



PHILIP FLETCHER ARCHITECTURAL DESIGN SERVICES
PROPOSED MASJID AND COMMUNITY CENTRE
2 INGFIELD AVENUE, TINSLEY, S9 1WZ
NOISE ASSESSMENT


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SECTION 1 INTRODUCTION

- 1.1 RP Acoustics Ltd (RPA) has been commissioned by Philip Fletcher Architectural Design Services to undertake a noise assessment for the operational phase of a proposed Masjid and Community Centre at 2 Ingfield Avenue, Tinsley, S9 1WZ (the application site).
- 1.2 Sheffield City Council (SCC) requires that the noise assessment is submitted as part of the planning application for the proposed development.
- 1.3 The objectives of the assessment were to:
- i.* Identify the nearest noise sensitive receptors (NSRs) to the site.
 - ii.* Determine the existing noise climate at the nearest NSRs during representative periods of the operating times of the proposed development.
 - iii.* Identify key noise sources associated with the operation of the proposed development.
 - iv.* Assess the potential impact of the operation of the proposed development at the nearest NSRs with reference to pertinent guidelines.
 - v.* Provide recommendations, as necessary, to minimise the impact of noise at the NSRs associated with the operation of the proposed development.
- 1.4 This report details the methodology and results of the assessment and has been prepared for Philip Fletcher Architectural Design Services and its client for the sole purpose described above, with no extended duty of care to any third party implied or offered.
- 1.5 A glossary of acoustics terms used in the main body of the text is contained in Appendix 1.

SECTION 2 SITE SETTING AND DEVELOPMENT PROPOSALS

2.1 SITE SETTING

- 2.1.1 The application site is located in a mixed use area off the A631, Bawtry Road. An annotated aerial image of the site and its environs (including an overlay of the proposed building) is contained in Appendix 2.1. The application site is bound by:
- i.* Bawtry Road to the north east, with a car park and commercial/retail units beyond.
 - ii.* A vacant plot of land to the south east (former primary school site) with grass football pitches beyond.
 - iii.* Tinsley Community Centre, a medical centre and parking area to the south west, with shrub land and the M1 motorway beyond.
 - iv.* Ingfield Avenue to the north west, with a grassed area and existing dwellings beyond.
- 2.1.2 Within the wider site area, the M1 motorway and Jn 34 slip road are located approximately 100 metres to the south west of the application site.



2.2 DEVELOPMENT PROPOSALS

- 2.2.1 The development proposals consist of the demolition of the existing site structures (former Methodist Church) and the construction of a Masjid and Community Centre (masonry construction). The existing site access will be retained.
- 2.2.2 The proposals will provide prayer facilities along with Islamic teaching for boys and girls, together with multi faith facilities for the local community (youth groups, after school and evening activities etc). The ethos behind the development is sustainability, with the staff promoting walk to prayer and walk to class schemes and a secure cycle storage area provided. Notwithstanding this, a car park will be provided to the north west of the building.
- 2.2.3 The Planning Statement for the application states that car parking for larger events and main Friday prayers will be manned by parking attendants and identifies a congregation of around 250 for main Friday prayers and a normal daily attendance of 30 for daily prayers. It is also understood that there will be no call to prayer.
- 2.2.4 Proposed development plans are contained in Appendix 2.2. With reference to the development plans, it can be seen that kitchen facilities, two function rooms and an activity space are proposed at basement level, with offices and prayer space at ground floor level and learning spaces at upper floor levels.

SECTION 3 NOISE ASSESSMENT

3.1 NOISE SENSITIVE RECEPTORS (NSRS)

- 3.1.1 The nearest NSRs were identified as follows:
- i.* NSR1: Existing dwellings and flats to the north west of the application site, with the nearest dwellings circa. 45 metres to the closest façade of the proposed building.
 - ii.* NSR2: Existing dwellings to the north east of the application site, with the nearest dwellings circa. 50 metres to the closest façade of the proposed building.
- 3.1.2 The approximate location of the NSRs is identified on the annotated aerial image contained in Appendix 2.1.

3.2 NOISE SURVEY RESULTS

- 3.2.1 In order to assess the ambient noise climate at the application site, a baseline noise survey was undertaken between 13:30 and 15:00 hours on Sunday 14th January 2024. The Sunday survey period is considered robustly representative of the ambient noise climate at the application site.
- 3.2.2 For the purpose of the assessment, the following monitoring position (MP) was used:
- i.* MP1 was located in a free field environment, at 1.5 metres above ground level (mAGL) central to the existing site car park and circa. 25 metres from the nearside kerb of Bawtry Road.



- 3.2.3 The approximate location of the monitoring position is identified on the annotated aerial image contained in Appendix 2.1.
- 3.2.4 Noise measurements were undertaken using a NTi Audio XL2 Type 1 integrating sound level meter. A 90 mm windshield was fitted for all measurements. The measurement system calibration was verified immediately before the commencement of the measurement session and again at the end. No drift in calibration level was noted. Weather conditions throughout the survey were appropriate for monitoring.
- 3.2.5 Measurements consisted of A-weighted broadband parameters, together with linear third octave band L_{eq} levels, with a logging interval of 1 second. The following table contains a summary of the noise measurement data, rounded to the nearest decibel.

Table 3.1: Noise Measurement Data Summary, 14th January 2024

MP	Time	$L_{Aeq,T}$ (dB)	L_{AFmax} (dB)	$L_{A10,T}$ (dB)	$L_{A90,T}$ (dB)	Comments
1	13:30-15:00	58	68	60	55	Noise climate consisting of traffic on Bawtry Road and M1.

- 3.2.6 During the course of the noise survey, the residual noise climate in the vicinity of the application site consisted of traffic on Bawtry Road and constant M1 traffic noise. A manual traffic count undertaken at 13:50 hours indicated circa 750 vehicles/hour on Bawtry Road.

SECTION 4 ASSESSMENT CRITERIA

4.1 NATIONAL PLANNING POLICY FRAMEWORK

- 4.1.1 The National Planning Policy Framework (NPPF) is a material consideration in planning decisions. At the heart of the NPPF is a presumption in favour of sustainable development, and the policies in Paragraphs 18 to 219 of the NPPF, taken as a whole, constitute the Government's view on what sustainable development in England means in practice for the planning system.
- 4.1.2 The NPPF states that there are three dimensions to sustainable development, which include an economic role (contributing to building a strong, responsive and competitive economy), a social role (providing the supply of housing required to meet the needs of present and future generations) and an environmental role (which includes minimising waste and pollution).
- 4.1.3 The NPPF supersedes Planning Policy Guidance Note 24 (PPG 24). The main policy statement in relation to noise is Paragraph 123 of the NPPF, which states:

Planning policies and decisions should aim to:

- *Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;*
- *Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;*



- *Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and*
- *Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.*

4.1.4 In relation to 'adverse impacts', the NPPF refers to the Explanatory Note to the Noise Policy Statement for England (NPSE) for guidance.

4.1.5 The Noise Policy Statement for England (NPSE) and associated Explanatory Note were published by DEFRA in 2010 and set out the Government's noise management strategy to enable noise management decisions to be made within the wider context (i.e. guiding principles of sustainable development), in a cost-effective manner and in a timely fashion.

4.1.6 Fundamental to this approach is 'there is a need to integrate consideration of the economic and social benefit of the activity or policy under examination with proper consideration of the adverse environmental effects, including the impact of noise on health and quality of life. This should avoid noise being treated in isolation in any particular situation, i.e. not focussing solely on the noise impact without taking into account other related factors'.

4.1.7 The noise policy aims of NPSE are to (i) avoid significant adverse impact on health and quality of life, (ii) mitigate and minimise adverse impacts on health and quality of life, and (iii) where possible, contribute to the improvement of health and quality of life. The policy aims are always to be considered within the context of the Government's policy on sustainable development.

4.1.8 In relation to the mitigation and minimisation of adverse impacts, NPSE considers that *'in reality, although not always stated, the aim has tended to be to minimise noise 'as far as is reasonably practical'*. This is reinforced in Paragraph 2.24 of the Explanatory Note, which requires that *'all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development. This does not mean that such adverse effects cannot occur'*.

4.1.9 In relation to explaining the 'significant adverse' and 'adverse' effects quoted in the NPPF, NPSE uses the two established concepts from toxicology that are currently being applied to noise impacts, for example by the World Health Organisation (WHO), these 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 noise.
- LOAEL – Lowest Observed Adverse Effect Level. This is the level above which adverse effects on health and quality of life can be detected.

4.1.10 The NPSE then extends these concepts to lead to a SOAEL – Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur.



- 4.1.11 No specific criteria are presented in the NPSE, to provide the necessary policy flexibility until further evidence and suitable guidance is available. The main potential for noise impact associated with operations at the application site are considered to be through subjective effects such as annoyance. To assess these effects, a comparative assessment and an absolute noise level assessment have been considered. In lieu of specific criteria in the NPSE, for the assessment, reference is made to existing guidance, which is summarised under the headings below.
- 4.1.12 A comparative assessment is where the noise from the facility is assessed against the existing noise climate. Typically, British Standard BS 4142:2014+A1:2019 'Methods for Rating and Assessing Industrial and Commercial Sound' (BS 4142) is used as a suitable assessment tool.
- 4.1.13 An absolute noise level assessment is where the noise level associated with the facility is assessed against guidelines based on noise level-community dose relationships, whereby a given noise level will invoke a degree of disturbance or annoyance to a specific percentage of people. The absolute noise level assessment criteria used in this report are the World Health Organisation (WHO) Guidelines for Community Noise.
- 4.2 **NATIONAL PLANNING PRACTICE GUIDANCE: NOISE**
- 4.2.1 Guidance provided in the National Planning Practice Guidance (NPPG) for noise, presents a table of noise exposure hierarchy, which relates the NOEL, LOAEL and SOAEL levels to the subjective perception of noise and examples of outcomes (reproduced in Table 4.1 below).
- 4.2.2 When considering the factors that influence whether noise could be a concern, the NPPG considers that 'the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected'. This includes factors such as the source and absolute level of the noise, the time of day it occurs, the number of noise events and the frequency and pattern of occurrence.



Table 4.1: Summary of noise exposure hierarchy (from NPPG, Noise)

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 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.	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 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

4.3 BS 4142:2014+A1:2019

4.3.1 BS 4142 describes methods for rating and assessing sound of an industrial and/or commercial nature, which includes:

- i.* sound from industrial and manufacturing processes;
- ii.* sound from fixed installations which comprise mechanical and electrical plant and equipment;
- iii.* sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and
- iv.* sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and/or commercial site.



- 4.3.2 The methods described in BS 4142 use outdoor sound levels to assess the likely effects of sound on people for the purposes of (i) investigating complaints, (ii) assessing sound from proposed, new, modified or additional source(s) of sound of an industrial and/or commercial nature, and (iii) assessing sound at proposed new dwellings or premises used for residential purposes.
- 4.3.3 BS 4142 considers that the significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. It goes on to suggest that:
- i.* A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;
 - ii.* A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and
 - iii.* Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.
- 4.3.4 Where the initial estimate of the impact needs to be modified due to the context, factors to be taken into account include the absolute level of sound and whether dwellings will already incorporate design measures that secure good internal and/or outdoor acoustic conditions. The reference time interval of the specific sound is 1 hour during the day and 15 minutes at night.
- 4.3.5 The rating level is described as the specific sound level (the equivalent continuous A-weighted sound pressure level at the assessment position (NSR) produced by the specific sound source over the given reference time interval) plus any adjustment for the characteristic features of the sound. The character correction relates to whether and to what degree the specific sound is assessed to have an element of tonality, impulsivity and/or characteristics that are readily distinctive against the residual acoustic environment.
- 4.3.6 The background sound level is the A-weighted sound pressure level of the residual sound at the assessment position that is exceeded for 90 percent of a given time interval, T, measured using time weighting 'F' and quoted to the nearest whole number of decibels. The residual sound is described as the ambient sound remaining in a given position in a given situation when the specific sound source is suppressed to a degree such that it does not contribute to the ambient sound.
- 4.3.7 With reference to the NPPF/NPSE and BS 4142, a rating level of $< + 10$ dB accords with the 1st aim of NPSE (to avoid significant adverse impacts), whilst a rating level of \leq the representative background level accords with the 2nd aim of NPSE (to mitigate and minimise adverse impacts).

4.4 **WORLD HEALTH ORGANISATION GUIDELINES FOR COMMUNITY NOISE**

- 4.4.1 The World Health Organisation Guidelines for Community Noise (WHO Guidelines, 1999) considers that for the restorative process of sleep, internal bedroom levels should not exceed 30 dB $L_{Aeq,23:00-07:00}$. Assuming the sound attenuation of a partially open window is 15 dB, this equates to an external free field level of 45 dB L_{Aeq} with windows partially open. Additionally, discrete event maxima should



not regularly exceed 45 dB L_{AFmax} internally. This equates to an external free field level of 60 dB L_{AFmax} with windows partially open.

4.4.2 For speech intelligibility during the daytime and evening period, internal living room levels should not exceed 35 dB $L_{Aeq,07:00-23:00}$. This equates to an external free field level of 50 dB L_{Aeq} with windows partially open.

4.4.3 The WHO Guidelines advises that to protect the majority of people from being seriously annoyed during the daytime, the steady continuous noise should not exceed 55 dB $L_{Aeq, 16\text{ hour}}$ and to protect the majority of people from being moderately annoyed during the daytime the outdoor sound level should not exceed 50 dB $L_{Aeq, 16\text{ hour}}$.

4.5 SEMANTIC DESCRIPTOR SCALES

4.5.1 Semantic descriptor scales have been used for many years to assess noise impact. These assessments take the form of comparing the L_{Aeq} noise levels with and without the activity under assessment. No single standard scale has as yet been formally agreed.

4.5.2 Notwithstanding this, a joint Institute of Acoustics / Institute of Environmental Assessment working party presented in 1999 a document outlining a standard approach. This document presents a scale which shows varying degrees of noise change for a given description of the impact (reproduced in the table below for reference).

4.5.3 It should be noted that many other semantic descriptor scales have been used for noise impact assessments associated with planning applications and planning appeals. Commonly, the '*slight impact*' category, which covers an increase of > 0 to < 3 decibels is broken down further, with an increase of ≤ 1 decibel being categorized as negligible. This is considered an appropriate sub-division within this category, especially in the context that PPG 24 (now superseded) considers that a change of 3 dB(A) is the minimum perceptible to the human ear under normal conditions.

Table 4.2: Noise change categories (Proc. of the Institute of Acoustics, Volume 21 Part 3, 1999)

Noise Change (dB)	Category
0.0	No impact
0.1 – 2.9	Slight impact
3.0 – 4.9	Moderate impact
5.0 – 9.9	Substantial impact
10.0 and more	Severe impact



SECTION 5 NOISE IMPACT ASSESSMENT

5.1 INTRODUCTION

5.1.1 The potential sources of noise associated with the operation of the Masjid and Community Centre are considered to be:

- i.* Breakout noise from the use of the function rooms impacting on the identified NSRs.
- ii.* Noise associated with the use of the car park during main Friday prayers.
- iii.* Noise associated with external plant associated with the development (air source heat pumps, condenser units, kitchen extraction etc.).

5.1.2 The potential noise impacts are considered in the following paragraphs.

5.2 BREAKOUT NOISE FROM USE OF THE FUNCTION ROOMS

5.2.1 The function rooms and community activity space associated with the development are located in the basement with only two lightwells to each function room and none to the activity space. As such breakout noise from activity/events is anticipated to be minimal. Notwithstanding this, an assessment of breakout noise has been undertaken, using an event level in a function room of 85 dB $L_{Aeq,T}$ based on the RPA database of noise sources. For the sound reduction index of the basement façade, conservatively, an R_{av} of 40 dB has been assumed.

5.2.2 In order to predict noise emissions at NSR1 (closest NSR to the building façade, at 45 metres) associated with breakout noise from internal activity in a function room, the following formula has been adopted (which is commonly referred to as 'Woods' formula and its use is common place and its accuracy widely accepted):

$$SPL_2 = SPL_1 - R + 10 \log S_p - 20 \log r - 14 \text{ dB}$$

Where:

SPL_1 is the reverberant sound pressure level (dB) immediately inside the façade (taken as 85 dB $L_{Aeq,T}$).

SPL_2 is the sound pressure level (dB) at the receptor positions (NSR1), (to be calculated).

R_{av} is the average sound reduction index of the façade (dB) (taken as 40 dB).

S_p is the area of the façade (m^2) orientated in the direction of the NSR.

r is the distance from the façade to the receptor (m).

5.2.3 Solving for SPL_2 , the calculated breakout noise level at NSR1 is 17 dB $L_{Aeq,T}$, which is significantly below the measured background noise level of 55 dB $L_{A90,T}$. As such, the impact is considered to be negligible.



5.3 NOISE ASSOCIATED WITH USE OF THE CAR PARK

- 5.3.1 The Planning Statement for the application identifies a congregation of around 250 for main Friday prayers. As stated previously, all attendees will be encourage to walk to the Masjid.
- 5.3.2 It is understood that the capacity of the car park will be of the order of 30 to 40 parking spaces. For assessment purposes, as a worst case, it is assumed that 50 cars will visit the site, which equates to 100 round trips in an hour.
- 5.3.3 A manual traffic count during the noise survey indicted circa 750 vehicles/hour on Bawtry Road (note: this was on a Sunday afternoon and the traffic count would be anticipated to be higher on a Friday afternoon).
- 5.3.4 To put the increase in trips associated with the main Friday prayers in context, it would relate to a 0.5 dB increase in decibel level ($10 \cdot \log_{10}((750+100)/750) = 0.5 \text{ dB}$). With reference to the semantic descriptor scales detailed in Para. 4.5.3 and Table 4.2, the impact is assessed as negligible.

5.4 NOISE ASSOCIATED WITH EXTERNAL PLANT

- 5.4.1 Details of externally located plant servicing the development are not currently available.
- 5.4.2 Given the relatively high background noise levels in the area (associated with the M1 and Bawtry Road) it is considered that the impact of external plant noise is not a material consideration in the determination of the planning application and can be addressed by a suitably worded Condition (with reference to BS 4142) requiring that the design/specification of external plant is based on the premise that the cumulative rating level ($L_{A,r,T}$) of noise emissions does not exceed the representative background noise level ($L_{A90,T}$) when measured as a free field level at the NSRs.

SECTION 6 CONCLUSIONS

- 6.1 An assessment has been undertaken of the potential impact of noise associated with the operation of a Masjid and Community Centre at Ingfield Avenue, Tinsley.
- 6.2 The assessment has considered (i) breakout noise from the use of the function rooms impacting on the identified NSRs, (ii) noise associated with the use of the car park during main Friday prayers, and (iii) noise associated with external plant associated with the development (air source heat pumps, condenser units, kitchen extraction etc.).
- 6.3 On the basis of the assessment, the potential impacts are considered to be negligible and, as such, are not considered to represent a material consideration in the determination of the planning application and can be addressed by suitably worded Conditions.
- 6.4 Overall, and in the context of the existing use of the site, the level of impact is considered to represent a No Observed Adverse Effect Level (NOAEL). Examples of outcomes for which are '*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*'. The associated action for a NOAEL is '*no specific measures required*'.



APPENDIX 1 ▪ Glossary of acoustic terms

Appendix 1 Glossary of Acoustic Terms

Sound Pressure Level (L_p)

The basic unit of sound measurement is the sound pressure level. As the pressures to which the human ear responds can range from 20 μPa to 200 Pa, a linear measurement of sound levels would involve many orders of magnitude. Consequently, the pressures are converted to a logarithmic scale and expressed in decibels (dB) as follows:

$$L_p = 20 \log_{10}(p/p_0)$$

Where L_p = sound pressure level in dB; p = rms sound pressure in Pa; and p_0 = reference sound pressure (20 μPa).

A-weighting Network

A frequency filtering system in a sound level meter, which approximates under defined conditions the frequency response of the human ear. The A-weighted sound pressure level, expressed in dB(A), has been shown to correlate well with subjective response to noise.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq, T}$

The value of the A-weighted sound pressure level in decibels of continuous steady sound that within a specified time interval, T, has the same mean-square sound pressure as a sound that varies with time. $L_{Aeq, 16h}$ (07:00 to 23:00 hours) and $L_{Aeq, 8h}$ (23:00 to 07:00 hours) are used to qualify daytime and night time noise levels.

$L_{A10, T}$

The A-weighted sound pressure level in decibels exceeded for 10% of the measurement period, T. $L_{A10, 18h}$ is the arithmetic mean of the 18 hourly values from 06:00 to 24:00 hours.

$L_{A90, T}$

The A-weighted sound pressure level of the residual noise in decibels exceeded 90% of a given time interval, T. L_{A90} is typically taken as representative of background noise.

$L_{AF \max}$

The maximum A-weighted noise level recorded during the measurement period. The subscript 'F' denotes fast time weighting, slow time weighting 'S' is also used.

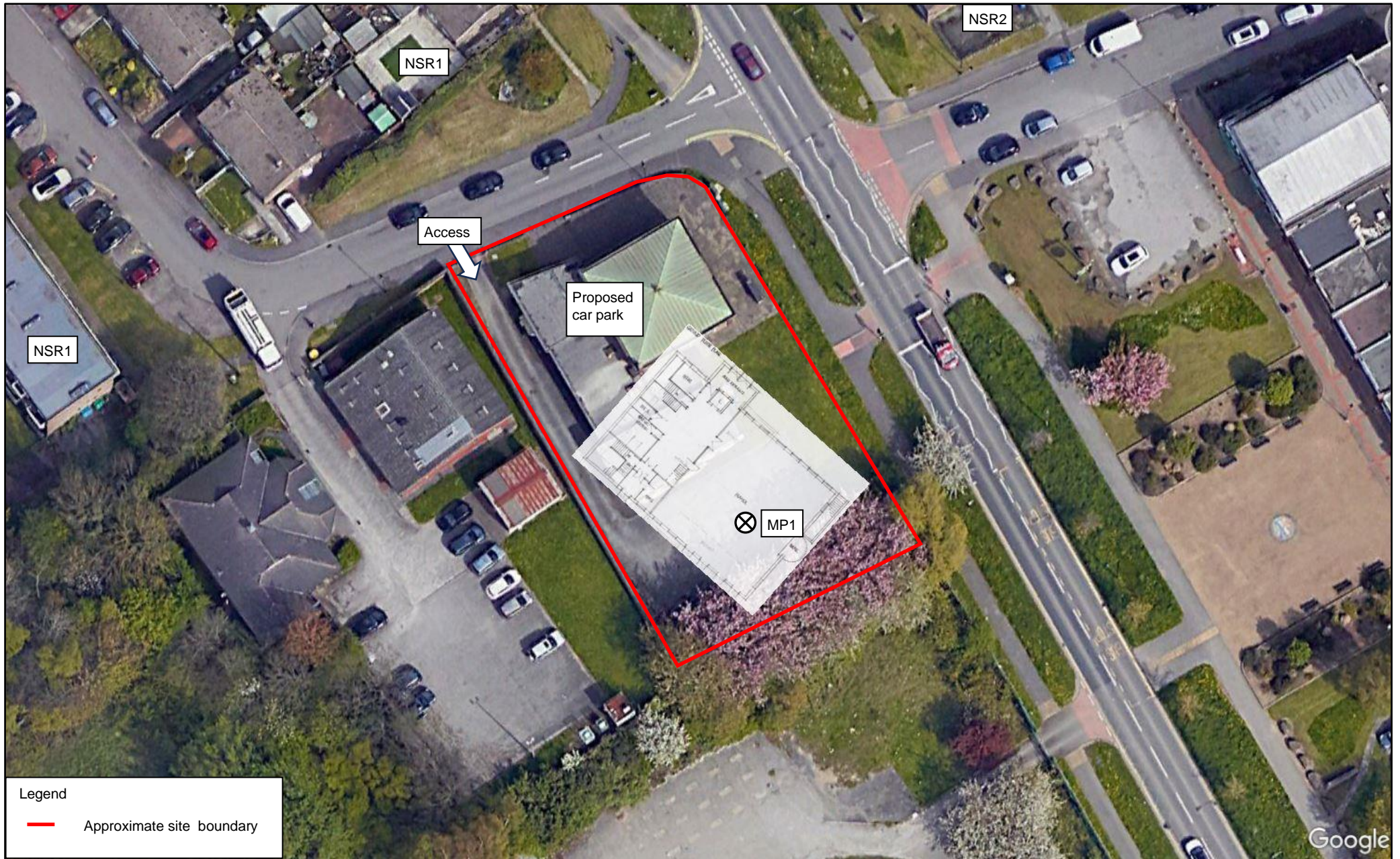
Sound Exposure Level (SEL or L_{AE})

The energy produced by a discrete noise event averaged over one second, no matter how long the event actually took. This allows for comparison between different noise events which occur over different lengths of time.



- APPENDIX 2**
- Annotated aerial site image
 - Development plans

Appendix 2.1: Annotated Aerial Site Image



Appendix 2.2: Location and Site Plan

Streetwise



BLOCK/SITE PLAN
AREA 90m x 90m
SCALE 1:500 on A4
CENTRE COORDINATES: 440255, 390616



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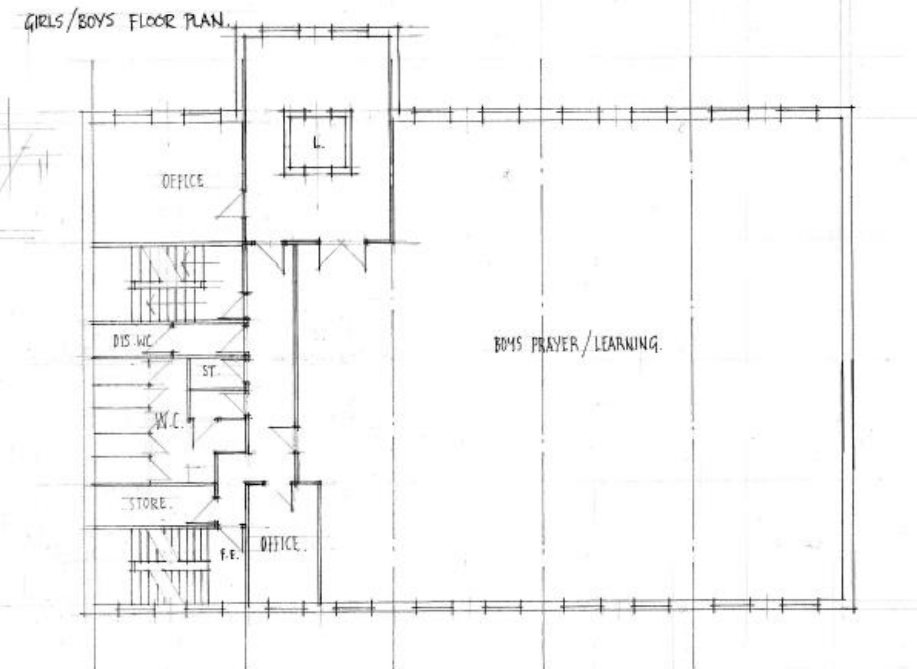
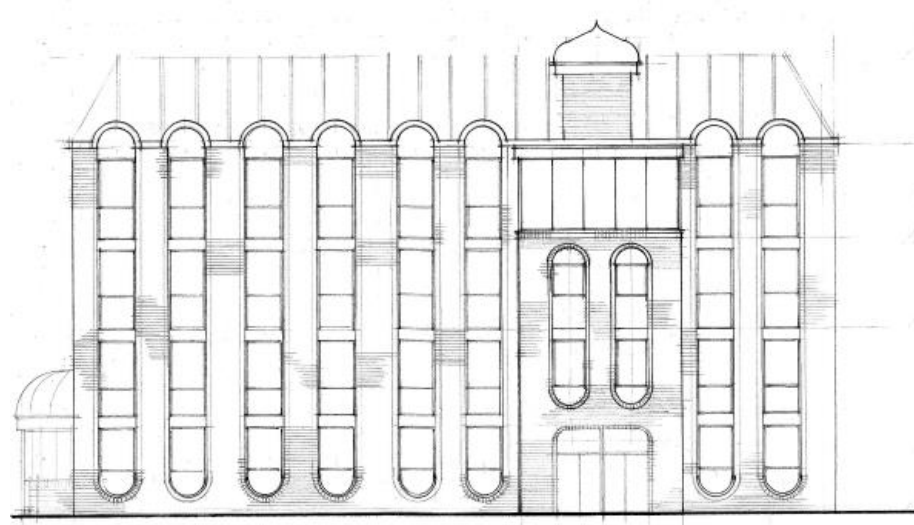
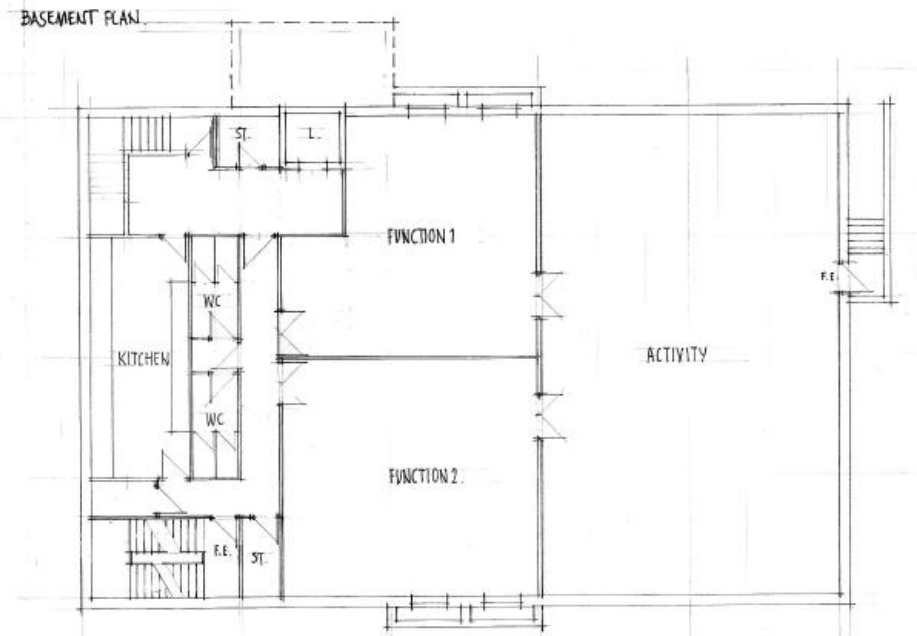
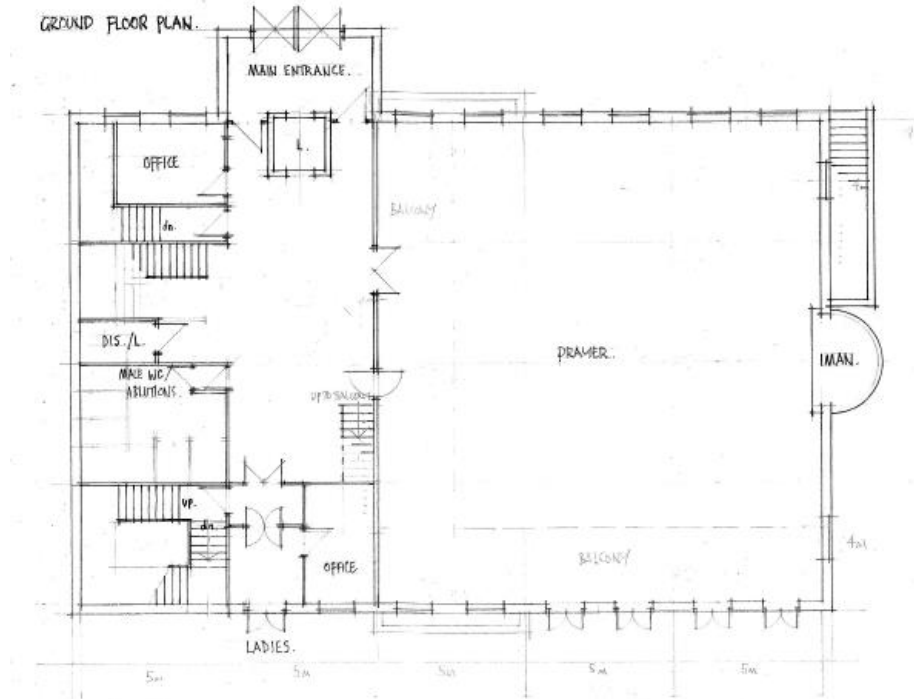


SITE LOCATION PLAN
AREA 2 HA
SCALE 1:1250 on A4
CENTRE COORDINATES: 440253, 390639



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29/07/2023 10:47

Appendix 2.2: Location and Site Plan



1:100 @ A1.

MAIN ELEVATION.

Appendix 2.2: Location and Site Plan

