

SITE: Dev 1 Land North West Of Methodist Chapel, Chapel Lane, Gorsley, HR9 7SE
TYPE: Discharge of Conditions
DESCRIPTION: Development of 7 dwellings
APPLICATION NO: 182139
GRID REFERENCE: OS 367262, 226051
APPLICANT: Mr C Head
AGENT: Tony Coombes

Please note that we were not consulted at the planning permission stage for this development. This response is in regards to the discharge of planning conditions for this development with focus on those conditions relating to flood risk and land drainage aspects. This response builds on the submission of the following information:

- Drainage General Arrangement (Ref: 500 Rev P4);
- Ground Investigation (produced by Wilson Associated, dated 28th Feb 2019);
- Ground Investigation (produced by Core Geotechnics Limited, dated 21st August 2018);
- MicroDrainage Submissions (dated 28th March 2019).

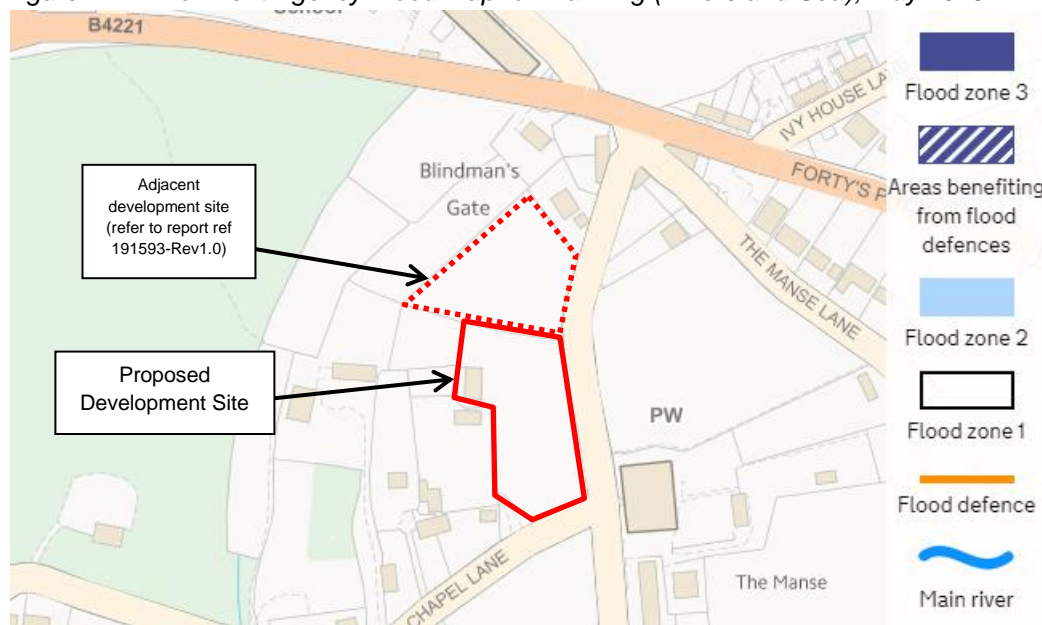
Condition 22:

No development approved by this permission shall be occupied until a scheme for the provision of surface water drainage works has been submitted to and approved in writing by the local planning authority. The approved scheme shall be implemented before the first occupation of the development hereby approved.

Reason: To prevent the increased risk of flooding by ensuring the provision of a satisfactory means of surface water disposal and to comply with Policy SD3 of the Herefordshire Local Plan – Core Strategy and the National Planning Policy Framework.

Site Location

Figure 1: Environment Agency Flood Map for Planning (Rivers and Sea), May 2019



Surface Water Drainage

Infiltration testing results have been provided. One report was produced in August 2018 and another in February 2019. These tests demonstrate that the site has sufficient infiltration to dispose of surface water runoff via soakaway. Rates of 1.6×10^{-3} m/s, 4.6×10^{-4} m/s and 3.2×10^{-4} m/s were recorded.

The drainage layout (Ref: 500 Rev P4) demonstrates that individual soakaways are proposed to serve plots 1 – 4. These are to be located in the gardens of the respective dwelling. It has been demonstrated that a soakaway 'SA5' will be located in the back garden of plot 5. This will serve part of plots 5, 6 and 7. 'SA7' is proposed to serve part of plots 6 and 7. This will be located on unallocated land (on the other side of the proposed highway). There is no clarity around the proposed adoption and maintenance arrangements for the surface water drainage system. The Drainage Layout plan should reflect the ownership of the respective drainage components. This must also be clarified in writing.

We do recommend that individual soakaways are provided for plots 5, 6 and 7 if possible.

We appreciate that permeable block paving is proposed for the access road and driveways. These are to remain private as stated on the site layout plan.

The Applicant should provide a surface water drainage strategy showing how surface water from the proposed development will be managed. The strategy must demonstrate that there is no increased risk of flooding to the site or downstream of the site as a result of development between the 1 in 1 year event and up to the 1 in 100 year event and allowing for the potential effects of climate change. <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>.

An infiltration rate of 4.4×10^{-5} m/s has been used in the MicroDrainage submission. Infiltration through the base has been ignored as well as using a safety factor of 2. We appreciate this conservative approach. The MicroDrainage submissions have been based on contributing areas of 150m², 200m², 300m² and 450m². We do recommend that MicroDrainage submissions are provided using accurate contributing areas for each plot to ensure that the correct size of soakaway will be installed to accommodate the 1 in 100 year + 40% climate change event.

We are aware that the adjacent development site (refer to Discharge of Conditions 191593) is currently proposing to dispose of runoff generated by the proposed 4 dwellings into SA7 within this development. We have a strong preference towards providing individual soakaways to serve each dwelling, thus we request that testing is undertaken in the site (ref 191593) to establish whether the runoff can be managed within the site boundary, however if infiltration is not possible we would expect to see calculations to prove that a sufficiently sized soakaway can be provided in this location. This information should be provided in conjunction with Discharge of Conditions 191593.

Foul Water Drainage

The testing undertaken in February 2019 was as follows: rapid outflow whilst filling occurred in FT11, SA5 and SA6. Not suitable for foul drainage field due to rapid outflow and thus lack of treatment, hence why a drainage mound is proposed, to provide extra treatment (retardation measures)

Plots 1 - 4:

We understand that the Vp values established in the area of the proposed drainage field were very low (0.49, 1.21, 2.1 and 27.5) and thus a drainage mound is provided for disposal of foul water to provide further treatment as suggested within the building regulations. We hold concerns that this will

require pumping. Pumping should be avoided where possible. It should be demonstrated using topographic levels that a gravity system can be provided. Alternative methods of tertiary treatment (e.g. removing the highly permeable soil and replacing with soil with a higher Vp to allow for tertiary treatment, or reed beds) could be provided prior to disposal into the highly permeable ground.

Plots 5 - 7:

Similarly as above, a drainage mound is proposed for disposal of foul water to provide further treatment as suggested within the building regulations. We hold concerns that this will require pumping. Pumping should be avoided where possible. It should be demonstrated using topographic levels that a gravity system can be provided. Alternative methods of tertiary treatment (e.g. removing the highly permeable soil and replacing with soil with a higher Vp to allow for tertiary treatment, or reed beds) could be provided prior to disposal into the highly permeable ground.

The Applicant must be aware that an Environmental Permit will be required for the disposal of treated effluent.

We do recommend the use of individual treatment plants served by individual drainage fields. It may be necessary to alter the layout of some of the houses slightly.

We are aware that the adjacent development site (refer to Discharge of Conditions 191593) proposes to direct foul water from the proposed 4 dwellings into the boundary of this site (ref 182139). The proposed drainage field (drainage mound) under application 182139 is proposed to be extended (by 272m²) to allow for the disposal from the 4 dwellings as in application 191593.

We hold concerns that pumping may be required for this configuration. Pumping would not be acceptable. Percolation testing should be undertaken within the site boundary (under ref 191593) to provide an accurate Vp value. We do recommend that individual package treatment plants and individual drainage fields are provided for each dwelling.

Overall Comment

Condition 22: Cannot yet be discharged.

Surface Water drainage aspect

We request that an alternative configuration of soakaways is considered for plots 5-7 to provide individual soakaways for each dwelling. We also request that updated MicroDrainage calculations are provided to reflect the true proposals to ensure that the soakaways have been correctly sized to accommodate the 1 in 100 year + 40% climate change event.

We understand that the drainage aspects of this application may be in conjunction with the adjacent development site under application ref 191593. We must raise our concerns that pumping may be required to allow for disposal of water from the dwellings under application 191593 in this development site.

Foul Water aspect

We request that a cross section of the site is provided to demonstrate that a gravity fed foul drainage strategy can be provided. We hold concerns that pumping may be required for the use of a drainage mound. There may be alternative options for ensuring that additional treatment is provided (as the Vp value is very low). An updated foul drainage strategy should be provided.

We understand that the foul drainage aspects of this application may be in conjunction with the adjacent development site under application 191593. We must raise our concerns that pumping may be required to allow for the disposal of foul water from the proposed 4 dwellings. Pumping would not be considered acceptable. Percolations tests should be undertaken with application site 191593 to determine whether foul water can be dealt with via infiltration.

Infiltration tests within boundary of site ref 191593 should be undertaken prior to discharging condition 22 of 182139 as the drainage strategy for site ref 191593 may interact with the drainage strategy for site ref 182139.