

Main Matter 4 Question7: MIN 25- Impact on Residents Health

Is residents' health adequately protected?

MIN 25.1 states "there are 55 sensitive receptors within 250m of the site boundary and 15 of these are within 100m of the site boundary". "Even without mitigation, adverse dust impact from sand and gravel sites are uncommon beyond 250m from the dust generating activities".

MIN 25.8 states that "the site would need to be set back approximately 100m from the nearest residential properties".

Is 100m enough? Should the site setback be 250m or more?

Appendix 1 is evidence produced by a retired GP for a similar proposed quarry at Barford. " It is well documented amongst protected workers involved in this mining process that this accumulated dust leads to permanent lifelong breathlessness called chronic obstructive pulmonary disease otherwise known as COPD. There is increasing evidence that these freshly mined silica particles are also carcinogenic leading to lung cancer and other auto immune diseases and death in some.

While the science of the effects of inhaled crystalline silica on workers' morbidity and mortality annually are undisputed, there remains contention about the effects on the residential populations living in the immediate vicinity of these active excavation sites. This is highly misleading as it merely reflects lack of global research to date of health impact. If crippling and fatal disease can happen to protected workers at risk, then that same risk must also apply to unprotected residents living close by".

Given the statement in MIN25.1, the impacts of climate change and record breaking temperatures, e.g. the long hot dry summer in 2022, there is a high potential for excavation activities in this site to generate dust impacts extending beyond 100m and even 250m to 400m and beyond. See Matt Western Private Member's Bill suggesting a minimum stand off to residents houses from Sand and Gravel of 1000m because of the inherent health risks.

Should the development be subject to the minimum air quality standard in current legislation, focused on PM₁₀ or be applying the latest available science (as per the IAQM Code of Professional Conduct) and providing for resident protection for the more damaging PM_{2.5}?

The IAQM guidance the threshold is based on the likelihood of the 2010 annual mean objective for PM₁₀ being exceeded (see Section 5.2 of the guidance). However, quite clearly the evidence relating to health effects of fine particulate matter has changed since the implementation of the original air quality standards in the UK in 2010. This is evidenced by:

- The introduction of new targets for PM_{2.5} in the UK in 2023 through the Environmental targets (Fine Particulate Matter)(England) Regulation 2023;

- Publication of new air quality guidelines by the World Health Organisation in 2021 that reduced the guidelines for PM₁₀ to 15 µg/m³ as an annual mean (compared with the current UK standard of 40µg/m³);
- Publication of new air quality guidelines by the WHO in 2021 for PM_{2.5} of 5µg/m³;
- The recent provisional agreement by the European Union of new air quality standards proposing annual mean PM₁₀ and PM_{2.5} standards of 20 and 10µg/m³ respectively.

The IAQM also acknowledge that the focus is shifting from PM₁₀ to PM_{2.5} when examining human health effects of particulate matter. In the second paragraph of its construction dust guidance¹ issued in January 2024 it states “*Exposure to PM₁₀ has long been associated with a range of health effects, with an increasing focus on the smallest particles such as PM_{2.5} and smaller*”

Should any dust survey presented as evidence of any health impacts from MIN25 reflect the full circumstances of the development and site and be as site specific as possible and use local site data?

Given the proximity of the site to Haddiscoe village and people’s houses, should the dust survey be a refined as possible?:

- Modelling dust from the extraction activities on a phase-by-phase basis.
- The modelling of the likely scale of emissions from each planned source on the site, which could be used to better inform the impact on each receptor (rather than using a method based on judgement e.g. Source Pathway Receptor).
- Modelling the dust impacts of the terrain of the site.
- Modelling the dust impacts using site specific wind impacts/data.
- Measuring and baselining the current dust conditions and specific wind data from the site before any development.

Should the dust mitigation measures be based on best practice, for example continuous monitoring equipment during operation, to provide a valuable tool for minimising dust emissions including PM_{2.5}?

Appendices

1. Hearing Statement by Malcolm Eykyn. MB., CHB (Retired GP). Lower Watchbury Farm Wasperton Lane Barford.
2. Michael Bull & Associates Review of Dust Assessment: Proposed Sand and Gravel Extraction, Haddiscoe Norfolk
3. Michael Bull & Associates File Note 4th March 2024

¹ IAQM, Guidance on the assessment of dust from demolition and construction, January 2024 (Version 2.2).