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REF: AS12257.230717.L2

20 July 2023

Sam Morris
Dandara Ltd
Roman House
South Hampshire Industrial Estate
Eddystone Road
Totton
Southampton
SO40 3SA

Dear Sam

AS12257 WESTSIDE CLOSE, OLD SARUM

Discharge of Condition 14 (Application PL/2021/09567)

As part of the planning application Ref PL/2021/09567 the land at Westside Close in Old Sarum SP4 6BX (the Site) shall be developed to include 46 no. new dwellings.

Planning condition 14 of the consent set out the requirements as follows:

14 *Further to the findings of the noise impact assessment by Clarke Saunders Associates (REF; AS12257.21102.R1, dated 2nd December 2021, no development shall commence on site until an acoustic design scheme has been submitted to and approved in writing by the local planning authority. The scheme should specify the layout, design, acoustic insulation and other mitigation measures proposed to adequately protect the future occupants against noise from the football stadium. The approved scheme shall be implemented in full before the developments use commences and maintained at all times thereafter.*

REASON: In the interests of amenity

Clarke Saunders Acoustics has been commissioned by Dandara Ltd. to set out the mitigation measures incorporated into the consented scheme to protect future occupants from noise associated with the football stadium. .

Reasonable efforts have been made to liaise with the Environmental Health Department, but no consultation has been possible due to Local Authority workloads.

A site suitability assessment has previously been undertaken for the Site in our report (ref AS12257.211025.R1), referred to in the condition, including details of the noise survey methodologies, results, and assessment.

Scheme layout and design

The scheme layout has incorporated a number of features to reduce the potential noise impact from activity at the football stadium.

The building line of the nearest properties is set back approximately 30m from the site boundary and circa 50m from the nearest part of the stadium, thereby, maximising distance propagation from specific sound sources. The nearest properties are further away than the closest apartment building on Roger Way to the east side of the stadium.

Wherever possible, nearest properties (Plots 15 and 16) are orientated gable end on to reduce noise impact into the dwelling and the private external amenity areas are protected by a 1.8m high close-boarded timber fence or masonry wall.

Nearest properties which face the stadium (Plots 22-24) benefit from private external amenity areas being screened from the stadium by the dwelling itself and also feature the same boundary screening. Room layouts for these properties have principal daytime habitable spaces (family, kitchen, dining areas) at the rear of the properties facing away from the stadium.

All other properties benefit from increased distance from the stands/pitch and acoustic screening offered by other intervening dwellings.

External Building Fabric Acoustic Review

The external building fabric envelope incorporates a standard set of mitigation measures as follows.

Non-glazed elements of the building fabric should provide an acoustic performance in excess of R_w 45 dB. This is commonly achievable with typical cavity masonry wall and insulated slate roof constructions.

The selected glazing in the dwellings have been confirmed by Dandara Ltd. as Saint-Gobain 24mm double glazed windows, 4/16/4 configuration to the windows. It has been confirmed by the manufacturer that these units have an associated acoustic performance rating of R_w 30 dB. The dwellings will have standard trickle ventilators in window units providing whole dwelling ventilation. It has been confirmed by the manufacturer that these ventilators are rated to achieve an acoustic performance of $D_{n,ew}$ 30 dB whilst open (Laboratory data is attached for these elements).

This construction has been reviewed and internal noise levels predicted on the basis of the available site plan, floor plans, elevations, and event noise data presented in the CSA report previously submitted. The documents used are referenced here:

- OSP Drawing ref 21232 – P120E;
- OSP Drawing ref 21232 – P125C;
- OSP Drawing ref 21232 – P126C;
- OSP Drawing ref 21232 – P127C;
- OSP Drawing ref 21232 – P101J; and
- CSA Report ref AS12257.211025.R1.

Noise ingress into the first-floor bedrooms (for daytime resting) of the closest, most affected dwellings has been calculated. During football games an internal noise level of $L_{Aeq,1hour}$ 34 dB has been predicted when windows are closed and vents are open. As confirmed in the previously submitted CSA report, football games are completed prior to 23:00 hours. Indoor levels in the other dwellings are expected to be lower still owing to increased distance, screening from other houses on the site, and orientation of bedroom/living room windows.

BS8233 brings together relevant guidance from several sources including internationally published guidance in the form of World Health Organisation Guidelines for Community Noise (1999). For reference the desirable internal noise levels are summarised in .

ACTIVITY	LOCATION	07:00 TO 23:00	23:00 TO 07:00
Resting	Living Room	35 dB $L_{Aeq,\ 16\ hour}$	-
Dining	Dining Room	40 dB $L_{Aeq,\ 16\ hour}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,\ 16\ hour}$	30 dB $L_{Aeq,\ 8\ hour}$

Table 1: Aspirational target criteria cited in BS8233:2014

Whilst not directly applicable, in the absence of alternative guidance comparing internal conditions with the desirable internal noise levels presented in BS8233:2014 *Guidance on sound insulation and noise reduction for buildings* for bedrooms (for daytime resting) seems reasonable given the circumstances. Considering the relatively similar noise impact of stadium activity on the other surrounding residential receptors, this is acceptable for the matchday scenario.

It is understood that the stadium is also licenced to host up to three outdoor events with live/recorded music per year until 23:00 hours. There is limited published research or guidance on appropriate internal noise levels during infrequent performances. Given the infrequency of events and the context of the surrounding area being mostly residential of seemingly similar construction, it is expected that occasional music concerts occurring at the stadium could result in a low impact at the new development.

Summary

The site layout, plot orientation and room layouts have been designed, wherever possible, to minimise acoustic impact of the stadium activity. The acoustic performance of the building fabric elements has been verified as being suitable to control environmental noise ingress into the dwellings to the aspirational target criteria presented in BS8233:2014 *Guidance on sound insulation and noise reduction for buildings*.

The mitigation scheme is expected to provide an acceptable level of protection for occupants of the consented development. Compliance with condition 14 requirements has been demonstrated, and no further mitigations measures are required.

We trust the above is of assistance. Please do not hesitate to contact us with any queries you may have.

Yours sincerely
for CLARKE SAUNDERS ACOUSTICS



Alec Korchev
email: *akorchev @clarkesaunders.com*

Enc.
1 no. Saint Gobain Swisspacer 4/16/4 acoustic test report
1 no. Trickle Ventilator acoustic test report

MEASUREMENT OF SOUND TRANSMISSION LOSS
(EN ISO 140 & EN ISO 717)

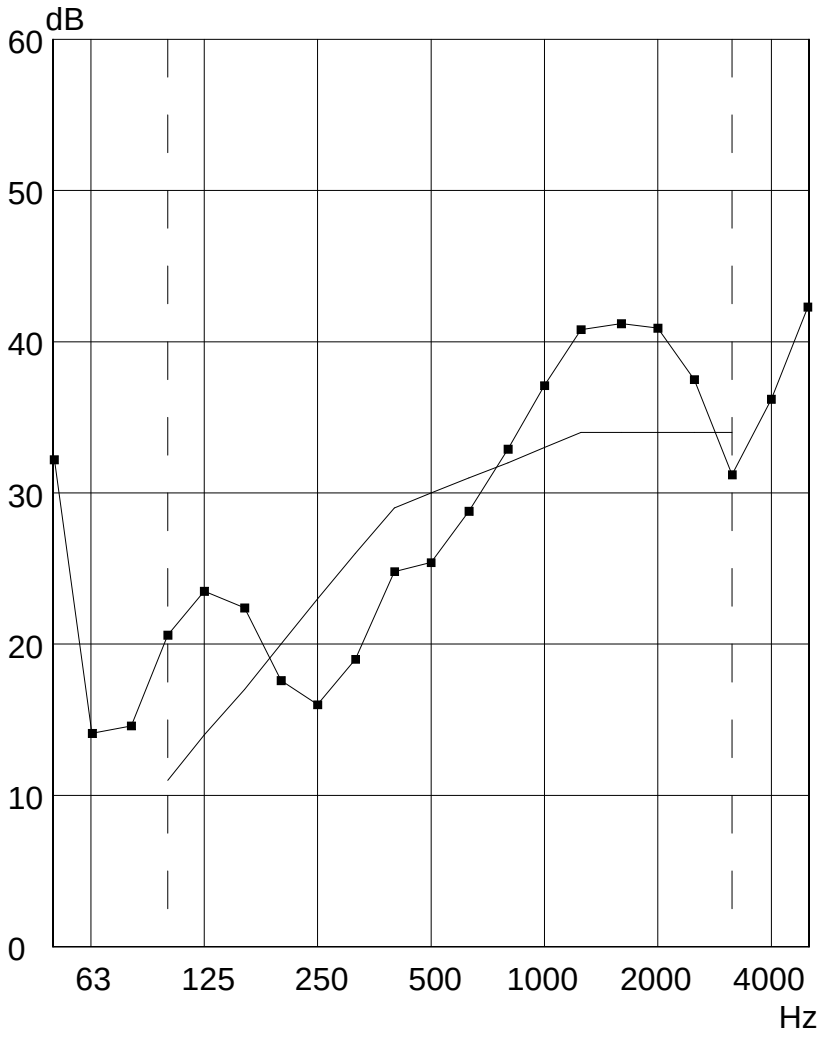
Test Details :

SAINT-GOBAIN GLASS
SGG SWISSPACER
SGG PLANILUX 4 (16) SGG PLANILUX 4
Total thickness : 24 mm
Overall dimensions : 1.48m x 1.23m
Dimensions of opening : 1.43m x 1.18m
Mounting conditions : following EN ISO 140

Measuring conditions :

Volume of emission room : 85.8 m^3
Volume of reception room : 61.5 m^3
Air temperature inside laboratory : 24 °C
Third octave measurement, analyser and white noise generator NORSONIC 830-2

RESULTS :



Frequency	R
50	32
63	14
80	15
100	21
125	24
160	22
200	18
250	16
315	19
400	25
500	25
630	29
800	33
1000	37
1250	41
1600	41
2000	41
2500	38
3150	31
4000	36
5000	42

RATINGS :
Standard : EN ISO 717

Rw(C;Ctr) =
30 (-1;-4) dB
R_A = 29 dB
$R_{A,tr}$ = 26 dB

Test N° : 625979

Measurement made by Centre de Développement Industriel - Test Date : 10/07/01

CENTRE DE DÉVELOPPEMENT INDUSTRIEL
BP 135 - F 93303 AUBERVILLIERS

SAINT-GOBAIN
GLASS

STD T/V OPEN

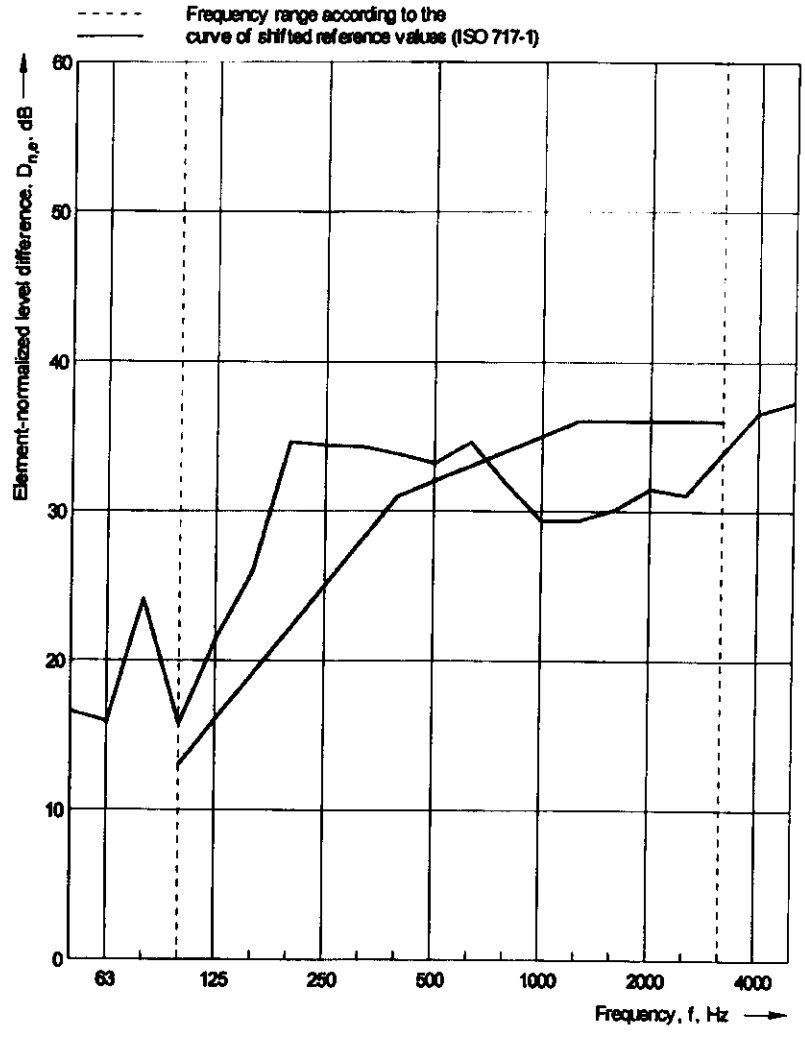
Element-normalized level difference according to ISO 140-10

Laboratory measurements of airborne sound insulation of building elements

Client:	Munster Joinery	Date of test:	21/11/2016
Manufacturer:	Munster Joinery		
Test room identification:	Vinci Technology Centre Airborne Transmision suite		
Test specimen mounted by:	Vinci Technology Centre		
Product identification:	A6179-07		
Description of the specimen:	M335 TV (open)		

Barometric pressure:	1024.0	kPa
Size of test opening:	0.04	m²
Mass per unit area:		kg/m²
Temperature:	9.0	°C
Air humidity:	56	%
Source room volume:	145	m³
Receiving room volume:	125.0	m³

Frequency f [Hz]	$D_{n,e}$ 1/3 octave [dB]
50	16.6
63	15.9
80	24.1
100	15.8
125	21.4
160	26.0
200	34.6
250	34.4
315	34.3
400	33.8
500	33.2
630	34.6
800	31.8
1,000	29.4
1,250	29.4
1,600	30.1
2,000	31.5
2,500	31.1
3,150	33.9
4,000	36.6
5,000	37.3



Rating according to ISO 717-1

$D_{n,e,w}(C;C_{tr})$ = 32 (-1; -2) dB

Evaluation based on laboratory measurement results obtained in one-third-octave bands by an engineering method.

$C_{50\text{-}3150}$ = -1 dB $C_{50\text{-}5000}$ = 0 dB $C_{100\text{-}5000}$ = 0 dB

$C_{tr,50\text{-}3150}$ = -3 dB $C_{tr,50\text{-}5000}$ = -3 dB $C_{tr,100\text{-}5000}$ = -2 dB

Company: Technology Centre

No. of test report: 25114 Page 10 of 11

Date: 21/11/2016 Signature: