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Architectural & Environmental Acousticians

Noise & Vibration Engineers

DISCHARGE PLANNING CONDITION 11

PHOENIX PLACE, LONDON

TAYLOR WIMPEY CENTRAL LONDON

RP03-17506

DISCHARGE PLANNING CONDITION 11

PROJECT:	PHOENIX PLACE, LONDON
CLIENT:	TAYLOR WIMPEY CENTRAL LONDON
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0	06 February 2019	Alex Clark, BEng AMIOA, Acoustics Consultant	Chris McNeillie, MSc CEng MIOA, Director	Initial issue

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1. INTRODUCTION

1.1 This report summarises the sound insulation scheme between the commercial and residential uses of Blocks A & C, as stipulated by Planning Condition 11.

1.2 The relevant condition from Camden consent ref 2013/3807/P is reproduced below:

> ***Planning condition 11 Sound Insulation (between uses)***
>
> *Condition: Full particulars and details of a scheme for sound insulation between the commercial and residential uses of blocks A & C shall be submitted to and approved in writing by the Local Planning Authority prior to superstructure works commencing on that part of the development.*
>
> *The sound insulation and noise control measures shall be carried out strictly in accordance with the details so approved, shall be implemented prior to the first occupation of the development hereby approved, shall be maintained as such thereafter and no change therefrom shall take place without the prior written consent of the Local Planning Authority.*

1.3 This report contains technical terminology; a glossary of terms can be found at www.cassallen.co.uk/glossary.

2. INTERNAL ACOUSTIC DESIGN

2.1 Criteria for sound insulation between the commercial and residential uses are given in Part E of the Building Regulations (Approved Document E). An improvement of +5 dB over the Building Regulations criteria are targeted for separating walls and floors between commercial and residential uses on the basis that:

- 5 dB above Building Regulations Part E standards is a reasonable level of performance to ensure that residential units are not disturbed for most commercial uses.
- It would be straight forward for future tenants to acoustically upgrade the separating walls and floors as part of the fit-out if higher levels of sound insulation are required.

2.2 The resulting criteria are summarised in Table 1 below.

Table 1 Criteria – Sound Insulation

Partition	Airborne Sound Insulation (Minimum Limits)	Impact Sound Insulation (Maximum Limits)
Separating walls between dwellings and commercial uses	≥50 dB DnTw+Ctr (see Note 1)	-
Separating floors between dwellings and commercial uses	≥50 dB DnTw+Ctr (see Note 1)	≤57 dB L'nTw (see Note 1)

Note 1 Pre-completion testing will be carried out in accordance with Approved Document E to verify compliance with these criteria.

2.3 The commercial uses will be built to shell & core only. Therefore any further improvements to the sound insulation of the partition will be carried out by the end tenant. For convenience, suitable airborne sound insulation design targets for the design of walls and floors separating specific commercial uses and residential units are given in Table 2 below.

Table 2 Appropriate Airborne Sound Insulation Design Criteria for Separating Walls and Floor between Residential and Commercial Uses

Use	Sound Insulation Design Target (DnTw+Ctr) Assuming Typical Use
Retail (excluding loud music) – A1	50 dB (see Note 1)
Offices - A2, B1	50 dB
Restaurants and cafes (excluding loud music) – A3	65 dB (see Note 1)
Clinics, health centres, teaching rooms, galleries - D1	50 dB
Religious uses (excluding loud music) – D1	60 dB
Nurseries and crèches – D1	60 dB
Gyms (excluding load music or free weights) – D2	65 dB (see Note 2)
Cinemas – D2	See Note 3

Note 1 If loud music is to be played in the space then the fit out of the units should be designed so that music noise levels do not exceed NR15 in the residential units.

Note 2 The fit out of gyms will normally require specialist input to ensure that adjoining residents are not disturbed. If free weights are proposed then these will normally require specialist acoustic floor systems to absorb impact noise from the weights

and minimise the liklihood of adjoining residents being disturbed. We would normally advise that commercial gyms are not placed in units that have seperating walls and floors with residential units, particularly gyms that will operate late in the evening or during the night-time.

Note 3 The acoustic design of cinemas is complex. A separate detailed acoustic assessment would be required should a cinema by proposed in any of the commercial units. However, we understand that the liklihood fo a cinema being proposed in the commercial units is very low in this case.

2.4 It can be seen from Table 2 above that the proposed design target of 50 dB DnTw+Ctr is an appropriate target for most use classes assuming reasonable use. This would make the commercial units suitable for most commercial uses with no further acoustic treatment.

2.5 Should the tenant be required to increase the sound insulation performance of any separating constructions, this would be achievable in numerous ways. For example, acoustic ceilings could be added to the commercial units to protect residential properties above. The inclusion of these treatments could be controlled via the imposition of a suitable acoustics-related clause on the lease agreements for the commercial units. The following clause (or similar approved) would be appropriate:

> *If high noise levels or amplified music are to be generated within the commercial unit, and/or if the commercial unit is to be regularly used late in the evening or during the night-time, and generate noise levels capable of being audible in the adjoining residential units (either via airborne or structure borne noise transmission paths) then the occupier shall undertake a detailed sound insulation assessment, carried out by a suitably qualified acoustician, to establish whether additional sound insulation treatment is required in the fit out of the commercial unit to protect the amenity of adjoining residents. Any required sound insulation treatment identified must be implemented prior to the unit being used.*

2.6 It should be noted that some of the commercial units may not be suitable for certain commercial units, regardless of the fit out design. Any prospective commercial tenants that will generate high noise levels will be advised to seek the guidance of a suitably qualified acoustics consultant early on in the tenancy discussions.

2.7 There are no separating walls between residential and commercial. Therefore only floors have been assessed further.

2.8 The currently proposed basic separating floor construction is summarised in Table 3 below. This construction has been assessed and can achieve the relevant sound insulation design criteria.

Table 3 Proposed Wall/Floor Constructions between Dwellings

Element	Basic Construction	Airborne Sound Insulation		Impact Sound Insulation	
		Criterion	Predicted	Criterion	Predicted
Separating floors between dwellings and commercial units	15 mm floor finish, 90mm sand/cement screed, 30mm Kingspan 103 insulation, 250mm concrete slab.	Min. 50 dB DnT,w+Ctr	~52 dB DnT,w+Ctr	Max. 57 dB L'nT,w	~45 dB L'nT,w

2.9 The design of flanking elements around separating walls and floor (e.g. junction details) will be designed to achieve a flanking sound insulation performance of min. 55 dB DnFw + Ctr to ensure the overall sound insulation performance of the separating walls and floors are not degraded.

3. CONCLUSIONS

3.1 Cass Allen were instructed by Taylor Wimpey Central London to assess the acoustic design of the intertnal partitions at Pheonix Place, London.

3.2 This report sets out details of a sound insulation scheme between the commercial and residential uses of Blocks A & C of the development in accordance with Planning Condition 11 from Camden consent ref 2013/3807/P.

3.3 The adopted design criteria is a +5dB improvement in sound insulation performance compared to Building Regulations Part E.

3.4 There are no separating walls between commercial and residential units. Therefore only the separating floor has been assessed. The floors are predicted to comply with the adopted design criteria.

3.5 It is our view that this report contains the required sound insulation to discharge Planning Condition 11 on the development.

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