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Maelor Foods Ltd. Pickhill Lane, Wrexham LL13 0UE

Supplementary Noise Assessment:

Environmental Permit EPR/AB3591ZQ Application for Variation

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Issue Final 1.1: 27 October 2023

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Final 1.1

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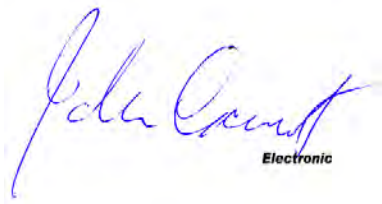
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Date of issue:	26 October 2023
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E.0 EXECUTIVE SUMMARY

- E.1 This report is a supplementary noise assessment prepared on behalf of Salisbury Poultry Ltd. in respect to the company's subsidiary company Maelor Foods Ltd., Wrexham, to support an application to vary the environmental permit issued by Natural Resources Wales (NRW). The variation is sought to accommodate a proposed increase in the processing of poultry food products.
- E.2 Following the original application, NRW issued a Schedule 5 Notice under the Environmental Permitting Regulations (England and Wales) Regulations 2016 (as amended) seeking additional information on noise impacts. This supplementary report was commissioned in response to this, and takes account of an original noise impact assessment prepared by Environoise, and uses prediction of sound levels for specific on-site sources prepared by the same.
- E.3 The basis of this report has been to acquire updated information to assess Background Sound Levels, against which original noise impacts have been reviewed, along with providing further clarification on a series of points raised by NRW in the Schedule 5 Notice included herein. Prior to this report, Environoise compiled responses on behalf of Maelor Foods Ltd. to the Schedule 5 Notice which are expanded upon and qualified.
- E.4 In assessing noise impacts, a key component to consider - as required in permitting guidance and the applicable technical standard - is context. The main components of this are: i) the processing of poultry is an established business operating 24 hours per day, benefitting from a series of planning permissions; ii) the installation site has a legacy of commercial uses stemming from 1936 to date; iii) the locality has mixed uses, featuring arterial and local roads, residential development, commercial/industrial operations, agriculture, and broadly falls under a commercial flight path; iv) the proposed increase in production does not seek to introduce different sources of noise, as it duplicates extant operations; v) Maelor Foods Ltd. is a legitimate part of the existing soundscape; vi) Maelor Foods Ltd. is subject to a Noise Management Plan under its environmental permit, which is subject to amendment as part of the permit variation process to bring about additional noise

control; and vii) the variation(s) sought are consequently not considered incongruous in environmental or planning terms.

- E.5 Concerning noise impact assessments, these have been updated within the parameters set out in the report using locations agreed by NRW. This amounts to consideration of noise-sensitive receptors ('Sites') located in the immediate locality of the permitted installation and slightly further afield.
- E.6 For Sites to the north, north-east and north-west, set against the existing operations, it is determined the combined noise impacts of plant and heavy goods vehicle movements for daytime and night-time periods are indicated as likely to be low, depending on context. This is to be expected given observations made during surveys, whereby subjectively there were no adverse impacts on account of plant noise with the installation site fully operational.
- E.7 To the west, for daytime the impact is predicted as likely to have an adverse impact, depending on context, and for night-time likely to be an indication of significant impact, again depending on context. Such adverse numerical impacts are based on previous modelling work for items of plant. This, however, leads to considerations on uncertainty and context, as during surveys when the installation site has been fully operational, no untoward plant noise was evident and no adverse impacts were subjectively determined, either during the daytime or the night-time. It is considered that original noise ratings in this regard, allowing for a two-fold proposed increase in production, are not representative and as such cannot be sustained. Environmental permitting guidance allows, within practical limits, for context to modify a situation to inform the assessment outcome. In light of this, it is judged that noise impact ratings for the west of Maelor Foods installation warrant downgrading for representative purposes to *no adverse impact during daytime* and *adverse impact during night-time*, depending on context. Fixed plant is already subject to an existing Noise Management Plan which is now being revised to improve noise control and in-turn noise emissions from the installation.
- E.8 Concerning impacts to the west that are associated with heavy goods vehicles, these are predicted as low for daytime, and between low and less than adverse impact for night-time.

- E.9 Maelor Foods Ltd. is a contributor to the local soundscape and noise climate. This will remain so irrespective of the variation to production capacity. With on-going improvements at the installation, for noise-sensitive receptors to the north, north-east and north-west, recognised strategic criteria for acoustic amenity are not unduly compromised. For noise-sensitive receptors to the west, the main focus rests with plant noise which, under the revised Noise Management plan submitted as part of the permit variation process, which seeks to sustain or provide betterment in terms of noise impacts.

1.0 INTRODUCTION

- 1.1 This report has been prepared on behalf of Maelor Foods Ltd., Salisbury House Vulcan Road, Bilston, West Midlands, WV14 7HT in regard to the Maelor Foods Ltd. poultry slaughter and processing facility located at Pickhill Lane, Wrexham, LL13 0UE.
- 1.2 The report is supplementary to a Noise Impact Assessment prepared by Environoise, 6th issue, 15th February 2023 as part of an application on behalf of Maelor Foods Ltd. to vary the company's A1 Environmental Permit reference EPR/AB3591ZQ issued by Natural Resources Wales (NRW). It must be read in conjunction with the Environoise Noise Impact Assessment, and, as relevant, the Environmental Permit, the Permit application for variation that is currently under consideration by NRW, and the existing and proposed Noise Management Plans.
- 1.3 In response to the application to vary Maelor Food's IPPC Permit, NRW issued a '*Notice of request for more information*' pursuant to the Environmental Permitting Regulations (England and Wales) Regulations 2016 (as amended), dated 22 June 2023, in exercise of powers under to paragraph 4 of Part 1 Schedule 5 ('Sch.5 Notice').
- 1.4 The Sch. 5 Notice is produced at Appendix 1. It sets out additional information that is required by NRW in order to determine the application to vary the IPPC Permit. The matters relate solely to noise, on which preliminary responses were provided by Environoise.
- 1.5 In order to further qualify information required, a meeting was held between NRW staff Saul White and Lucinda Hall and representatives of (and acting on behalf of) Maelor Foods Ltd. on 11 September 2023. This report is subject to the additional considerations and directions arising from that meeting.
- 1.6 To facilitate preparation of the report, site visits have been carried out to conduct inspections, observations, assessments, measurements and monitoring. Key visits are itemised below and are addressed as necessary in this report.

- 1.7 All acoustic and meteorological measurements were conducted with operatives of Acoustics Environment in attendance. Contemporaneous notes were made in regard to recognisable features contributing to the noise climate, which provide valuable insight to components of the background and ambient sound profiles; these are included at Appendix 2. Attendance at site:

15 September 2023 – Inspection of facility; On and off-site sound preliminary measurements

22 September 2023 – Plant sound measurement testing

24 September 2023 – Ambient and Background Sound Level Surveys

25 September 2023 – Ambient and Background Sound Level Surveys

29 September 2023 – Ambient and Background Sound Level Surveys; vehicle movement assessment

30 September 2023 – Ambient and Background Sound Level Surveys

2 October 2023 – Ambient and Background Sound Level Surveys; vehicle movement assessments

23 October 2023 – Assessment of HGV vehicle movements

- 1.8 All sound analysers/sound level meters were calibrated at site prior to and after each sequence of measurements in accordance with BS4142 clause 6.1 and results are reproduced in this report.

- 1.9 All primary metrics were annotated on-site by Acoustics Environment operatives in the course of measurements.

- 1.10 All persons undertaking measurements are academically qualified to a minimum level of the Institute of Acoustics Diploma in Acoustics and Noise Control and individually have between 27 and 41 years practitioner experience of undertaking environmental noise assessments and acoustic measurements.

- 1.11 In preparation of this report, attention has been given to a number of reference documents, which includes, but is not limited to:

- British Standard BS4142:2014+A1:2019
Methods for rating and assessing industrial and commercial sound

- Environment Agency. Guidance - Noise and vibration management: environmental permits. Updated 31 January 2022
- Environment Agency. Guidance – Method implementation document (MID) for BS4142. Published 27 March 2023

- 1.12 NRW states (see: <https://naturalresources.wales/permits-and-permissions/environmental-permits/horizontal-guidance/?lang=en>)

Noise and vibration management

[Read the relevant Environment Agency noise and vibration management guidance](#) which we are continuing to follow.

For most industrial noise impact assessments, we expect you to follow the criteria and reporting requirements of BS 4142:2014+A1:2019 Method for rating and assessing industrial and commercial sound (BS 4142).

[Read the Method implementation document \(MID\) for BS 4142](#) for extra guidance to ensure that you comply with all the requirements of BS 4142, where needed.

- 1.13 Information used in this report, where not obtained by Acoustics Environment from site visits, measurements and observations, has been provided by, or on behalf of, Maelor Foods Ltd. In use of this report, it is a requirement that Maelor Foods Ltd. agrees and confirms that any information, data, or statement provided by the company direct or on their behalf is correct and fit for purpose.
- 1.14 Throughout this report it is assumed any reader is fully conversant with acoustics, noise and sound, and all associated terminology, concepts, metrics and technical terms used herein.

2.0 AMBIENT AND BACKGROUND SOUND LEVEL SURVEYS

Overview

- 2.1 Maelor Foods Ltd. has operated its Pickhill Lane site since 2017. It has the benefit of planning permissions granted by Wrexham Borough Council from 2015 onwards and as a consequence, undertakes activities and operations that form part of the extant soundscape and noise-climate associated with localities immediate to its site. Invariably, Maelor Foods' activities and operations are a legitimate and recognisable entity.
- 2.2 The Maelor processing plant operates on a 24 hours basis, subject to a limitation on HGV vehicle movements (deliveries and dispatches) imposed under a planning curfew between midnight on Saturday, through to midnight on Sunday. During this curfew, processing of poultry, including storage and freezing, along with necessary maintenance, general housekeeping and effluent treatment continues. A host of equipment and plant is therefore in operation which, includes: compressors; pumps and aeration blowers; boilers; refrigeration and chilling units; processing lines and environmental control plant (e.g. waste water treatment and air scrubber).

Strategy for Undertaking Sound Level Surveys

- 2.3 As a requirement of the Sch.5 Notice, noise-sensitive-receptors were identified by NRW and the locations visited to assess viability for undertaking measurements. These sites are depicted in Figure 2.2 and are described as:
- A. Marlbrook House, Pickhill Lane (opposite to Maelor Foods site entrance). ('Site A')
 - B. Pickhill Old Farm complex / Pickhill Equestrian Centre, off Pickhill Lane. ('Site B')
 - C. White Gate Cottage, Pickhill Lane. ('Site C').
 - D. Mayfield House, Talwrn Lane. ('Site D').
 - E. Porthygan Farm, A525 Wrexham Road. ('Site E')

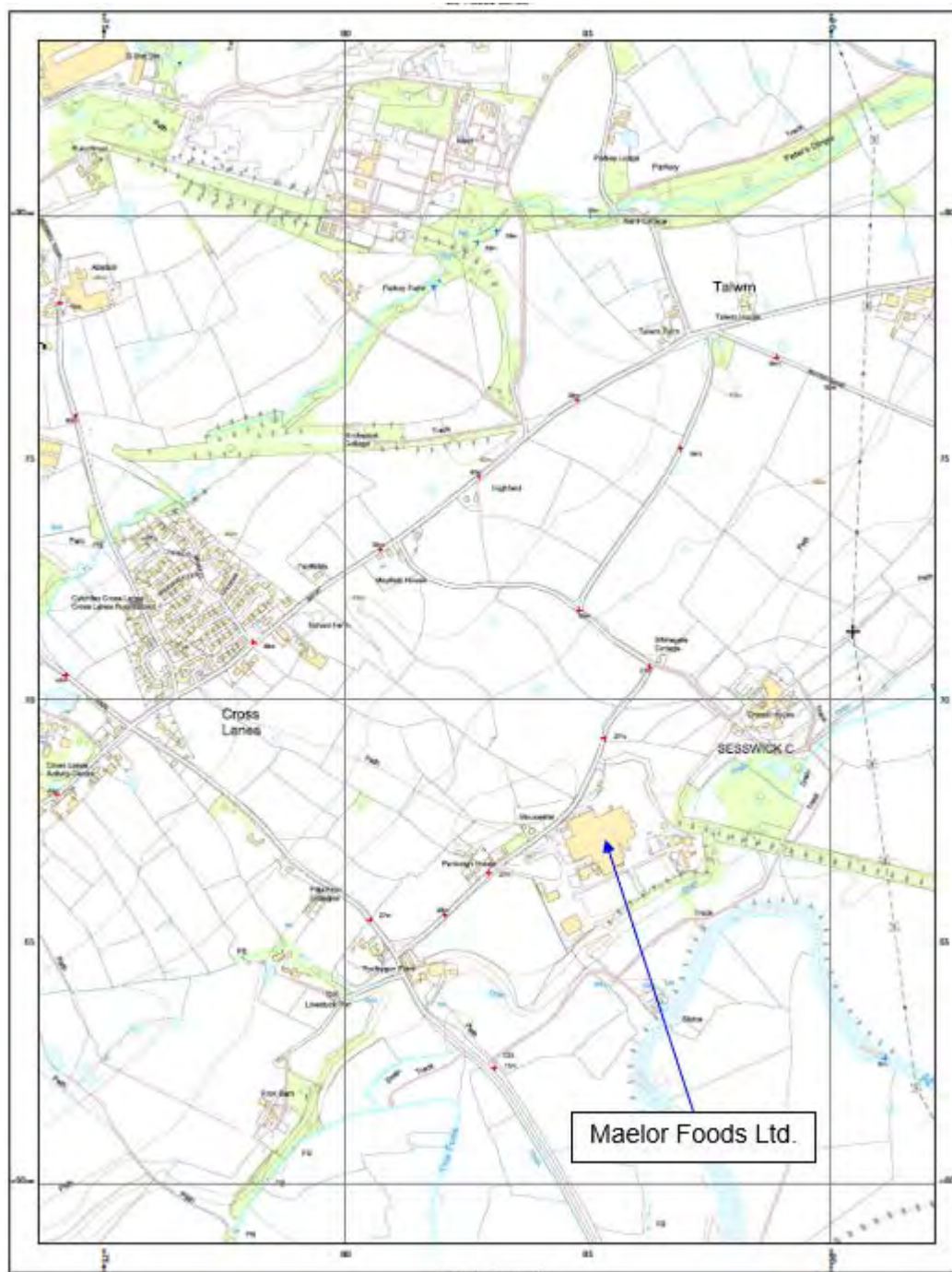


Figure 2.1: General Location of Maelor Foods Ltd. LL13 0UE

2.4 Following site visits, Porthygan Farm was subsequently discounted as a noise-sensitive receptor on the following grounds:

- i) distance from the Maelor Foods site;
- ii) proximity to the A525 Wrexham Road and traffic dominating the noise-climate;

iii) the nature of intervening ground between the farm and Maelor Foods, in that the farm is set below a land horizon which compromises an adjacent cattle field, and is in principle not afforded line-of-sight, part screened both by the land-form and farm buildings to the rear of the farm house (Figure 2.3);

iv) inaudibility of sounds from the Maelor site; and

v) the fact that the Maelor building elevation facing towards Porthygan Farm mainly comprises office suites along with a chiller plant facility that was only just audible at times in the location of Marlbrook House on Pickhill Lane.

2.5 The locations referred to in 2.3 were first visited on 15 September 2023 following a plant inspection to understand the geo-spatial relationships between Maelor Foods and the surrounding locality, subjective impacts of sound (noise), features that comprise ambient sounds, and the viability and limitations for use as monitoring positions. Images for each monitoring positions are provided in Figures 2.4 to 2.7.

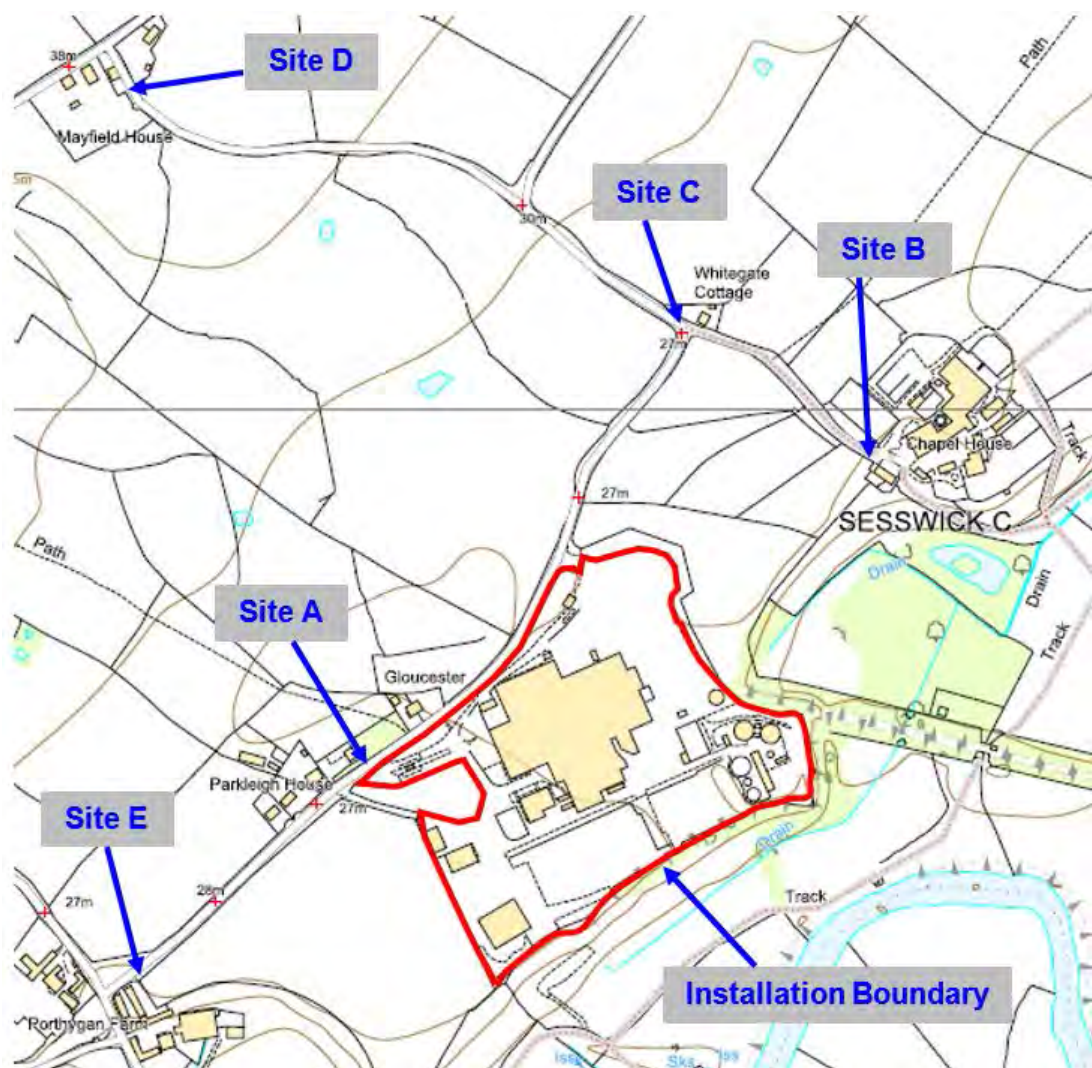


Figure 2.2: Background Noise-Receptor Sites



Figure 2.3: Land Horizon to Porthygan Farm Viewed from Maelor Foods Site Entrance



Figure 2.4: Site A Monitoring Position – Marlbrook House, Pickhill Lane



Figure 2.5: Site B Monitoring Position – Pickhill Old Farm Complex, off Pickhill Lane



Figure 2.6: Site C Monitoring Position – White Gate Cottage, off Pickhill Lane



Figure 2.7: Site D Monitoring Position – Mayfield House, Talwrn Lane

- 2.6 On Friday 22 September 2023 a monitoring visit was carried out to undertake 'test' measurements with specified plant turned off, on request. This allowed for subjective and objective assessments of relative significance/likely contributions to noise impacts, and so informed subsequent ambient sound level survey commentaries.
- 2.7 By arrangement with Maelor Foods, a plant shutdown was facilitated for Sunday 24 September 2023, commencing at approximately 2.00 pm Sunday and continuing until 10.00 am Monday 25 September 2023. This permitted measurements to be carried out without the presence of production operations (including HGV movements) and associated activities in progress as Maelor Foods. Considerations and limitations on this, which form part of a requirement in the NRW Sch. 5 Notice, are addressed at 3.9 and 3.10.
- 2.8 During the plant shutdown on 24 September, on a strictly technical note it was verified that a chiller plant transformer positioned adjacent to Pickhill Lane had to remain energised. This was inaudible at the noise-sensitive receptors.
- 2.9 Acoustic measurements performed on 24/25 September were conducted at noise-sensitive receptors in the form of 15-minute disaggregated periods to accommodate accepted delineations of daytime (07.00 am to 11.00 pm) and night-time (11.00 pm to 07.00 am) in BS4142 *et al.* This approach was used for subsequent measurement surveys when Maelor Foods was operational.
- | | |
|------------------------|--|
| 15 September 2023 | – Inspection of facility; On and off-site sound preliminary measurements |
| 24- 25 September 2023 | – Ambient and Background Sound Level Surveys – plant off |
| 29 - 30 September 2023 | – Ambient and Background Sound Level Surveys |
| 2 October 2023 | – Ambient and Background Sound Level Surveys; vehicle movement assessments |
| 23 October 2023 | – Assessment of HGV vehicle movements |
- 2.10 All acoustic measurements were carried out at free-field microphone positions, utilising a proprietary windshield to accord with BS4142 clauses 6.2 and 6.3, at a nominal microphone height of 1.5m above ground level.

3.0 NATIONAL RESOURCES WALES NOTICE REQUIRING FURTHER INFORMATION (Sch. 5 NOTICE) CONSIDERATIONS

Overview

- 3.1 The requirements of the Sch. 5 Notice have been addressed under categorised themes on which commentary is provided below.

BS 4142, Site Operating Conditions and Background Sound Levels

- 3.2 NRW are unclear as to whether the Maelor Foods site was operational during (noise) surveys conducted by Environoise for the purposes of their Noise Impact Assessment, albeit NRW take the inference plant noise was audible. Environoise have confirmed that the Maelor site was operational during their survey work.
- 3.3 NRW have stated that it is a requirement of BS4142 that background sound measurements should be recent and should not be influenced by site noise. Additional background sound measurements should be undertaken, in accordance with BS4142 guidance, whilst the plant is NOT operational or additional justification needs to be provided for the background sound measurements used in the (original) Noise Impact Assessment as submitted with the variation application.
- 3.4 In response to this, Environoise rightfully pointed to phraseology contained in BS 4142: *“Since the intention is to determine a background sound level in the absence of the specific sound that is under consideration, it is necessary to understand that the background sound level can in some circumstances legitimately include industrial and/or commercial sounds that are present as separate to the specific sound,”* Environoise comment that this is true for an established site such as the case in hand, and considered that additional survey work is unnecessary.
- 3.5 Noting the differences in opinion and the requirement of NRW, Acoustics Environment firstly offer that since the objective is to assess the impact(s) of changes associated with a proposed increase in processing capacity, the extant permitted operations and activities do constitute both a part of the existing soundscape, and in-

turn, the Background Sound Level, against which changes and impacts are properly assessed using the principles of BS 4142. The standard requires the specific sound (which in this case, is brought about by the increase in production) to be distinguished from the residual sound which features current plant operations and activities. Residual sound is determined in the absence of the specific sound (that is to be assessed and rated), with the latter corrected where necessary for the influence of the former.

- 3.6 What is omitted from this dialogue is reference to the Environment Agency *Guidance – Noise and vibration management: environmental permits*. This overtly states that as part of the steps in conducting a noise impact assessment, off-site monitoring should be carried out at noise-sensitive-receptors to the standards defined by BS4142. This said, there is something of a contradiction in the guidance in that it states: “*When considering overall site impact, you must make sure background sound levels at NSRs are not influenced by site noise*”. This is at difference with the application of BS4142 for the purposes of rating and assessing the impact of additional or new specific noise sources. More relevant to the NRW comment is that the Environment Agency Guidance also states: “*When you apply for a variation, do not include noise from the existing site (before changes) as part of the background or the residual sound levels.*” Irrespective, it is not strictly within the ethos of BS4142 in context of the proposed changes currently sought at Maelor Foods.
- 3.7 BS4142, when used to rate and assess proposed, new, modified or additional specific sound sources, explicitly requires that the Background Sound Level is measured when the specific sound source(s) intended to be operated is/are absent.
- 3.8 Notwithstanding the aforementioned comments, the methodology of arranging a plant closure to assess Background Sound Levels was problematic, and facilitated as a one-off exercise from approximately 2.00 pm on Sunday 24 September until 10.00 am Monday 25 September 2023. This was a strategy presented to NRW in advance on behalf of Maelor Foods, and duly accepted as a means to fulfil the requirement detailed in 3.6 above.
- 3.9 This must, however, be sensibly contextualised with caveats to the extent that:

- i) Sundays are broadly taken to be days on which ambient sound levels differ on account of diurnal traffic variations (comparative to weekdays);
- ii) there is commonly less industrial and commercial activity on weekends; transportation noise differs during weekend periods in contrast to weekdays;
- iii) no HGV in-bound and out-bound from Maelor Foods would be present, which obviously reduces traffic on Pickhill Lane that is not subject to environmental permit controls, and hence otherwise forms an important part of the Background Sound Level in respect of noise-sensitive receptors situated opposite to the Maelor site entrance.

3.10 The conclusion from this is that a closure of Maelor Foods for a c.20 hours period bridging Sunday into Monday should theoretically serve to yield an artificially low Background Sound Level than would prevail during weekdays.

Noise-Sensitive Receptors

3.11 NRW noted that there are other nearby noise-sensitive receptors that were not included in the Environoise Noise Impact Assessment and requested t “*All nearby noise sensitive receptors should be considered*” As detailed in 2.3, five locations have been considered when formulating this report which were agreed in advance with NRW. Environoise considered three areas that were previously deemed acceptable in relevant submissions to the Local Planning Authority. It is also understood that these locations were accepted by NRW for the purposes of the 2017 environmental permit.

3.12 Determination of noise sensitive receptors for the needs of impact assessments is routinely informed by site knowledge and experience, among a host of other factors. This may, for example, take into account audibility of noise; acoustic screening features; site operations and their locality; time of day; occupancy *inter alia*.

3.13 Fundamentally, the intention is to measure and assess Background Sound Levels and Specific Sources at the same location where possible i.e. the assessment location(s). All noise-sensitive locations do not necessarily have to be assessed, as a general locality can be sufficiently representative of a number of receptors in the proximity. Alternatively, there can be instances whereby other receptor locations (that

have not been specifically assessed) can be evaluated having regard to their separation distances, intervening terrain, characteristics of the sound source(s) and their location(s) etc. In these circumstances the Background Sound Level may nonetheless have to be evaluated, albeit BS 4142 allows for substitute locations to be used.

Context

- 3.14 It is highlighted by NRW that *“the context in which a noise occurs is critical to assessing the severity of the pollution. Not every noise sensitive receptor will have the same response to the same noise pollution. Additional justification is required for the context argument presented in the (Environoise) Noise Impact Assessment report, due to the exceedances predicted at these receptors.”*
- 3.15 Context in which a sound (noise) occurs is a primary consideration in BS 4142, the importance of which is recognised at the outset of the standard. So far as the assessment of impacts is considered, the standard states 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. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs or will occur.
- 3.16 BS 4142 appropriately points out that not all adverse impacts will lead to complaints, not every complaint is proof of an adverse impact, and when making assessments and arriving at decisions, it is essential to place the sound in context. This applies to all assessments and associated decision making. A separate consideration of context is provided at Section 7.0.

Noise Sources

- 3.17 Mention is made by NRW *“that all noise sources should be included in the modelling assessment; additional, as BS4142 and current guidance requires whole plant noise to be assessed”* and that it appears from the Noise Impact Assessment report and modelling files submitted that this is not the case.

- 3.18 This comment merits careful consideration, as in-part it is incorrect within context of BS4142, as existing plant and operations *per se* would not fall under the subject of rating and evaluation (which is to address the changes that trigger a Permit variation brought about by an intensification of activities). It does not automatically follow that the extent of all existing plant and its use etc. has any direct bearing on this, and hence all noise sources do not constitute the *specific source*.
- 3.19 Environoise have commented that existing noise sources have been considered in their background noise survey. On their part, additional sources and operations over those already permitted have therefore been modelled only as appropriate.
- 3.20 Having inspected all of the operations carried out at Maelor Foods, it is patently evident that the internal production activities are intrinsically linked and cannot readily be disaggregated as distinct noise components. Internal processes are only subdivided to a certain extent, falling within the main building envelope which is a substantial structure. Externally, specific sounds associated with internal processing and production operations are either inaudible or cannot be distinguished from what can be described as a general, non-determinate, low-level, broad-band 'factory sound'.

Acoustic Penalties

- 3.21 On this matter, the Sch. 5 NRW comment is reproduced here in full:

*"Section 4.3 of the submitted Noise Impact Assessment provides information related to acoustic penalties and concludes none are required. BS4142 and current guidance states that you should "Record whether any character corrections are appropriate under BS 4142. Where neither tonal nor impulsive corrections apply, the environment agencies will generally expect a +3 dB 'other' correction to be applied for **readily distinguishable** industrial noise, unless you can demonstrate this is not justified."* As the plant is audible at receptors, a +3 dB penalty should be applied in-line with current guidance. An updated Noise Impact Assessment should be submitted having included a +3dB penalty into the modelling or provide further justification as to why this is not required." (Added inflection).

- 3.22 In response, Environoise have offered that they have assessed in accordance with BS4142 (for planning submission purposes) whereby there is no specific requirement to add a +3 dB penalty, even where noise is readily distinguishable. Furthermore, the type and level of penalty corrections are set based on the extent that distinguishing characteristics will attract attention, and as they have assessed additional plant, this has been considered in the context of the existing industrial noise experienced at the noise-sensitive-receptors. This was determined not to have distinguishable characteristics and deemed not to attract attention. In this case, they believe a +3 dB correction should not apply.
- 3.23 A BS 4142 assessment should be undertaken consistently in accordance with the standard, irrespective of whether the purposes are for environmental permitting or proposed planning development. In so far as applying acoustic character corrections, these relate to their presence (at the assessment location, i.e. a noise-sensitive receptor) by means of any one of three methods: subjective; objective (for tonality); and reference.
- 3.24 In addition to tonality and impulsivity corrections, BS4142 allows for an intermittency correction penalty of +3 dB where this feature is readily distinctive against the residual acoustic environment, and, where the specific sound features characteristics that are neither tonal nor impulsive, nor intermittent, though otherwise are **readily distinctive** against the residual acoustic environment, a penalty of +3 dB can be applied. (Added inflection).
- 3.25 It is clear that a penalty can be added if sound is '*readily distinctive*', which is firstly a subjective test, and arguably rests at a point that is at, or exceeds, sound being readily audible. This point therefore centres on how a determination is made as to whether sound does not have distinguishable characteristics. What is also pertinent is the Environment Agency Guidance: "*Record whether any character corrections are appropriate under BS 4142. Where neither tonal nor impulsive corrections apply, the environment agencies will generally expect a +3 dB 'other' correction to be applied for readily distinguishable industrial noise, unless you can demonstrate this is not justified.*"

Results Presentation and Results of Modelling

- 3.26 On this theme, comment by NRW is that the results presented in the original Noise Impact Assessment report do not correspond with the consultant's (Environoise) own modelling files, plus there is also a discrepancy between the results and specified commentary within the report. Clarification is sought over the discrepancy in data and the results updated to reflect the results of the model.
- 3.27 In response, Environoise have clarified that *"the calculated noise levels at Pickhill Lane and White Gate Cottage appear to be correct. There is a discrepancy of 1.03 dB at Porthygan Farm and we believe it was due to a change in the modelled intervening building over various iterations which has affected the level of shielding provided. The discrepancy is considered negligible (considering the already low level of impact at this position) and can be rectified."*
- 3.28 Acoustics Environment does not have privilege to the Environoise model, though having reference to the Noise Impact Report and comments by Environoise, the following matters are highlighted:
- The 'limiting noise levels' (Background Sound Levels) for White Gate Cottage are provided as 50 dB(A) day and 40 dB(A) night, which are the reported 2020 Background Sound Levels for monitoring position 2 on Pickhill Lane near to the Maelor Foods site. (These values have to be considered having regard to September-October 2023 survey work carried out by Acoustics Environment.)
 - Rating levels attract no acoustic character corrections. Given that BS 4142 states: *"Where the specific sound features characteristics that are neither tonal nor impulsive, nor intermittent, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied"*. This must be assessed having reference to Environment Agency Guidance and the application of +3 dB 'other' correction for readily distinguishable industrial noise (unless it can be demonstrated this is not justified.)

Assessment of Plant and HGV Noise

- 3.29 NRW observe that the (Environoise) noise modelling assesses the impact from the plant and the HGV movements on-site separately. NRW require the predicted impact from the plant itself (including all sources) and HGVs to be combined and so give a total specific level at receptors. Updated noise modelling files and Noise Impact Assessment report should be submitted which assess predicted impact from all sources from the plant and HGV movements combined within the same model. This is not wholly necessary as explained later in this report.
- 3.30 Environoise acknowledges that components have been assessed, which on their part is on account of the different acoustic characteristics of the plant noise compared to HGV movements requiring separate consideration / discussion. The assessment can be amalgamated which, for example can comprise logarithmic addition.

HGV Movements, Loading and Unloading Operations

- 3.31 NRW highlight that the (Environoise) Noise Impact Assessment only provides information relating to HGV pass-bys and that no information has been provided regarding potential noise sources from HGV's unloading/idling on site during delivery/collection. Consequently, comprehensive information is sought as to how lorries are loaded/unloaded, duration, the processes that take place during this time including any noise sources associated with this process.
- 3.32 Maelor Foods have confirmed that for the current (Phase 1) operations, pre-loaded HGV trailers with clean, empty metal-framed modules containing plastic (Broiler chicken) drawers are weighed on an external weighbridge on the yard area at the start of each shift. (Of note, driver shifts are staggered throughout the day; start times vary and can start at any time depending on the company's Transport Plan). The vehicle then departs to a broiler production farm where the modules are loaded with live broiler chickens.
- 3.33 On return to site the vehicle is re-fuelled at the on-site fuelling station before being re-weighed on the weighbridge. The tractor unit is de-coupled on the yard and the HGV trailer is then taken by a shunter vehicle into the internal lairage area before

moving to what is termed the internal intake area, where modules are unloaded by forklift truck to move the live broiler chickens to a preliminary processing area.

- 3.34 Empty vehicles are sanitised on the yard before being re-loaded with empty modules and drawers and the process is repeated. This process takes approximately 1.5 hours from when a vehicle enters the site to when it departs, occurring between 15 to 20 times on Mondays and Saturdays, and between 26 to 32 times on a Tuesday, Wednesday, Thursday, and Friday. All factory doors remain closed when not in use and tractor unit diesel engines are turned off whenever a vehicle is stationary.
- 3.35 Empty refrigerated trailers arrive on site approximately 20 times per day. On arrival to site a vehicle is re-fuelled, before being re-weighed. The refrigerated trailer is then positioned on the yard where empty plastic stillages are unloaded by forklift truck via a ramp that is secured to the trailer by chains. Once the trailer is empty it is taken to one of three loading bays and is connected to an electrical hookup point which provides the refrigeration system with an electrical power supply for approximately 1 hour while the vehicle is loaded by a ride-on pedestrian truck. HGV on-board diesel refrigeration units are only turned on to fuel trailer refrigeration systems when a trailer is fully loaded and ready to leave the loading bay and exit the site.
- 3.36 Any refrigerated trailer that has been loaded, but otherwise needs to stay on site overnight, is connected to an electrical hook-up point located on the yard to minimise noise. There are approximately 15 refrigerated outbound trailers on a Monday and Saturday and approximately 18 outbound refrigerated trailers on a Tuesday, Wednesday, and Thursday.
- 3.37 Empty animal by-product (ABP) trailers arrive on site to be swapped with full ABP trailers from the offal bays approximately 6 times per day, usually between 08:00 am and 00:00 pm. The empty trailers are weighed before being parked in the ABP storage building which can accommodate sufficient trailers to ensure ABP are always stored inside and collected in a timely manner.
- 3.38 Inedible offal and other ABP is transferred by vacuum lines into the ABP trailers. Feathers are transferred in a water flume, then separated from the flume water, and pressed. Pressed feathers are loaded into bulk trailers inside the offal bay building awaiting collection for further processing off-site.

- 3.39 ABP and feather trailers are collected daily as detailed above and are replaced by the empty trailers. Plastic stillages and other small containers used for collecting ABP around the process are emptied into an ABP trailer and then washed out. All factory doors remain closed when not in use and all diesel engines are normally turned off whenever a vehicle is stationary. There are typically 6 empty inbound ABP trailers and 6 full outbound ABP trailers per day.
- 3.40 The Wastewater Treatment Plant (WWTP) sludge tank is emptied twice per day by road tankers to remove wet sludge left over from the effluent treatment process. Sludge tanker drivers connect to the external sludge tank point to extract sludge from the WWTP into the vehicle's bulk liquid tank. This operation takes around 20 minutes twice per day, usually between 06:00 and 15:00, with the vehicle's engine left idling to operate the extraction pump. Under proposed changes (Phase 2 operations) less sludge will be produced, and hence tanker operations will commensurately reduce.
- 3.41 To aid understanding as to how the vehicles activity relates to the site, Figure 3.1 is provided below.



Figure 3.1 Site activities associated with vehicle movements

Key

-  Waste Water Treatment Plant & Sludge Collections
-  Main HGV trailer weighbridge
-  Vehicle re-fuelling / AdBlue station
-  Animal By-product Bays
-  Lairage
-  Vehicle Sanitisation
-  Refrigerated vehicle unloading
-  Refrigerated vehicle loading
-  Gate-house weighbridge
-  Intake

- 3.42 Environoise previously pointed out that loading and unloading of HGVs is done internally within the site building and therefore considered assessment of noise from this is not necessary. It was proposed that vehicle pass-bys noise levels would be significantly higher, which is hence the reason why loading etc. had not been included.
- 3.43 Observations by Acoustics Environment have verified that produce lorries are loaded internally. Other loading or unloading operations are in connection with ABPs and WWTP sludge that is taken off site by bulk tankers or tipper lorries. Empty trailers are dropped-off any filled ABP trailers collected. There is also separate off-loading of blood and WWTP sludge into collection tankers.
- 3.44 Observations carried out at noise-sensitive receptor Site A (Marlbrook House, Pickhill Lane) have repeatedly verified that HGV drivers, on accessing Pickhill, do not place tractor unit motors under high duty. On approach to the Maelor Foods site HGVs are slowing prior to entering the installation, which is commonly in stark contrast to local traffic. Once accessing the site HGVs invariably halt or slow to a walking pace at the gatehouse, and can be required to use the weighbridge. On progressing past this point vehicles descend along the site roadway that runs parallel to Pickhill Lane to the rear yard area. Having accessed the site, HGVs are not automatically discernible due to low speed, and that fact that trailer units can shield the tractor unit and, where fitted, on-board chiller units. This is further reinforced by the recent removal of speed control humps that can generate axle bounce and vehicle body-slap following the site

assessments, and, subject to safety considerations, on the advice of Acoustics Environment.

- 3.45 HGVs egressing the site can be seen driving along the front of the office accommodation to the gatehouse. Up this point they have been repeatedly witnessed as inaudible or barely audible. On commencing to Pickhill Road, engine sounds can be audible whilst vehicles drive approximately 35m to the road. As a transient noise component, this cannot always be readily segregated from the ambient sound.

4.0 MEASUREMENT RESULTS

24 to 25 September 2023

SITE: A	Marlbrook House, Pickhill Lane – Opposite to Maelor Foods Entrance			
Start Time / Record	$L_{Aeq,(15 \text{ minutes})}$, dB	$L_{A90,(15 \text{ minutes})}$, dB	$L_{A10,(15 \text{ minutes})}$, dB	Comment
Daytime Period				
14:57:48 Record 004	58	51	60	Maelor site closed
15:13:53 Record 005	59	50	58	Maelor site closed
15:29:48 Record 006	55	48	5	Maelor site closed
15:45:36 Record 007	59	47	57	Maelor site closed
16:06:22 Record 008	59	47	60	Maelor site closed
16:30:25 Record 009	63	46	58	Maelor site closed
21:20:40 Record 073	52	47	55	Maelor site closed
22:43:45 Record 074	53	36	46	Maelor site closed
Night-time Period				
23:44:16 Record 015	37	27	39	Maelor site closed
00:00:02 Record 016	44	36	47	Maelor site closed
00:15:43 Project 017	46	41	48	Maelor site closed
00:31:56 Record 018	43	36	46	Maelor site closed
03:02:18 Project 084	38	26	42	Maelor site closed

Table 4.1: Site A Ambient Sound Level Surveys 24-25 September 2023

SITE: B	Pickhill Old Farm / Equestrian Complex, off Pickhill Lane			
Start Time / Record	L_{Aeq},(15 minutes), dB	L_{A90},(15 minutes), dB	L_{A10},(15 minutes), dB	Comment
Daytime Period				
15:13:14 Record 062	50	44	52	Maelor site closed
15:35:43 Record 063	53	43	52	Maelor site closed
15:52:59 Record 064	51	43	53	Maelor site closed
16:14:04 Record 065	45	40	47	Maelor site closed
16:30:00 Record 066	48	41	50	Maelor site closed
Night-Time Period				
23:17:47 Record 075	35	30	37	Maelor site closed
23:34:22 Record 076	32	28	35	Maelor site closed
23:52:26 Record 077	38	29	41	Maelor site closed
00:09:08 Record 078	43	39	46	Maelor site closed
02:24:28 Record 083	35	30	38	Maelor site closed

Table 4.2: Site B Ambient Sound Level Surveys 24-25 September 2023

SITE: C	White Gate Cottage, Pickhill Lane			
Start Time / Record	L_{Aeq},(15 minutes), dB	L_{A90},(15 minutes), dB	L_{A10},(15 minutes), dB	Comment
Daytime Period				
17:43:11 Record 067	51	44	54	Maelor site closed
18:00:01 Record 068	51	45	52	Maelor site closed
18:16:30 Record 069	47	42	49	Maelor site closed
18:32:31 Record 070	46	42	48	Maelor site closed
Night-Time Period				
01:02:16 Record 079	45	35	49	Maelor site closed
01:21:34 Record 080	35	31	37	Maelor site closed

01:39:01 Record 81	36	28	39	Maelor site closed
02:00:14 Record 082	32	24	35	Maelor site closed

Table 4.3: Site C Ambient Sound Level Surveys 24-25 September 2023

SITE: D	Mayfield House, Talwrn Lane			
Start Time / Record	L_{Aeq},(15 minutes), dB	L_{A90},(15 minutes), dB	L_{A10},(15 minutes), dB	Comment
Daytime Period				
17:35:26 Record 010	52	46	55	Maelor site closed
17:51:33 Record 011	51	43	54	Maelor site closed
18:07:21 Record 012	52	46	55	Maelor site closed
18:23:02 Record 013	49	43	53	Maelor site closed
18:38:49 Record 014	53	47	56	Maelor site closed
Night-time Period				
00:56:37 Record 019	41	34	44	Maelor site closed
01:12:02 Project 20	40	33	43	Maelor site closed
02:02:02 Record 021	31	24	34	Maelor site closed
02:17:29 Record 022	35	29	38	Maelor site closed

Table 4.4: Site D Ambient Sound Level Surveys 24-25 September 2023

SITE: E	Site E: Porthygan Farm, A525 Wrexham Road			
Start Time / Record	L_{Aeq},(15 minutes), dB	L_{A90},(15 minutes), dB	L_{A10},(15 minutes), dB	Comment
Daytime Period				
19:45:02 Record 071	51	46	54	Maelor site closed
20:41:12 Record 072	56	46	53	Maelor site closed

Table 4.5: Site E Ambient Sound Level Surveys 24-25 September 2023

Calibration data – Bruel & Kjaer Types 2250 G4 / 4231

$L_{C,F}$ 93.9 dB

Microphone Sensitivity 49.39 mV/Pa

Deviation from previous calibration 0.11 dB

Time: 15:03

$L_{C,F}$ 93.9 dB

Microphone Sensitivity 49.47 mV/Pa

Deviation from previous calibration -0.08 dB

Time: 02.00

Calibration data – Bruel & Kjaer Types 2250 / 4231

$L_{C,F}$ 93.9 dB

Microphone Sensitivity 50.77 mV/Pa

Deviation from previous calibration -0.02 dB

Time: 14:45

$L_{C,F}$ 93.9 dB

Microphone Sensitivity 50.94 mV/Pa

Deviation from previous calibration 0.14 dB

Time: 02:30

Weather Data / Observations 24 to 25 September 2023

Site A: Marlbrook House, Pickhill Lane – site entrance

Time 14:15 hrs

No rain

Damp ground

Cloud Cover 8 Oktas

Warm

Southerly Wind - Breezy

Time 14:45 hrs

No rain
Damp ground
Sunny and bright
Breezy
Cloud Cover 2 Oktas – largely clear skies
Air Temperature 22.7 °c
Wind Speed less than 15.9 km/hr

Time 21:45 hrs
No rain
Damp ground
Cloud Cover 2 Oktas – largely clear skies
Air Temperature 14.2 °c
Wind Speed 3.8 km/hr Max - still

Time 21:29 hrs
No rain
Damp ground
Cloud Cover 2 Oktas – largely clear skies
Air Temperature 12.8 °c
Wind Speed 5.0 km/hr Max – settling to 1.4 km/hr

Time 23:06 hrs
Partly clear skies
Stars visible
Drizzle in the air
Wind dropped
Air Temperature 17.5°C
Wind Speed 8.5 km/hr Max

Time 00.56
Air Temperature 15.8°C
Wind Speed 1.4 km/hr Max

Site B: Pickhill Old Farm / Equestrian Complex

Time 15.13 hrs

No rain

Damp ground

Low cloud Cover 6 Oktas

Air Temperature 20.7°C

Wind Speed 7 to 11 km/hr; gusts to 19.4 km/hr (promoting)

Warm and bright

Time 15.41 hrs

No rain

Damp ground

Low cloud Cover 7 Oktas

Time 15.45 hrs

No rain

Dry

Low cloud Cover 6 Oktas

Air Temperature 20.4°C

Sudden wind gusts to 31.2 km/hr, settling (promoting)

Warm and bright

Time 15.54 hrs

Wind westerly

Time 16.16 hrs

Wind dropped

Time 16.16 hrs

Air Temperature 20.1°C

Wind speeds 0.5 to 11.3 km/hr

Time 16.28 hrs

Wind dropped

Time 16.37 hrs

Wind south-westerly

Time 19:13 hrs

No rain

Damp ground

Cloud Cover 6 Oktas

Air Temperature 14.6°C

Wind Speed 8.5 km/hr Max settling to 4.7 to 5.1 km/hr

Time 20:54 hrs

Time 23:17 hrs

No rain

Damp ground

Cloud Cover 4 Oktas estimated

Air Temperature 16.8°C

Southerly wind

Wind Speed max gust 6.4 km/hr

Moonlit skies

Time 00:09 hrs

No rain

Damp ground

Cloud Cover 1 to 2 Oktas

Time 00:25 hrs

No rain

Damp ground

Wind Speed max gust 21.0 km/hr settling to 3.6 to 13.0 km/hr

Air Temperature 15.9°C

Time 02:24 hrs

No rain

Damp ground

2 Okta cloud cover

Wind Speed max gust 13.4 km/hr, calm to still at times

Air Temperature 14.7°C

Site C: White Gate Cottage, Pickhill Lane

Time 15.13 hrs

No rain

Dry

Warm

Low cloud Cover 6 Oktas

Air Temperature 20.3°C

Wind gusts to 18.1 km/hr (promoting)

Warm and bright

Time 01:02 hrs

No rain

Damp

Breezy

Clear skies – stars visible

Air Temperature 15.5°C

Wind breezy, gusts to 23.7 km/hr then dropped

Time 02:00 hrs

No rain

Damp

Air Temperature 14.8°C

Wind gusts up to 2.2 km/hr – still

Site D: Mayfield House / Springfield, Talwrn Lane

Time 17:30 hrs

Air Temperature 20.1°C

Wind less than 11.0 km/hr

Site E: Porthygan Farm, A525 Wrexham Road

Time 19:45 hrs

No rain

Dry

Warm

Low cloud Cover 6 Oktas

Air Temperature 19.0°C

Wind gusts to 1.7 km/hr

18:00 hrs

Light rain

29 to 30 September 2023

SITE: A	Marlbrook House, Pickhill Lane - Opposite Residential Premises at Factory Entrance			
Start Time / Record	<i>L</i>_{Aeq,(15 minutes)}, dB	<i>L</i>_{A90,(15 minutes)}, dB	<i>L</i>_{A10,(15 minutes)}, dB	Comment
Daytime Period				
14:59:15 Record 002	65	45	63	Maelor site operational
15:15:58 Record 003	64	46	62	Maelor site operational
15:31:38 Record 004	68	45	67	Maelor site operational
15:47:16 Record 005	63	43	63	Maelor site operational
20:50:24 Record 010	58	39	51	Maelor site operational
21:06:49 Record 011	57	39	51	Maelor site operational
21:22:24 Record 012	59	40	56	Maelor site operational
21:38:01 Record 013	56	39	51	Maelor site operational
21:53:04 Record 014	58	37	55	Maelor site operational
Night-time Period				
00:42:38 Record 019	41	35	44	Maelor site operational
00:58:20 Record 020	55	35	45	Maelor site operational
01:13:50 Record 021	37	34	38	Maelor site operational
01:30:01 Record 022	48	35	46	Maelor site operational

Table 4.6: Site A Ambient Sound Level Surveys 29-30 September 2023

SITE: B	Pickhill Old Farm / Equestrian Complex, off Pickhill Lane			
Start Time / Record	<i>L</i>_{Aeq,(15 minutes)}, dB	<i>L</i>_{A90,(15 minutes)}, dB	<i>L</i>_{A10,(15 minutes)}, dB	Comment
Daytime Period				
16:42:24 Record 087	48	46	49	Maelor site operational
16:58:11 Record 088	49	43	50	Maelor site operational

17:14:00 Record 089	49	45	49	Maelor site operational
17:30:18 Record 090	47	44	48	Maelor site operational
20:55:36 Record 095	44	42	46	Maelor site operational
21:11:14 Record 096	44	42	47	Maelor site operational
21:26:54 Record 097	45	43	47	Maelor site operational
21:42:34 Record 098	46	44	48	Maelor site operational
Night-time Period				
00:47:03 Record 103	44	42	46	Maelor site operational
01:02:57 Record 104	44	42	45	Maelor site operational
01:20:54 Record 105	46	44	47	Maelor site operational
01:36:39 Record 106	43	39	45	Maelor site operational

Table 4.7: Site B Ambient Sound Level Surveys 29-30 September 2023

SITE: C	White Gate Cottage, Pickhill Lane			
Start Time / Record	$L_{Aeq,(15\text{ minutes})}$, dB	$L_{A90,(15\text{ minutes})}$, dB	$L_{A10,(15\text{ minutes})}$, dB	Comment
Daytime Period				
18:11:32 Record 091	45	41	47	Maelor site operational
18:39:11 Record 092	47	43	48	Maelor site operational
18:54:59 Record 093	49	43	53	Maelor site operational
19:11:01 Record 094	49	42	50	Maelor site operational
Night-time Period				
23:10:34 Record 099	42	39	43	Maelor site operational
23:26:42 Record 100	45	43	46	Maelor site operational
23:42:27 Record 101	45	43	46	Maelor site operational
23:58:39 Record 102	44	43	46	Maelor site operational

Table 4.8: Site C Ambient Sound Level Surveys 29-30 September 2023

SITE: D	Mayfield House, Talwrn Lane			
Start Time / Record	$L_{Aeq,(15 \text{ minutes})}$, dB	$L_{A90,(15 \text{ minutes})}$, dB	$L_{A10,(15 \text{ minutes})}$, dB	Comment
Daytime Period				
16:35:51 Record 006	48	42	50	Maelor site operational
16:51:29 Record 007	48	40	49	Maelor site operational
17:07:10 Record 008	46	40	49	Maelor site operational
17:22 Record t 009	47	38	49	Maelor site operational
				Maelor site operational
Night-time Period				
23:05:48 Record 015	40	33	42	Maelor site operational
23:21:29 Record 016	36	34	38	Maelor site operational
23:37:03 Record 017	39	36	41	Maelor site operational
23:52:22 Record 018	39	35	41	Maelor site operational

Table 4.9: Site D Ambient Sound Level Surveys 29-30 September 2023

Calibration data – Bruel & Kjaer Types 2250 G4 / 4231 $L_{C,F}$ 93.9 dB

Microphone Sensitivity 49.39 mV/Pa

Deviation from previous calibration 0.11 dB

Time: 15:03

 $L_{C,F}$ 93.9 dB

Microphone Sensitivity 49.47 mV/Pa

Deviation from previous calibration -0.08 dB

Time: 02.00

Calibration data – Bruel & Kjaer Types 2250 / 4231 $L_{C,F}$ 93.9 dB

Microphone Sensitivity 50.71 mV/Pa

Deviation from previous calibration -0.04 dB

Time: 14:31

$L_{C,F}$ 93.9 dB

Microphone Sensitivity 51.20 mV/Pa

Deviation from previous calibration 0.08 dB

Time: 02:00

Weather Data / Observations 29 to 30 September 2023

Site A: Marlbrook House, Pickhill Lane – site entrance

Time 14:52

No rain

Blue skies, bright and sunny.

Warm

Cloud cover 1 okta

Air Temperature 22.0°C

Wind Speed gusts to 18.3 km/hr

SW wind

Time 16:24

No rain

Blue skies, bright and sunny.

Warm

Cloud cover 1 okta

Air Temperature 20.3°C

Wind Speed gusts to 19.1 km/hr settling to 2.8 to 7.7 km/hr

SW wind

Time 23:52

Air Temperature 13.1°C

Wind Speed 3.1 km/hr

Site B: Pickhill Old Farm / Equestrian Complex

Time 16:40

No rain

Blue skies, bright and sunny.

Breezy

Warm

Cloud cover 1 oktas

Air Temperature 22.6°C

Wind Speed gusts to 17.0 km/hr settling to 5.5 to 8.0 km/hr

SW wind

Time 17:52

No rain

Blue skies, bright and sunny.

Breezy

Warm

Cloud cover 1 okta

Air Temperature 18.3°C

Wind Speed gusts to 17.0 km/hr settling to 3.1 km/hr

SW wind

Time 22:00

No rain

Air Temperature 13.9°C

Wind Speed up to 3.2 km/hr

SW wind

Time 01:39

No rain

Cloud cover estimated at 6 oktas

Air Temperature 9.2°C

Wind Speed up to 2.6 km/hr

Site C: White Gate Cottage, Pickhill Lane

Time 20:40

No rain

Dry

Air Temperature 14.6°C

Wind Speed up to 3.8 km/hr

SW wind

Time 00:17

No rain

Dry

Cloud cover estimated at 2 oktas

Air Temperature 13.1°C

Wind Speed up to 5.8 km/hr

SW wind

Site D: Mayfield House / Springfield, Talwrn Lane

Time 17:37

No rain

Bright and sunny.

Warm

Cloud cover 1 okta

Air Temperature 18.0°C

Wind Speed up to 0.1 km/hr (still)

Time 23:52

No rain

Air Temperature 13.1°C

Wind Speed up to 3.1 km/hr

2 October 2023

Site A	Marlbrook House, Pickhill Lane - Opposite Residential Premises at Factory Entrance			
Start Time / Record	$L_{Aeq,(15 \text{ minutes})}$, dB	$L_{A90,(15 \text{ minutes})}$, dB	$L_{A10,(15 \text{ minutes})}$, dB	Comment
Night-time Period				
06:23:01 Record 111	60	44	56	Maelor site operational
06:38:40 Record 112	59	43	60	Maelor site operational

Table 4.10: Site A Ambient Sound Level Surveys 2 October 2023

Site B:	Pick Pickhill Old Farm / Equestrian Complex, off Pickhill Lane			
Start Time / Record	$L_{Aeq,(15 \text{ minutes})}$, dB	$L_{A90,(15 \text{ minutes})}$, dB	$L_{A10,(15 \text{ minutes})}$, dB	Comment
Night-time Period				
05:00:12 Record 107	43	40	45	Maelor site operational
05:15:44 Record 108	44	42	45	Maelor site operational
05:31:14 Record 109	45	42	47	Maelor site operational
05:47:40 Record 110	45	43	46	Maelor site operational

Table 4.11: Site B Ambient Sound Level Surveys 2 October 2023

Site D	Site D: Mayfield House, Talwrn Lane			
Start Time / Project	$L_{Aeq,(15 \text{ minutes})}$, dB	$L_{A90,(15 \text{ minutes})}$, dB	$L_{A10,(15 \text{ minutes})}$, dB	Comment
Night-time Period				
06:10	Maelor plant just audible. Road traffic (A525 / B5130) very noticeable. Random metallic bang heard – thought to be Maelor site. Low frequency sound audible from northerly direction (not Maelor site). Faint tone audible. Aircraft noise			Maelor site operational

Table 4.12: Site D Ambient Sound Observations 2 October 2023

Site calibration data – Bruel & Kjaer Types 2250 G4 / 4231

$L_{C,F}$ 93.9 dB

Microphone Sensitivity 49.46 mV/Pa

Deviation from previous calibration -0.01 dB

Time: 04:57

$L_{C,F}$ 93.9 dB

Microphone Sensitivity 49.74 mV/Pa

Deviation from previous calibration 0.06 dB

Time: 09:15

Weather Data / Observations 2 October 2023

Site A: Marlbrook House, Pickhill Lane – site entrance

Time 06:23 hrs

No rain

Dry

Low cloud Cover 4 to 5 Oktas

Air Temperature 12.1°C

Max wind speed 3.2 km/hr - generally still

06:23 hrs

No rain

Dry

Low cloud Cover 5 Oktas

Air Temperature 11.4°C

Max wind speed 2.4 km/hr - generally still

Site B: Pickhill Old Farm / Equestrian Complex

Time 05:03 hrs

No rain

Damp ground (dew)

Light high-level cloud cover 4 Oktas

Air Temperature 11.7°C

Wind Speed 0 to 2.6 km/hr – generally very still

Moon-lit skies

Time 06:05 hrs

No rain

Damp ground (dew)

Light high-level cloud cover 4 Oktas

Air Temperature 11.3°C

Max wind speed 2.9 km/hr

5.0 BACKGROUND SOUND LEVELS

Overview

- 5.1 By definition, BS4142 defines Background Sound Level using the index $L_{A90,T}$, dB, this being the A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T , measured using time weighting, F , quoted to the nearest whole number of decibels. The residual sound is that which prevails in the absence of the specific (sound) source that is to be rated and assessed, using the index $L_{Aeq,T}$.
- 5.2 The Background Sound Level is thus an underlying level of sound over a period, T , and might in-part be an indication of relative quietness at a given location. It does not reflect the occurrence of transient and/or higher sound level events and is generally governed by continuous or semi-continuous sounds.
- 5.3 In using the Background Sound Level in the rating and assessment method set out in BS4142, the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods. It is recognised that diurnal patterns can have a major influence on background sound levels and, for example, the middle of the night can be distinctly different (and potentially of lesser importance) compared to the start or end of the night-time period for sleep purposes. In practice, there is no “single” background sound, level as this is a fluctuating parameter and an infinite construct.
- 5.4 As previously mentioned, since the intention is to determine a Background Sound Level in the absence of the specific sound that is under consideration, it is necessary to understand that the background sound level can in some circumstances, as commented upon in BS4142, legitimately include industrial and/or commercial sounds that are present as separate to the specific sound.
- 5.5 It is a requirement to ensure that a measurement time interval is sufficient to obtain a representative value of the Background Sound Level for the period of interest. Referring to BS4142, this should comprise continuous measurements of normally not less than 15 min intervals, which can be contiguous or disaggregated.

- 5.6 For proposed, new, modified or additional specific sound source(s), BS4142 requires that the Background Sound Level is determined at times when the specific sound source(s) is intended to be operated.
- 5.7 Where possible, the Background Sound Level is to be measured at the assessment location(s). It is also permissible to measure at an alternative location where the residual sound is comparable to the assessment location(s).
- 5.8 For the purposes of this report, measurements have been carried out to provide additional Background Sound Level values for daytime and night-time in the immediate location of agreed noise-sensitive (residential receptors). Furthermore, the intention has been to provide updated data to compare with measurements undertaken by Environoise as part of their Noise Impact Assessment.
- 5.9 In so far as daytime and night-time periods are stated, for the purposes of the standard, daytime is typically between 07:00 a.m. and 23:00 p.m. and accordingly night-time is between 11.00 pm and 07:00 a.m.

Environoise Background Sound Levels

- 5.10 Environoise cite ranges of Background Sound Levels, $L_{A90,T}$, dB, for two noise-sensitive receptor locations derived in 2020 which are broadly equated to Site A and Site C used in this report. From these, the following are used in their impact assessment for daytime and night-time with the Maelor site operational:

	<u>Daytime</u>	<u>Night-time</u>
Site A	41 dB(A)	32 dB(A)
Site C (Equivalent)	50 dB(A)	40 dB(A)

- 5.11 From attended measurements by Acoustics Environment, an update to these values and applied to the four noise-sensitive receptors considered is provided as follows:

	<u>Daytime</u>	<u>Night-time</u>
Site A	42 dB(A)	38 dB(A)
Site B	44 dB(A)	42 dB(A)
Site C	42 dB(A)	42 dB(A)
Site D	40 dB(A)	34 dB(A)

- 5.13 In response to an NRW request, representative Background Sound Levels with the Maelor Foods plant shut down (as of early afternoon of Sunday 24 September until the following day mid-morning) have been considered and are indicated to be[§]:

	<u>Daytime</u>	<u>Night-time</u>
Site A	47 dB(A)	32 dB(A)
Site B	42 dB(A)	31 dB(A)
Site C	43 dB(A)	29 dB(A)
Site D	45 dB(A)	30 dB(A)

[[§]Background Sound Level values for site A are arguably artificially low on account of vehicular traffic accessing and egressing Maelor Foods from Monday to Saturday, not being part of the installation site for regulatory purposes, being excluded.

- 5.14 NRW have raised a query in the Sch.5 Notice to the extent that Environoise previously reported in one instance rating levels that were the same for daytime and night-time. Acoustics Environment has found, in the case of Site C, representative Background Sound Levels that are numerical the same for daytime and night-time. For a continuous, unvarying specific sound source, this equally yields the same BS 4142 rating.

6.0 NOISE RATING (BS4142)

- 6.1 Environoise has carried out (noise) rating assessments based on predicted sound levels for specified plant and HGVs that were modelled for three stated receptor areas, two of which, Pickhill lane and White Gate Cottage, equate to Sites A and C (equivalent) used for this report. Site C has been considered equivalent in terms of predicted Specific Sound Sources (plant and HGVs) to Site B given their relative distances from the Maelor installation, and locations in respect to one another.

Plant Operations

Site: A – Plant Noise

- 6.2 Daytime: Environoise predict a rating excess over Background Sound Level of +4 dB(A) using a representative Background Sound Level of 41 dB(A) with no acoustic feature corrections added. Alternative to this, applying a 2023 Background Sound Level of 42 dB(A), and allowing for an added +3 dB(A) distinguishable character correction, for a predicted Specific Sound Level of 45 dB(A) the Rating Level becomes 48 dB(A) and the exceedance above the Background Sound Level is +6 dB(A), which is *'likely to be an indication of adverse impact, depending on context'*. Subjectively, there were no adverse impacts on account of plant noise, and no overriding indication to apply a +3 dB distinguishable character correction.
- 6.3 Night-time: Environoise predict a +13 dB(A) rating excess over Background Sound Level of 32 dB(A). Allowing for an added +3 dB(A) distinguishable character correction, for the same predicted Specific Sound Level of 45 dB(A) the Rating Level becomes 48 dB(A) and the exceedance above the 2023 Background Sound Level is now +10 dB(A), which is *'likely to be an indication of a significant adverse impact, depending on context'*. Subjectively, there were no adverse impacts on account of plant noise, and no overriding indication to apply a +3 dB distinguishable character correction.

Site: B – Plant Noise

- 6.4 Daytime: Site B was not specifically assessed by Environoise. Distance-wise, it is taken as comparable to Site C (White Gate Cottage), both of which have direct lines-of-sight to the rear yard/plant areas of Maelor Foods. Given the comparability in

distance, the key determinand is the representative Background Sound Level. The daytime Background Sound Level for 2023 is taken to be 44 dB(A). Using predictions for Site C, the Specific Sound Level is 28 dB(A). Allowing for a +3 dB(A) distinguishable character correction, the Rating Level is 31 dB(A). This yields a negative exceedance of -13 dB(A) compared to the Environoise determination -22 dB(A). The assessment is '*an indication of the specific sound source having a low impact, depending on the context*'. Environoise offered a daytime Background Sound Level of 50 dB(A) which is modified by 2023 measurements to 44 dB(A). Subjectively, there were no adverse impacts on account of plant noise.

- 6.5 Night-time: Environoise predict a rating excess over Background Sound Level of -12 dB(A) without application of an acoustic feature correction, and using a Background Sound Level of 40 dB(A). For a Specific Sound Level of 28 dB(A) and then applying a +3 dB(A) distinguishable character correction, the Rating Level is 31 dB(A). With a representative 2023 Background Sound Level of 42 dB(A), the exceedance above the Background Sound Level is again negative at -11 dB(A). The assessment is '*an indication of the specific sound source having a low impact, depending on the context*'. Subjectively, there were no adverse impacts on account of plant noise.

Site: C – Plant Noise

- 6.6 Assessment for this site by Environoise produces daytime and night-time Specific Sound Levels of 28 dB(A), as used here for site B. Modifying these with +3 dB(A) distinguishable character correction, the Rating Level is 31 dB(A). For this site, Environoise determined the representative Background Sound Level as 50 dB(A). For 2023, both the daytime and night-time representative Background Sound Levels are indicated as 42 dB(A). The exceedances above the Background Sound Level in both cases is negative at -11 dB(A) producing '*indication of the specific sound source having a low impact, depending on the context*'. This compares with the Environoise exceedances of -22 dB(A) daytime and -12 dB(A) night-time. Subjectively, there were no adverse impacts on account of plant noise.

Site: D – Plant Noise

- 6.7 Site D is some twice the distance or more from Maelor Foods compared to the noise-sensitive receptors considered for this report. For note, whilst undertaking surveys, the occupier of the property commented that he had no issue with noise stemming

from Maelor Foods. The occupier of the neighbouring property (known as Springfield), when asked about a tonal sound present in the locality, automatically said it was from Maelor Foods. Operatives of Acoustics Environment confirmed to the resident that the audible tone was not emanating from the Maelor Foods site, but rather, it stemmed from a northerly direction along with other off-site 'industrial' sounds which had been audible at other noise-sensitive receptor monitoring sites. Subjectively, there were no adverse impacts on account of plant noise.

- 6.8 At times, operations at Maelor Foods were either inaudible, or just discernible, dependent upon prevailing ambient sounds and climatic conditions.
- 6.9 Background Sound Levels at site D are indicated as 40 dB(A) daytime and 34 dB(A) night-time. If using Environoise predicted Specific Sound Levels for Site C (an over-prediction, given the separation distances), and adding a +3 dB(A) distinguishable character correction, the Rating Level is 31 dB(A). The exceedances above the Background Sound Levels are negative for daytime and night-time at -9 dB(A) and -3 dB(A), which is an '*indication of the specific sound source having a low impact, depending on the context*'. In practice, the Rating Level would be even lower given that Site D is of the order twice the distance to the Maelor Site compared to Site C.

HGV Movements

- 6.10 In assessing HGV movements, Environoise examined a vehicle route taken around the production and office buildings. In considering the locations of noise-sensitive receptors, invariably the majority of vehicular routing is screened by the built form.
- 6.11 Environoise apportioned 186 vehicle movements to a 16-hour daytime period, and 24 movements to what has been taken as a 4 hours period in the night-time, and thereafter 12 vehicle movements per hour have been applied for the daytime, then allowing for 4 to 6 movements per hour at night and 2 vehicle movements in any 15 minutes. [For note, in conducting period assessments for planning purposes, the night-time period by default is 8 hours, 11.00 pm to 07.00 a.m. albeit BS4142 uses a 15 minutes period for night-time.]

- 6.12 Calculation of HGV noise events has used Environoise in-house sound power level data, with a +3 dB(A) acoustic penalty applied for rating purposes. The results of noise rating have been considered in the same manner as plant noise.

Site: A - HGV Noise

- 6.13 Daytime: Environoise predict a daytime rating excess over Background Sound Level of +1 dB(A) using a representative Background Sound Level of 41 dB(A). Alternative to this, applying a 2023 Background Sound Level of 42 dB(A) and including a +3 dB(A) distinguishable character correction, for a predicted Specific Sound Level of 39 dB(A) the Rating Level becomes 42 dB(A) and the exceedance above the Background Sound Level is 0 dB(A), which is *an indication of the Specific Sound Source having a low impact, depending on context*. Subjectively, there were no adverse impacts on account of HGV noise operating on site.
- 6.14 Night-time: For night-time, Environoise predict a rating excess over Background Sound Level of +8 dB(A) using a representative Background Sound Level of 32 dB(A). Applying a 2023 Background Sound Level of 38 dB(A) and retaining the +3 dB(A) distinguishable character correction, for a predicted Specific Sound Level of 37 dB(A) the Rating Level becomes 40 dB(A) and the exceedance above the Background Sound Level is +2 dB(A), which falls between *'likely to be an indication of the Specific Sound Source having a low impact, and below 'likely to have an adverse impact, depending on context'*. Subjectively, there were no adverse impacts on account of HGV noise operating on site.

Site: B - HGV Noise

- 6.15 Daytime: Environoise predict a daytime rating excess over Background Sound Level of -24 dB(A) using a representative Background Sound Level of 50 dB(A). Applying a 2023 Background Sound Level of 44 dB(A) and retaining the +3 dB(A) distinguishable character correction, for a predicted Specific Sound Level of 23 dB(A) the Rating Level becomes 26 dB(A) and the exceedance above the Background Sound Level is -18 dB(A), which is *'an indication of the Specific Sound Source having a low impact, depending on context'*. Subjectively, there were no adverse impacts on account of HGV noise operating on site.

- 6.16 Night-time: Environoise predict a night-time rating excess over Background Sound Level of -15 dB(A) using a representative Background Sound Level of 50 dB(A). Applying a 2023 Background Sound Level of 42 dB(A) and retaining the +3 dB(A) distinguishable character correction, for a predicted Specific Sound Level of 22 dB(A) the Rating Level becomes 25 dB(A) and the exceedance above the Background Sound Level is -17 dB(A), which is '*an indication of the Specific Sound Source having a low impact, depending on context*'. Subjectively, there were no adverse impacts on account of HGV noise operating on site.

Site: C - HGV Noise

- 6.17 Daytime: Environoise predict a daytime rating excess over Background Sound Level of -24 dB(A) using a representative Background Sound Level of 50 dB(A). Applying a 2023 Background Sound Level of 42 dB(A) and retaining the +3 dB(A) distinguishable character correction, for a predicted Specific Sound Level of 23 dB(A) the Rating Level becomes 26 dB(A) and the exceedance above the Background Sound Level is -16 dB(A), which is '*an indication of the Specific Sound Source having a low impact, depending on context*'. Subjectively, there were no adverse impacts on account of HGV noise operating on site.
- 6.18 Night-time: Environoise predict a night-time rating excess over Background Sound Level of -24 dB(A) using a representative Background Sound Level of 50 dB(A). Applying a 2023 Background Sound Level of 42 dB(A) (being determined as the same as for night-time) and retaining the +3 dB(A) distinguishable character correction, for a predicted Specific Sound Level of 22 dB(A) the Rating Level becomes 25 dB(A) and the exceedance above the Background Sound Level is -17 dB(A), which is '*an indication of the Specific Sound Source having a low impact, depending on context*'. Subjectively, there were no adverse impacts on account of HGV noise operating on site.

Site: D - HGV Noise

- 6.19 Representative Background Sound Levels at site D are indicated as 40 dB(A) daytime and 34 dB(A) night-time. If using the Environoise predicted Specific Sound Levels for Site C (which will constitute an over-prediction), and adding a +3 dB(A) distinguishable character correction, the Rating Levels are 26 dB(A) for daytime and 25 dB(A) for night-time. The exceedances above the Background Sound Levels are

negative for daytime and night-time at -14 dB(A) and -9 dB(A) respectively, which are an *'indication of the specific sound source having a low impact, depending on the context'*. In practice, the Rating Level would be lower as Site D is of the order twice the distance to the Maelor site compared to Site C. Subjectively, there were no adverse impacts on account of HGV noise operating on site.

BS 4142 Noise Rating

- 6.20 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.
- 6.21 An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context and this is addressed separately in this report.
- 6.22 BS4142 states:
- A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.*
- A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.*
- 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.*
- 6.23 Very obviously, in considering the predicted sound levels produced by Environoise, if these are compared to (Background) Sound Levels determined when the Maelor Foods site is closed, it should have a bearing on the exceedance of the Rating Levels for what is the extant position. Whilst this is an impractical scenario, having regard to the methodology set out above, as an exercise and based on measured values during

plant shutdown, impact predictions carried out by Environoise and with the now added of +3 dB(A) distinguishable character correction for plant noise, produces:

Plant Noise – Closed Site

Background Sound Levels 2023

Site A	47 dB(A) daytime	32 dB(A) night-time
Site B	42 dB(A) daytime	31 dB(A) night-time
Site C	43 dB(A) daytime	29 dB(A) night-time
Site D	45 dB(A) daytime	30 dB(A) night-time

Predicted Exceedances above Closed-Site Background Sound Level

Site A	+1 dB(A) daytime	+16 dB(A) night-time
Site B	-11 dB(A) daytime	0 dB(A) night-time
Site C	-12 dB(A) daytime	+2 dB(A) night-time
Site D	-14 dB(A) daytime	+1 dB(A) night-time

HGV Noise – Closed Site

Background Sound Levels 2023

Site A	47 dB(A) daytime	32 dB(A) night-time
Site B	42 dB(A) daytime	31 dB(A) night-time
Site C	43 dB(A) daytime	29 dB(A) night-time
Site D	45 dB(A) daytime	30 dB(A) night-time

Predicted Exceedances above Closed-Site Background Sound Level

Site A	-5 dB(A) daytime	+8 dB(A) night-time
Site B	-16 dB(A) daytime	-6 dB(A) night-time
Site C	-17 dB(A) daytime	-4 dB(A) night-time
Site D	-19 dB(A) daytime	-5 dB(A) night-time

Combined Noise Impacts

- 6.24 NRW have requested information on combining the impacts of plant and HGV noise. This raises a question as to whether, when considering acoustic penalties, the

individual penalties are additive. Since the distinguishable feature correction has been applied, and the impacts are now considered as an amalgam of noise (sound) sources, a single +3 dB(A) correction would be applied in this instance as the combination of sources constitutes the Specific Sound. Adding the predicted impacts logarithmically and applying the correction, produces the following Rating Levels:

Combined Rating Levels – Environoise Predicted Plant & HGV Specific Sound Levels as Rating Levels

Site A	49 dB(A) daytime	49 dB(A) night-time
Site B	32 dB(A) daytime	32 dB(A) night-time ^{\$}
Site C	32 dB(A) daytime	32 dB(A) night-time
Site D	32 dB(A) daytime	32 dB(A) night-time [#]

(^{\$}Equivalent to Site C)

([#]assumed as per Site C)

- 6.25 These have been assessed against the 2023 representative Background Sound Levels to provide the following exceedances.

Predicted Exceedances above 2023 Background Sound Levels for Combined Sound Sources

Site A	+7 dB(A) daytime	+11 dB(A) night-time
Site B	-12 dB(A) daytime	-10 dB(A) night-time
Site C	-10 dB(A) daytime	-10 dB(A) night-time
Site D	-8 dB(A) daytime	-2 dB(A) night-time

- 6.26 For sites B, C and D this provides for an *'indication of the specific sound source having a low impact, depending on the context'* for daytime and night-time. For Site A, during the daytime the predicted impact falls between *'likely to be an indication of the Specific Sound Source having an adverse impact, depending on context'* and *'likely to be an indication of the Specific Sound Source having a significant impact, depending on context'*.
- 6.27 At night-time, for Site A the rating is *'likely to be an indication of the Specific Sound Source having a significant impact, depending on context'*. Based on site

observations and assessments, it is considered the modelled impact for plant noise is over-predicting.

- 6.28 Permitting guidance states '*BS 4142 allows the context of the situation to inform the assessment outcome. Whilst context allows you to interpret impact thresholds (to a degree), there are practical limits to the extent of the interpretation*'. Furthermore, '*It is unlikely you could adjust the assessment outcome beyond the next band (for example, modifying a BS 4142 outcome of more than 10 dB to be less than an 'adverse impact')*'.
- 6.29 Allowing for context considerations as set out in this report, allied to the professional, subjective opinions attained during site visits and the modelled impacts, it is considered for (noise) impact ratings for Site A, which are driven primarily (in the model) by plant noise emissions, the ratings warrant downgrading for representative purposes by -5 dB(A) to at least +2 dB(A) for daytime, and + 6 dB(A) for night-time, namely: '*low impact, depending on the context*' and '*likely to be an indication of the Specific Sound Source having an adverse impact, depending on context*', respectively.

7.0 CONTEXT

Overview

- 7.1 The context in which noise occurs is critical to assessing the severity of its likely impact. Not every (sensitive) receptor will have the same response to the same noise. In a particularly sensitive situation for example, noise may result in a 'significant adverse impact', whereas it could be an 'adverse impact' in another, comparatively less sensitive, situation.
- 7.2 BS 4142 recognises the importance of context in which a sound occurs and allows for the context of a situation to inform the assessment outcome. Whilst context allows for an interpretation of impact thresholds (to a degree), there are practical limits to the extent of the interpretation, albeit there are no exact or strict rules on what elements could make a context more or less sensitive. It is thus necessary to gain a sufficient understanding of the situation (context) to be rated and assessed by conducting an appraisal, as appropriate, in order to:
- identify and understand all the sounds that can be heard, and identify their sources;
 - identify which measurement methods, instruments and metrics would be most appropriate for the assessment;
 - identify potential measurement locations;
 - identify the necessary measurement frequencies, durations and timings; and
 - where new development is to be assessed, to understand what kind of sound(s) a new industrial and/or commercial source would introduce, or what potential impact would be imposed from an existing source on a new sensitive receptor.
- 7.3 Consideration of context is in part opinion driven, and so demands experience in applying it in a balanced manner. The idea is that every situation is different, and hence there is a need to apply professional judgement and not simply rely on measurements and rating numbers so produced.

- 7.4 Operations conducted by Maelor Foods so far as determining context is concerned can encompass some or all of the following points (in no order of relative importance):
- Time of day – daytime, evening and night-time, in respect of when processing and site operations are conducted
 - Days of the week versus weekends in terms of changes to likely impacts
 - The characteristics and nature of the immediate area
 - The prevailing and future soundscape
 - The history of the site and its operations (longevity, preceding activities and operations, if any)
 - Benefits of planning permission (planning status) and any applicable constraints
 - The fact that an Environmental Permit is currently in place and the legitimacy of Maelor Foods' operations
 - Sensitivity of receptors to noise and what exactly is, or is likely to be, impacted (e.g. sleep interference).
 - Land use of noise receptors
 - Existing noise sources at the site and any relevant diurnal activities
 - Audibility (of noise sources).
 - Other prevailing sound sources
 - Reasoning and need for the permit variation
 - Absolute sound (noise) levels produced.
 - Noise policies and regulatory requirements for compliance or otherwise.
 - Local attitudes (where known) and the meaning of sound(s) - what is conveyed and understood by its presence and content
 - Whether changes to processing and site operations etc. are intended to be permanent or temporary/transient
 - Whether noise impacts occur externally and/or internally (where sound/noise occurs)
 - Mitigation - existing and proposed
 - Possible seasonal variations
 - Plant and machinery - existing and proposed
 - Any new or proposed planning developments

Historical Planning Uses

- 7.5 The site of Maelor Foods Ltd. is a former (rail-served) creamery built in 1936 by Cadbury's. Prior to this it was a greenfield site.
- 7.6 The site was bought by the Milk Marketing Board and opened in 1973 to provide butter and skimmed milk powder, and from 1976 to 1992 cheese manufacturing took place.
- 7.7 In 1993 the site was converted into a pre-packing site by the owners Dairy Crest as one of the most advanced cheese packaging plants in the UK, storing up to 2000 tonnes of cheese under temperature-controlled conditions. Alongside this, Dairy Crest also manufactured a range of dairy ingredients from whey, for use by major food manufacturers.
- 7.8 In 2006 the site was acquired by First Milk. The site supplied one of the largest retailers in the UK employing up to 500 staff working in partnership with Lloyd Fraser transport company. The site produced and distributed over 30,000 tonnes of produce annually, with c.182 vehicle movements per day.
- 7.9 Maelor Foods acquired the site in 2014, and through planning permission granted in 2015 and a subsequent series of permissions for supplemental buildings / plant / machinery over 2-3 years thereafter, a substantial redevelopment has provided for a modern, state-of-the-art poultry processing facility, that officially opened on 23 November 2017. Planning permission originally allowed for processing of 400,000 birds per week, which was then amended to allow for an increase to 1 million birds per week. The application to vary the environmental permit is the first stage in seeking to increase capacity to 2 million birds per week (Phase 2 operations).
- 7.10 As part of redevelopment under Maelor Foods, environmental betterment was achieved in regard to historical vehicle movements associated with Lloyd Fraser, who were permitted, under Vehicle Operator Licences, 46 vehicles on the site from 2009. The change removed independent commercial transport operations not associated with Maelor Foods, and effectively tied the transport logistics aspect in planning land use terms in perpetuity. Further historical information on Lloyd Fraser activity

associated with their dairy services business indicates vehicle movements may have been in the region of 140 to 160 per day for their own HGVs, subcontractors and other deliveries. In addition, Lloyd Fraser operated a heavy vehicle servicing facility, which is estimated to have resulted in an additional 20-40 movements, including assorted vans and other commercial vehicles (some HGVs). This is in contrast to the current operations of Maelor Foods, which operates 72 HGVs per day (in-bound and out-bound) using Pickhill Lane as part of processing 1 million birds per week, which is projected would rise to 142 HGVs. Both current and proposed vehicle activities at Maelor Foods amount to less than the combined activities for previous uses on the site.

- 7.11 It is evident the site has a substantive history of manufacturing and transport operations over many decades, which will invariably have also incorporated use of various plant and machinery and attendant sound (noise) emissions.

Regulatory Requirements and Environmental Permitting

- 7.12 Planning Permissions granted in 2015, 2016 and 2017 contain a condition that states:

The rating level of any noise generated by reason of this development shall not exceed the pre-existing background levels by more than 5 dB(A) at any time. The noise levels shall be determined at nearby noise sensitive premises, and measurements and assessments shall be made in accordance with BS4142:2014 Method for Rating Industrial Noise Affecting Mixed Residential and Industrial area.

- 7.13 This condition is subject to fatal flaws at least in terms of precision, enforceability, reasonableness and relevance, and arguably need. An examination of this is not presented in this report. Acoustics Environment is informed that the condition has now fallen away in light of a successful planning appeal decision in 2019, resulting from a refused (s.73) planning application, which sought to vary a condition limiting the throughput of birds.
- 7.14 A draft Memorandum made available by Wrexham County Borough Public Services, referencing planning applications made in 2022, details consideration of a noise impact assessment dated 8 September 2022. The draft Memorandum contains a

revised noise condition that apparently is being applied where deemed appropriate. The said condition, which is yet to be applied, is replicated below:

The rating level of any noise generated by reason of this development shall not exceed the pre-existing background level at any time. The noise levels shall be determined at nearby noise sensitive premises, and measurements and assessments shall be made in accordance with BS4142:2014 Method for Rating Industrial Noise Affecting Mixed Residential and Industrial area.

7.15 Again, this (draft) condition is similarly subject to fatal flaws due to precision, enforceability, reasonableness and relevance, and arguably, need. An examination of this is not presented in this report .

7.16 Maelor Food benefits from an extant A1 environmental permit. The need to vary this on a permanent basis is founded on commercial and business needs, considering other company operations within the Salisbury Poultry Group. The environmental permit is understood to contain a generic noise condition which is set out as follows:

'Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in an approved noise and vibration management plan, to prevent or where that is not practicable to minimise noise and vibration.

The operator shall:

- a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, submit to Natural Resources Wales for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;*
- b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.'*

7.17 There is no known enforcement action in regard to this requirement.

Operational Times / Time of Day

- 7.18 Production at Maelor Foods is undertaken on a 24 hour basis, although this is limited by a constraint on HGV movements into and from the site between midnight Saturday to midnight Sunday, administered via a planning condition. This requires Maelor Foods to balance its raw produce and product/stock to ensure normal production activities recommence on Monday.
- 7.19 It is necessary for plant to run continually or on a continuous cycle, which includes (but is not limited to) boilers; compressors; refrigeration/chiller units; effluent treatment systems (including pumps, aeration blowers, air scrubbers / air extraction, air and effluent treatment).
- 7.20 Maelor Foods is to some degree omnipresent in the noise climate and soundscape of the areas adjoining its site, which features noise-sensitive receptors in the form of residential development. This interface requires a certain acceptance and tolerance between competing needs, which is common-place where industrial, commercial, agricultural and leisure uses directly interface with other development. This is an accepted facet within communities throughout the UK.
- 7.21 In so far as the south-westerly aspect of the site is concerned, which includes the main yard area, by and large the underlying sound emission is constant with various audible features randomly superimposed. This provides for consistency in daytime and night-time $L_{A90,T}$ levels experienced at noise receptor sites B and C.

Legitimacy of Operations

- 7.22 This is expounded by the existing planning permissions and environmental permit. These are designed to ensure the site operates in a 'fit-for-purpose' manner, and to ensure commensurate safeguards exist to protect people and the environment. It also benefits from the provenance of extensive previous industrial/commercial development on the site dating back to 1936.

Character of the Locality

- 7.23 Maelor Foods at first-sight appears to be set within an agricultural backdrop. It is nonetheless subject to traffic noise from major arterial roads along with localised traffic, and is under a commercial aircraft flight path. A variety of rural sounds interlace with commercial/industrial sounds and transport noise sources, and it (Maelor Foods) cannot be held out to be incongruous, not least when considering the extensive previous planning uses of the site.

New or Proposed Planning Developments

- 7.24 No new or proposed planning developments are known that have a bearing on the permit variation sought by Maelor Foods.

Land Use of Noise Receptors and Sensitivity to Noise and what exactly is, or is likely to be, impacted (e.g. sleep interference)

- 7.25 All land use of noise-sensitive receptors under consideration is residential, notwithstanding the Pickhill Old Farm complex features equestrian/farming use.
- 7.26 The impact of noise therefore centres on typical and expected uses of such premises, and can be categorised as potential sleep interference and general amenity uses of premises and their environs.

Seasonal Variations

- 7.27 The 24 hours pattern of operation at the Maleor Foods site week-on-week is not influenced by seasonal variations. Seasonal variations nevertheless impact upon how residential amenity is perceived and use of amenity spaces at noise-sensitive receptors (residencies).

Mitigation - Existing and Proposed

- 7.28 Maelor Foods is already subject to the requirements of Best Available Techniques (BAT) for negating and/or mitigating noise impacts by virtue of its environmental

permit, and in-turn, the Noise Management Plan that falls under the permit. The latter is a dynamic document and subject to change to reflect BAT, whilst also responding to process and other changes at the permitted installation. Consideration of improvements to noise control is thus an on-going theme and will be intrinsically linked to changes associated with the permit variation. To clarify, there is an extant Noise Management Plan in regard to Phase 1 (current) operations, and an updated Noise Management to serve Phase 2 (proposed) operations.

External or Internal Noise Impacts

- 7.29 For the purposes of noise impact assessment, impacts are concerned with external scenarios in accordance with relevant guidance and the protocols set out in BS4142.

Plant and Machinery - Existing and Proposed

- 7.30 It is pertinent to highlight that the changes sought under the environmental permit variation do not bring about different types of noise sources. The fundamental intention is to duplicate and/or augment existing plant and machinery to increase production capacity.

Soundscape – Existing and Future

- 7.31 A soundscape is the acoustic environment as perceived by humans, in context. The acoustic environment is the combination of all the acoustic resources, natural and artificial, within a given area as modified by the environment.
- 7.32 A soundscape can be considered as a sound or combination of sounds that forms, or arises, from an immersive environment. The notion of soundscape refers to both the natural acoustic environment, comprising natural sounds (including animal vocalisations etc.), the sounds of weather and other natural elements, and environmental sounds created by human activities. Importantly, the term soundscape also includes a listener's perception of sounds heard as an environment:
- 7.33 Noise-sensitive receptors are exposed to an existing soundscape comprising natural and artificial (environmental) sounds, which includes Maelor Foods along with other

industrial/commercial, transportation and other human activities. The future soundscape that arises from the proposed permit variation does not change in terms of the elements in its composition. This accommodates the character of sounds (noise) under consideration that are produced.

Absolute Sound (Noise) Levels

- 7.34 These are addressed in the discussion section to this report.

Audibility of Sounds

- 7.35 The noise-sensitive receptor locations can all experience audible sounds that are at times attributable to Maelor Foods. This primarily concerns Sites A, B and C due to their relative proximity to the site.
- 7.36 Notably for Sites B and C to the north-east through to northwards, the main sounds/noise of interest at Maelor Foods can be described as a low-level, broadband, non-descript signature, that is a general amalgam of production activities and assorted items of plant superimposed on this which, at a given point in time, can be HGV chiller sounds, and occasional (random) 'metallic' impulsive sounds that are loosely describable as low-level 'bangs or thuds' typically occasioned by handling and vehicle-related activity, and from time-to-time audible vehicle reversing alarms, along with random periodic tones. Whilst some of these can be discerned as individual sources of sound (or noise) they are not consistent and do not readily present as sufficiently discreet so as to be simply segregated from other ambient sounds. On casual observation these do not draw attention, as evidenced by the occupier of Site D (Mayfield House) who professed to have no undue concerns with respect to noise from Maelor Foods. It is noteworthy that the occupier of the neighbouring property (Springfield) attributed an audible industrial tonal sound to Maelor Foods during site work by Acoustics Environment, which was plainly not the case, as it was emanating from a locality to the north of the B5130, as were other audible commercial or industrial signatures. To the west, primary sound sources are determined as vehicular activities, and on occasions chiller plant.
- 7.37 Maelor Foods essentially competes in the ambient noise climate with distant road

traffic, local road traffic, aircraft flyovers, discrete human activities and wildlife in the make-up of the ambient sound profile. The dominance of any particular sound at a given point in time has been observed to be variable and abstract. This could, for example, comprise a momentary or transient impulsive sound at the Maelor site produced, say, by vehicle coupling to a trailer or a forklift truck operation, or else a suite of chiller units on HGVs that have become operational due to thermostatic controls for a limited period of time; equally dominant sounds have been attributed to cattle; horses; seagulls; crows; vehicle pass-by (non-Maelor Foods); vehicle horns; emergency vehicle sirens; aircraft; motorcycles; alarms; public address systems (Bangor on Dee racecourse); farming activity; leaves rustling; people (e.g. dog-walkers, ramblers, passers-by); a cockerel. Even during late night-time hours there have been incidences of 'noisy' owls, cattle, local vehicular traffic, horse activity and so forth.

8.0 UNCERTAINTY

Overview

- 8.1 An appreciation of the uncertainties in measurements is likely to lead to a better understanding (of measurements), potential variability and any implications in reported findings of an assessment. In such instances, where the level of uncertainty is too great, it can be necessary to repeat measurements or else take other steps to obtain the desired confidence in results.
- 8.2 Whilst the level of uncertainty due to instrumentation can be technically quantified, this is unlikely to be practicable for some of the other measurement uncertainties. Irrespective, the level of uncertainty can nonetheless be by several methods, including for example, by conducting more measurements, using longer measurement time intervals, measuring on different occasions over longer periods of time and under differing suitable weather conditions. What is appropriate is dependent upon the particular circumstances of each assessment, including the scale of proposed development, risks of it causing significant adverse impact and associated time frames constraints for site work and reporting.
- 8.3 It is important to recognise that this is a supplementary report to a previous noise impact assessment which has been subject to scrutiny by NRW. The nature of operations under consideration imposes certain limitations on undertaking tasks, a main aspect being the ability to perform acoustic measurements for the scenario of a total shutdown of the processing plant (as operations take place on a 24-hour basis).
- 8.4 To reduce uncertainty for this case, the principal approach has been to ensure that all measurements were conducted with persons in attendance at site in order to determine prevailing site conditions and factors that contribute to the noise climate, and ultimately reported values, to avoid undue extraneous influences.

Instrumentation

- 8.5 Instrument uncertainty is *per se* minimal, given the performance accuracies of

equipment which conforms to recognised industry standards (as specified in BS4142, namely BS EN 61672-1, Class 1; BS EN 60942, Class 1, BS7580-1). All measuring systems were calibrated at site prior to and after the conclusion of measurements, with no substantive drift. Results are to an accuracy of 0.1 dB and thereafter rounded as necessary in accordance with BS4142 protocol.

[Note: BS4142 states that where the difference between the initial calibration value, any subsequent calibration check, and a final calibration check on completion of measurements exceeds 0.5 dB, treat with caution the results of measurements obtained for any period to which this relates. This is inapplicable since variabilities in microphone sensitivities were markedly less than this during site calibration checks.]

Measurement Locations

- 8.6 These were extended in comparison to the Environoise survey work, and were agreed with NRW in advance of measurement work commencing. In each instance a free-field position was used to accord with locality of nominated residential premises and the requirements of BS4142.

Measuring Intervals

- 8.7 The main aim has been to examine Background Sound Levels, therefore a minimum period of 15 minutes was utilised to acquire $L_{A90,T}$ values with Maelor Foods operational and during a pre-arranged shutdown. BS4142 comments that measurements should not normally be less than 15 minutes intervals. Use of 15 minutes periods allows for consistency or variability in the noise climate to be more readily assessed for particular periods, which aids determining representative levels.

Measurement Times and Numbers of Measurements

- 8.8 Disaggregated measurements were carried out during daytime and night-time periods at noise-sensitive receptors to provide indications of Background Sound Levels (and any changes) to compare with previously reported information, and to apply in the noise rating and assessment of proposed production changes. These have been contrasted with the earlier work of model outputs prepared by Environoise.

- 8.9 The number of disaggregated measurements at each noise-sensitive receptor of interest was intended to cover one-hour periods. For the night-time, this focussed on the commencement of that period (post 11.00 pm), noting that BS4142 offers that: *‘Among other considerations, diurnal patterns can have a major influence on background sound levels and, for example, the middle of the night can be distinctly different (and potentially of lesser importance) compared to the start or end of the night-time period for sleep purposes’*, and *‘the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods’*.
- 8.10 The number of measurements was necessarily constrained by the need to change measurement locations during daytime and night-time periods and ensure operatives remained in attendance. A practical approach was taken to rotate between receptor positions on an on-going basis.

Sound Source Complexity

- 8.11 Prior to the start of measurement campaigns, a full inspection of the Maelor Foods plant was carried out, in addition to an initial external inspection, on-site measurements to aid identification of sound sources off-site, and an evening exercise to examine the effects of turning specific plant off.
- 8.12 Understandably there exists a host of plant, equipment and machinery that is in day-to-day use, which is summarised (in no rank order) as:

Boilers

Effluent Treatment (inc. pumps and aeration blowers)

Static chillers/refrigeration units and condensers

Electricity Transformers

Exhaust Fans

Compressors

HGV vehicles – deliveries and despatches (feedstock in, produce out, waste products/effluent sludge removal)

Wet scrubbing filtration

Heavy Goods Vehicle (HGV) Chiller/Refrigeration units

- 8.13 In assessing the site impacts, it is evident the soundscape experienced at the south-west elevation (the site entrance, car park and offices area) is very different in character compared to the north-east elevation, which accommodates a yard area for HGVs, effluent treatment systems, internally housed boilers and air compressor plant, an external wet scrubber, various liquid effluent pumps, aeration blowers, internal feedstock reception for HGVs (lairage), offal and waste removal and fork-lift truck activity, to cite the main components that can give rise to noise.
- 8.14 At receptor Site A the activities and plant etc. common to the rear yard and north-east elevation are generally inaudible. Site A chiefly experiences road traffic using Pickhill Lane associated with Maelor Foods, farming activities, local light-duty vehicles, commercial vehicles using Pickhill Lane as a thoroughfare. When vehicular activity subsides both on Pickhill Lane and the A525 Wrexham Road (which at times can otherwise present as a constant feature), a chiller plant tone can sometimes be just discernible which is dependent on the plant duty and to some extent prevailing weather conditions. Whilst of no consequence, it is understood improvements to the chiller plant enclosure are projected to take place as part of BAT which will see improvements that offer additional noise control. It is understood this will be addressed as part of the Permit Noise Management Plan.
- 8.15 During site attendance in the late evening and night-time, a tonal noise has been observed at Site A originating from an (off-site) northerly location relative to the location of Maelor Foods. This has not been identified and is reminiscent of an industrial fan unit.
- 8.16 Noise-sensitive receptors Sites B, C and D can experience distant traffic noise, local vehicular traffic, assorted wildlife and animal sounds (crows, seagulls, owls, horses, cattle), various activities associated with Pickhill Equestrian Centre, bangs and clangs, people, farm machinery, industrial (tonal and other) sounds from a northerly direction, as well as Maelor Foods.
- 8.17 Observations and tests demonstrated that a high-frequency tone can periodically be discerned due to use of effluent aeration blowers. Again, this is dependent on the duty on the plant, and irrespective, it is to be subject to additional remedial treatment as part of the amendments to the wastewater treatment plant for Phase 2.

Meteorological Conditions

- 8.18 Throughout survey work the wind was west through to south-westerly and was classed as a 'promoting' wind with the exception of Site A.
- 8.19 On 24 September, measurements were paused for c. 2½ hours on account intermittent light rain showers, which had been forecast. Measurements were terminated on 25 September before 02.45 hours owing to the onset of heavy rain recommencing.
- 8.20 Throughout, all measurements of air temperatures were above 3°C which is taken as a dewpoint reference temperature for unheated microphone diaphragms.
- 8.21 On 24 to 25 September, wind conditions were variable, and at times described as breezy, with occasional momentary exceedances over 18 km/hr, subsiding to much lower levels. At wind speeds up to this value and beyond, leaf rustle in trees was audible. This is a natural feature, though subject to seasonal variations. The effect of this could not be properly quantified other than to expect that some Background Sound Levels could potentially be elevated. The nature of Background Sound Level measurements being a 90th percentile statistical parameter, renders results less susceptible to influence. For Sites B and C which are not as readily subject to road traffic noise from the A525 and the B5130, the stability and consistency of the noise climate can be considered by reference to $L_{A10} - L_{A90}$ which has previously used as a numerical index for describing the Noise Climate. For these sites the differential falls predominantly between 3 and 6 dB(A), indicating a steady sound profile which is in part attributed to Maelor Foods. Sites A and D are more readily influenced by their relative positions to roads carrying more traffic and the fact they are not greatly influenced if at all by sounds (noise) associated with north-east elevation and rear yard area. The variability in data is considered below by means of sample standard deviations to illustrate the measure of the spread of results for $L_{A90,15 \text{ minutes}}$, with no outliers that are otherwise excluded when considering a representative value.

Sample Standard Deviations $L_{A90,15}$ minutes, dB All results. No outliers exclude.			
SITE	Daytime	Night-time	Comment
A	4.4	6.4	Maelor site closed
A	1.5	4.3	Maelor site operational
B	2.1	4.3	Maelor site closed
B	1.5	1.4	Maelor site operational
C	1.4	4.9	Maelor site closed
C	4.8	2.0	Maelor site operational
D	1.4	4.5	Maelor site closed
D	1.7	1.5	Maelor site operational

Table 8.1: Sample Standard Deviations for $L_{A90,15}$ minutes

9.0 DISCUSSION

- 9.1 Re-assessment of Background Sound Levels, along with making consistent allowance for an for acoustic features penalty in regard to sounds having a 'distinguishable character' off-site, has basically confirmed the ratings within the Noise Impact Assessment presented by Environoise. This is notwithstanding numerical changes to values used for BS 4142 methodology. The updates set out in this supplementary report have taken a more stringent approach by the uniform application of the distinguishable character correction, and used more up-to-date data to examine representative Background Levels.

	Daytime	Night-time
Site	Excess of Rating Level Over Background Sound Level, dB(A) Combined Plant and HGV Noise	
A - Pickhill Lane	+7	+11
B – Pickhill Old Farm complex	-12	-10
C – White Gate Cottage	-10	-10
D – Mayfield House	-8	-2

Table 9.1 Combined Plant and HGV Noise – Exceedances above background Sound Levels

- 9.2 Based on site observations, the application of a +3 dB character correction for plant and HGV noise is on balance considered reasonable. Various aspects that identify sounds (noise) stemming from the Maelor site are not persistently present, or when present, are not prone to readily attracted attention to those in the vicinity. Having observed persons (residents and others) going about daily chores, and in conversing with Acoustics Environment personnel, there has been no overt indication of coping

strategies being deployed in regard to noise from Maelor Foods in order to manage any noise impacts.

- 9.3 The Environoise indications of impacts due to plant noise along Pickhill Lane (near to the site entrance) leads to some uncertainty drawing upon the site observations carried out by Acoustics Environment. In the area of Marlbrook House, which is opposite to the site entrance to Maelor Foods, passing vehicles on Pickhill Lane and the A525 are invariably dominant noise sources when present. The road surface is heavily textured, and in places its condition is poor, and breaking apart. This responsible for generating excessive tyre and other noise. Non-Maelor Foods vehicles were repeatedly noted as being clearly audible for longer time periods as they travel along Pickhill Lane, compounded by the facts that they also tend to travel faster as they are not entering or exiting the Maelor Foods site. It has been evident that light duty private and commercial vehicles are readily capable of being assessed at equivalent and higher sound levels than HGVs. A pertinent consideration is that vehicles on the road heading for Maelor Foods are not under the jurisdiction of the Environmental Permit as they are not on the installation site. For noise-receptor Sites B, C and D, there are no impacts predicted that in context give rise to any tangible concern. Even so, in BS 4142 terminology, this amounts to a qualification of low impact. In permitting guidance, no action is required beyond basic appropriate measures for Best Available Techniques (BAT) to mitigate and control noise.
- 9.4 During lulls in road traffic, locally and on the A525 Wrexham Road, and in the absence of other dominant sound (or noise sources), the extant residual sound from Maelor Foods presents as having no, or low impact, and broadly is of little relevance. Chiller plant on the front (west to south-west) elevations can at times be heard near to residential property, but equally can also be inaudible; HGVs, when entering onto the installation site, have not been observed to generate excessive noise. For these reasons, it is somewhat difficult to foresee how predicted night-time impacts are as (relatively) high, notably for plant noise, which is an area of uncertainty. The majority of mechanical plant is within the main production or else screened from noise-receptor Site A on Pickhill Lane. Furthermore, improvements at the installation – as detailed in the updated Noise Management Plan – will bring about greater control with reference to chiller plant positioned on the south-west elevation.

- 9.5 Environoise examined a clockwise route for HGVs around the perimeter of production and office buildings. For much of this route noise-sensitive receptors are substantially screened by the built form. Goods vehicles entering and departing the site are travelling at slow speeds, nominally up to a maximum 7 to 8 km/hr. For those HGV vehicles entering the site, the tractor units themselves offer screening to Site A by the trailers.
- 9.6 Environoise recommended an acoustic barrier along the boundary of the site with Pickhill Lane as a form of mitigation to noise-sensitive receptors. In regard to Site A, this could not provide meaningful sound attenuation as the linear run of such a barrier could not extend into the area of the retractable gate. The site entrance at this point is wide in order to accommodate HGV turning on ingress and egress, providing for an unrestricted angle of view to the Maelor site of the order some 45°. Vehicles entering the site, besides traversing at slow speed, are descending in parallel with Pickhill Lane and hence the tractor units are not under heavy duty, and create minimal noise.
- 9.7 Immediately opposite to the north-east elevation are two semi-detached houses, known as 'Frampton' and 'The Gloucester'. These properties are in the ownership of Maelor Foods Ltd., and as a consequence of which, were not used as a noise-sensitive receptor. Additionally, NRW did not identify these as requiring assessment for the purposes of this supplementary report when receptor site were agreed. These are the only properties that may feasibly benefit to any degree from the recommended barrier, and at this time, under the circumstances as mentioned, it cannot therefore be endorsed.
- 9.8 When considered in the round, the proposed increase in production is tantamount to replicating existing plant and operations that already exist. In this sense, it does not seek to introduce any new types of acoustic features, and is hence not incongruous. There is a practical consideration, that in plain terms it can amount to an overall doubling of sound energy, which would allow for a theoretical increase of +3 dB(A). This margin of such a change has been previously qualified in government guidance relating to environmental noise and planning, namely: *'A change of 3 dB(A) is the minimum perceptible under normal conditions.'*

- 9.9 In evaluating absolute sound levels, for noise-sensitive premises Sites B, C and D, measured L_{Aeq} values indicate that the World Health Organisation (WHO) Critical Health Effect Criteria applicable to outside of bedrooms in order to avoid sleep interference, whilst allowing for an open window, are at levels that can be achieved for current operations. Furthermore, the WHO Critical Health Effect Criteria for outdoor living areas to avoid moderate annoyance during the daytime can also be met. For noise-sensitive premises site A, the profile of noise is very much adversely affected by vehicle movements along Pickhill Lane and the A525 Wrexham Road. Measurements indicate WHO criteria is not achieved at this location.
- 9.10 On-going noise control improvements in line with BAT (see Environmental Permit Updated Noise Management Plan) will at least in-part redress increases in production activity. Examining context (Section 7), there are a number of considerations that have a direct bearing on the application to vary the environmental permit, and in particular attention is drawn to:

Historical Planning Uses

- 9.11 This supports the current and ongoing uses. Comparable or more intensive activities (e.g. vehicle logistics) have previously been operated on the installation site. It is evident the site has a substantive history of manufacturing operations and transport operations over many decades, which in some cases will have been unrestricted.

Regulatory Requirements and Environmental Permitting

- 9.12 The legitimacy of the installation and attendant operations is demonstrated by Planning Permissions granted in 2015, 2016 and 2017..
- 9.13 Maelor Foods Ltd. benefits from an extant Environmental Permit.
- 9.14 There are no regulatory or enforcement action, current or pending, against Maelor Foods Ltd.

Operational Times / Time of Day

- 9.15 Production at Maelor Foods is undertaken on a 24 hour basis. This only limited in practice by a constraint on HGV movements into and from the site between midnight Saturday to midnight Sunday, administered via a planning condition.

Legitimacy of Operations

- 9.16 This is qualified by the existing planning permissions and environmental permit.

Character of the Locality

- 9.17 Maelor Foods co-exists within a mixed use environment, which comprises industrial/commercial operations, road networks, agriculture and sparse residential development. It is not incongruous on account of the legacy of other uses and granting of planning permissions.

New or Proposed Planning Developments

- 9.18 No new or proposed planning developments are known that have a bearing on the permit variation that is sought by Maelor Foods.

Land Use of Noise Receptors and Sensitivity to Noise and what exactly is, or is likely to be, impacted (e.g. sleep interference).

- 9.19 All land use of noise receptors under consideration is taken as residential, notwithstanding the Pickhill Old Farm complex features equestrian/farming use. The impact of noise therefore centres on typical and expected uses of such premises.

Seasonal Variations

- 9.20 The 24 hours pattern of operations of the Maelor Foods site week-on-week is not influenced by seasonal variations.

Mitigation - Existing and Proposed

- 9.21 Maelor Foods is already subject to the requirements of BAT and a Noise Management Plan that falls under the environmental permit. Under its permit. There exists a generic noise condition and the requirement to exercise BAT in regard to controlling or preventing noise emission and attendant impacts.

Soundscape – Existing and Future

- 9.22 Noise-sensitive receptors have an existing soundscape comprising natural and artificial (environmental) sounds, which includes Maelor Foods along with other industrial/commercial, transportation and other human activities. The future soundscape that arises from the proposed permit variation does not change in terms of its composition. This accommodates the character of sounds (noise) under consideration that are already produced.

Absolute Sound (Noise) Levels

- 9.23 Absolute sound levels emanating from the installation are comparatively low, and it is indicated that for most neighbouring noise-sensitive receptors there is, overall, a good standard of environmental amenity.

Audibility of Sounds

- 9.24 As with the vast majority of industrial and commercial concerns that are subject to environmental permitting, Maelor Foods will invariably generate sounds on the installation site that are audible off-site. Audibility is not the rate-determining benchmark, and such sounds are an integral part of the soundscape, and are not a consistently dominating feature.

APPENDICES

Appendix 1

Environmental Permitting (England and Wales) Regulations 2016 (as amended): Part 1 Schedule 5 Notice requiring further information – Natural Resources Wales



Notice of request for more information Environmental Permitting (England and Wales) Regulations 2016

Notice requiring further information

To: Maelor Foods Limited
Salisbury House
Vulcan Road
Bilston
West Midlands
WV14 7HT

Application number: PAN-020892 (EPR/AB3591ZQ/V004)

Natural Resources Wales, in exercise of its powers under paragraph 4 of Part 1 of Schedule 5 of the above Regulations, requires you to provide the information detailed in the attached schedule. The information is required in order to determine your application for a permit, dated 11/05/2023. The information requested should be sent to the following address by 27/07/2023.

Information should be sent to:

Permitting Service
Natural Resources Wales
Cambria House
29 Newport Road
Cardiff
CF24 0TP

Name	Date
Lucinda Hall	22/06/2023

Authorised on behalf of Natural Resources Wales

Ffôn/Tel 0300 085 4419
E-bost/Email Lucinda.hall@cyfoethnaturiolcymru.gov.uk
Lucinda.hall@naturalresourceswales.gov.uk

Gwasanaeth Trwyddedu, Cyfoeth Naturiol Cymru, Tŷ Cambria, 29 Heol Casnewydd, Caerdydd, CF24 0TP
Permitting Service, Natural Resources Wales, Cambria House, 29 Newport Road, Cardiff, CF24 0TP

Gwefan/Website www.cyfoethnaturiolcymru.gov.uk www.naturalresourceswales.gov.uk Croesewir gohebiaeth yn y Gymraeg a'r Saesneg
Correspondence welcomed in Welsh and English

Schedule

Submit to NRW:

- A revised Noise Impact Assessment (NIA) which assesses the impacts from the changes proposed to your installation. Your noise assessment must meet the standards set out within the Environment Agency's guidance, which NRW continue to follow: [Noise and vibration management: environmental permits - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/noise-and-vibration-management-environmental-permits). The assessment should be carried out by a qualified person.
- Should the outcome of the above NIA identify adverse impact, submit a subsequent Noise Management Plan (NMP) in line with the above guidance.

Further information is provided below.

We would expect your revised Noise Impact Assessment to address (but not be limited to) the following:

- It is not clear if the site was operational during the noise survey, as the report from 2020 suggests that plant noise was audible during the measurement. It is a requirement of BS4142 that background sound measurements should be recent and should not be influenced by site noise. Additional background sound measurements should be undertaken, in accordance with BS4142 guidance, whilst the plant is not operational or additional justification needs to be provided for the background sound measurements used in the Noise Impact Assessment.
- We note there are other nearby noise sensitive receptors that have not been included in the assessment. All nearby noise sensitive receptors should be considered within the Noise Impact Assessment. The Noise Impact Assessment needs to include all nearby noise sensitive receptors, or additional justification provided for the receptors chosen and why they are deemed representative for the assessment.
- The context in which a noise occurs is critical to assessing the severity of the pollution. Not every noise sensitive receptor will have the same response to the same noise pollution. Additional justification is required for the context argument presented in the Noise Impact Assessment report, due to the exceedances predicted at these receptors.
- All noise sources should be included in the modelling assessment as BS4142, and current guidance requires whole plant noise to be assessed. It appears from the Noise Impact Assessment report and modelling files submitted that this is not the case. The Noise Impact Assessment needs to include all noise sources, or additional justification provided for the sources used.
- Section 4.3 of the submitted Noise Impact Assessment provides information related to acoustic penalties and concludes none are required. BS4142 and current guidance states that you should *"Record whether any character corrections are appropriate under BS 4142. Where neither tonal nor impulsive corrections apply, the environment agencies will generally expect a +3dB 'other' correction to be applied for readily distinguishable industrial noise, unless you can demonstrate this is not justified."* As the plant is audible at receptors, a +3dB penalty should be applied in-line with current guidance. An updated Noise Impact Assessment should be submitted having included a +3dB penalty into the modelling or provide further justification as to why this is not required.
- The results presented in the Noise Impact Assessment report (Tables 4.2 and 4.3) do not correspond with the consultants own modelling files. There is also a discrepancy between the results in the Tables referenced above and paragraph 4.4.6. within the report. Clarification is required over the discrepancy in data and the results tables updated to reflect the results of the model.
- The noise modelling assesses the impact from the plant and the HGV movements on-site separately. The predicted impact from the plant itself (including all sources) and HGVs should be combined to give a total specific level at receptors. Updated noise modelling files and Noise Impact Assessment

report should be submitted which assess predicted impact from *all* sources from the plant and HGV movements combined within the same model.

- The Noise Impact Assessment only provides information relating to HGV pass by's. No information has been provided regarding potential noise sources from HGV's unloading/idling on site during delivery/collection. Comprehensive information should be submitted in relation to how the lorries are loaded/unloaded, duration, the processes that take place during this time and include any noise sources associated with this process in the Noise Impact Assessment.
- Section 6 of the Noise Impact Assessment report includes details of proposed mitigation, however there is little information provided except *"A noise attenuation system capable of providing 8dBA reduction where the plant is to operate during the night-time (23.00 - 07.00hrs) should be installed to the open vents at the side of the condenser unit, as these are the primary source of noise"*. Submit full details of your proposed mitigation measures, and how the predicted impact will be appropriately mitigated. It should be noted that the predicted specific level exceeds 8dB above background. The guidance does not allow for the dB value to be lowered by context, only the classification (adverse/significant adverse). You will need to rigorously demonstrate that you are using appropriate measures to prevent or, where that is not practicable, minimise noise in accordance with guidance.

APPENDIX 2

Contemporaneous Site Notes

Friday 15 Sept 2023

MAELOR SITE OPERATIONAL

Site A: Marlbrook House, Pickhill Lane

11.00 am to 11.15 am Pickhill Lane – at site entrance to Maelor Foods

Helicopter

LDVs in Pickhill Lane (vans)

Sunny and bright; warm; 7 Oktas low cloud cover. Still

Chiller plant just discernible

Site C: White Gate Cottage, Pickhill Lane

2.15 pm

Low-level low frequency sound

Mid frequency tone audible

Audible vehicle reversing alarm discernible

Broad-band sound

High frequency sound

Clangs/bangs – transient impact sound

Distant jet aircraft flyover

Sunny; warm; wind speed up to 3 km/hr

Friday 22 September 2023**MAELOR SITE OPERATIONAL****Site: A Marlbrook House, Pickhill Lane**

21.45 2 oktas; relatively clear skies; still, negligible wind – speed up to 3.8 km/hr; air temperature 14.2°C
audible industrial tone from north-east (not Maelor Foods); chiller plant at Maelor Foods faintly audible; broad-band audible vehicle reversing alarm at Maelor Foods

21.35 Aircraft flyover

21.45 HGV departs Maelor Foods; voices at gatehouse

21.48 Local traffic audible; car departing from Maelor Foods

21.53 Car arriving at Maelor Foods

21.54 Car pass-by - Local traffic

21.55 Car arrival at Maelor Foods

21.56 Voices from Maelor Foods car park

21.59 Car arrival at Maelor Foods

22.00 Motorcycle pass-by

22.14 Aircraft flyover; local traffic dominant; chiller plant at Maelor Foods audible

22.19 Aircraft flyover

22.20 HGV enters Maelor Foods site

22.21 HGV brake squeal – Maelor Foods gatehouse

22.23 Car arrives at Maelor Foods

22.24 Car pass-by - local resident

22.25 Car departs from Maelor Foods site

22.26 Stereo audible on car pass-by

22.28 Car arrives at Maelor Foods site

22.29 Car pass-by' wind speed 1.4 km/hr gusting to 5 km/hr; air temperature 12.8°C

Site: B Pickhill Old Farm / Equestrian Centre, off Pickhill Lane

19.05 Wind Direction WNW; no rain; damp ground; cloud cover 6 oktas; low cloud

Broad-band, low-level sound discernible from Maelor Foods. Max wind speed 8.5 km/hr, settling 4.7 to 5.1 km/hr, air temperature 14.6°C. Distant traffic audible (A525)

19.05 aircraft flyover

19.07 Seagulls; trees rustling

19.09 Birdsong

19.10 Low frequency 'rumble' – not Maelor Foods

19.11 Vehicle horn from Maelor site (twice)

19.13 Aircraft flyover

19.14 Bird call

- 19.14 Intermittent high-pitch tone – Maelor Foods
- 19.18 Impact sound – Maelor Foods; wind speed decreased
- 19.19 Aircraft flyover
- 19.20 'Beeping sound from Maelor Foods
- 19.21 Impact sound from farm building to rear
- 19.23 Impact sounds (2 of) – Maelor Foods; aircraft flyover
- 19.24 'Beeping' and impact sound from Maelor Foods
- 19.32 Fireworks
- 19.34 Lorry chillers sound stopped
- 19.39 'Beeping' and impact sound from Maelor Foods; aircraft flyover; distant traffic (A525)
- 19.41 Aircraft flyover; fireworks
- 19.42 'Beeping' sound from Maelor Foods
- 19.43 Fireworks
- 19.54 Aircraft flyover
- 19.58 Aircraft flyover
- 20.00 Impact sound (2 of) from Maelor Foods
- 20.01 Distant traffic (A525)
- 20.02 Tonal industrial sound from north-east (not Maelor Foods); impact sound from Maelor Foods; HGV tractor unit audible from Maelor Foods
- 20.04 Impact sound from Maelor Foods (relatively loud) and lorry sounds (Maelor Foods)
- 20.05 Aircraft flyover; vehicle movements and impact sound from Maelor Foods site audible
- 20.08 Impact sound from north-east, not Maelor Foods
- 20.11 HGV movements at Maelor Foods; aircraft flyover
- 20.13 Unknown 'loud' sound
- 20.25 Aircraft flyover
- 20.28 Aircraft flyover
- 20.37 Audible vehicle reversing alarm – Maelor Foods
- 20.38 Resident's vehicle started
- 20.39 Car pass-by (resident)
- 20.44 Aircraft flyover; tonal sound from north-east, not Maelor Foods
- 20.49 HGV at Maelor Foods as well as metallic impact sound, vehicle horn, forklift truck operations (chattering of fork blades)
- 20.52 Local car accelerating; forklift truck operations at Maelor Foods (chattering of fork blades)
- 20.54 Rain started; Wind speed 1.0 km/hr max. Air temperature 12.9°C

Site D: Mayfield House, Talwrn Lane

- 21.00 Maelor Foods inaudible; tonal sound from north-east clearly audible

Sunday 24 September to Monday 25 September 2023

MAELOR SITE SHUT DOWN

Site: A Marlbrook House, Pickhill Lane

- 14.15 Distant P.A. audible – Bangor-on-Dee Racecourse
- 14.42 Audible alarm off-site, not Maelor Foods. Possible neighbouring waterworks
- 14.45 Distant traffic (A525); leaves rustling
- 14.59 Car pass-by
- 15.00 Car departing residential property
- 15.00 Audible alarm off-site, not Maelor Foods. Possible neighbouring waterworks (?)
- 15.03 Car pass-by
- 15.11 Car pass-by
- 15.17 Distant P.A. audible – Bangor-on-Dee Racecourse
- 15.17 Human voices briefly discernible
- 15.20 Car pass-by; aircraft flyover
- 15.22 Aircraft flyover
- 15.28 Car pass-by
- 15.32 Cow on neighbouring farmland
- 15.34 Distant traffic (A525)
- 15.41 Distant P.A. audible – Bangor-on-Dee Racecourse
- 15.47 Car pass-by
- 15.48 Cow on neighbouring farmland
- 15.48 Noisy seagulls
- 15.51 Dog walkers; person says hello; Distant P.A. audible – Bangor-on-Dee Racecourse
- 15.54 Local resident returns home
- 15.55 Car pass-by
- 16.08 Distant P.A. audible – Bangor-on-Dee Racecourse
- 16.09 Distant P.A. audible – Bangor-on-Dee Racecourse
- 16.11 Car pass-bys (two)
- 15.15 Aircraft flyover
- 16.18 Aircraft flyover
- 16.19 Cow on neighbouring farmland
- 16.19 Car pass-by
- 16.20 Cow on neighbouring farmland
- 16.22 Car pass-by
- 16.23 Car pass-by
- 16.23 Distant P.A. audible – Bangor-on-Dee Racecourse
- 16.24 Distant P.A. audible – Bangor-on-Dee Racecourse
- 16.26 Distant P.A. audible – Bangor-on-Dee Racecourse

16.27 Car turning into Maelor Foods entrance; car left running – drivers queries what is Acoustics Environment operative is doing

16.36 Distant P.A. audible – Bangor-on-Dee Racecourse

16.36 Car pass-bys (two)

16.37 Car pass-bys (two)

16.38 Distant P.A. audible – Bangor-on-Dee Racecourse

16.39 Aircraft flyover

16.42 Distant P.A. audible – Bangor-on-Dee Racecourse

22:44 Distant traffic (A525)

22:47 Fence rattling

22:51 Aircraft flyover

22:53 Distant vehicle (A525)

22:55 Local traffic

22:56 Cattle mooing

23.44 Aircraft flyover; trees rustling

23.45 Distant traffic (A525)

22.47 Distant traffic (A525)

23.50 Distant traffic (A525)

23.52 Distant traffic (A525)

23.53 Distant traffic (A525)

23.57 Distant traffic (A525)

23.58 Cattle

23.58 Distant traffic (A525); aircraft flyover; Distant road traffic (A525)

00.00 Distant traffic (A525); aircraft flyover

00.02 Distant traffic (A525); aircraft flyover

00.04 Cattle

00.05 Wind increased; Distant traffic (A525); aircraft flyover

00.13 Distant traffic (A525)

00.14 Distant traffic (A525)

00.16 Distant traffic (A525)

00.17 Distant traffic (A525)

00.18 Distant traffic (A525)

00.22 Aircraft flyover

00.30 Distant traffic (A525)

00.32 Distant traffic (A525)

00.38 Distant traffic (A525)

00.39 Distant r traffic (A525)

00.41 Distant traffic (A525)

00.42 Distant traffic (A525)

00.43 Distant traffic (A525); aircraft flyover

00.46 Distant traffic (A525)

00.59 Distant traffic (A525); leaves rustling in wind

01.00 Distant traffic (A525); 'wobble' sound (not Maelor Foods)

01.04 Distant traffic (A525)

01.05 Distant traffic (A525)

01.06 'Wobble/flutter' sound (not Maelor Foods)

01.17 'Wobble' sound (not Maelor Foods)

01.19 Car pass-by

01.20 Wind dropped

01.23 Aircraft flyover

01.28 Car pass-by

01.29 Aircraft flyover

01.36 HGV pass-by

01.38 Distant traffic (A525)

01.39 Distant traffic (A525)

Battery Change

03:02 Traffic (A525)

03:10 Traffic (A525)

03:12 Traffic (A525)

03:14 HGV pass-by

Site: B Pickhill Old Farm / Equestrian Centre, off Pickhill Lane

15.13 pm Distant P.A. audible – Bangor-on-Dee Racecourse; Distant traffic – A525; Some leaf rustle (trees); Horses whinnying

15:24 Aircraft flyover

15:24 Horse sounds in paddock and passing by.

15:29 Gate sounds (paddock)

15:35 Horses whinnying / pass-by

15:35 Voices

15:35 Gate sounds (paddock)

15:41 P.A. audible – Bangor-on-dee Racecourse

15:44 P.A. audible – Bangor-on-dee Racecourse

15:44 Random 'bangs' at equestrian centre

15:44 Horses whinnying

15:46 Car pass-by (delivery)

15:47 Tractor on farm/equestrian centre

15:48 Car pass-by (delivery)

15:49 Tractor on farm/equestrian centre

15:49 Random bangs at equestrian centre

15:49 Seagulls
15:51 P.A. audible – Bangor-on-dee Racecourse
15:54 Aircraft flyover
15:56 Random bangs at equestrian centre
15:58 Horses whinnying
16:00 Horses whinnying
16:00 Random bangs at equestrian centre
16:00 Distant traffic (A525)
16:01 Distant aircraft
16:04 Car pass-by; occupants stopped to talk
16:14 Random bang at equestrian centre
16:15 Light aircraft (low level)
16:16 Distant shouting
16:17 P.A. audible – Bangor-on-dee Racecourse
16:18 Distant motorcycle (A525)
16:18 Crows cawing
16:28 Road traffic (A525)
16:30 Distant traffic (A525)
16:36 Distant shouting
16:36 Car pass-by
16:37 Car pass-by
16:37 Dog barking
16:40 Aircraft flyover
16:42 Crows cawing
16:42 P.A. audible – Bangor-on-dee Racecourse
16:43 Trees rustling

22:44 Distant traffic (A525)
22:47 Fence rattling
22:51 Aircraft flyover
22:53 Distant vehicle (A525)
22:55 Local traffic
22:56 Cattle mooing

23:19 Animal / bird sounds
23:21 Aircraft flyover
23:23 Distant traffic (A525)
23:23 Local traffic - car pass-by
23:23 Aircraft flyover
23:29 Aircraft flyover
23:44 Aircraft flyover
23:44 Distant traffic (A525)

23:52 Unknown 'warbling' sound (industrial) from northerly location
 23:55 Horse in barn
 23:58 Aircraft flyover
 24:00 Distant traffic (A525)
 24:00 Trees rustling
 00:02 Aircraft flyover
 00:04 Random 'banging' sound – Pickhill Farm
 00:09 Wind in trees
 00:14 Aircraft flyover
 00:14 Distant traffic (A525)
 00:18 Distant traffic (A525)
 00:22 Aircraft flyover
 02:24 Unknown 'warbling' sound (industrial) from northerly location

Site C: White Gate Cottage, Pickhill Lane

17:43 Van and car pass-by
 17:43 Birdsong
 17:45 Car pass-bys (two)
 17:45 Pick-up truck pass-by
 17:46 Crow cawing
 17:47 Aircraft flyover
 17:48 Trees rustling
 17:51 Car pass-by
 17:52 Car pass-by
 17:56 Birdsong
 18:00 Car pass-bys (two)
 18:00 Distant traffic (A525)
 18:02 Car pass-by
 18:06 Car pass-by
 18:16 Aircraft flyover
 18:17 Car boot open & close – White Gate Cottage
 18:20 Aircraft Flyover
 18:22 Smoke alarm or similar – White Gate Cottage
 18:23 Smoke alarm or similar – White Gate Cottage
 18:24 Seagulls
 18:25 Seagulls
 18:27 Aircraft flyover
 18:29 Seagulls
 18:32 Car pass-by
 18:33 Seagulls
 18:33 Distant traffic (A525)

18:35 Car pass-by
 18:38 Aircraft flyover
 18:38 Faint, distant tonal sound (not Maelor Foods)
 18:40 Aircraft Flyover
 18:40 Aircraft flyover
 18:46 Birdsong

01:17 Animal sounds
 01:24 Aircraft flyover
 01:28 Barking dog
 01:30 Distant traffic (A525)
 02:02 Aircraft flyover
 02:06 Animal sounds (chirping)
 02:06 Distant traffic (A525)
 02:06 Cattle sounds

Site D: Mayfield House, Talwrn Lane

17.35 Aircraft flyover
 17.37 Car pass-bys (B5130) (two)
 17.39 Car pass-bys (two)
 17.39 Man shouts to dog
 17.40 Car pass-by
 17.41 Car pass-by
 17.41 Dog walker – comments 'it's not the noise' (as a problem)
 17.42 Car pass-by
 17.44 Car pass-bys (two); Aircraft flyover
 17.46 Car pass bys (three)
 17.46 Car pass-bys (two)
 17.48 Car pass-bys (three)
 17.49 Car pass-bys (two)
 17.53 Car pass-bys (two)
 17.55 Car pass-by
 17.57 Car pass-by
 18.04 Car at Mayfield House; aircraft flyover
 18.06 Aircraft flyover
 18.07 Car pass-by
 18.08 Car pass-bys (two)
 18.10 Car pass-by
 18.10 Aircraft flyover
 18.15 Aircraft flyover (two); car pass-by.
 18.17 Wind dominant; vehicle pass-by

18.18 Aircraft flyover; car pass-by
 18.20 Aircraft flyover
 18.21 Car pass-by
 18.24 Aircraft flyover
 18.25 Seagulls
 18.26 Car pass-by (two)
 18.27 Car pass-bys (five); seagull
 18.29 Car pass-by
 18.32 Car pass-by
 18.33 Seagull; car pass-bys (two)
 18.36 Car pass-by
 18.37 Car pass by
 18.39 Aircraft flyover (two); car pass-by
 18.40 Car pass-by
 18.41 Car pass-bys (three)
 18.42 Car pass-by; aircraft flyover
 18.43 Resident emptying bins; aircraft flyover
 18.46 Tractor at neighbouring property
 18.47 Car pass-by
 18.49 Rain
 18.49 Audible vehicle reversing alarm (tractor)
 18.53 Audible vehicle reversing alarms

 00.59 Distant traffic (A525); leaves rustling in wind
 01.00 Distant traffic (A525); 'wobble' sound (not Maelor Foods)
 01.04 Distant traffic (A525)
 01.05 Distant traffic (A525)
 01.06 'Wobble/flutter' sound (not Maelor Foods)
 01.17 'Wobble' sound (not Maelor Foods)
 01.19 Car pass-by
 01.20 Wind dropped
 01.23 Aircraft flyover
 01.28 Car pass-by
 01.29 Aircraft flyover
 01.36 HGV pass-by
 01.38 Distant traffic (A525)
 01.39 Distant traffic (A525)
 Battery Change - SLM
 02.02 Aircraft flyover; no wind
 02.05 Aircraft flyover
 02.13 Distant traffic (A525)
 02.14 Distant traffic (A525)

02.17 Aircraft flyover; no wind
02.18 Distant traffic (A525)
02.19 Distant traffic (A525)
02.20 Distant traffic (A525)
02.26 Car pass-by
02.27 Distant traffic (A525)

Site E: Porthygan Farm, A525

19:48 Vans (four) and HGV pass-by
19:49 Aircraft flyover
19:50 Vans pass-bys (two)
19:52 Van pass-by
19:53 Vans pass-bys (two)
19:54 Van pass-by
19:55 Van pass bys (three)
19:56 Van pass-bys (four)
19:57 Van pass bys (two)
19:59 Van pass-bys (fours)
19:59 Aircraft flyover
20:03 Van pass-bys (two)
20:05 Van pass-bys (four)
20:05 Aircraft flyover
20:06 HGV pass-by
20:07 Van pass-bys (four)
20:08 Van pass-by

Friday 29 September to Saturday 30 September 2023

MAELOR SITE OPERATIONAL

Site A: Marlbrook House, Pickhill Lane

- 14.57 Distant traffic (A525); leaves rustling
- 14.57 Aircraft flyover
- 14.59 Maelor Foods inaudible
- 15.00 HGV and van arrival at Maelor Foods; car pass-by
- 15.01 Car pass-by; tractor in Pickhill Lane
- 15.03 Car pass-bys (three); aircraft flyover
- 15.05 Cattle; car turns around in Maelor entrance
- 15.06 Aircraft flyover; Car pass-by
- 15.07 HGV arrival and car departure, Maelor Foods; car pass-by
- 15.10 Birdsong
- 15.11 HGV at Maelor Foods gatehouse; car pass-by
- 15.12 Dog walker voice; cows on road
- 15.14 Farmer calls cattle
- 15.16 Wind dominant; leaves rustling
- 15.16 Van pass-by; HGV arrival at Maelor Foods (two); car pass-by
- 15.18 Van pass-by
- 15.19 Aircraft flyover; Car departs from Maelor Foods;
- 15.25 Cars depart from Maelor Foods (two)
- 15.26 Car departs from Maelor Foods; aircraft flyover
- 15.27 Van pass-by
- 15.28 HGV departs from Maelor Foods
- 15.29 Van with trailer pass-by
- 15.31 Distant traffic constant; birdsong; leaves rustling in wind; car pass-by
- 15.32 Aircraft flyover; motorcycle arrival at Maelor Foods
- 15.33 Car pass-by; HGV departs Maelor Foods
- 15.34 HGV arrival at Maelor Foods; car pass-by
- 15.35 Car pass-by; car arrival at residential property
- 15.36 Car and bicycle pass-by; car with trailer pass-by
- 15.37 Car pass-by; van departs Maelor Foods and sounds horn; car departs Maelor Foods
- 15.38 Cars arrive at Maelor Foods (two)
- 15.30 Car pass-bys (two)
- 15.40 Car pass-by; van departs Maelor Foods
- 15.47 Car pass-by; car arrival at Maelor Foods; constant, distant traffic (A525); leaves rustling in wind
- 15.49 Tonal sound audible from Maelor Foods
- 15.50 Van arrival at Maelor Foods
- 15.51 Car arrival at Maelor Foods

- 15.52 Aircraft flyover; tonal noise audible when breeze drops
- 15.53 Cyclist pass-by; car pass-bys (two)
- 15.54 Car departs Maelor Foods; car arrival at Maelor Foods (stereo audible)
- 15.55 Van and car departs Maelor Foods
- 15.57 Car stereo audible
- 15.58 Car departs Maelor Foods
- 15.59 Cars (three) and cyclist depart Maelor Foods
- 16.00 Aircraft flyover
- 16.01 HGV departs Maelor Foods

- 20.50 HGV departs Maelor Foods
- 20.53 Distant traffic (A525)
- 20.56 Distant traffic (two)
- 20.57 Distant vehicle; two cyclists pass-by; resident departs in car
- 20.59 Distant traffic (A525)
- 21.00 Car arrival at Maelor Foods (stereo audible)
- 21.01 Cyclist arrives at Maelor Foods
- 21.02 Distant traffic (A525)
- 21.03 Cyclist arrives at Maelor Foods
- 21.07 Distant traffic (A525); chiller units at Maelor Foods and distant traffic constant; very still
- 21.10 HGV on Maelor Foods yard area; cyclist arrives at Maelor Foods
- 21.12 Distant traffic (A525)
- 21.13 HGV (tanker) on yard area at Maelor Foods – stops at Gatehouse
- 21.15 Cyclist arrives at Maelor Foods
- 21.17 Forklift-type sound on front yard area
- 21.18 Distant traffic (A525)
- 21.20 Distant traffic (A525)
- 21.22 Distant traffic (A525)
- 21.23 Distant traffic (A525); aircraft flyover
- 21.24 HGV arrival at Maelor Foods (empty)
- 21.25 Distant traffic (A525)
- 21.26 Car pass-by
- 21.28 HGV departs Maelor Foods (empty containers)
- 21.31 Distant traffic (A525)
- 21.32 Car pass-by
- 21.33 Distant traffic (A525)
- 21.34 Distant traffic (A525)
- 21.36 Car arrival at Maelor Foods; aircraft flyover
- 21.38 HGV at Maelor Foods gatehouse
- 21.39 HGV departs Maelor Foods
- 21.41 Aircraft flyover
- 21.42 Car departs Maelor Foods

21.43 Distant traffic (A525)
 21.45 Distant traffic (A525)
 21.45 Distant traffic (A525); aircraft flyover
 21.46 Distant traffic (A525)
 21.48 Aircraft flyover
 21.50 Electric scooter arrival at Maelor Foods
 21.51 Distant traffic (two) (A525)
 21.52 Aircraft flyover
 21.54 Car arrival and car departure at Maelor Foods
 21.55 Distant traffic (A525)
 21.56 Car arrival at Maelor Foods
 21.59 Car arrival at Maelor Foods; distant traffic (A525)
 22.00 Car departs Maelor Foods
 22.02 Car departs Maelor Foods
 22.03 Car departs Maelor Foods
 22.04 Car arrival at Maelor Foods
 22.06 Aircraft flyover; car arrival at neighbouring house
 22.08 Voices at neighbours house
 22.08 Distant traffic (A525); dog barking; raised voices

 00.42 Chillers audible at Maelor Foods
 00.43 Aircraft flyover
 00.45 Distant traffic; aircraft flyover
 00.46 Distant traffic (A525)
 00.48 Distant traffic (A525)
 00.55 HGV movement on Maelor Foods yard
 00.58 HGV departs Maelor Foods
 00.59 Distant traffic (A525)
 01.03 Distant traffic (A525)
 01.03 Car idling on Maelor Foods car park
 01.09 Car departs Maelor Foods
 01.10 Distant traffic (A525)
 01.18 Distant traffic (A525)
 01.20 Distant traffic (A525)
 01.23 Aircraft flyover
 01.25 Aircraft flyover
 01.30 Distant traffic (A525)
 01.32 Car exits Maelor Foods
 01.33 Distant traffic (A525)
 01.30 Car departs Maelor Foods
 01.33 Distant traffic (A525)
 01.38 Distant road traffic (A525)

- 01:39 Voices on Maelor Foods car park; distant traffic (A525)
- 01:40 Car idling on Maelor Foods car park
- 01:42 Car exits Maelor Foods
- 01:44 Car exits Maelor Foods

Site B: Pickhill Old Farm / Equestrian Centre, off Pickhill Lane

- 16:40 HGV chiller sound along with birdsong, crows cackling, horses whinnying
- 16:43 Car pass-by
- 16:43 Constant HGV chiller sound audible from Maelor Foods
- 16:44 Audible vehicle reversing alarm audible – Forklift Truck at Maelor Foods
- 16:44 Aircraft flyover
- 16:45 'Metallic handling' sound at Maelor Foods
- 16:46 Aircraft flyover
- 16:46 Crows cackling / intermittent birdsong
- 16:46 Aircraft flyover
- 16:47 Crows cackling
- 16:47 Constant broad-band sound from Maelor Foods
- 16:49 Mucking out at livery yard
- 16:51 Horses whinnying
- 16:53 Tonal sound just audible from Maelor Foods
- 16:54 Horses whinnying
- 16:54 Car pass-by
- 16:56 Horses whinnying
- 16:50 HGV air brake sound at Maelor Foods
- 17:00 Car pass-by
- 17:01 Crows cackling
- 17:03 Distant alarm (not Maelor Foods)
- 17:06 Aircraft flyover
- 17:06 Distant motorcycle (A525)
- 17:06 Car horn
- 17:07 Birdsong / crows cackling
- 17:07 HGV Trailer sound at Maelor Foods
- 17:08 Noisy motorcycle (A525)
- 17:09 Local traffic (Land Rover and trailer)
- 17:11 Car pass-bys (two_
- 17:12 Squeak – assumed to be HGV braking at Maelor Foods
- 17:12 Light aircraft at low level.
- 17:14 Pick-up and trailer at Equestrian Centre
- 17:14 Aircraft flyover
- 17:14 Birdsong
- 17:15 Manual handling at livery yard
- 17:19 Birdsong

17:21 Aircraft flyover
 17:22 Birdsong and local traffic (car)
 17:23 Car pass-by
 17:24 Car pass-by
 17:24 Tonal sound audible from Maelor Foods (Effluent Treatment Plant)
 17:24 Pick-up and empty trailer pass-by from Equine Centre (rattling)
 17:26 Aircraft flyover
 17:27 Aircraft flyover
 17:27 Birdsong
 17:28 Crows cawing; tonal sound audible from Maelor Foods; noisy motorcycle on A525
 17:31 Aircraft flyover, birdsong, tonal sound from Maelor Foods just audible
 17:40 Car pass-by
 17:45 Aircraft flyover, crow cawing
 17:46 Birdsong
 17:52 Aircraft flyover

 20:55 Tonal sound audible from northerly direction – not Maelor Foods
 20:58 HGV chiller sounds from Maelor Foods audible along with road traffic on A525
 20:58 Horse and paddock gate sounds
 21:02 HGV chiller plant stopped at Maelor Foods
 21:09 Random 'bangs' from Maelor Foods
 21:10 HGV movement at Maelor Foods
 21:19 Aircraft flyover
 20:20 HGV chiller plant at Maelor Foods no longer audible
 21:22 HGV movement and chiller sounds from Maelor Foods
 21:24 Aircraft flyover
 21:25 HGV chiller sound audible
 21:27 HGV chiller plant sound from Maelor Foods
 21:30 Handling sounds from Maelor Foods
 21:33 HGV chiller sound stopped at Maelor Foods
 21:37 HGV chiller sound commenced at Maelor Foods
 21:38 Tone audible from Maelor Foods
 21:41 Barking dog
 21:43 HGV chiller plant constant
 21:43 Forklift truck movements at Maelor Foods
 21:44 Tonal sound from Maelor Foods (ETP)
 21:44 Aircraft flyover
 21:42 HGV chiller sounds at Maelor Foods causing 'beats effects'
 21:42 Distant motorcycle (A525)
 21:42 Voices
 21:42 Aircraft flyover
 21:48 Owls and aircraft flyover – both prominent

21:49 Owls
 21:50 Owls
 21:51 Barking dog and aircraft flyover
 21:52 Barking dog and aircraft flyover
 21:52 Audible vehicle reversing alarm at Maelor Foods
 21:53 Audible vehicle reversing alarm at Maelor Foods
 21:54 Owl
 21:57 HGV chiller sound at Maelor Foods

00:48 Aircraft flyover
 00:48 HGV chiller sound from Maelor Foods
 00:49 'Metallic crash' sound from Maelor Foods
 00:54 HGV chiller sound from Maelor Foods
 00:54 Distant traffic (A525)
 01:07 Tonal sound from Maelor Foods (possibly HGV chiller)
 01:09 Road traffic on A525
 01:24 Tonal sound from Maelor Foods (possibly HGV chiller)
 01:29 Audible vehicle reversing alarm at Maelor Foods
 01:29 HGV chiller sound from Maelor Foods (causing 'beats' effect)
 01:30 Distant traffic (A525); 01:30 Tonal sound from Maelor Foods (possibly HGV chiller)
 01:34 'Metallic sound' from Maelor Foods
 01:37 HGV chiller sound from Maelor Foods (causing 'beats' effect), then stopped
 01:41 Horse sounds
 01:43 Road traffic on A525 (noisy)
 01:50 Road traffic on A525 (noisy)

Site C: White Gate Cottage

18:11 A525 traffic noise dominant, broad-band sound from Maelor Foods
 18:12 Car pass-by
 18:14 Aircraft flyover
 18:15 Noisy car (distant - A525)
 18:15 Noisy motorcycle (A525)
 18:15 Car pass-by
 18:21 Aircraft flyover
 18:29 Car pass-by
 18:30 Car pass-by
 18:35 Aircraft flyover
 18:39 Broad-band sound from Maelor Foods, distant traffic (A525), aircraft flyover
 18:40 Car pass-by, then idling
 18:40 Car idling
 18:44 Car pass-by, distant motorcycle (A525)

18:46 HGV chiller sound from Maelor Foods (modulating)

18:46 Impact sound from Maelor Foods

18:46 Church bells audible

18:48 Birdsong, distant traffic (A525)

18:49 Impact sounds from Maelor Foods

18:51 Aircraft flyover

18:51 Impact sound ('boom') from Maelor Foods

18:51 Horse sounds

18:53 Impact sound / 'whoosh' from Maelor Foods

18:55 Aircraft flyover, distant traffic (A525)

18:56 Church bells audible

18:56 Car pass-by

18:57 Impact sound from Maelor Foods

18:58 Car pass-bys (two)

18:59 Impact sound from Maelor Foods

19:00 Car pass-bys (two)

19:00 Impact sound from Maelor Foods

19:02 Van pass-by

19:03 Horse sounds

19:03 Car pass-by

19:04 Car pass-by

19:04 Aircraft flyover

19:04 Alarm sound

19:06 Car pass-by

19:07 Aircraft flyover

19:07 Car and van pass-by

19:11 Car pass-bys (two); A525 traffic noise constant

19:12 Church bells audible and continuous to 19:25

19:13 Car pass-bys (two)

19:14 Rattling sound from Maelor Foods

19:16 Tone audible from Maelor Foods

19:18 Aircraft flyover

19:20 Tone audible from Maelor Foods

19:22 Car pass-by

19:22 Birds

19:23 Car pass-by

19:24 Aircraft flyover

19:25 Emergency services siren in distance (A525)

23:10 Low-level broad-band sound and tonal from Maelor Foods

23:14 Aircraft flyover and distant traffic (A525)

23:17 HGV chiller sound from Maelor Foods

23:17 Audible vehicle reversing alarm at Maelor Foods
 23:22 Aircraft flyover
 23:25 Dull 'metallic bang' from Maelor Foods
 23:27 Barking dog (distant)
 23:28 Dull 'metallic bang' from Maelor Foods
 23:29 'Buzzing' sound from Maelor Foods
 23:29 Distant voices
 23:30 HG chiller sound from Maelor Foods
 23:30 Distant traffic (A525)
 23:33 Tonal sound from Maelor Foods
 23:36 HGV brake sound at Maelor Foods
 23:36 HGV chiller plant sound noticeable from Maelor Foods
 23:38 Audible vehicle reversing alarm and tonal sound audible from Maelor Foods
 23:39 Dull 'metallic bang' at Maelor Foods
 23:36 Car pass-by
 23:43 HGV chiller plant audible from Maelor Foods
 23:43 Dull 'metallic bang' at Maelor Foods
 23:46 Car pass-by and horn sounded
 23:48 Aircraft flyover
 23:51 Car pass-by
 23:52 Audible vehicle reversing alarm at Maelor Foods
 23:52 Forklift truck sounds (fork 'chatter') at Maelor Foods
 23:56 'Metallic sound' from Maelor Foods (possibly forklift truck)
 23:56 Distant traffic (A525)
 23:59 Dull 'metallic thud' at Maelor Foods
 23:59 Forklift truck chatter at Maelor Foods
 00:01 Aircraft flyover
 00:02 Tonal sound from Maelor Foods
 00:04 Aircraft flyover
 00:05 Aircraft flyover
 00:07 Prominent tonal sound from Maelor Foods
 00:08 Aircraft flyover

Site D: Mayfield House, Talwrn Lane

16.36 HGV tractor unit audible
 16.37 Aircraft flyover; car pass-bys (two)
 16.38 Car pass-bys (two); children screaming at adjacent farm
 16.40 HGV audible at Maelor Foods; children playing
 16.41 Van pass-bys (two); car pass-by; children playing
 16.43 Dog barking at neighbouring farm; car pass-by; children playing
 16.44 Aircraft flyover; children playing

- 16.45 Car pass-bys (five)
- 16.46 Car pass-bys (two); dog barking; aircraft flyover
- 16.48 Van on track; dog barking
- 16.49 Car pass-bys (two); van pass-bys (two); dog barking; person shouting at neighbouring farm
- 16.51 Aircraft flyover
- 16.52 Car pass-by; children
- 16.53 Car pass-by; van pass-by; children screaming
- 16.54 Car pass-bys (three); dog barking
- 16.55 Car pass-bys (four); dog barking
- 16.57 Car pass-by; can pass-by; children screaming
- 16.58 Car pass-bys; children screaming
- 16.59 HGV pass-bys (two)
- 17.00 Car and trailer pass-by; HGV pass-by; children screaming
- 17.01 Children screaming
- 17.02 Car pass-bys (five); dog barking
- 17.03 Van pass-by; dog barking; children
- 17.03 Motorcycle and car pass-by; cattle
- 17.04 Car pass-by
- 17.05 Car and van pass-by; children's and adult voices at neighbouring farm
- 17.06 Car pass-bys (three)
- 17.08 Van and car pass-bys; children; cattle; distant traffic (inc. motorcycle) (A525); birdsong
- 17.09 Motorcycle in distance; car pass-bys (three); children's voices
- 17.10 Car pass-bys (three) aircraft flyover
- 17.11 HGV pass-by; car pass-bys (three); aircraft flyover
- 17.12 Van and car pass-by; aircraft flyover
- 17.13 Car pass-by
- 17.14 Car pass-bys
- 17.15 Car pass-bys (two); car enters lane and stops adjacent, reverses and enters Mayfield House
- 17.17 Car pass-bys (three)
- 17.18 Dog barking; car enters Mayfield House
- 17.19 Car pass-by; dog barking
- 17.20 Car pass-by; aircraft flyover
- 17.21 Car pass-bys (three)
- 17.23 Car pass-bys (three)
- 17.24 Car pass-by; car in lane, stops at Springfield
- 17.25 Car pass-bys (2); HGV pass-bys; car pass-by in Talwrn Lane; HGV pass-by; aircraft
- 17.26 Car pass-by
- 17.27 Car pass-by
- 17.28 Motorcycle in distance
- 17.29 Car pass-by
- 17.30 Voices at Springfield; aircraft flyover; car pass-by
- 17.31 Car pass-bys; car departs Springfield and along Talwrn Lane

17.32 Car and van pass-by
 17.33 Aircraft flyover; voices at farm opposite car pass-by
 17.34 Car pass-bys (two) aircraft flyover; car enters Talwrn Lane
 17.35 Car pass-by
 17.37 Car pass-bys (two); dog barking; aircraft flyover

23.06 Car pass-by
 23.09 Impact sound; aircraft flyover
 23.11 Impact sound
 23.14 Aircraft flyover
 23.15 Car pass-by
 23.18 Impact sound
 23.26 Cattle
 23.27 Dog barking in distance
 23.30 Distant traffic (A525)
 23.31 Possible vehicle noise at Maelor Foods
 23.33 HGV brake noise possibly from Maelor Foods
 23.34 Engine sounds possibly from Maelor Foods
 23.35 Brakes sounds (air brakes)
 23.37 Impact sounds
 23.39 Car pass-by
 23.41 Impact sounds
 23.42 Impact sounds
 23.43 Car pass-by
 23.45 Impact sound; car horn
 23.46 Impact sounds
 23.47 Impact sound
 23.48 Barking dog
 23.49 Aircraft flyover
 23.50 Car pass-by; impact sound
 23.53 Impact sound
 23.56 Impact sound
 23.57 Car arrival at residential premises
 23.58 Distant traffic (A525)
 00.04 Impact sound; aircraft flyover
 00.05 Distant traffic (A525); impact sound

Monday 2 October 2023

MAELOR SITE OPERATIONAL

Site A: Marlbrook House, Pickhill Lane

06:23 Road traffic very noticeable (A525)
 06:23 Chiller plant audible – Maelor Foods
 06:23 Aircraft flyover
 06:23 Vehicle at Maelor Foods gatehouse
 06:23 Bicycle arrival – Maelor Foods
 06:23 Pick-up pass-by
 06:24 car pass-by, Pickhill Road
 06:26 Aircraft flyover – very noticeable
 06:27 Car arrival – Maelor Foods (speed-hump sound)
 06:28 HGV arrival (air brakes sound) – Maelor Foods
 06:28 – Aircraft flyover
 06:29 Car departure – Maelor Foods
 06:29 Birdsong
 06:29 Road traffic prominent (A525)
 06:31 Chiller plant barely audible – Maelor Foods
 06:32 Car arrival – Maelor Foods
 06:32 Birdsong
 06:33 Aircraft flyover
 06:33 Car pass-by
 06:34 Aircraft flyovers (2 of)
 06:36 Birdsong
 06:36 Distant traffic (A525)
 06:37 Car pass-by
 06:30 Birdsong and road traffic
 06:38 HGV engine
 06:40 Van pass-by
 06:41 Car pass-by (at speed)
 06:41 Birdsong
 06:41 Van arrival at Maelor Foods
 06:42 Car arrival at Maelor Foods
 06:42 Aircraft flyover
 06:43 Car arrival at Maelor Foods
 06:44 Van arrival at Maelor Foods
 06:45 Aircraft flyover and birdsong
 06:47 Birdsong and road traffic (A525 – loud)
 06:48 Car arrivals (2 of) at Maelor Foods

06:49 Car arrival at Maelor Foods
 06:50 Voices at Maelor Foods gatehouse (brief exchange)
 06:51 Car arrivals (2 of) at Maelor Foods
 06:51 Aircraft flyover
 06:52 Van arrival at Maelor Foods
 06:53 HGV chiller audible at Maelor Foods
 06:53 Van arrival
 06:53 Car arrival at Maelor Foods
 06:53 Weighbridge sound at Maelor Foods
 06:54 Car arrival at Maelor Foods
 06:54 Car pass-by

Pickhill Old Farm / Equestrian Centre, off Pickhill Lane

04:45 On site.
 04:59 Audible vehicle reversing alarm
 05:00 Distant traffic (A525); low-level broad-band sound from Maelor site (barely audible); Low frequency sound ('hum') started.
 05:07 Vehicle movements – Maelor Foods
 05:11 HGV chiller plant – Maelor Foods
 05:13 Audible vehicle reversing alarm – Maelor Foods
 05:16 HGV chiller plant – Maelor Foods
 05:18 Forklift truck operating – Maelor Foods
 05:19 Rattling sounds – possibly associated with HGV, Maelor Foods
 05:20 Audible vehicle reversing alarm – Maelor Foods
 05:21 Road traffic very noticeable (A525)
 05:22 HGV chiller plant stopped – Maelor Foods
 05:25 'Crashing' sound – Maelor Foods
 05:26 HGV movement – Maelor Foods
 05:28 Audible vehicle reversing alarm – Maelor Foods
 05:28 'Metallic' sounds – Maelor Foods
 05:29 Road traffic very noticeable (A525)
 05:32 Road traffic dominant (A525)
 05:37 HGV movement – Maelor Foods
 05:37 HGV chiller plant started – Maelor Foods
 05:38 Local road traffic
 05:38 'Metallic clangs and bangs' – Maelor Foods
 05:40 Metallic impulse sound – Maelor Foods
 05:41 Local road traffic
 05:47 Local road traffic
 05:47 Aircraft flyover
 05:43 Loud 'bang' – Maelor Foods
 05:44 HGV chiller started – 'throbbing' / beats effect

05:44 HGV air brakes – Maelor Foods
05:45 HGV air brakes / trailer shackling sounds – Maelor Foods
05:45 Metallic gate sound – Pickhill Farm
05:46 Local vehicle pass-by
05:46 Aircraft flyover
05:47 aircraft flyover
05:47 HGV chiller Maelor Foods (pulsing/ beat effect)
05:48 Tonal sound – Maelor Foods
05:52 Audible vehicle reversing alarm – Maelor Foods; 05:52 Aircraft flyover
05:57 HGV chiller / tonal sound – Maelor Foods
05:57 Aircraft flyover
05:59 HGV chiller plant stopped – Maelor Foods
05:59 Tonal sound audible
05:59 Local road traffic
06:00 Aircraft flyover
06:02 Audible vehicle reversing alarm – Maelor Foods
06:02 'Metallic' impulse sounds – Maelor Foods
06:02 Low level tone audible – Maelor Foods

Site D: Mayfield House

06.10 Aircraft flyover very noticeable; Maelor Foods just audible; Road traffic (A525) very noticeable; metallic 'bang' from Maelor Foods; low frequency sound – not Maelor Foods

Appendix 3

Measurement Instrumentation and Certified Calibrations

Bruel & Kjaer Type(s):

2250 G4 Analyser / Sound Level Meter s/n 3027786

4189 Pre-polarised Free-field ½" Microphone Type 4189 s/n 1869166

4321 Acoustics Calibrator s/n 228802

DANAK Accredited Certificate of Calibration No. CDK2203638 5th May 2022

2250 Analyser / Sound Level Meter s/n 2754230

4189 Pre-polarised Free-field ½" Microphone Type 4189 s/n 2748425

4321 Acoustics Calibrator s/n 2218236

DANAK Accredited Certificate of Calibration No. CDK2203619 5th May 2022

Meteos Type:

Skywatch Thermo-Anemometer

Appendix 4

Author Credentials, Experience and Capability Statement– J E Grant

ACADEMIC

Master of Science Degree	Environmental Pollution Control (<i>Pass with distinction</i>). 1997.
Master of Science Degree	Acoustics, Vibration & Noise Control. 1991.
Diploma	Institute of Acoustics - Acoustics & Noise Control. 1985.
Certificate (Polytechnic)	Environmental Noise. (Pass with distinction). 1984
Diploma	Royal Society of Health - Air Pollution Control. 1983.
Certificate (University)	Air Pollution Control. 1983.

PROFESSIONAL MEMBERSHIPS & AFFILIATIONS

Institute of Acoustics	Grade: Corporate - Member
The Royal Society for Public Health	Grade: Corporate - Fellow
The Institution of Environmental Science	Grade: Corporate - Member
Chartered Scientist	
Chartered Environmentalist	

EMPLOYMENT

Current Positions	Employer	Date(s)
Acoustics & Environmental Consultant	Independent (Self)/ Ltd. Company	1991 <i>to date</i>
Environmental Protection Manager	Walsall Metropolitan Borough Council	June 2021 - <i>to date</i>
Previous Positions	Employer	Date(s)

Team Leader – Pollution Control	Walsall Metropolitan Borough	July 2014 to May 2021
Scientific Manager	Council	March 2006 - July 2014
Associate Lecturer – Institute of Acoustics Diploma Acoustics & Noise Control	University of Derby	September 2002 – September 2014
Visiting Lecturer - BSc(Hons) Environmental Health	University of Wolverhampton	October 2010 – September 2014
Visiting Lecturer - BSc(Hons) Environmental Health	Coventry University	October 2011 – September 2014
Pollution Control Manager (<i>Acting</i>)	Walsall Metropolitan Borough Council	April 2003 – May 2005
Principal Pollution Control Officer	Walsall Metropolitan Borough Council	April 1995 – March 2003 & May 2005 – February 2006
Sessional Lecturer – BTEC Environmental Health	Matthew Boulton College Birmingham	October 1992 – June 2000
Pollution Control Officer	Walsall Metropolitan Borough Council	May 1998 – April 1995
Technical Officer (Pollution Control)	Walsall Metropolitan Borough Council	August 1987 – May 1988
Technical Assistant (Pollution Control)	South Staffordshire District Council	October 1982 – August 1987

Employment Supplementary

Guest Lecturer – MSc Environmental Pollution Control	University of Derby	1996
Guest Lecturer – Environmental Noise and Air Pollution Measurement & Control	NEBOSH Certificate in Environmental Management	1994
Industrial Placement Supervisor for Graduate and Post Graduate students	Walsall Metropolitan Borough Council	<i>Ad hoc</i>
Independent Expert Witness		1991 <i>to date</i>

Certified in 1990 as a Competent Person for the purposes of the Noise at Work Regulations

POSITIONS HELD WITHIN TECHNICAL BODIES & ORGANISATIONS

Current Positions	Organisation / Body	Date(s)
Committee Member – EH/1/3 Residential & Industrial Noise EH/1/3/2 BS 4142 Method for rating industrial noise affecting mixed residential and industrial areas revision	British Standards Institution (BSI), UK	2012 <i>to date</i>

British Standards Institution (BSI) UK Representative - Working Group ISO/TC 43 SC1 WG 51 Noise from shooting ranges	International Standards Organisation (ISO)	2014 <i>to date</i>
Board Member	West Midlands Low Emissions Towns & Cities Programme	2011 <i>to date</i>
West Midlands Low Emissions Towns & Cities Programme Representative	West Midlands Integrated Transport Authority Connected Communities Group	2015 <i>to date</i>
Chairman – Noise Committee	Midlands Joint Advisory Council for Environmental Protection	1996 <i>to date</i>
Committee Member – Education Committee	Institute of Acoustics	2008 <i>to date</i>
Chairman	West Midlands Local Air Quality Management Technical Group	2012 <i>to date</i>
West Midlands Representative - National Noise Committee (superseding in 2010 positions on the National Ambient Noise Committee and National Neighbourhood Noise and Nuisance Committee)	Environmental Protection UK	2005 <i>to date</i>

Previous Positions	Organisation / Body	Date(s)
Technical Co-ordinator - Noise	Midlands Joint Advisory Council for Environmental Protection	1996 - 2022
Technical Secretary - Clay Target Shooting Noise Working Group	Midlands Joint Advisory Council for Environmental Protection	1988 - 2003
Technical Group Member - Clay Target Shooting Guidance on the Control of Noise	The Chartered Institute of Environmental Health	1997 - 2003
Secretary – Vibration Working Group	Midlands Joint Advisory Council for Environmental Protection	1991 on
Committee Member	Institute of Acoustics - Midlands Branch Committee	1999 – 2008
Representative – Walsall Metropolitan Borough Council / Midlands Joint Advisory Council for Environmental Protection	UK Noise Forum	
Representative - Walsall Metropolitan Borough Council	Department of Environment, Food and Regional Affairs / Environment Agency	1994 – 2002
	Process Guidance Note Review Panels (Environmental Protection Act 1990 Part 1, Pollution, Prevention and Control Act 1999)	
	- Furnaces for the Extraction of non-ferrous Metal from Scrap (PG 2/1) - Hot Dip Galvanising (PG 2/2) - Electrical and Rotary Furnaces (PG 2/3)	

- Ferrous and non-ferrous foundry processes (PG 2/4)
- Hot and Cold Blast Cupolas (PG 2/5)
- Processes for Melting and Producing Magnesium and Magnesium Alloys (PG 2/6a)
- Processes for Melting and Producing Aluminium and Aluminium Alloys (PG 2/6b)
- Zinc and Zinc Alloy Processes (PG 2/7)
- Copper and Copper Alloy Processes (PG 2/8)
- Integrated Pollution Prevention and Control - Guidance for the A2 Ferrous & Non-Ferrous Foundries Sector

Specialist Work Themes - *Illustrative*

- ▶ Presentation of evidence to Courts of Law, Planning and Public Inquiries, Ombudsman Investigations and formal appeal hearings
- ▶ Statutory Nuisances – litigation, enforcement, appeals
- ▶ Nuisances – Private (Common Law)
- ▶ Planning and Noise - Town & Country Planning Development, environmental impact assessment, design and mitigation
- ▶ Industrial noise control
- ▶ Ferrous and non-ferrous founding – noise, vibration and air pollution control
- ▶ Environmental Protection Act 1990 / Pollution Prevention and Control Act 1999 - Process Authorisations and Permits, Local Authority Air Pollution Control (assessment, monitoring, regulation and enforcement)
- ▶ Drop-forging and Press Works (noise/vibration)
- ▶ Impulsive noise
- ▶ Low frequency noise measurement, assessment and rating
- ▶ Shooting / Ballistics Noise
- ▶ Ground and structure-borne vibration (measurement, assessment and rating)

- Open-cast mining - environmental assessment and control of air pollution, noise and vibration
- Concert and Entertainment Noise
- Road Transportation environmental impact assessments for noise, vibration and air pollution
- Motor sports noise
- Air quality reviews and assessments
- Industrial air pollution control
- Environmental impacts of grit and dust
- Academic tutoring