

Noise Comments

Application No:	ESS/09/18/COL	Our Ref:	B3553P06/16/ 22f
Site:	Green Acres, Old Packards Lane, Wormingford, Colchester, CO6 3AH		
Proposal:	Erection of Clean Materials Recycling Facility at Existing Established Recycling/Recovery Facility, Relocation of Existing Staff Welfare Facility, Provision of Additional Staff Parking, Culverting Section of Existing Swale, Additional Landscaping, Rainwater Harvesting together with amendments to site operating hours and HGV movement times to permit 24 HGV Movements between 07:00- 16-30 hours on Good Friday's		
Response to and Date:	Letter from ECC dated 1 st June 2018		
FAO:	Terry Burns	From:	Rob Mansfield
		Date:	13/08/2018

The Applicant has employed Applied Acoustic Design (AAD) to produce a Noise Assessment (NA) to support the planning application. I provide comments below on the pertinent aspects of the application making reference to the NA where relevant.

Policy and Criteria

The history of this site is summarised as follows:

- 1988 – permission for light industrial use. Colchester Skip Hire (CSH) commenced occupation at about this time as a skip hire depot.
- 1993 – planning permission granted for a Waste Transfer Station on site. This consisted largely of external works and plant. Conditions were imposed on CSH but no limits on noise emissions were applied.
- 2002 – a variation in conditions on the 1993 permission was granted. A condition controlling noise emission was set which essentially restricts noise levels from the site to 45 dB L_{Aeq,1hr} when measured at the nearest residential property (Rees Farm).
- 2005 – permission granted to permanently retain containment walls, together with a conveyor and hopper for the existing recycling centre. The previously established noise limit of 45 dB L_{Aeq,1hr} at nearest residential property was maintained.
- 2012 - permission granted through Planning Appeal for the redevelopment of the recycling/recovery facility. The Planning Inspectorate maintained the 45 dB L_{Aeq,1hr} limit. In considering the Appeal Decision, it would appear that the Inspector considered that, as much of the activities will be brought inside, that would be beneficial when compared to the pre-existing situation.

It shall be noted that through review of the planning history, it is apparent that the initial noise limit of 45 dB L_{Aeq,1hr} was set with reference to Minerals Planning Guidance 11 (MPG11). By definition, it can be observed that the use of guidance specific to mineral working is perhaps not entirely suitable when considering a waste facility. More relevant is BS 4142 (both the 1997 and 2014 versions), which is specific to determining the potential impact from industrial/commercial noise on residential properties.

Noise emanating from the site is currently controlled through condition 9 from the 2012 Appeal Decision, as follows:

- "9) (9.1) Outside the times specified in Condition 5, the noise level at the boundary with Rees Farm, resulting from any activities, operations, or vehicle movements at the site, shall not exceed the following limits, measured as the free field equivalent continuous level (LAeq, 5min):
(i) the pre-existing background level (LA90) plus 5dB; and
(ii) the average residual level (LAeq 5 min) plus 1 dB.
- (9.2) During the times specified in Condition 5, the noise level at the boundary with Rees Farm, resulting from all activities, operations, and vehicle movements at the site, measured as the free field specific noise level, shall not exceed 45 dB (LAeq, 1 hr).
- (9.3) The development shall not be brought into use until a noise monitoring scheme has been submitted to the waste planning authority and approved in writing. The scheme shall include details of the number, locations, and heights of the monitoring stations, the equipment to be used, and the means by which the results are to be provided to the authority. The frequency of monitoring shall not be less than once every three months.
- (9.4) The monitoring scheme shall thereafter be implemented as approved.
- (9.5) All noise measurements carried out in connection with this condition shall be undertaken in accordance with the guidance contained in BS4142:1997."

The NA advises the proposed continued use of the above conditions.

Since 2012, there have been updates to various guidance documents and policy relating to noise. The most relevant being the following:

National Planning Policy Framework (NPPF)

The NPPF, initially published in 2012, and most recently updated in July 2018, sets out the Government's planning policies for England and how these are expected to be applied.

Under paragraph 170, it states:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

....e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans."

Whereas para 180 states:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential

sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life⁶⁰"

Reference 60 pertains to the Noise Policy Statement for England (NPSE).

Noise Policy Statement for England (NPSE)

Published in 2010, i.e. prior to the Appeal Decision, the NPSE lists three noise policy aims (noted to be similar to the NPPF):

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- Avoid significant adverse impacts on health and quality of life;*
- Mitigate and minimise adverse impacts on health and quality of life; and,*
- Where possible, contribute to the improvement of health and quality of life."*

National Planning Practice Guidance (PPG)

PPG sets out how planning can manage potential noise impacts in new development. It advises that planning authorities should take account of the acoustic environment and in doing so consider:

- whether or not a significant adverse effect is occurring or likely to occur;
- whether or not an adverse effect is occurring or likely to occur; and
- whether or not a good standard of amenity can be achieved.

BS 4142:2014 – Methods for rating and assessing industrial and commercial sound

BS 4142:2014 updated the 1997 version, i.e. that version available at the time of the 2012 Appeal Decision. The Standard details procedures for rating and assessing sound from commercial or industrial facilities to determine the likelihood of impact that sound emitted from such facilities has upon nearby residential premises.

Using BS 4142:2014 the likelihood of disturbance is determined through comparison of the sound attributable to the existing or future source, defined as the 'specific sound level' (expressed as L_{Aeq}), against the typical and representative background sound level (expressed as L_{A90}). Where applicable, the specific sound level is adjusted to take into account characteristic features such as tonality, discrete impulses and intermittency. The resulting 'corrected' specific sound level (the correction is 0 dB where no features are present) is defined as the 'rating level'. In respect of the comparison between the rating level and the background sound level, BS 4142:2014 states the following:

- 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 greater the difference between the rating level and the background level, the greater the magnitude of the impact.
- 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.

Through a noise monitoring exercise undertaken by Jacobs and AAD on November 2017, observed data indicates that the background sound levels were in the region of 30 to 35 dB $L_{A90,1hr}$. Should BS4142:2014 be used to assess the site, a Rating Level in the region of 30 to 35 dB(A) would be anticipated. This is considerably lower than that required by the current noise limit conditions on the site.

Should the BS4142:2014 recommendations be applied to the current use of the site, it is considered that a significant adverse impact is possibly occurring at present. That is, should the site operate at 45 dB $L_{Aeq,1hr}$, and taking a best case scenario that there are no further corrections for feature characteristics of the site sound source, then the rating level from the site could be at least +10 dB above the existing background sound level. It is noted above that BS 4142:2014 considers *"A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context"*.

With regard "context", BS 4142:2014 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/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context."* It is arguable that context should include the current use of the facility

Notwithstanding the above, the NA presents a motion to ensure that noise emanating from the proposed clean material recycling building result in a noise level of 35 dB $L_{Aeq,1hr}$ at the boundary of the site. The reasoning is that such a noise level, would ensure that noise from the entire site would theoretically continue to not exceed the current limit of 45 dB $L_{Aeq,1hr}$. Whilst this is theoretically correct, establishing an appropriate noise limit in the first instance is pertinent.

Summary

The current stipulated noise limit on the site has its foundation in 2002, arguably based on unsuitable guidance. This noise limit has been maintained through subsequent planning permissions. The Appeal Decision in 2012 would appear to have determined that, as the site was historically controlled by a noise limit of 45 dB $L_{Aeq,1hr}$, and that the proposal should have improved the pre-existing situation, then the noise limit can remain. The Appeal Decision does not appear to consider the appropriateness of the noise limit in isolation, i.e. is it suitable to prevent adverse noise impacts?

It shall be noted that compliance noise monitoring undertaken by both AAD and Jacobs over the past year has demonstrated compliance with the noise limit of 45 dB $L_{Aeq,1hr}$. That is the monitoring exercise demonstrated that specific site noise varied between 34 dB $L_{Aeq,1hr}$ and 44 dB $L_{Aeq,1hr}$ in close proximity to Rees Farm. Therefore, compliance against the existing noise limit is evident. However, I am aware that local residents continue to make complaints with regard to noise and it would be interesting to know if the Local Council Environmental Department have received and/or investigated complaints with regard to statutory nuisance (under the Environmental Protection Act 1990)? From my own observations made on site, noise from certain activities associated with the existing use of the facility is clearly audible at the boundary of the site, adjacent with Rees Farm; however, it would be for a local environmental officer to determine if this would be considered a statutory nuisance.

Guidance and policy that has emerged since 2012 (i.e. NPPF and PPG) looks for the planning process to avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development. BS 4142:2014 provides guidance on determining significant adverse impacts when considering the effect of industrial/commercial facilities on residential properties.

Should this be a new application, our advice would be to consider the potential effects in accordance with BS 4142:2014. In doing so, it is highly likely that we would conclude that the site, when considered in its entirety, would result in a likely significant adverse impact. However, it shall also be noted that the presence of the new building actually has the potential to result in an overall reduction in noise emissions from the site to that currently experienced at the nearest residential premises, i.e. Rees Farm. This is due to the new building providing a 'barrier effect' from existing noise sources on the site. Therefore, a paradox is apparent whereby the proposed new building has the potential to result in noise benefits, to that currently, yet the site would continue to operate at noise levels greater than would be considered acceptable.

Please note that the NA does not detail the predicted noise levels with the current operation of the site, versus what would result with the proposals. As noted above, given that the NA looks to demonstrate no increase of the 45 dB $L_{Aeq,1hr}$ noise limit, the applicant may consider this a needless exercise. However, at the very least such an assessment would demonstrate any potential benefits, if any, to that currently. Which, may be viewed positively by all parties.

Noise Level Predictions

Section 5.0 of the NA presents source noise levels used in the further predictions, derived through measurements within existing waste recycling facilities, including that at CSH. The NA advises that worst case reverberant noise levels have been presented (Table 2). Using the measured data, sound power levels are presented of the proposed new building (Table 3) at the facades and at the open door.

Section 6.0 of the NA presents predicted noise levels at the site boundary from the proposed clean material recycling building. The predictions use the information contained from Section 5.0, derived through a SoundPlan noise model. The predicted noise levels shown in Table 4 of Section 6.0 (N.B. for clarity this is separate to Table 4 in Section 5.0) suggest a noise level from the new building of less than 35 dB $L_{Aeq,1hr}$ at the nearest residential premises, Rees Farm.

It shall be noted that the NA assumes access doors remain open throughout operational hours of the building. It is noted from the consultation response received from Wormingford Parish Council that they are requesting that the doors remain closed during operation. Subject to agreement and clarification on other points raised in these comments, it is apparent that noise shall meet the proposed clean material recycling building 'noise limit' of 35 dB $L_{Aeq,1hr}$. Therefore, although closing doors wherever feasible, for example using automatic door closers, would be seen as best practice, all else being resolved and agreed, the matter of the doors remaining open is not apparently an issue in terms of noise impact.

I would request that more information be provided to enable us to verify the predictions provided:

Derived internal reverberation noise levels:

- The database used to derive the 'worse case' measured noise levels presented in Table 2. This shall include information relating to plant operating within the existing

facilities versus that proposed for the new facility, in order to confirm the veracity of such data.

- For the 'worse case' data presented in Table 2, details of the measurement approach. For example, number of measurements, type of plant, duration of measurements, etc.
- Detailed calculations as to the derivation of the sound power levels contained within Table 3.

Noise Model Layout:

N.B. We do not hold SoundPlan software; however, we are able to transpose input data into our own software (Cadna) if provided in a suitable format.

- A set of shapefiles for the ground model (either spot points or equal height contours);
- A set of shapefiles for each type of object within the model (e.g. buildings, barriers, calculation area, ground absorption area, receiver points, etc); and
- A confirmation of the ground absorption coefficient and the absorption coefficient used for any building walls.

Noise Model Sources:

- For each building area source:
 - The size of the source area in m²;
 - A description of the location of the sources (either as an annotated drawing or shapefile); and
 - The resulting total sound power level for the source.
- It is assumed that the noise model has been developed such that it does not contain internal noise sources, i.e. the reverberant noise level is the 'noise source'. However, if this is not the case, and the model does contain individual noise sources, other than industrial building façade itself, then we would request the following:
 - A set of shapefiles for each type of source object within the model (e.g. point sources, line sources, area sources). It should be ensured that these shapefiles include the GeoDatabase ID for each source; and
 - The model emissions library in an Excel spreadsheet, identifying the sound power (in octave band or third octave band). Each sound power entry should be linked to the relevant source using its GeoDatabase ID.
- Confirmation is required that there are no external noise sources associated with the proposed facility which are otherwise not in existence.

Other:

- Demonstration that the acoustic performance of the cladding shown in Table 4 is representative of that proposed for the building;
- Confirmation of any extract or ventilation sources, if necessary, associated with the new building; and
- Confirmation that there are no other acoustic weaknesses within the façade of the building, e.g. passive air vents, windows, doors, etc.

Proposed working on Good Friday

The application includes for site operations on Good Friday (Bank Holiday). The existing operating hours allow for working on Saturday and Sundays; therefore, the site already operates during 'sensitive' periods. Therefore, notwithstanding the matters discussed elsewhere in this response, I would not object to proposed Good Friday working of the site.

From: Mansfield, Robert <Robert.Mansfield@jacobs.com>
Sent: 07 May 2019 12:50
To: Terry Burns, Principal Planning Officer <Terry.Burns@essex.gov.uk>
Cc: Richard Greaves, Chief Planning Officer (County Planning and Major Development) <Richard.Greaves@essex.gov.uk>
Subject: RE: CSH

Hi Terry,

Firstly, apologies for not coming back to you sooner. I'm clearly out of luck – my son had to be rushed in to have his appendices removed in the early hours of Weds morning; therefore, I was away for a couple of days last week.

I thought I would first provide a response on point 2) below. Having considered this further, I suggest that a minor update to my previous response is the appropriate line. My reasoning is that I can see within the Planning portal that the applicant provided information on 12th December, referring to their previous response in "October". This "October" document responded to my original comments dated 13/8/18; thus there is a trail of correspondence (albeit not all is on the portal).

If you prefer, I can amalgamate this response with my 13/8/18 comments; albeit it will take some explaining how we have agreed on a number of points. I would suggest adding all correspondence to the portal (other than my 'draft' comments of 8/1/19) for clarity.

Please note that I am on A/L from 23rd May to 10th June, should you wish for me to join any meetings with Colchester BC.

I will now pull together a response on the noise monitoring (point 1 below).

Thanks

Rob

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