



Indicative Noise Impact Assessment

C10827

Pearce's Farm, Wokingham

Prepared for

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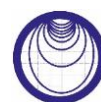
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Ecology



Acoustics



Geotechnical



Geo-environmental



Air Quality

Executive Summary	
Site Address	Pearce's Farm, Easthampstead Road, Wokingham
Omnia has been appointed to complete an Indicative Noise Impact Assessment which demonstrates the Site's suitability for residential development, in support of a planning application made in outline. Once a finalised scheme masterplan is fixed, an updated Noise Impact Assessment can be issued as part of a reserved matters application. This assessment has used an illustrative layout for the modelling. The Indicative Noise Impact Assessment has determined that the internal noise levels will exceed the criteria stated within BS8233:2014. Accordingly, appropriate consideration has been given towards the mitigation measures required to ensure an adequate level of protection against noise for future residents. This Assessment has shown that with regards to road noise, the majority of garden areas across the Development fall below 55dB $L_{Aeq,16hr}$. With regards to the edges of the garden areas on the boundary facing the roads, acoustic barriers have been specified in order to ensure noise levels in these garden areas achieve the 55dB $L_{Aeq,16hr}$ Criteria. The assessment has been based upon robust and worst-case assumptions and demonstrates that, assuming the implementation of the recommended mitigation measures, the site shall be suitable for purpose.	

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1 INTRODUCTION

1.1 Background

Omnia was instructed by Nicholas King Homes (the Client) to prepare a Indicative Noise Impact Assessment ('the Assessment') for a proposed residential development on a parcel of land located at Pearce's Farm, Easthampstead Road in Wokingham, to be referred to hereafter as 'the Site'.

The Site has a number of potentially significant noise sources within the vicinity, including the Easthampstead Road to the south west, and the railway line to the north.

Omnia has been appointed to complete an Indicative Noise Impact Assessment which demonstrates the Site's suitability for residential development, in support of a planning application made in outline. Once a finalised scheme masterplan is fixed, an updated Noise Impact Assessment can be issued as part of a reserved matters application.

This assessment has used an illustrative layout for the modelling.

1.2 Site Location and Proposed Development

The Site occupies a parcel of land to the north-east of Easthampstead Road in Wokingham.

It is understood that the Site will include up to 180 residential units.

This assessment has been undertaken with due regard to the supplied illustrative planning layout shown on the following planning drawing:

- *Land at Pearce's Farm, Wokingham – Overall Sketch Layout – 01 Parcls 1, 2 & 5 – OSKL-01 – Dated October 2023*

The Site Layout is shown in Figure 1 of Appendix III.

1.3 Acronyms

All acronyms used within this report are defined in the Glossary presented in Appendix II.

1.4 Limitations

The limitations of this report are presented in Appendix I.

1.5 Confidentiality

This report has been prepared solely for the use of the Client. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from Omnia; a charge may be levied against such approval.

2 POLICY & GUIDANCE

2.1 National Planning Policy Framework & National Planning Practice Guidance

The Government updated the National Planning Policy Framework (NPPF) and its associated National Planning Practice Guidance (NPPG) on 19th December 2023. Together, the NPPF and NPPG set out what the Government expects of local authorities. The overall aim is to ensure the planning system allows land to be used for new homes and jobs, while protecting valuable natural and historic environments.

The NPPG adds further context to the NPPF and it is intended that the two documents should be read together.

Noise needs to be considered when new developments may create additional noise and when new developments would be sensitive to the prevailing acoustic environment. When preparing local or neighbourhood plans, or taking decisions about new development, there may also be opportunities to consider improvements to the acoustic environment.

Local planning authorities' plan-making and decision making should take account of the acoustic environment and in doing so consider:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

In line with the Explanatory Note of the Noise Policy Statement for England, this would include identifying whether the overall effect of the noise exposure (including the impact during the construction phase wherever applicable) is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation.

The Observed Effect Levels are as follows:

- Significant observed adverse effect level: This is the level of noise exposure above which significant adverse effects on health and quality of life occur;
- Lowest observed adverse effect level: this is the level of noise exposure above which adverse effects on health and quality of life can be detected; and
- No observed effect level: this is the level of noise exposure below which no effect at all on health or quality of life can be detected.

Table 2.1 summarises the noise exposure hierarchy, based on the likely average response.

Table 2.1 Noise Exposure Hierarchy

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not Noticeable	No Effect	No observed effect	No specific measures required
Noticeable and not intrusive	Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No observed adverse effect	No specific measures required
Lowest Observed Adverse Effect Level			
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time	Observed adverse effect	Mitigate and reduce to a minimum

	because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.		
Significant Observed Adverse Effect Level			
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant observed effect	Avoid
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable adverse effect	Prevent

The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation.

These factors include:

- The source and absolute level of the noise together with the time of day it occurs. Some types and level of noise will cause a greater adverse effect at night than if they occurred during the day – this is because people tend to be more sensitive to noise at night as they are trying to sleep. The adverse effect can also be greater simply because there is less background noise at night;
- For non-continuous sources of noise, the number of noise events, and the frequency and pattern of occurrence of the noise;
- The spectral content of the noise and the general character of the noise. The local topology and topography should also be taken into account along with the existing and, where appropriate, the planned character of the area.

More specific factors to consider when relevant:

- Where applicable, the cumulative impacts of more than one source should be taken into account along with the extent to which the source of noise is intermittent and of limited duration;
- Consideration should also be given to whether adverse internal effects can be completely removed by closing windows and, in the case of new residential development, if the proposed mitigation relies on windows being kept closed most of the time. In both cases a suitable alternative means of ventilation is likely to be necessary. Further information on ventilation can be found in the Building Regulations; and,
- If external amenity spaces are an intrinsic part of the overall design, the acoustic environment of those spaces should be considered so that they can be enjoyed as intended.

2.2 BS8233:2014 'Guidance on sound insulation and noise reduction for buildings'

Noise Criteria Limits

The scope of this standard is the provision of recommendations for the control of noise in and around buildings. It suggests appropriate criteria and limits for different situations, which are primarily intended to guide the design of new buildings or refurbished buildings undergoing a change of use, rather than to assess the effect of changes in the external noise climate.

The standard suggests suitable internal noise levels within different types of buildings, including dwellings, as shown in Table 2.2.

Table 2.2 BS8233:2014 Internal Target Noise Levels

Criterion	Typical Situation	Design $L_{Aeq,T}$ (dB)
Suitable resting / sleeping conditions	Living Room	35
	Bedroom*	30
*For a reasonable standard in bedrooms at night, individual noise events (measured with fast time weighting) should not exceed 45dB L_{max}		

BS8233 goes on to recommend noise levels for gardens as follows:

"It is desirable that the external noise level does not exceed 50dB $L_{Aeq,T}$, with an upper guideline value of 55dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognised that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors might be warranted".

BS8233 goes on to say:

"In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces but should not be prohibited".

Ventilation Requirements

Where a partially open window cannot be relied upon to provide an adequate level of sound insulation performance, it is necessary to consider alternative ventilation for habitable rooms. Section 8.4.5.4 within BS8233 states:

"The Building Regulations' supporting documents on ventilation [48, 49, 50] recommend that habitable rooms in dwellings have background ventilation. Where openable windows cannot be relied upon for this ventilation, trickle ventilators can be used and sound attenuating types are available. However, windows may remain openable for rapid or purge ventilation, or at the occupant's choice.

Alternatively, acoustic ventilation units (see 7.7.2 below) are available for insertion in external walls. These can provide sound reduction comparable with double glazed windows. However, ducted systems with intakes on the quiet side of the building might be required in very noisy situations, or where appearance rules out through-the-wall fans."

Section 7.7.2 states:

"NOTE 5 If relying on closed windows to meet the guide values, there needs to be an appropriate alternative ventilation that does not compromise the façade insulation or the resulting noise level."

2.3 World Health Organisation's (WHO) 'Guidelines for Community Noise'

The WHO 'Guidelines for Community Noise' offers advice with regard to setting noise criteria applicable to sleep disturbance. Section 4.2.3 specifies:

'If the noise is not continuous, L_{Amax} or SEL are used to indicate the probability of noise-induced awakenings. Effects have been observed at individual L_{Amax} exposures of 45 dB or less. Consequently, it is important to limit the number of noise events with a L_{Amax} exceeding 45 dB.'

The guidelines go on to state:

'At night, sound pressure levels at the outside façades of the living spaces should not exceed 45 dB L_{Aeq} and 60 dB L_{Amax} , so that people may sleep with bedroom windows open. These values have been obtained by assuming that the noise reduction from outside to inside with the window partly open is 15 dB.'

The sound insulation performance value of 15dB for a façade containing a partially open window accords with the guidance offered in BS8233:2014.

The guidelines reference a study by Vallet & Vernet, 1991, which concluded that:

'For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 dB $L_{AF,max}$ more than 10-15 times per night.'

Accordingly, this assessment has utilised the 10th highest measured maximum noise level from the night-time period and allows for an assessment of a typical maximum noise level in determining façade sound insulation performance.

2.4 Acoustic Ventilation and Overheating: Residential Design Guide (AVO Guide) 2020

The Acoustics, Ventilation and Overheating Residential Design Guide (Version 1.1) was issued in January 2020 by the Association of Noise Consultants (ANC) and the Institute of Acoustics (IOA). This document provides guidance on the interdependence between acoustics, ventilation and overheating.

The AVO guide recommends a two-level approach to assess the potential impact of noise ingress through windows that have been opened to mitigate overheating and also noise from any mechanical services used to provide comfort cooling. The level 1 assessment relates to incident environmental noise levels across a proposed site, it is used to define "risk categories" for each building façade based on these levels. Below are the tables 2.3 and 2.4 are directly from AVO 2020 upon which this assessment is based.

Table 2.3: Guidance for Level 1 site risk assessment of noise from transport noise sources relating

Risk category for Level 1 assessment ^[Note 5]	Potential Effect without Mitigation	Recommendation for Level 2 assessment
$L_{Aeq,T}$ ^[Note 3] during 07:00 - 23:00 $L_{Aeq,8hr}$ during 23:00 - 07:00 65 dB High 60 dB Medium 55 dB Low 50 dB Negligible 55 dB 50 dB 45 dB	Increasing risk of adverse effect Use of opening windows as primary means of mitigating overheating is not likely to result in adverse effect	Recommended Optional Not required

Table 2.4: Guidance for Level 2 assessment of noise from transport noise sources relating to overheating condition

Internal ambient noise level ^[Note 2]			Examples of Outcomes ^[Note 5]	
$L_{Aeq,T}$ ^[Note 3] during 07:00 – 23:00 ^[Note 6]	$L_{Aeq,8hr}$ during 23:00 – 07:00	Individual noise events during 23:00 – 07:00 ^[Note 4]		
> 50 dB	> 42 dB	Normally exceeds 65 dB L_{A1max}	Noise causes a material change in behaviour e.g. having to keep windows closed most of the time	Avoiding certain activities during periods of intrusion. Having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.
Increasing noise level			Increasing likelihood of impact on reliable speech communication during the day or sleep disturbance at night	At higher noise levels, more significant behavioural change is expected and may only be considered suitable if occurring for limited periods. As noise levels increase, small behaviour changes are expected e.g. turning up the volume on the television; speaking a little more loudly; having to close windows for certain activities, for example ones which require a high level of concentration. Potential for some reported sleep disturbance. Affects the acoustic environment inside the dwelling such that there is a perceived change in quality of life. At lower noise levels, limited behavioural change is expected unless conditions are prevalent for most of the time. ^[Note 8]
≤ 35 dB	≤ 30 dB	Do not normally exceed L_{A1max} 45 dB more than 10 times a night	Noise can be heard, but does not cause any change in behaviour	Noise can be heard, but does not cause any change in behaviour, attitude, or other physiological response ^[Note 9] . Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.

Table 2.5: AVO guide ADF system definition

ADF System	External noise ingress considerations	Mechanical system noise considerations	Approximate guideline free-field external noise limits. ^[Note 1]
1 or 2	Noise ingress is likely to be defined by the performance of the background ventilators (trickle vents), windows and other façade elements. Note that use of System 1, relying on the use of open trickle vents without opening windows may give rise to poor indoor air quality in airtight dwellings outside the winter period.	For System 1, intermittent kitchen and bathroom fans should have suitable noise levels to meet the guidelines in Table 3-4. System 2 has no mechanical components.	With standard double glazing and two trickle vents: • $\sim L_{Aeq,16h}$ 56 dB day • $\sim L_{Aeq,8h}$ 51 dB night • L_{AFmax} not normally exceeding ~ 67 dB more than 10x per night With high performing acoustic glazing and two 'acoustic' trickle vents: • $\sim L_{Aeq,16h}$ 66 dB day • $\sim L_{Aeq,8h}$ 61 dB night • L_{AFmax} not normally exceeding ~ 80 dB more than 10x per night
3	Noise ingress is likely to be defined by the performance of the background ventilators (trickle vents), windows and other façade elements. ADF advises that: "controllable background ventilators having a minimum equivalent area of 2,500 mm² should be fitted in each room, except wet rooms..."	This could be a centralised or decentralised MEV system. Guideline levels are shown in Table 3-4. For a centralised system, the location of the fan is important for structure-borne and airborne noise. System noise may affect living rooms and bedrooms as well as the rooms in which the extract inlets are located i.e. wet rooms. For a decentralised system, there are individual fans extracting from each bathroom, toilet, kitchen and utility room. The noise effects on adjacent living rooms and bedrooms should be considered. ^[Note 2]	With standard double glazing and trickle vent: • $\sim L_{Aeq,16h}$ 58 dB day • $\sim L_{Aeq,8h}$ 53 dB night • L_{AFmax} not normally exceeding ~ 69 dB more than 10x per night With high performing acoustic glazing and an 'acoustic' trickle vent: • $\sim L_{Aeq,16h}$ 68 dB day • $\sim L_{Aeq,8h}$ 63 dB night • L_{AFmax} not normally exceeding ~ 83 dB more than 10x per night
4	No trickle vents required. Consider noise ingress through other façade elements.	MVHR is a centralised system ducted to supply outlets in living rooms and bedrooms as well as to extracts in wet rooms. Guideline levels are shown in Table 3-4. The unit location is important for structure-borne and airborne noise. Consider ducted noise, particularly to bedrooms. Consider also cross-talk sound transmission via ducts. ^[Note 2]	With standard double glazing and no trickle vent: • $\sim L_{Aeq,16h}$ 62 dB day • $\sim L_{Aeq,8h}$ 57 dB night • L_{AFmax} not normally exceeding ~ 76 dB more than 10x per night With high performing acoustic glazing: • $\sim L_{Aeq,16h}$ 73 dB day • $\sim L_{Aeq,8h}$ 68 dB night • L_{AFmax} not normally exceeding ~ 90 dB more than 10x per night N.B. With secondary glazing higher sound insulation may be achieved.

3 NOISE SURVEYS

3.1 Road Traffic Noise Survey – Easthampstead Road.

Omnia has conducted a Road Traffic Noise Survey in order to measure the level of noise generated by vehicles using Easthampstead Road. The noise survey took place over the following period:

- 10:00 to 13:00 on the 20th April 2023.

The following location was chosen for the survey:

- Noise Measurement Position 1 (NMP1): Omnia undertook a Road Traffic Measurement of Easthampton Road approximately 3.7m away from the nearest kerbside in accordance with CRTN. The microphone was located at a height of 1.5m l.

A summary of the measured sound pressure levels is presented below.

Table 3.1: Summary of Measured Road Traffic Noise Levels; NMP2

Period Start Time	Average Measured Sound Pressure Levels, Free-Field (dB)		10 th highest L _{Amax,fast}
	L _{Aeq,T}	L _{A10,T}	
20/04/2023 10:00	69.4	73.8	87.4
20/04/2023 11:00	69.9	74.0	
20/04/2023 12:00	69.6	73.1	
L_{Aeq,16hr} as calculated from CRTN	70.6		
L_{Aeq,8hr} as calculated from CRTN and TRL Document	61.6		

The L_{AMax} parameter tabulated is obtained by outputting the L_{AMax,f} parameter for each 1 minute interval during the 3 hour survey. These are ordered in declining intensity and the 10th highest selected.

During the noise survey the weather conditions with conducive to the measurement of environmental noise, i.e. wind speeds no more than 5m/s and dry conditions.

3.2 Railway Noise Survey

Omnia has conducted attended noise measurements in order to quantify noise levels due to passing trains. The “Real Time Trains” online resource was used for timetable information.

The survey took place over the following period:

- 13:57 to 16:57 on the 7th July 2022

The following noise measurement position was chosen for the Survey:

- Noise Measurement Position 2 (NMP2): Omnia undertook a Rail Traffic Measurement of the railway line to the north-east of the site adjacent to the line, from the public walkway, in accordance with CRN. The Microphone was located 600m from the railway line at a height of 1.5m above ground level.

The SLM coding function was used in conjunction with the dBTrait software to extract the train pass-bys and reject contribution from background sources between such train pass-bys, though these were minimal. A summary of the measured sound pressure levels from the Noise Survey is presented below.

Table 3.2: Measured Noise Levels at NMP2 due to Train Pass-Bys and Calculation of Overall Day/Night Levels

Parameter	Passenger	
	Daytime	Night-time
	(0700-2300)	(2300-0700)
Timetabled Number of Trains	142	32
Number of Train Pass-Bys Measured	16	
Measured $L_{A_{Max,f}}$ (dBA)	86.1	
Total Measured SEL of Trains (dBA)	77.3	
Calculated SEL of One Train (dBA)	65.3	
Calculated SEL of all Trains per Period (dBA)	86.8	80
Resultant L_{Aeq} per Period (dBA)	39.2	35.7
Total Daytime (dBA):	39.2	
Total Night time (dBA):	35.7	

3.3 Noise Survey Equipment

The following equipment was used for the Noise Surveys.

Table 3.3 Noise Measurement Equipment

Measurement Position	Equipment Description	Manufacturer & Type No	Serial No.	Calibration Due Date
NMP1 + NMP2	Sound Level Meter	01dB Fusion	14009	22/04/2023
	Pre-amplifier	01dB PRE22	2018032	
	Microphone	GRAS 40CD	428395	
	Calibrator	01dB CAL-31	95428	15/03/2023

The sound level meters were field calibrated prior to and following the noise surveys and there was no drift beyond the allowable limit of 1dB.

During the noise surveys the weather conditions were conducive to the measurement of environmental noise, i.e. wind speeds of no more than 5m/s and dry conditions.

4 INDICATIVE NOISE IMPACT ASSESSMENT

4.1 Road & Rail Traffic Noise

In order to accurately assess road traffic noise across the Site, a 3D Noise Model has been constructed using the modelling software CadnaA.

The following assumptions, inputs and considerations have been included in the model:

- Illustrative Planning Layout Drawing as described in Section 1;
- Existing buildings that provide shielding from any of the noise sources have been included in the model;
- Noise Measurement Positions 1 & 2 has been used to calibrate the noise model;
- A reflection order of 2 has been used in all calculations;
- Building heights are as supplied by the client; and
- Noise levels generated using ISO 9613-1 and ISO 9613-2 "Acoustics – Attenuation of sound during propagation outdoors" as incorporated into CadnaA software.

External Noise Impact in Garden Areas of Proposed Dwellings

In order to assess noise levels in external amenity areas across the Site, a grid noise map was calculated in the noise model. The grid noise map shows that the majority of all garden areas fall below the adopted 55dB $L_{Aeq,16hr}$ criteria noise level, however the garden area for certain plots that back onto the road have noise levels ranging between 55dB – 65dB.

The following section recommends appropriate mitigation measures in order to achieve the 55dB $L_{Aeq,16hr}$ criteria.

Internal Noise Impact for Proposed Dwellings

With regards to internal noise levels, BS8233:2014 suggests that standard thermal double glazing will afford 33dB Rw of sound reduction, however this is for the pink noise spectrum and the same configuration will afford 30dB Rw+Ctr for average noise levels from road traffic noise and so this value has been used to calculate internal noise levels. With regard to the maximum noise level ($L_{Amax,fast}$), the value of 33dB Rw has been used. BS8233:2014 also goes on to recommend that a partially open window provides approximately 13dB of attenuation.

Omnia uses a library database of glazing configurations issued by Saint Gobain and the glazing configuration 6mm glass / 12mm air space / 6mm glass affords 30dB Rw +Ctr and 33dB Rw respectively.

Appendix IV calculates the average daytime noise levels at the various facades of the plots and determines the requirement for upgraded glazing or alternative ventilation. Appendix IV indicates that standard thermal double glazing will be adequate in controlling external noise to meet the internal noise criteria limits for the majority of the Site, however there is the potential requirement for limited upgraded glazing to plots if required, which will be determined through the Reserved Matters process. Additionally, a number of living rooms will require alternative ventilation.

Appendix V calculates the average night-time noise levels at the various facades of the plots and determines the requirement for upgraded glazing or alternative ventilation. Appendix V indicates that standard thermal double glazing will be adequate in controlling external noise to meet the internal noise criteria limits and a number of bedrooms will require alternative ventilation.

It is also necessary to consider maximum noise levels, for the night-time period for bedrooms only, in addition to the average noise levels.

Tables 4.1 calculates the internal noise level at the closest façade with windows closed and with a partially open window and compares the predicted noise level to the internal $L_{Amax,fast}$ noise criteria in BS8233 and Part O for Bedrooms.

Table 4.1 Calculation of Internal Maximum Noise Levels – Bedrooms

Road	Applicable Standard	Measured Maximum Noise Level, $L_{Amax,f}$ (dB)	Measurement Distance (m)	Distance to Closest Proposed Dwelling (m)	Maximum Noise Level at Dwelling, $L_{Amax,fast}$ (dB)	Windows Closed / Open	Sound Insulation Performance, R_w (dB)	Calculated Internal Maximum Noise Level (dB)	Applicable Noise Criteria Level (dB)	Difference +/-
Easthampstead Road	BS8233:2014	87.4	7.5	25	64.9	Open	13	63.9	45	+18.9
		87.4	7.5	25	64.9	Closed	33	43.9	45	-1.1
	Approved Document O	87.4	7.5	25	64.9	Open	13	63.9	55	+8.9
		87.4	7.5	25	64.9	Closed	33	43.9	55	-11.1

Table 4.1 indicates that the maximum noise level produced by vehicles using the Easthampstead Road will exceed the BS8233:2014 noise criteria level by +18.9dB and with a partially open window and so the following section considers appropriate noise mitigation.

5 MITIGATION

5.1 Internal Noise Levels

The previous section has indicated that standard thermal double glazing which provides a sound reduction of at least 30dB R_{w+Ctr} will be suitable for the majority of the Site. However, any living room located on the southwestern façade of Plot 93 (plot number based on the illustrative layout drawing) will require a glazing unit that provides a sound reduction of at least 31 dB R_{w+Ctr} .

Additionally, various living room and bedroom windows will require alternative ventilation as per the schedule set out in Appendices IV and V of this Assessment which accord with the requirements of the AVO Design Guide.

Where System 1 & 2 alternative ventilation is required for habitable rooms, then ventilation can be achieved by using a window-frame mounted acoustic trickle ventilator as follows:

- Greenwoods EAR42W (affords up to 42dB $D_{n,e,w+Ctr}$).

Where System 3 is required, this will typically take the form of a mechanical extract ventilation system combined with acoustic-grade trickle ventilators (as above) for the window frames of the affected habitable rooms.

In addition to the consideration of average noise levels, the previous section has shown that internal maximum noise levels in bedrooms for the closest bedrooms to the Easthampstead will experience an exceedance of up to 18.9dB above the internal noise criteria level. Further calculation indicates that any bedroom window located within 220m from the center of Easthampstead Road, with full or partial line of sight to the road, will experience an exceedance of the noise criteria level. As such, any bedroom window located within 220m from the road will require the above trickle ventilator.

With mitigation in place, it is concluded that the NOAEL is achieved which would be noticeable and not intrusive resulting in the following:

'Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.'

5.2 External Noise Levels

The previous assessment has shown that the garden areas at or fronting the junction with Easthampstead Road exceed the 55dB $L_{Aeq,16hr}$. As such, a barrier is recommended for the edges of garden area, the height of the barriers required to achieve 55dB $L_{Aeq,16hr}$ range from 1.8m to 2.5m. With the barrier in place, the garden areas achieve 55dB $L_{Aeq,16hr}$.

Figure 4 of Appendix III shows the location of the proposed barriers. The acoustic barriers should have a minimum mass of 15kg/m², be free from holes and be sealed at their base.

6 CONCLUSION

Omnia has been commissioned by Nicholas King Homes (the Client) to undertake an Indicative Noise Impact Assessment for a proposed residential development on a parcel of land located at Pearce's Farm, Easthampstead Road, Wokingham.

The Site has a number of potentially significant noise sources within the vicinity, including the Easthampstead Road to the southwest, and the railway line to the north.

Omnia has been appointed to complete an Indicative Noise Impact Assessment which demonstrates the Site's suitability for residential development, in support of a planning application made in outline. Once a finalised scheme masterplan is fixed, an updated Noise Impact Assessment can be issued as part of a reserved matters application.

This assessment has used an illustrative layout for the modelling.

The Noise Impact Assessment has been completed with due regard to the requirements as stated within BS8233:2014. A CadnaA noise model has been constructed including all significant noise sources, existing buildings and with full topography. The noise model has been used to predict the noise levels within the external amenity areas as well as incident upon the facades of the proposed residential development due to noise associated with the road traffic and commercial sound.

The Indicative Noise Impact Assessment has determined that that standard thermal double glazing which provides a sound reduction of at least 30dB R_{w+Ctr} will be suitable for the majority of the Site. However, however there is the potential requirement for limited upgraded glazing to plots if required, which will be determined through the Reserved Matters process. Additionally, various living room and bedroom windows will require alternative ventilation as per the schedule set out in Appendices IV and V of this Assessment.

This Assessment has shown that with regards to road noise, the majority of garden areas across the Development fall below 55dB $L_{Aeq,16hr}$. With regards to the edges of the garden areas on the boundary facing the roads, acoustic barriers have been specified in order to ensure noise levels in these garden areas achieve the 55dB $L_{Aeq,16hr}$ criteria.

The assessment has been based upon robust and worst-case assumptions and demonstrates that, assuming the implementation of the recommended mitigation measures, the site shall be suitable for purpose.

This Assessment isn't to be used for specifying glazing at this stage.

END OF REPORT

APPENDIX I

LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between Omnia and the Client as indicated in Section 1.3.
2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information, it has been assumed it is correct. No attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination, which are enforced, by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.
4. During the site walkover reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.
5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.
6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials this is for indicative purposes only and do not constitute or replace full and proper surveys.
8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
9. Omnia cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by Omnia is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by OEC in this connection without their explicit written agreement there to by Omnia.
10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.

APPENDIX II

GLOSSARY OF ACOUSTIC TERMINOLOGY

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude, but is more responsive to mid- frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsiveness may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source.

The most widely used weighting mechanism that best corresponds to the response of the human ear is the 'A'-weighting scale. This is widely used for environmental noise measurement, and the levels are denoted as dB(A) or LAeq, LA90 etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective, but as a general guide a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions.

An indication of the range of sound levels commonly found in the environment is given in the following table.

Table A1: Typical Sound Pressure Levels

Sound Pressure Level (dB)	Location/Example
0	Threshold of hearing
20 - 30	Quiet bedroom at night
30 - 40	Living room during the day
40 - 50	Typical office
50 - 60	Inside a car
60 - 70	Typical high street
70 - 90	Inside factory
100 - 110	Burglar alarm at 1m away
110 - 130	Jet aircraft on take off
140	Threshold of pain

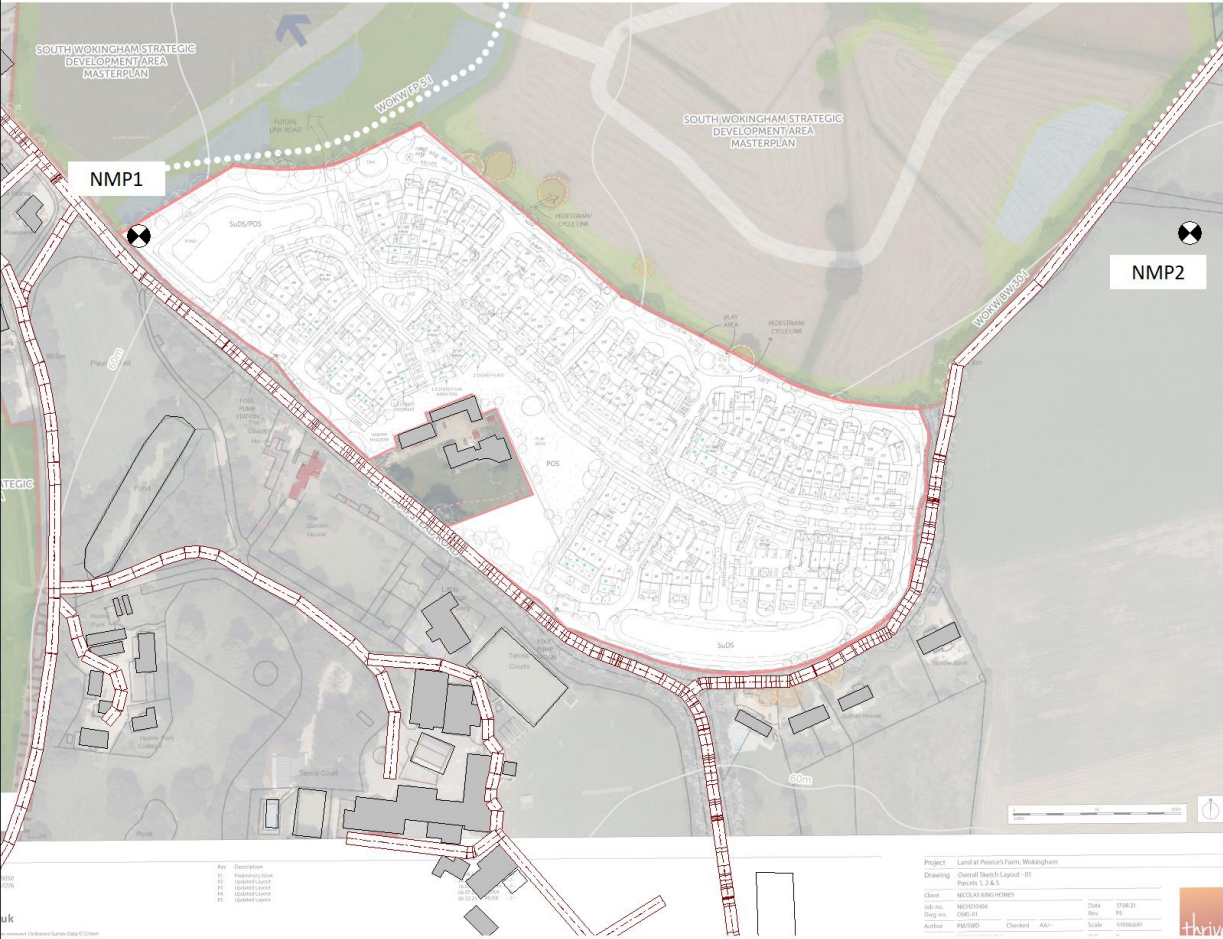
Table A2: Terminology

Descriptor	Explanation
dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean square pressure of the sound field and a reference pressure (2×10^{-5} Pa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
$L_{Aeq, T}$	L_{Aeq} is defined as the notional steady sound level which, over a stated period of time (T), would contain the same amount of acoustical energy as the A – weighted fluctuating sound measured over that period.
L_{Amax}	L_{Amax} is the maximum A - weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
L_{10} & L_{90}	If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The L_n indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L_{10} is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L_{90} is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L_{10} index to describe traffic noise.
Free-field Level	2A sound field determined at a point away from reflective surfaces other than the ground with no significant contributions due to sound from other reflective surfaces. Generally as measured outside and away from buildings.
Fast	A time weighting used in the root mean square section of a sound level meter with a 125millisecond time constant.
Slow	A time weighting used in the root mean square section of a sound level meter with a 1000millisecond time constant.

APPENDIX III

FIGURE

Figure 1 – Site Layout and Noise Measurement Positions



Title : Site Layout and
Noise Measurement Position

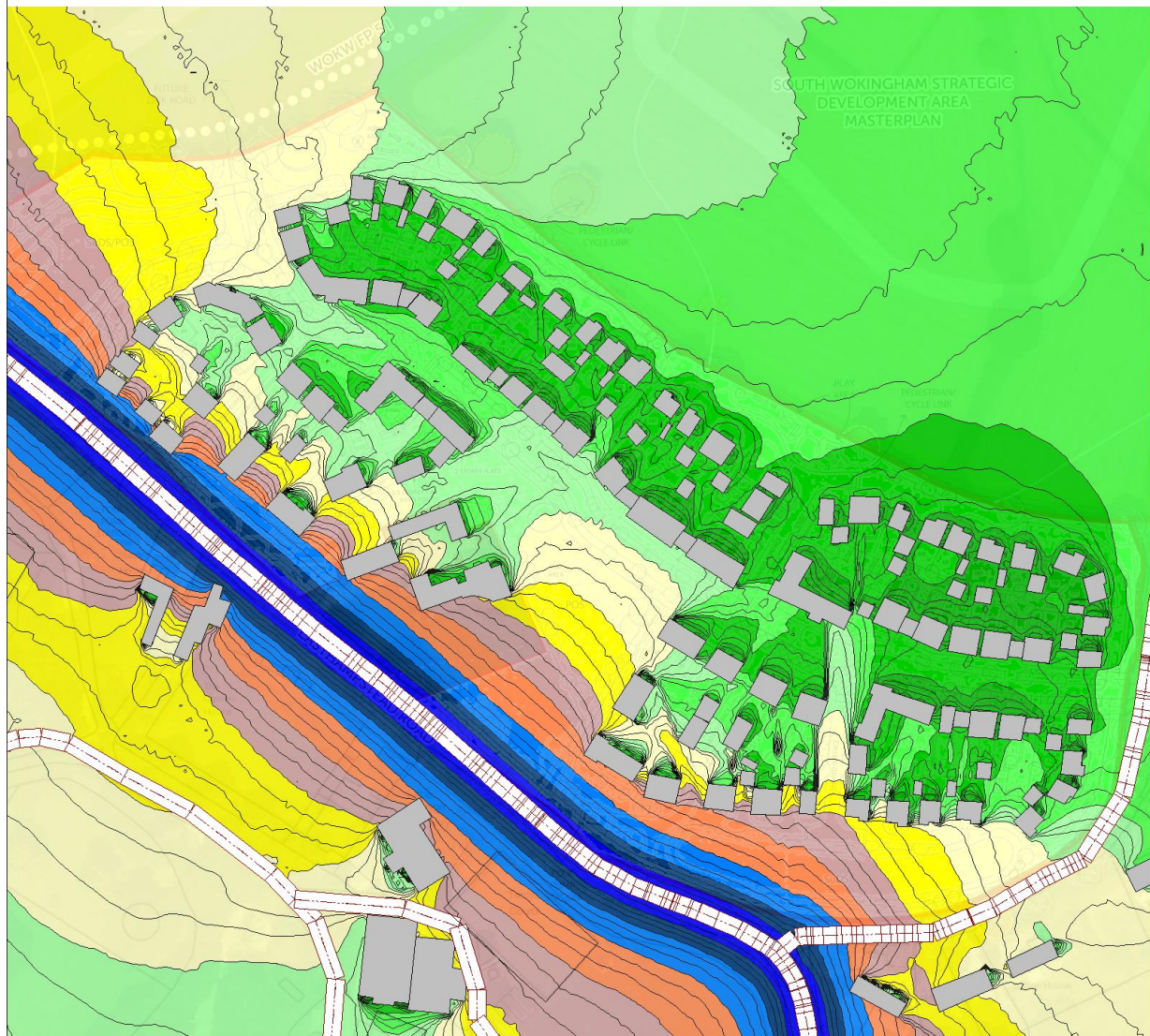
Figure 1

Built by: MP

Date : 26/01/2024

Checked by: JG

Figure 2 – Daytime Grid Noise Map -Road Traffic



Noise Map Objects Road Railway Building Barrier Receiver Calculation Area	Level LAeq 16 hour in dB(A) ... < 43.0 43.0 <= ... < 46.0 46.0 <= ... < 49.0 49.0 <= ... < 52.0 52.0 <= ... < 55.0 55.0 <= ... < 58.0 58.0 <= ... < 61.0 61.0 <= ... < 64.0 64.0 <= ... < 67.0 67.0 <= ... < 70.0 70.0 <= ... < 75.0 75.0 <= ...	Title: Daytime Grid Noise Map 1.5m above ground level	Built by: MP
		Figure 2	Checked by: JG
		Date : 26/01/2024	

Figure 3 – Night-Time Grid Noise Map – Road Traffic

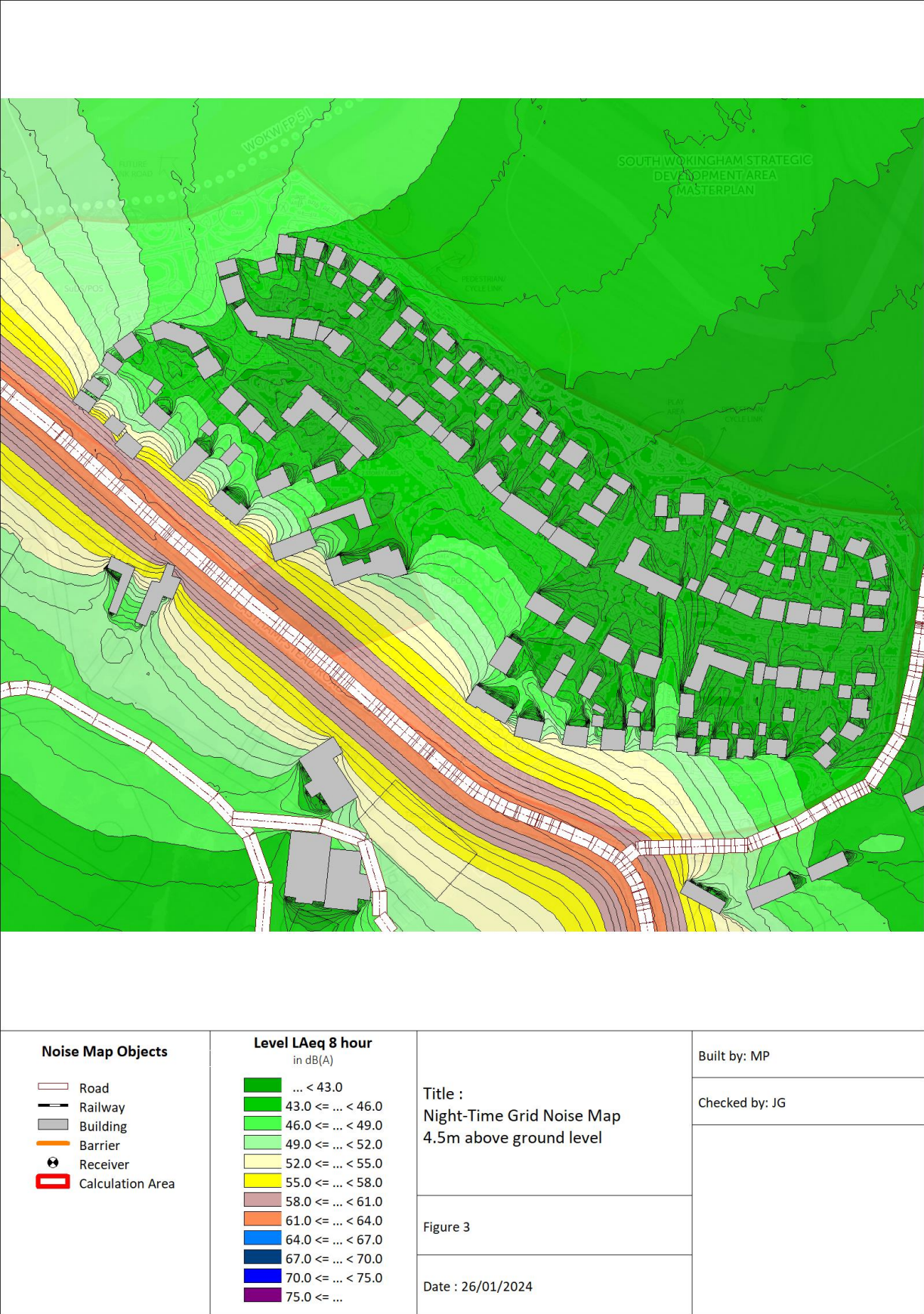
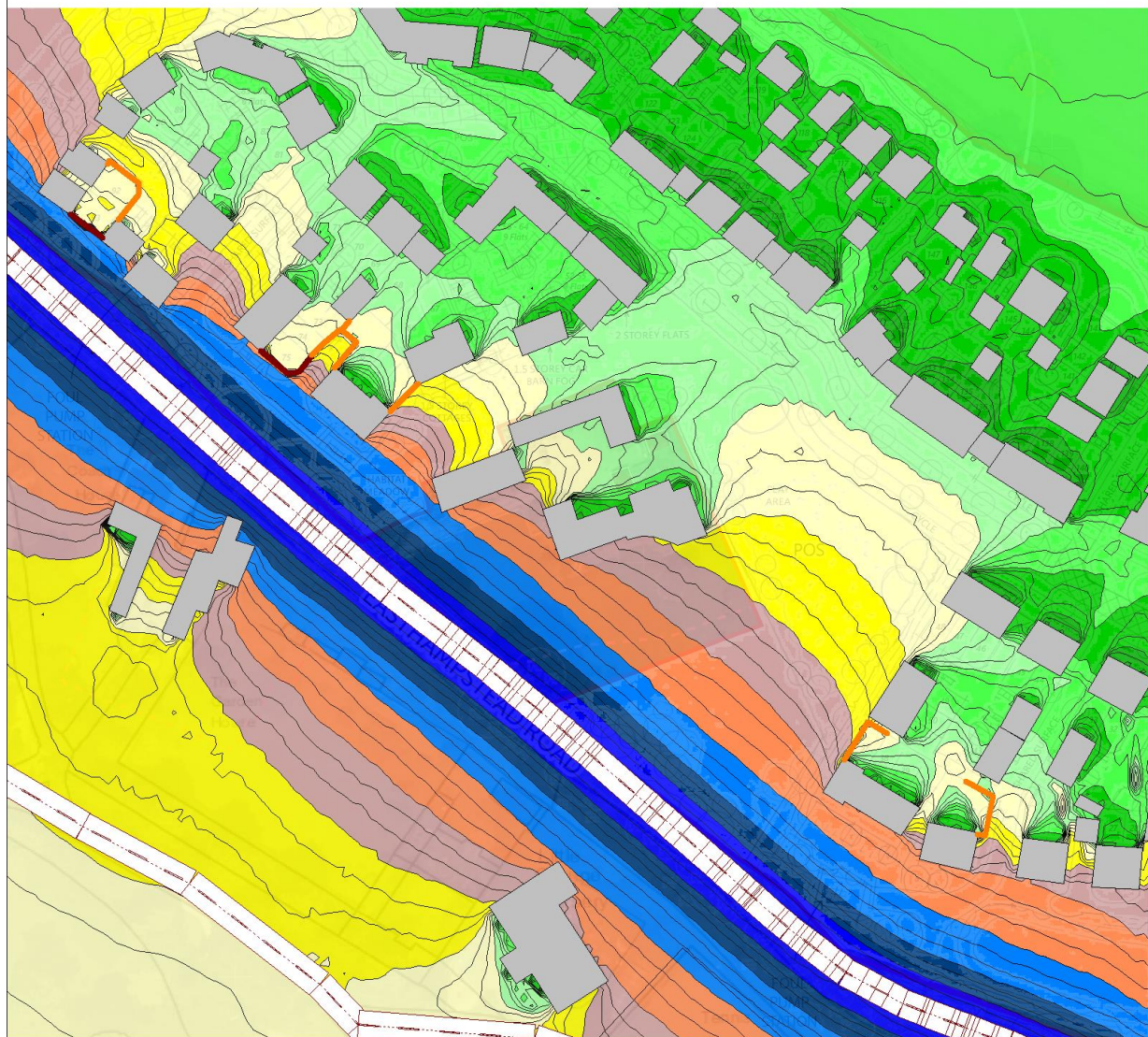


Figure 4 – Daytime Grid Noise Map – with Mitigation



Noise Map Objects - Road - Railway - Building - Barrier - Receiver - Calculation Area Barrier Height (m) 1.80 2.00 2.50	Level LAeq 16hr in dB(A) ... < 43.0 43.0 <= ... < 46.0 46.0 <= ... < 49.0 49.0 <= ... < 52.0 52.0 <= ... < 55.0 55.0 <= ... < 58.0 58.0 <= ... < 61.0 61.0 <= ... < 64.0 64.0 <= ... < 67.0 67.0 <= ... < 70.0 70.0 <= ... < 75.0 75.0 <= ...	Title: Daytime Grid Noise Map 1.5m above ground level with Proposed Barriers Figure 4 Date : 26/01/2024	Built by: MP Checked by: JG
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APPENDIX IV
DAYTIME FAÇADE NOISE LEVELS
(Living Rooms)

Table A3: Daytime Façade Levels

Plot	Storey	Façade Direction	Calculated LAeq, 16hr at Façade (dB)	Calculated Noise Level Inside Room (30dB reduction) (dB)	Difference with Criteria (35dB) +/-	Required Sound Insulation Performance for Glazing (Rw +Ctr) (dB)	Commentary on Required Glazing	Calculated Internal Noise Level with a Partially Open Window (dB)	Alternative Ventilation Required?	Acoustics Ventilation & Overheating Assessment - Appropriate AD-F System	Example Alternative Ventilation Scheme
Plot 1	GF	NE	39.2	9.2	-25.8	4	Standard thermal glazing	26.2	No	N/A	Alternative Ventilation not Required
Plot 1	GF	NW	48.7	18.7	-16.3	14	Standard thermal glazing	35.7	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 1	GF	SW	52	22	-13	17	Standard thermal glazing	39	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 1	GF	SE	48	18	-17	13	Standard thermal glazing	35	No	N/A	Alternative Ventilation not Required
Plot 2	GF	NE	37.4	7.4	-27.6	2	Standard thermal glazing	24.4	No	N/A	Alternative Ventilation not Required
Plot 2	GF	NW	42.7	12.7	-22.3	8	Standard thermal glazing	29.7	No	N/A	Alternative Ventilation not Required
Plot 2	GF	SW	48	18	-17	13	Standard thermal glazing	35	No	N/A	Alternative Ventilation not Required
Plot 2	GF	SE	47.7	17.7	-17.3	13	Standard thermal glazing	34.7	No	N/A	Alternative Ventilation not Required
Plot 3	GF	E	46.3	16.3	-18.7	11	Standard thermal glazing	33.3	No	N/A	Alternative Ventilation not Required
Plot 3	GF	S	42.3	12.3	-22.7	7	Standard thermal glazing	29.3	No	N/A	Alternative Ventilation not Required
Plot 3	GF	W	43.6	13.6	-21.4	9	Standard thermal glazing	30.6	No	N/A	Alternative Ventilation not Required
Plot 3	GF	N	38.1	8.1	-26.9	3	Standard thermal glazing	25.1	No	N/A	Alternative Ventilation not Required
Plot 4	GF	N	39.3	9.3	-25.7	4	Standard thermal glazing	26.3	No	N/A	Alternative Ventilation not Required
Plot 4	GF	E	45.2	15.2	-19.8	10	Standard thermal glazing	32.2	No	N/A	Alternative Ventilation not Required
Plot 4	GF	S	44.8	14.8	-20.2	10	Standard thermal glazing	31.8	No	N/A	Alternative Ventilation not Required
Plot 4	GF	W	42.5	12.5	-22.5	8	Standard thermal glazing	29.5	No	N/A	Alternative Ventilation not Required
Plot 5 - 6	GF	S	45.8	15.8	-19.2	11	Standard thermal glazing	32.8	No	N/A	Alternative Ventilation not Required
Plot 5 - 6	GF	W	39.5	9.5	-25.5	5	Standard thermal glazing	26.5	No	N/A	Alternative Ventilation not Required
Plot 5 - 6	GF	N	39.3	9.3	-25.7	4	Standard thermal glazing	26.3	No	N/A	Alternative Ventilation not Required
Plot 7 - 8	GF	N	39.7	9.7	-25.3	5	Standard thermal glazing	26.7	No	N/A	Alternative Ventilation not Required
Plot 7 - 8	GF	E	40.9	10.9	-24.1	6	Standard thermal glazing	27.9	No	N/A	Alternative Ventilation not Required
Plot 7 - 8	GF	S	44.9	14.9	-20.1	10	Standard thermal glazing	31.9	No	N/A	Alternative Ventilation not Required
Plot 9	GF	S	45.3	15.3	-19.7	10	Standard thermal glazing	32.3	No	N/A	Alternative Ventilation not Required
Plot 9	GF	W	44.2	14.2	-20.8	9	Standard thermal glazing	31.2	No	N/A	Alternative Ventilation not Required
Plot 9	GF	N	39.7	9.7	-25.3	5	Standard thermal glazing	26.7	No	N/A	Alternative Ventilation not Required
Plot 10 - 21	GF	E	41.2	11.2	-23.8	6	Standard thermal glazing	28.2	No	N/A	Alternative Ventilation not Required
Plot 10 - 21	GF	N	40.1	10.1	-24.9	5	Standard thermal glazing	27.1	No	N/A	Alternative Ventilation not Required
Plot 10 - 21	GF	W	45.6	15.6	-19.4	11	Standard thermal glazing	32.6	No	N/A	Alternative Ventilation not Required
Plot 10 - 21	GF	S	46.3	16.3	-18.7	11	Standard thermal glazing	33.3	No	N/A	Alternative Ventilation not Required
Plot 22	GF	E	41.1	11.1	-23.9	6	Standard thermal glazing	28.1	No	N/A	Alternative Ventilation not Required
Plot 22	GF	S	49.8	19.8	-15.2	15	Standard thermal glazing	36.8	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 22	GF	W	52.2	22.2	-12.8	17	Standard thermal glazing	39.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 22	GF	N	40.7	10.7	-24.3	6	Standard thermal glazing	27.7	No	N/A	Alternative Ventilation not Required
Plot 23	GF	E	46.7	16.7	-18.3	12	Standard thermal glazing	33.7	No	N/A	Alternative Ventilation not Required
Plot 23	GF	N	42	12	-23	7	Standard thermal glazing	29	No	N/A	Alternative Ventilation not Required
Plot 23	GF	W	56.4	26.4	-8.6	21	Standard thermal glazing	43.4	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 23	GF	S	57.9	27.9	-7.1	23	Standard thermal glazing	44.9	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 24	GF	W	53.9	23.9	-11.1	19	Standard thermal glazing	40.9	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 24	GF	N	40.9	10.9	-24.1	6	Standard thermal glazing	27.9	No	N/A	Alternative Ventilation not Required
Plot 24	GF	E	45.6	15.6	-19.4	11	Standard thermal glazing	32.6	No	N/A	Alternative Ventilation not Required
Plot 24	GF	S	56.3	26.3	-8.7	21	Standard thermal glazing	43.3	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator

Plot 25	GF	N	40.6	10.6	-24.4	6	Standard thermal glazing	27.6	No	N/A	Alternative Ventilation not Required
Plot 25	GF	E	45.8	15.8	-19.2	11	Standard thermal glazing	32.8	No	N/A	Alternative Ventilation not Required
Plot 25	GF	S	54.6	24.6	-10.4	20	Standard thermal glazing	41.6	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 25	GF	W	49.6	19.6	-15.4	15	Standard thermal glazing	36.6	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 26	GF	W	50.3	20.3	-14.7	15	Standard thermal glazing	37.3	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 26	GF	N	40.3	10.3	-24.7	5	Standard thermal glazing	27.3	No	N/A	Alternative Ventilation not Required
Plot 26	GF	E	45	15	-20	10	Standard thermal glazing	32	No	N/A	Alternative Ventilation not Required
Plot 26	GF	S	53.2	23.2	-11.8	18	Standard thermal glazing	40.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 27 - 28	GF	W	55.2	25.2	-9.8	20	Standard thermal glazing	42.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 27 - 28	GF	N	42.4	12.4	-22.6	7	Standard thermal glazing	29.4	No	N/A	Alternative Ventilation not Required
Plot 27 - 28	GF	E	55.5	25.5	-9.5	21	Standard thermal glazing	42.5	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 27 - 28	GF	S	60.2	30.2	-4.8	25	Standard thermal glazing	47.2	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 29	GF	N	42	12	-23	7	Standard thermal glazing	29	No	N/A	Alternative Ventilation not Required
Plot 29	GF	E	55.1	25.1	-9.9	20	Standard thermal glazing	42.1	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 29	GF	S	59.4	29.4	-5.6	24	Standard thermal glazing	46.4	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 29	GF	W	54.5	24.5	-10.5	20	Standard thermal glazing	41.5	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 30 - 31	GF	N	40.5	10.5	-24.5	6	Standard thermal glazing	27.5	No	N/A	Alternative Ventilation not Required
Plot 30 - 31	GF	E	51.7	21.7	-13.3	17	Standard thermal glazing	38.7	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 30 - 31	GF	S	47	17	-18	12	Standard thermal glazing	34	No	N/A	Alternative Ventilation not Required
Plot 30 - 31	GF	W	44.7	14.7	-20.3	10	Standard thermal glazing	31.7	No	N/A	Alternative Ventilation not Required
Plot 32 - 33	GF	NE	40.4	10.4	-24.6	5	Standard thermal glazing	27.4	No	N/A	Alternative Ventilation not Required
Plot 32 - 33	GF	SE	45	15	-20	10	Standard thermal glazing	32	No	N/A	Alternative Ventilation not Required
Plot 32 - 33	GF	SW	47.6	17.6	-17.4	13	Standard thermal glazing	34.6	No	N/A	Alternative Ventilation not Required
Plot 32 - 33	GF	NW	44.9	14.9	-20.1	10	Standard thermal glazing	31.9	No	N/A	Alternative Ventilation not Required
Plot 34	GF	NE	40.8	10.8	-24.2	6	Standard thermal glazing	27.8	No	N/A	Alternative Ventilation not Required
Plot 34	GF	SE	44.3	14.3	-20.7	9	Standard thermal glazing	31.3	No	N/A	Alternative Ventilation not Required
Plot 34	GF	SW	53.9	23.9	-11.1	19	Standard thermal glazing	40.9	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 34	GF	NW	46.9	16.9	-18.1	12	Standard thermal glazing	33.9	No	N/A	Alternative Ventilation not Required
Plot 35 - 36	GF	W	56.4	26.4	-8.6	21	Standard thermal glazing	43.4	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 35 - 36	GF	N	44.8	14.8	-20.2	10	Standard thermal glazing	31.8	No	N/A	Alternative Ventilation not Required
Plot 35 - 36	GF	E	57.1	27.1	-7.9	22	Standard thermal glazing	44.1	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 35 - 36	GF	S	61	31	-4	26	Standard thermal glazing	48	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 37 - 40	GF	SE	55.5	25.5	-9.5	21	Standard thermal glazing	42.5	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 37 - 40	GF	SW	62.8	32.8	-2.2	28	Standard thermal glazing	49.8	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 37 - 40	GF	NW	59.5	29.5	-5.5	25	Standard thermal glazing	46.5	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 37 - 40	GF	NE	44.2	14.2	-20.8	9	Standard thermal glazing	31.2	No	N/A	Alternative Ventilation not Required
Plot 41 - 42	GF	E	58	28	-7	23	Standard thermal glazing	45	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 41 - 42	GF	N	43	13	-22	8	Standard thermal glazing	30	No	N/A	Alternative Ventilation not Required
Plot 41 - 42	GF	W	59.1	29.1	-5.9	24	Standard thermal glazing	46.1	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 41 - 42	GF	S	61.9	31.9	-3.1	27	Standard thermal glazing	48.9	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 43	GF	SE	50.4	20.4	-14.6	15	Standard thermal glazing	37.4	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 43	GF	SW	52.7	22.7	-12.3	18	Standard thermal glazing	39.7	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 43	GF	NW	49.2	19.2	-15.8	14	Standard thermal glazing	36.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 44 - 45	GF	NE	40.4	10.4	-24.6	5	Standard thermal glazing	27.4	No	N/A	Alternative Ventilation not Required
Plot 44 - 45	GF	SE	46.3	16.3	-18.7	11	Standard thermal glazing	33.3	No	N/A	Alternative Ventilation not Required
Plot 44 - 45	GF	SW	49.5	19.5	-15.5	15	Standard thermal glazing	36.5	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator

Plot 44 - 45	GF	NW	45.1	15.1	-19.9	10	Standard thermal glazing	32.1	No	N/A	Alternative Ventilation not Required
Plot 46 - 48	GF	NE	40.5	10.5	-24.5	6	Standard thermal glazing	27.5	No	N/A	Alternative Ventilation not Required
Plot 46 - 48	GF	SE	44.4	14.4	-20.6	9	Standard thermal glazing	31.4	No	N/A	Alternative Ventilation not Required
Plot 46 - 48	GF	SW	52.1	22.1	-12.9	17	Standard thermal glazing	39.1	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 46 - 48	GF	NW	53.3	23.3	-11.7	18	Standard thermal glazing	40.3	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 49 - 51	GF	NE	41.5	11.5	-23.5	7	Standard thermal glazing	28.5	No	N/A	Alternative Ventilation not Required
Plot 49 - 51	GF	SE	47.3	17.3	-17.7	12	Standard thermal glazing	34.3	No	N/A	Alternative Ventilation not Required
Plot 49 - 51	GF	SW	54.7	24.7	-10.3	20	Standard thermal glazing	41.7	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 49 - 51	GF	NW	56.2	26.2	-8.8	21	Standard thermal glazing	43.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 52 - 55	GF	NE	39.8	9.8	-25.2	5	Standard thermal glazing	26.8	No	N/A	Alternative Ventilation not Required
Plot 52 - 55	GF	SE	46.6	16.6	-18.4	12	Standard thermal glazing	33.6	No	N/A	Alternative Ventilation not Required
Plot 54 - 64	GF	NE	39.9	9.9	-25.1	5	Standard thermal glazing	26.9	No	N/A	Alternative Ventilation not Required
Plot 54 - 64	GF	NW	48.1	18.1	-16.9	13	Standard thermal glazing	35.1	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 54 - 64	GF	SW	47	17	-18	12	Standard thermal glazing	34	No	N/A	Alternative Ventilation not Required
Plot 54 - 64	GF	SE	45.8	15.8	-19.2	11	Standard thermal glazing	32.8	No	N/A	Alternative Ventilation not Required
Plot 54 - 64	GF	SW	47.7	17.7	-17.3	13	Standard thermal glazing	34.7	No	N/A	Alternative Ventilation not Required
Plot 65	GF	E	42.7	12.7	-22.3	8	Standard thermal glazing	29.7	No	N/A	Alternative Ventilation not Required
Plot 65	GF	S	51.8	21.8	-13.2	17	Standard thermal glazing	38.8	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 65	GF	W	52.3	22.3	-12.7	17	Standard thermal glazing	39.3	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 65	GF	N	43.7	13.7	-21.3	9	Standard thermal glazing	30.7	No	N/A	Alternative Ventilation not Required
Plot 66 - 67	GF	SE	54.9	24.9	-10.1	20	Standard thermal glazing	41.9	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 66 - 67	GF	NE	43.1	13.1	-21.9	8	Standard thermal glazing	30.1	No	N/A	Alternative Ventilation not Required
Plot 66 - 67	GF	NW	47.5	17.5	-17.5	13	Standard thermal glazing	34.5	No	N/A	Alternative Ventilation not Required
Plot 66 - 67	GF	W	52.7	22.7	-12.3	18	Standard thermal glazing	39.7	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 68	GF	SE	45.2	15.2	-19.8	10	Standard thermal glazing	32.2	No	N/A	Alternative Ventilation not Required
Plot 68	GF	SW	50	20	-15	15	Standard thermal glazing	37	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 68	GF	NE	41.7	11.7	-23.3	7	Standard thermal glazing	28.7	No	N/A	Alternative Ventilation not Required
Plot 69 - 70	GF	NE	43.1	13.1	-21.9	8	Standard thermal glazing	30.1	No	N/A	Alternative Ventilation not Required
Plot 69 - 70	GF	SE	-88	-118	-153	-123	Standard thermal glazing	-101	No	N/A	Alternative Ventilation not Required
Plot 69 - 70	GF	SW	50.9	20.9	-14.1	16	Standard thermal glazing	37.9	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 69 - 70	GF	NW	43.3	13.3	-21.7	8	Standard thermal glazing	30.3	No	N/A	Alternative Ventilation not Required
Plot 71 - 72	GF	NE	43.8	13.8	-21.2	9	Standard thermal glazing	30.8	No	N/A	Alternative Ventilation not Required
Plot 71 - 72	GF	SE	45.7	15.7	-19.3	11	Standard thermal glazing	32.7	No	N/A	Alternative Ventilation not Required
Plot 71 - 72	GF	SW	50.6	20.6	-14.4	16	Standard thermal glazing	37.6	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 71 - 72	GF	NW	49	19	-16	14	Standard thermal glazing	36	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 73 - 75	GF	NE	43.3	13.3	-21.7	8	Standard thermal glazing	30.3	No	N/A	Alternative Ventilation not Required
Plot 73 - 75	GF	SE	53.3	23.3	-11.7	18	Standard thermal glazing	40.3	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 73 - 75	GF	SW	64	34	-1	29	Standard thermal glazing	51	Yes	ADF System 4	MVHR without Trickle Ventilators
Plot 73 - 75	GF	NW	56.6	26.6	-8.4	22	Standard thermal glazing	43.6	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 76 - 78	GF	NE	43.6	13.6	-21.4	9	Standard thermal glazing	30.6	No	N/A	Alternative Ventilation not Required
Plot 76 - 78	GF	SE	60.1	30.1	-4.9	25	Standard thermal glazing	47.1	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 76 - 78	GF	SW	64.4	34.4	-0.6	29	Standard thermal glazing	51.4	Yes	ADF System 4	MVHR without Trickle Ventilators
Plot 76 - 78	GF	NW	59.1	29.1	-5.9	24	Standard thermal glazing	46.1	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 79 - 80	GF	NE	42.4	12.4	-22.6	7	Standard thermal glazing	29.4	No	N/A	Alternative Ventilation not Required
Plot 79 - 80	GF	SE	56.4	26.4	-8.6	21	Standard thermal glazing	43.4	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 79 - 80	GF	SW	57.9	27.9	-7.1	23	Standard thermal glazing	44.9	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator

Plot 79 - 80	GF	NW	53.8	23.8	-11.2	19	Standard thermal glazing	40.8	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 81 - 82	GF	SE	49.5	19.5	-15.5	15	Standard thermal glazing	36.5	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 81 - 82	GF	SW	51.3	21.3	-13.7	16	Standard thermal glazing	38.3	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 81 - 82	GF	NW	42.9	12.9	-22.1	8	Standard thermal glazing	29.9	No	N/A	Alternative Ventilation not Required
Plot 81 - 82	GF	NE	44.4	14.4	-20.6	9	Standard thermal glazing	31.4	No	N/A	Alternative Ventilation not Required
Plot 83 - 88	GF	NE	45.6	15.6	-19.4	11	Standard thermal glazing	32.6	No	N/A	Alternative Ventilation not Required
Plot 83 - 88	GF	N	51.2	21.2	-13.8	16	Standard thermal glazing	38.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	GF	NW	54.6	24.6	-10.4	20	Standard thermal glazing	41.6	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	GF	W	53.6	23.6	-11.4	19	Standard thermal glazing	40.6	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	GF	S	48.3	18.3	-16.7	13	Standard thermal glazing	35.3	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	GF	S	48.4	18.4	-16.6	13	Standard thermal glazing	35.4	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 89 - 90	GF	NE	46.9	16.9	-18.1	12	Standard thermal glazing	33.9	No	N/A	Alternative Ventilation not Required
Plot 89 - 90	GF	SE	49.4	19.4	-15.6	14	Standard thermal glazing	36.4	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 89 - 90	GF	SW	53.5	23.5	-11.5	19	Standard thermal glazing	40.5	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 89 - 90	GF	NW	56.4	26.4	-8.6	21	Standard thermal glazing	43.4	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 91	GF	NE	47.8	17.8	-17.2	13	Standard thermal glazing	34.8	No	N/A	Alternative Ventilation not Required
Plot 91	GF	SE	51.7	21.7	-13.3	17	Standard thermal glazing	38.7	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 91	GF	SW	57.4	27.4	-7.6	22	Standard thermal glazing	44.4	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 91	GF	NW	58	28	-7	23	Standard thermal glazing	45	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 92	GF	NE	51.1	21.1	-13.9	16	Standard thermal glazing	38.1	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 92	GF	SE	53.2	23.2	-11.8	18	Standard thermal glazing	40.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 92	GF	SW	54.1	24.1	-10.9	19	Standard thermal glazing	41.1	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 92	GF	NW	60.6	30.6	-4.4	26	Standard thermal glazing	47.6	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 93	GF	NE	52.5	22.5	-12.5	18	Standard thermal glazing	39.5	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 93	GF	SE	53.7	23.7	-11.3	19	Standard thermal glazing	40.7	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 93	GF	SW	65.8	35.8	0.8	31	Upgraded glazing	52.8	Yes	ADF System 4	MVHR without Trickle Ventilators
Plot 93	GF	NW	62.5	32.5	-2.5	28	Standard thermal glazing	49.5	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 94	GF	E	44.9	14.9	-20.1	10	Standard thermal glazing	31.9	No	N/A	Alternative Ventilation not Required
Plot 94	GF	S	46.2	16.2	-18.8	11	Standard thermal glazing	33.2	No	N/A	Alternative Ventilation not Required
Plot 94	GF	W	53.7	23.7	-11.3	19	Standard thermal glazing	40.7	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 94	GF	N	52.7	22.7	-12.3	18	Standard thermal glazing	39.7	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 95 - 96	GF	S	42.7	12.7	-22.3	8	Standard thermal glazing	29.7	No	N/A	Alternative Ventilation not Required
Plot 95 - 96	GF	E	44.5	14.5	-20.5	10	Standard thermal glazing	31.5	No	N/A	Alternative Ventilation not Required
Plot 95 - 96	GF	N	47.5	17.5	-17.5	13	Standard thermal glazing	34.5	No	N/A	Alternative Ventilation not Required
Plot 95 - 96	GF	W	53.1	23.1	-11.9	18	Standard thermal glazing	40.1	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 97 - 105	GF	NE	43.6	13.6	-21.4	9	Standard thermal glazing	30.6	No	N/A	Alternative Ventilation not Required
Plot 97 - 105	GF	NW	46.3	16.3	-18.7	11	Standard thermal glazing	33.3	No	N/A	Alternative Ventilation not Required
Plot 97 - 105	GF	SW	51.8	21.8	-13.2	17	Standard thermal glazing	38.8	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 97 - 105	GF	S	47.4	17.4	-17.6	12	Standard thermal glazing	34.4	No	N/A	Alternative Ventilation not Required
Plot 97 - 105	GF	E	40.6	10.6	-24.4	6	Standard thermal glazing	27.6	No	N/A	Alternative Ventilation not Required
Plot 97 - 105	GF	N	43	13	-22	8	Standard thermal glazing	30	No	N/A	Alternative Ventilation not Required
Plot 106 - 107	GF	N	42.4	12.4	-22.6	7	Standard thermal glazing	29.4	No	N/A	Alternative Ventilation not Required
Plot 106 - 107	GF	W	41.4	11.4	-23.6	6	Standard thermal glazing	28.4	No	N/A	Alternative Ventilation not Required
Plot 106 - 107	GF	S	45.4	15.4	-19.6	10	Standard thermal glazing	32.4	No	N/A	Alternative Ventilation not Required
Plot 108 - 109	GF	NE	40	10	-25	5	Standard thermal glazing	27	No	N/A	Alternative Ventilation not Required
Plot 108 - 109	GF	SE	43.1	13.1	-21.9	8	Standard thermal glazing	30.1	No	N/A	Alternative Ventilation not Required

Plot 108 - 109	GF	SW	46.2	16.2	-18.8	11	Standard thermal glazing	33.2	No	N/A	Alternative Ventilation not Required
Plot 108 - 109	GF	NW	40.3	10.3	-24.7	5	Standard thermal glazing	27.3	No	N/A	Alternative Ventilation not Required
Plot 110	GF	NE	46.3	16.3	-18.7	11	Standard thermal glazing	33.3	No	N/A	Alternative Ventilation not Required
Plot 110	GF	SE	41.5	11.5	-23.5	7	Standard thermal glazing	28.5	No	N/A	Alternative Ventilation not Required
Plot 110	GF	SW	44.5	14.5	-20.5	10	Standard thermal glazing	31.5	No	N/A	Alternative Ventilation not Required
Plot 110	GF	NW	43.1	13.1	-21.9	8	Standard thermal glazing	30.1	No	N/A	Alternative Ventilation not Required
Plot 111 - 112	GF	SE	40.6	10.6	-24.4	6	Standard thermal glazing	27.6	No	N/A	Alternative Ventilation not Required
Plot 111 - 112	GF	SW	44.9	14.9	-20.1	10	Standard thermal glazing	31.9	No	N/A	Alternative Ventilation not Required
Plot 111 - 112	GF	NW	46.3	16.3	-18.7	11	Standard thermal glazing	33.3	No	N/A	Alternative Ventilation not Required
Plot 111 - 112	GF	NE	46.8	16.8	-18.2	12	Standard thermal glazing	33.8	No	N/A	Alternative Ventilation not Required
Plot 113	GF	SE	41.5	11.5	-23.5	7	Standard thermal glazing	28.5	No	N/A	Alternative Ventilation not Required
Plot 113	GF	SW	44.5	14.5	-20.5	10	Standard thermal glazing	31.5	No	N/A	Alternative Ventilation not Required
Plot 113	GF	NW	46.1	16.1	-18.9	11	Standard thermal glazing	33.1	No	N/A	Alternative Ventilation not Required
Plot 113	GF	NE	48.1	18.1	-16.9	13	Standard thermal glazing	35.1	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 114	GF	E	40.9	10.9	-24.1	6	Standard thermal glazing	27.9	No	N/A	Alternative Ventilation not Required
Plot 114	GF	S	45.6	15.6	-19.4	11	Standard thermal glazing	32.6	No	N/A	Alternative Ventilation not Required
Plot 114	GF	W	47.3	17.3	-17.7	12	Standard thermal glazing	34.3	No	N/A	Alternative Ventilation not Required
Plot 114	GF	N	49.2	19.2	-15.8	14	Standard thermal glazing	36.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 115	GF	E	42.4	12.4	-22.6	7	Standard thermal glazing	29.4	No	N/A	Alternative Ventilation not Required
Plot 115	GF	S	46.5	16.5	-18.5	12	Standard thermal glazing	33.5	No	N/A	Alternative Ventilation not Required
Plot 115	GF	W	52.1	22.1	-12.9	17	Standard thermal glazing	39.1	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 115	GF	N	50.2	20.2	-14.8	15	Standard thermal glazing	37.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 116	GF	NE	44.5	14.5	-20.5	10	Standard thermal glazing	31.5	No	N/A	Alternative Ventilation not Required
Plot 116	GF	SE	43.7	13.7	-21.3	9	Standard thermal glazing	30.7	No	N/A	Alternative Ventilation not Required
Plot 116	GF	SW	45.8	15.8	-19.2	11	Standard thermal glazing	32.8	No	N/A	Alternative Ventilation not Required
Plot 116	GF	NW	41.9	11.9	-23.1	7	Standard thermal glazing	28.9	No	N/A	Alternative Ventilation not Required
Plot 117	GF	NE	44.7	14.7	-20.3	10	Standard thermal glazing	31.7	No	N/A	Alternative Ventilation not Required
Plot 117	GF	SE	41.7	11.7	-23.3	7	Standard thermal glazing	28.7	No	N/A	Alternative Ventilation not Required
Plot 117	GF	SW	45.1	15.1	-19.9	10	Standard thermal glazing	32.1	No	N/A	Alternative Ventilation not Required
Plot 117	GF	NW	41.9	11.9	-23.1	7	Standard thermal glazing	28.9	No	N/A	Alternative Ventilation not Required
Plot 118	GF	NE	44.9	14.9	-20.1	10	Standard thermal glazing	31.9	No	N/A	Alternative Ventilation not Required
Plot 118	GF	SE	41.7	11.7	-23.3	7	Standard thermal glazing	28.7	No	N/A	Alternative Ventilation not Required
Plot 118	GF	SW	44.8	14.8	-20.2	10	Standard thermal glazing	31.8	No	N/A	Alternative Ventilation not Required
Plot 118	GF	NW	45.1	15.1	-19.9	10	Standard thermal glazing	32.1	No	N/A	Alternative Ventilation not Required
Plot 119	GF	SE	42	12	-23	7	Standard thermal glazing	29	No	N/A	Alternative Ventilation not Required
Plot 119	GF	SW	44.6	14.6	-20.4	10	Standard thermal glazing	31.6	No	N/A	Alternative Ventilation not Required
Plot 119	GF	NW	45.8	15.8	-19.2	11	Standard thermal glazing	32.8	No	N/A	Alternative Ventilation not Required
Plot 119	GF	NE	45.3	15.3	-19.7	10	Standard thermal glazing	32.3	No	N/A	Alternative Ventilation not Required
Plot 120	GF	NE	45	15	-20	10	Standard thermal glazing	32	No	N/A	Alternative Ventilation not Required
Plot 120	GF	SE	42.2	12.2	-22.8	7	Standard thermal glazing	29.2	No	N/A	Alternative Ventilation not Required
Plot 120	GF	SW	43.7	13.7	-21.3	9	Standard thermal glazing	30.7	No	N/A	Alternative Ventilation not Required
Plot 120	GF	NW	45.6	15.6	-19.4	11	Standard thermal glazing	32.6	No	N/A	Alternative Ventilation not Required
Plot 121	GF	NE	38	8	-27	3	Standard thermal glazing	25	No	N/A	Alternative Ventilation not Required
Plot 121	GF	SE	42.7	12.7	-22.3	8	Standard thermal glazing	29.7	No	N/A	Alternative Ventilation not Required
Plot 121	GF	SW	45.7	15.7	-19.3	11	Standard thermal glazing	32.7	No	N/A	Alternative Ventilation not Required
Plot 121	GF	NW	44.1	14.1	-20.9	9	Standard thermal glazing	31.1	No	N/A	Alternative Ventilation not Required

Plot 122 - 124	GF	NE	38.9	8.9	-26.1	4	Standard thermal glazing	25.9	No	N/A	Alternative Ventilation not Required
Plot 122 - 124	GF	SW	48.2	18.2	-16.8	13	Standard thermal glazing	35.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 122 - 124	GF	NW	45.3	15.3	-19.7	10	Standard thermal glazing	32.3	No	N/A	Alternative Ventilation not Required
Plot 125 - 126	GF	NE	39.2	9.2	-25.8	4	Standard thermal glazing	26.2	No	N/A	Alternative Ventilation not Required
Plot 125 - 126	GF	SE	41.7	11.7	-23.3	7	Standard thermal glazing	28.7	No	N/A	Alternative Ventilation not Required
Plot 125 - 126	GF	SW	48.8	18.8	-16.2	14	Standard thermal glazing	35.8	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 125 - 126	GF	NW	41.3	11.3	-23.7	6	Standard thermal glazing	28.3	No	N/A	Alternative Ventilation not Required
Plot 127 - 128	GF	NE	39	9	-26	4	Standard thermal glazing	26	No	N/A	Alternative Ventilation not Required
Plot 127 - 128	GF	SW	50.2	20.2	-14.8	15	Standard thermal glazing	37.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 127 - 128	GF	NW	41.9	11.9	-23.1	7	Standard thermal glazing	28.9	No	N/A	Alternative Ventilation not Required
Plot 129 - 130	GF	NE	38.7	8.7	-26.3	4	Standard thermal glazing	25.7	No	N/A	Alternative Ventilation not Required
Plot 129 - 130	GF	SE	48.6	18.6	-16.4	14	Standard thermal glazing	35.6	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 129 - 130	GF	SW	50.7	20.7	-14.3	16	Standard thermal glazing	37.7	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 129 - 130	GF	SW	50.5	20.5	-14.5	16	Standard thermal glazing	37.5	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 129 - 130	GF	NE	38.8	8.8	-26.2	4	Standard thermal glazing	25.8	No	N/A	Alternative Ventilation not Required
Plot 131 - 132	GF	SW	51.1	21.1	-13.9	16	Standard thermal glazing	38.1	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 131 - 132	GF	NW	45	15	-20	10	Standard thermal glazing	32	No	N/A	Alternative Ventilation not Required
Plot 131 - 132	GF	NE	38.8	8.8	-26.2	4	Standard thermal glazing	25.8	No	N/A	Alternative Ventilation not Required
Plot 133 - 136	GF	SW	51.8	21.8	-13.2	17	Standard thermal glazing	38.8	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 133 - 136	GF	NE	38.8	8.8	-26.2	4	Standard thermal glazing	25.8	No	N/A	Alternative Ventilation not Required
Plot 137 - 140	GF	NE	38.9	8.9	-26.1	4	Standard thermal glazing	25.9	No	N/A	Alternative Ventilation not Required
Plot 137 - 140	GF	SE	43.2	13.2	-21.8	8	Standard thermal glazing	30.2	No	N/A	Alternative Ventilation not Required
Plot 137 - 140	GF	SW	49.1	19.1	-15.9	14	Standard thermal glazing	36.1	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 137 - 140	GF	SW	51	21	-14	16	Standard thermal glazing	38	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 141 - 142	GF	NE	37.4	7.4	-27.6	2	Standard thermal glazing	24.4	No	N/A	Alternative Ventilation not Required
Plot 141 - 142	GF	SE	41.1	11.1	-23.9	6	Standard thermal glazing	28.1	No	N/A	Alternative Ventilation not Required
Plot 141 - 142	GF	SW	42.7	12.7	-22.3	8	Standard thermal glazing	29.7	No	N/A	Alternative Ventilation not Required
Plot 141 - 142	GF	NW	44.3	14.3	-20.7	9	Standard thermal glazing	31.3	No	N/A	Alternative Ventilation not Required
Plot 143	GF	NW	45.3	15.3	-19.7	10	Standard thermal glazing	32.3	No	N/A	Alternative Ventilation not Required
Plot 143	GF	SW	40	10	-25	5	Standard thermal glazing	27	No	N/A	Alternative Ventilation not Required
Plot 143	GF	SE	41.8	11.8	-23.2	7	Standard thermal glazing	28.8	No	N/A	Alternative Ventilation not Required
Plot 143	GF	NE	43.4	13.4	-21.6	8	Standard thermal glazing	30.4	No	N/A	Alternative Ventilation not Required
Plot 144 - 145	GF	NE	42.3	12.3	-22.7	7	Standard thermal glazing	29.3	No	N/A	Alternative Ventilation not Required
Plot 144 - 145	GF	SE	41.6	11.6	-23.4	7	Standard thermal glazing	28.6	No	N/A	Alternative Ventilation not Required
Plot 144 - 145	GF	SW	44	14	-21	9	Standard thermal glazing	31	No	N/A	Alternative Ventilation not Required
Plot 144 - 145	GF	NW	42.7	12.7	-22.3	8	Standard thermal glazing	29.7	No	N/A	Alternative Ventilation not Required
Plot 146	GF	SE	40.6	10.6	-24.4	6	Standard thermal glazing	27.6	No	N/A	Alternative Ventilation not Required
Plot 146	GF	SW	44.9	14.9	-20.1	10	Standard thermal glazing	31.9	No	N/A	Alternative Ventilation not Required
Plot 146	GF	NW	43	13	-22	8	Standard thermal glazing	30	No	N/A	Alternative Ventilation not Required
Plot 146	GF	NE	42.8	12.8	-22.2	8	Standard thermal glazing	29.8	No	N/A	Alternative Ventilation not Required
Plot 147	GF	SE	41	11	-24	6	Standard thermal glazing	28	No	N/A	Alternative Ventilation not Required
Plot 147	GF	SW	44.9	14.9	-20.1	10	Standard thermal glazing	31.9	No	N/A	Alternative Ventilation not Required
Plot 147	GF	NW	43.5	13.5	-21.5	9	Standard thermal glazing	30.5	No	N/A	Alternative Ventilation not Required
Plot 147	GF	NE	42.7	12.7	-22.3	8	Standard thermal glazing	29.7	No	N/A	Alternative Ventilation not Required
Plot 148	GF	NW	42.5	12.5	-22.5	8	Standard thermal glazing	29.5	No	N/A	Alternative Ventilation not Required
Plot 148	GF	S	43.3	13.3	-21.7	8	Standard thermal glazing	30.3	No	N/A	Alternative Ventilation not Required

Plot 148	GF	SE	38.8	8.8	-26.2	4	Standard thermal glazing	25.8	No	N/A	Alternative Ventilation not Required
Plot 148	GF	N	41.9	11.9	-23.1	7	Standard thermal glazing	28.9	No	N/A	Alternative Ventilation not Required
Plot 149	GF	SE	40.2	10.2	-24.8	5	Standard thermal glazing	27.2	No	N/A	Alternative Ventilation not Required
Plot 149	GF	SW	43.6	13.6	-21.4	9	Standard thermal glazing	30.6	No	N/A	Alternative Ventilation not Required
Plot 149	GF	NW	42.1	12.1	-22.9	7	Standard thermal glazing	29.1	No	N/A	Alternative Ventilation not Required
Plot 149	GF	N	42.5	12.5	-22.5	8	Standard thermal glazing	29.5	No	N/A	Alternative Ventilation not Required
Plot 150 - 151	GF	E	40.2	10.2	-24.8	5	Standard thermal glazing	27.2	No	N/A	Alternative Ventilation not Required
Plot 150 - 151	GF	S	44.8	14.8	-20.2	10	Standard thermal glazing	31.8	No	N/A	Alternative Ventilation not Required
Plot 150 - 151	GF	W	43.4	13.4	-21.6	8	Standard thermal glazing	30.4	No	N/A	Alternative Ventilation not Required
Plot 150 - 151	GF	N	43.2	13.2	-21.8	8	Standard thermal glazing	30.2	No	N/A	Alternative Ventilation not Required
Plot 152	GF	E	40.7	10.7	-24.3	6	Standard thermal glazing	27.7	No	N/A	Alternative Ventilation not Required
Plot 152	GF	S	43.1	13.1	-21.9	8	Standard thermal glazing	30.1	No	N/A	Alternative Ventilation not Required
Plot 152	GF	W	44.7	14.7	-20.3	10	Standard thermal glazing	31.7	No	N/A	Alternative Ventilation not Required
Plot 152	GF	N	43.3	13.3	-21.7	8	Standard thermal glazing	30.3	No	N/A	Alternative Ventilation not Required
Plot 153 - 164	GF	SE	48	18	-17	13	Standard thermal glazing	35	No	N/A	Alternative Ventilation not Required
Plot 153 - 164	GF	SW	49.6	19.6	-15.4	15	Standard thermal glazing	36.6	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 153 - 164	GF	NW	46.2	16.2	-18.8	11	Standard thermal glazing	33.2	No	N/A	Alternative Ventilation not Required
Plot 153 - 164	GF	NE	40.2	10.2	-24.8	5	Standard thermal glazing	27.2	No	N/A	Alternative Ventilation not Required
Plot 165 - 166	GF	NE	38.6	8.6	-26.4	4	Standard thermal glazing	25.6	No	N/A	Alternative Ventilation not Required
Plot 165 - 166	GF	S	45.1	15.1	-19.9	10	Standard thermal glazing	32.1	No	N/A	Alternative Ventilation not Required
Plot 165 - 166	GF	NW	41.8	11.8	-23.2	7	Standard thermal glazing	28.8	No	N/A	Alternative Ventilation not Required
Plot 167 - 168	GF	NE	38.5	8.5	-26.5	4	Standard thermal glazing	25.5	No	N/A	Alternative Ventilation not Required
Plot 167 - 168	GF	SE	40	10	-25	5	Standard thermal glazing	27	No	N/A	Alternative Ventilation not Required
Plot 167 - 168	GF	SW	43.9	13.9	-21.1	9	Standard thermal glazing	30.9	No	N/A	Alternative Ventilation not Required
Plot 169 - 170	GF	N	39.2	9.2	-25.8	4	Standard thermal glazing	26.2	No	N/A	Alternative Ventilation not Required
Plot 169 - 170	GF	E	39.3	9.3	-25.7	4	Standard thermal glazing	26.3	No	N/A	Alternative Ventilation not Required
Plot 169 - 170	GF	S	43.7	13.7	-21.3	9	Standard thermal glazing	30.7	No	N/A	Alternative Ventilation not Required
Plot 169 - 170	GF	W	40.3	10.3	-24.7	5	Standard thermal glazing	27.3	No	N/A	Alternative Ventilation not Required
Plot 171 - 172	GF	N	39	9	-26	4	Standard thermal glazing	26	No	N/A	Alternative Ventilation not Required
Plot 171 - 172	GF	S	43.4	13.4	-21.6	8	Standard thermal glazing	30.4	No	N/A	Alternative Ventilation not Required
Plot 171 - 172	GF	W	39	9	-26	4	Standard thermal glazing	26	No	N/A	Alternative Ventilation not Required
Plot 173 - 174	GF	N	38.9	8.9	-26.1	4	Standard thermal glazing	25.9	No	N/A	Alternative Ventilation not Required
Plot 173 - 174	GF	E	41.6	11.6	-23.4	7	Standard thermal glazing	28.6	No	N/A	Alternative Ventilation not Required
Plot 173 - 174	GF	S	43.8	13.8	-21.2	9	Standard thermal glazing	30.8	No	N/A	Alternative Ventilation not Required
Plot 175	GF	E	44.2	14.2	-20.8	9	Standard thermal glazing	31.2	No	N/A	Alternative Ventilation not Required
Plot 175	GF	S	45.3	15.3	-19.7	10	Standard thermal glazing	32.3	No	N/A	Alternative Ventilation not Required
Plot 175	GF	W	42.8	12.8	-22.2	8	Standard thermal glazing	29.8	No	N/A	Alternative Ventilation not Required
Plot 175	GF	N	37.6	7.6	-27.4	3	Standard thermal glazing	24.6	No	N/A	Alternative Ventilation not Required
Plot 176	GF	S	42.3	12.3	-22.7	7	Standard thermal glazing	29.3	No	N/A	Alternative Ventilation not Required
Plot 176	GF	W	41.9	11.9	-23.1	7	Standard thermal glazing	28.9	No	N/A	Alternative Ventilation not Required
Plot 176	GF	N	37.9	7.9	-27.1	3	Standard thermal glazing	24.9	No	N/A	Alternative Ventilation not Required
Plot 176	GF	E	44.5	14.5	-20.5	10	Standard thermal glazing	31.5	No	N/A	Alternative Ventilation not Required
Plot 177	GF	S	41.3	11.3	-23.7	6	Standard thermal glazing	28.3	No	N/A	Alternative Ventilation not Required
Plot 177	GF	W	42.2	12.2	-22.8	7	Standard thermal glazing	29.2	No	N/A	Alternative Ventilation not Required
Plot 177	GF	N	39.6	9.6	-25.4	5	Standard thermal glazing	26.6	No	N/A	Alternative Ventilation not Required
Plot 177	GF	E	42.8	12.8	-22.2	8	Standard thermal glazing	29.8	No	N/A	Alternative Ventilation not Required

Plot 178	GF	NW	42.4	12.4	-22.6	7	Standard thermal glazing	29.4	No	N/A	Alternative Ventilation not Required
Plot 178	GF	S	42.6	12.6	-22.4	8	Standard thermal glazing	29.6	No	N/A	Alternative Ventilation not Required
Plot 178	GF	SE	39.3	9.3	-25.7	4	Standard thermal glazing	26.3	No	N/A	Alternative Ventilation not Required
Plot 178	GF	NE	40.9	10.9	-24.1	6	Standard thermal glazing	27.9	No	N/A	Alternative Ventilation not Required
Plot 179	GF	E	39.7	9.7	-25.3	5	Standard thermal glazing	26.7	No	N/A	Alternative Ventilation not Required
Plot 179	GF	S	42.5	12.5	-22.5	8	Standard thermal glazing	29.5	No	N/A	Alternative Ventilation not Required
Plot 179	GF	W	41.5	11.5	-23.5	7	Standard thermal glazing	28.5	No	N/A	Alternative Ventilation not Required
Plot 179	GF	N	41.6	11.6	-23.4	7	Standard thermal glazing	28.6	No	N/A	Alternative Ventilation not Required
Plot 180	GF	N	41.5	11.5	-23.5	7	Standard thermal glazing	28.5	No	N/A	Alternative Ventilation not Required
Plot 180	GF	W	41.6	11.6	-23.4	7	Standard thermal glazing	28.6	No	N/A	Alternative Ventilation not Required
Plot 180	GF	S	42.9	12.9	-22.1	8	Standard thermal glazing	29.9	No	N/A	Alternative Ventilation not Required
Plot 180	GF	E	39.8	9.8	-25.2	5	Standard thermal glazing	26.8	No	N/A	Alternative Ventilation not Required
Plot 181	GF	SE	39.9	9.9	-25.1	5	Standard thermal glazing	26.9	No	N/A	Alternative Ventilation not Required
Plot 181	GF	S	43.2	13.2	-21.8	8	Standard thermal glazing	30.2	No	N/A	Alternative Ventilation not Required
Plot 181	GF	NW	39.3	9.3	-25.7	4	Standard thermal glazing	26.3	No	N/A	Alternative Ventilation not Required
Plot 181	GF	NE	41.5	11.5	-23.5	7	Standard thermal glazing	28.5	No	N/A	Alternative Ventilation not Required
Plot 10 - 21	1st	E	44.3	14.3	-20.7	9	Standard thermal glazing	31.3	No	N/A	Alternative Ventilation not Required
Plot 10 - 21	1st	N	42.8	12.8	-22.2	8	Standard thermal glazing	29.8	No	N/A	Alternative Ventilation not Required
Plot 10 - 21	1st	W	47.6	17.6	-17.4	13	Standard thermal glazing	34.6	No	N/A	Alternative Ventilation not Required
Plot 10 - 21	1st	S	49.2	19.2	-15.8	14	Standard thermal glazing	36.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 52 - 55	1st	NE	43.1	13.1	-21.9	8	Standard thermal glazing	30.1	No	N/A	Alternative Ventilation not Required
Plot 52 - 55	1st	SE	48.8	18.8	-16.2	14	Standard thermal glazing	35.8	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 52 - 55	1st	SW	50	20	-15	15	Standard thermal glazing	37	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 52 - 55	1st	NW	48	18	-17	13	Standard thermal glazing	35	No	N/A	Alternative Ventilation not Required
Plot 54 - 64	1st	NE	43.3	13.3	-21.7	8	Standard thermal glazing	30.3	No	N/A	Alternative Ventilation not Required
Plot 54 - 64	1st	NW	49.8	19.8	-15.2	15	Standard thermal glazing	36.8	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 54 - 64	1st	SW	50	20	-15	15	Standard thermal glazing	37	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 54 - 64	1st	SE	48.3	18.3	-16.7	13	Standard thermal glazing	35.3	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 54 - 64	1st	SW	49.9	19.9	-15.1	15	Standard thermal glazing	36.9	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	1st	NE	47.3	17.3	-17.7	12	Standard thermal glazing	34.3	No	N/A	Alternative Ventilation not Required
Plot 83 - 88	1st	N	52.6	22.6	-12.4	18	Standard thermal glazing	39.6	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	1st	NW	55.9	25.9	-9.1	21	Standard thermal glazing	42.9	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	1st	W	55	25	-10	20	Standard thermal glazing	42	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	1st	S	50.3	20.3	-14.7	15	Standard thermal glazing	37.3	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	1st	S	50.4	20.4	-14.6	15	Standard thermal glazing	37.4	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 97 - 105	1st	NE	45.8	15.8	-19.2	11	Standard thermal glazing	32.8	No	N/A	Alternative Ventilation not Required
Plot 97 - 105	1st	NW	48.2	18.2	-16.8	13	Standard thermal glazing	35.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 97 - 105	1st	SW	53.2	23.2	-11.8	18	Standard thermal glazing	40.2	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 97 - 105	1st	S	49.4	19.4	-15.6	14	Standard thermal glazing	36.4	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 97 - 105	1st	E	43.3	13.3	-21.7	8	Standard thermal glazing	30.3	No	N/A	Alternative Ventilation not Required
Plot 97 - 105	1st	N	46.1	16.1	-18.9	11	Standard thermal glazing	33.1	No	N/A	Alternative Ventilation not Required
Plot 153 - 164	1st	SE	50.6	20.6	-14.4	16	Standard thermal glazing	37.6	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 153 - 164	1st	SW	52	22	-13	17	Standard thermal glazing	39	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 153 - 164	1st	NW	48.4	18.4	-16.6	13	Standard thermal glazing	35.4	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 153 - 164	1st	NE	43.2	13.2	-21.8	8	Standard thermal glazing	30.2	No	N/A	Alternative Ventilation not Required

APPENDIX V
NIGHT TIME FAÇADE NOISE LEVELS
(Bedrooms)

Table A4: Night Time Façade Levels

Plot	Storey	Façade Direction	Calculated LAeq, 8hr at Façade (dB)	Calculated Noise Level Inside Room (30dB reduction) (dB)	Difference with criteria (30dB) +/-	Required Sound Insulation Performance for Glazing (Rw +Ctr) (dB)	Commentary on Required Glazing	Calculated Internal Noise Level with a Partially Open Window (dB)	Alternative Ventilation Required?	Do Average Night-time Internal Noise Levels Achieve Compliance with AD-O?	Acoustics Ventilation & Overheating Assessment - Appropriate AD-F System	Example Alternative Ventilation Scheme
Plot 1	1st	NE	33.7	3.7	-26.3	4	Standard thermal glazing	20.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 1	1st	NW	42.1	12.1	-17.9	12	Standard thermal glazing	29.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 1	1st	SW	44.9	14.9	-15.1	15	Standard thermal glazing	31.9	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 1	1st	SE	40.4	10.4	-19.6	10	Standard thermal glazing	27.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 2	1st	NE	32.3	2.3	-27.7	2	Standard thermal glazing	19.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 2	1st	NW	39.1	9.1	-20.9	9	Standard thermal glazing	26.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 2	1st	SW	40.5	10.5	-19.5	11	Standard thermal glazing	27.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 2	1st	SE	39.9	9.9	-20.1	10	Standard thermal glazing	26.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 3	1st	E	38.7	8.7	-21.3	9	Standard thermal glazing	25.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 3	1st	S	36	6	-24	6	Standard thermal glazing	23	No	Yes	N/A	Alternative Ventilation Not Required
Plot 3	1st	W	38.3	8.3	-21.7	8	Standard thermal glazing	25.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 3	1st	N	33.1	3.1	-26.9	3	Standard thermal glazing	20.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 4	1st	N	34.1	4.1	-25.9	4	Standard thermal glazing	21.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 4	1st	E	37.8	7.8	-22.2	8	Standard thermal glazing	24.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 4	1st	S	38	8	-22	8	Standard thermal glazing	25	No	Yes	N/A	Alternative Ventilation Not Required
Plot 4	1st	W	37	7	-23	7	Standard thermal glazing	24	No	Yes	N/A	Alternative Ventilation Not Required
Plot 5 - 6	1st	E	36.4	6.4	-23.6	6	Standard thermal glazing	23.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 5 - 6	1st	S	39	9	-21	9	Standard thermal glazing	26	No	Yes	N/A	Alternative Ventilation Not Required
Plot 5 - 6	1st	W	34.1	4.1	-25.9	4	Standard thermal glazing	21.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 5 - 6	1st	N	34.1	4.1	-25.9	4	Standard thermal glazing	21.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 7 - 8	1st	N	34.3	4.3	-25.7	4	Standard thermal glazing	21.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 7 - 8	1st	E	34.7	4.7	-25.3	5	Standard thermal glazing	21.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 7 - 8	1st	S	38.9	8.9	-21.1	9	Standard thermal glazing	25.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 7 - 8	1st	W	38.7	8.7	-21.3	9	Standard thermal glazing	25.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 9	1st	E	37.4	7.4	-22.6	7	Standard thermal glazing	24.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 9	1st	S	39	9	-21	9	Standard thermal glazing	26	No	Yes	N/A	Alternative Ventilation Not Required
Plot 9	1st	W	37.8	7.8	-22.2	8	Standard thermal glazing	24.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 9	1st	N	34.4	4.4	-25.6	4	Standard thermal glazing	21.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 10 - 21	1st	E	35.5	5.5	-24.5	6	Standard thermal glazing	22.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 10 - 21	1st	N	34.9	4.9	-25.1	5	Standard thermal glazing	21.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 10 - 21	1st	W	39	9	-21	9	Standard thermal glazing	26	No	Yes	N/A	Alternative Ventilation Not Required
Plot 10 - 21	1st	S	40.2	10.2	-19.8	10	Standard thermal glazing	27.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 22	1st	E	36.8	6.8	-23.2	7	Standard thermal glazing	23.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 22	1st	S	43	13	-17	13	Standard thermal glazing	30	No	Yes	N/A	Alternative Ventilation Not Required
Plot 22	1st	W	45.3	15.3	-14.7	15	Standard thermal glazing	32.3	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 22	1st	N	35	5	-25	5	Standard thermal glazing	22	No	Yes	N/A	Alternative Ventilation Not Required
Plot 23	1st	E	39.9	9.9	-20.1	10	Standard thermal glazing	26.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 23	1st	N	37	7	-23	7	Standard thermal glazing	24	No	Yes	N/A	Alternative Ventilation Not Required
Plot 23	1st	W	49.1	19.1	-10.9	19	Standard thermal glazing	36.1	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 23	1st	S	50.5	20.5	-9.5	21	Standard thermal glazing	37.5	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator

Plot 24	1st	W	46.8	16.8	-13.2	17	Standard thermal glazing	33.8	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 24	1st	N	35.9	5.9	-24.1	6	Standard thermal glazing	22.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 24	1st	E	38.8	8.8	-21.2	9	Standard thermal glazing	25.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 24	1st	S	48.9	18.9	-11.1	19	Standard thermal glazing	35.9	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 25	1st	N	35.3	5.3	-24.7	5	Standard thermal glazing	22.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 25	1st	E	38.7	8.7	-21.3	9	Standard thermal glazing	25.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 25	1st	S	47.3	17.3	-12.7	17	Standard thermal glazing	34.3	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 25	1st	W	42.9	12.9	-17.1	13	Standard thermal glazing	29.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 26	1st	W	43.4	13.4	-16.6	13	Standard thermal glazing	30.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 26	1st	N	34.9	4.9	-25.1	5	Standard thermal glazing	21.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 26	1st	E	38.1	8.1	-21.9	8	Standard thermal glazing	25.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 26	1st	S	46	16	-14	16	Standard thermal glazing	33	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 27 - 28	1st	W	48	18	-12	18	Standard thermal glazing	35	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 27 - 28	1st	N	40	10	-20	10	Standard thermal glazing	27	No	Yes	N/A	Alternative Ventilation Not Required
Plot 27 - 28	1st	E	47.9	17.9	-12.1	18	Standard thermal glazing	34.9	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 27 - 28	1st	S	52.5	22.5	-7.5	23	Standard thermal glazing	39.5	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 29	1st	N	38.1	8.1	-21.9	8	Standard thermal glazing	25.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 29	1st	E	47.6	17.6	-12.4	18	Standard thermal glazing	34.6	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 29	1st	S	51.8	21.8	-8.2	22	Standard thermal glazing	38.8	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 29	1st	W	47.4	17.4	-12.6	17	Standard thermal glazing	34.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 30 - 31	1st	N	35.4	5.4	-24.6	5	Standard thermal glazing	22.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 30 - 31	1st	E	44.9	14.9	-15.1	15	Standard thermal glazing	31.9	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 30 - 31	1st	S	41.1	11.1	-18.9	11	Standard thermal glazing	28.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 30 - 31	1st	W	38.4	8.4	-21.6	8	Standard thermal glazing	25.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 32 - 33	1st	NE	35.4	5.4	-24.6	5	Standard thermal glazing	22.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 32 - 33	1st	SE	41.7	11.7	-18.3	12	Standard thermal glazing	28.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 32 - 33	1st	SW	41.5	11.5	-18.5	12	Standard thermal glazing	28.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 32 - 33	1st	NW	38.4	8.4	-21.6	8	Standard thermal glazing	25.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 34	1st	NE	35.5	5.5	-24.5	6	Standard thermal glazing	22.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 34	1st	SE	40.3	10.3	-19.7	10	Standard thermal glazing	27.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 34	1st	SW	47.4	17.4	-12.6	17	Standard thermal glazing	34.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 34	1st	NW	40.6	10.6	-19.4	11	Standard thermal glazing	27.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 35 - 36	1st	W	49.2	19.2	-10.8	19	Standard thermal glazing	36.2	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 35 - 36	1st	N	40.3	10.3	-19.7	10	Standard thermal glazing	27.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 35 - 36	1st	E	49.7	19.7	-10.3	20	Standard thermal glazing	36.7	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 35 - 36	1st	S	53.5	23.5	-6.5	24	Standard thermal glazing	40.5	Yes	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 37 - 40	1st	SE	48.4	18.4	-11.6	18	Standard thermal glazing	35.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 37 - 40	1st	SW	55.5	25.5	-4.5	26	Standard thermal glazing	42.5	Yes	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 37 - 40	1st	NW	52.2	22.2	-7.8	22	Standard thermal glazing	39.2	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 37 - 40	1st	NE	39.9	9.9	-20.1	10	Standard thermal glazing	26.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 41 - 42	1st	E	50.5	20.5	-9.5	21	Standard thermal glazing	37.5	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 41 - 42	1st	N	37.9	7.9	-22.1	8	Standard thermal glazing	24.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 41 - 42	1st	W	51.7	21.7	-8.3	22	Standard thermal glazing	38.7	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 41 - 42	1st	S	54.5	24.5	-5.5	25	Standard thermal glazing	41.5	Yes	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 43	1st	NE	36.2	6.2	-23.8	6	Standard thermal glazing	23.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 43	1st	SE	43.6	13.6	-16.4	14	Standard thermal glazing	30.6	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator

Plot 43	1st	SW	47.4	17.4	-12.6	17	Standard thermal glazing	34.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 43	1st	NW	42.9	12.9	-17.1	13	Standard thermal glazing	29.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 44 - 45	1st	NE	35.7	5.7	-24.3	6	Standard thermal glazing	22.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 44 - 45	1st	SE	39.7	9.7	-20.3	10	Standard thermal glazing	26.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 44 - 45	1st	SW	42.7	12.7	-17.3	13	Standard thermal glazing	29.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 44 - 45	1st	NW	38.6	8.6	-21.4	9	Standard thermal glazing	25.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 46 - 48	1st	NE	35.8	5.8	-24.2	6	Standard thermal glazing	22.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 46 - 48	1st	SE	37.8	7.8	-22.2	8	Standard thermal glazing	24.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 46 - 48	1st	SW	44.9	14.9	-15.1	15	Standard thermal glazing	31.9	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 46 - 48	1st	NW	46	16	-14	16	Standard thermal glazing	33	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 49 - 51	1st	NE	36.8	6.8	-23.2	7	Standard thermal glazing	23.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 49 - 51	1st	SE	42.7	12.7	-17.3	13	Standard thermal glazing	29.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 49 - 51	1st	SW	48.8	18.8	-11.2	19	Standard thermal glazing	35.8	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 49 - 51	1st	NW	48.9	18.9	-11.1	19	Standard thermal glazing	35.9	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 52 - 55	1st	NE	35.7	5.7	-24.3	6	Standard thermal glazing	22.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 52 - 55	1st	SE	39.8	9.8	-20.2	10	Standard thermal glazing	26.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 52 - 55	1st	SW	41	11	-19	11	Standard thermal glazing	28	No	Yes	N/A	Alternative Ventilation Not Required
Plot 52 - 55	1st	NW	39.5	9.5	-20.5	10	Standard thermal glazing	26.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 54 - 64	1st	NE	36.1	6.1	-23.9	6	Standard thermal glazing	23.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 54 - 64	1st	NW	41.6	11.6	-18.4	12	Standard thermal glazing	28.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 54 - 64	1st	SW	41.2	11.2	-18.8	11	Standard thermal glazing	28.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 54 - 64	1st	SE	39.4	9.4	-20.6	9	Standard thermal glazing	26.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 54 - 64	1st	SW	41	11	-19	11	Standard thermal glazing	28	No	Yes	N/A	Alternative Ventilation Not Required
Plot 65	1st	E	37.1	7.1	-22.9	7	Standard thermal glazing	24.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 65	1st	S	44.8	14.8	-15.2	15	Standard thermal glazing	31.8	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 65	1st	W	45.7	15.7	-14.3	16	Standard thermal glazing	32.7	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 65	1st	N	38.3	8.3	-21.7	8	Standard thermal glazing	25.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 66 - 67	1st	SE	48	18	-12	18	Standard thermal glazing	35	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 66 - 67	1st	NE	37.7	7.7	-22.3	8	Standard thermal glazing	24.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 66 - 67	1st	NW	42.3	12.3	-17.7	12	Standard thermal glazing	29.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 66 - 67	1st	W	47.7	17.7	-12.3	18	Standard thermal glazing	34.7	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 68	1st	SE	38.9	8.9	-21.1	9	Standard thermal glazing	25.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 68	1st	SW	44.4	14.4	-15.6	14	Standard thermal glazing	31.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 68	1st	NE	37.7	7.7	-22.3	8	Standard thermal glazing	24.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 69 - 70	1st	NE	39.7	9.7	-20.3	10	Standard thermal glazing	26.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 69 - 70	1st	SE	-88	-118	-148	-118	Standard thermal glazing	-101	No	Yes	N/A	Alternative Ventilation Not Required
Plot 69 - 70	1st	SW	45.3	15.3	-14.7	15	Standard thermal glazing	32.3	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 69 - 70	1st	NW	38.4	8.4	-21.6	8	Standard thermal glazing	25.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 71 - 72	1st	NE	40.4	10.4	-19.6	10	Standard thermal glazing	27.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 71 - 72	1st	SE	39.7	9.7	-20.3	10	Standard thermal glazing	26.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 71 - 72	1st	SW	45.2	15.2	-14.8	15	Standard thermal glazing	32.2	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 71 - 72	1st	NW	42.4	12.4	-17.6	12	Standard thermal glazing	29.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 73 - 75	1st	NE	39.1	9.1	-20.9	9	Standard thermal glazing	26.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 73 - 75	1st	SE	51.4	21.4	-8.6	21	Standard thermal glazing	38.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 73 - 75	1st	SW	56.6	26.6	-3.4	27	Standard thermal glazing	43.6	Yes	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 73 - 75	1st	NW	49.8	19.8	-10.2	20	Standard thermal glazing	36.8	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator

Plot 76 - 78	1st	NE	39.1	9.1	-20.9	9	Standard thermal glazing	26.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 76 - 78	1st	SE	52.8	22.8	-7.2	23	Standard thermal glazing	39.8	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 76 - 78	1st	SW	56.9	26.9	-3.1	27	Standard thermal glazing	43.9	Yes	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 76 - 78	1st	NW	52.3	22.3	-7.7	22	Standard thermal glazing	39.3	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 79 - 80	1st	NE	39.2	9.2	-20.8	9	Standard thermal glazing	26.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 79 - 80	1st	SE	49.3	19.3	-10.7	19	Standard thermal glazing	36.3	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 79 - 80	1st	SW	51.2	21.2	-8.8	21	Standard thermal glazing	38.2	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 79 - 80	1st	NW	47.4	17.4	-12.6	17	Standard thermal glazing	34.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 81 - 82	1st	SE	42.6	12.6	-17.4	13	Standard thermal glazing	29.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 81 - 82	1st	SW	44.4	14.4	-15.6	14	Standard thermal glazing	31.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 81 - 82	1st	NW	37	7	-23	7	Standard thermal glazing	24	No	Yes	N/A	Alternative Ventilation Not Required
Plot 81 - 82	1st	NE	40.9	10.9	-19.1	11	Standard thermal glazing	27.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 83 - 88	1st	NE	42.3	12.3	-17.7	12	Standard thermal glazing	29.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 83 - 88	1st	N	45.7	15.7	-14.3	16	Standard thermal glazing	32.7	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	1st	NW	48	18	-12	18	Standard thermal glazing	35	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	1st	W	46.6	16.6	-13.4	17	Standard thermal glazing	33.6	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	1st	S	41.3	11.3	-18.7	11	Standard thermal glazing	28.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 83 - 88	1st	S	41.4	11.4	-18.6	11	Standard thermal glazing	28.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 89 - 90	1st	NE	43.4	13.4	-16.6	13	Standard thermal glazing	30.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 89 - 90	1st	SE	42.9	12.9	-17.1	13	Standard thermal glazing	29.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 89 - 90	1st	SW	46.4	16.4	-13.6	16	Standard thermal glazing	33.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 89 - 90	1st	NW	49.6	19.6	-10.4	20	Standard thermal glazing	36.6	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 91	1st	NE	42.4	12.4	-17.6	12	Standard thermal glazing	29.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 91	1st	SE	45.7	15.7	-14.3	16	Standard thermal glazing	32.7	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 91	1st	SW	50.3	20.3	-9.7	20	Standard thermal glazing	37.3	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 91	1st	NW	51.1	21.1	-8.9	21	Standard thermal glazing	38.1	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 92	1st	NE	44.9	14.9	-15.1	15	Standard thermal glazing	31.9	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 92	1st	SE	49.9	19.9	-10.1	20	Standard thermal glazing	36.9	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 92	1st	SW	47.9	17.9	-12.1	18	Standard thermal glazing	34.9	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 92	1st	NW	53.5	23.5	-6.5	24	Standard thermal glazing	40.5	Yes	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 93	1st	NE	45.4	15.4	-14.6	15	Standard thermal glazing	32.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 93	1st	SE	53.9	23.9	-6.1	24	Standard thermal glazing	40.9	Yes	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 93	1st	SW	58.5	28.5	-1.5	29	Standard thermal glazing	45.5	Yes	Yes	ADF System 4	MVHR without Trickle Ventilators
Plot 93	1st	NW	55.3	25.3	-4.7	25	Standard thermal glazing	42.3	Yes	Yes	ADF System 3	MEV System & Acoustic-grade 'TV'
Plot 94	1st	E	41.6	11.6	-18.4	12	Standard thermal glazing	28.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 94	1st	S	39.2	9.2	-20.8	9	Standard thermal glazing	26.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 94	1st	W	46.8	16.8	-13.2	17	Standard thermal glazing	33.8	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 94	1st	N	46.8	16.8	-13.2	17	Standard thermal glazing	33.8	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 95 - 96	1st	S	36.6	6.6	-23.4	7	Standard thermal glazing	23.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 95 - 96	1st	E	41.2	11.2	-18.8	11	Standard thermal glazing	28.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 95 - 96	1st	N	40.2	10.2	-19.8	10	Standard thermal glazing	27.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 95 - 96	1st	W	46.3	16.3	-13.7	16	Standard thermal glazing	33.3	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 97 - 105	1st	NE	40.8	10.8	-19.2	11	Standard thermal glazing	27.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 97 - 105	1st	NW	39.4	9.4	-20.6	9	Standard thermal glazing	26.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 97 - 105	1st	SW	44.5	14.5	-15.5	15	Standard thermal glazing	31.5	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 97 - 105	1st	S	40.5	10.5	-19.5	11	Standard thermal glazing	27.5	No	Yes	N/A	Alternative Ventilation Not Required

Plot 97 - 105	1st	E	34.9	4.9	-25.1	5	Standard thermal glazing	21.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 97 - 105	1st	N	40.7	10.7	-19.3	11	Standard thermal glazing	27.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 106 - 107	1st	E	36.2	6.2	-23.8	6	Standard thermal glazing	23.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 106 - 107	1st	N	39.9	9.9	-20.1	10	Standard thermal glazing	26.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 106 - 107	1st	W	37.6	7.6	-22.4	8	Standard thermal glazing	24.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 106 - 107	1st	S	38.6	8.6	-21.4	9	Standard thermal glazing	25.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 108 - 109	1st	NE	36.9	6.9	-23.1	7	Standard thermal glazing	23.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 108 - 109	1st	SE	36.8	6.8	-23.2	7	Standard thermal glazing	23.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 108 - 109	1st	SW	39.4	9.4	-20.6	9	Standard thermal glazing	26.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 108 - 109	1st	NW	37.4	7.4	-22.6	7	Standard thermal glazing	24.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 110	1st	NE	43.5	13.5	-16.5	14	Standard thermal glazing	30.5	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 110	1st	SE	35.4	5.4	-24.6	5	Standard thermal glazing	22.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 110	1st	SW	39.4	9.4	-20.6	9	Standard thermal glazing	26.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 110	1st	NW	39	9	-21	9	Standard thermal glazing	26	No	Yes	N/A	Alternative Ventilation Not Required
Plot 111 - 112	1st	SE	34.8	4.8	-25.2	5	Standard thermal glazing	21.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 111 - 112	1st	SW	39.4	9.4	-20.6	9	Standard thermal glazing	26.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 111 - 112	1st	NW	42.8	12.8	-17.2	13	Standard thermal glazing	29.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 111 - 112	1st	NE	43.9	13.9	-16.1	14	Standard thermal glazing	30.9	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 113	1st	SE	35.8	5.8	-24.2	6	Standard thermal glazing	22.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 113	1st	SW	39.7	9.7	-20.3	10	Standard thermal glazing	26.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 113	1st	NW	42.8	12.8	-17.2	13	Standard thermal glazing	29.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 113	1st	NE	44.6	14.6	-15.4	15	Standard thermal glazing	31.6	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 114	1st	E	35.5	5.5	-24.5	6	Standard thermal glazing	22.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 114	1st	S	39.5	9.5	-20.5	10	Standard thermal glazing	26.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 114	1st	W	44.1	14.1	-15.9	14	Standard thermal glazing	31.1	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 114	1st	N	45.2	15.2	-14.8	15	Standard thermal glazing	32.2	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 115	1st	E	37.9	7.9	-22.1	8	Standard thermal glazing	24.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 115	1st	S	39.8	9.8	-20.2	10	Standard thermal glazing	26.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 115	1st	W	46.4	16.4	-13.6	16	Standard thermal glazing	33.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 115	1st	N	45.6	15.6	-14.4	16	Standard thermal glazing	32.6	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 116	1st	NE	41.6	11.6	-18.4	12	Standard thermal glazing	28.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 116	1st	SE	36.9	6.9	-23.1	7	Standard thermal glazing	23.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 116	1st	SW	40.4	10.4	-19.6	10	Standard thermal glazing	27.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 116	1st	NW	36.9	6.9	-23.1	7	Standard thermal glazing	23.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 117	1st	NE	41.8	11.8	-18.2	12	Standard thermal glazing	28.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 117	1st	SE	37	7	-23	7	Standard thermal glazing	24	No	Yes	N/A	Alternative Ventilation Not Required
Plot 117	1st	SW	39.2	9.2	-20.8	9	Standard thermal glazing	26.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 117	1st	NW	36.8	6.8	-23.2	7	Standard thermal glazing	23.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 118	1st	NE	42	12	-18	12	Standard thermal glazing	29	No	Yes	N/A	Alternative Ventilation Not Required
Plot 118	1st	SE	35.6	5.6	-24.4	6	Standard thermal glazing	22.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 118	1st	SW	38.6	8.6	-21.4	9	Standard thermal glazing	25.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 118	1st	NW	41.1	11.1	-18.9	11	Standard thermal glazing	28.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 119	1st	SE	35.8	5.8	-24.2	6	Standard thermal glazing	22.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 119	1st	SW	38.2	8.2	-21.8	8	Standard thermal glazing	25.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 119	1st	NW	42.4	12.4	-17.6	12	Standard thermal glazing	29.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 119	1st	NE	42.5	12.5	-17.5	13	Standard thermal glazing	29.5	No	Yes	N/A	Alternative Ventilation Not Required

Plot 120	1st	NE	42.1	12.1	-17.9	12	Standard thermal glazing	29.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 120	1st	SE	36.3	6.3	-23.7	6	Standard thermal glazing	23.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 120	1st	SW	38.9	8.9	-21.1	9	Standard thermal glazing	25.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 120	1st	NW	41.6	11.6	-18.4	12	Standard thermal glazing	28.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 121	1st	NE	33.7	3.7	-26.3	4	Standard thermal glazing	20.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 121	1st	SE	36.4	6.4	-23.6	6	Standard thermal glazing	23.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 121	1st	SW	40.3	10.3	-19.7	10	Standard thermal glazing	27.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 121	1st	NW	40.3	10.3	-19.7	10	Standard thermal glazing	27.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 122 - 124	1st	NE	35.2	5.2	-24.8	5	Standard thermal glazing	22.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 122 - 124	1st	SE	38.8	8.8	-21.2	9	Standard thermal glazing	25.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 122 - 124	1st	SW	41.3	11.3	-18.7	11	Standard thermal glazing	28.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 122 - 124	1st	NW	39.2	9.2	-20.8	9	Standard thermal glazing	26.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 125 - 126	1st	NE	35.6	5.6	-24.4	6	Standard thermal glazing	22.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 125 - 126	1st	SE	35.5	5.5	-24.5	6	Standard thermal glazing	22.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 125 - 126	1st	SW	41.7	11.7	-18.3	12	Standard thermal glazing	28.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 125 - 126	1st	NW	37.4	7.4	-22.6	7	Standard thermal glazing	24.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 127 - 128	1st	NE	36.3	6.3	-23.7	6	Standard thermal glazing	23.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 127 - 128	1st	SE	40.2	10.2	-19.8	10	Standard thermal glazing	27.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 127 - 128	1st	SW	43	13	-17	13	Standard thermal glazing	30	No	Yes	N/A	Alternative Ventilation Not Required
Plot 127 - 128	1st	NW	35.9	5.9	-24.1	6	Standard thermal glazing	22.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 129 - 130	1st	NE	34.8	4.8	-25.2	5	Standard thermal glazing	21.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 129 - 130	1st	SE	41.5	11.5	-18.5	12	Standard thermal glazing	28.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 129 - 130	1st	SW	43.5	13.5	-16.5	14	Standard thermal glazing	30.5	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 129 - 130	1st	SW	43.2	13.2	-16.8	13	Standard thermal glazing	30.2	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 129 - 130	1st	NW	39.5	9.5	-20.5	10	Standard thermal glazing	26.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 129 - 130	1st	NE	35.2	5.2	-24.8	5	Standard thermal glazing	22.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 131 - 132	1st	SE	42.2	12.2	-17.8	12	Standard thermal glazing	29.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 131 - 132	1st	SW	43.9	13.9	-16.1	14	Standard thermal glazing	30.9	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 131 - 132	1st	NW	38.5	8.5	-21.5	9	Standard thermal glazing	25.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 131 - 132	1st	NE	34.7	4.7	-25.3	5	Standard thermal glazing	21.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 133 - 136	1st	SE	39.2	9.2	-20.8	9	Standard thermal glazing	26.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 133 - 136	1st	SW	44.5	14.5	-15.5	15	Standard thermal glazing	31.5	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 133 - 136	1st	NW	41.3	11.3	-18.7	11	Standard thermal glazing	28.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 133 - 136	1st	NE	35	5	-25	5	Standard thermal glazing	22	No	Yes	N/A	Alternative Ventilation Not Required
Plot 137 - 140	1st	NE	36.2	6.2	-23.8	6	Standard thermal glazing	23.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 137 - 140	1st	SE	36.8	6.8	-23.2	7	Standard thermal glazing	23.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 137 - 140	1st	SW	41.9	11.9	-18.1	12	Standard thermal glazing	28.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 137 - 140	1st	SW	43.7	13.7	-16.3	14	Standard thermal glazing	30.7	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 137 - 140	1st	NW	43.1	13.1	-16.9	13	Standard thermal glazing	30.1	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 141 - 142	1st	NE	32.8	2.8	-27.2	3	Standard thermal glazing	19.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 141 - 142	1st	SE	34.9	4.9	-25.1	5	Standard thermal glazing	21.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 141 - 142	1st	SW	37.9	7.9	-22.1	8	Standard thermal glazing	24.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 141 - 142	1st	NW	39.7	9.7	-20.3	10	Standard thermal glazing	26.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 143	1st	NW	41.1	11.1	-18.9	11	Standard thermal glazing	28.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 143	1st	SW	34.6	4.6	-25.4	5	Standard thermal glazing	21.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 143	1st	SE	35.5	5.5	-24.5	6	Standard thermal glazing	22.5	No	Yes	N/A	Alternative Ventilation Not Required

Plot 143	1st	NE	40.4	10.4	-19.6	10	Standard thermal glazing	27.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 144 - 145	1st	NE	40.5	10.5	-19.5	11	Standard thermal glazing	27.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 144 - 145	1st	SE	35.7	5.7	-24.3	6	Standard thermal glazing	22.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 144 - 145	1st	SW	37.9	7.9	-22.1	8	Standard thermal glazing	24.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 144 - 145	1st	NW	38.3	8.3	-21.7	8	Standard thermal glazing	25.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 146	1st	SE	34.6	4.6	-25.4	5	Standard thermal glazing	21.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 146	1st	SW	39.6	9.6	-20.4	10	Standard thermal glazing	26.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 146	1st	NW	38.5	8.5	-21.5	9	Standard thermal glazing	25.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 146	1st	NE	40.6	10.6	-19.4	11	Standard thermal glazing	27.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 147	1st	SE	36.7	6.7	-23.3	7	Standard thermal glazing	23.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 147	1st	SW	38.8	8.8	-21.2	9	Standard thermal glazing	25.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 147	1st	NW	38.4	8.4	-21.6	8	Standard thermal glazing	25.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 147	1st	NE	39.9	9.9	-20.1	10	Standard thermal glazing	26.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 148	1st	NW	38.6	8.6	-21.4	9	Standard thermal glazing	25.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 148	1st	S	36.9	6.9	-23.1	7	Standard thermal glazing	23.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 148	1st	SE	33.2	3.2	-26.8	3	Standard thermal glazing	20.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 148	1st	N	39.5	9.5	-20.5	10	Standard thermal glazing	26.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 149	1st	SE	34.8	4.8	-25.2	5	Standard thermal glazing	21.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 149	1st	SW	37.2	7.2	-22.8	7	Standard thermal glazing	24.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 149	1st	NW	38.8	8.8	-21.2	9	Standard thermal glazing	25.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 149	1st	N	39.8	9.8	-20.2	10	Standard thermal glazing	26.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 150 - 151	1st	E	35.8	5.8	-24.2	6	Standard thermal glazing	22.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 150 - 151	1st	S	38.4	8.4	-21.6	8	Standard thermal glazing	25.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 150 - 151	1st	W	39.8	9.8	-20.2	10	Standard thermal glazing	26.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 150 - 151	1st	N	40.2	10.2	-19.8	10	Standard thermal glazing	27.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 152	1st	E	36.3	6.3	-23.7	6	Standard thermal glazing	23.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 152	1st	S	36.9	6.9	-23.1	7	Standard thermal glazing	23.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 152	1st	W	40.3	10.3	-19.7	10	Standard thermal glazing	27.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 152	1st	N	40.4	10.4	-19.6	10	Standard thermal glazing	27.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 153 - 164	1st	SE	41.6	11.6	-18.4	12	Standard thermal glazing	28.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 153 - 164	1st	SW	43	13	-17	13	Standard thermal glazing	30	No	Yes	N/A	Alternative Ventilation Not Required
Plot 153 - 164	1st	NW	40	10	-20	10	Standard thermal glazing	27	No	Yes	N/A	Alternative Ventilation Not Required
Plot 153 - 164	1st	NE	36.7	6.7	-23.3	7	Standard thermal glazing	23.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 165 - 166	1st	NE	34.4	4.4	-25.6	4	Standard thermal glazing	21.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 165 - 166	1st	SE	34.9	4.9	-25.1	5	Standard thermal glazing	21.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 165 - 166	1st	S	38.4	8.4	-21.6	8	Standard thermal glazing	25.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 165 - 166	1st	NW	37.1	7.1	-22.9	7	Standard thermal glazing	24.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 167 - 168	1st	NE	34	4	-26	4	Standard thermal glazing	21	No	Yes	N/A	Alternative Ventilation Not Required
Plot 167 - 168	1st	SE	34.4	4.4	-25.6	4	Standard thermal glazing	21.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 167 - 168	1st	SW	37.4	7.4	-22.6	7	Standard thermal glazing	24.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 167 - 168	1st	NW	35.5	5.5	-24.5	6	Standard thermal glazing	22.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 169 - 170	1st	N	34.6	4.6	-25.4	5	Standard thermal glazing	21.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 169 - 170	1st	E	34.7	4.7	-25.3	5	Standard thermal glazing	21.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 169 - 170	1st	S	37.3	7.3	-22.7	7	Standard thermal glazing	24.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 169 - 170	1st	W	34.6	4.6	-25.4	5	Standard thermal glazing	21.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 171 - 172	1st	N	34.5	4.5	-25.5	5	Standard thermal glazing	21.5	No	Yes	N/A	Alternative Ventilation Not Required

Plot 171 - 172	1st	E	34.9	4.9	-25.1	5	Standard thermal glazing	21.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 171 - 172	1st	S	36.9	6.9	-23.1	7	Standard thermal glazing	23.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 171 - 172	1st	W	33.8	3.8	-26.2	4	Standard thermal glazing	20.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 173 - 174	1st	N	34.7	4.7	-25.3	5	Standard thermal glazing	21.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 173 - 174	1st	E	35.2	5.2	-24.8	5	Standard thermal glazing	22.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 173 - 174	1st	S	37.1	7.1	-22.9	7	Standard thermal glazing	24.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 173 - 174	1st	W	35.2	5.2	-24.8	5	Standard thermal glazing	22.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 175	1st	E	37	7	-23	7	Standard thermal glazing	24	No	Yes	N/A	Alternative Ventilation Not Required
Plot 175	1st	S	38	8	-22	8	Standard thermal glazing	25	No	Yes	N/A	Alternative Ventilation Not Required
Plot 175	1st	W	36.6	6.6	-23.4	7	Standard thermal glazing	23.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 175	1st	N	32.8	2.8	-27.2	3	Standard thermal glazing	19.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 176	1st	S	35.6	5.6	-24.4	6	Standard thermal glazing	22.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 176	1st	W	36.2	6.2	-23.8	6	Standard thermal glazing	23.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 176	1st	N	32.9	2.9	-27.1	3	Standard thermal glazing	19.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 176	1st	E	37.1	7.1	-22.9	7	Standard thermal glazing	24.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 177	1st	S	34.9	4.9	-25.1	5	Standard thermal glazing	21.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 177	1st	W	36	6	-24	6	Standard thermal glazing	23	No	Yes	N/A	Alternative Ventilation Not Required
Plot 177	1st	N	36.1	6.1	-23.9	6	Standard thermal glazing	23.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 177	1st	E	36.9	6.9	-23.1	7	Standard thermal glazing	23.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 178	1st	NW	39.3	9.3	-20.7	9	Standard thermal glazing	26.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 178	1st	S	36.1	6.1	-23.9	6	Standard thermal glazing	23.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 178	1st	SE	33.6	3.6	-26.4	4	Standard thermal glazing	20.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 178	1st	NE	38.8	8.8	-21.2	9	Standard thermal glazing	25.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 179	1st	E	34.7	4.7	-25.3	5	Standard thermal glazing	21.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 179	1st	S	36.2	6.2	-23.8	6	Standard thermal glazing	23.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 179	1st	W	38.6	8.6	-21.4	9	Standard thermal glazing	25.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 179	1st	N	39.1	9.1	-20.9	9	Standard thermal glazing	26.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 180	1st	N	39.3	9.3	-20.7	9	Standard thermal glazing	26.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 180	1st	W	37.5	7.5	-22.5	8	Standard thermal glazing	24.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 180	1st	S	36.5	6.5	-23.5	7	Standard thermal glazing	23.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 180	1st	E	34.7	4.7	-25.3	5	Standard thermal glazing	21.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 181	1st	SE	34.4	4.4	-25.6	4	Standard thermal glazing	21.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 181	1st	S	36.7	6.7	-23.3	7	Standard thermal glazing	23.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 181	1st	NW	34.2	4.2	-25.8	4	Standard thermal glazing	21.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 181	1st	NE	39.3	9.3	-20.7	9	Standard thermal glazing	26.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 10 - 21	GF	E	32.5	2.5	-27.5	3	Standard thermal glazing	19.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 10 - 21	GF	N	32	2	-28	2	Standard thermal glazing	19	No	Yes	N/A	Alternative Ventilation Not Required
Plot 10 - 21	GF	W	36.9	6.9	-23.1	7	Standard thermal glazing	23.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 10 - 21	GF	S	37.4	7.4	-22.6	7	Standard thermal glazing	24.4	No	Yes	N/A	Alternative Ventilation Not Required
Plot 52 - 55	GF	NE	32.3	2.3	-27.7	2	Standard thermal glazing	19.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 52 - 55	GF	SE	37.7	7.7	-22.3	8	Standard thermal glazing	24.7	No	Yes	N/A	Alternative Ventilation Not Required
Plot 54 - 64	GF	NE	32.6	2.6	-27.4	3	Standard thermal glazing	19.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 54 - 64	GF	NW	39.8	9.8	-20.2	10	Standard thermal glazing	26.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 54 - 64	GF	SW	38.2	8.2	-21.8	8	Standard thermal glazing	25.2	No	Yes	N/A	Alternative Ventilation Not Required
Plot 54 - 64	GF	SE	37	7	-23	7	Standard thermal glazing	24	No	Yes	N/A	Alternative Ventilation Not Required
Plot 54 - 64	GF	SW	38.7	8.7	-21.3	9	Standard thermal glazing	25.7	No	Yes	N/A	Alternative Ventilation Not Required

Plot 83 - 88	GF	NE	41	11	-19	11	Standard thermal glazing	28	No	Yes	N/A	Alternative Ventilation Not Required
Plot 83 - 88	GF	N	44.4	14.4	-15.6	14	Standard thermal glazing	31.4	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	GF	NW	46.8	16.8	-13.2	17	Standard thermal glazing	33.8	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	GF	W	45.3	15.3	-14.7	15	Standard thermal glazing	32.3	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 83 - 88	GF	S	39.3	9.3	-20.7	9	Standard thermal glazing	26.3	No	Yes	N/A	Alternative Ventilation Not Required
Plot 83 - 88	GF	S	39.5	9.5	-20.5	10	Standard thermal glazing	26.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 97 - 105	GF	NE	39	9	-21	9	Standard thermal glazing	26	No	Yes	N/A	Alternative Ventilation Not Required
Plot 97 - 105	GF	NW	37.5	7.5	-22.5	8	Standard thermal glazing	24.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 97 - 105	GF	SW	43.1	13.1	-16.9	13	Standard thermal glazing	30.1	Yes	Yes	ADF Systems 1 or 2	Acoustic-grade Trickle Ventilator
Plot 97 - 105	GF	S	38.6	8.6	-21.4	9	Standard thermal glazing	25.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 97 - 105	GF	E	32.5	2.5	-27.5	3	Standard thermal glazing	19.5	No	Yes	N/A	Alternative Ventilation Not Required
Plot 97 - 105	GF	N	37.9	7.9	-22.1	8	Standard thermal glazing	24.9	No	Yes	N/A	Alternative Ventilation Not Required
Plot 153 - 164	GF	SE	39.1	9.1	-20.9	9	Standard thermal glazing	26.1	No	Yes	N/A	Alternative Ventilation Not Required
Plot 153 - 164	GF	SW	40.6	10.6	-19.4	11	Standard thermal glazing	27.6	No	Yes	N/A	Alternative Ventilation Not Required
Plot 153 - 164	GF	NW	37.8	7.8	-22.2	8	Standard thermal glazing	24.8	No	Yes	N/A	Alternative Ventilation Not Required
Plot 153 - 164	GF	NE	33.9	3.9	-26.1	4	Standard thermal glazing	20.9	No	Yes	N/A	Alternative Ventilation Not Required