



ACOUSTIC DESIGN REVIEW

11 KINGS WAY, BURGESS HILL

LAWRENCE BAKER

ACOUSTIC DESIGN REVIEW
11 KINGS WAY, BURGESS HILL

Our Ref: 7738_001R_2-0_JE



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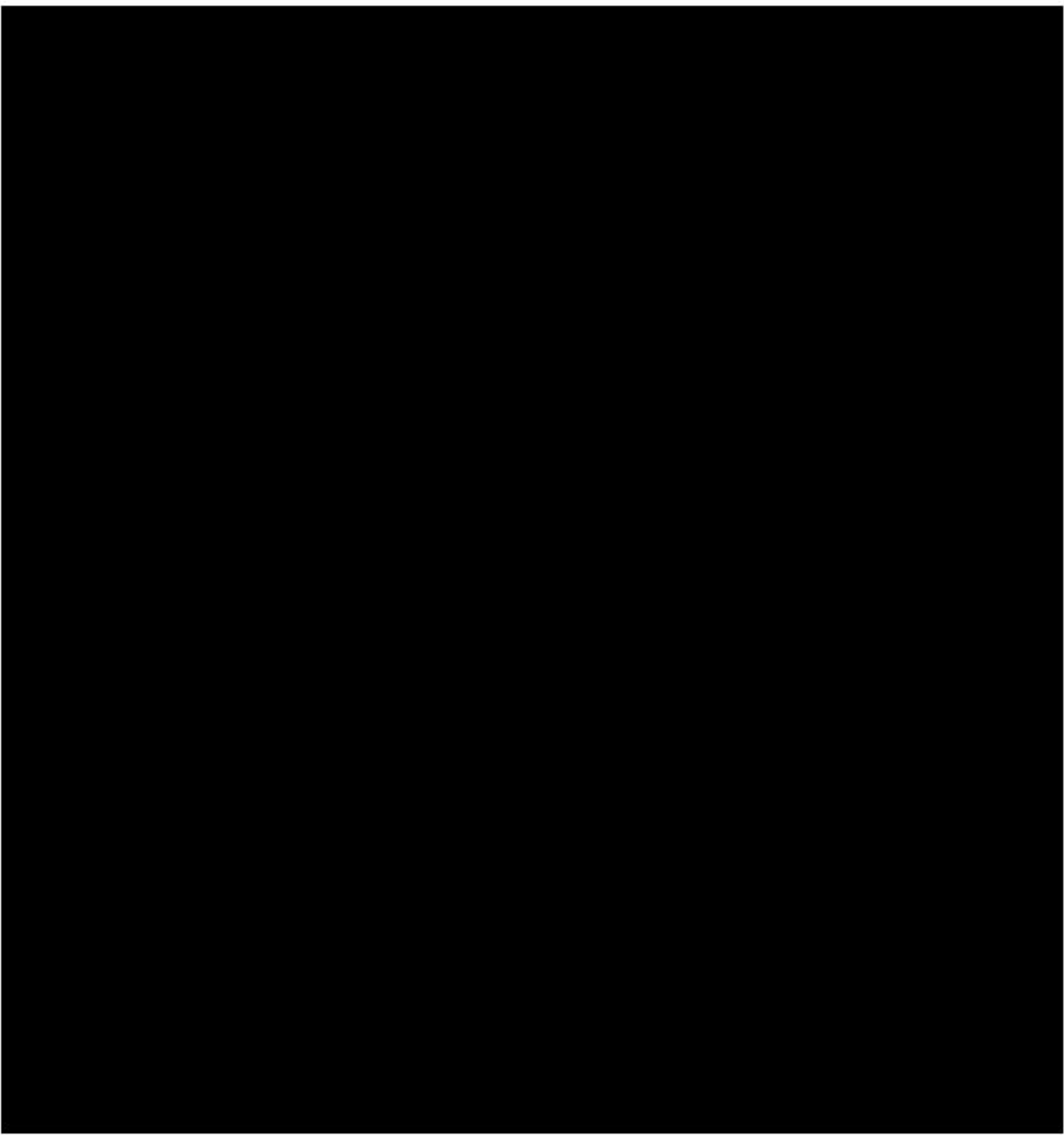
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1.0	First issued version	JE	PS
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1 INTRODUCTION

Anderson Acoustics was appointed by Lawrence Baker to undertake a single iteration review of the proposed façade elements and fixed plant selections for the consented residential care home development at 11 Kings Way, Burgess Hill.

Planning permission for the proposed development was granted in September 2022 (ref. DM/21/3385) by Mid Sussex District Council (MSDC), with two conditions relating to noise.

This report provides an acoustic design review of the design information provided with a view to discharging the relevant planning conditions imposed.

A summary of noise units and acoustic terminology can be found [here](#).

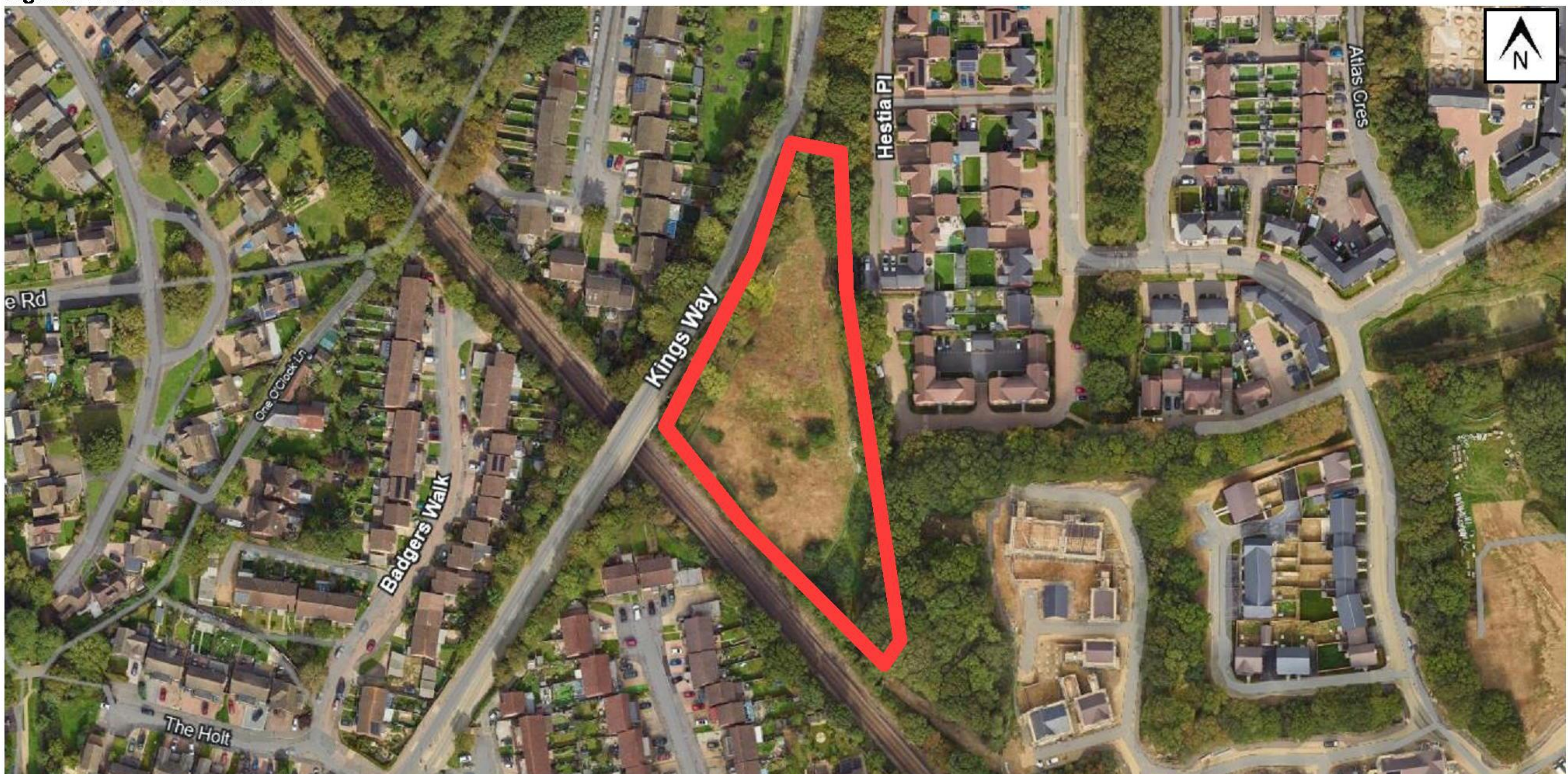
2 SITE DESCRIPTION

The project involves the erection of a 68-Bedroom residential care home facility, with associated access works, car parking, servicing, private amenity space, landscaping, and boundary treatment.

The site is located off Kings Way, Burgess Hill and is bound by residential developments to the east, a railway to south and Kings Way road to west. Residential properties are located beyond the railway to south and road to the west.

The site location is shown in Figure 2-1.

Figure 2-1: Site Location



An environmental noise survey was completed by Ramboll UK Ltd between 24th June to 1st July 2021, as detailed in report reference RUK2021N00244-RAM-RP-XX-XX-AC-0001.

The following description of the existing noise environment was provided: *“the baseline noise climate comprised road traffic from Kings Way and passing trains; as well as children playing at the Longhurst Children’s Playground. Other noise sources included leaves rustling, birdsong, pedestrian noise and occasional overhead aircraft.”*

Further details of this are presented in Section 3.

3 BASELINE NOISE SURVEY

Results of the unattended environmental noise survey completed by Ramboll UK Ltd are presented below. All reported noise metrics presented in this document have been established by Ramboll UK Ltd. The methods of establishing these levels have not been checked as raw data has not been provided.

Measurement locations are indicated in Figure 3-1.

Figure 3-1: Noise monitoring locations



Results of the baseline noise survey are summarised below.

Table 3-1: Summary of short-term attended noise measurements by Ramboll (free field)

Measurement Location	Start Time	Duration (min)	L _{Aeq,15min} (dB)	L _{A90,15min} (dB)	L _{AFmax,15min} (dB)
ST1	12:48	15	64	38	52
	13:57	15	52	38	74
	14:51	15	50	42	74
ST2	13:08	15	54	38	66
	14:14	15	54	38	80
	15:08	15	54	42	65
ST3	13:31	15	48	39	62
	14:32	15	50	40	65
	15:25	15	48	42	62

Table 3-2: Summary of unattended noise measurements by Ramboll (free field)

Date	Time Period	LT1			LT2		
		Ambient Noise Level, dB L _{Aeq,T}	Background Noise Level, dB L _{A90,T}	Max Noise Level, L _{AFmax}	Ambient Noise Level, dB L _{Aeq,T}	Background Noise Level, dB L _{A90,T}	Max Noise Level, L _{AFmax}
Thurs 24 June	Night-time	55	34	88	46	25	69
Fri 25 June	Daytime	56	41	95	54	43	75
	Night-time	55	31	78	44	30	67
Sat 26 June	Daytime	55	39	86	56	38	79
	Night-time	53	30	79	52	33	80
Sun 27 June	Daytime	53	41	80	52	41	70
	Night-time	49	24	76	54	23	80

Date	Time Period	LT1			LT2		
		Ambient Noise Level, dB L _{Aeq,T}	Background Noise Level, dB L _{A90,T}	Max Noise Level, L _{AFmax}	Ambient Noise Level, dB L _{Aeq,T}	Background Noise Level, dB L _{A90,T}	Max Noise Level, L _{AFmax}
Mon 28 June	Daytime	57	39	90	56	42	75
	Night-time	55	25	93	47	24	72
Tues 29 June	Daytime	56	41	82	56	39	73
	Night-time	53	28	90	50	23	75
Wed 30 June	Daytime	57	42	89	57	42	85
	Night-time	52	22	85	54	23	80

3.1 NOISE MODELLING AND GUIDANCE (BY OTHERS)

Noise modelling was completed by Ramboll in order to predict the impact of road traffic and railway noise across the development. The baseline noise measurement results presented in Section 3 were used to produce a detailed 3D noise model using software Datakustik CadnaA.

Predicted external noise levels across the development are presented below. Further details of the modelling exercise can be found in Ramboll's report reference 9096/JL.

Figure 3-2: Daytime dB L_{Aeq(16hr)} noise affecting development

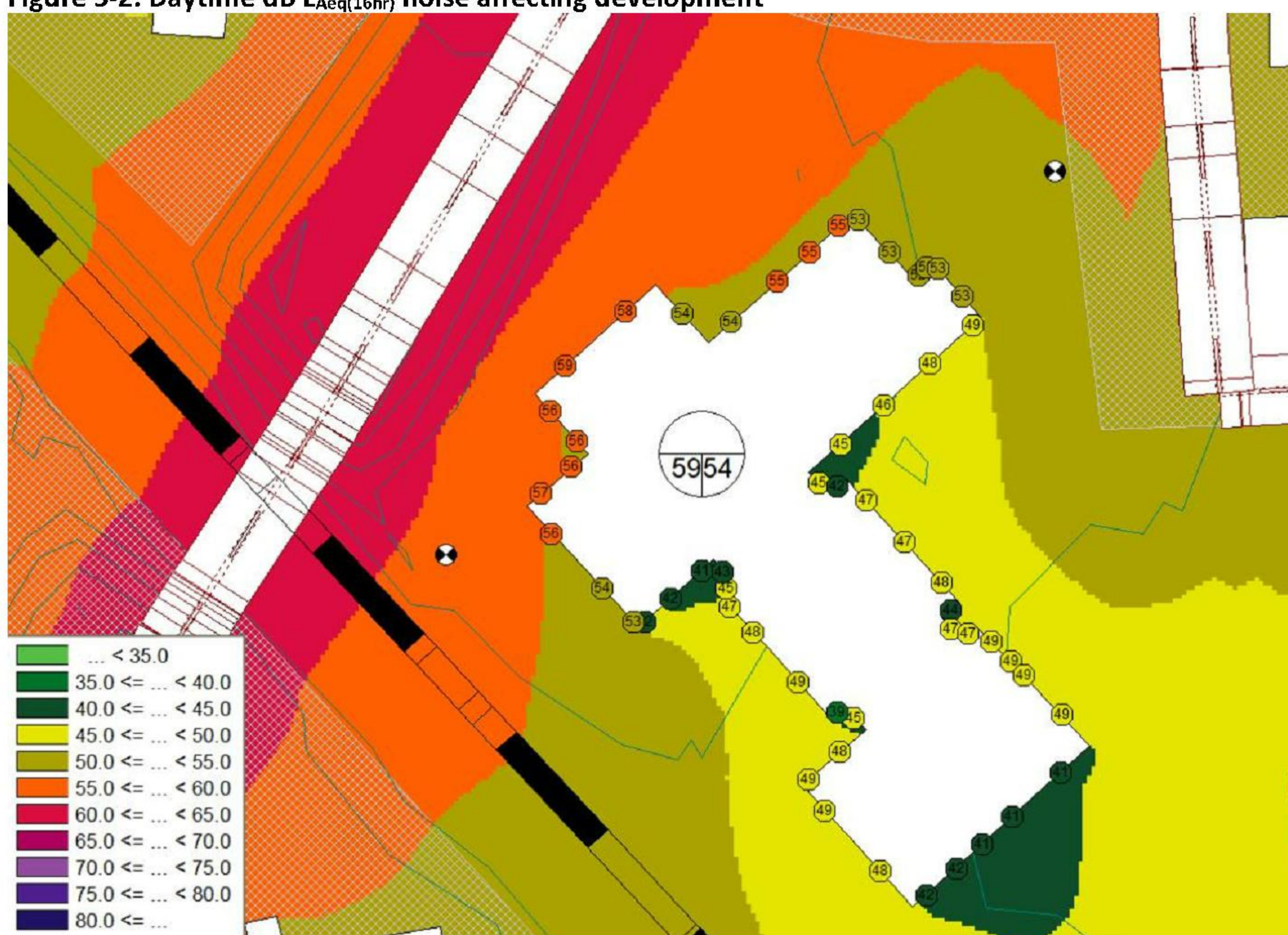
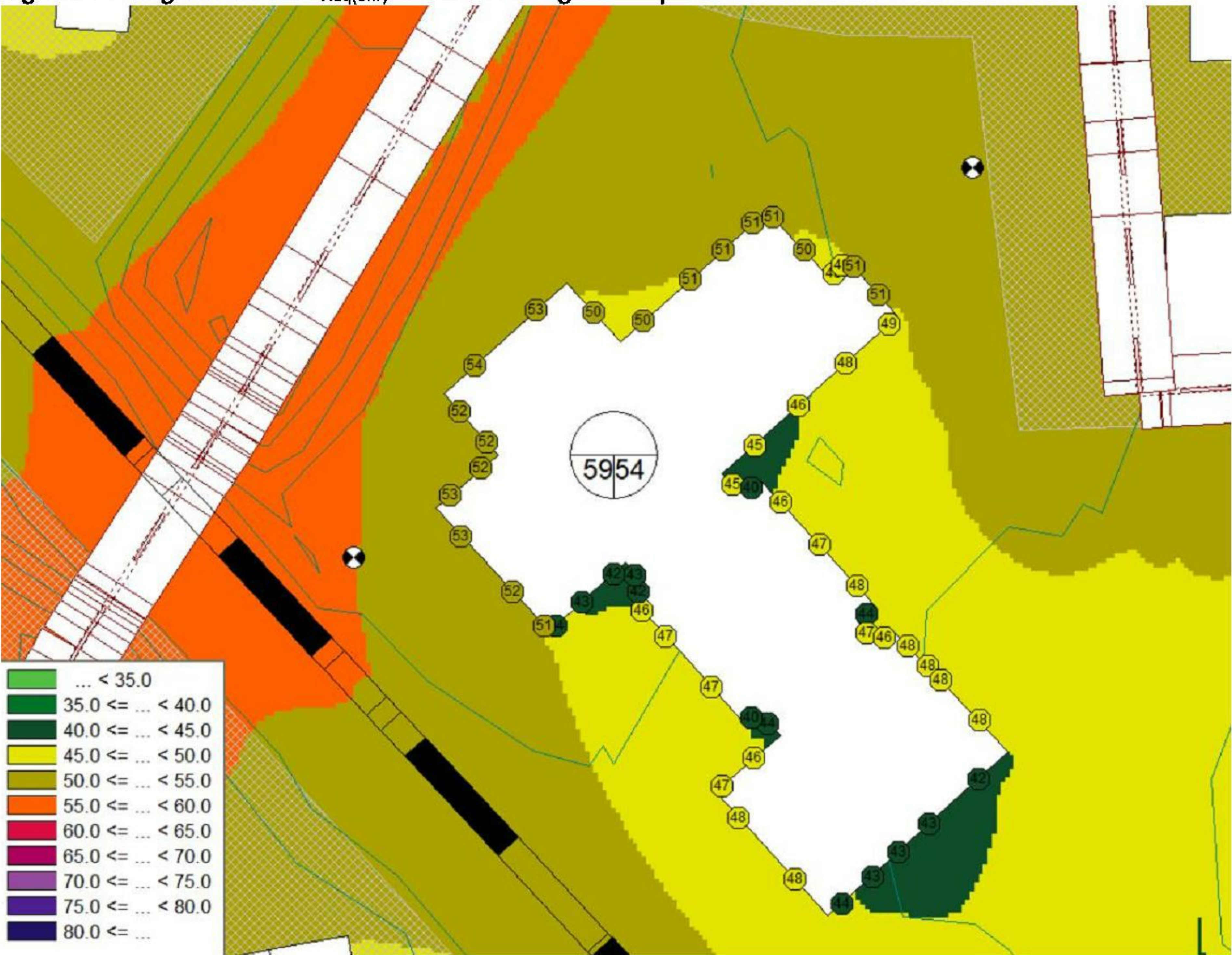


Figure 3-3: Night-time dB LAeq(8hr) noise affecting development



The following analysis was also provided.

The non-glazed element of the façade should have a minimum sound insulation performance of R_w 54dB. The minimum glazing and ventilation strategies have been divided into categories based on the sound insulation requirements.

...It should be noted that the requirements are to meet internal levels for background ventilation only. During periods of overheating, the levels may be exceeded if higher rates of ventilation and thus greater free area on the façade are required. This should be developed during detailed design in conjunction with the design team to minimise risk of occupants having to choose between overheating and noise.

Table 3-3: Façade Element Selection Details

External Ambient Noise Levels, dB LAeq,T		Maximum Noise Level	Glazing Options	Ventilation Options
Daytime (07:00 to 23:00)	Night-time (23:00 to 07:00)	Night-time (23:00 to 07:00)		
Up to 65 dBA	Up to 60 dBA	<75 dBA	$R_w + C_{tr}$ 35 dB (based on up to 30% of façade being glazed)	Acoustic trickle vents $D_{n,e,w}$ 42 dB or Greater
More than 65 dBA	More than 60 dBA	≥75 dBA	$R_w + C_{tr}$ 39 dB (based on up to 30% of façade being glazed)	Mechanical whole-house ventilation or 1 no. acoustic trickle vent $D_{n,e,w}$ 42dB per bedroom

Figure 3-4: Façade Element Locations (produced by Ramboll)



It is understood that HRU will be provided to south and west facing bedrooms across the development, therefore, reliance on opening windows is not required to provide background ventilation in these instances.

The M&E consultant should confirm whether openable windows are required to provide cooling during periods of overheating beyond the HRU provision.

4 EXTERNAL BUILDING FABRIC

An assessment of the external building fabric elements has been undertaken. Based on information provided regarding the proposed glazing, ventilation, external wall and roof configurations, calculations have been undertaken following the general method set out in BS EN 12354-3 ¹ to determine whether the criteria detailed in Planning Condition 10 are achieved within habitable rooms of the proposed dwellings.

Planning Condition 10 - Soundproofing: Prior to the commencement of the development hereby permitted, a scheme for protecting the proposed development from noise, that implements the glazing and background ventilation measures described in the Noise & Vibration Impact Assessment reference RUK2021N00244-RAM-RP-XX-XX-AC-0001 (Ramboll, dated October 2021), as well as an overheating assessment with appropriate mitigation, shall be submitted and approved in writing by the Local Planning Authority. All works, which form part of the approved scheme shall be maintained in accordance with the approved details.

4.1 ASSUMPTIONS

It is understood that an overheating assessment has not been undertaken at this stage and that the façade elements have been specified assuming that windows will remain closed. It is recommended that an overheating specialist is consulted to establish appropriate measures to mitigate overheating.

¹ BS 12354-3 Building acoustics. Estimation of acoustic performance in buildings from the performance of elements.

4.2 NON-GLAZED EXTERNAL WALL AREAS

The external wall proposed to sensitive spaces across the development site (as detailed in drawings L213-200-G and L213-PA19-A) is understood to comprise a brick facing, full fill insulation, masonry block and plasterboard.

The expected minimum sound reduction performance of the proposed external wall construction is detailed in Table 4-1, based on experience of similar constructions and sound reduction performance estimated using specialist software Insul.

The proposed external wall construction is considered to be acceptable and achieves the performance target stated within the Ramboll report, therefore, no further recommendations have been made.

Table 4-1: Estimated sound reduction index (dB) of the proposed external wall construction

Ref.	Octave Band Performance, Hz						$R_w / R_w + C_{tr}$
	125	250	500	1k	2k	4k	
External Wall	46	45	47	57	67	77	54 / 51

4.2.1 ROOF CONSTRUCTIONS

Two roof constructions are proposed as part of the development as detailed in L213-PA19-A and L213_246_A. Roof buildups are detailed in Table 4-2.

The expected minimum sound reduction index performance is detailed in Table 4-3. Predictions have been made with a suspended ceiling and 1 no 12.5 mm Wallboard in place below the roof buildup.

Table 4-2: Roof Buildups

Roof Type	Build Up
Pitched	5 mm Roof Tile, 300 mm Void, 250 mm Mineral Wool (33 kg/m³), 2 x 15 mm Fireline, 585 mm Void, 12.5 mm Wallboard
Flat	18 mm Plywood, 550 mm Void, 250 mm Mineral Wool (33 kg/m³), 2 x 15 mm Fireline, 220 mm Void, 12.5 mm Wallboard

Table 4-3: Estimated sound reduction index (dB) of the proposed roof constructions

Ref.	Octave Band Performance, Hz						$R_w / R_w + C_{tr}$
	125	250	500	1k	2k	4k	
Pitched	40	57	59	36	57	66	59 / 53
Flat	40	58	80	92	99	99	67 / 55

The proposed roof constructions are acceptable for controlling environmental noise break-in. Therefore, no additional measures are recommended.

4.3 VENTILATION

The ventilation strategy for the development consists of two systems; mechanical supply and extract with trickle ventilators installed to windows, and mechanical extract only with trickle ventilators installed to windows. It is noted that typically full mechanical ventilation is not provided alongside trickle vents.

Mechanical supply and extract is proposed to bedrooms to the south and west of the proposed building where road traffic and railway noise is high such that background ventilation is not reliant on trickle vents.

It is understood that R.W. Simon Ltd Acoustic EHAS with AEA851 trickle vents are proposed. Table 4-4 details the sound reduction performance of the proposed trickle vents in the open position.

Table 4-4: Sound reduction performance $D_{n,e,w}$ for octave band centre frequency, Hz

Element	Octave Band Performance						$D_{n,e,w} / D_{n,e,w} + C_{tr}$
	125	250	500	1k	2k	4k	
EHAS with AEA851	41	42	37	44	46	41	42 / 38

The proposed trickle vents achieve the performance target stated within the Ramboll report.

Mechanical ventilation systems should be designed such that the cumulative internal noise level due to external noise intrusion and mechanical services noise comply with the criteria in BS 8233.

4.4 GLAZING

Based upon the GA drawings and elevations provided by Hay Associates Ltd, a review has been undertaken to determine whether the acoustic performance of proposed glazing system achieves the performance detailed within the initial report provided by Ramboll and represented in Table 3-3 and Figure 3-4.

As no octave band data has been provided by the manufacturer, representative data for similar performing units has been assumed (see Table 4-5).

Table 4-5: Estimated sound reduction performance R (dB) for the glazed elements of the façade for octave band centre frequency, Hz

Element	125	250	500	1k	2k	4k	$R_w / R_w + C_{tr}$
44.2 SI(18 Argon 90) 10 [Swisspacer Ultimate Pro]	26	39	44	46	45	60	44 / 39
44.2 SI(18 Argon 90) 6 [Swisspacer Ultimate Pro]	25	28	39	49	48	52	42 / 35

The estimated sound reduction performance of the proposed glazing systems shown above achieve the performance targets.

It should be noted that windows should be openable for purge or rapid ventilation, as requested by Approved Document F. Internal noise level guidelines are generally not applicable under these exceptional events, which should only occur occasionally (i.e. to remove odour from painting, cooking etc.).

The sound insulation requirements of the glazing are applicable to the window system as a whole, including frames, mullions, and panels. Measurements to determine sound reduction performance shall be based on BS EN ISO 10140-2² and rated in accordance with BS EN ISO 717-1³.

5 PLANT NOISE ASSESSMENT

An assessment has been undertaken to establish the plant noise rating levels at the nearest receptors.

5.1 GUIDANCE AND CRITERIA

5.1.1 MID SUSSEX DISTRICT COUNCIL – PLANNING CONDITION 13

The following planning condition was imposed in the planning decision notice ref. DM/21/3385.

² ISO 10140-2:2021 - Acoustics - Laboratory measurement of sound insulation of building elements - Measurement of airborne sound insulation

³ ISO 717-1:2020 - Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation

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Planning Condition 13 - Fixed Plant and Machinery (operational): The use hereby permitted shall not come into use until scheme has been submitted to the LPA demonstrating that the noise rating level ($L_{Ar,Tr}$) of on-site plant and machinery shall be at least 5dB below the background noise level ($LA_{90,T}$) at the nearest residential facade. All measurements shall be defined and derived in accordance with BS4142: 2014+A1:2019. The assessment shall be carried out with the plant/machinery operating at its maximum setting. The approved measures shall be implemented before the development is brought into use and thereafter be maintained in accordance with the approved details. Reason: to protect neighbouring amenities and to accord with MSDC Policy DP29: Noise, Air and Light Pollution.

Guidance detailed within BS 4142 has been presented below.

5.1.2 BRITISH STANDARD 4142:2014+A1:2019

Guidance on the rating of noise from fixed installations and sources of an industrial nature is provided in British Standard (BS) 4142:2014+A1:2019⁴. It provides a procedure for the measurement and rating of noise levels outside dwellings from industrial or commercial type sources and forms current best practice. It includes guidance on determining the likely degree of adverse impact, but the assessment of nuisance explicitly falls outside the scope of this British Standard. This is for the Council to determine as the need arises.

The rating level ($L_{Ar,Tr}$) is defined in BS 4142 as the level from the industrial or commercial source(s) in question (known as the specific sound level ($L_{Aeq,Tr}$)) outside residential dwellings, having been corrected for any (potentially) noticeable characteristics. The “subjective method” is typically used for this purpose, where a correction of between 0 and 6 dB is considered for tonal noise sources, and/or a correction of between 0 and 9 dB for impulsive sources. Additionally, or alternatively, a correction of up to 3 dB can be made for other sound characteristics, such as intermittency of the noise source, or “Where the specific sound features characteristics that are neither tonal nor impulsive, nor intermittent, though otherwise are readily distinctive against the residual acoustic environment...”

The reference time intervals, T_r , are 1 hour and 15 minutes during the day and night, respectively. Where the on-time of the source or sources is less than these periods, a time correction is applied.

In terms of the assessment of impacts, the Standard states:

The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.

5.2 NOISE SENSITIVE RECEPTORS

The nearest noise sensitive receptors have been identified and are detailed in Table 5-1 and shown in Figure 5-1.

Table 5-1: Noise Sensitive Receivers

NSR Reference	Location	Type
NSR1	Longhurst	Residential
NSR2	Hestia Place/Unicorn Way	Residential
NSR3	Caffin Gardens	Residential
NSR4	Ruspers	Residential
NSR5	Badgers Walk	Residential

⁴ BS 4142:2014+A1:2019 - Methods for rating and assessing industrial and commercial sound

Figure 5-1: Nearest noise sensitive receptors (Blue)



5.3 DESIGN TARGETS

Plant noise assessment criteria detailed in Table 5-2 have been established by Ramboll following the completion of the baseline noise survey at the development site.

Table 5-2: Plant noise assessment criterion

Period	Minimum measured background level (dB LA90)	Plant noise rating limit (dB LAr)
Day (07:00-23:00)	38	33
Night (23:00-07:00)	23	30*

As the background noise level is very low, absolute limits have been applied. This is based on the guidance provided in BS4142:2014 “Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night”.

5.4 DUCTBORNE NOISE

Ductborne noise calculations have been undertaken to establish the resulting noise level generated at the atmosphere termination point by the proposed plant items using source data provided.

Octave band data for the proposed extract and supply fans have not been provided for the intended Laundry and Kitchen systems. Qube Catering has only indicated a sound pressure level at 1 metre from the termination points as detailed within drawings reference 3755-001-G and 3755-001-G.

It is understood that following sound pressure levels will be achieved:

- Laundry Supply & Discharge – 53 dBA at 1m from termination point
- Kitchen Supply & Discharge – 58 dBA at 1m from termination point

Consequently, octave band levels from a representative system have been adopted based on the provided sound pressure levels to facilitate predictions using CadnaA modelling.

Table 5-3 details the induct sound power level data used within the predictions.

Table 5-3: Ductborne Sound Power Levels

Plant Reference	Path	Induct Sound Power Levels, dB							
		63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Laundry	Intake	60	60	69	61	56	53	52	45
	Discharge	44	44	53	58	59	54	49	41
Kitchen	Intake	64	64	73	65	60	57	56	49
	Discharge	51	51	60	65	66	61	56	48

5.5 HRU UNITS

As detailed in Section 4.3, Heat Recovery Units and extract fans are proposed as a method of ventilation. It is understood that attenuators will be provided such that the atmosphere side noise level from intake and discharge ducts do not exceed 20 dBA at 10 m from the point of termination as detailed in within the Attenuator Selection Schedule provided by Lindab.

Noise from these units will be inaudible at the nearest noise sensitive receptors, therefore, these elements have not been included within prediction models or assessments.

5.6 EXTERNAL CONDENSER UNITS

The following spectral sound pressure levels at 1m have been used for the external condensers proposed at ground floor level as detailed within the manufacturer technical specifications.

It is understood that the units will operate under cooling conditions only.

Table 5-4: External VRF Units and Condenser Units – Sound Pressure Levels

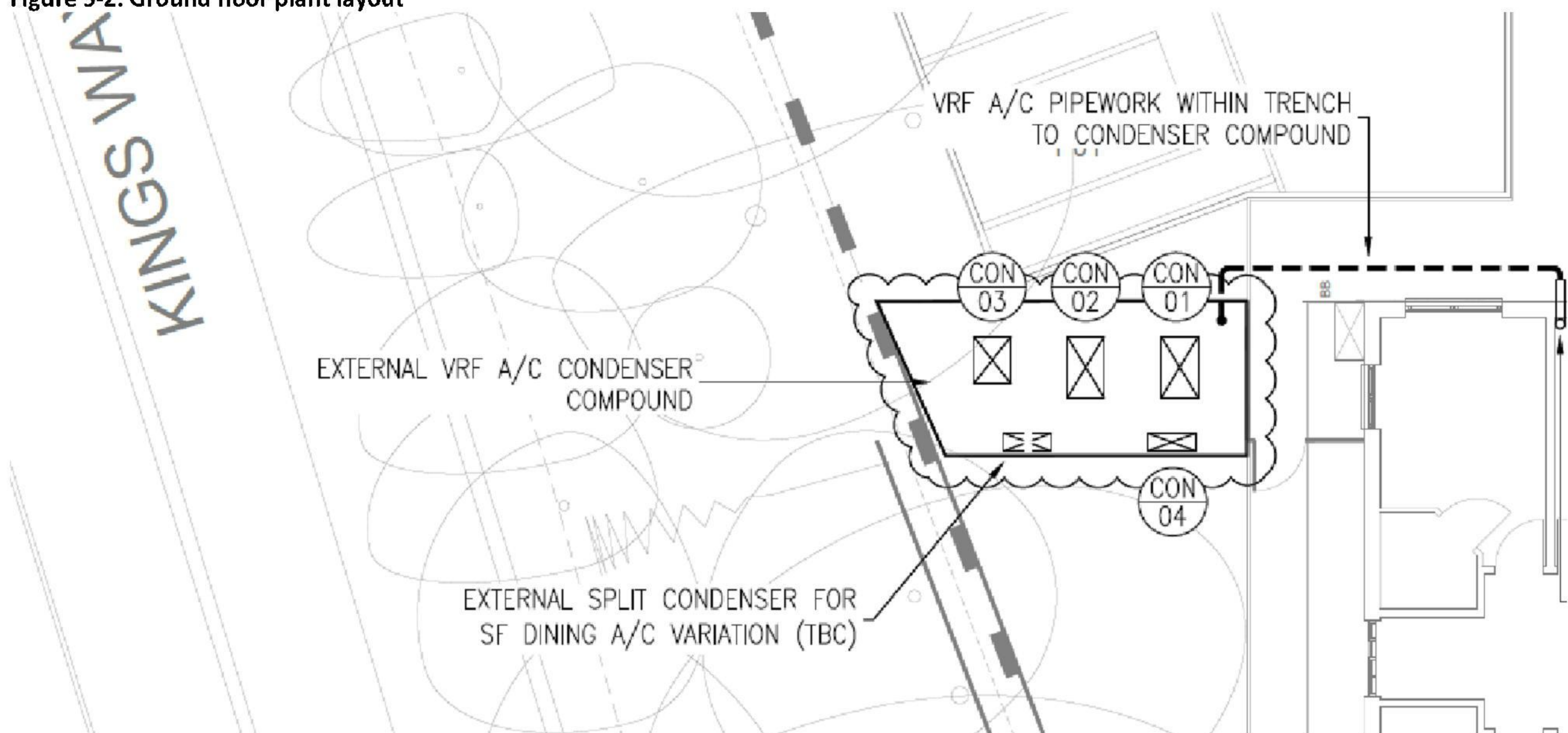
Ref	Description	Mode	Sound Pressure Level at 1m Octave Band Frequencies, Hz							
			63	125	250	500	1k	2k	4k	8k
Con01	MMY-MUP2201HT8P-E	Cooling	70	72	64	62	57	50	44	32
Con02	MMY-MUP2401HT8P-E1	Cooling	69	72	65	60	57	52	44	34
Con03	MMY-MUP1001HT8P-E	Cooling	64	65	58	54	47	39	34	20
Con04	RAV-GP801AT-E	Cooling	44	56	57	63	62	44	50	42
Con05	RAV-GP1101AT-E	Cooling	51	55	59	63	64	59	53	46

The proposed units will also operate under a night-time setback during the night-time period. Therefore the following corrections have been applied to allow for this, as provided by the manufacturer.

Table 5-5: Night-time Setback Corrections

Ref	Description	Night-time Setback Sound Reduction
Con01	MMY-MUP2201HT8P-E	11 dB
Con02	MMY-MUP2401HT8P-E1	10 dB
Con03	MMY-MUP1001HT8P-E	5 dB

Figure 5-2: Ground floor plant layout



5.7 PROPOSED MITIGATION METHODS

It is proposed that CON01 and CON02 will be housed within enclosures providing no less than 10 dB attenuation.

Enclosures should be selected to ensure that appropriate ventilation is provided to the units, otherwise increased noise levels may be experienced. The following manufacturers can supply and install these type of units.

- [Environ](#)
- [Allaway Acoustics](#)
- [Ambient Acoustics Ltd](#)

5.8 PLANT OPERATING PERIODS

To provide a worst case assessment, it has been assumed that all VRF and condenser plant items may be operational during the daytime and night-time periods, with the night-time setback modes in operation for the relevant plant items as listed in Table 5-5.

Kitchen and laundry plant is expected to be operational during the daytime period only.

5.9 PREDICTION METHODOLOGY

Predictions are based on the information supplied by Royston Jones Ltd and Qube Catering Ltd within the technical document submittal, manufacturers published sound data corresponding to the proposed plant shown in the specification document and mechanical and electrical services layout drawings.

DataKustik's "CadnaA" modelling software has been used to determine the specific sound levels at 1 m from the nearest noise sensitive receptors.

The assessment has been made over a 1-hour period in keeping with the assessment period specified within BS 4142.

Predictions have been carried out in accordance with the ISO 9613-2⁵ prediction methodologies, which allow consideration of the effects of the acoustic screening provided by the existing buildings surrounding the application site, the topographical conditions throughout the area, ground absorption, atmospheric absorption, acoustic reflections and acoustic screening, as well as applying a light downwind propagation correction to represent a worst-case. Calculated levels have been assessed against planning condition 13 targets.

3D modelling details are as follows:

- › The topography across the development site and surrounding area has been rendered within the model using 1m LIDAR data provided by DEFRA
- › Receivers have been set at a height of 1.5 m above local ground level. For multistorey buildings, receivers are set at a height of 1.5 m above ground level, then 3.0 m for each additional storey
- › Ground modelled as a mix between soft and hard and reflective due to proximity of roads/carparks and fields towards the nearest receptors (i.e. $G = 0.5$)

5.10 ACOUSTIC CHARACTERISTICS

BS 4142 requires that a correction is applied to the Rating Level if there are any tonal, impulsive, or other irregular characteristics likely to attract attention present in the noise source.

Due to the operating pattern of the proposed units, plant items are expected to exhibit intermittent characteristics, therefore a +3 dB character correction may be applied where the specific sound level is predicted to be no less than 5 dB below the measured background sound level. No tonal or impulsive characteristics are anticipated.

5.11 PREDICTED SPECIFIC SOUND LEVELS

The below figure presents the predicted specific sound levels at noise sensitive receptors near to the development site. It is also noted that predictions have been made assuming 100% operating duty in line with noise data provided within manufacturer technical data. Predictions have been made with the proposed mitigation measures in place.

Coloured contours details the predicted specific sound level at 1.5 m above ground floor level, whereas the receiver levels located on nearby buildings demonstrate the maximum plant specific sound level across all floor levels.

⁵ ISO 9613-2:1996 - Acoustics. Attenuation of sound during propagation outdoors - General method of calculation

Figure 5-3: Predicted specific sound level – Daytime Period

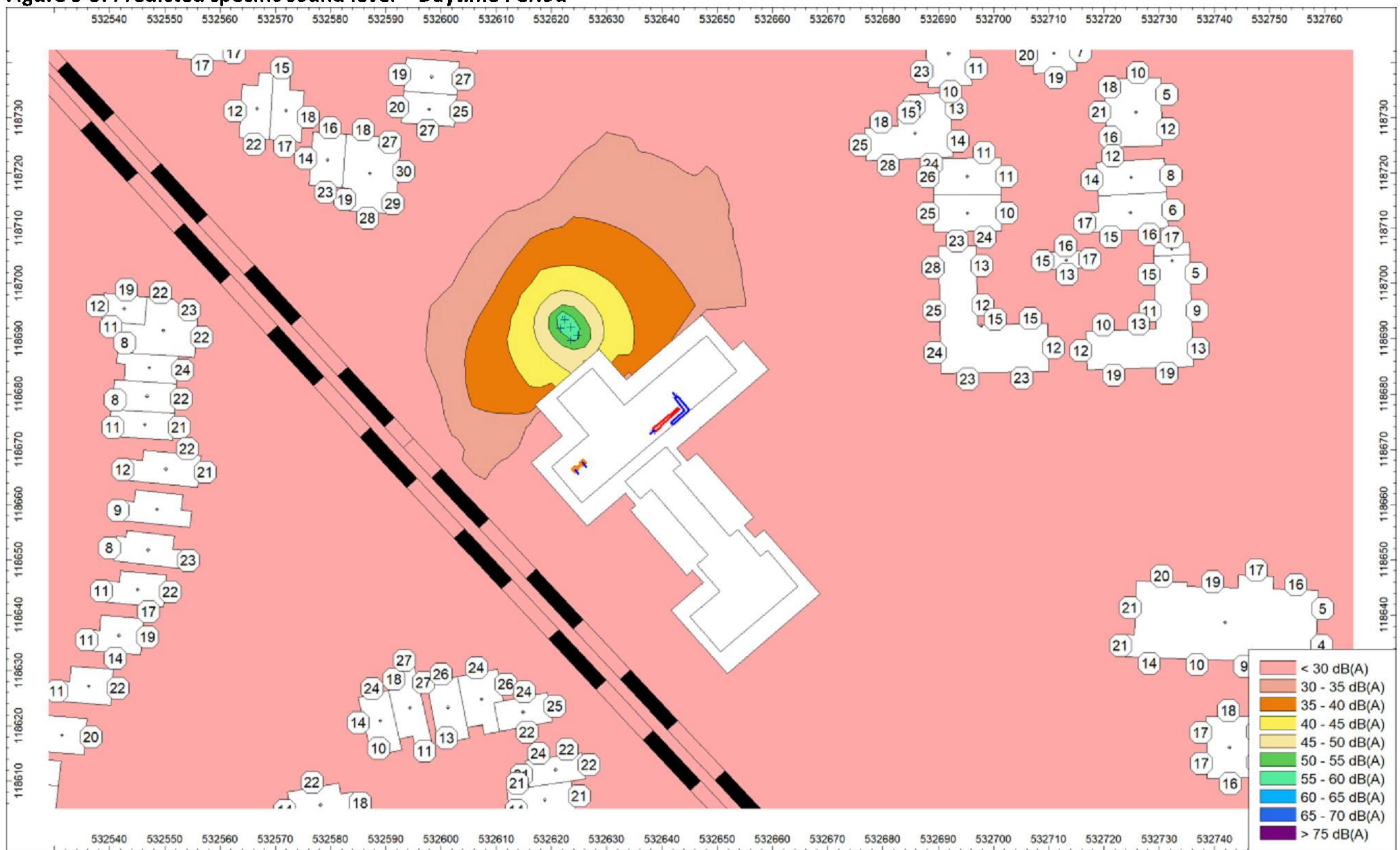
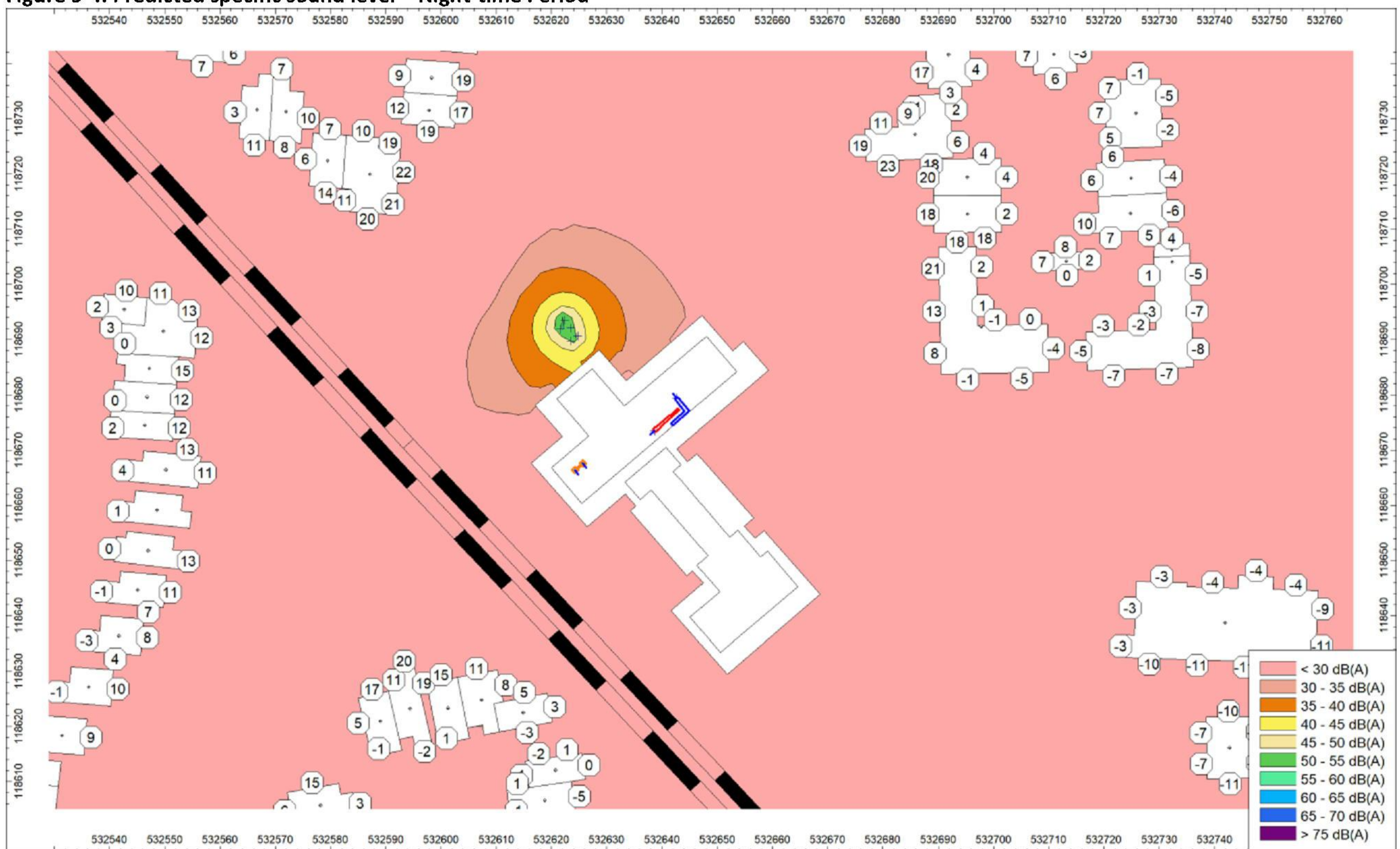


Figure 5-4: Predicted specific sound level – Night-time Period



5.12 NOISE IMPACT ASSESSMENT

Table 5-6 and Table 5-7 detail the plant noise assessment at each of the noise sensitive receptors (as identified within Section 5.1) for the daytime and night-time periods, respectively.

When the predicted specific sound level of the plant is at least 10 dB lower than the measured background sound level (38 dB $L_{A90,T}$ during daytime and 30 dB $L_{A90,T}$ during nighttime), any potential acoustic characteristics are anticipated to be indiscernible at the receiver locations. Consequently, no corrections have been included in the assessment under these conditions.

Table 5-6: Noise Impact Assessment - Daytime Period

Description	Calculated Sound Pressure Level at Receiver Location (dBA)				
	NSR1	NSR2	NSR3	NSR4	NSR5
Maximum Predicted Specific Sound Level, $L_{Aeq,T}$	30 dB	28 dB	21 dB	27 dB	24 dB
Acoustic Penalties (Intermittency)	+3 dB	+0 dB [a]	+0 dB [a]	+0 dB [a]	+0 dB [a]
Rating Level, $L_{Ar, Tr}$	33 dB	28 dB	21 dB	27 dB	24 dB
Rating Level Criteria, $L_{Ar, Tr}$	33 dB	33 dB	33 dB	33 dB	33 dB
Excess of calculated Rating Level over Target Rating Level	+0 dB	-5 dB	-12 dB	-6 dB	-9 dB

Notes

[a] The predicted specific sound level is equal to or greater than 10 dB below the measured background sound level, therefore no character corrections are considered necessary as it technically means plant noise will be inaudible at this receptor.

Table 5-7: Noise Impact Assessment – Night-time Period

Description	Calculated Sound Pressure Level at Receiver Location (dBA)				
	NSR1	NSR2	NSR3	NSR4	NSR5
Maximum Predicted Specific Sound Level, $L_{Aeq,T}$	22 dB	23 dB	0 dB	20 dB	15 dB
Acoustic Penalties (Intermittency)	+3 dB	+3 dB	0 dB [a]	+3 dB	0 dB [a]
Rating Level, $L_{Ar, Tr}$	25 dB	26 dB	0 dB	23 dB	15 dB
Rating Level Criteria, $L_{Ar, Tr}$	30 dB	30 dB	30 dB	30 dB	30 dB
Excess of calculated Rating Level over Target Rating Level	-5 dB	-6 dB	-30 dB	-7 dB	-15 dB

Notes

[a] The predicted specific sound level is greater than 10 dB below the measured background sound level, therefore no character corrections are considered necessary.

The above assessments indicate that the predicted Plant Rating Level will not exceed the proposed criteria at any of the receptor locations during the daytime or night-time period. Furthermore, these predictions are considered to represent the worst-case operational periods. This results in a *Low Impact* in accordance with BS 4142 guidance. Therefore, no additional mitigation measures are required.

6 CONCLUSION

Anderson Acoustics Ltd was commissioned by Lawrence Baker in November 2024 to provide acoustic consultancy services to discharge Planning Conditions 10 and 13 for the proposed 11 Kings Way, Burgess Hill residential development.

We have conducted a review of design proposals to ensure compliance with these requirements, the outcome of which is summarised below:

- The glazing proposals and ventilation align with the recommendations made within the Ramboll report reference RUK2021N00244-RAM-RP-XX-XX-AC-0001 as referenced within Planning Condition 10.
- Glazing and ventilation selections are there expected to sufficiently control external noise ingress to habitable spaces (as detailed in Section 4 of this report).

Planning Condition 10 may therefore be discharged.

This report identifies the proposed plant items and their locations in relation to the nearest residential properties. Calculations have been made to assess the resultant rating levels at the nearest noise sensitive dwellings in accordance with Planning Condition 13 and BS 4142.

The assessment is based on plant noise data provided by the manufacturer, plant noise criteria as established by Ramboll in their initial acoustic submission, and relevant technical drawings for the plant proposals.

Our assessment predicts that with the proposed mitigation measures in place, plant noise levels will not exceed the assessment criteria detailed within the planning condition at any of the NSR locations during the daytime or night-time periods.

Planning Condition 13 may therefore be discharged.