 65dB, an 8dB reduction would imply noise levels of 57dB at the Darwin Green properties. This is well above the acceptable 50dB limit. Cross sections in the Design Guidance Note show that noise levels increase with height and the text states that this would need to be considered where there are nearby blocks of flats. This aspect has not been addressed in the Adrian James noise report, nor presumably in the ACC comments.

Given these factors, the Darwin Green residents will be much more severely affected by the all-weather pitches and pavilion than the Thornton Close residents. In addition to noise, they will be more severely affected by other issues such as light pollution.

The Adrian James' Technical Memorandum included a plan (Figure 2) showing their calculated noise levels at various distances from the all-weather pitches. The plan may have been prepared to accord with the EHO's recommendation that it would be "good practice to obtain an acoustic map of the new sports facility and its immediate surroundings". The noise report and the plan completely ignore the nearest noise receptors being those on Darwin Green. The Figure 2 plan does not include any noise contours less than 57dB on the Darwin Green site and despite the development plans being readily available the nearest properties have been omitted from the noise contour plan. We regard this as bad practice. We assume that Figure 2 plan has not been reviewed by ACC. We were critical of the point source method adopted by Adrian James in preparing this plan. ACC were also critical of this method, stating that it is not appropriate and that it would underestimate noise at a distance.

Having looked online at other noise assessments for all-weather pitches we see that computer modelling and area source models can be used to prepare predictive noise contour maps. On behalf of local residents, Acoustical Investigation and Research Organisation Ltd were commissioned to prepare a computer model of the site. The company's details are as follows:

Acoustical Investigation and Research Organisation Ltd  
 Duxons Turn, Maylands Avenue, Hemel Hempstead, Herts. HP2 4SP.  
 Tel: 01442-247146 Web Site: airo.co.uk.  
 Work undertaken by S R Baxter BEng MIOA

Within the short time available, and budget restrictions, the company were not able to prepare a full report but have provided print-outs of four noise contour maps. To model an area source, two methods were employed. The first was to evenly spread out multiple point sources across both pitches. The second was to have a series of rectangular line sources covering both pitches. The noise output from the sources was calibrated to match the 65.2dB noise levels recorded by Adrian James for both football and hockey and match this to the recording positions relative to the pitch sidelines.

For both the point source and line source methods, two print outs have been prepared. One set is for ground level and the other is for first floor level.

The four print-outs are attached and relevant noise data is shown in the table below.

Method	Ground Level Thornton Close	Ground Level Darwin Green	1 <sup>st</sup> Floor Level Thornton Close	1 <sup>st</sup> Floor Level Darwin Green
Line Source	51-53 dB	57-59 dB	53-55 dB	59-61dB
Point Source	47-49 dB	57-59 dB	51-53 dB	57-59 dB
Notes: Line source modelling to be verified. Additional noise from the pavilion and car park not included.				

Both source methods produce higher values of noise at a distance than predicted in the Adrian James contour map (which predicted 40dB or less at Thornton Close properties). Although the line source prediction of 51-53db at Thornton Close is to be verified, it is close to the value of 51dB predicted in the Anglia Consultant's report. The Anglia Consultant's report added a worst-case background noise level of 45dB to give an overall noise level of 52dB. This is above the 50dB limit and using an IMEA assessment is 7dB above background which is a significant impact.

Both methods show ground level noise of 57-59 dB at the Darwin Green properties. This is consistent with the comparison with the Sport England Design Guidance Note with only an 8dB reduction at 40m.

The print-outs for first floor level noise show a range of 51-55 dB for Thornton Close properties. This is consistent with the Anglia Consultants report that predicted levels of 55db at ground level without the acoustic fence which is presumably a reasonable approximation to first floor levels where attenuation from the fence will be negligible. The overall noise level will be higher when background noise levels are added. This will be significant in the evening for young children sleeping and older children studying. For Darwin Green, the first floor noise levels are in the range 57-61dB.

We understand that the impact of this sports noise will be even more intrusive given its particular characteristics (shouts and whistles) when compared to more anonymous noise such as road traffic.

We maintain our belief that noise from the development will be unacceptable due to its adverse impact on local residents and the application should be refused.

If the application is permitted we ask that a noise condition is applied to monitor and limit noise levels to 50dB  $L_{\text{aeq}(1\text{hr})}$  at nearby residential properties. If the applicant's noise report is robust then this should be acceptable to them.

We ask that our letter and the AIRO print-outs are circulated to committee members.

Yours sincerely

Michael Chamley and Dorothy Stirling

Encs: AIRO print-outs.

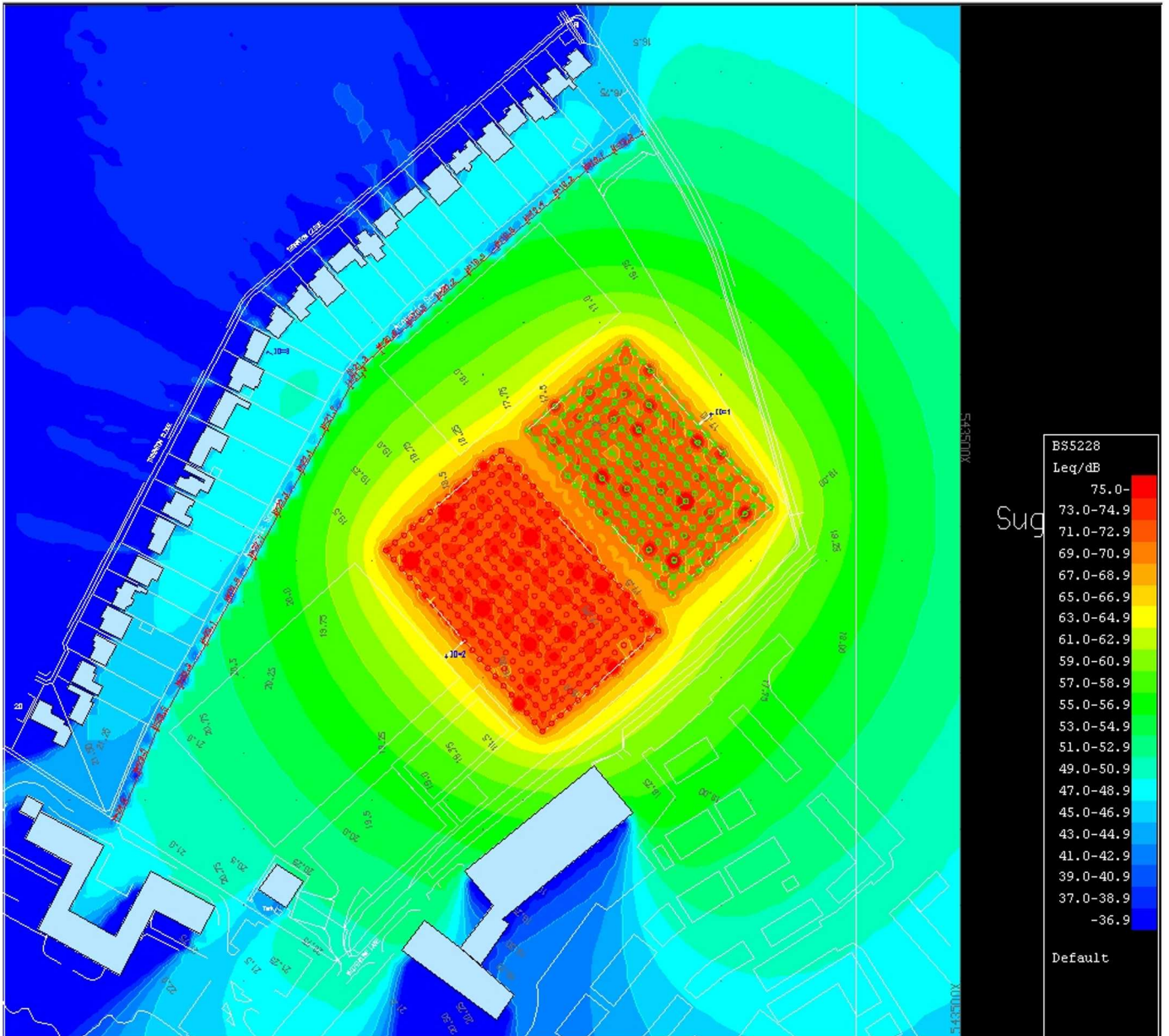
Date March 2017

No. G/7076/1

Client Thornton Close Residents

Howes Close Sports Field - Ground Floor Noise Level Contours ( $L_{Aeq,1hour}$ )

Point Source Grid Over Pitches





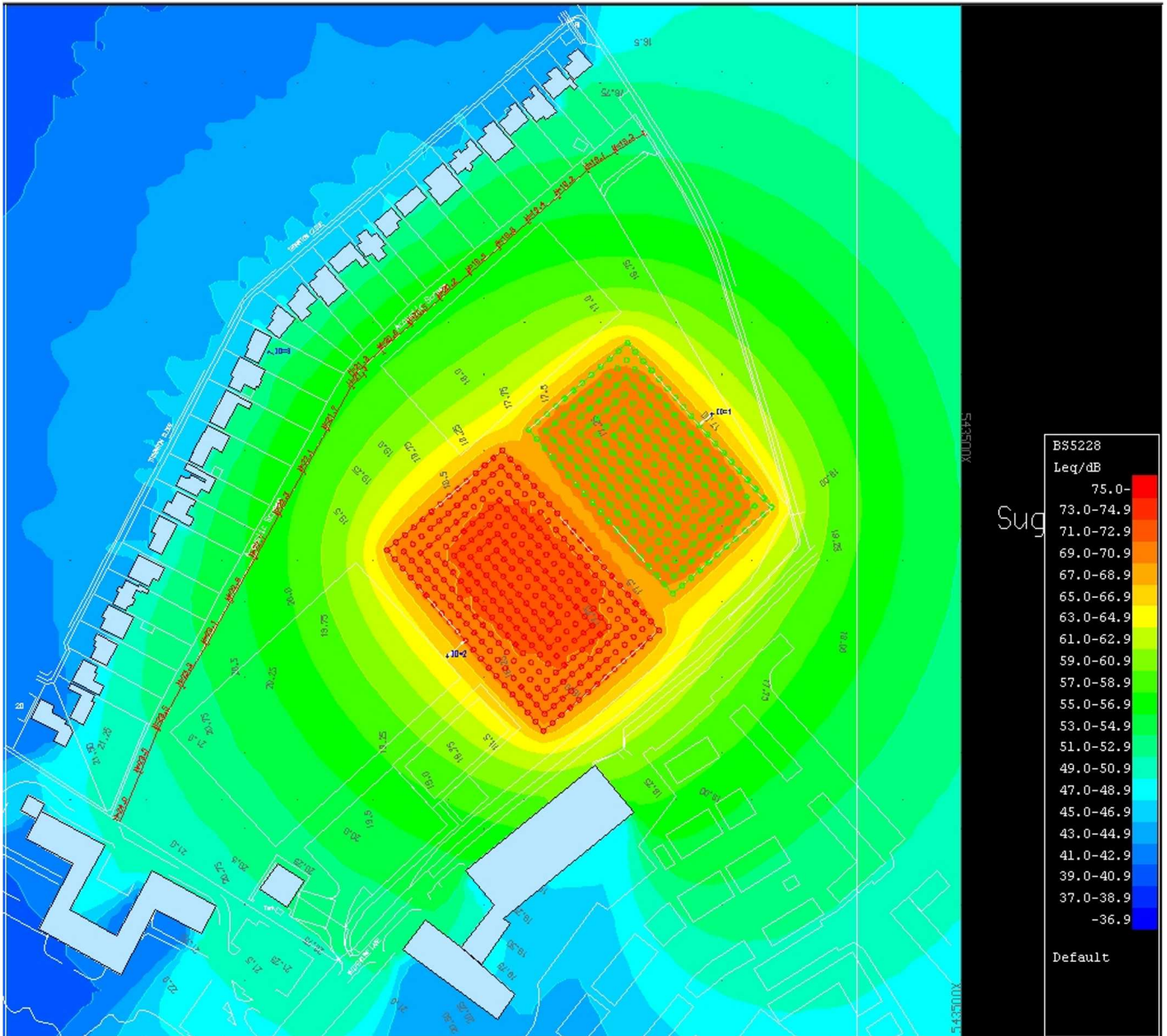
Date March 2017

No. G/7076/2

Client Thornton Close Residents

Howes Close Sports Field - First Floor Noise Level Contours ( $L_{Aeq,1hour}$ )

Point Source Grid Over Pitches



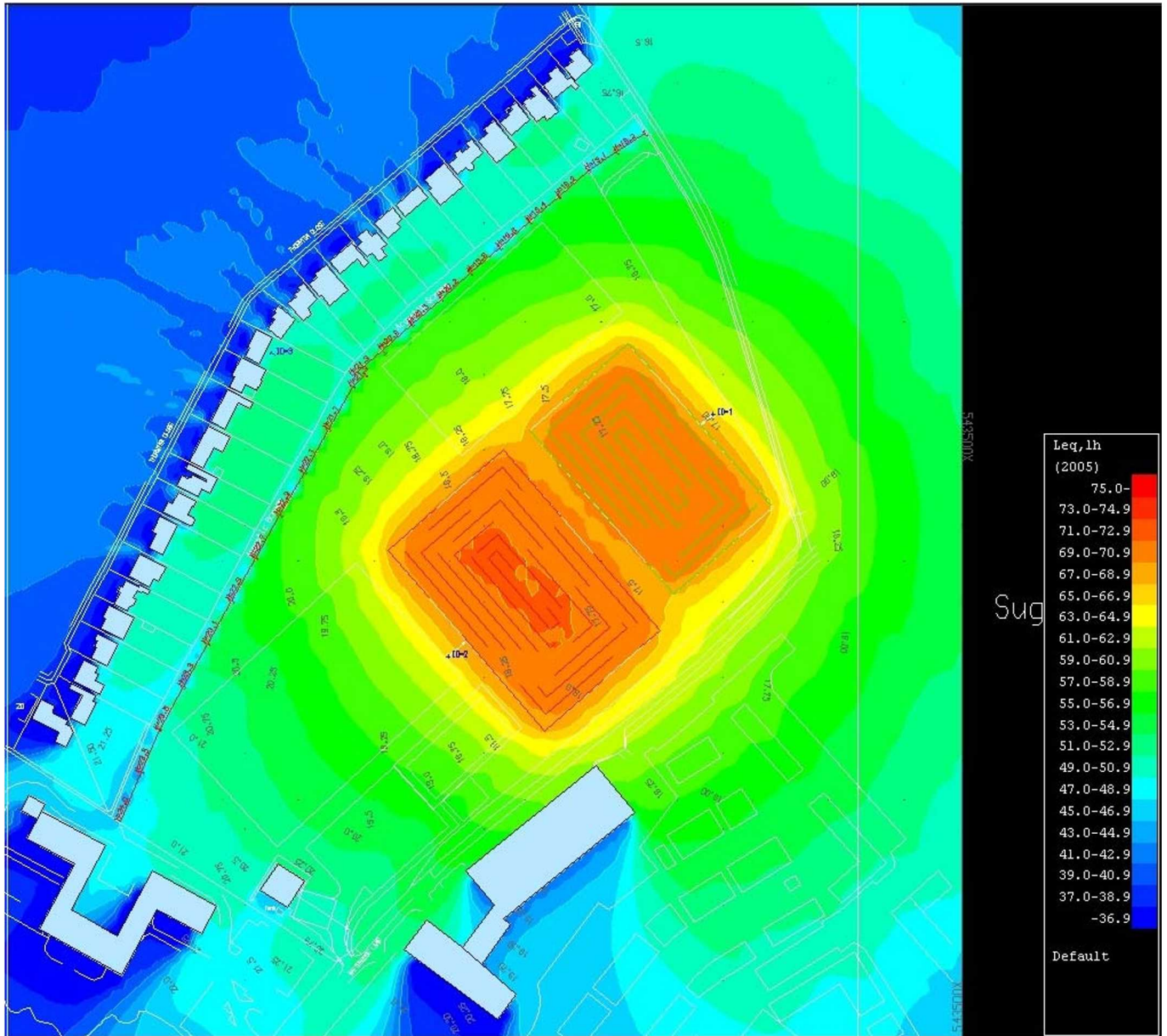
Date March 2017

No. G/7076/3

Client Thornton Close Residents

Howes Close Sports Field - Ground Floor Noise Level Contours (L<sub>Aeq,1hour</sub>)

Line Source Concentric Rectangles Over Pitches





Date March 2017

No. G/7076/4

Client Thornton Close Residents

Howes Close Sports Field - First Floor Noise Level Contours ( $L_{Aeq,1hour}$ )

Line Source Concentric Rectangles Over Pitches

