

Land at Maple Lodge Close, Maple Cross

# Proof of Evidence (Noise)

Report 19/0333/P.o.E1.2

Author: Matthew Heyes

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PLANNING INSPECTORATE REFERENCE: APP/P1940/W/21/3289305

LOCAL PLANNING AUTHORITY REFERENCE: S/2013/0890

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## Proof of Evidence

Appeal by BCL (Maple Cross) LLP & Impact Property Development Ltd

Appeal against non-determination by Three Rivers District Council  
of planning permission for development at  
Land to the North of Maple Cross Lodge, Maple Cross  
Rickmansworth, Hertfordshire, WD3 9SE

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Revision	Description	Date	Prepared
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 End of Section



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### 1 Qualifications and Experience

- 1.1 My name is Matthew Heyes and I am an Associate Director at RSK Acoustics (formally Cole Jarman), a dedicated acoustics consultancy practice. I have a Bachelor of Science degree with honours in Acoustics. I am a Member of the Institute of Acoustics.
- 1.2 I have worked full time in the field of acoustics consultancy since 2006 with a year in industry placement at Atkins Global. I have then been employed by RSK Acoustics since finishing my degree in 2008.
- 1.3 I have undertaken and continue to undertake work for both private and public sector clients on a wide range of development schemes. This includes a significant amount of planning work for distribution warehouses all around the country for various clients. In addition to this I undertake work within the residential, commercial, industrial, transportation, retail, hotel, health, education and performing arts project sectors. My experience and expertise include both environmental and building acoustics.
- 1.4 The criteria that I propose within my proof has been accepted for numerous similar development sites within various planning authority sites. A small example of sites where this has been agreed as suitable with the Local Planning Authority are provided below:
  - Symmetry Park, Kettering (LPA – Kettering)
  - Symmetry Park, Aston Clinton (LPA – Buckinghamshire)
  - G-Park, Doncaster (LPA – Doncaster)
- 1.5 I confirm that the evidence which I present for this appeal has been prepared in accordance with the guidance of my professional institution. I confirm that the opinions expressed are my true and professional opinions.



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### 2 Scope of Evidence

- 2.1 My evidence deals with the noise impact from the appeal site and whether this is acceptable, in planning terms. I deal with noise from service yard activities within the development site, including noise associated with Car and HGV movements around the site, and loading/unloading noise.
- 2.2 Accompanying the application for the appeal site was a report by Cole Jarman Limited (now RSK Acoustics Limited) ref *Planning Noise Assessment*, report 19/0333/R2 dated 12 April 2021 (CD1.3.3). I shall refer to it as the CJ Report. Together with its associated appendices, it identifies the planning policy and guidance documents to which I refer in this proof. I do not replicate what is set out in the report, but my proof does use excerpts and makes references as necessary to present my case.
- 2.3 In sections 3 - 5 of my proof I deal with current UK planning policy and guidance and how this should be used to establish relevant assessment standards for a new industrial noise sources.
- 2.4 In section 7 of my proof I present an updated assessment of the noise impact of the development site. The updated assessment has been undertaken using industry standard noise modelling software and I have undertaken it to ensure that the assessed noise impacts are as accurate as practicably possible.
- 2.5 I note that noise was not provided as a reason from the council for the refusal of planning permission for the site and so the assessment methodology and criteria detailed below is considered to be accepted by the council.

### 3 Local Planning Policy

- 3.1 Policy DM9 (CD4.27) *Contamination and Pollution Control*, from the Development Management Policies LDD (adopted July 2019) considers noise pollution. I have reproduced this below:

*d) Noise Pollution*

*Planning permission will not be granted for development which:*



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- *Has an unacceptable adverse impact on the indoor and outdoor acoustic environment of existing or planned development*
- *Has an unacceptable adverse impact on countryside areas of tranquillity which are important for wildlife and countryside recreation; or*
- *Would be subject to unacceptable noise levels or disturbance from existing noise sources whether irregular or not.*

*The Council will ensure that noise from proposed commercial, industrial, recreational or transport use does not cause any significant increase in the background noise level of nearby existing noise-sensitive property such as dwellings, hospitals, residential institutions, nursing homes, hotels, guesthouses, schools and other educational establishments. When assessing proposals for residential development near a source of noise we will have regards to Appendix 4 which indicates the appropriate response to the level of noise by source.*

- 3.2 Appendix 4 (CD4.52) referenced within DM9 (CD4.27) above provides noise threshold for proposed new residential developments and does not provide any guidance for new noise sources.
- 3.3 DM9 does not provide any guidance on what would be considered to be an unacceptable adverse impact on the indoor and outdoor acoustic environment of existing or planned development. I consider that this wording suggests that any impact must be kept below the Significant Adverse Impact Effect Level (SOAEL).

## 4 National Planning Policy

- 4.1 Sections 1-3 of Appendix A to the CJ Report (CD1.3.3) refers to the key elements of national planning guidance as it pertains to noise. Distilling the policy aims and guidance into the essential planning considerations for the appear site, I would note that paragraph 185 (CD 4.12) of NPPF states:

*“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,*



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*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;”*

### 4.2 Noise Policy Statement for England (CD4.47) states the following:

*Significant adverse noise impacts (on health and quality of life) shall be avoided. Significant adverse impacts arise when noise levels exceed the SOAEL (Significant Observed Adverse Effect Level). With regard to significant adverse effects, the following is relevant:*

*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.*

### 4.3 Planning Practice Guidance on Noise (CD4.48) states the following:

*Above the SOAEL the noise causes a material change in behaviour, attitude or other physiological response, 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.*

*The overall objective is to avoid or minimise significant adverse impacts; some degree of impact is acceptable and it is not necessary to seek to achieve no impact at all.*

### 4.4 Adverse impacts (on health and quality of life) should be mitigated and minimised. Adverse impact arise when noise levels exceed the LOAEL (Lowest Observed Adverse Effect Level);

*The value of LOAEL is likely to be different for different noise sources, for different receptors and at different times;*



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*Above the LOAEL, noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up the volume of the television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of noise.*

*Noise levels above the LOAEL need not be avoided, although they should be mitigated and minimised as far as is reasonably practicable where they occur. Whether measures are required to be adopted in pursuing this objective, and if so the type and extend of those measures, will depend on the level of noise and the degree to which mitigation and minimisation is practically achievable.*

- 4.5 Crucial to the assessment of whether the appeal site should be granted consent, taking into account noise, is to establish values for LOAEL for the sources on the site. It is then necessary to determine whether the site adversely affects existing noise sensitive receptors, and if so whether they are significantly adversely or merely adversely affected (in which case noise is a matter for the planning balance, alongside all other material considerations that fall to be weighed). It then remains to determine what, if any mitigation is required and whether it can be practically delivered.
- 4.6 Where the established values of LOAEL are not exceeded, I consider that the requirements of the NPPG (CD4.48) are met.
- 4.7 The values I consider appropriate for the LOAEL for the noise sources on the appeal site are established in Section 4 my proof below, by reference to those adopted in the CJ Report (CD1.3.3) together with appropriate guidance and policy.

## 5 Assessment Standards

### 5.1 Ambient Noise Levels

- 5.1.1 Section 4 of Appendix A to the CJ report (CD1.3.3) provides details of the assessment methodology provided within BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* (CD4.44).
- 5.1.2 Paragraph A4.1.13 of this appendix reproduces the initial impact assessment detailed within BS 4142 (CD4.44). This is reproduced below:





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a) Typically, the greater this difference [between noise source rating level and baseline background level], the greater the magnitude of the impact.

*b) A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.*

*c) A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.*

*d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. 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*

5.1.3 The comparisons above show that the first time that the noise impact is considered to be adverse (depending on the context) is when the noise rating level exceeds the background noise level by 5dB or more. I consider that as this is the lowest level at which the standard shows an adverse impact, that it can logically act as a basis for defining a LOAEL threshold. Therefore, I consider that in planning terms any impacts at or below this level are suitable in accordance with national planning policy.

5.1.4 In addition to comparison with the background noise levels, it is also necessary to consider the context. The standard allows for the consideration of the absolute noise levels as shown below:

*“For a given difference between the rating level and the background sound level, the magnitude of the overall impact might be greater for an acoustic environment where the residual sound level is higher than for an acoustic environment where the residual sound level is low.*

*Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.”*

5.1.5 BS4142 (CD4.44) does not provide details of what levels are considered to be low, I understand that this is because it would change depending on the type of assessment being undertaken. Due to this



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it is necessary to consider other standards which provide absolute thresholds for suitable noise levels inside buildings.

- 5.1.6 The appendix considers guidance taken from the WHO Guidelines (CD4.47), WHO Night Noise Guidance (CD4.50) and Planning Precedence. Based on guidance within these documents I consider that absolute noise levels representing the threshold for LOAEL are 45 dB  $L_{Ar, 1hour}$  during the day and 40 dB  $L_{Ar, 15minute at night}$  are appropriate.

### 5.2 Impulsive Sounds

- 5.2.1 In addition to the assessment of ambient noise levels from the site the CJ report separately considered impulsive sounds. I consider this assessment to be relevant to ensure that the noise impact is appropriately assessed.
- 5.2.2  $L_{Amax}$  limits for all noise sources excluding reversing sounders are set at 57 dB  $L_{Amax}$  or similar to the existing  $L_{Amax}$  levels, whichever is higher. Limits for reversing sounders are set as the same, however an acoustic penalty of 12 dB is applied to the noise source in order to take account of its attention attracting characteristics.
- 5.2.3 I consider that the limits detailed above are appropriate for the development site.

## 6 Noise Limits

- 6.1 The original planning application was undertaken at a time when road traffic flows were significantly affected by the COVID 19 pandemic and so the noise levels at the site were not considered to be suitably representative by Cole Jarman. Due to this a noise survey has not been undertaken at the site.
- 6.2 I consider the absolute noise criteria that I have proposed in section 5 above to be the lowest possible threshold for LOAEL on the site, as they are not affected by the existing background noise levels. Due to this achieving 45 dB  $L_{Ar, 1hour}$  during the day and 40 dB  $L_{Ar, 15minute at night}$  will demonstrate that the development meets the requirements of BS 4142:2014 (CD4.44), the NPPF , NPPG (CD4.48) and local planning policy DM9 (CD4.27)



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### 7 Updated Noise Modelling

#### 7.1 Assessment

- 7.1.1 The original noise impact assessment detailed within the CJ report (CD1.3.3) was undertaken using calculations based on manual measurements of the distance propagation and acoustic screening. The assessment assumed that all of the noise sources were located in the worst case practicable location within the service yard (CD1.3.3). This would never realistically happen on site but ensured that the assessment was robust and presented the worst possible impact.
- 7.1.2 The assessed noise levels from the development were below the proposed LOAEL as detailed in section 6.2 above and so a more in-depth assessment was not considered to be necessary to support the planning application. I consider that this was an appropriate methodology for the assessment at that time.
- 7.1.3 Notwithstanding the suitability of the original assessment, to provide a more accurate assessment of the noise levels generated from the proposed development site for this appeal I have produced an acoustic model of the development, using noise prediction program (Wölfel IMMI version 2020). The model accurately calculates the losses from each noise source to the receptor positions and more easily allows any changes to be examined in terms of assessment scenarios.
- 7.1.4 The onsite activities associated with each HGV and Car movement are the same as in RSK Acoustics initial assessment (CD1.3.3) which I have reproduced below:

#### HGV Accessing Site

- Vehicle arrives onsite, drives to parking bay, reverses into parking bay, cuts engine and shuts door. The energy from activities within the bay is assumed to be spread evenly over all of the bays.
- Vehicle drives to loading bay, loads or unloads. The energy from activities within the bay is assumed to be spread evenly over all of the bays.

#### HGV Leaving Site

- Vehicle door shutting, engine start and vehicle pulling away from bay and vehicle driving off site. The energy from activities within the bay is assumed to be spread evenly over all of the bays.



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### Car Accessing Site

- Car arrives onsite, drives to parking bay, cuts engine and shuts door. The energy from activities within the bay is assumed to be spread evenly over all of the bays.

### Car Leaving Site

- Car door shutting, engine start and car pulling away from bay and car driving off site.

7.1.5 The noise sources and traffic flows used within the model are the same as in the original CJ report (CD1.3.3). The noise data has come from RSK Acoustics extensive library of distribution centre noise sources which have been measured over a significant number of sites.

7.1.6 I consider that the above represents a robust worst case assessment of all of the noise sources at the site. The assessment is based on a notional scenario which I would not expect to occur but it demonstrates that even at this level of operation not impacts are expected to occur and therefore when operating in a more realistic fashion there is a high degree of certainty that no significant impact will occur.

7.1.7 The assessment has been undertaken based on the traffic flow figures used within the original CJ report which were provided by the traffic consultant (CD1.3.3 schedule 1). These are reproduced below for clarity.



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Period (hours)	For Assessment <sup>1</sup>		Unit 2	
	Unit 1 HGVs	Light Vehicle	HGV	Light Vehicle
0000-0100	3	10	3	10
0100-0200	3	11	3	11
0200-0300	2	5	2	5
0300-0400	3	10	3	10
0400-0500	2	8	2	8
0500-0600	2	7	2	7
0600-0700	3	10	3	10
0700-0800	3	19	3	19
0800-0900	5	57	5	57
0900-1000	0	21	0	21
1000-1100	12	17	12	17
1100-1200	0	19	0	19
1200-1300	0	14	0	14
1300-1400	0	38	0	38
1400-1500	3	19	3	19
1500-1600	10	7	10	7
1600-1700	3	17	3	17
1700-1800	3	54	3	54
1800-1900	7	36	7	36
1900-2000	2	5	2	5
2000-2100	2	3	2	3
2100-2200	2	5	2	5
2200-2300	2	5	2	5
2300-2400	2	5	2	5

T1 Traffic flows

### 7.2 Noise Penalties

- 7.2.1 As detailed within the Cole Jarman planning report (CD1.3.3), BS 4142 (CD4.44) requires penalties to be applied to noise sources where they have acoustic characteristics which may attract attention.
- 7.2.2 A 3 dB acoustic penalty was added for the site as a whole within the CJ report (CD1.3.3) as details of the noise climate were unknown at that time.

<sup>1</sup> 2 way movements (i.e. one entrance and one exit) utilised for assessment



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7.2.3 To provide a level of comfort with the assessment I have applied a 6 dB acoustic penalty to loading and unloading activities at the site. This is to take account of potential banging sounds and reversing alarms add to the overall robustness of the impact evaluation.

7.2.4 I have not added any acoustic penalties to HGV movements on site as the existing noise climate already includes noise from HGV's accessing the water processing plant and so this would not change the noise climate.

### 7.3 Results

7.3.1 Using the noise model, I have calculated the noise rating level from the site, to the worst-case dwellings on Longmore Close and Maple Lodge Close for each hour of the day and each 15minutes period at night. The calculated noise rating levels ( $L_{Ar,T}$ ), compared to the LOAEL threshold are shown below:



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Time Period	Maple Lodge Close			Longmore Close		
	L <sub>Ar,T</sub> , dB	LOAEL Threshold	Difference	L <sub>Ar,T</sub> , dB	LOAEL Threshold	Difference
0000-0100	32	40	-8	30	40	-10
0100-0200	32	40	-8	30	40	-10
0200-0300	30	40	-10	28	40	-12
0300-0400	32	40	-8	30	40	-10
0400-0500	30	40	-10	28	40	-12
0500-0600	30	40	-10	28	40	-12
0600-0700	32	40	-8	30	40	-10
0700-0800	32	45	-13	30	45	-15
0800-0900	33	45	-12	33	45	-13
0900-1000	11	45	-34	23	45	-22
1000-1100	37	45	-8	35	45	-11
1100-1200	11	45	-35	23	45	-22
1200-1300	9	45	-36	21	45	-24
1300-1400	14	45	-32	26	45	-19
1400-1500	32	45	-13	30	45	-15
1500-1600	36	45	-9	34	45	-11
1600-1700	32	45	-13	30	45	-15
1700-1800	32	45	-13	31	45	-14
1800-1900	35	45	-11	33	45	-12
1900-2000	30	45	-15	28	45	-17
2000-2100	30	45	-15	28	45	-17
2100-2200	30	45	-15	28	45	-17
2200-2300	30	45	-15	28	45	-17
2300-2400	30	40	-10	28	40	-12

### T2 Assessment Results

7.3.2 In addition to the ambient noise levels shown above I have calculated the highest L<sub>AMax</sub> level at the same position as 47 dB(A). The highest L<sub>AMax</sub> from reversing sounders is 25 dB(A) and 37 dB(A) with a 12dB rating penalty applied.

7.3.3 The results of my assessment detailed above show that the noise predicted noise rating level from the site is below the LOAEL threshold and so is not considered to be an adverse impact in accordance with the guidance within BS 4142 (CD4.44).



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- 7.3.4 My results show that the noise impact is below the LOAEL threshold and so complies with guidance within the NPPF, NPPG (CD4.48) and Policy DM9 (CD4.27) of the Local Council's Development Management Policies.

## 8 Application History

- 8.1 This Application follows the refusal of a full application (ref: 19/1179/FUL) made by the Applicant on the Site for the following:

*"Comprehensive redevelopment to provide 2 no. warehouse Class B1c/B2/B8 units comprising a total of 16,140 sqm including 1,986 sqm ancillary B1a office space, access, landscaping and associated works."*

- 8.2 The refused application was taken to the 14th November 2019 Planning Committee with a recommendation for refusal on the basis of five reasons as identified by the Committee Report and Addendum. Members resolved to refuse planning permission citing two additional reasons for refusal on design and heritage grounds.
- 8.3 The LPA's decision notice (CD3.8) was issued on the 19th November 2019.
- 8.4 An appeal (ref. APP/P1940/W/19/3243565) was submitted by the Applicant to the Planning Inspectorate following the LPA's refusal of planning permission. The appeal proceeded by way of a Hearing, with the event held between 30th June – 3rd July 2020.
- 8.5 A Noise Impact Assessment was undertaken and submitted in support of the refused application to determine the potential noise effects of the proposed development. The noise levels generated by the site were predicted at the nearest residential property based on the worst-case hourly traffic data provided.
- 8.6 The committee report for the refused application confirmed that the Environmental Health Officer agreed the methodology and that the correct receptors and correct noise level criteria had been used (CD3.5 para. 7.5.29). They agreed with the findings of the report and that there would be no





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adverse impact on amenity by virtue of noise. Officers confirmed that no additional mitigation was necessary, as long as conditions prevented the use of refrigerated HGVs and tug units. The committee report concluded that there would be no adverse impacts with regards to noise as a result of the development.

- 8.7 Noise did not form a reason for refusal, however, it was considered by the Inspector as part of the appeal scheme. The Inspector concluded that there was no reason based on the submitted evidence to reach a different position to the Council. The Inspector was satisfied that provided the appeal scheme would not have caused any significant increase in the background noise level and would be unlikely to have caused disturbance or adverse health effects. The Inspector therefore concluded that subject to conditions to ensure that noise emanating from the scheme did not exceed specified levels, the proposals would have complied with Policy (CD3.9 paras 21-41).
- 8.8 In relation to the appeal scheme, a Noise Impact Assessment (CD1.2.18) was submitted as part of the application which followed the same methodology as refused application. An updated Noise Impact Assessment (CD1.3.3) was submitted on 22nd April 2021; this provided further clarification in response to comments from objectors and did not change the methodology, results or conclusions of the report.
- 8.9 At Planning Committee Members discussed matters in relation to the noise impacts from the proposed development. However, these did not follow through to the reason for deferral. Objections in relation to potential noise and light pollution impacts on residential amenity have also been submitted by third parties in relation to the Application.
- 8.10 The Committee Report (CD3.1) confirms that the Noise Impact Assessment (CD1.2.18 and CD1.3.3) was reviewed by the Council's Environmental Health Officer who raised no initial objections. A Noise Report from the Residents Association prepared by Cass Allen (CD2.4.6) was submitted to the Council on 28th May 2021. The report suggested that a noise survey should be carried out in order to establish suitable noise levels, questioned the character corrections and predictions applied to the commercial noise levels, and suggested a revised planning condition. The Appellant provided a further response (CD2.4.7) to these points on 1st July 2021. The Environmental Health Officer subsequently recommend that the condition proposed by Cass Allen be included as this would give



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greater protection to the existing environment, with the trigger being amended accordingly as per NPPF guidance.

- 8.11 On this basis, with appropriate mitigation secured by planning condition, the Committee Report (CD3.1) confirms that the Application complies with planning policy in this regard: In summary, in view of the specialist advice received, it is considered that there would be no adverse impacts with regards to noise as a result of the development. The proposed development complies with the NPPF (2021) and Policy DM9 (CD4.27) of the Development Management Policies LDD (adopted July 2013) in this regard (Committee Report, CD3.1 para. 7.7.23)

## 9 Rule 6 Party Evidence

- 9.1 Within their statement of case the rule 6 party have referenced the previous reviews of the Cole Jarman noise impact assessment undertaken by Cass Allen. The original Cass Allen letter ref LR01-21247-R0 dated 24 May 2021 (CD 2.4.6), the Cole Jarman response to this letter ref 19/0333/M02-0 dated 1<sup>st</sup> July 2021 (CD 2.4.7). In addition to these documents they have also stated that background noise creep could potentially be a concern. I have responded to the relevant statements below:

### Background Noise Creep

- 9.2 The Rule 6 party states the following regarding background noise creep within their Statement of Case:

*A noise related planning condition was provided in the appellant's supporting acoustic assessment however this was not considered sufficiently robust to ensure the amenity of the local residents will be suitably safeguarded. An alternative condition was proposed in the review of the appellant's assessment. This alternative condition was considered more robust by TRDC's Environmental Health Officer. However it was suggested to be amended by the TRDC Development Management Team. This amendment is considered to leave the local environment open to background noise creep from commercial noise and subsequently the potential for increasing adverse impact on the local residents over time*



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- 9.3 Background noise creep is not considered within BS 4142 (CD4.44). However, it is sometimes used in very specific cases by Local Planning Authorities to propose lower noise limits than those shown to be appropriate within BS 4142 (CD4.44). The very specific cases where noise creep may be considered to be relevant is where there are a lot of commercial units within a small area, which are all similar distances, and so would be expected to have a similar noise contribution, to a single dwelling. The concern is that each unit would undertake separate noise surveys and noise impact assessments, as each survey would take account of the noise generated by the last development the background noise levels measured over time would slowly increase.
- 9.4 In this case I do not consider this to be appropriate, as we don't have any other potential development sites close enough for this to apply and so this is not a relevant concern.

### Noise Limits

- 9.5 Cass Allen have stated that the noise limits set within the original Cole Jarman noise impact assessment report are not in line with the guidance within BS 4242 (CD4.44). They consider that the threshold for LOAEL should be equal to background and that absolute noise thresholds should be considered in line with guidance within the previous 1997 version of BS 4142.
- 9.6 As I state in section 5.1 of this Proof the threshold at which BS 4142:2014 (CD4.44) considers that the noise impact is adverse is when the noise rating level exceeds the background noise level by 5dB or more (depending on the context). As any lower impact would be by definition below the point where the impact would be adverse it logically represents the LOAEL threshold. Therefore, I consider that in planning terms any impacts at or below this level are suitable in accordance with national planning policy.
- 9.7 I further believe that if the absolute noise thresholds detailed within BS 4142:1997 were still relevant then they would have been included within the updated standard. I consider that the only relevant guidance for absolute thresholds for industrial noise sources is provided within the WHO Guidance documents as I have detailed in section 5.1 of this Proof.
- 9.8 As the absolute noise thresholds that I have set represent the lowest possible threshold for LOAEL the noise criteria that the site has been designed to are considered to represent the worst case



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### Insufficient Noise Character Corrections

- 9.9 Cass Allen consider that the character corrections used within the original Cole Jarman assessment were insufficient. I consider that the corrections used within the original Cole Jarman assessment were appropriate, however to demonstrate on a without prejudice basis, that even with an additional correction being made to cover any variation in potential interpretation of the appropriate penalty, that the issue is not significant. I have applied a 6 dB penalty for loading and unloading activities within my updated noise model as detailed in section 7.1 which comfortably covers any potential noise characteristics which could be deemed appropriate.

### Residences to the East of Site

- 9.10 Cass Allen consider that the residences to the East of Site should be considered in the noise assessment. I consider that due to the distances from the site along with the acoustic screening provided the existing topography and the low impact at the closest dwellings mean that it is not necessary to assess the noise impact to this location.

## 10 Conclusions and Summary

- 10.1 In my proof I set out the basis on which noise from the site, affecting existing dwellings, should be assessed in accordance with current planning policy and guidance. I adopt the assessment standards used within the CJ Report which the council have agreed is appropriate as noise was not considered as a reason to refuse planning permission.
- 10.2 I have undertaken update noise modelling for the development site which has ensured that accurate distance and acoustic screening losses have been used within my assessment. The model has also taken account of the topography of the development site and surrounding areas. The model takes full account of all of the potential noise sources on the site and the movement of HGVs both on the site and on the access road. The noise sources within the model have been measured by RSK Acoustics on a significant number of similar sites over many years and so are considered to be robust examples of all potential on site activities.



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- 10.3 I have provided suitable values for LOAEL, both in terms of absolute levels and as a difference compared to the existing background noise levels. These values take full account of the guidance provided within BS 4142 (CD4.44).
- 10.4 The noise levels generated by the site have been compared to the absolute thresholds for LOAEL as it was not possible to undertake accurate noise measurements on site during the COVID Pandemic. I consider the absolute noise thresholds to be the lowest potential value for LOAEL and so this is considered to be a worst case assessment.
- 10.5 The results of my results have shown that the noise impact is below my proposed LOAEL threshold and so complies with guidance within the NPPF, NPPG (CD4.48) and Policy DM9 (CD4.27) of the Local Council's Development Management Policies.

 End of Section

