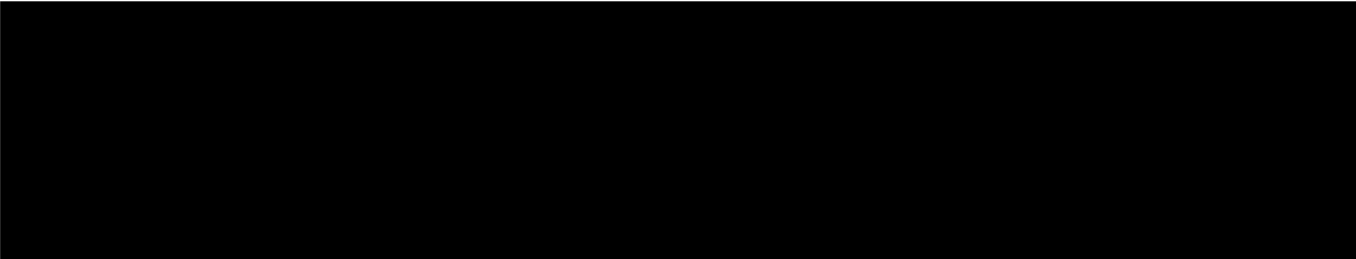


Further drainage consultation response AL/28/20/DOC



Dan,

Thank you. I confirm points 1-7 are now closed. I await further detail regarding points 8-11.

Kind regards,



Hi Laura,

Please see my comments below and additional information as requested.

1. Soakaways 4 to 10 appear to have their bases set below peak recorded groundwater level. Please raise the bases of these soakaways. Please check the model and the accompanying drawing we've provided again. You will see that although these soakaway bases were set below the groundwater level, the model has only assessed these from the effective level, equivalent to the peak groundwater level.
2. There are large inconsistencies between the pipe network shown on plan and that modelled, with invert and cover levels of manholes not tallying. Of those checked (circa 15) none were consistent, please correct. The cover levels were approx. 50-150mm off as were indicative in some places and have been revised, this has not had any negative effects as system is working well. The invert levels are manually set on the Causeway Flow model to tally with the Arch Associates Drainage and Road Layout & details drawings. I have revised the inverts slightly of 6 out of 130 nodes, all now tally, please see revised accompanying model drawing to check these so this should be clear. Please revisit this.
3. Soakaway 16 has inconsistent dimensions between calculations and plan, please correct. The plan shows this soakaway as 26x12m whilst the calculations showed it as 26x10m. Now corrected and will further improve situation.
4. The invert level of soakaways 6 to 10 are inconsistent between plans and calculations, please correct. As explained in Point 1.
5. A surcharged outfall should be modelled, with surcharged levels set to top of the bank adjacent to the outfall. It is clear from the model that the system has such good capacity that the pond outfall is effectively un-used, with no discharge to watercourse in the design event. It may be that high groundwater levels or a blockage would result in the need for this outfall in the future but it is unlikely to ever be surcharged.
6. Please supply two perpendicular cross sections of the pond so that modelled dimensions can be verified. Mapledean have provided additional drawing, please see attached. Our model and accompanying drawing shows how we've best fit modelled the pond based on the provided data on the topographic survey, which

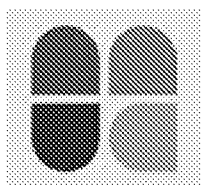
actually accounts for the pond smaller than it is, with an effective base level at the peak groundwater level/outfall level.

7. Please make the hydrobrake construction detail drawing specific to this site, i.e. add invert levels, hydrobrake reference, cover level, etc. Mapledean have provided additional drawing, please see attached. I've detailed the scope of this within the model and accompanying drawing.
8. Within the maintenance manual please detail who will be responsible for maintenance and how it will be funded. Aqua Callidus to address.
9. Please ensure the maintenance manual is specific and only includes elements that are included in design. This should also include reference to smart sponges and the separator. Aqua Callidus to address.
10. Please make maintenance requirements for the flow control device clear. Aqua Callidus to address.
11. Please include details of the landowners riparian responsibility within the maintenance manual. Aqua Callidus to address.

As evident by the results, the system easily deals with the design event with minimal flow to the watercourse. Hopefully therefore the modelling satisfies any concerns with the system, and this can now be discharged. If any further issues with the modelling or accompanying plan please feel free to email/call me to get resolved.

Kind Regards,

Dan Lytton MEng GMICE
Engineer



www.bpcivils.co.uk

Bright Plan Civils, Transport Planning and Civil Engineering Consultants

Bright Plan Civils, 2 West Barn, Norton Lane, Chichester, PO20 3AF

This Email is confidential and is for the intended recipient only. If you are not the intended recipient, please contact the author and do not disclose or use the contents in any way. The author bears no responsibility for any legal action or disputes arising from views or professional advice expressed which do not relate to the business of RGP Design Ltd.

Bright Plan Civils is a trading name of RGP Design Ltd | Registered in England No. 09674169