

**HAVANT BOROUGH COUNCIL**

**Town & Country Planning Act 1990**

**Consultation on Planning Application**

***MEMORANDUM***

|                              |                                                                                                                        |                  |                            |
|------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------|
| <b>From:</b>                 | <b>Environmental Health</b>                                                                                            | <b>To:</b>       | <b>Development Control</b> |
| <b>Our Ref:</b>              | CONS/19/01948                                                                                                          | <b>Your Ref:</b> | APP/19/00909               |
| <b>EH Case Officer Extn:</b> | 44 6677                                                                                                                | <b>Date:</b>     | 10 October 2019            |
| <b>DC Case Officer:</b>      | David Eaves                                                                                                            |                  |                            |
| <b>DC Case Officer Extn:</b> | 44 6549                                                                                                                |                  |                            |
| <b>Application Number:</b>   | APP/19/00909                                                                                                           |                  |                            |
| <b>Site Address:</b>         | Dunsbury Business Park Development, Fulflood Road, Havant                                                              |                  |                            |
| <b>Proposed Development:</b> | Application for variation of condition 10 of Planning Permission APP/18/00478 relating to revised piling arrangements. |                  |                            |

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**Observations / Comments:**

I have read the supporting documentation to this application, alongside representations made by relevant external consultees.

I would firstly highlight that both the Environment Agency (EA) and Portsmouth Water Company (PWC) raised no objections subject to the use of Continuous-Flight (CFA) piling techniques, as previously approved. It is clear from both the information from Roger Bullivant, and application cover letter that driven piles are proposed.

This being the case, I would interpret both the PWC & EA representations to be objections to driven piles, and so to a positive determination of this application. I would recommend that both the EA & PWC be reconsulted making absolutely clear that driven precast piles are proposed.

I also note that PWC's response also contained a caveat that the termination depth be shallower than 'Base of London Clay minus 1.0m'. The proposed pile cap layout (7275/ST/01 rev A) contains the following note: *"This drawing is to be read in conjunction with 7275\_CALCS\_Rev B & all other structural drawings, and the Architect's working drawings."*, of which it is notable that 7275\_CALCS\_Rev B in particular has not been submitted within this application.

It is anticipated that this document would confirm the anticipated pile depths, which could then be related to the confirmed stratigraphy at the site. I note that the submitted ground investigation reports infer a thickness of London Clay of ~150m, however with reference to available BGS borehole records for this area it is apparent that 'soft grey limestone' may be present at depths as shallow as 34m below ground level. It is unclear from the record whether this limestone is likely to be associated with a chalk deposit, but it's description, legend (shown with 'blocky' structure), and annotation suggests a soft calcium carbonate (chalk-like) limestone, so it is considered possible that it is contiguous with the principle aquifer.

Whilst I don't believe it likely that pile depths will approach the 30m mark, the substantially reduced number (from ~500, to ~170) may in part be achieved by an increase in pile depth. I am also mindful that the engineers may have chosen to ignore the bearing capacity of the variable deposits; made ground (>5.0m thick in places) and head (>2.0m thick in places), meaning that the pile length may be as much as 7.0m just to meet its founding strata. I expect confirmation (that pathways to the chalk will not be created) to be a formality, but we should seek confirmation nonetheless.

The Soiltechnics report (submitted previously, and referred to in the Roger Bullivant information) refers to the Bognor sand being 'effectively impermeable'. I would point out that this refers to its suitability for infiltration drainage, and is probably not a fair characterisation of the unit with respect to its ability to function as a secondary aquifer (as per its EA designation).

Environmental Health's view is that the Bognor Sand member is likely to be variably permeable (depending on silt content and coarseness of sand, both of which vary within the local unit), and is likely to function as a secondary aquifer, contributing to the base flow of the riders lane stream. Made ground is considered to be contiguous with the secondary aquifer, and there is considered to be a degree of hydraulic continuity between the aquifer and the surface water. This is relevant to the EA's caveat (who's remit is controlled waters, including surface waters), and of negligible relevance to PWC's caveat (who's remit is the principal aquifer).

### *Use of driven piles*

Comments here relate to the risk of mobilising contaminants, and are made without prejudice to the comments of my colleagues in respect of construction noise.

Driven Piles have a disadvantage over augered piles, in that they do not present an opportunity to inspect the soil arisings. In this way, if intersecting a significant pocket of contamination-impacted soils, this would not be identified.

The lateral displacement of soils is a structural advantage (increasing skin-friction) but also has the effect of locally increasing pressure and temperature on installation, whilst also introducing a physical vibration / agitation of soils. These factors are likely in the short term (i.e. during construction) to mobilise contaminants. Mobilised contaminants may or may not reach the stream - this may depend upon groundwater levels, weather conditions during construction, and retardation rates. The deeper the made soils, and the closer to the stream (piles are installed) the greater the likelihood of mobilisation to the receptor.

Whether the use of blunt-ended or taper-ended piles is material to these risks may depend on pile depths, but my expectation (under the current conceptual model) is that it will not substantially alter the risk of mobilisation.

Environmental Health has already accepted that the site is probably contributing to the pollution-loading of the stream, but also that the baseline quality is poor, and that the betterment that may be achieved by a remedial scheme may be marginal. A similar rationale could be applied to consideration of short-term mobilisation risks.

The Environment Agency is probably the critical consultee, best placed to advice on the perceived sensitivity of the receptor.

### *Conclusions*

I would consider the use of driven piles to represent an increased per-pile risk (reduced surveillance of soil conditions, and increased risk of mobilisation), but would equally recognise that the aggregate risk may be broadly neutral due to the substantially reduced number (and so the reduced degree of groundworks).

I would raise no objection to the revised scheme on pollution / contamination grounds, subject to no adverse comments arising from review of 7275\_CALCS\_Rev B, and without prejudice to the Agency's opinion on the severity of risk to the controlled water (posed by short-term mobilisation).

Both the EA & PWC should be reconsulted as outlined above.

**Mr. Jonathan Driver**  
Environmental Control Officer