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Environmental Associates

Noise Assessment

Durham Road, Darlington

January 2022

Mr R Farrow



Noise Assessment

Durham Road, Darlington

Client: Mr R Farrow

Report reference: NJD22-0004-001R

Report Version	Prepared By	Reviewed By
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1 INTRODUCTION

- 1.1.1 NJD Environmental Associates Ltd was instructed by Mr R Farrow to undertake a noise assessment for a proposed residential development on land off Durham Road, Darlington. The site location is provided below at Drawing 1.



Drawing 1: Site location

- 1.1.2 A noise assessment has been prepared for the planning application, with measurements taken of noise sources impacting the development, calculations performed using noise modelling software, and the results interpreted in accordance with the relevant standards.

2 PLANNING POLICY AND GUIDANCE

2.1 National Planning Policy Framework (NPPF)

2.1.1 The revised NPPF published in July 2021 provides the following with regards to noise, set out at paragraph 185:

“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.

In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.”

2.1.2 It is clear that the NPPF seeks to limit the exposure of new development to unacceptable levels of noise, although the policy does not seek to prescribe what constitutes an unacceptable level of noise.

2.2 Noise Policy Statement for England (NPSE)

2.2.1 The Department for Environment, Food and Rural Affairs (DEFRA) published the NPSE in March 2010.

2.2.2 The explanatory note of NPSE defines the terms used in the NPPF:

“2.19 There are several key phrases within the NPSE aims and these are discussed below.

‘Significant adverse’ and ‘adverse’;

2.20 There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:

NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effect on health and quality of life can be detected.

2.21 Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed adverse effect level.

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur.”

2.2.3 The NPSE does not define the SOAEL numerically, stating at paragraph 2.22:

“2.22 It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available.”

2.2.4 There is no local or national guidance on how the three terms should be defined numerically, it is for the assessor to collate and interpret appropriate guidance on noise, such as may be found in British Standards, and correlate the guidance with the concepts of NOEL, LOAEL and SOAEL.

2.3 Planning Practice Guidance: Noise (PPGN)

2.3.1 In March 2014, the Government released the PPG on noise, revised July 2019. This document sets out a number of principles and reinforces the guidance set out in the NPPF and NPSE.

2.3.2 Paragraph 001 of PPGN notes that:

“Noise needs to be considered when new development may create additional noise and when new developments would be sensitive to the prevailing acoustic environment.”

2.3.3 It goes on to note in paragraph 003 that:

“Local planning authorities’ plan-making and decision taking 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.”*

2.3.4 The PPGN broadly repeats the NPSE definitions of the NOEL, LOAEL AND SOAEL and it provides a summary table to explain how the terms relate to each other and to typical human response to sound. The table is replicated below in Table 1.

Table 1: PPGN Noise Exposure Hierarchy			
Perception	Examples of Outcome	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 small changes in behaviour and/or attitude, e.g. turning up volume of televisions; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the areas such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
		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 Adverse Effect	Avoid
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or 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 or non-auditory	Unacceptable Adverse Effect	Prevent

2.3.5 The PPGN provides advice on how to mitigate the effects of noise, noting that there are options to reduce noise at source, to optimise site layouts and to use planning conditions.

3 ASSESSMENT METHODOLOGY

3.1 BS8233:2014 and WHO 1999 Guidance Levels

3.1.1 BS8233:2014 'Guidance on sound insulation and noise reduction for buildings' provides guidance for the control of noise in and around buildings. It applies to the design of new buildings, or refurbished buildings undergoing a change of use.

3.1.2 BS8233 refers to the World Health Organisation research and recommendations when defining acceptable and upper guidance noise levels within gardens during the day, and within habitable rooms in dwellings during the day and night-time periods as follows:

Table 2: Summary of BS8233 guidance noise levels			
Activity	Location	0700 to 2300h	2300 to 0700h
Resting	Living room	35dB LAeq,16h	-
Relaxing	Gardens	55dB LAeq,16h	-
Dining	Dining room	40dB LAeq,16h	-
Sleeping (daytime resting)	Bedroom	35dB LAeq,16h	30dB LAeq,8h

3.1.3 Note 4 to Table 4 of BS8233 states, "Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or LAmaxF, depending on the character and number of events per night. Sporadic noise events could require separate values.",

3.1.4 The WHO Community Noise Guidelines, 1999 details the following:
"If negative effects on sleep are to be avoided the equivalent sound pressure level should not exceed 30dBA indoors for continuous noise. If the noise is not continuous, sleep disturbance correlates best with LAmax and effects have been observed at 45dB or less."

3.1.5 Section 3.4 of the guidelines also states:
"For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45dB LAmax more than 10-15 times per night (Vallet and Vernet, 1991).

3.1.6 The above levels have been adopted for the purpose of this assessment.

4 NOISE SURVEY

4.1 Introduction

4.1.1 Between the 13th and 14th January 2022, noise measurements were undertaken to obtain measurements of road traffic noise, this being the dominant noise source across the site.

4.1.2 Measurements were taken using an Acoem 01dB Fusion sound level meter. The Class 1 instrument logged 1/3 octave levels throughout the measurements. The instrument was calibrated before and after the measurements to a reference level of 94dB, with no notable drift observed.

4.2 Monitoring Location

4.2.1 Noise measurements were taken at the location shown in Drawing 2 below.



Drawing 2: Noise monitoring location

4.2.2 The monitoring location was as follows:

- ML1: On the western site boundary of the proposed development site, adjacent to Durham Road to determine road traffic noise levels.
 - The measurement took place during the following dates and times:
 - 1030h on the 13th January, to 1030h on the 14th January 2022.

4.2.3 During the deployment of noise monitoring equipment, observations were made with regards to the dominant noise sources. Noise associated with traffic on Durham Road was the dominant source across the site.

4.3 Existing Noise Levels

4.3.1 The measured road traffic noise levels, rounded to the nearest whole decibel, are summarised in Tables 3 and 4 below.

Table 3: Summary of measured daytime noise levels (dBA)		
Location	Daytime LAeq 0700 to 2300h	Daytime LAmax 0700 to 2300h
ML1	72	88

Table 4: Summary of measured night-time noise levels (dBA)		
Location	Night-time LAeq 2300 to 0700h	Night-time LAmax* 2300 to 0700h
ML1	66	83
*10 th highest measurement		

4.3.2 Full details of the measurements are presented in Appendix 1.

5 CADNAA NOISE MODELS

5.1 Input Data

5.1.1 Topographic data of the site and surrounding land has been incorporated into the noise models, with buildings and gardens positioned to reflect the proposed future development of the site.

5.1.2 For the purpose of these calculations, the ground absorption has been set to G=0.8 (which represents predominantly acoustically soft and absorptive ground around the site) and buildings and roads have been set to G=0 (acoustically hard and reflective), with two orders of reflection considered.

5.1.3 The models have been programmed to assess scenarios based on the daytime, 16hr (0700 to 2300h) and night time 8hr (2300 to 0700h) periods, with receiver and grid calculation height set to 1.5 and 4m respectively.

5.1.4 Road traffic noise has been set using the measurements obtained from ML1.

5.2 Noise Model Results

5.2.1 The results from each scenario assessed are shown in Figures 1 to 3, with the assessment and interpretation of the results discussed in the following sections.

6 BS8233 ASSESSMENT

6.1 Gardens During the Daytime

6.1.1 In accordance with BS8233, the upper guidance noise level in gardens is 55dB LAeq,16h.

6.1.2 As shown at Figure 1, gardens achieve the guidance noise level during the daytime period, as these are located on the screened side of the proposed dwellings, i.e., do not have direct line of sight of the road.

6.2 Living Rooms and Bedrooms During the Daytime

6.2.1 During the daytime period, BS8233 recommends a guidance level of 35dB LAeq,16h inside living room and bedroom areas.

6.2.2 The internal layout and elevation plans considered within this report are provided at Appendix 2.

6.2.3 WHO1999 indicates that with a window partially open for ventilation, approximately 15dB of attenuation from external noise sources should be achieved.

6.2.4 On this basis, two bedrooms within House 1, will not achieve internal guidance levels without the provision of some form of acoustic ventilation. Where limiting factors exist that make achieving internal guidance levels with windows open impractical, acoustic ventilation is considered a suitable solution that meets the good acoustic design test, as per Paragraph 2.33 to 2.34 of the ProPG.

6.2.5 The living rooms and remaining bedrooms of both houses have access to a window on the eastern façade, which can be opened for ventilation purposes without exceeding the internal guidance noise level.

6.2.6 Appropriate mitigation measures are discussed in Section 7.

6.3 Bedrooms During the Night-time

6.3.1 During the night-time period, BS8233 recommends a guidance level of 30dB LAeq,8h and 45dB LAmax inside bedroom areas.

6.3.2 As per the daytime requirements, the majority of bedrooms will achieve the guidance levels with an open window, as bedrooms have access to a window located on the eastern façade. Two bedrooms within House 1, will not achieve internal guidance levels without the provision of some form of acoustic ventilation.

6.3.3 Enhanced glazing will also be required to a number of first floor bedrooms which have windows with direct line of sight of the road.

6.3.4 Appropriate mitigation measures are discussed in Section 7.

7 MITIGATION MEASURES

7.1.1 The receiving rooms subject to the highest potential impact are generally those with the greatest ratio of window area to room volume, in closest proximity to the dominant noise sources surrounding the development.

7.1.2 Using the plot elevation plans provided by the applicant, along with day and night-time noise levels modelled in Figures 1 to 3, detailed composite façade calculations can be performed to determine the approximate internal noise levels during the different periods.

7.1.3 The most exposed habitable rooms that do not have windows located on screened facades, are bedrooms located within House 1, which have direct line of sight of Durham Road. The levels of attenuation required to achieve the internal guidance levels are summarised in Table 5 below.

Table 5: Attenuation requirements			
	LAeq,16h	LAeq,8h	LAmax
Level at façade of receptor (dBA)	62	59	74
Level of attenuation required (dBA)	27	29	29

7.1.4 As part of the development, bedrooms of House 1 facing Durham Road are found to be the most exposed to noise ingress due to glazing and room volume dimensions, therefore calculations have been performed to determine a suitable glazing and ventilation strategy for these bedrooms as a robust approach.

7.1.5 BS8233 and BS EN12354-3 provide equations for performing detailed noise break-in for composite facades and individual façade elements such as ventilators. The equations are shown below.

$$L_2 = L_{1,in} - R + 10 \times \text{Log}(S/V) + 10 \times \text{Log}(T) + 11$$

$$L_2 = L_{1,in} - D_{n,e} - 10 \times \text{Log}(V) + 10 \times \text{Log}(T) + 21$$

7.1.6 The equations have been followed, with the results summarised in Table 6 below.

Table 6: Summary of detailed noise break-in calculation for bedrooms of House 1 facing Durham Rd						
	Total Area/No. vents	125Hz	250Hz	500Hz	1kHz	2kHz
Glazing Rw+Ctr = 32dB (i.e., 10/12/4mm)	0.9m ²	24	22	32	37	44
Active Façade (Solid brickwork with cavity)	4.39m ²	37	42	52	60	63
Ventilation Acoustic Trickle Vents Dnew + Ctr = 39dB	2no.	33	39	39	43	50
Composite Façade Attenuation	30dB					
Summary of Calculated Noise Levels						
	Daytime (dB LAeq)	Night-time (dB LAeq)		Night-time (dB LAm _{ax})		
External Noise Level	62	59		74		
Internal Noise Level	32	29		44		

7.1.7 The results demonstrate that the recommend glazing and ventilation scheme will achieve the internal guidance levels.

7.1.8 All remaining habitable rooms, i.e., living rooms and bedrooms have access to a window located on the eastern façade of the proposed dwellings. Eastern facades are exposed to lower noise levels, as can be seen on the attached figures, and therefore acoustic ventilation will not be required.

7.1.9 Enhanced glazing will be required for windows of bedrooms located on the most exposed facades, adjacent to Durham Road, however with east facing windows opened for ventilation purposes, the internal guidance noise levels will be achieved.

7.1.10 The required glazing and ventilation are shown at Figure 4.

8 ACOUSTIC DESIGN STATEMENT

8.1 Introduction

8.1.1 In accordance with the ProPG: Planning and Noise, an acoustic design statement has been prepared to supplement the noise assessment report.

8.1.2 The statement has been informed by the results presented in the previous sections of this report, and also based on the discussions, processes and limitations considered during the design of the site layout before submission of this planning application.

8.2 Gardens

8.2.1 With the inclusion of a 1.2m high close boarded fence as shown at Figure 1, the upper guidance level is achieved within gardens.

8.3 Internal Guidance Levels

8.3.1 The ProPG recommends where it is not considered practical to achieve the internal noise level guidelines with windows open, justification should be provided to the LPA setting out the reasons for this.

8.3.2 Both living rooms and the majority of bedrooms have access to windows on the eastern facade, therefore no acoustic ventilation is required as a window can be opened on the screened side of the dwelling without exceeding the internal guidance noise levels. Two bedrooms located in House 1, have direct line of sight of the road and no access to a window located on the eastern facade, therefore will require acoustic ventilation.

8.3.3 For those two rooms where exceedances remain, the only other viable means for reducing internal noise levels to an acceptable standard would be through the use of an alternative means of ventilation.

8.3.4 Where limiting factors exist that make achieving internal guidance levels with windows open impractical, acoustic ventilation is considered a suitable solution that meets the good acoustic design test, as per Paragraph 2.33 to 2.34 of the ProPG, which states:

"It should be noted that the acoustic performance of the building envelope will be reduced in the event windows are opened for ventilation or cooling purposes, typically reducing the insulation to no more than 10 to 15 dB(A).

Most residents value the ability to open windows at will, for a variety of reasons, and LPAs should therefore normally request that designers principally aim, through the use of good acoustic design, to achieve the internal noise level guidelines in noise-sensitive rooms with windows open. Where internal noise levels are assessed with windows closed the justification for this should be included in the ADS.

Where the LPA accepts that there is a justification that the internal target noise levels can only be practically achieved with windows closed, which may be the case in urban areas and at sites adjacent to transportation noise sources, special care must be taken to design the accommodation so that it provides good standards of acoustics, ventilation and thermal comfort without unduly compromising other aspects of the living environment.

In such circumstances, internal noise levels can be assessed with windows closed but with any façade openings used to provide "whole dwelling ventilation" in accordance with Building Regulations Approved Document F (e.g. trickle ventilators) in the open position (see Supplementary Document 2). Furthermore, in this scenario the internal LAeq target noise levels should not generally be exceeded."

8.3.5 It is felt that in this circumstance, with due consideration to the factors set out above, as the site is located adjacent to Durham Road, achieving the internal guidance levels through use of an alternative means of ventilation is a suitable solution that meets the good acoustic design test.

8.4 Glazing and Ventilation Recommendation Summary

8.4.1 Table 7 summarises the recommendations for glazing and ventilation, also provided at Figure 4.

Table 7: Glazing and ventilation requirements summary

Location	Glazing	Ventilation	Notes
2no. First Floor Bedrooms of House 1, adjacent to Durham Road	Glazing Rw+Ctr = 32dB (i.e., 10/12/4mm)	Acoustic Trickle Vents Dnew + Ctr = 39dB	Alternative ventilation such as AD-F system 4 (mechanical supply and extract with heat recovery (MVHR)) would also be suitable. If such a scheme is selected, care should be taken to ensure that noise from mechanical services do not exceed 30 dB(A) in bedrooms and living rooms, and not exceed a limit of 35 dB(A) in kitchens when in operation.
1no. First Floor Bedroom of House 1 and 1no. First Floor Bedroom of House 2, adjacent to Durham Road		No ventilation requirements	
Remaining rooms		Standard double glazing Rw+Ctr = 27dB	

Notes: These recommendations apply to noise sensitive rooms (living rooms and bedrooms)

Care should be taken to ensure that noise from mechanical services does not exceed 30 dB(A) in bedrooms and living rooms, and 35 dB(A) in kitchens when in operation.

The presence of any defects to existing façade elements is likely to significantly reduce the stated acoustic performance of the façade and may lead to test failures.

NJD Environmental Associates accepts no responsibility for poor workmanship or failure to replace or restore defective façade elements that may reduce acoustic performance standards.

9 CONCLUSION

9.1 Introduction

9.1.1 NJD Environmental Associates has undertaken a noise assessment for a proposed residential development on land off Durham Road, Darlington

9.2 BS8233 Assessment

9.2.1 The BS8233:2014 assessment found that guidance noise levels in garden areas can be achieved through the provision of 1.2m high close boarded fencing, as gardens are located on the screened side of the proposed dwellings and therefore do not have direct line of sight of the road.

- 9.2.2 There should be no cracks or gaps in the fencing, which should run continuous to the ground, and ideally have a density 10 kg/m² or greater.
- 9.2.3 Internal noise levels can generally be achieved across the site with windows open, as the majority of habitable rooms have access to at least one window located on the eastern façade and therefore screened from the road. Bedrooms with windows that have direct line of sight of Durham Road will require enhanced glazing and/or acoustic ventilation to achieve the guidance noise levels.
- 9.2.4 Noise break-in calculations have demonstrated appropriate schemes of glazing and ventilation can be adopted, with the details summarised in Table 7 and shown on Figure 4.
- 9.2.5 The acoustic design statement concluded that based on the site context and limitations, i.e., the site is located adjacent to Durham Road, reasonable means have been taken to ensure the recommendations pass the good acoustic design test in accordance with the ProPG.

9.3 Summary

- 9.3.1 It is concluded that subject to the recommend mitigation measures being implemented, noise should not be a prohibitive factor in the determination of this planning application.



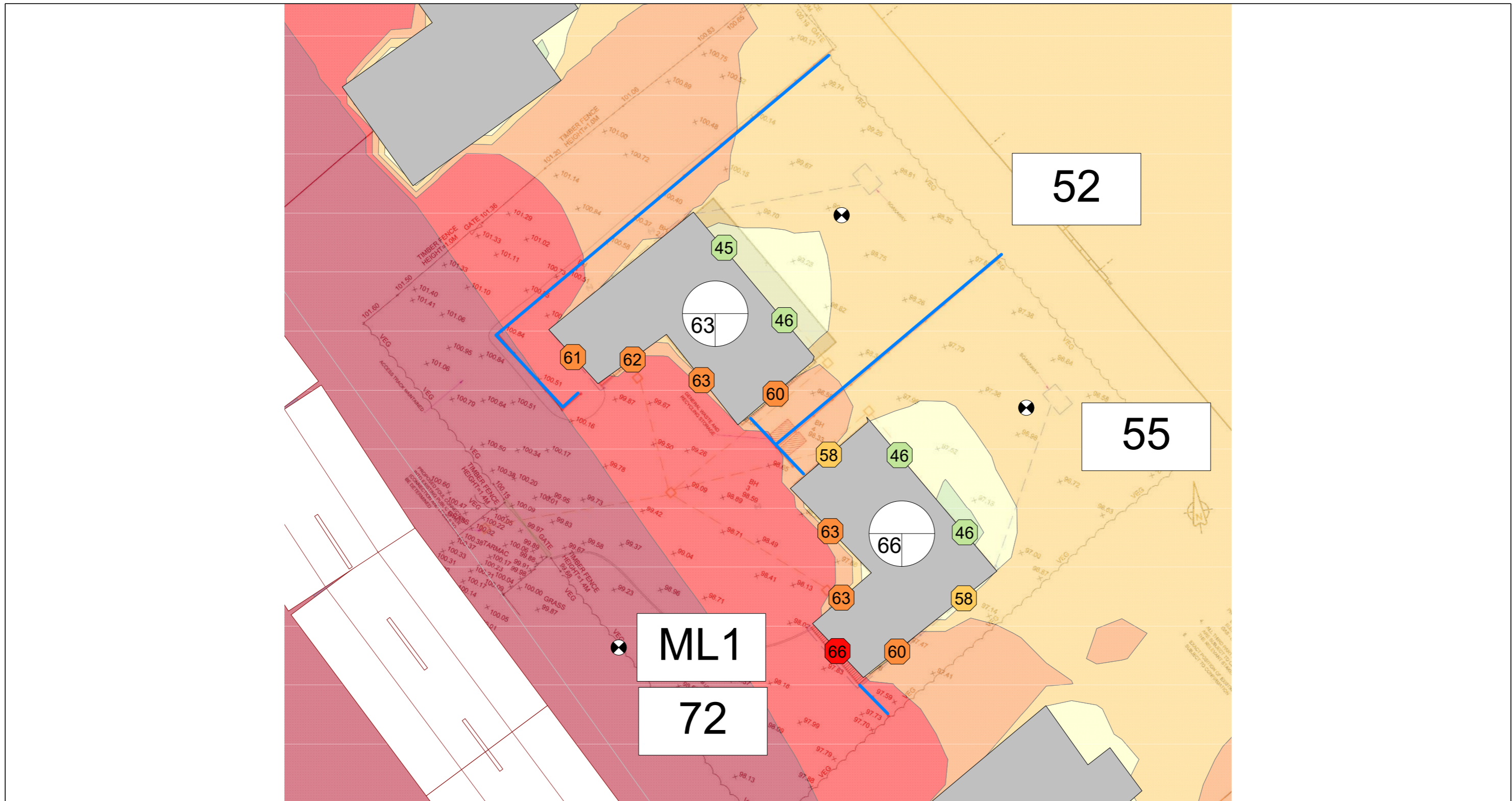
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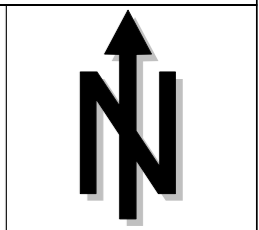
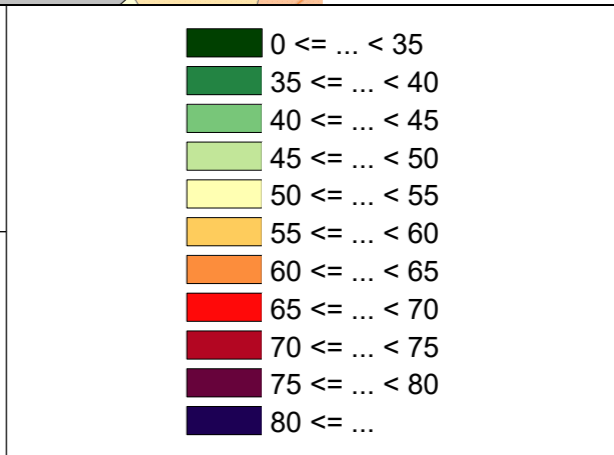


Client:
Mr R Farrow

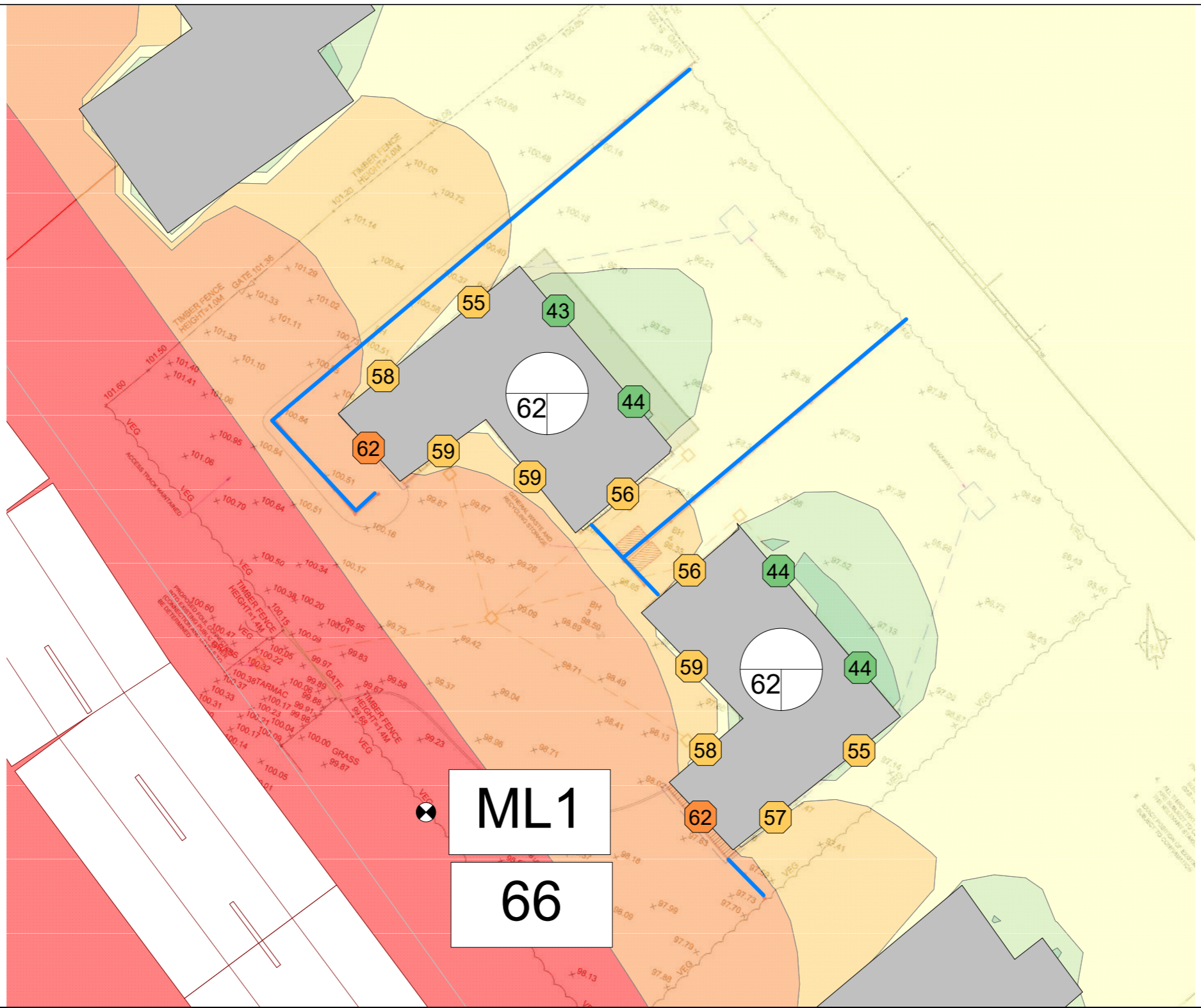
Job Title:
NJD22-0004
Durham Road, Darlington

Figure 1:
Daytime LAeq,16hr
(1.5m receptor height)

Drawn By:
NJ Dixon-Boak



Date:
January 2022

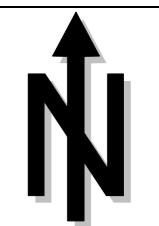
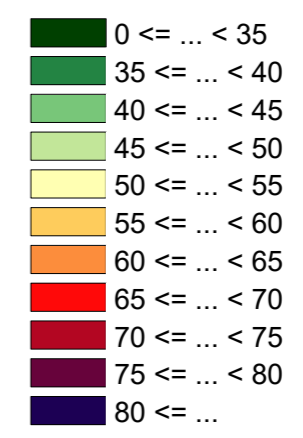


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Mr R Farrow

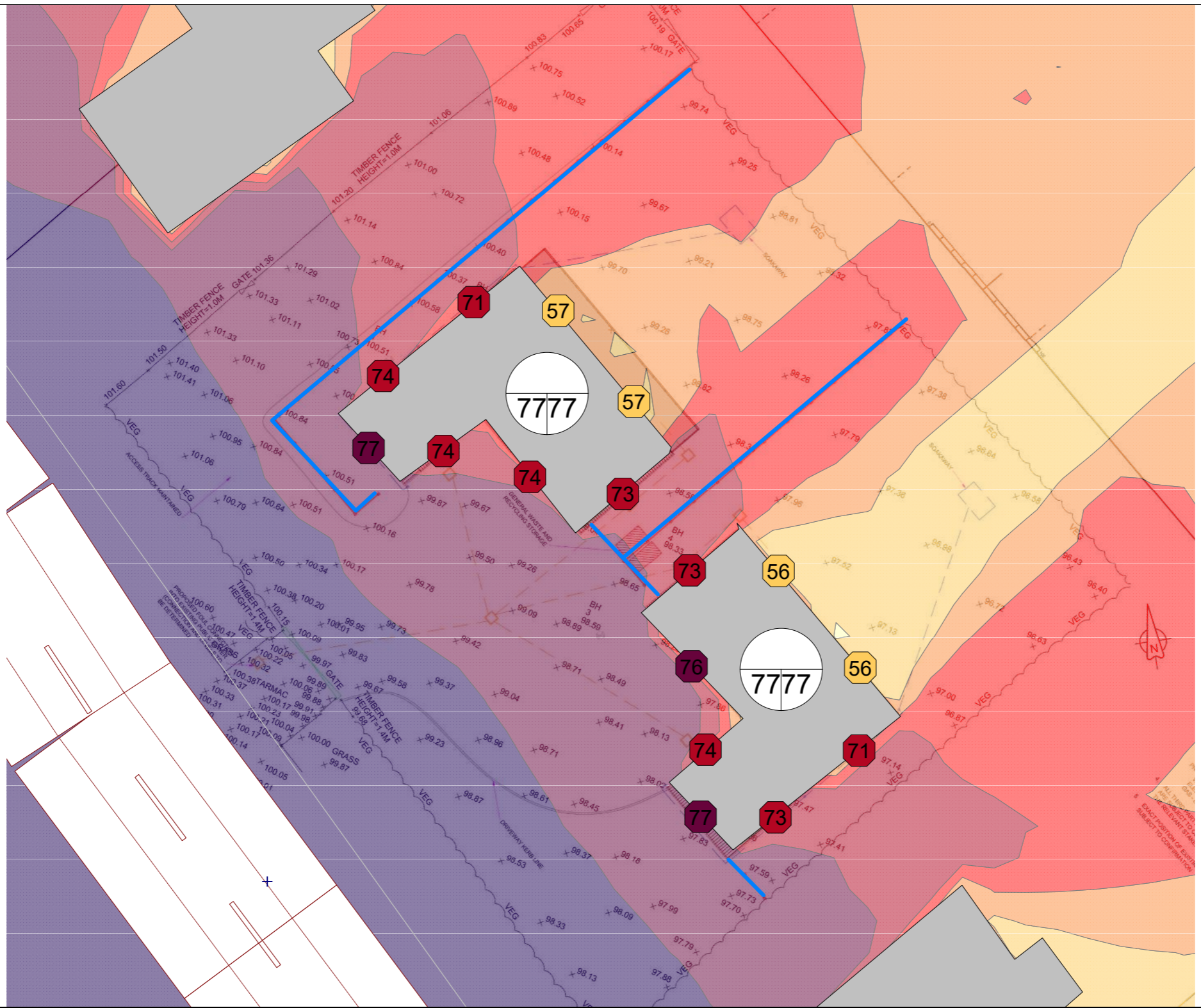
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Figure 2:
Night Time LAeq,8hr
(4m receptor height)

Drawn By:
NJ Dixon-Boak



Date:
January 2022

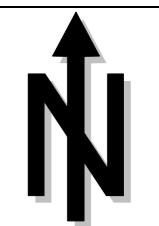
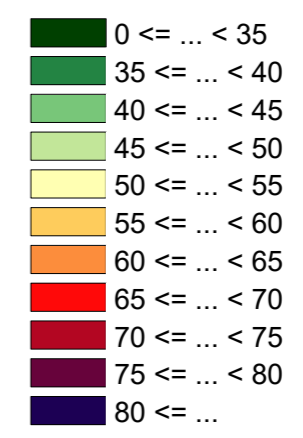


Client:
Mr R Farrow

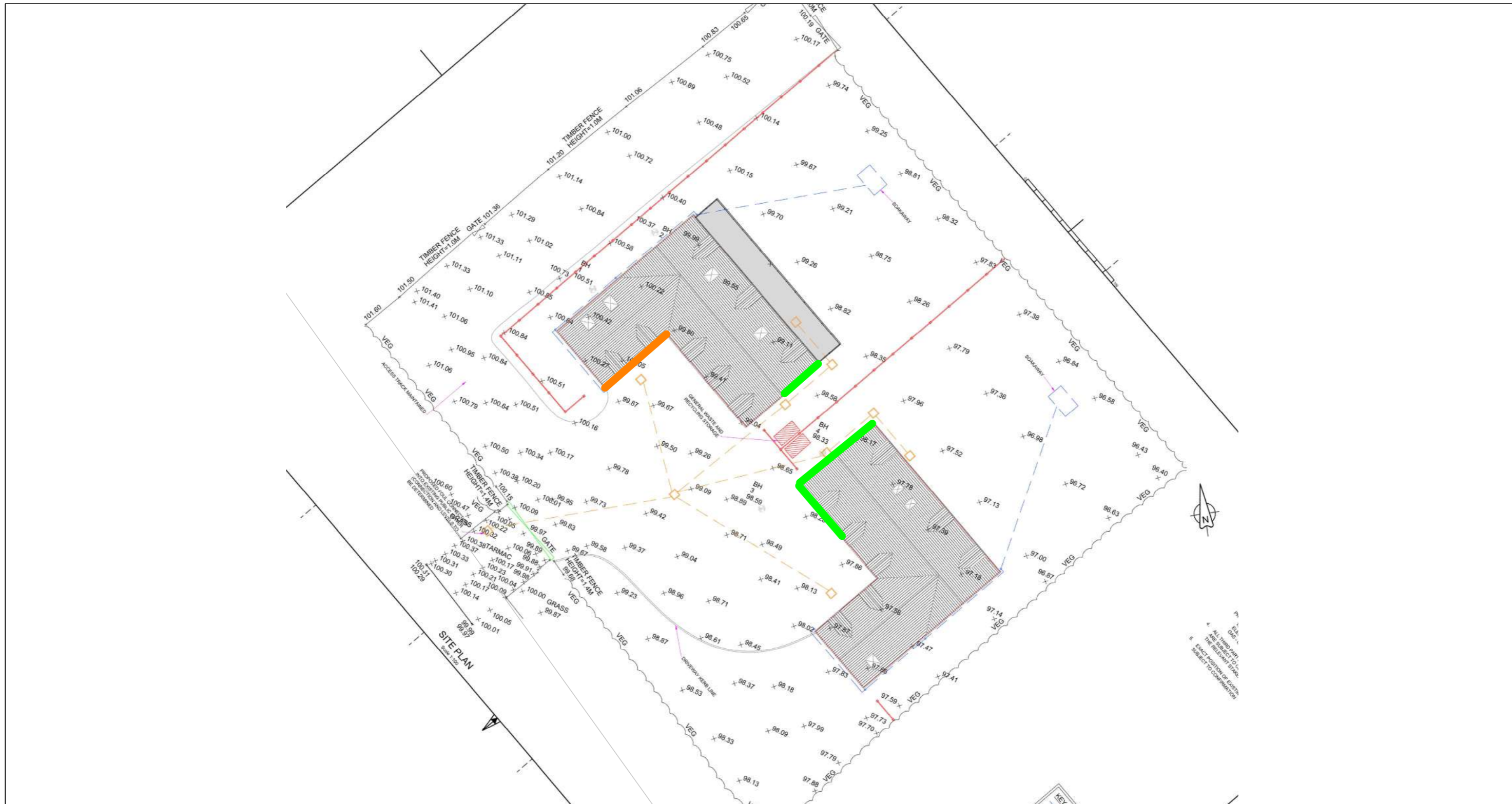
Job Title:
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Figure 3:
Night Time LMax,F
(4m receptor height)

Drawn By:
NJ Dixon-Boak



Date:
January 2022






Client:
Mr R Farrow

Job Title:
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Durham Road, Darlington

Figure 4:
First Floor Bedrooms - Acoustic Mitigation

Drawn By:
NJ Dixon-Boak

Key:	Required Mitigation:
	Glazing $R_w+C_{tr} = 32dB$ Window vent $D_{new}+C_{tr} = 39dB$
	Glazing $R_w+C_{tr} = 32dB$ No vents required



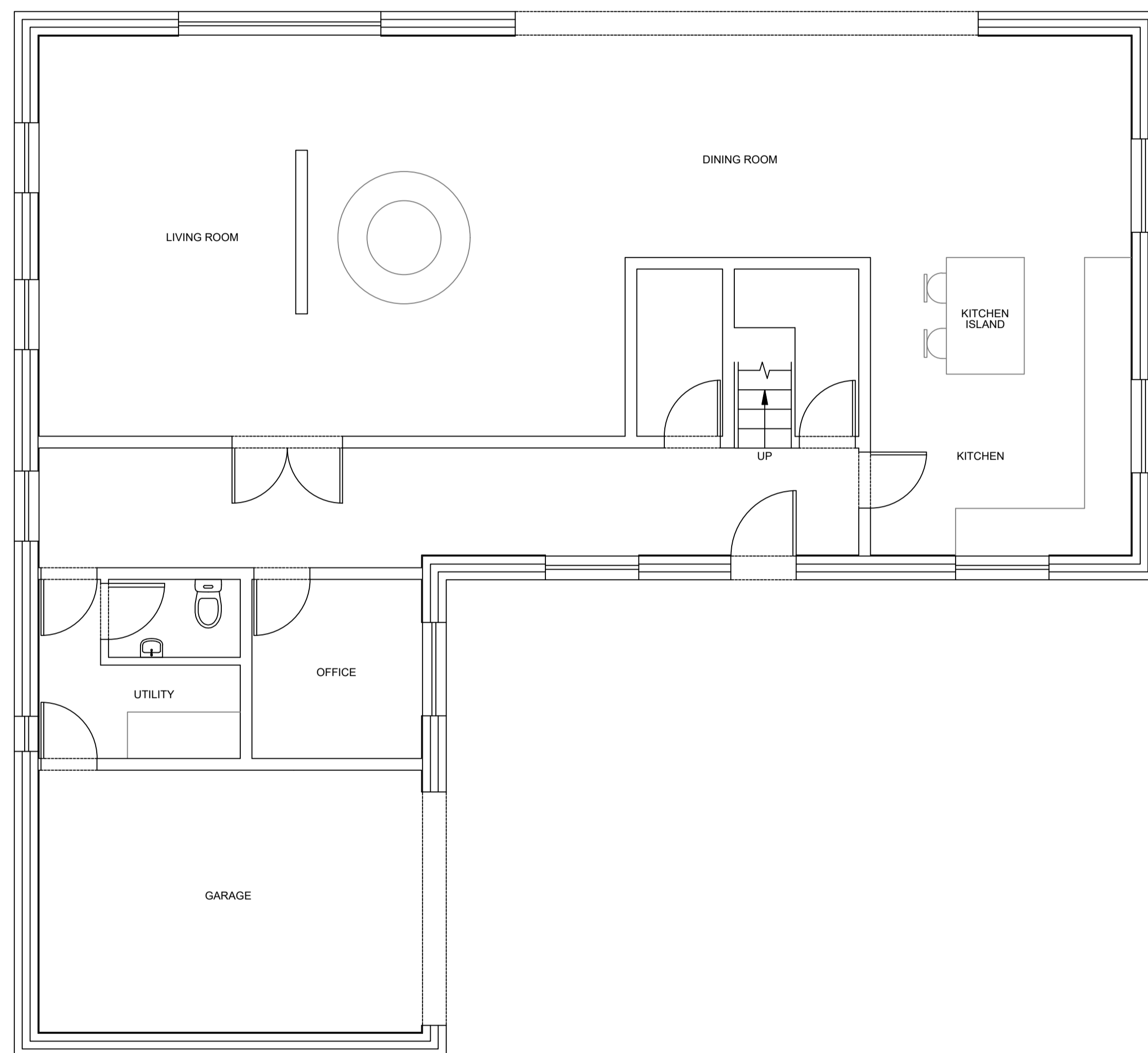
Date:
January 2022

Appendix 1 – Noise Measurements

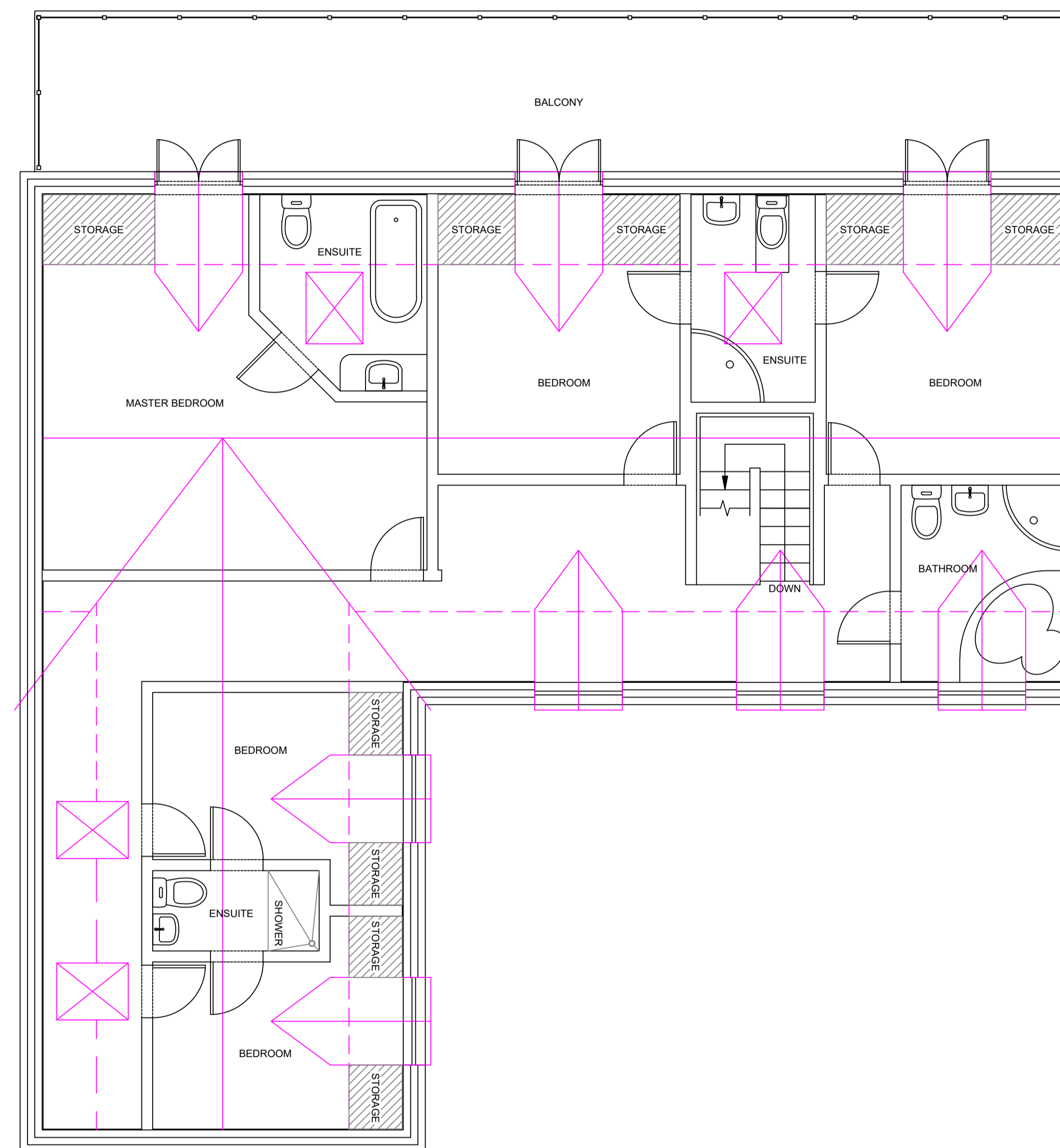
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End	1/14/2022 10:30:00 AM							
Source	Daytime Period 0700-2300h				Night Time 2300-0700h			
	Leq specific dB	Lmin dB	Lmax dB	Duration cumulated h:min:s	Leq specific dB	Lmin dB	Lmax dB	Duration cumulated h:min:s
Location								
ML1 [Leq A]	71.7	36.9	84.7	16:00:00	66.2	35.2	83.2	08:00:00
ML1 [Fast Max A]		37.6	87.9	16:00:00		35.6	85.9	08:00:00

NOTES

1. ALL DIMENSIONS IN MILLIMETERS UNLESS NOTED OTHERWISE. IT IS ADVISED NOT TO SCALE FROM THIS DRAWING.



PROPOSED GROUND FLOOR LAYOUT
Scale 1:50



PROPOSED FIRST FLOOR LAYOUT
Scale 1:50

Rev	Revision details	Chkd	Appd	Date

W.E.Consultants Ltd

42 DURHAM ROAD
DARLINGTON
DL1 3LZ

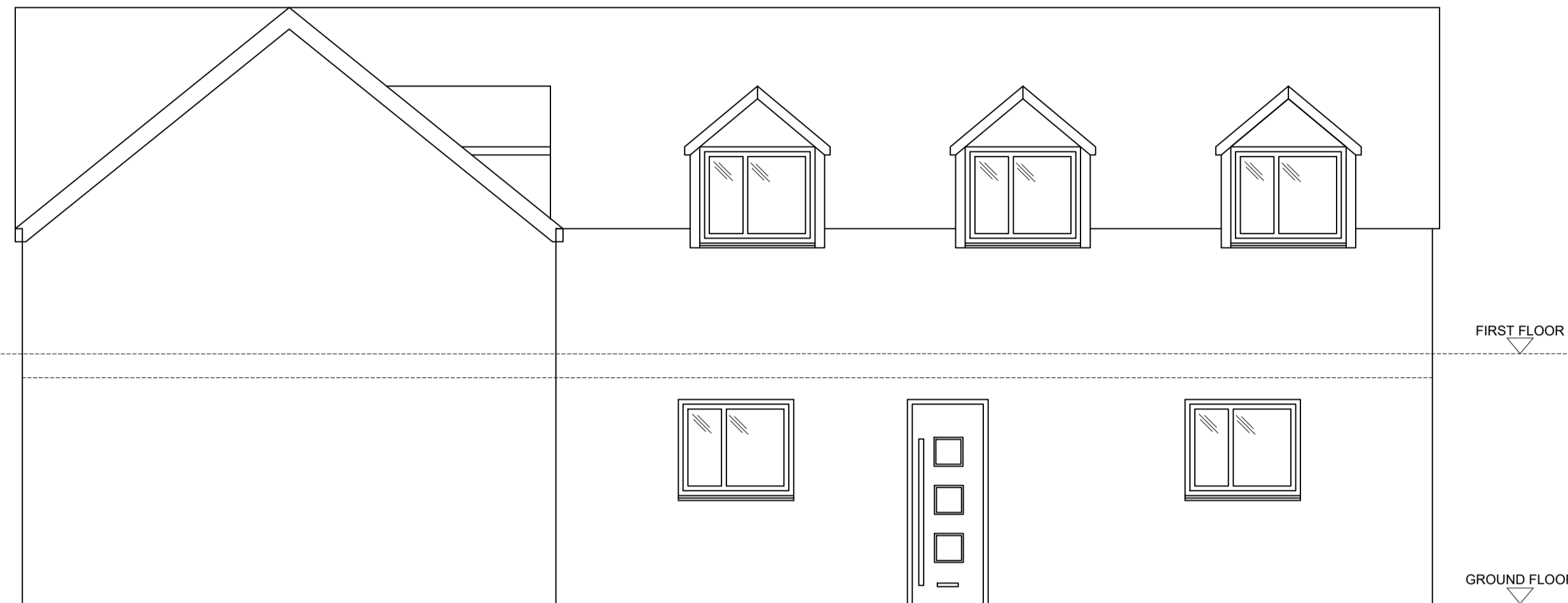
**PROPOSED INTERNAL LAYOUT
HOUSE 1**

Original Drawing Size : A1	Scale : As Shown
Dimensions : -	

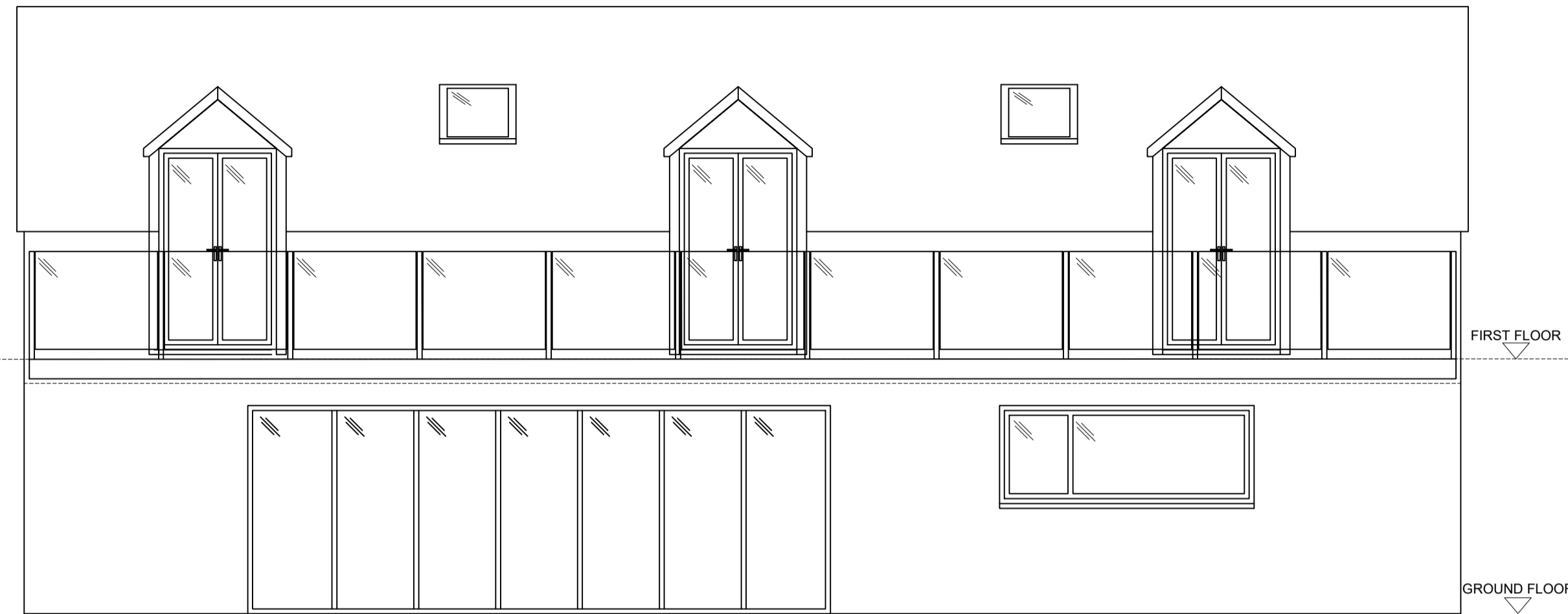
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NOTES

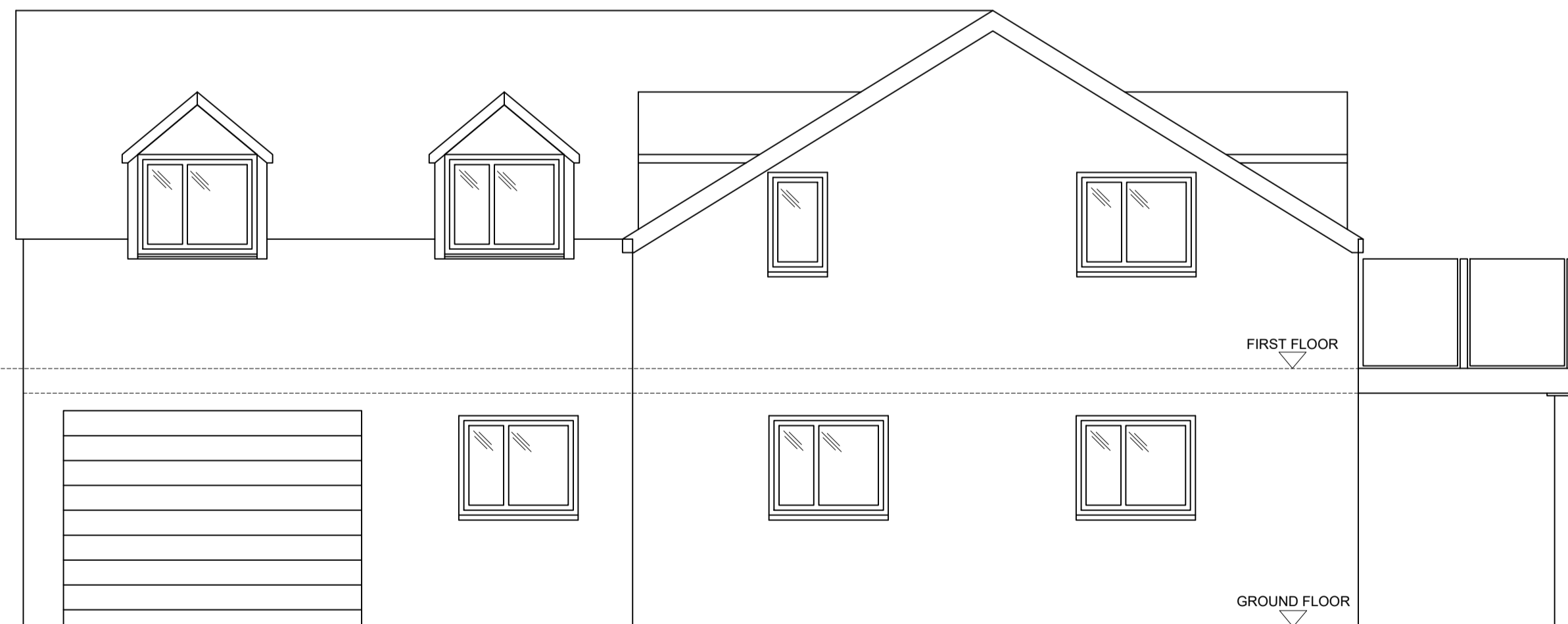
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2. DRAWINGS FOR PLANNING APPLICATION PURPOSES ONLY



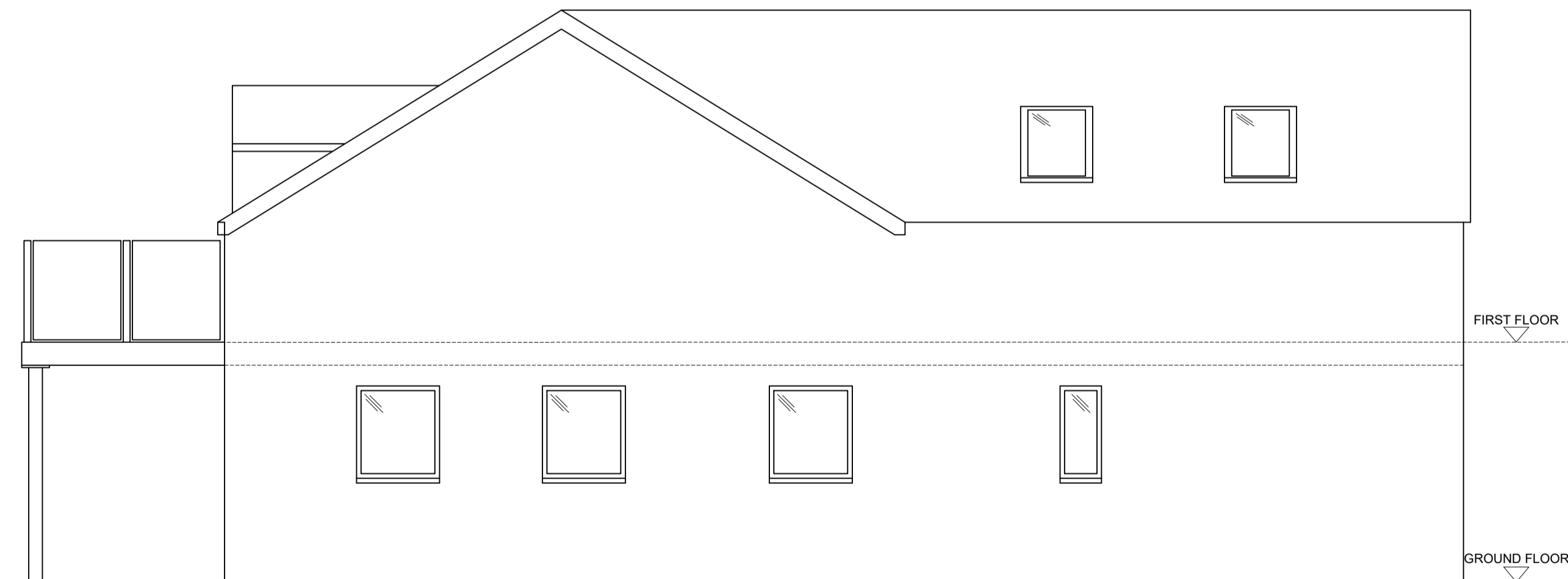
FRONT ELEVATION (FACING SOUTH-WEST)
Scale 1:50



REAR ELEVATION (FACING NORTH-EAST)
Scale 1:50



SIDE ELEVATION (FACING NORTH-WEST)
Scale 1:50



SIDE ELEVATION (SOUTH-EAST)
Scale 1:50

Rev	Revision details	Chkd	Appd	Date

Designed: J.Howard	Date: 01/10/2021
Drawn: J.Howard	Date: 01/10/2021
Checked: S.Walker	Date: 24/11/2021
Approved: S.Walker	Date: 24/11/2021

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42 DURHAM ROAD
DARLINGTON
DL1 3LZ

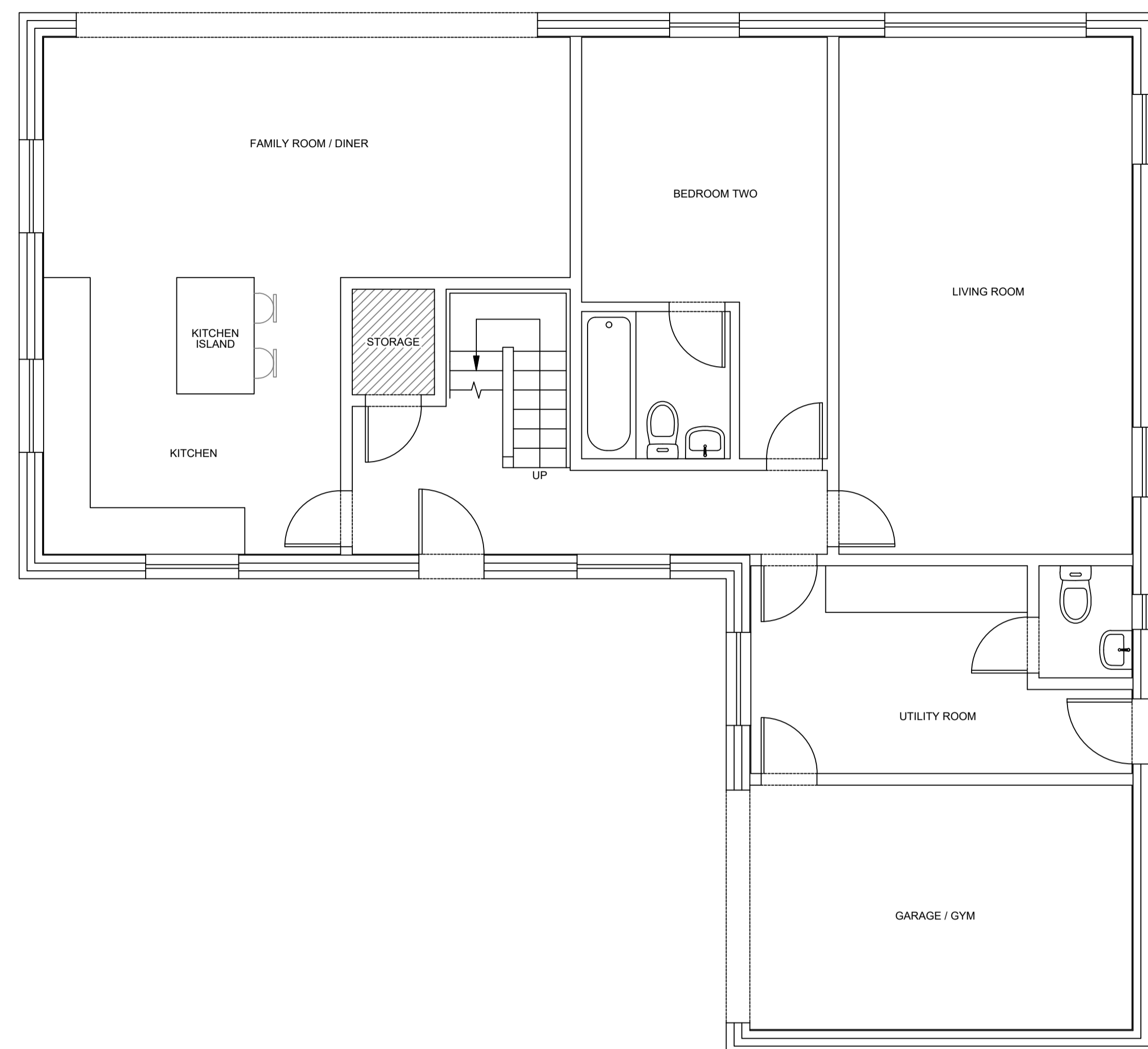
**PROPOSED ELEVATIONS HOUSE
1**

Original Drawing Size : A1	Scale : As Shown
Dimensions : -	

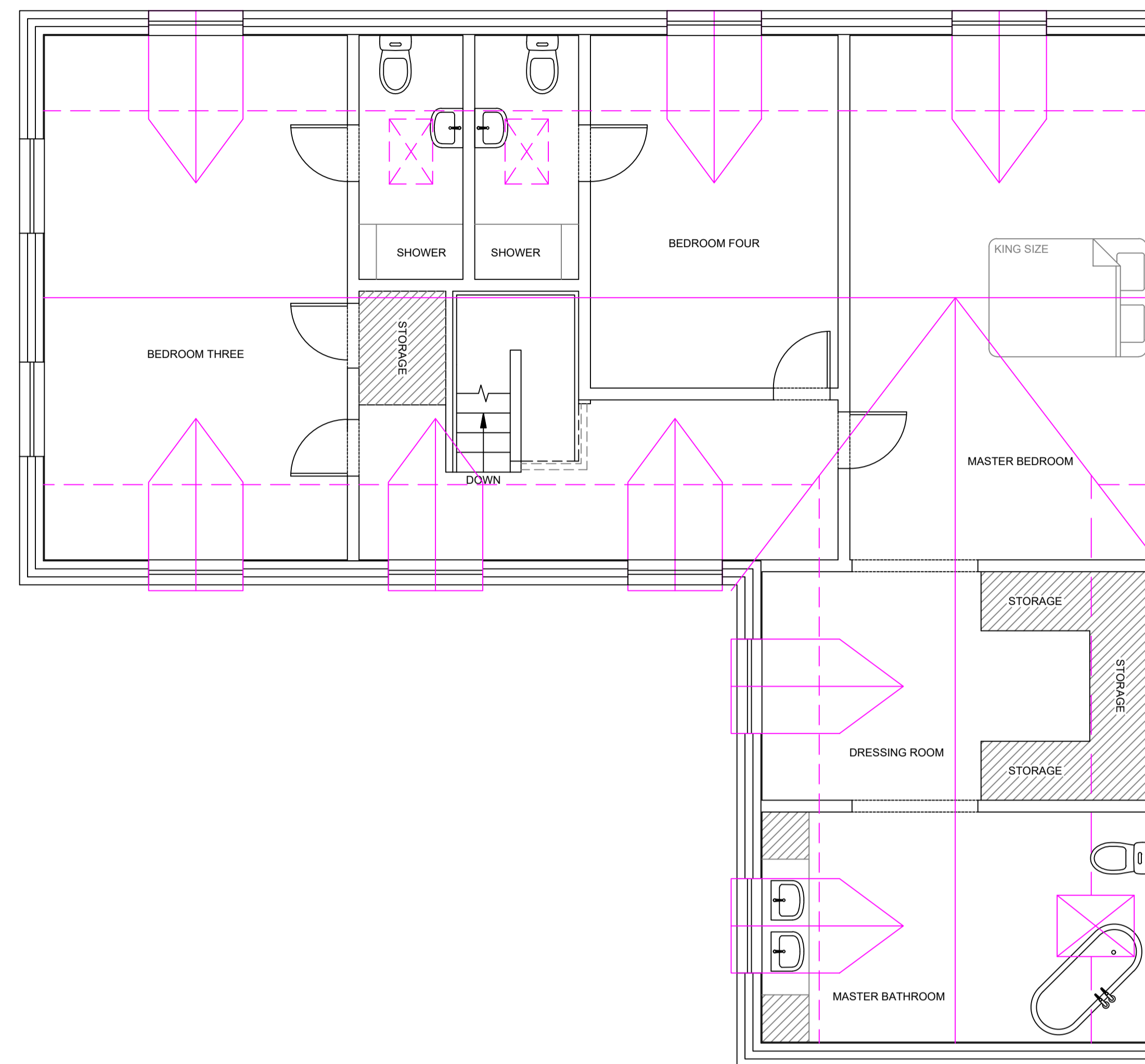
Drawing No WEC-194-DRG-WAL-000003	Rev 1.6
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NOTES

1. ALL DIMENSIONS IN MILLIMETERS UNLESS NOTED OTHERWISE. IT IS ADVISED NOT TO SCALE FROM THIS DRAWING.



PROPOSED GROUND FLOOR LAYOUT
Scale 1:50



PROPOSED FIRST FLOOR LAYOUT
Scale 1:50

Rev	Revision details	Chkd	Appd	Date

Designed:	J.Howard	Date:	01/10/2021
Drawn:	J.Howard	Date:	01/10/2021
Checked:	S.Walker	Date:	24/11/2021
Approved:	S.Walker	Date:	24/11/2021

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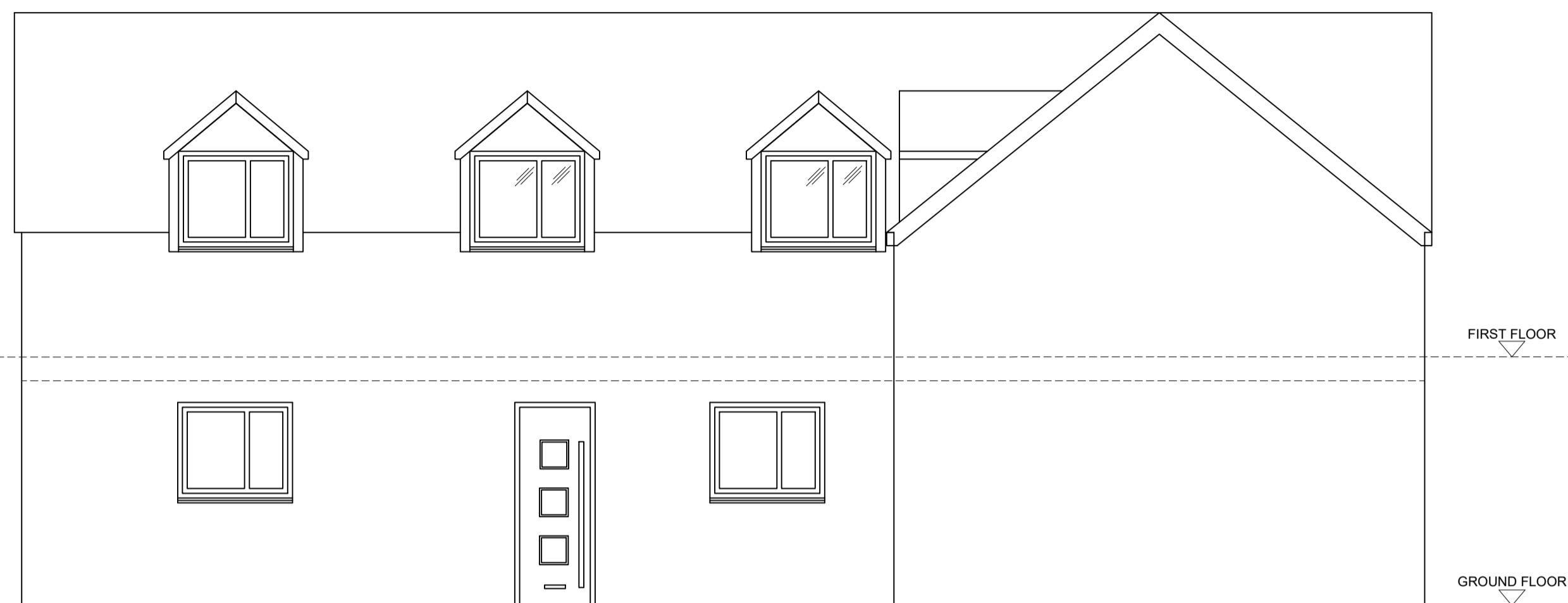
**PROPOSED INTERNAL LAYOUT
HOUSE 2**

Original Drawing Size :	A1	Scale :	As Shown
Dimensions :	-		

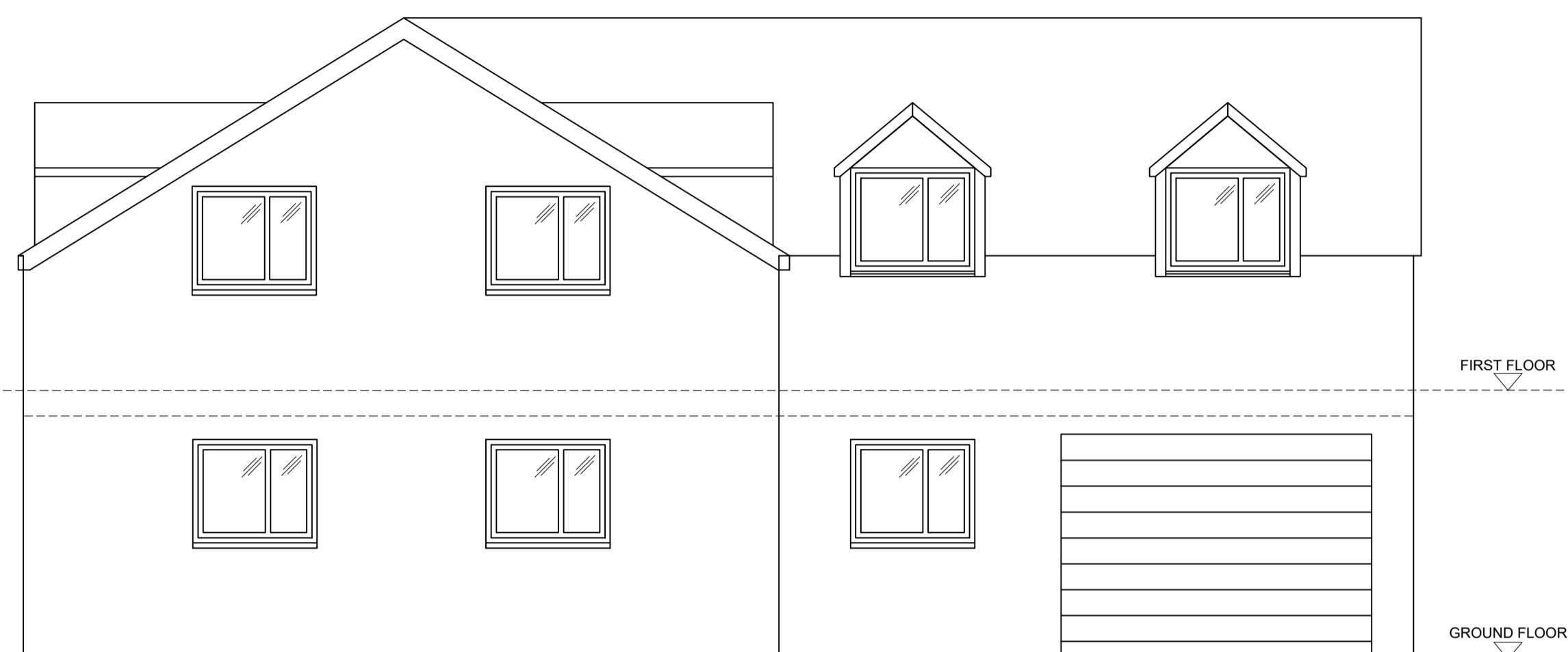
Drawing No	WEC-194-DRG-ECV-000004	Rev	1.6
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NOTES

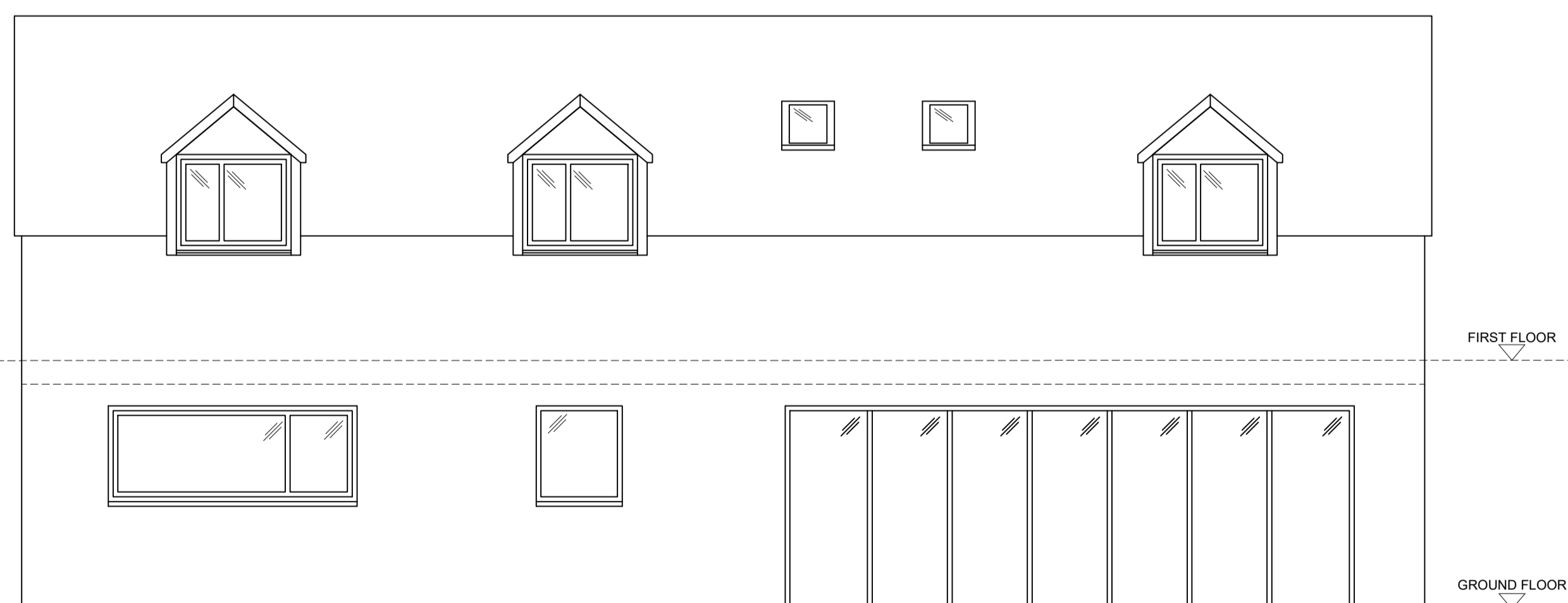
1. ALL DIMENSIONS IN MILLIMETERS UNLESS NOTED OTHERWISE. IT IS ADVISED NOT TO SCALE FROM THIS DRAWING.
2. DRAWINGS FOR PLANNING APPLICATION PURPOSES ONLY



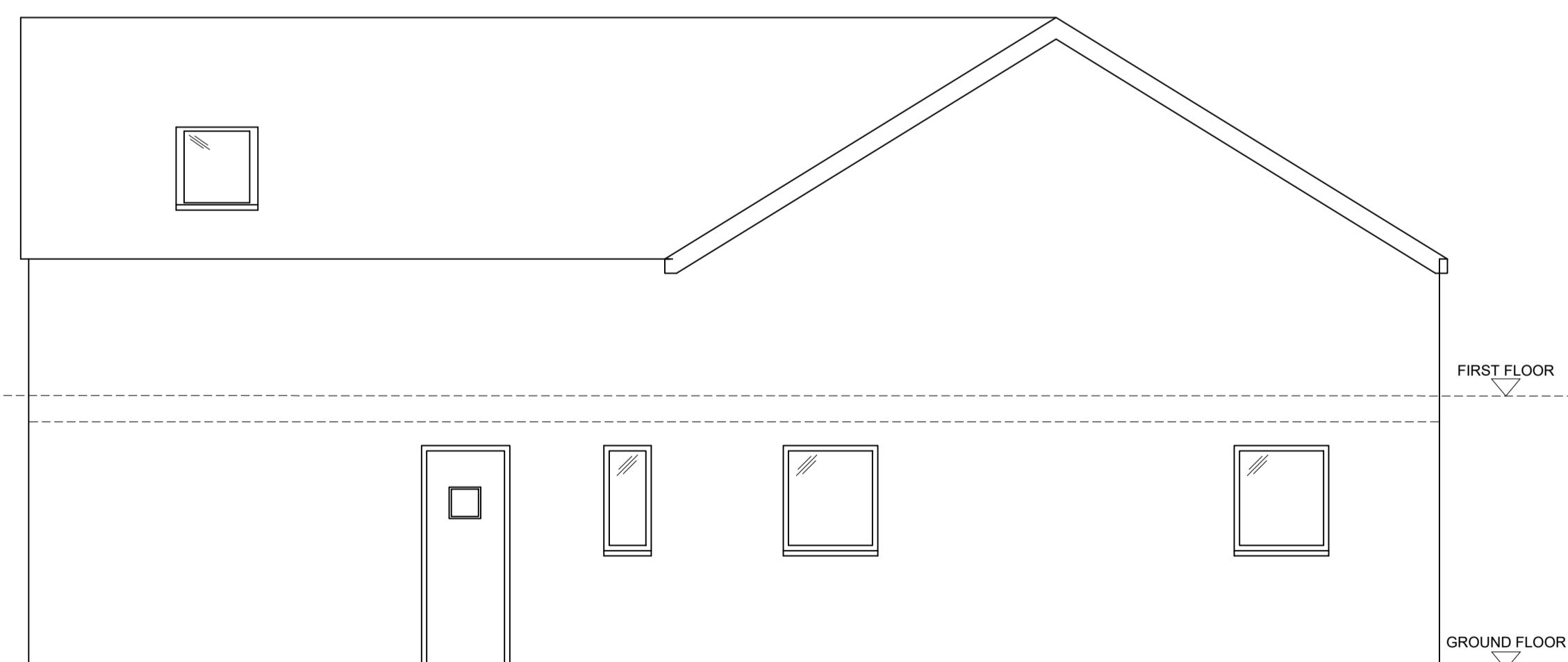
FRONT ELEVATION
Scale 1:50



SIDE ELEVATION (LEFT)
Scale 1:50



REAR ELEVATION
Scale 1:50



SIDE ELEVATION (RIGHT)
Scale 1:50

Rev	Revision details	Chkd	Appd	Date

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**PROPOSED ELEVATIONS
HOUSE 2**

Original Drawing Size : A1	Scale : As Shown
Dimensions : -	

Drawing No WEC-194-DRG-WAL-000005	Rev 1.6
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