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TECHNICAL ADDENDUM TO NOISE ASSESSMENT LOWER BERSE FARM, WREXHAM

1. INTRODUCTION AND BACKGROUND

E3P have previously provided a Noise Impact Assessment (50-311-R1-6 dated 9th August 2023), to be referred to as 'the NIA' for the proposed Residential development for up to 1520 dwellings, plus associated roads, open space, community facilities, a site for a primary school and a wastewater treatment plant (if necessary).

Following meetings and correspondence between the client, Welsh Government Highways and Wrexham Highways, it has been determined that the A483 Jct 4 could potentially be pursued, which will impact upon the development site and require safeguarded areas within the developable areas should this scheme go ahead. As a result, it is understood that the number of residential units has reduced to c. 1450 dwellings and with the wastewater treatment plant removed.

The NIA did not consider the potential noise impacts should this scheme go ahead and, as such, this Technical Note aims to address this.

This Technical Note has been completed by Lee Faulkner, Associate Director at E3P and original author of the NIA.

2. PROPOSED SCHEME

Figure 1 below details the proposed A483 Jct 4 scheme which is potentially located within the northern area of the development site, which is shown in Figure 2 for reference.

Figure 1 Proposed A483 Jct 4 Scheme



Figure 2 Proposed Development Masterplan



The NIA considered existing road traffic noise from Ruthin Road, the A483 and Bersham Road and assessed the potential for adverse impact in accordance with Professional Practice Guidance on Planning & Noise (2017) which allows for the assessment of development sites that are subject to outline planning or do not have a layout and the guidance aims to assess the suitability of the development site and provide advice on Good Acoustic Design to design out any potential adverse impact rather than relying on mitigation measures alone. The NIA concluded:

> *…an initial noise risk assessment has been undertaken which determined most of the site was subject to negligible risk with only areas close to the roads being of low to high risk.*

The assessment has recommended good acoustic design is implemented along Ruthin Road and the A483 so that rear garden areas are protected by the building envelope to negate the need for unduly high barriers or, alternatively, other uses located here to act as buffers. Where habitable rooms cannot be orientated away from the sound source, higher specification glazing and a whole dwelling ventilation system is likely to be required for dwellings close to the roads, depending on the final layout. With good acoustic design measures followed and mitigation measures in place, this assessment has shown that no adverse impact is predicted day or night at the receptors.

3. POTENTIAL NOISE IMPACT OF PROPOSED SCHEME

It is understood that traffic modelling for the WG scheme is not available, which would be required to consider any potential noise impact, as the scheme is not forming part of this application.

As such, the client aims to protect the safeguarded area on any masterplans produced so as not to prejudice the road scheme's delivery. In terms of potential noise impact, therefore, any assumptions here would be that any traffic on the new route would be similar to existing traffic flows on the A525 and A483 Jct 4 slip road. This is considered a reasonable assumption, considering existing flows on the existing roads and measured noise levels. Ultimately, the noise levels resultant from the new road layout will be no worse than the existing noise experienced by the development parcels proposed immediately adjacent to the A483 and A525.

As such, any recommendations or mitigation measure requirements will not be dissimilar to those recommended for development parcels close to the roads, such as Parcel D, F, G, H, I and N.

The following was recommended for these parcels in relation to Good Acoustic Design and can be applied to plots/parcels along the safeguarded route even when considering potential elevation differences due to the proposed embankments of the WG Jct 4 scheme:

> *Plots bounding the road will need to be orientated such that the garden areas are protected by the building envelope and buildings should wrap around the sides, where possible, to protect the gardens.*
>
> *Gaps between dwellings along the boundaries with the road should be kept to a minimum to avoids noise creep into the gardens behind.*
>
> *Wherever possible, windows for habitable rooms should face away from the noise sources so that opening windows does not necessarily result in an exceedance of the criteria. However, where this is not possible, internal levels can be controlled by way of mitigation.*

The above measures are optional, but the protection of rear gardens is highly recommended to avoid the need for any acoustic barriers.

At this stage, specific mitigation measures are not possible to stipulate. However, the potential for higher specification glazing can, based on the worst-case measured values. Assuming similar noise levels as those measured along the roads, the following would be recommended for plots/parcels along the safeguarded route:

> *Parcel D – 61 dB day and 55 dB night – higher specification needed for plots closest to the road.*
>
> *Parcel F – 63 dB day and 58 dB night – higher specification needed for plots closest to the road.*
>
> *Parcel H – 62 dB day and 57 dB night – higher specification needed for plots closest to the road.*
>
> *Parcel I – 63 dB day and 57 dB night – higher specification needed for plots closest to the road.*

> *Parcel N – 68 dB day and 63 dB night – higher specification needed for plots closest to the road.*
>
> *As such, higher specification glazing may be required for living rooms and bedrooms located close to the roads in the highlighted parcels, providing, at most 33 dB $R_w + C_{t,r}$. Furthermore, with a partially open window, the internal levels would be exceeded in most parcels, accordingly, a whole dwelling ventilation system will be required, for ventilation and potentially for mitigating overheating, for any living rooms and bedrooms closest to the roads.*

Accordingly, it is considered that the WG Jct 4 scheme can be accommodated into the scheme without undue impact. Indeed, the existing roads around the development require Good Acoustic Design and consideration of mitigation measures but do not render these parcels unsuitable for residential usage. This is also considered the case for parcels/plots along the WG Jct 4 route.

As such, any potential noise impact associated with the WG Jct 4 scheme can be effectively designed out or suitably mitigated at the receptors and the delivery of the development would not prejudice the delivery of the WG Jct 4 scheme. Good acoustic design measures are a potential solution to any potential noise impact which can be addressed at the Reserved Matters stage.

I trust the information provided in this letter report is satisfactory however if there is anything further, please do not hesitate to contact me.

Yours sincerely,
For and on behalf of E3P Ltd

Lee Faulkner
Associate Director