

Prior Hall Key Phase 1

Vibration Impact Statement

1 Background

This Vibration Impact Statement has been prepared by RPS on behalf of Urban&Civic Corby Limited, master developers of the Priors Hall Park sustainable urban extension to Corby. It is submitted in support of the planning application for mineral (limestone) extraction for use as a building material within Priors Hall Zones 2/3 Urban Extension, Corby (“the application site”). The application site is situated within the wider Priors Hall Park Urban Extension, east of Corby.

The application to extract minerals from the site is made subsequent to an application for Outline planning permission for a mixed-use urban extension, which was submitted to East Northamptonshire and Corby Borough councils in July 2019 under references 19/00351/OUT and 19/01219/OUT.

The purpose of this report is to outline the risk of vibration produced by the minerals extraction operation on the nearby Horizon Data Centre.

The information within Section 2 has been previously published within the Noise Impact Assessment, report number JAJ02318-REPT-01-R2, prepared by RPS Group in January 2021. The conclusion raises additional items worth considering when considering the risk of vibration having an adverse impact on the operations of the Horizon Data Centre.

2 Vibration Guidance

The Association of Noise Consultants (AMC) has in 2020 published updated guidelines on Measurement & Assessment of Groundbourne Noise & Vibration (Third Edition), which for mineral extraction state the following;

“4.2.5. Mineral Extraction

Mineral extraction for both hard and soft rocks occurs throughout the country using both mechanical plant and blasting.

The former includes mobile plant such as excavators, scrapers, dump trucks etc. and fixed plant such as crushers and grading plant. Vibration levels are usually fairly low and do not propagate outside of the quarry/pit or haul road.

Blasting is required to fragment rock faces in hard rock areas and also break up larger fragments of the face (secondary blasting). The former source is the more significant as blast occurs within the main strata whereas secondary blasts normally require small charges and these usually occur on lumps of rock no longer attached to the quarry face. Vibration limits from both are usually restricted by conditions on the planning consent.”

Vibration effects can arise from mobile plant operating within the site and from HGVs on the access roads. However, receptors would generally have to be very close to the sources for vibration levels to be perceptible and levels would need to be considerably higher than the perceptible levels in order to cause any building damage.

The Horizon Data Centre, which is considered the only potential vibration sensitive receptor, is located approximately 100m from the nearest excavating site.

As no blasting is necessary as part of the extraction process vibration from the minerals extraction process is considered most unlikely to result in any significant effects and is hence not considered further.

3 Conclusion

Further to the points made in section 2 above, the following is also worth considering when assessing the vibration impact with regards to the Data Centre, namely;

- The limestone is understood to be soft, therefore no blasting is required to mine the material.
- Vibration levels are understood to attenuate rapidly over distance. With the Data Centre building being in excess of 100m from the edge of the overburden, as well as vibration from the operation being low and not likely to extend beyond the edge of the pit, it is considered highly unlikely that it would be felt at the Data Centre.

In conclusion, it is considered that the minerals extraction operation poses negligible risk in terms of vibration impact on the Horizon Data Centre.