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Our Ref: R18/1004/Reg25/Add2/DRK

**Ref: Noise & Vibration Impact Assessment for Proposed Sand & Gravel Quarry
Land at Bow Farm, Bow Lane, Twyning, Tewkesbury, Gloucestershire
Application Number: 19/0081/TWMAJM (District Ref: 19/1231/CM)**

We have been instructed to provide a noise statement to summarise the work undertaken to date to establish the likely noise and vibration impacts from the proposed Sand & Gravel Quarry on land at Bow Farm.

Noise Statement

NVC Ltd have undertaken a detailed noise and vibration impact assessment of the proposed development during its operation period at the identified nearest sensitive receptors (NSRs).

Noise levels have been considered and assessed during different stages of the development, which has included initial soil stripping, clay and overburden removal and construction of screening mounds, mineral extraction phased workings and soil replacement and restoration. The cumulative effect of the operation of the mineral processing, associated plant operations and HGV movement have also been included.

The Local Authority EHO was formally consulted via a scoping request report by the applicant and a scoping response has been provided by Worcestershire and Gloucestershire County Council's. Further detailed information has been provided as part of the Regulation 25 request, to answer all outstanding queries raised by regulatory consultees and public comments.

The study benefits from two separate baseline sound surveys carried out in October 2018 and July 2020 at four fixed positions and five spot roaming measurement positions under appropriate weather conditions to establish typical background and residual sound levels at NSRs. The results of both surveys indicate similar results and show baseline levels are dominated by local and distant road traffic noise.

Mineral workings are specifically covered in terms of noise limits by Planning Practice Guidance (“PPG”) on *‘Guidance on the planning for mineral extraction in plan making and the application process’*. The impacts have therefore been assessed against appropriate and relevant guidance and standards applicable to the type of activity.

Noise levels from associated mobile and fixed plant noise sources have been referenced from library data obtained from other similar sites in the UK which has provided the input to noise prediction modelling software, to calculate the highest likely noise levels at NSRs. This is a common approach to assessment where the acoustician has experience and measured data of site-specific activities. The detailed analysis of phased working noise levels across the site, has resulted in 19 separate noise models to establish the range of noise at NSRs for comparison with established noise limits.

The results of the detailed analysis have shown that resultant noise levels from the site activities at all NSRs, with the proposed mitigation measures, would comply with the relevant guidance for noise and vibration. The appropriate noise limit in accordance with PPG can be enforced by condition attached to the planning permission.

Throughout the process, Worcestershire Regulatory Services (WRS) have been consulted and following further request for additional information they recognised and acknowledged that the information and analysis provided was satisfactory and they *‘confirm that all operational noise levels will be in line with the relevant guidance’*.

In specific relation to the Puckrup Hall Hotel and golf course, the noise levels are within acceptable noise levels, complying with PPG and BS8233:2014 guidance levels for external garden areas around the Hotel of 50-55dB L_{Aeq} for protection of amenity. To give context, this level of noise is acceptable for residential development that constantly passes through the planning process when considering the effect of local transport noise sources and is therefore accepted as reasonable for the protection of external amenity in private garden areas.

In December 2019 WRS recommended submission of a Noise Management Plan (NMP), which was subsequently provided to minimise noise levels by applying best practicable means (BPM) including the construction of earth mound screens, management controls, community liaison, complaints procedures, control of noise at source, maintenance and limits on operating hours.

During February 2020, WRS consulted again, following neighbour objections and recommended addressing these matters in a further information response and acknowledged that batching plants do not typically generate notable nuisance emissions. All queries were addressed in detail showing compliance with the relevant guidance.

In October 2020, WRS request clarification on sound pressure levels and monitoring positions and recommended noisy activities may be able to be restricted to 8am onwards in the NMP. Examination of typical baseline levels during the period from 0700 to 0800 hours indicates that background and residual noise levels at NSRs are typically higher than after 0800 hours due to the general influence of road traffic in the area during peak vehicle movement periods on the local road network. The reduction in operating hours at this period is therefore unjustified from a noise perspective and its associated impact.

We have however, looked at whether there are any further mitigation measures that could be adopted in order to reduce noise levels further from the processing area. The proposed acoustic screen along the west to northern side of the compound at the site boundary with the golf course has now been increased from 3m to 4m in height. This would be formed by a 3m high earth mound screen with a 1m high close-boarded fence on top. Additionally, use of a temporary screen to the northern side of the concrete batching plant area would assist in reducing noise. Whilst the proposed development could operate within acceptable levels without further attenuation, these additional measures would provide a further reduction in site generated noise levels at the Puckrup Hall and golf course. Please refer to accompanying Drawing No. 2636-4-4-2-1-DR-0015.

It is our expert opinion, based on the above evidence and robust approach taken to analyse and assess the potential impacts and compliance with relevant guidance, there are no reasons for refusal of the proposed development on the grounds of noise.

We hope the above information provides a suitable summary of the work undertaken associated with the proposed development.

Yours sincerely,

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