



SUNNICA ENERGY FARM - DCO APPLICATION

REVIEW OF NOISE IMPACTS ON THE HERMES CAMPUS

Acoustics Report A1921 R03C

11th November 2022

Report for: Federated Hermes Property Unit Trust

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Report to:

Savills

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Executive Summary

- 0.1 Ion Acoustics is appointed by the Federated Hermes Property Unit Trust (FHPUT) to review and advise on noise and vibration impacts associated with the proposed Sunnica Energy Farm in so far as they affect the nationally significant LGC drug development campus (the Campus) in Fordham, which is owned by FHPUT. The proposed Sunnica scheme is the subject of a Development Consent Order (DCO) with associated compulsory purchase powers.
- 0.2 It appears that noise and vibration impacts on the Campus have not been considered in the Environmental Statement (ES) submitted by Sunnica and therefore there is no information in the application documents as to how noise and vibration will affect the operations on the Campus. Our review has concluded that vibration from construction vehicles and from construction plant associated with the Sunnica Energy Farm would result in unacceptable impacts to the Campus operations.
- 0.3 The Campus includes various laboratories which have instruments which are very sensitive to vibration. Some of these laboratories are only 6m from the access road. One exceedance of the acceptable vibration threshold could invalidate critical test results with significant impacts on the operation of the facility and its drug development and testing work. Furthermore, the laboratories' certification under Good Clinical Practice requires the laboratory equipment to be operating within the manufacturer's specified environmental parameters. These include limits on the acceptable vibration thresholds. The sensitivity is such that HGV movements on the site are already restricted. On the limited occasions on which an HGV is required to visit the site, special arrangements have to be made with the laboratory managers notified so they can suspend certain activities and take steps to avoid adverse effects on laboratory operations. Clearly in these circumstances, it would be unacceptable to have construction vehicles and plant using the access road on a regular basis as it will effectively shut down a nationally-significant laboratory during the construction period.
- 0.4 In addition to the impacts of construction vehicles and plant along the access road and within the Campus, there could also be vibration impacts associated with the construction of the cable route itself although it is expected that this could be managed and monitored provided appropriate mitigation measures are secured. Certain construction techniques involving the using of vibrating-generating plant may need to be avoided.

1 Introduction

- 1.1.1 This report is prepared on behalf of Federated Hermes Property Unit Trust (FHPUT) to advise on potential noise and vibration impacts during the construction of the proposed Sunnica Energy Farm on the drug development campus on Newmarket Road, Fordham, north-east of Cambridge. The campus is occupied by important pharmaceutical laboratories operated by LGC who also have two houses for workers at the site.
- 1.1.2 The proposed Sunnica Energy Farm comprises several fields of solar panels and associated electrical equipment including transformers and inverters. A cable will be laid to connect the various sites with the existing Burwell Substation to the west of the Campus. As part of the work for installing the cable, Sunnica have indicated they require access through the campus and will need to occupy the car park at the rear during the construction works.
- 1.1.3 In carrying out this review, Ion Acoustics has:
- Reviewed the Environmental Statement (ES) prepared by AECOM, specifically the noise and vibration chapter (PINS Reference APP-043) and its figures and appendices;
 - Discussed the use of the site and potential noise and vibration issues with LGC and their representatives and liaised with transport consultants Caneparo Associates;
 - Carried out their own predictions of construction noise and vibration levels affecting the campus as this has not been adequately addressed by Sunnica;
 - Corresponded with WSP in relation to the works and a number of queries. A selection of these emails are provided in Appendix A.
- 1.1.4 This report sets out our review of noise and vibration impacts during construction based on the information available to date. The noise and vibration impacts during the operation of the scheme have also been reviewed, but are not considered to affect the Campus and as such are not addressed further in this report.

2 Site Layout and Assumptions

- 2.1.1 The site layout is shown below in Figure 1.

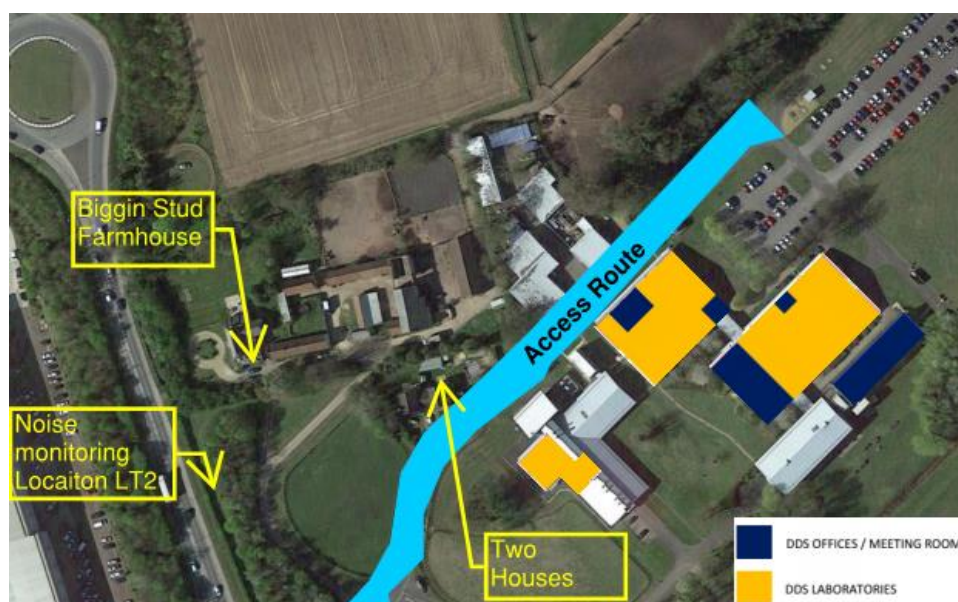


Figure 1 – Site and Surroundings

- 2.1.2 The Campus is accessed from Newmarket Road to the west; the initial part of the access is shared with Biggin Stud farmhouse, but there are then security gates to the campus. We understand the road also has speed bumps with a speed limit of 10 mph.
- 2.1.3 LGC have a number of pharmaceutical laboratories which contain equipment sensitive to vibration. These include balances, mass spectrometers, gas & liquid chromatography. The closest laboratory is 6m from the access road. The laboratories are occupied spaces where scientists spend most of their day. In addition to laboratory facilities, they are effectively study spaces requiring concentration and are therefore sensitive to noise as well as vibration.
- 2.1.4 A layout of the LGC laboratory space is provided in Figure 2 below.



Figure 2 – Laboratory Layout

2.2 Assumptions

- 2.2.1 Information on the scheme has been taken from the noise and vibration chapter from the Environmental Statement (PINS Reference APP-043) for the Energy Farm prepared by AECOM.
- 2.2.2 There does not appear to be any assessment of the noise and vibration impacts on the Campus within the ES. This is surprising given the highly sensitive nature of the operations carried out at the Campus and is a major deficiency in the submitted ES. Clearly noise and vibration impacts cannot be evaluated if they have not been assessed.
- 2.2.3 In view of this omission, a number of queries have been raised with WSP. Appendix A of this report also provides selected email correspondence with queries to WSP and their responses.
- 2.2.4 As part of the response, WSP indicate that a noise and vibration assessment specific to this site would be carried out. At the time of writing this report, it is not clear whether WSP has carried

out that assessment. Certainly, no information has been provided to FHPUT as to the results of any such assessment.

2.3 Traffic Information

- 2.3.1 A key concern for FHPUT is the extent to which the access route through the Campus from Newmarket Road to the cable route site and car park at the rear of the Campus would be used for construction, maintenance and decommissioning traffic. In email correspondence, WSP have indicated that up to 46 HGV movements per day would be required over the most intensive construction period.
- 2.3.2 In WSP's response to our initial queries dated 5th August 2022, they indicated however that the 46 movement figure does not apply to the access route through the Campus. However, the Caneparo Associates Transport Note (submitted with the written representation, on behalf of FHPUT) sets out circumstances in which the access route could be used by up to 74 vehicles per day (148 in and out) during the peak period if the other access points cannot be used. There appears to be no constraints in the DCO or associated documents that would limit the number of HGV movements over the Campus access road. We have carried out a traffic noise assessment based on both of these numbers (46 and 148 movements per day).

2.4 Construction Activity

- 2.4.1 The car park to the rear of the Campus is to be used as part of the cable route construction site. It is proposed to use horizontal directional drilling to drill under the River Snail. The cable route will then progress northwards across the existing car park before turning westwards. The nearest site with solar panels is some 100 metres to the south-east (Sunnica West Site B). There are many types of construction activity proposed, but most will not generate significant noise or vibration; those which may are considered below.
- 2.4.2 WSP have indicated a push-press piling rig in Appendix 11D of the ES (PINS Reference APP-112) which is presumably for installing the solar panel frame supports. However, it is essential that this is confirmed as impact-driven piling could have unacceptable impacts on the Campus.
- 2.4.3 WSP has stated that the cable route will be dug with an excavator and a Hiab and cable winch. The plant list in Appendix 11D provided for this type of activity is much more extensive than this, but does not include a vibrating roller. So it is again unlikely that the cable route itself will generate high levels of vibration unless vibrating rollers are used. FHPUT seek confirmation that an appropriate control mechanism will be secured to ensure that vibrating rollers and impact-driven are not to be used.
- 2.4.4 A vibrating roller is however included in the plant list for the Sunnica West B Site which is south-east of the campus. WSP have stated that they will confirm the extent to which vibrating rollers are used but this information is yet to be received.

3 Baseline Noise Survey and Receptors

- 3.1.1 Receptor location R3 is Biggin Stud Farmhouse and is the nearest receptor to the Campus which has been in the ES. This is classified as a residential location with "high" sensitivity. Table 11-3 of the ES noise and vibration chapters identifies specialist medical / teaching centres as having a "very high" sensitivity. However, notwithstanding the fact that the Campus is used for medical testing with specialised laboratories, it has not been treated as a receptor of very high sensitivity in Sunnica's Environmental Statement. Indeed, it has not been identified as a

receptor of any sort in the ES. This omission suggests that Sunnica may not have been aware of the specialised activities taking place on the Campus at the time of selecting its route and access strategy or in preparing the ES.

- 3.1.2 Receptor R3 is labelled Biggin Stud Farmhouse (See Figure 1). A noise monitoring exercise was carried out by AECOM at position LT2 to established baseline noise levels in the area.
- 3.1.3 Although the exact location is not clearly identified in the ES, monitoring position LT2 was at the side of Newmarket Road. A location adjacent to Newmarket Road would have far higher road noise levels than at Biggin Stud Farmhouse (Receptor R3) or the laboratories. The monitoring location is therefore not representative of noise levels at the Campus and is an unreliable baseline on which to assess the noise impact on the campus.
- 3.1.4 Furthermore, there is no mention in the ES of the two houses on the Campus. It does not appear that these receptors have been considered in the assessment. Again, this indicates that Sunnica may have been unaware of the nature of the operations on the Campus including the two residential properties.

4 Construction Noise and Vibration Impacts

4.1.1 There are four aspects to consider during the construction phase:

- Noise from (relatively) static construction activity and equipment along the cable route and on the site of the solar panels such as ground preparation and trenching
- Vibration from the (relatively) static construction activity along the cable route and solar panel site
- Noise from moving construction vehicles on the access road
- Vibration from moving construction vehicles on the access road

4.1.2 The latter is the most significant impact, but the issues will be considered and reviewed in turn based on the available information.

4.2 Noise from the Construction Activity on the Cable Site

4.2.1 The ES states that the propagation of construction noise has been assessed using BS 5228. This appears to be only partially correct. Some confusion arises because AECOM state a ground absorption value of $G = 0.8$ is used and values for the assumed temperature and humidity are stated. These parameters are not a part of the BS 5228 prediction methodology and instead it appears that the propagation has been modelled using ISO 9613-2, albeit with input source data taken from BS 5228. The prediction methodology should be confirmed.

4.2.2 A predicted construction noise level of 56 dB L_{Aeq} is given in Table 11-14 of the ES Noise & Vibration Chapter. It is assumed that this applies to the Biggin Stud Farmhouse, which is located closer to Newmarket Road than the Campus and further from the cable route construction works. The houses on the LGC site are also closer to the construction works and the construction noise contours in Figure 11-2 of the ES (PINS Reference APP-234) are not sufficiently detailed to assess the impact at other locations within the Campus.

4.2.3 At present, we are therefore unable to determine the construction-related noise impacts on the Campus laboratories, including the two houses on the campus based on the information presented in the ES. Some parts of the Campus including potentially offices and spaces

requiring concentration will have higher construction noise levels than those stated in the ES in relation to Biggin Stud Farmhouse, which is the nearest assessed receptor.

- 4.2.4 A noise level for a push press piling rig is included when considering the installation of the solar panel frame supports at the Sunnica West B site. This is a quiet method of installing the solar panel frame supports. Other construction techniques include impact-driven H-section piles. This would be considerable noisier (and a source of vibration) and is unlikely to be acceptable in respect of impacts on the Campus. The method employed can also depend on ground conditions. Sunnica / WSP have been asked to confirm that impact-driven piles are not necessary. FHPUT seek an appropriate control mechanism through the DCO control documents to ensure that impact-driven piling will not be used.

4.3 Vibration from Construction Activity

- 4.3.1 The ES gives criteria on vibration thresholds to avoid building damage and for human perception (annoyance). However, it is stated in paragraph 11.3.8 of Chapter 11 of the ES that no predictions of ground-borne vibration have been undertaken. Instead, some information is given on likely vibration levels based on indicative statements in BS 5228. It is known however that ground conditions, vehicle weight / speed etc can influence vibration levels. These factors would need to be taken into account in order to make reliable predictions. Some of the construction equipment listed (for example vibrating rollers) is a source of vibration and potential vibration impacts should have been considered in greater detail.
- 4.3.2 A key consideration with the laboratories is the use of instruments and processes that are sensitive to vibration. There has been no consideration of the particular sensitivity of the Campus operations to vibration in the ES. Various scanning equipment present at the lab is sensitive to noise and vibration. Therefore, vibration impacts on the laboratories can occur at much lower thresholds than those considered for human annoyance.
- 4.3.3 To assist in assessing vibration impacts on specialist equipment, generic vibration criteria (VC curves) have been developed for different classes of laboratory instruments. These are shown in Figure 3 below. The curves are also described in BS 5228-2: 2014+_A1 2019 and are commonly used in the industry to assess vibration impacts on sensitive laboratory equipment.

Figure 1: Generic Vibration Criterion (VC) Curves for Vibration-Sensitive Equipment - Showing also the ISO Guidelines for People in Buildings (see Table 1 for description of equipment and uses)

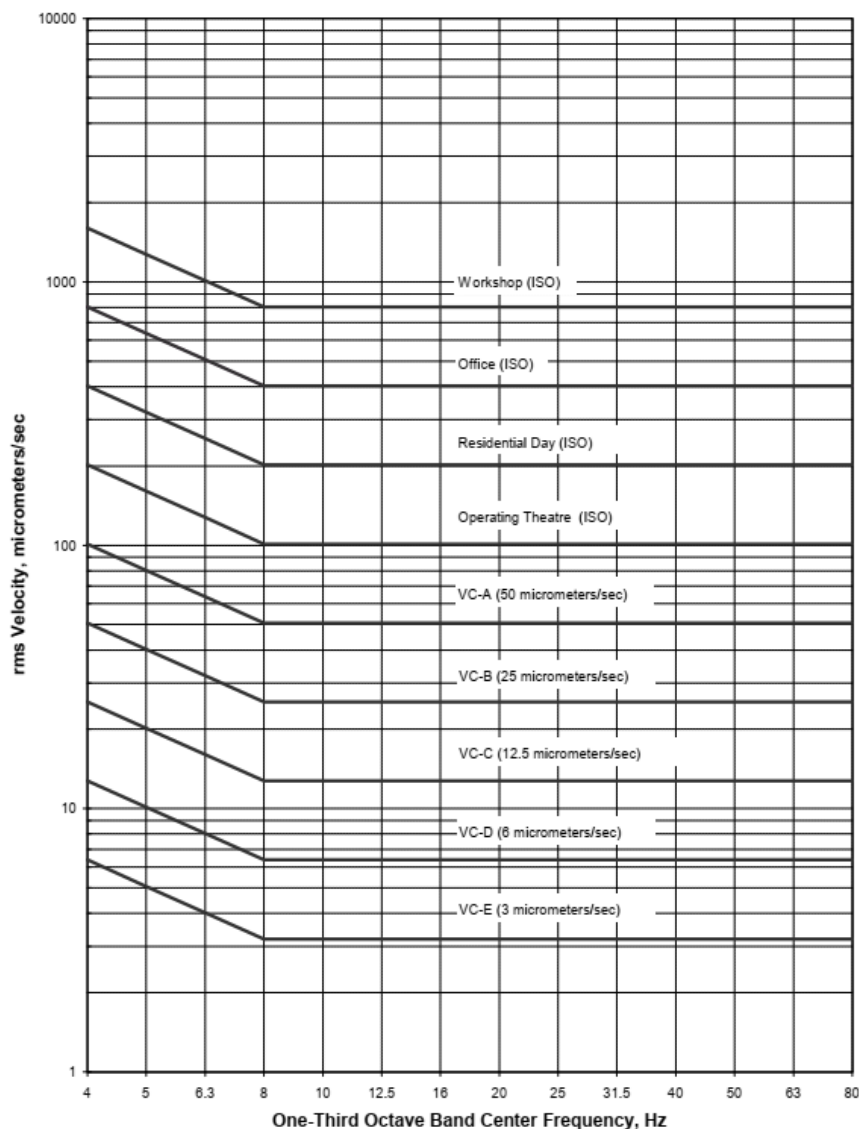


Figure 3 – Vibration Criteria (VC) curves for different instruments from Gordon, C "Generic Vibration Criteria for Vibration-sensitive Equipment" SPIE 1999

4.3.4 We are informed that the maximum vibration level that can be tolerated by instruments at the Campus is VC-B. This would apply on the floor of the laboratories. It can be seen in Figure 3

that this threshold is considerably more demanding than the thresholds for human perception in office and residential environments.

- 4.3.5 This is a very low vibration limit of 0.025 mm/s. When this level is exceeded, there is a risk of inaccurate readings from the various laboratory equipment and any scans would have errors.
- 4.3.6 Therefore, even one exceedance of this level is sufficient to disrupt the activity and this could be caused by a single HGV. A detailed vibration assessment should have been carried out to determine the effect of vibration on the laboratories and their equipment. There is no such assessment in Sunnica's ES.
- 4.3.7 British Standard BS 5228-2: 2014+A1:2019 provides some information to predict vibration levels from construction. Various equations are given for impact piling, vibratory piling and dynamic compaction (eg using vibrating rollers). The appropriate equation for (steady-state) vibrating rollers is:

$$V_{res} = k_s \sqrt{n_d} \left[\frac{A}{x+L_d} \right]^{1.5} \quad (1)$$

- 4.3.8 Where: V_{res} is the peak particle velocity in millimetres per second: k_s a scaling factor relating to the probability of a particular level being exceeded, A the maximum drum vibration amplitude (in mm) n_d , the number of rating drums and L_d the drum width (in metres). Note that higher vibration levels can occur during start-up of the equipment.
- 4.3.9 For the Sunnica West B site, a vibrating roller could be at 100m from the laboratories. It is possible to predict typical vibration levels from a Bomag BW161 AD-4 roller. Using a scaling factor of 75, which relates to a 50% probability of a vibration level being exceeded, the predicted vibration level is 0.028 mm/s for the low amplitude setting (0.42mm) and 0.094 mm/s for a high amplitude setting (0.94mm). Therefore, there a 50% risk of the criterion curve VC-B being exceeded.
- 4.3.10 These results indicate that the use of a vibrating roller on the Sunnica West B site would result in unacceptable impacts on the sensitive laboratory equipment used in the Campus. FHPUT seek confirmation, through an appropriate control document, to ensure that vibrating rollers will not be used on the Sunnica West B or the cable route site.

4.4 Noise from Construction Traffic on the Access Road

- 4.4.1 Noise from construction traffic has been considered and contours for construction traffic noise are shown in Figure 11-3 of the ES (PINS Reference APP-235). However, the construction contours do not show any impact at the Campus access road. It appears that this element has been overlooked in the ES given that construction traffic is intended to use the Campus access. Given that the DCO allows for the use of the Campus access by construction, maintenance and decommissioning traffic, the noise impacts associated with that use should have been assessed.
- 4.4.2 Predictions of noise from construction vehicles at 10m distance are shown in Table 1-8 of Appendix 11D of the ES. However, this appears to be for average rather than the peak flows during the most intensive period. The vehicle speed stated (50 km/h) is also too high as there is 10mph speed limit on the access road (Approximately 16 km/h). The use of a lower speed

would give rise to higher noise levels using the BS 5228 prediction methodology. Those impacts have not been assessed in the ES.

- 4.4.3 If there are up to 46 HGVs per day, then the predicted hourly noise level for a speed of 16km/h becomes 62 dB L_{Aeq} . This is much higher than predicted in the ES. If there are 148 movements per day, then the hourly L_{Aeq} is 67 dB L_{Aeq} . The impact on the housing and laboratories is described below.
- 4.4.4 The housing on the site is naturally ventilated. With openable windows providing around 13 dB attenuation, then predicted internal levels would be 54 dB L_{Aeq} for the higher value. This is much higher than a recommended internal noise levels in living rooms of 35 – 40 dB L_{Aeq} from BS 8233:2014.
- 4.4.5 It is understood that the labs are mechanically ventilated. It is likely that internal noise levels will be acceptable within the laboratories assuming windows are closed although maximum levels would be sufficient to disrupt activities requiring thought and concentration.

4.5 **Vibration from Construction Traffic on the Access Road**

- 4.5.1 HGV movements are a source of vibration. No assessment had been carried out by Sunnica to date to confirm that vibration levels associated with construction traffic on the access road will avoid exceedances of Vibration Curve VC-B. British Standard BS 5228-2: 2014+A12019 does not give a prediction method for vibration from HGVs. There are many factors which influence vibration levels including ground conditions and roughness, vehicle speed and weight.
- 4.5.2 Significantly, very few HGVs visit the existing Campus. When they do special arrangements need to be made with the laboratory managers to ensure that deliveries take place at times which will not unduly affect Campus operations. This is because even a single HGV is sufficient to disrupt activity.
- 4.5.3 There is some information available in an older TRRL report¹. Figure 6 of the report shows the effect at 6 metres distance for HGVs travelling over a modest 25mm x 0.6m speed bump. At 16 km/h the resultant vibration level is around 0.25 mm/s (ppv). This is much higher than the VC-B criterion and suggests that HGVs using this access route are likely to disrupt sensitive measurements. Even one HGV movement would have the potential to disrupt a measurement or scan.
- 4.5.4 To consider this further, it may be necessary for Sunnica to carry out trial measurements using actual laden HGV vehicles. While LGC will have their own vehicles using the site, these are mainly cars and LGVs. HGVs will cause higher vibration levels and therefore this must be

¹ Transport and Road Research Laboratory (TRRL) Report 246 Traffic Induced Vibration in Buildings

assessed fully before this route can be considered. At present no such assessment has been carried out.

5 Alternative Construction and Access Routes

5.1.1 The Caneparo Associates transport note details two potential alternatives, as follows:

- Alternative Cable Route and Access Option South of LDS
- Alternative Access for Cable Routh North of LDS

5.1.2 Both options would have considerable benefits in terms of noise and vibration as the access point through the LDS site would not need to be used and HGVs would be further from the sensitive laboratory equipment.

6 Conclusions and Further Work

6.1.1 At present there is insufficient information to enable the noise and vibration impacts of Sunnica's construction activity to be determined. There are two main issues: 1) noise and vibration from vehicles using the Campus access road and the lack of information regarding traffic numbers and 2) vibration from construction activity and HGVs affecting specialist laboratory equipment. Those impacts have not been adequately assessed in the ES.

Appendix A – Emailed Queries to WSP

Emailed Queries to WSP

From: Gavin Irvine
Sent: 20 July 2022 12:00
To: [REDACTED]
Cc: L [REDACTED]
Subject: RE: RE: Sunnica Energy Farm - confidential

Max,

I have been commissioned to assist Savills and our client in regard to noise and vibration affecting the LGC labs site.

I have reviewed the ES chapter and the information in the emails below. I have a number of queries. Perhaps you can pass these on to the noise and vibration specialists for a response in the next 5 days.

Traffic Volumes

- Traffic volumes. I note that you have also queried this, but can it really be the case that 46 movements per day would use the access route shown on drawing 70050915-220301-WSP-PLN-AAA-001-LH-0 from Newmarket Road, past the LGC labs and through the car park to the cable route? I do not believe this is a realistic possibility. Perhaps the 46 movements applies to traffic up and down the cable route. If so, what is a realistic number of vehicles per day using this access from Newmarket Road.
- If there was significant traffic on the access route then the effect of traffic on this access road should have been modelled and should be visible in the construction traffic noise contours. Figure 11.3 of the ES. This does not appear to be the case.
- Note that there are two houses on this access route that are occupied by employees. I can't see that these have been identified as receptors as R3 refers only to the farmhouse.
- I do not believe that the baseline noise monitor at this location LT2 is representative as it appears to have been placed by the side of the road such the noise levels are fairly high.
- Do you know what the 46 HGV movement relate to? For cable laying I would have thought that any excavated material would be stored locally on site so I am not sure what activity would generate the number of movements. Are there concreting operations?

Vibration

- The lab will most likely have equipment which is sensitive to vibration. (I have asked them to confirm this). Although a simple vibration assessment appears to have been carried out considering human perception and damage to buildings, it does not appear that any consideration of lab equipment has been made.
- In this context I note that vibrating rollers are included in the plant lists, is there any other construction equipment that should be considered as source of vibration.
- It is suggested that a push press rig is used to install the piles. Can you confirm that there is no requirement to use impact driven piling? This would have noise **and** vibration implications.

Appendix A – Emailed Queries to WSP

Alternatives

In principle, an ES should consider alternatives. Can you let me know what alternatives to this access route have been considered and why they were discounted?

Operational Noise

I could not find a layout plan showing the location of inverters and transformers. Is there one available, that is one showing all proposed operational noise sources near the site. It could be argued the this could be inferred from the noise contours but I would prefer to see these on a plan.

Most solar farm applications nowadays seem to use string inverters in preference to centralised inverters. Is this a possibility and if so has this been modelled?

Please contact me if you wish to discuss.

Regards

Gavin

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Appendix A – Emailed Queries to WSP

1. Response from Lynn McHale – WSP

From: McHale, Lynn [REDACTED]

Sent: 05 August 2022 14:15

Subject: RE: RE: Sunnica Energy Farm - confidential

Hi Gavin

Further to your email below to Max apologies for the delay in coming back to you but I can provide the following comments/further information:

Traffic Volumes

The quoted number of 46 vehicles movements per day is across both Grid Connection Routes A and B and I can therefore confirm this number of movements will not occur through the HPUT site. Access through this site will be to facilitate construction of the cable route through the HPUT site only. The project team are currently working on the traffic requirements for this specific site and will be providing more granular information. We will provide this information to you as soon as it is available. For the cable laying in this location Horizontal Directional Drilling will be carried out in one location to the North East on the HPUT site to bring the cable under the River Snail. It is anticipated that the remaining cable route in this location will be laid in an open cut trench.

With regard to noise we will be carrying out a noise assessment specific to this site and the proposed activities and we will share this information with you.

It would be useful to know the operating hours for this site. Is it operational 24 hours a day and if it is do you know what the peak traffic times are, for example 8-9am and then 5-6pm or wider time frames than this? When we provide the information above, we will also provide the timings of movements which we would like to fit in with your client's operations so that our temporary construction period can co-exist with your client's normal operations – our intention is to provide your client with a proposal of the number of movements and when with a view to agree the timings of the movements and a communication protocol between us. We hope this will be helpful.

Vibration

In order for us to be able to consider the effect of vibration on the laboratory use on site are you able to provide details of the type of equipment that would be sensitive to vibration. Also timings of the use of this equipment would be useful to know – 24 hours each day or less or 24 hours for less frequent periods?

The element of the scheme being constructed on this site is the cable route and typical plant used for this would be an excavator, Hiab truck and a cable winch. As stated above HDD will be used to lay under the River Snail but this is not expected to produce any noticeable vibration.

We have requested information from colleagues on the consultant team for the project if they can confirm that piling will not be carried out on this site and also to confirm the position on whether

vibrating rollers will be required. We are expecting this information within the next few days and will come back to you on this as soon as possible.

The following information has previously been provided to HPUT regarding assessment of alternative sites in a presentation that took place in June 2020 – the attached document has slide extracts from the presentation.

Agricultural land to the north of plots 47 and 48 – this land is constrained by the Brackland Rough SSSI designation

Agricultural land to the east of plots 47 and 48 - this land is constrained by multiple ecological designations including Ramsar (European), National Nature Reserves, Special Areas of Conservation. These designations are owing to the fact that this is one of a few remaining Fenland areas that have not been drained across Europe. The Ramsar designation specifically relates to the importance of hydrology.

Agricultural land East of Snailwell Road/A142 Roundabout This agricultural land is constrained by a known Scheduled Monument

Plot FRD5 allocated for employment	This land is allocated for employment within the Fordham Employment Site. It is understood that future planning permission has been contemplated for the site's redevelopment.
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A142 highway

Locating a service corridor within the highway is not considered to be viable due to the area already being heavily utilised for services. This area will also be required for services to the development to be located in this employment zone.

There are no inverters or transformers that will be located on the HPUT site. Also there will be no inverters or transformers on the adjacent Sunnica West B site as there are no substations proposed for that site. The nearest substation and therefore inverters and transformers etc will be on Sunnica West Site A.



Kind regards

Lynn McHale

Associate Land and Property Surveyor
Land and Property

Appendix A – Emailed Queries to WSP

From: McHale, Lynn [REDACTED]
Sent: 06 October 2022 09:16
To: [REDACTED]
Subject: RE: RE: Sunnica Energy Farm - confidential

Hi Gavin/Duncan

Apologies that it has taken so long to come back to you on the questions you both raised regarding the cable route corridor construction and access arrangements at the HPUT site. Sunnica Energy Farm's team have been working on the issues raised and our responses are in the document attached.

You will see that we are proposing using an alternative access route for the heavier vehicles that will be needed for the construction of the cable route with only lighter vans and cars using the HPUT access road. It is hoped this will alleviate the majority of the issues raised but we would like to carry out further assessments for the potential vibration issue. For this we will need to know more about the equipment in the laboratories on site that may be sensitive to vibration. Can you therefore provide the following information:

- Required information:
 - Vibration sensitive equipment:
 - Location(s) within facility ;
 - Generic description, e.g. optical or electron microscope magnification; mass spectrometer; magnetic resonance imager etc;
 - Vibration sensitivity of equipment (e.g. manufacturers data);
 - Operation of equipment (times of day/night/weekday/weekends); and
 - Existing working practices to avoid vibration disturbance, e.g. quiet rooms, vibration isolation tables or mounts.

On receipt of the above information we will carry out a desk top assessment and then provide a further update.

If you have any further comments on the attached responses please come back to me.



Kind regards

Lynn McHale MRICS

Associate Land and Property Surveyor
Land and Property

[REDACTED]

Upcoming leave:

Appendix A – Emailed Queries to WSP

From: Gavin Irvine [REDACTED]
Sent: 12 October 2022 09:42
To: [REDACTED]
Subject: RE: RE: Sunnica Energy Farm - confidential

Lynn,

Many thanks for this information.

Please let us know about the use of vibration-generating plant on the main cable route site (eg vibrating rollers) as soon as this can be confirmed. This refers to item 7 on your tabulated response.

In regard to item 8, my query was whether piling would be used to installed the solar panel frame supports whereas you have confirmed that there would be no piling along the main grid connection route. Can you confirm the method used to install the solar panel frame supports? If impact driving is used to install the solar panel frame supports then this should be assessed in terms of noise and vibration.

I have a response from Drug Development Solutions in relation to the vibration sensitive equipment and have attached a plan provided by them. The answer to your queries are shown in green in below.

- Required information:
 - Vibration sensitive equipment:
 - Location(s) within facility ; **LOCATIONS AS PER ATTACHED PLAN (ALL LAB AREAS HAVE ELEMENTS OF VIBRATION SENSITIVE EQUIPMENT)**
 - Generic description, e.g. optical or electron microscope magnification;; mass spectrometer; magnetic resonance imager etc; **NO MICROSCOPES, BUT BALANCES, MASS SPECTROMETERS, GAS & LIQUID CHOMATOGRAPHY AMONGST OTHER EQUIPMENT**
 - Vibration sensitivity of equipment (e.g. manufacturers data); **MAXIMUM VIBRATION LEVEL OUR INSTRUMENTS CAN TOLERATE IS VC-B**
 - Operation of equipment (times of day/night/weekday/weekends); and **INSTRUMENTS OPERATE 24/7**
 - Existing working practices to avoid vibration disturbance, e.g. quiet rooms, vibration isolation tables or mounts. **DEDICATED ROOMS & AREAS, ANTI-VIBRATION BENCH TOPS, & VIBRATION ISOLATION TABLES**

I hope this is sufficient and can allow you to carry out an assessment of the vibration impact for any vibration-generating plant or vehicles.

Please contact me if you have any further queries and let me know when you have received an answer for the outstanding queries.

Best Wishes

Gavin

Appendix A – Emailed Queries to WSP

From: McHale, Lynn [REDACTED]
Sent: 14 October 2022 11:46
To: [REDACTED]
[REDACTED]
Subject: RE: RE: Sunnica Energy Farm - confidential

Hi Gavin

Thank you for the additional information. I will forward onto the team and will come back to you with more information/answers as soon as I am able.



Kind regards

Lynn McHale MRICS

Associate Land and Property Surveyor
Land and Property

M: [REDACTED]

Upcoming leave: 21st October, 25th November, 9th December