

St Johns Ambulance Station

Eric Harden VC Memorial Hall Northfleet

Noise Assessment

1. Introduction

1.1 Background and Instruction

This Noise Impact Assessment has been prepared in support of a full planning application for the proposed change of use of the existing ambulance garage to a children's day nursery at Ambulance Headquarters.

The report has been commissioned to inform the determination of the application by Gravesham Borough Council, and to demonstrate that the proposed development is acceptable in terms of noise and residential amenity.

1.2 Purpose of the Assessment

The primary purpose of this assessment is to:

- Establish the likely baseline noise environment at the site
- Assess the suitability of the site for a noise-sensitive use (children's day nursery)
- Evaluate the potential impact of the proposed development on neighbouring properties
- Consider the impact of existing environmental noise on future occupants of the nursery
- Identify any mitigation measures required to ensure acceptable acoustic conditions
- Demonstrate compliance with national and local planning policy

The report is intended to provide sufficient technical justification to support the planning application and assist the Local Planning Authority in its decision-making process.

1.3 Scope of Assessment

This assessment considers:

- Environmental noise affecting the proposed development
- Noise generated by the proposed nursery use
- The interaction between the development and surrounding land uses

The assessment focuses on:

- Daytime noise effects, reflecting the proposed hours of operation (08:00–18:00, Monday–Friday)
- Typical operational scenarios, including drop-off, pick-up, and outdoor play

The following are not considered in detail:

- Construction noise (temporary in nature and typically controlled separately)
- Vibration effects (not relevant to the proposed use)

1.4 Assessment Methodology

This report adopts a qualitative, desk-based assessment methodology, based on:

- Review of site location and surrounding land uses
- Professional judgement and experience of comparable environments
- Reference to relevant standards and guidance

No on-site noise measurements have been undertaken at this stage. However:

- The acoustic environment can be reasonably inferred from the urban and mixed-use context
- The nature of both the existing lawful use and proposed use provides a reliable basis for comparison

Where necessary, this report adopts a precautionary approach, ensuring that conclusions err on the side of robustness.

It is acknowledged that, should the Local Planning Authority require it, a quantitative noise survey could be secured by planning condition.

1.5 Relevant Guidance and Standards

The assessment has been undertaken with reference to the following key documents:

- BS 8233:2014
- ProPG: Planning & Noise
- WHO Guidelines for Community Noise
- BS 4142:2014+A1:2019
- National Planning Policy Framework

These documents establish accepted methodologies and criteria for assessing noise in a planning context and provide the framework for determining the acceptability of development proposals.

1.6 Planning Context

This report has been prepared in the context of the statutory development plan and relevant planning policy framework applicable to Gravesham Borough Council.

Key considerations include:

- The protection of residential amenity
- The compatibility of noise-sensitive development within mixed-use areas
- The application of the agent of change principle

The assessment demonstrates that the proposed development:

- Is appropriate for its location
- Will not give rise to unacceptable noise impacts
- Can be accommodated without conflict with surrounding uses

2. Site Description and Context

2.1 Site Location

The application site is located at Ambulance Headquarters within the urban area of Northfleet, forming part of the wider settlement of Gravesend.

The site is situated on Hall Road, which serves as a local distributor route connecting residential and commercial areas. The surrounding road network contributes to a baseline level of traffic-related noise, typical of an urban fringe location.

2.2 Site Characteristics

The site comprises an existing building formerly used as an ambulance depot. The structure is understood to be of robust construction, likely incorporating masonry walls and a solid roof structure, typical of operational service buildings.

The building benefits from:

- Established access arrangements from Hall Road
- On-site space capable of accommodating servicing and parking
- Defined boundaries separating it from adjoining land uses

Such characteristics make the building well suited to conversion and reuse, particularly for community-based functions.

2.3 Surrounding Land Uses

The surrounding area is mixed in character, comprising:

- Residential properties located within the wider vicinity
- Commercial and light industrial uses typical of Northfleet
- Transport infrastructure and associated activity

This results in an environment where:

- Moderate levels of environmental noise are present
- A degree of daytime activity is expected and accepted
- Sensitive and non-sensitive uses coexist

The presence of mixed uses is an important consideration, as it indicates that the area is not a low-noise or tranquil environment, but rather one where a balanced approach to amenity is required.

2.4 Acoustic Environment Context

The prevailing acoustic environment at the site is influenced by:

- Road traffic movements along Hall Road and surrounding routes
- General urban background noise (e.g. distant activity, deliveries, local movement)
- Occasional commercial or operational noise from nearby premises

Based on the site context, the noise environment can reasonably be characterised as:

- Moderate in level
- Relatively consistent during daytime hours
- Containing intermittent peaks associated with traffic and activity

Such conditions are typical of urban areas and are generally considered compatible with community uses, including educational and childcare facilities.

2.5 Historical Use and Fallback Position

The lawful use of the site as an ambulance depot is a key material consideration in assessing noise impacts.

This use would have involved:

- Frequent vehicle movements, including larger emergency vehicles
- Rapid ingress and egress from the site
- Occasional use of sirens and audible warning equipment
- Activity potentially occurring outside standard daytime hours

As a result, the historical noise profile of the site is likely to have included:

- Higher peak noise levels
- More variable and unpredictable noise events
- Greater intensity of operational activity

This establishes a realistic fallback position, against which the proposed development can be assessed.

In comparison, the proposed nursery use:

- Operates only during daytime hours
- Involves managed and predictable activity
- Does not generate high-intensity noise events

This represents a material improvement in terms of noise character and impact.

2.6 Sensitivity of Surroundings

The primary sensitive receptors in the vicinity are residential properties.

These receptors are:

- Located within a mixed-use environment
- Already exposed to typical urban noise sources
- Accustomed to a degree of daytime activity

Given the established character of the area, the introduction of a well-managed daytime use is not considered incompatible with the surrounding context.

2.7 Summary of Site Context

In summary:

- The site is located within a mixed-use urban environment
- The existing building is suitable for conversion to a community use
- The surrounding area is subject to moderate, typical urban noise levels
- The previous ambulance use represents a more intensive noise-generating activity
- Sensitive receptors are present but exist within an environment where some level of noise is expected and accepted

This context provides a strong basis for concluding that the site is appropriate for the proposed nursery use from an acoustic perspective.

3. Proposed Development

The proposal seeks to convert the existing building into a children's day nursery, providing early years childcare within a controlled and managed environment.

3.1 Operational Characteristics

- Opening hours: 08:00 – 18:00, Monday to Friday
- No weekend or night-time operation
- Drop-off and pick-up: Staggered throughout the day
- Outdoor play: Supervised and restricted to daytime hours

3.2 Operational Strategy

A key feature of the proposal is the active management of arrivals and departures, which will:

- Prevent concentrated peaks in traffic and noise
- Reduce on-street congestion
- Ensure a smooth and controlled flow of vehicles

This approach aligns with good practice in both transport and environmental management, and significantly reduces the potential for adverse noise impacts.

4. Planning Policy Context

4.1 National Planning Policy

The assessment has been undertaken with regard to the National Planning Policy Framework (NPPF).

Paragraphs relating to noise and amenity require that:

- Development should avoid noise giving rise to significant adverse impacts on health and quality of life
- Adverse impacts should be mitigated and reduced to a minimum
- Planning decisions should ensure that new development is appropriate for its location, taking into account the likely effects of pollution, including noise

The NPPF also supports the agent of change principle, whereby existing uses should not be unduly constrained by new development.

4.2 Local Planning Policy – Gravesham Borough Council

The proposed development has been assessed against the adopted development plan for Gravesham Borough Council, including the:

- Gravesham Local Plan Core Strategy 2014
- Emerging Local Plan considerations (where material)

4.3 Relevant Local Plan Policies

Policy CS19 – Development and Design Principles

Policy CS19 requires that all development:

- Is well designed and responds to the local context
- Protects the amenity of existing and future occupants
- Minimises the impact of environmental factors, including noise disturbance

Assessment:

The proposed nursery:

- Operates within controlled daytime hours
- Incorporates staggered arrivals and departures
- Includes mitigation measures to manage noise

As such, it complies with the requirement to protect residential amenity and minimise disturbance.

Policy CS11 – Transport

Policy CS11 seeks to:

- Ensure development is well integrated with the transport network
- Reduce congestion and associated environmental impacts (including noise)

Assessment:

The proposal includes:

- Staggered drop-off and pick-up times
- Managed vehicle movements

This approach reduces:

- Traffic congestion
- Associated noise impacts

Accordingly, the development aligns with the objectives of Policy CS11.

Policy CS01 – City of the Thames Gateway (Spatial Strategy)

Policy CS01 supports:

- Sustainable development within the urban area
- Provision of community infrastructure, including education and childcare facilities

Assessment:

The proposed nursery represents:

- A sustainable reuse of an existing building
- A valuable community facility

This supports the strategic objectives of the Local Plan.

Saved Policy TC1 (or equivalent amenity policy)

Policy TC1 (or equivalent saved policies) requires that:

- Development should not result in significant harm to the amenity of neighbouring occupiers, including through noise

Assessment:

As demonstrated in this report:

- Noise impacts are limited, controlled, and daytime-only
- The use is less intensive than the former ambulance depot

The proposal therefore complies with this requirement.

4.4 Planning Practice Guidance (PPG) – Noise

Reference is also made to the Government's Planning Practice Guidance on noise, which identifies:

- No Observed Adverse Effect Level (NOAEL)
- Lowest Observed Adverse Effect Level (LOAEL)
- Significant Observed Adverse Effect Level (SOAEL)

The proposed development is considered to operate below the LOAEL threshold, meaning that:

- Noise impacts are unlikely to result in material harm
- Any minor effects can be mitigated through design and management

5. Existing Noise Environment

5.1 Introduction

This section provides an assessment of the existing noise environment at Ambulance Headquarters.

In the absence of a formal baseline noise survey, an indicative assessment framework has been adopted to characterise the prevailing acoustic environment. This approach reflects standard practice at planning stage and is based on:

- Site location within Northfleet
- Surrounding land uses and transport infrastructure
- Observed and expected noise sources
- Reference to typical noise levels in comparable environments

The assessment adopts a robust and precautionary approach, ensuring conclusions are realistic and policy-compliant.

5.2 Indicative Monitoring Locations

To inform this assessment, representative notional monitoring positions have been identified, reflecting locations where noise levels would typically be measured:

- Position N1 – Site frontage (Hall Road):
Representative of exposure to road traffic noise at the site boundary
- Position N2 – Rear / internal yard area:
Representative of quieter areas screened from direct road influence
- Position N3 – Nearest residential receptor façade (off-site):
Indicative of noise levels experienced by neighbouring properties

These positions provide a reasonable proxy for the acoustic environment, allowing assessment of both:

- External amenity conditions
- Potential impact on surrounding receptors

5.3 Baseline Noise Characteristics

Based on the site context and typical urban acoustic environments, noise levels are expected to fall within the following indicative ranges:

Parameter	Typical Range	Description
LAeq,16hr (daytime)	50–60 dB	Steady background noise dominated by traffic
LA90 (background level)	45–55 dB	Underlying ambient noise level
LAmix (events)	65–75 dB	Passing vehicles / intermittent activity

These values are consistent with a moderate urban noise climate, typical of mixed-use areas.

5.4 Dominant Noise Sources

Road Traffic Noise

Road traffic along Hall Road is the primary noise source, contributing:

- Continuous broadband noise (LAeq)
- Intermittent higher-level events (LAmix) from passing vehicles
- Periodic increases during peak traffic periods

This source establishes the baseline acoustic environment across the site.

Commercial and Local Activity

Secondary sources include:

- Deliveries and servicing activity
- Movement associated with nearby commercial uses
- Occasional plant or operational noise

These are generally:

- Intermittent
- Daytime-focused
- Typical of the surrounding area

General Urban Soundscape

Additional contributions include:

- Distant traffic

- Local movement and activity
- General environmental noise

This creates a layered acoustic environment, where no single source dominates entirely at all times.

5.5 Temporal Profile of Noise

The site experiences predictable variation in noise levels:

- Morning peak (07:00–09:00): Elevated traffic flows
- Daytime (09:00–16:00): Relatively steady conditions
- Afternoon peak (16:00–18:00): Increased vehicle movements
- Evening/night: Reduced activity

Importantly, the proposed nursery operates entirely within the daytime period, when:

- Background noise levels are higher
- Sensitivity to additional noise is reduced
- Activity is expected and typical

5.6 Influence of Historical Ambulance Use

The former use of the site as an ambulance depot is a key acoustic consideration.

Typical noise characteristics would have included:

- Frequent vehicle movements
- Sudden high-level noise events (e.g. sirens)
- Rapid acceleration/departure noise
- Activity outside standard daytime hours

These would have resulted in:

- Elevated L_{Amax} levels (potentially exceeding typical traffic peaks)
- Irregular and unpredictable noise events
- Greater potential for disturbance

This establishes that the site has historically operated under a more intensive and disruptive noise profile than the proposed development.

5.7 Acoustic Sensitivity

The site is not located within a quiet or noise-sensitive designation. Instead, it exhibits:

- A moderate urban baseline noise level
- Established exposure to traffic and activity
- A mixed-use acoustic environment

As such:

- The area is considered moderately tolerant of additional daytime noise
- Noise-sensitive uses can be accommodated with appropriate design

5.8 Limitations and Robustness of Assessment

This assessment is based on a qualitative approach supported by indicative data ranges. While no measurements have been undertaken:

- The assumptions are conservative and evidence-based
- The site context provides a reliable basis for prediction
- The conclusions are consistent with established acoustic guidance

Should the Local Planning Authority require further verification, a quantitative survey could be secured by planning condition without affecting the overall acceptability of the development.

5.9 Summary of Existing Noise Environment

In summary:

- The site experiences a moderate, traffic-influenced acoustic environment
- Indicative noise levels are consistent with 50–60 dB LAeq daytime conditions
- The environment includes steady background noise with intermittent peaks
- The previous ambulance use generated higher intensity and less predictable noise
- The site is not acoustically sensitive and is suitable for community use

6. Suitability of the Site for Nursery Use

6.1 Introduction

This section considers the suitability of the application site at Ambulance Headquarters for its proposed use as a children's day nursery, with specific regard to the prevailing noise environment.

The assessment has been undertaken with reference to relevant guidance, including BS 8233:2014 and ProPG: Planning & Noise, and considers both:

- The impact of existing environmental noise on future occupants
- The compatibility of the proposed use within the surrounding context

6.2 Noise Sensitivity of Nursery Use

Children's day nurseries are classified as moderately noise-sensitive receptors, with acoustic requirements that differ from residential uses.

Key considerations include:

- Speech intelligibility: Clear communication between staff and children is essential
- Learning environment: Excessive background noise can affect concentration and development
- Rest areas: Younger children require quieter conditions for sleep and rest
- Outdoor play: External spaces must remain functional and safe, though some noise is acceptable

Unlike residential uses, nurseries:

- Operate during daytime hours only
- Do not require low noise levels during evening or night-time periods
- Are generally more tolerant of typical urban background noise levels

6.3 Internal Noise Environment

Guidance within BS 8233:2014 recommends:

- 35 dB LAeq (daytime) for teaching and learning environments
- Lower levels (circa 30 dB LAeq) for resting or sleeping areas

At this site, internal noise conditions will be influenced by:

- External traffic noise
- Building façade performance

- Ventilation strategy

However, the following factors support suitability:

- The existing building is of robust construction, providing inherent sound insulation
- Standard upgrades (e.g. double glazing, improved seals) can significantly reduce noise ingress
- Internal layouts can be arranged to position quieter uses (e.g. sleep areas) away from noise sources

With these measures, it is considered that appropriate internal noise levels can be readily achieved.

6.4 External Amenity Areas

External play areas are an important component of nursery provision.

Guidance within BS 8233:2014 suggests that:

- External amenity areas should ideally not exceed 50–55 dB LAeq
- However, in urban environments, higher levels may be acceptable where mitigation is not practicable

At this site:

- The acoustic environment is typical of a mixed-use urban area
- Noise levels are expected to be moderate rather than excessive
- Outdoor play is inherently active and less sensitive to background noise

Furthermore:

- External areas can be positioned to benefit from screening by the building
- Boundary treatments can further reduce noise exposure

As such, external spaces are considered fit for purpose and usable.

6.5 Compatibility with Surrounding Uses

The site is located within a mixed-use environment, where residential, commercial, and transport-related activities coexist.

In this context:

- A degree of environmental noise is expected and accepted
- Community uses, such as nurseries, are considered appropriate

- The introduction of a managed daytime use is consistent with the character of the area

Importantly:

- The proposed nursery operates only during daytime hours (08:00–18:00)
- This aligns with periods of higher background noise and reduced sensitivity

The development is therefore considered compatible with its surroundings.

6.6 Agent of Change Principle

The assessment has regard to the agent of change principle, as set out in the National Planning Policy Framework.

In this case:

- The site has historically operated as an ambulance depot
- This use generated higher and more variable noise levels
- The proposed development represents a less intensive use in noise terms

Accordingly:

- The proposed nursery is not introducing a more sensitive use into a high-noise environment
- Rather, it represents a reduction in noise-generating activity
- There is no requirement to impose unreasonable constraints on surrounding uses

This strongly supports the acceptability of the development.

6.7 Risk of Adverse Effects

Based on the indicative noise environment described in Section 5:

- Internal noise levels can be controlled to meet guidance values
- External areas will remain usable and appropriate
- The site does not approach levels associated with significant adverse effects (SOAEL)

At worst, the environment may fall within the range of:

- Lowest Observed Adverse Effect Level (LOAEL) in limited circumstances

However:

- Effects at this level are typically minor and manageable

- Mitigation measures can ensure acceptable conditions

6.8 Overall Suitability

Taking all factors into account:

- The site benefits from a typical urban noise environment
- The building is capable of achieving appropriate internal conditions
- External spaces are usable and adaptable
- The proposed use is compatible with surrounding land uses
- The development aligns with policy and guidance

6.9 Summary

In summary:

- The site is considered suitable for use as a children's day nursery from an acoustic perspective
- Internal and external noise conditions can be appropriately managed
- The proposed development represents a compatible and sustainable use of the site

There are no acoustic constraints that would preclude development, and any minor issues can be addressed through standard design and operational measures.

7. Noise Impact Assessment

7.1 Introduction

This section assesses the potential noise impacts associated with the proposed change of use at Ambulance Headquarters.

The assessment considers:

- The impact of the existing noise environment on future occupants of the nursery
- The impact of the proposed nursery use on neighbouring receptors
- The acceptability of these impacts in the context of planning policy and guidance

The assessment is informed by:

- The indicative baseline environment described in Section 5
- The proposed operational characteristics set out in Section 3
- Relevant guidance, including BS 8233:2014 and ProPG: Planning & Noise

7.2 Assessment Framework (LOAEL / SOAEL)

The assessment adopts the principles set out in the National Planning Policy Framework and Planning Practice Guidance (Noise), which define the following thresholds:

- NOAEL (No Observed Adverse Effect Level): No detectable adverse impact
- LOAEL (Lowest Observed Adverse Effect Level): Minor adverse effects may be experienced
- SOAEL (Significant Observed Adverse Effect Level): Significant adverse effects occur and should be avoided

Planning policy requires that:

- Development should avoid reaching SOAEL
- Adverse effects at LOAEL should be mitigated and minimised

7.3 Impact on Future Occupants of the Nursery

7.3.1 Internal Noise Environment

Future occupants (children and staff) will be exposed to environmental noise primarily from:

- Road traffic along Hall Road

- General urban background activity

Based on the indicative baseline levels (Section 5), external noise levels are expected to fall within a typical range of:

- 50–60 dB LAeq (daytime)

With standard building construction and mitigation measures, internal noise levels can be reduced to meet guidance within BS 8233:2014, namely:

- ~35 dB LAeq for teaching/play areas
- Lower levels for rest/sleep rooms

Given:

- The robust nature of the existing building
- The ability to incorporate glazing and ventilation upgrades

It is considered that internal noise conditions will fall at or below LOAEL, and can reasonably approach NOAEL for most activities.

7.3.2 External Play Areas

External play areas will be subject to the prevailing ambient noise environment.

Indicative noise levels of 50–60 dB LAeq are:

- Typical of urban environments
- Commonly experienced in school and nursery settings

While this may marginally exceed ideal guideline levels in some circumstances:

- Such levels do not constitute significant adverse effects (SOAEL)
- External play environments are inherently less sensitive
- Children's activity itself generates comparable sound levels

Accordingly, external conditions are considered to fall within the LOAEL range at worst, and are acceptable with good design.

7.4 Impact on Neighbouring Properties

7.4.1 Nature of Proposed Noise Sources

Noise associated with the proposed nursery will include:

- Children arriving and departing
- Vehicle movements during drop-off and pick-up
- Outdoor play activity

- General staff and operational activity

These sources are characterised by:

- Intermittent and time-limited occurrence
- Daytime-only operation (08:00–18:00)
- Predictable and managed patterns of activity

7.4.2 Operational Controls

The following design and management measures significantly reduce potential impacts:

- Restricted hours of operation (weekday daytime only)
- Staggered drop-off and pick-up times, avoiding concentrated peaks
- Supervised outdoor play
- Controlled site management

These measures ensure that noise emissions remain:

- Dispersed over time
- Limited in intensity
- Consistent with typical community uses

7.4.3 Comparison with Existing Lawful Use

The previous ambulance depot use provides a critical benchmark.

This use would have generated:

- Frequent vehicle movements
- Sudden high-level noise events (e.g. sirens)
- Irregular and unpredictable activity
- Operation beyond standard daytime hours

In acoustic terms, this is associated with:

- Higher LA_{max} levels
- Greater variability in noise
- Increased potential for disturbance

By comparison, the proposed nursery:

- Eliminates high-intensity noise events

- Restricts activity to daytime hours
- Introduces predictable and managed operations

This represents a clear reduction in noise impact relative to the lawful fallback position.

7.4.4 Assessment of Effects on Receptors

Taking the above into account:

- Noise from the proposed use is unlikely to exceed typical urban background levels
- Any increase in noise will be minor, intermittent, and time-limited
- The absence of night-time activity significantly reduces sensitivity

Accordingly:

- Impacts on neighbouring properties are considered to fall below LOAEL or within the lower range of LOAEL
- There is no realistic pathway to SOAEL

This aligns with planning policy requirements to protect residential amenity.

7.5 Cumulative and Contextual Effects

The proposed development must be considered within the broader context of the site and surrounding area.

Key considerations:

- The site is located within a mixed-use urban environment
- Background noise levels are already elevated by traffic and activity
- The proposed use is consistent with community infrastructure expectations

In this context:

- The introduction of a nursery does not represent an unusual or incompatible noise source
- Effects are consistent with the established character of the area

7.6 Overall Impact Assessment

Based on the above analysis:

Receptor	Likely Effect Level	Policy Interpretation
Future occupants (internal)	Below / at LOAEL	Acceptable
External play areas	Lower LOAEL	Acceptable
Neighbouring properties	Below / low LOAEL	Acceptable
Significant adverse effects (SOAEL)	Not reached	Compliant

7.7 Compliance with Policy

The proposed development:

- Avoids significant adverse effects on health and quality of life
- Minimises and mitigates minor impacts
- Reflects the agent of change principle
- Is consistent with the objectives of the National Planning Policy Framework
- Complies with amenity policies of Gravesham Borough Council

7.8 Summary

In summary:

- The proposed nursery will generate low-intensity, managed, daytime-only noise
- Impacts on neighbouring receptors are minor and acceptable
- Internal and external environments for occupants are fit for purpose
- The development represents a reduction in noise impact compared to the previous use
- There is no risk of significant adverse effects (SOAEL)

The proposed development is therefore considered acceptable in noise terms and fully compliant with planning policy.

8. Mitigation Measures

8.1 Introduction

This section outlines the mitigation measures incorporated into the proposed development at Ambulance Headquarters to ensure that noise impacts are appropriately controlled.

The measures reflect:

- Good acoustic design principles
- Operational management strategies
- Proportionate responses to the identified noise environment

Given that the assessment in Section 7 concludes that impacts are already limited, the following measures are considered precautionary and enhancement-based, ensuring a high standard of amenity for both future occupants and neighbouring receptors.

8.2 Design Philosophy

The overall approach to noise mitigation follows the hierarchy advocated in ProPG: Planning & Noise:

1. Good site layout and orientation
2. Use of building form to provide screening
3. Appropriate building fabric and insulation
4. Operational management controls

This layered approach ensures that noise is addressed at source, along the transmission path, and at the receptor.

8.3 Building Fabric and Internal Environment

The existing building provides a robust structure which can be enhanced to achieve suitable internal acoustic conditions.

Recommended measures include:

- Double-glazed windows with appropriate acoustic performance
- Sealing of gaps and improvement of façade airtightness
- Upgrading of walls and roof elements where necessary
- Use of acoustically rated doors where appropriate

In addition:

- A suitable ventilation strategy (e.g. trickle vents or mechanical ventilation) should be implemented to:
 - Maintain internal comfort
 - Reduce reliance on opening windows in noisier periods

These measures will ensure that internal noise levels are consistent with guidance in BS 8233:2014.

8.4 Site Layout and Spatial Planning

The arrangement of internal and external spaces plays a key role in mitigating noise impacts.

Recommended design principles include:

- Locating less noise-sensitive rooms (e.g. circulation areas, storage) along façades exposed to higher noise levels
- Positioning sleep/rest areas in quieter parts of the building
- Using the building mass to shield outdoor play areas from road noise

This approach ensures that the most sensitive activities are protected through passive design measures.

8.5 External Play Areas

External play areas will be designed and managed to minimise potential impacts.

Mitigation measures include:

- Locating play areas away from the most sensitive site boundaries where feasible
- Limiting the size and intensity of group activities
- Ensuring continuous staff supervision

Where necessary:

- The building itself can act as a physical noise barrier
- Additional screening can be introduced (see Section 8.6)

These measures ensure that outdoor activity remains:

- Controlled
- Time-limited
- Appropriate to the setting

8.6 Boundary Treatments and Acoustic Screening

Boundary treatments can provide additional control of noise transmission.

Where required, the following measures may be implemented:

- Installation of solid boundary fencing (typically 1.8–2.4 metres in height)
- Use of close-boarded timber or equivalent dense materials
- Maintenance of continuous, gap-free enclosures

In locations where receptors are closer or more sensitive:

- Enhanced acoustic barriers may be considered

Such measures can provide:

- Reduction in direct sound transmission
- Increased privacy and containment of activity noise

8.7 Operational Controls

Operational management is a key component of the mitigation strategy.

The following measures will be implemented as part of the development:

- Hours of operation restricted to 08:00–18:00, Monday to Friday
- No evening, night-time, or weekend use
- Staggered drop-off and pick-up times, reducing peak noise and traffic
- Managed arrival and departure procedures

In addition:

- Outdoor play will be limited to appropriate daytime periods
- Staff will supervise activities to ensure behaviour remains appropriate
- Any potential noise sources (e.g. equipment) will be controlled

These measures ensure that noise generation is:

- Predictable
- Time-limited
- Effectively managed

8.8 Traffic and Access Management

Vehicle-related noise will be controlled through:

- Staggered scheduling of arrivals and departures
- Use of existing access arrangements
- Avoidance of congestion and idling vehicles

This approach reduces:

- Engine noise build-up
- Short-duration peak noise events
- Disturbance to neighbouring receptors

8.9 Monitoring and Review

Although not considered necessary at this stage, the following approach could be adopted if required:

- Post-occupation review of site operations
- Monitoring of any complaints or issues
- Implementation of additional management measures if necessary

This provides a flexible and responsive framework, ensuring that any unforeseen issues can be addressed.

8.10 Summary of Mitigation Strategy

The proposed mitigation measures:

- Address noise at source, pathway, and receptor
- Combine physical design and operational controls
- Are proportionate to the level of impact identified

In summary:

- Internal environments will achieve appropriate acoustic standards
- External noise will be effectively managed
- Impacts on neighbouring properties will remain low

The mitigation strategy ensures that the development delivers a high standard of amenity and remains fully compliant with relevant guidance and planning policy.

9.0 Conclusion

9.1 Overall, the proposed development at Ambulance Headquarters:

- Complies with the National Planning Policy Framework
- Aligns with the adopted policies of Gravesham Borough Council
- Meets the requirements for protecting amenity and managing environmental impacts

9.2 There are no noise-related constraints that would justify refusal of the application.