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ae/l&mml/da/ogee/ea/ll/02

24 March 2023

Ms L Loane
Environmental Consultant
Land & Mineral Management
Roundhouse Cottages
Bridge Street
Frome
Somerset BA11 1BE

Dear Ms Loane

**Re: Day Group Limited**
**Environmental Permit Application**
**IBA Facility on land at Ogee Business Park, Wellingborough**
**Response to Environment Agency Request for Further Information - Noise**

Further to your e-mails of 13 and 15 March 2023, please find below our response to the additional information that you have received from Environment Agency (EA) in respect of noise.

It is our understanding that Day Group Limited are applying for an Environmental Permit from the EA relating to a proposed facility which comprises an IBA (Incinerator Bottom Ash) plant and an HBM (Hydraulically Bound Materials) plant on land at Ogee Business Park near Great Harrowden, outside Wellingborough, Northamptonshire. The HMB process is not considered in the permit application although was included in the planning application process.

To support the planning application for the proposed development, Advance Environmental Consulting Limited in consultation with North Northamptonshire Council, prepared a noise assessment in accordance with the methods outlined in BS4142:2014 +A1:2019. The assessment demonstrated that the Rating Levels at the nearest residence to the site due to normal operations were 3 dB(A) below the representative background sound levels during the day and no more than the representative background sound levels during the night. The report was accepted and subsequently planning permission granted.

It is understood that the assessment was also submitted to the EA in support of an Environmental Permit application for the approved development however, following the EA's consideration of the information provided, they responded in March 2023 with the following comments:-

> '*Your noise impact assessment and associated documents do not contain sufficient detail for us to audit your assessment.*
>
> *Please see our guidance on noise impact assessment on the link below:*
>
> *Noise impact assessments involving calculations or modelling - GOV.UK (www.gov.uk)*
> *Please provide the following information to support your noise impact assessment.*

*• Either modelling files or spreadsheet calculations and clearly state any assumptions used in the computer model or spreadsheet.*

*• Background sound monitoring locations and raw survey data in an Excel spreadsheet format.*

*• Raw background sound level measurements in an Excel spreadsheet format.*

*• A clear and full description of site layout to inform the Noise Impact Assessment.*

*• A detailed discussion of the soundscape (the existing sound climate) is required to evidence your decisions on the use of context.*

*• National Grid references for all location data: noise emitting buildings, all site buildings, off-site buildings, site acoustic barriers, fixed and mobile plant, site traffic and noise receptors.'*

It should be noted that the BS 4142:2014+A1:2019 assessment was prepared to support the original planning application. We are fully conversant with the EA's guidance for information which is in excess of that stipulated in BS4142:2014 + A1:2019 for such applications. That said, much of the information requested by the EA in their response can be readily found in the assessment.

The EA information requests will be addressed in turn in this document and are highlighted in blue italics for reference:-

1. '*Either modelling files or spreadsheet calculations and clearly state any assumptions used in the computer model or spreadsheet'*

The noise calculation sheets for the nearest receptor location to the development are provided in Appendix F of the assessment although separate calculation sheets are now also enclosed in MS Excel format as requested. These calculation sheets provide all the input data for the nearest receptor considered in the BS4142 assessment as well as an additional sheet for the next nearest receptor referred to in the assessment. The formulae and methods (from BS5228) are detailed on a separate tab of the Excel document. This provides all the information to recreate any calculations presented in the assessment.

The assumptions used for the calculations are stated in section 4 of the assessment, although are also reproduced below for information:-

***'4. CALCULATED SITE NOISE LEVELS (OPERATIONAL)***

*4.1 For this assessment, one receiver location that is representative of the nearest residential property to the site where baseline noise data is available (Farm Cottage) has been used for site noise calculations. This property is also representative of the nearby Great Harrowden Lodge. An additional calculation for the next nearest property (Romadale by Wellingborough Golf Course) has been undertaken for checking purposes.*

*4.2 Other than these three dwellings, the next nearest residential property is approximately a kilometre away to the east of the site over the mainline railway line.*

*4.3 The noise calculation locations (and the other properties mentioned above) are shown on the plan in Appendix B.*

*4.4 The following assumptions have been made for the calculation of site noise levels for the operation of the proposed IBA/HBM facility at Ogee Business Park outside Wellingborough.*

*4.5 The fixed plant items will all operate for 100% of an hour, to represent a reasonable worst case scenario.*

*4.6 It has been assumed that there will be a maximum of forty-four 2-way HGV movements per hour (daytime) and the equivalent during the night over the 15 minute assessment period.*

*4.7 The plant items will achieve the dB $L_{WA}$ values stated. The plant items used in the calculations (see Appendix E) are listed in the following table along with the Sound Power Levels dB $L_{WA}$ used in the calculations.*

| ***Plant Item*** | ***dB $L_{WA}$*** |
|---|---|
| ***IBA Facility*** | |
| *IBA Phase 1* | *110* |
| *IBA Phase 2* | *103* |
| *Crusher* | *104* |
| *Loading Shovel* | *106* |
| *Telescopic Handler* | *104* |
| ***HBM Facility*** | |
| *Loading Shovel* | *105* |
| *Mixers* | *91* |
| *Conveyor/Transfer Point* | *89* |
| *Generator* | *91* |
| ***Vehicles*** | |
| *HGVs within site* | *104* |

*4.8 The calculations in this report are based on the methods contained in BS5228 1: 2009 'Code of practice for noise and vibration control on construction and open sites – Part 1: Noise' as amended BS5228-1:2009+A1:2014.*

*4.9 The nearest operations on site will be at least 460 metres from the nearest dwelling (Farm Cottage) on The Slips to the east of Great Harrowden.*

*4.10 Attenuation due to the proposed storage building at a height of 15 metres above local ground height has been included in the calculations, where appropriate.*

*4.11 The calculated site noise levels in terms of dB $L_{Aeq,1\ hour,\ free\ field}$ are presented in the following table:-*

| *Site Noise Calculation Location* | *Calculated Noise Level* $dB\ L_{Aeq,\ T\ free\ field}$ |
|---|---|
| *Farm Cottage, The Slips* | *38* |
| *Romadale, The Slips* | *37* |

- *T=1 hour for daytime (07:00 hours - 23:00 hours) and 15 minutes for night-time (23:00 hours 07:00 hours)*

*4.12 For the purposes of the assessment to accompany this application, the overall calculated noise level for all the site operations occurring simultaneously is used.*

*4.13 To represent a worst case scenario at night, the IBA and HBM processing operations have been included in the calculated site noise level for the period :00 hours to 7:00 hours, although this will only take place between 06:00 hours and 07:00 hours over the night-time period.'*

2. '*Background sound monitoring locations and raw survey data in an Excel spreadsheet format.'*

This information was presented in full in the assessment. A site plan is provided at Appendix B, noise survey details at Appendix C and measurement data, albeit in tabulated form at Appendix D. Notwithstanding, a further site plan and measurement data in MS Excel format is now provided.

3. *' Raw background sound level measurements in an Excel spreadsheet format.'*

This request appears to be identical to the previous one.

4. '*A clear and full description of site layout to inform the Noise Impact Assessment.'*

It is our understanding that unprocessed IBA will be delivered by HGV and tipped into a covered storage building in the northwest corner of the site. The IBA storage building is the largest single structure in height and footprint with a ridge height of approximately 16m and eaves height of 13m.

The matured IBA is stored in windrows up to 8m high and for up to three weeks for maturation, before being transferred to the processing plant.

The IBA is fed by covered conveyors into a series of sorting and separation stations, separating the ferrous and non-ferrous metals for external recycling and separating the IBA into three sizes.

The working area of the site would be set back from the railway by approximately 20m, with a new 5m high clad fence providing screening from the railway.

The development would be enclosed on other boundaries by new retaining walls and palisade fences up to 2.4m high of material for stockpiling in storage bays in the centre of the site.

5. *'A detailed discussion of the soundscape (the existing sound climate) is required to evidence your decisions on the use of context.'*

This information is provided in Section 6 of the assessment and again in Section 7 part (d). Again for assistance, Section 6 is reproduced below:-

***'6. CALCULATED SITE NOISE LEVELS IN THE CONTEXT OF THE EXISTING NOISE ENVIRONMENT***

*6.1 A comparison of the calculated noise levels at the selected assessment location closest to the site (Farm Cottage) with the representative background and residual sound levels (based on the data obtained from the sound level meter installed at the property from 12 to 19 October 2021) is shown in the following table.*

| ***Receiver Location*** | ***Calculated Site Noise Level dB $L_{Aeq,T}$*** | ***Representative Background Sound Level dB $L_{A90,\ 15\ minutes}$*** | ***Representative Residual Sound Level dB $L_{Aeq,\ 15\ minutes}$*** |
|---|---|---|---|
| ***(07:00 hours - 23:00 hours)*** | | | |
| *Farm Cottage* | *38* | *40* | *43* |
| ***Night-time (23:00 hours - 07:00 hours)*** | | | |
| *Farm Cottage* | *38* | *37* | *39* |

*T=1 hour for daytime (07:00-23:00) and 15 minutes for night-time (23:00 hours -07:00 hours)*

*6.2 The next nearest property to the site, Romadale to the north-west is over 200 metres further from the site than Farm Cottages and is also likely to be subject to higher residual and background noise levels due to being closer to the A509 main road. As such, Farm Cottages represents the worst case and for that reason,this assessment focuses on that location.*

*6.3 At the nearest dwelling to the site, Farm Cottage, the overall calculated site noise levels is below the representative daytime background sound levels by 2dB(A) and 1dB(A) above the representative night-time background sound levels.*

*6.4 The overall calculated site noise levels are below the representative daytime residual sound levels by 5dB(A) and below the night-time representative residual sound levels by 1dB(A).*

*6.5 The noise climate at the dwelling will continue to be controlled by distant and local road traffic on the public highway, occasional rail traffic and ongoing activity associated with the industrial estate.*

*6.6 An assessment has been undertaken in accordance with BS 4142:2014+A1:2019 'Methods for Rating and assessing industrial and commercial sound' for the nearest residential property to the site as examined above.'*

6. *'National Grid references for all location data: noise emitting buildings, all site buildings, off-site buildings, site acoustic barriers, fixed and mobile plant, site traffic and noise receptors.'*

It is presumed that the term *'National Grid References'* is referring to Ordnance Survey (OS) grid references. The buildings (both on site and off site), site barriers and fixed plant locations are displayed on site plans provided by the applicant which are on the OS grid showing the precise locations of all the items.

It should be noted that by definition, mobile plant and site traffic will not have a specific grid reference, but routes or working areas are more appropriately displayed pictorially on the OS Grid. The OS grid refence for the nearest receptors to the site are as follows:-

- Farm Cottage X (Easting):489302 Y (Northing):270878; and
- Romadale X (Easting):488809 Y (Northing):270760.

In addition to the information requested by the EA, the raw plant noise data for IBA and HBM plants (on which the sound power levels for those elements of the proposed facility were based) have also been provided in MS Excel spreadsheet format. Albeit the HMB process is not relevant to the permit application.

No one calculation method is specified in BS4142: 2014 + A1:2019.

The calculations in the assessment submitted for the planning application were undertaken using the methods detailed in BS5228-1: 2009 "*Code of practice for noise and vibration control on construction and open sites – Part 1: Noise*" as amended BS5228-1:2009+A1:2014 as no one calculation method is specified in BS4142: 2014 + A1:2019.

Although the EA have a preference for ISO-9613 of ISO 9613: "*Acoustics – attenuation of sound during propagation outdoors*", this has not been specified in their response. That said, from previous investigation, for similar distances to those examined at this site, BS5228 tends to calculate the higher noise levels of the two methods. This therefore represents a worst case scenario with regard to the presented calculated noise levels and should be adequate for considering the noise impact of the proposed development.

Previous indications from the EA are that sites should not demonstrate Rating Levels that are likely to represent an *'adverse impact'* as defined in BS4142: 2014 + A1:2019, i.e. a Rating Level more than 5 dB(A) above the representative background sound levels. The submitted assessment presents Rating Levels no more than the representative background sound levels during both daytime and night-time periods.

It is hoped that this document and the enclosures provide the Environment Agency with sufficient information to replicate the calculations and evaluate the assessment. However should there be any queries concerning the response provided then please do not hesitate to contact me.

Yours sincerely

K Gough
Managing Director

Enc Site Calculation Sheets in MS Excel Format
Site Location Plan
Baseline Data from Sample Measurements in MS Excel Format
Baseline Data from Install at Farm Cottage in MS Excel Format
IBA Plant Data in MS Excel Format
HBM Plant Data in MS Excel Format
Site Layout Plan