

TECHNICAL REPORT

Prepared on behalf of Vistry Homes Limited

ARDENT

CONSULTING ENGINEERS

AN EMPLOYEE OWNED COMPANY

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1. INTRODUCTION

This technical note has been prepared following a Noise Assessment¹ (the RM1 Noise Assessment) which was produced to support the discharge of Condition 25 of the Outline planning permission (application reference F/20/OUT) for the Land at Ford Airfield development site. This Technical Notes relates specifically to the RM1 (North) Reserved Matters planning application (application reference: F/15/24/RES).

As part of the Infrastructure Reserved Matters (IRM) planning application (application reference: F/14/24/RES) noise barriers were proposed at Ford Industrial Estate and Redstone Tyres. The IRM planning application has been updated and the noise barriers are no longer proposed.

The noise barriers will be developed as part of future Reserved Matters planning applications for the development phases which are located in close proximity to Ford Industrial Estate and Redstone Tyres. The specifications of the noise barriers will be informed by the detailed layout of dwellings at the future development phases.

This Technical Note provides a summary of noise levels or mitigation measures which are required at RM1 (North) in relation to the updated proposals for the IRM planning application.

This Technical Note should be reviewed in conjunction with the RM1 Noise Assessment, which provides further details of the noise survey, detailed information on commercial and industrial operations, details of the noise modelling methodology and assessments of noise from road traffic noise and commercial and industrial operations.

2. MITIGATION MEASURES

The mitigation measures to provide suitable internal and external amenity sound levels at RM1 (North) are designed to control noise from the surrounding road network and due to site access roads. These mitigation measures remain the same as set out in the RM1 Noise Assessment.

Where required closed, but not sealed, windows and alternative ventilation will be provided by fan cooling units associated with the ground source heat pump units. Relatively standard thermal double glazing and trickle ventilation will be suitable to achieve the criteria for internal noise levels.

¹ Report reference: 2205771-R03D

An extract of the RM1 Noise Assessment presenting the markup of areas which require closed windows and alternative ventilation is presented in Figure 1.



Figure 1: Closed Windows & Alternative Ventilation

An extract of the RM1 Noise Assessment showing the minimum required glazing and ventilation specifications presented in Tables 1 & 2.

Glazing Type	Room Type	Sound Reduction Index, R_w	Octave band centre frequency SRI, dB					
			125	250	500	1k	2k	4k
Type 1	All Rooms	31	20	18	28	38	34	38

Table 1: Minimum Required Sound Reduction Performance for Glazing

Ventilation Type	Room Type	Element Normalised level difference, D_{new}	Octave band centre frequency SRI, dB					
			125	250	500	1k	2k	4k
Type 1	All Rooms	35	36	34	31	34	38	38

Table 2: Minimum Required Sound Reduction Performance for Ventilation

To reduce noise levels solid balustrades are proposed to balconies behind railings to reduce noise levels. With this additional mitigation, only a few private amenity spaces at apartments will marginally exceed the criteria. All residents have access to a shared amenity space with external sound levels which are lower than 50dB $L_{Aeq,T}$. Further details are presented in the RM1 Noise Assessment.

3. ASSESSMENT

The noise barriers were proposed to control noise from Ford Industrial Estate and Redstone Tyres, no barriers are proposed as part of the updated IRM application. The location of these operations in relation to the RM1 (North) site boundary is shown in Figure 2 below.



Figure 2: Location of Ford Industrial Estate & Redstone Tyres

Noise levels and effects in relation to road traffic noise from the surrounding road network and site access roads remain the same as presented in the RM1 Noise Assessment. Noise levels and effects from all commercial and industrial noise sources apart from Ford Industrial Estate and Redstone Tyres also remain the same as presented in the RM1 Noise Assessment.

Consideration has been given to the cumulative noise levels due to commercial and industrial noise sources which are relevant to the RM1 (North) Reserved Matters planning application.

Noise contours of Ford Industrial Estate, Redstone Tyres and cumulative noise from commercial and industrial operations are presented in Appendix A. These correspond to the noise contours presented in the RM1 Noise Assessment as set out below:

- **Ford Industrial Estate (Figure A1)** – Page 65 of the RM1 Noise Assessment;
- **Redstone Tyres (Figure A2)** – Not presented in the RM1 Noise Assessment;
- **Redstone Tyres and Ford Lane Industrial Estate (Figure A3)** – Page 68 of the RM1 Noise Assessment;
- **Cumulative noise levels due to commercial and industrial noise sources (Figure A4)** – Page 69 of the RM1 Noise Assessment.

BS4142 Assessments

BS4142 assessments have been undertaken of noise sources to demonstrate the potential effects of noise levels at dwellings at RM1 from Ford Industrial Estate and Redstone Tyres with the updated proposals for the IRM planning application. An assessment of cumulative noise levels from all commercial and industrial operations is also presented.

BS 4142, the most relevant standard for the assessment of commercial and industrial noise sources, states that the standard is not intended to be applied to the assessment of indoor sound levels. As operations at Ford Industrial Estate and Redstone Tyres take place during the day only, it is considered appropriate to consider the closest proposed private gardens to determine the level of impact. This is consistent with the RM1 Noise Assessment.

Reference is made to the residual sound level, i.e., the noise level without commercial and industrial noise sources, and the background sound level. Details of the methodology

to derive the residual and background sound levels are presented in the RM1 Noise Assessment.

The context for the BS4142 assessments is the same as presented in the RM1 Noise Assessment. To present a consistent approach to the assessment of commercial and industrial noise sources, the acoustic feature corrections presented in the assessment are also the same as presented in the RM1 Noise Assessment. The acoustic feature corrections which have been applied present a robust assessment approach.

Ford Industrial Estate

The initial assessment of noise from Ford Lane Industrial Assessment at the closest proposed dwellings in RM1 (North) is shown in Table 3.

Initial Assessment	Day
Residual Sound Level, dB $L_{Aeq, 60min}$	44
Specific Sound Level dB $L_{Aeq,T}$	35
Acoustic Feature Correction, dB	3
Rating Level, dB $L_{Ar,Tr}$	38
Background Sound Level, dB $L_{A90, T}$	39
Excess over background, dB	-1
Excess over residual, dB	-6
Initial Assessment	Low Impact

Table 3: BS4142 Initial Assessment, Subject to Context

The rating level from Ford Industrial Estate is 1dB and 6dB below the background and residual sound levels. Based on the above and the context presented in the RM1 Noise Assessment, noise from Ford Industrial Estate will result in a low impact.

Redstone Tyres

The initial assessment of noise from Redstone Tyres at the closest proposed dwellings in RM1 (North) is shown in Table 4.

Initial Assessment	Day
Residual Sound Level, dB $L_{Aeq, 60min}$	56
Specific Sound Level dB $L_{Aeq,T}$	30
Acoustic Feature Correction, dB	3
Rating Level, dB $L_{Ar,Tr}$	33
Background Sound Level, dB $L_{A90, T}$	39
Excess over background, dB	-6
Excess over residual, dB	-23
Initial Assessment	Low Impact

Table 4: BS4142 Initial Assessment, Subject to Context

The rating level from Redstone Tyres is 6dB and 23dB below the background and residual sound levels. Based on the above and the context presented in the RM1 Noise Assessment, noise from Redstone Tyres will result in a low impact.

Redstone Tyres & Ford Lane Industrial Estate

To provide a consistent approach with the RM1 Noise Assessment and due to the colocation of operations, noise from Redstone Tyres and Ford Lane Industrial Estate have been assessed together. The initial assessment is shown in Table 5.

Initial Assessment	Day
Residual Sound Level, dB $L_{Aeq, 60min}$	56
Specific Sound Level dB $L_{Aeq,T}$	39
Acoustic Feature Correction, dB	3
Rating Level, dB $L_{Ar,Tr}$	42
Background Sound Level, dB $L_{A90, T}$	39
Excess over background, dB	3
Excess over residual, dB	-14
Initial Assessment	Low Impact

Table 5: BS4142 Initial Assessment, Subject to Context

The rating level due to noise from Redstone Tyres and Ford Lane Industrial Estate is 3dB above and 14dB below the background and residual sound levels. Based on the initial assessment and the context presented in the RM1 Noise Assessment, noise from Redstone Tyres and Ford Lane Industrial Estate will result in a low impact.

Cumulative Noise Levels

The initial assessment of cumulative noise from commercial and industrial operations at the closest proposed dwellings in RM1 (North) is shown in Table 6. Dwellings to the north and south of the site have been considered due to the grouping of noise sources.

Initial Assessment	Day (North)	Day (South)
Residual Sound Level, dB $L_{Aeq, 60min}$	56	44
Specific Sound Level dB $L_{Aeq,T}$	39	38
Acoustic Feature Correction, dB	3	3
Rating Level, dB $L_{Ar,Tr}$	42	41
Background Sound Level, dB $L_{A90, T}$	39	39
Excess over background, dB	3	2
Excess over residual, dB	-14	-3
Initial Assessment	Low Impact	

Table 6: BS4142 Initial Assessment, Subject to Context

The rating level due to cumulative noise from commercial and industrial noise sources is 2-3dB above the background sound level and 3-14dB below residual sound level. When considering the above and the context presented in the RM1 Noise Assessment, cumulative noise levels from commercial and industrial operations from will result in a low impact.

ProPG guidance notes the following:

"...In the special case where industrial or commercial noise is present on the site but is "not dominant" (i.e. where the impact would be rated as lower than adverse (subject to context) if a BS4142:2014 assessment was to be carried out), its contribution may be included in the noise level used to establish the degree of risk (and if included, this should be clearly stated)..."

Commercial and industrial noise would not be considered to be dominant in accordance with the above statement. Mitigation measures for the site have been designed to control noise from the surrounding road network and site access roads, which are the dominant noise sources in the area. The mitigation measures will therefore control noise from the commercial and industrial operations so that there are no adverse effects.

4. CONCLUSION

Noise barriers are no longer proposed as part of the IRM planning application. This technical note provides consideration of the noise levels at RM1 (North) based on the updated IRM proposals.

All commercial and industrial noise sources will result in a low impact when assessed in accordance with BS4142. In accordance with ProPG guidance, commercial and industrial noise would not be considered to be dominant.

The mitigation measures to control noise from the surrounding road network and the site access roads remain the same as presented in the RM1 Noise Assessment.

Noise levels from all sources will be controlled at proposed dwellings so that there are no adverse effects. Therefore it is considered that Condition 25 can be discharged.

APPENDIX A







