



Newcombe House and Kensington Church Street
Environmental Noise and Vibration Strategy Addendum

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Newcombe House and Kensington Church Street Environmental Noise and Vibration Strategy Addendum July 2018

1. INTRODUCTION

This addendum to the Environmental Noise and Vibration Strategy has been prepared in support of amendments made to planning application PP/17/05782 (GLA ref: 3109a) for the mixed use redevelopment of the Newcombe House Site in the Royal Borough of Kensington and Chelsea. This report should be read in conjunction with the Environmental Noise and Vibration Strategy dated September 2017.

The proposed amendments do not alter the description of the development, which remains as follows:

'Demolition of the existing buildings and redevelopment to provide office residential, and retail uses, and a flexible surgery / office use, across six buildings (ranging from ground plus two storeys to ground plus 17 storeys), together with landscaping to provide a new public square, ancillary parking and associated works.'

The proposed amendments to the application can be summarised as:

- an increase in the number of homes (to a total of 55) and alterations to the housing mix;
- an increase in the proportion of affordable homes (to 35% by hab room and 41.8% by unit);
- an increase in office floorspace of 414 sqm GEA (to a total of 5,306 sqm);
- the addition of one storey to Kensington Church Street Building 1 in C3 residential use (from four storeys to five);
- the addition of two storeys to West Perimeter Building 3 in B1 office use (from five storeys to seven);
- alterations to the layouts of Kensington Church Street Buildings 1 and 2, and West Perimeter Buildings 1 and 3, with associated changes to the façades;
- minor alterations to the façade of the Corner Building on levels 4, 5 and 6 to respond to the revised massing of West Perimeter Building 3; and
- minor alterations to the services strategy for West Perimeter Building 2.

Further details of the amendments are set out within the Design and Access Statement Addendum and Planning Statement Addendum.

The purpose of this addendum is to assess the proposed changes and their impact on the Environmental Noise and Vibration Strategy. As part of this updated submission, an additional environmental noise survey has been undertaken as a validation of the noise levels used within the previous submission.

The purpose of this addendum is to supplement the original document submitted with the planning application. It does not unnecessarily repeat information previously provided where it remains relevant, unless it assists the commentary within the report.

2. BASIS OF ASSESSMENT

Further to the guidance documents and standards considered in the Environmental Noise and Vibration Strategy dated September 2017, consideration has been given within the assessment to the Professional Practice Guidance on Planning and Noise, as follows.

2.1 Professional Practice Guidance on Planning and Noise – ProPG (2017)

ProPG Planning & Noise is a recently published document aimed at providing practitioners with guidance on a recommended approach to the management of noise in the context of the planning system. The document was published jointly by the three professional bodies in the acoustics industry: Acoustics and Noise Consultants (ANC); the Institute of Acoustics (IOA); and the Chartered Institute of Environmental Health (CIEH).

The guide is focussed on new residential development being affected by transport noise. Its primary goal is to assist in the delivery of sustainable development by promoting good health and wellbeing through the effective management of noise. It seeks to do this by encouraging good acoustic design processes in and around proposed new residential development, having particular regard to national policy on planning and noise.

The guidance note advocates a two-stage approach encouraging early consideration of noise issues with an initial noise risk assessment, followed by a subsequent assessment which takes account of four elements:

1. Demonstrating a good acoustic design process;
2. Observing internal noise level guidelines;
3. Undertaking an external amenity area noise assessment;
and
4. Consideration of other relevant issues.

In particular, elements 2 and 3 of the stage two assessment are covered in greater detail below:

Element 2 – Internal Noise Level Guidelines

The applicant should seek to achieve recommended noise levels inside noise sensitive rooms in new residential development.

These internal noise levels are based around the requirements of BS 8233: 2014.

Element 3 – External Amenity Area Noise Assessment

The acoustic environment of external amenity areas that are an intrinsic part of the overall design should always be assessed and noise levels should ideally not be above the range 50 – 55 dB $L_{Aeq,16hrs}$.

Each of the elements of the two-stage assessment were considered as part of the September 2017 submission. Therefore, this addendum provides an update only where relevant to the amendments to the proposed development.

3 ENVIRONMENTAL NOISE SURVEY

Further to the noise survey presented within the September 2017 submission, a further set of attended and unattended measurements have been undertaken as a validation of the noise surveys conducted in 2011 and 2015. The following summarises the approach and measurements.

3.1 Methodology

The unattended survey comprised six days of automatic noise measurements by a single noise monitor. The position of this logger was on the roof level of the existing building on Kensington Church Street and was considered "free-field". This measurement location is shown as position L2 in Figure 1.

Measurements recorded consisted of fifteen minute samples of ambient noise levels ($L_{Aeq,15min}$ in dB), background noise levels ($L_{A90,15min}$ in dB) and maximum noise levels ($L_{Amax,T}$ in dB) between Tuesday 17th April 2018 and Monday 23rd April 2018.

During this period, temperatures remained warm with some precipitation and winds varying in both direction and strength.

Octave band measurements were also taken at four positions simultaneous with the measurements at position L2. The position of these measurements at ground floor level is shown as position 2, 3, 4 and 5 in Figure 1. The measurements locations were selected to be the same as the measurement positions from the 2011 and 2015 surveys. These measurements were hand-held samples at a height of approximately 1.2m above ground floor level.

3.2 Results Summary

A time history of the L_{Aeq} , L_{A90} and L_{Amax} from the unattended measurements recorded at position L2 is shown in Figure 2 overleaf.

As per the original survey, the results of the unattended measurements have been calculated into daytime ($L_{Aeq,16hr}$) and night-time ($L_{Aeq,8hr}$) equivalent levels and are shown in Table 1. Also shown are the associated measured minimum background noise level ($L_{A90,T}$) and the ninetieth percentile maximum instantaneous measured noise level ($L_{Amax,15min}$). The minimum

daytime background noise level ($L_{A90,1hr}$) shown in the table below is the lowest arithmetic average of the measured background noise levels ($L_{A90,15min}$) in an hourly period.

Full details of the hand-held octave band measurements at positions 2, 3, 4 and 5 during the daytime are shown in Tables 2, 3 and 4.

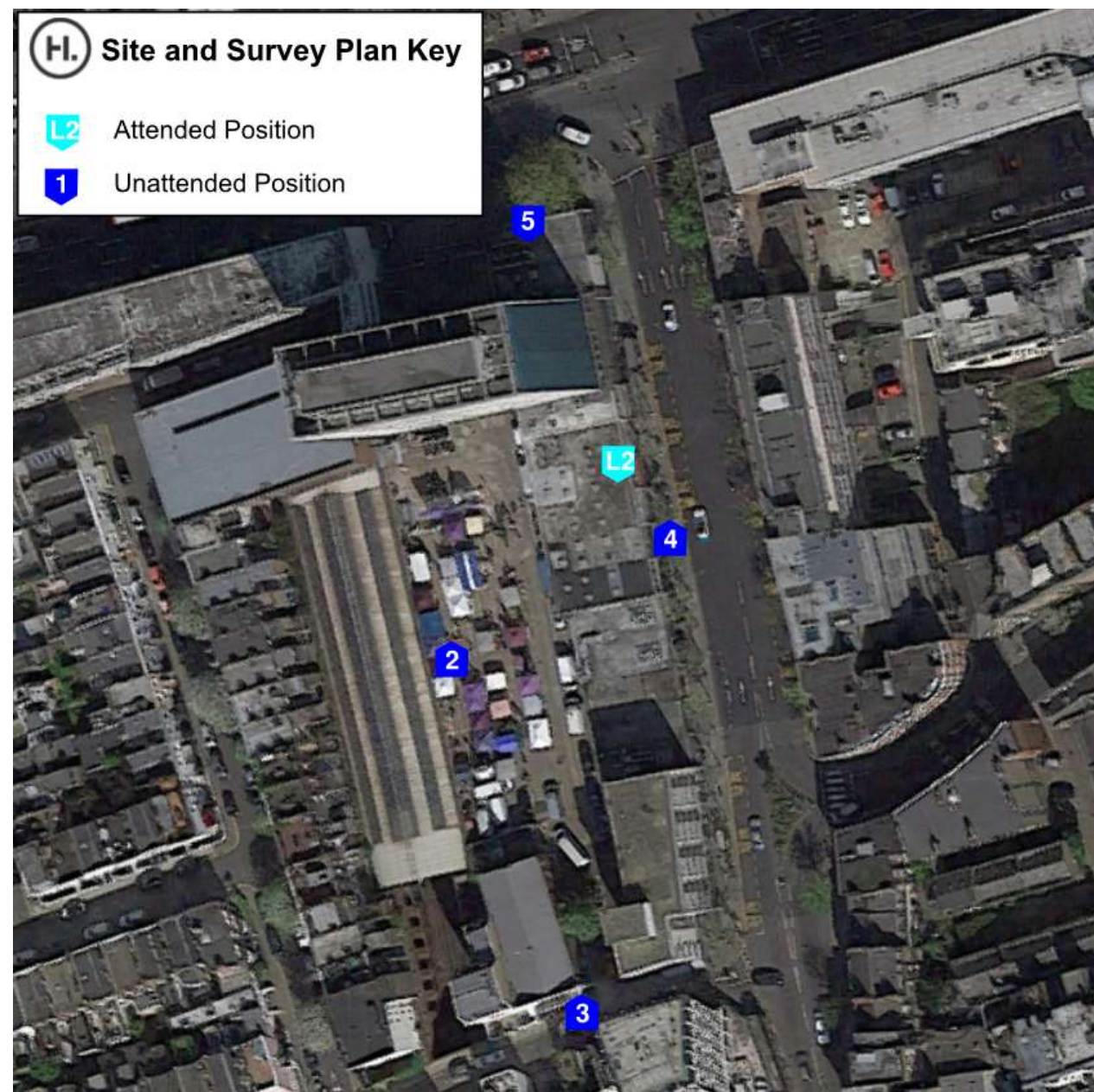


Figure 1: Measurement Locations

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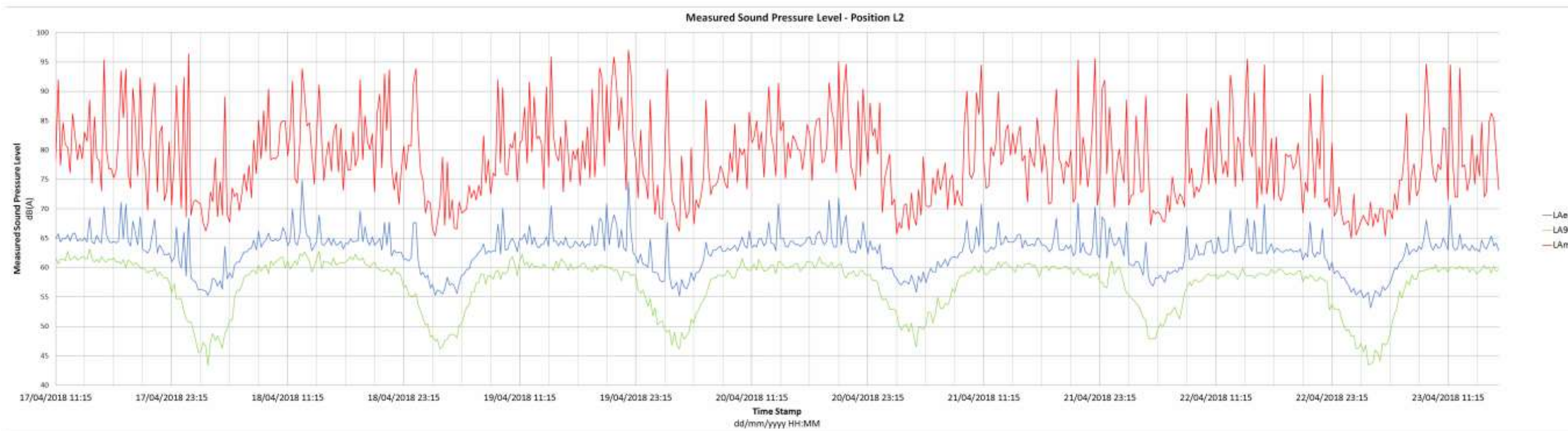


Figure 2: Time History at Unattended Measurement Position L2

Measurement Period	Position L2					
	Daytime			Night-time		
	L _{Aeq,16hr} dB	Minimum L _{A90,1hr} dB	90 th %ile L _{Amax,T} dB	L _{Aeq,8hr} dB	Minimum L _{A90,15min} dB	90 th %ile L _{Amax,T} dB
Tuesday 17 th April 2018 (1115 to 2300)	66	59	92	-	-	-
17 th / 18 th April 2018 (2300 to 0700)	-	-	-	61	43	88
Wednesday 18 th April 2018 (0700 to 2300)	66	59	90	-	-	-
18 th / 19 th April 2018 (2300 to 0700)	-	-	-	61	46	81
Thursday 19 th April 2018 (0700 to 2300)	66	58	92	-	-	-
19 th / 20 th April 2018 (2300 to 0700)	-	-	-	61	46	83
Friday 20 th April 2018 (0700 to 2300)	65	58	89	-	-	-
20 th / 21 st April 2018 (2300 to 0700)	-	-	-	60	47	83
Saturday 21 st April 2018 (0700 to 2300)	65	54	89	-	-	-
21 st / 22 nd April 2018 (2300 to 0700)	-	-	-	63	48	88
Sunday 22 nd April 2018 (0700 to 2300)	64	53	89	-	-	-
22 nd / 23 rd April 2018 (2300 to 0700)	-	-	-	58	44	75
Monday 23 rd April 2018 (0700 to 1645)	64	58	87	-	-	-

Table 1: Measured Noise Levels at Position L2

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Position	Period	Duration	Sound Pressure Levels per Octave Band Frequency (dB)								L _{Aeq,T}
			63	125	250	500	1k	2k	4k	8k	dBA
2	17/04/2018 11:47	15:00	66	63	56	56	53	48	42	34	58
	23/04/2018 15:39	15:00	63	62	55	55	51	47	41	30	57
3	23/04/2018 15:22	15:00	72	68	66	62	60	56	50	42	65
	23/04/2018 16:16	15:00	72	70	67	62	60	56	50	42	65
4	17/04/2018 11:30	15:00	78	72	71	67	67	64	61	52	72
	23/04/2018 16:00	15:00	75	74	69	65	65	61	56	49	69
5	17/04/2018 12:15	15:00	78	72	69	66	65	61	56	49	69
	23/04/2018 14:46	15:00	78	71	69	66	65	62	56	50	70

Table 2: Ambient Levels Measured at Attended Positions

Position	Period	Duration	Sound Pressure Levels per Octave Band Frequency (dB)								L _{A90,T}
			63	125	250	500	1k	2k	4k	8k	dBA
2	17/04/2018 11:47	15:00	61	60	53	54	50	46	39	27	56
	23/04/2018 15:39	15:00	59	60	52	54	49	45	38	27	55
3	23/04/2018 15:22	15:00	64	61	59	56	54	50	43	32	60
	23/04/2018 16:16	15:00	63	62	59	55	54	50	42	31	59
4	17/04/2018 11:30	15:00	70	64	61	58	57	54	47	37	62
	23/04/2018 16:00	15:00	67	63	60	59	58	54	48	37	63
5	17/04/2018 12:15	15:00	71	64	61	60	58	55	49	41	64
	23/04/2018 14:46	15:00	68	61	59	58	56	53	46	37	61

Table 3: Background Levels Measured at Attended Positions

Position	Period	Duration	Sound Pressure Levels per Octave Band Frequency (dB)								L _{Amax,T}
			63	125	250	500	1k	2k	4k	8k	dBA
2	17/04/2018 11:47	15:00	84	79	77	79	72	66	64	60	76
	23/04/2018 15:39	15:00	75	71	69	66	64	63	57	47	66
3	23/04/2018 15:22	15:00	89	87	88	80	77	73	71	64	82
	23/04/2018 16:16	15:00	93	90	88	78	77	71	69	61	78
4	17/04/2018 11:30	15:00	95	91	89	83	93	89	89	75	94
	23/04/2018 16:00	15:00	101	101	93	87	88	79	77	78	91
5	17/04/2018 12:15	15:00	95	91	90	83	81	79	73	74	83
	23/04/2018 14:46	15:00	95	91	92	83	82	82	74	77	85

Table 4: Maximum Levels Measured at Attended Positions

3.3 Discussion

On comparison of the results of the attended measurements with those conducted in 2011 and summarised in Section 4 of the Noise and Vibration Statement dated September 2017, it is clear that there has been no material change to the noise levels at the site.

Synchronised measurements undertaken at position 4 with the unattended measurements at position L2, indicate that noise levels on Kensington Church Street are approximately

6 dB higher than those measured at position L2. On the basis of the measured noise levels presented in Table 12, this would result in a daytime noise level of 72 dB L_{Aeq,16hr} and a night-time noise level of 69 dB L_{Aeq,8hr}. These levels correspond very well with the noise levels predicted in the noise mapping for the façades overlooking Kensington High Street.

It is therefore evident that there has been no material change in noise levels at the site and as such, this provides

evidence that the previous noise survey, noise mapping results and subsequent assessment are still valid.

4. NOISE PREDICTION MODEL

As there has been no material change in the noise levels at the site, it therefore remains that the noise mapping results contained within the Environmental Noise and Vibration Strategy are still valid. However, as the revised proposals include alterations to the massing of the KCS1 building, the noise maps of the proposed development have been updated.

The subsequent change in noise levels due to the revised massing are negligible. Figure 3 displays the equivalent noise level ($L_{Aeq,16hr}$) map for the proposed development during the daytime at a height of 1.5 m above ground floor level and supersedes Figure 6 of the Environmental Noise and Vibration Strategy. This is illustrative of the predicted noise levels around the proposed development at 1.5m height.

As a result of the negligible change in noise levels at the proposed development façades, the assessment contained within the building envelope and ventilation strategy contained within the Environmental Noise and Vibration Strategy are still valid.



Figure 3: CADNA Noise Map of Proposed Development during the Daytime ($L_{Aeq,16hr}$) at 1.5m height

5. NOISE IMPACT ON EXISTING DWELLINGS

Given the change in massing, the noise level predictions undertaken to see what impact the proposed development (September 2017) might have at the rear of the façades of dwellings on Jameson Street have also been updated to reflect the updated proposals.

Figure 4 shows the noise levels at 4.5m above ground floor level with the current situation (as per Figure 11 in the original submission). The same analysis was then undertaken with the proposed development and this is shown in Figure 5.

Figure 6 shows the noise levels at 7.5m above ground floor level with the current situation (as per Figure 13 in the original submission). The same analysis was then undertaken with the proposed development and this is shown in Figure 7.

The difference in noise level at the rear facades of dwellings located on Jameson Street is very small. This is shown in Figure 8 at a height of 4.5m above ground level and in Figure 9 at a height of 7.5m. The difference is no more than 0.5-1.0dB at a few limited locations. This is shown by the yellow colour on the noise maps in Figures 8 and 9.

Noise level differences at the rear facades of the nearby dwellings on Jameson Street have been undertaken. The noise level difference between the existing situation and after the proposed development is an increase of between 0.5-1.0dB at a few limited locations.

An increase in noise level of between 0.5-1.0dB would not be considered as being discernible. As such, the noise received at the existing dwellings would not therefore materially change as a result of reflected noise from the proposed development building facades.

This is in line with the conclusions of the September 2017 submission which also indicated an increase in noise level of between 0.5-1.0 dB and therefore indicate that the revised proposals do not alter the conclusions of the Environmental Noise and Vibration Strategy.

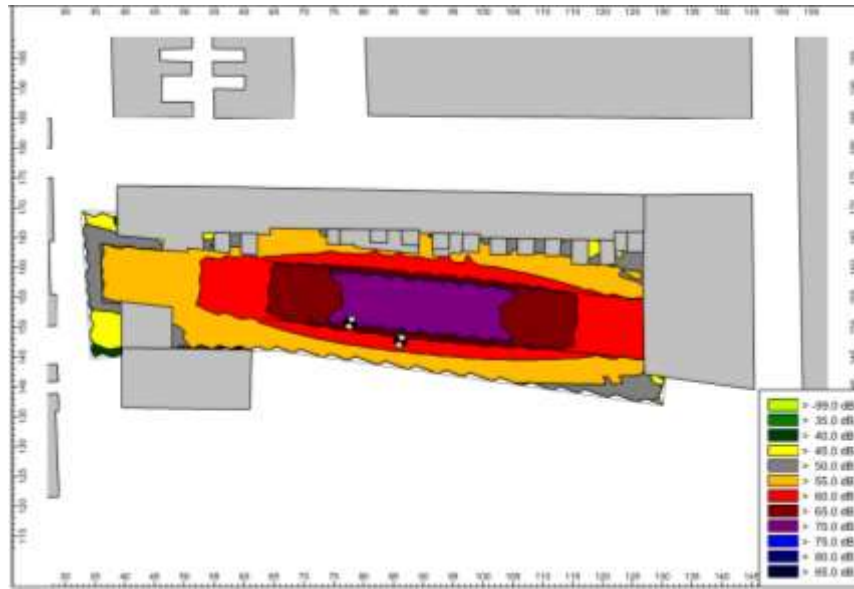


Figure 4: Noise levels based on existing situation at a height of 4.5m above ground level

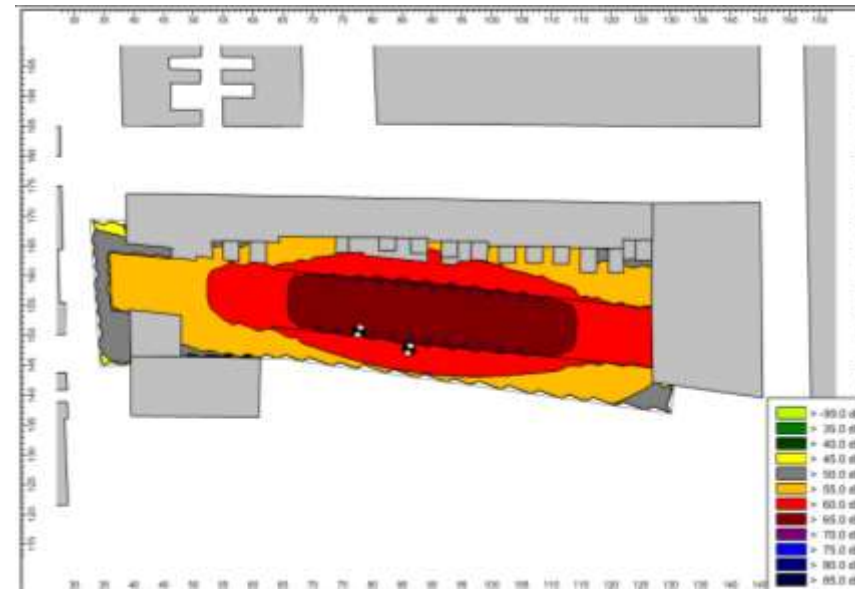


Figure 6: Noise levels based on existing situation at a height of 7.5m above ground level

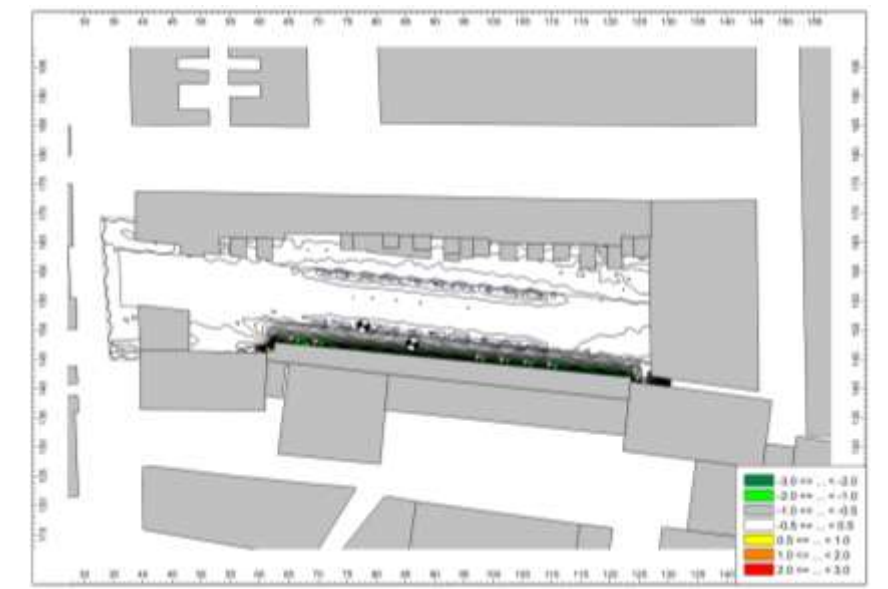


Figure 8: Noise level difference with proposed development at a height of 4.5m above ground level

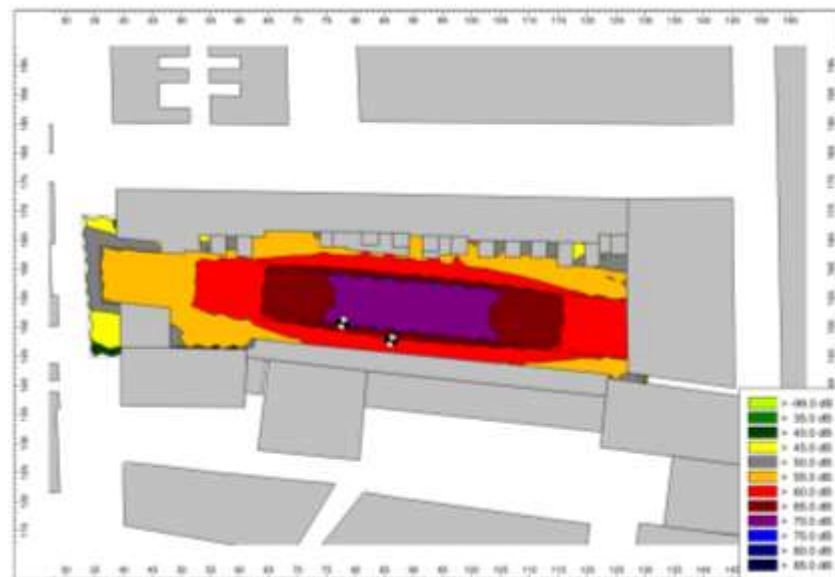


Figure 5: Noise levels with proposed development at a height of 4.5m above ground level

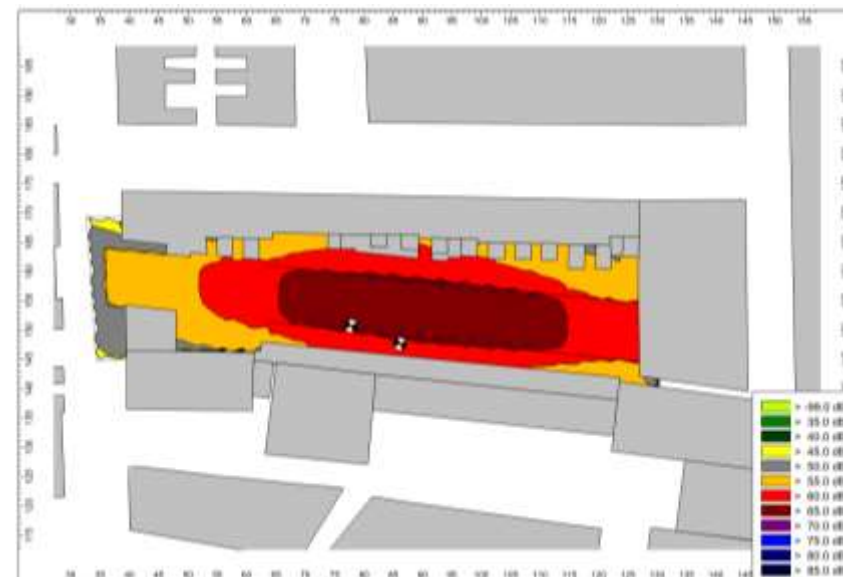


Figure 7: Noise levels with proposed development at a height of 7.5m above ground level

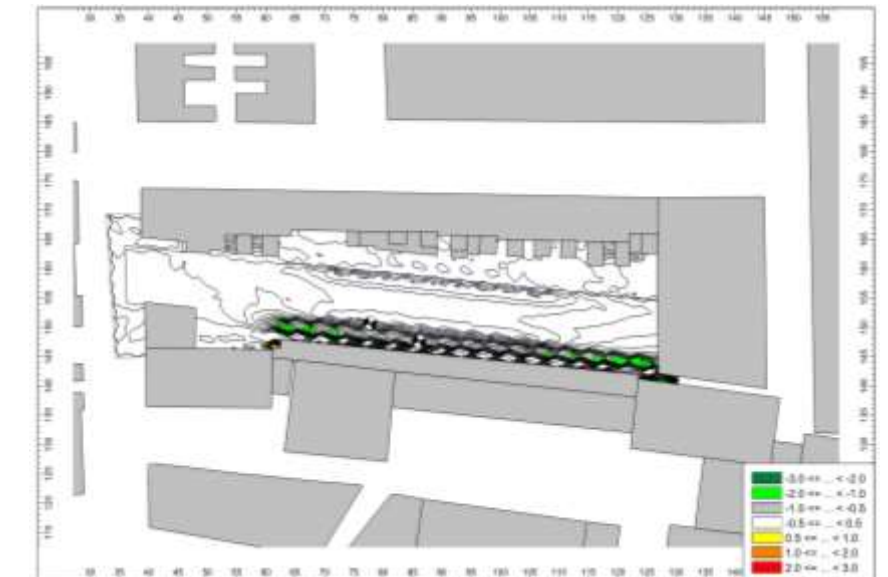


Figure 9: Noise level difference with proposed development at a height of 7.5m above ground floor level

6. SUMMARY AND CONCLUSIONS

The impact of the proposed amendments to the 2017 proposed scheme have been reviewed in the context of the Environmental Noise and Vibration Strategy.

As part of this review, an additional environmental noise survey has been undertaken as a validation of the noise levels measured in 2011. The results of this survey confirm that the previous noise survey results are still valid.

As such, the noise mapping and assessments undertaken as part of the September 2017 submission are still considered valid.

Due to the proposed change in massing, in particular the inclusion of an additional floor on the KCS1 building and an additional two floors on WPB3, the proposed development noise maps have been updated.

The results of this updated assessment indicates that the revised proposals do not alter the conclusions of the Environmental Noise and Vibration Strategy submitted in September 2017.