

Condition 9

Piling or any other foundation designs using penetrative methods shall not be permitted other than with the express written consent of the local planning authority, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to groundwater. The development shall be carried out in accordance with the approved details.

Reason: Piling or any other foundation designs using penetrative methods can result in risks to potable supplies from, for example, pollution / turbidity, risk of mobilising contamination, drilling through different aquifers and creating preferential pathways. Thus it should be demonstrated that any proposed piling will not result in contamination of groundwater and having due regard to policies CS15 and DM10 of the Havant Borough Local Plan (Core Strategy) 2011 and National Planning Policy Framework, March 2012, (paragraph 121).

Response to Condition 9

Given the thickness of the made ground and the variable nature of the underlying head deposits and Bognor sand member found at the site a piled foundation arrangement bearing in the London Clay is considered the most appropriate solution.

It is proposed to use low displacement continuous flight auger (CFA) piles. The CFA piles are formed by drilling to the required depth using a hollow stem continuous flight auger. After reaching the designed depth, a high slump concrete is then pumped through the hollow stem. While the concrete is being pumped, the auger is withdrawn at a controlled rate, removing the soil and forming a shaft of fluid concrete extending to ground level. A reinforcing cage is then inserted into the fluid concrete.

The primary advantage of a CFA pile is that they help mitigate the potential contamination risk described in condition 9. This is because a CFA pile does not drag the ground with it as it is formed, reducing the risk of potential contamination between strata. More importantly the concrete is placed as the auger is withdrawn effectively plugging the pile. This reduces the potential risk of the perched water found in the head and Bognor sand member above the clay exploiting a potential pathway.

Other systems such as driven piles are generally known as displacement piles; these tend to displace the ground surrounding them as they are driven into the ground. We have not allowed these to be used on the site as they are more likely to result in the concerns that have been described in condition 9.

I trust that this is a satisfactory explanation of why piling is being adopted and how the risks identified are being mitigated.

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