

Further Drainage comments

Hi Simon,

The applicant has provided further ground investigation information. They have completed additional trial holes near the locations of each of the soakaways and have not found chalk within these, but it should be noted that the depth of these ground investigations does vary significantly, with some not extending to the proposed invert levels of soakaways.

The latest ground investigation information provided also states that they may not need to provide more than 5m easement between soakaways and buildings/ highways. I would suggest that if infiltration is used we will need to seek some further guidance regarding this.

I have summarised the ground investigation findings on the table I provided previously.

Catchment	Depth of Soakaway	Approximate depth of GW	GI notes	Approximate Distance from Soakaway to nearest building	Comments
A	2.165m	2.67m	WS to 4.5m depth, no chalk recorded. Gravel layers from 1.2m depth	8.2m	24m confirmed
B	1.985m	2.67m	WS to 2m depth. No chalk recorded.	8.5m	WS does not extend far beyond proposed depth of SA.
C	2.065m	3m	WS to 5.6m depth. Clasts of chalk only. Gravel from 2.95m depth.	8.2m	
D	1.8m	3.25m	TP to 2.7m depth. Clay to 2.7m depth. Infiltration rate not entirely consistent with soil classification.	8.8m	
E	1.85m	3.25m	WS to 2.3m depth. Chalk sand sized fragments found. Gravel from 0.95m depth.	8.5m	
F	2.075m	2.4m	TP to 3m depth. Clay to 3m depth. Infiltration rate not entirely consistent with soil classification.	8.6m	
G	2.18m	2.4m	WS to 2m depth. Gravel and silt.	8.6m	WS insufficient depth.

N	2.235m	2.4m	WS to 2m depth.	9.5m	WS insufficient depth. SA 5.5m from Fontwell Avenue. The soakaway must be located the required distance from the highway.
---	--------	------	-----------------	------	---

The Environment Agency have now responded to state "we do not believe the use of infiltration SuDS is appropriate in this location". They have stated that the current design is a deep infiltration solution and that they will only agree to the use of such a system when all of the following apply:

- The discharge to groundwater is indirect (with the exception of clean uncontaminated roof water to ground.) *Current proposals mix roof and road water in multiple catchments. Catchments must be separated, so that infiltration can be used for at least roof water.*
- There are no other feasible disposal options such as shallow infiltration systems or drainage fields/mounds that can be operated in accordance with the appropriate current British Standard 6297:2007 A1:2008. *Insufficient information has been presented to date to demonstrate that infiltration has been kept as shallow as feasible.*
- The system is no deeper than required to achieve sufficient soakage. *Insufficient information has been presented to date to demonstrate that infiltration has been kept as shallow as feasible.*
- Acceptable pollution control measures are in place. *Insufficient information to date.*
- Risk assessment demonstrates that no unacceptable discharge to groundwater will take place – in particular inputs of hazardous substances to groundwater will be prevented. *Insufficient information to date.*
- There are sufficient mitigating factors or measures to compensate for the increased risk arising from the use of deep structures *Insufficient information to date.*

The comments in blue italics outline what I believe the current situation is.

We need to decide whether we are happy to leave details to conditions or not. I believe that the applicant should, as a minimum, submit an attenuation proposal at this stage. This will evidence if a drainage solution is achievable within the proposed site layout.

Leaving drainage to pre commencement conditions will be very complicated on this site as the required easements and treatment are going to have significant impacts upon layout.

Therefore, I would prefer to also see a shallow infiltration drainage solution also presented at this stage. Infiltration should be used on this site if possible, but it is clear from the GI results and the EA comments that if infiltration should be used it must be as shallow as possible, with separate disposal points for roof and road water. As can be seen in the table all of the soakways get close to, or are within, 1m of recorded groundwater level and frequently do not have a cohesive strata between soakaway base and groundwater level. Therefore there is potential for groundwater inundation in wet winters, and for the groundwater to be polluted by the proposals.

Kind regards,

[Redacted signature block]

Good morning Laura,

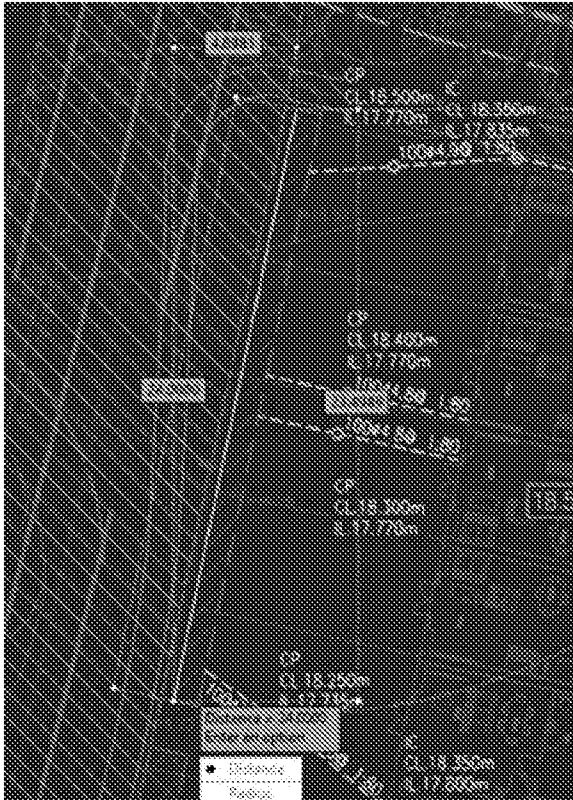
Further to your email dated 19th August, a copy is attached for your information, please find our latest Technical Note from Soils Ltd attached.

I also attach a copy of the Drainage Layout (Rev F) for your review, with the Trial Pit locations shown within the proximity of the soakaways. There has been no changes to any other information within the drawing.

We have undertaken further testing which confirms no chalk present at depth across the site (see attached report), in particular within the proposed soakaway locations. The table below refers to the Catchment Name and Trial Log Reference:

Catchment Name	Trial Log Reference
A	WS-A
B	WS-B
C	WS-C
D	SA2
E	WS-E
F	SA1
G	WS-G
H	WS-H

With regards to your comment about Catchment A measuring 23m, rather than 24, please see screenshot below taken from our AutoCAD model which shows a 24m long soakaway.



With regards to Catchment B, the under the road crates are actually located within a courtyard/ car parking facilities and the road is not being adopted.

I trust that the additional information is satisfactory, and we can now resolve any outstanding issues and get the drainage approved.

Please do not hesitate to contact me directly should you wish to discuss this matter further.

Kind Regards,

Claire Pritchard
Senior Technician



Fareham Office



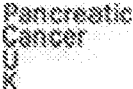


 p The Bothy, Cams Hall Estate, Fareham, PO16 8UT
 w www.paulbashamassociates.com

Fareham | Oxford | Bristol | Cambridge



 Follow Us

 Please support our fundraising for
Pancreatic Cancer UK. Click to donate!

 Please consider the environment before printing this e-mail

Registered in England No. 7013956

VAT: 980 0742 22