From: Ken Argent
Sent: 05 December 2013 08:17
To: 'Martin Roberts'
Cc: Peter Barnett
Subject: RE: AWDM/0334/13 - land rear of 77-83 Southview Rd and 82-88 Underdown Rd

Follow Up Flag: Follow up
Flag Status: Flagged

Peter,

Martin's submission and these clarification statements satisfy my requirements

Ken Argent - Engineer BSc, RMaPS| Technical Services, Adur District Council and Worthing Borough Council
Location: The Town Hall, Chapel Road, Worthing, West Sussex, BN11 1HA.
Internal: 1374 | External: 01903 221374 | E-mail: ken.argent@adur-worthing.gov.uk

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From: Martin Roberts [mailto:MRoberts@gtacivils.co.uk]
Sent: 04 December 2013 18:12
To: Ken Argent
Cc: Peter Barnett
Subject: RE: AWDM/0334/13 - land rear of 77-83 Southview Rd and 82-88 Underdown Rd

Ken,

Thanks for the email.
My responses are below.

Regards

Martin Roberts IEng, ACIWEM, MCIHT
Managing Director

gta civils ltd - consulting engineers

ddi: 01444 225651
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From: Ken Argent [mailto:Ken.Argent@adur-worthing.gov.uk]
Sent: 04 December 2013 13:16

To: Martin Roberts
Cc: Peter Barnett
Subject: AWDM/0334/13 - land rear of 77-83 Southview Rd and 82-88 Underdown Rd

Martin

Thank you for the attached.

I have one observation and two questions that require your answer before I advise Peter Barnett in the Planning department that I am satisfied with your drainage proposals.

Observation.

Whilst I accept that the impermeable area on this site has potentially decreased from 1025m2 to around 495m2, your comment below that this reduction is a huge benefit to the area is a little misleading.

If 100 mm of rain falls onto the current site all that water eventually runs off the existing hard surfaces and begins to permeate into the soil increasing the volume of "ground water" exactly the same amount of rain will fall on your development and exactly the same volume will eventually percolate into the ground accepting it's not concentrated at the periphery of the existing hard standing but distributed across the development as a whole and is retained to a degree. **The fact that we are removing hardstanding must be a good thing which will slow down the transfer of water to ground and in less concentration.**

As the flooding problems associated with this area are not primarily due to surface water runoff but in fact ground water eruption, which may last for weeks, then the increase in ground water associated with this site remains largely unaltered. There is no evidence in the soil investigation of 'ground water eruption'. **I am not sure how we can design in something which is purely from eye witness testimony. I appreciate you have a lot of experience in the area and we have considered this in the changes to the design. With the measures we are taking to increase available volume within the makeup and providing additional storage in the back garden I am not sure what more we can do. Southern Water would not accept flows into their drainage system without us proving that soakaways will not work and they will.**

Therefore your belt and braces approach which I accept keeps this development dry does not significantly help to alleviate the potential of ground water flooding affecting the residents further south. **Again there is no direct evidence there are groundwater issues, but we have done our best to address concerns.**

Question 1.

Within Richard Seymour's email 16 may 2013, there was mention of a connection to the main surface water drain :-

The development, if approved, will provide the opportunity to enhance the drainage situation in the immediate and wider area around the development with the use of trench soakaways which will work in times of low groundwater with a higher level overflow taking ***any excess storm water to the main surface water drain in times of heavier loading*** *with onsite storage reducing flow rates to the main sewer should this option be required. The removal of a lot of current commercial hard standing will also give an opportunity to permeate over a wider area.*

There is no connection shown to any surface water sewer on the current drainage drawing 4999/100 Rev D, please confirm that this comment was erroneous and that there is no intention to connect off site and that all surface water will be dealt with on site.
Yes – no connection – all surface water will be dealt with on site.

Question 2.

You have added baffles into the porous paving. With the north south cross fall of around 300mm (SCP CL 13.2 – running to SCP CL 12.95) you have 300 mm less storage capacity to the north than against the baffle. Will your system operate satisfactorily and is there a risk of overtopping, adjacent to Plot 5.

The formation level is taken from the lowest level and so is 12.015 so no risk of overtopping.

Regards

Ken Argent - Engineer BSc, RMaPS| Technical Services, Adur District Council and Worthing Borough Council
Location: The Town Hall, Chapel Road, Worthing, West Sussex, BN11 1HA.
Internal: 1374 | External: 01903 221374 | E-mail: ken.argent@adur-worthing.gov.uk

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From: Martin Roberts [mailto:MRoberts@gtacivils.co.uk]
Sent: 28 November 2013 17:55
To: Ken Argent
Cc: Richard C25; 'David Smart B.Eng(Hons)C.Eng M.I.Struct.E'; Paul Calland; 'Russell Ashby'; 'Simon Pilbeam'; 'Tony Hulejczuk'; 'Henry Burrows'; Simon Dent
Subject: RE: AWDM/0334/13 - land rear of 77-83 Southview Rd and 82-88 Underdown Rd

Ken,

Further to your recent comments regarding the drainage at the above site, we have prepared the attached for your consideration and comment:

- Drawing 4999_100d revised to show the roof areas draining to the deep permeable paving sub-base. External works updated to suit to show the formation level and baffles. (this has been carried out due to the recently received soakage rates)
- Further to your comments regarding possible standing water in the rear gardens, we have now shown a soakaway trench to act as a land drain soakaway to provide some void space along with a cut off land drain to the north boundary to protect the housing. We would comment that groundwater itself doesn't appear to be a problem as the soil report carried out by Ashdown this month (attached) states that groundwater was only encountered at 7.3m deep. (section 4.3) Therefore the land drainage we have shown is a 'belt and braces' approach to ensure there will be no water ponding in the rear gardens and to allay your concerns.
- The soakage tests which Ashdown carried out were in the winter so we are confident that with the surface area available for infiltration within the permeable paving and volume available up to the 1 in 100 year storm +30% there should not be a problem. Please see attached the microdrainage calculations to support this and permeable paving area plan.

- With regards to impermeable areas and flood risk, we would highlight that the existing site had a total impermeable area of 1025m/squared (see drg 107 attached). As can be seen from drg 106, total impermeable areas now are just the roof area of 495m/squared, clearly a huge benefit to the surrounding area in terms of flood risk. I would also highlight that this site previously drained via soakaways which were clearly built some time ago and would have likely been silted up and not been provided with storage to the 1 in 100 year event.

As can be seen from above the proposed drainage scheme will provide a huge benefit to the area and hopefully you will now be able to approve this scheme. However, if you would like any further clarifications, please do not hesitate to call before providing a written response.

Kind regards

Martin Roberts IEng, ACIWEM, MCIHT
Managing Director

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