

REP/023/001.
Chris Banks <bankssolutionsuk@gmail.com>



Fwd: Pre-Application Query: Tully De'Ath Flood Risk Assessment Issue 4- New Salts Farm - Shoreham 11649 For The Hyde Group

1/26/2017

Ben Daines <ben.daines@adur-worthing.gov.uk>
To: Chris Banks <bankssolutionsuk@gmail.com>

30 January 2017 at 16:30

Chris,

Further to our discussion earlier today, please find attached a response from Ray Drabble of West Sussex County Council. He has responded to the amended Flood Risk Assessment that was appended to Boyer's statement for Issue 1 on behalf of Hyde Homes re New Salts Farm (REP-061-001).

Could you give this a reference number please and then I can put it on the website.

FYI, I am about to send through a response from the Environment Agency on exactly the same issue/statement. Could you please give this a number also?

Both the Environment Agency's response and West Sussex County Council's response have been sent to Hyde already.

Thanks,

Ben Daines

Senior Planning Officer, Adur & Worthing Councils
Phone: 01273 263065
Email: ben.daines@adur-worthing.gov.uk
Website: <http://www.adur-worthing.gov.uk/planning-policy/>
Worthing Town Hall, Chapel Road, Worthing, West Sussex, BN11 1HA



----- Forwarded message -----

From: Ray Drabble <[redacted]>
Date: 6 January 2017 at 15:37
Subject: Pre-Application Query: Tully De'Ath Flood Risk Assessment Issue 4- New Salts Farm - Shoreham 11649 For The Hyde Group
To: "Ben.Daines@adur-worthing.gov.uk" <Ben.Daines@adur-worthing.gov.uk>
Cc: Ken Argent <ken.argent@adur-worthing.gov.uk>, Kevin Macknay <[redacted]>
Caroline West <Caroline.West@westsussex.gov.uk>, "Adrian Jackson" <[redacted]>

Ben,



Herewith are our comments following a review of New Salts Farm FRA.

If you have any queries, please feel free to give me a call.

Kind regards

Ray Drabble

Flood Risk Engineer (Sustainable Drainage)
Residents' Services - Highways and Transport
West Sussex County Council

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120K

Ray Drabble
Flood Risk Engineer (Sustainable Drainage)
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5 January 2017

References:

- A. Ben Daines (Adur & Worthing Councils) email to West Sussex CC LLFA of 4 Jan 16.
- B. Tully De'Ath (Dec 2016) Flood Risk Assessment Issue 4- New Salts Farm – Shoreham 11649 For The Hyde Group.
- C. Ray Drabble (West Sussex CC LLFA) email to Ben Daines of 19 Dec 16.

Dear Ben,

Pre-Application Query: Tully De'Ath Flood Risk Assessment Issue 4- New Salts Farm – Shoreham 11649 For The Hyde Group

West Sussex County Council (WSCC) in its statutory capacity as Lead Local Flood Authority (LLFA) has been approached by Adur & Worthing Council (Reference A) for comments on the above.

West Sussex CC LLFA has reviewed the above document and this letter summarises our comments.

General

The stated purpose of the Flood Risk Assessment is to demonstrate to the Planners, the Environment Agency (EA) and West Sussex County Council as Lead Local Flood Authority that the proposed development is subject to an acceptable level of flood risk and should not increase the likelihood of flooding elsewhere (paragraph 1.2).

It achieves neither of these objectives as no detail has been provided of the catchment extent, greenfield run-off and post development run-off. This evidence is needed to demonstrate capacity in the drainage network commensurate with acceptable levels of flood risk to both the proposed development and to existing residents in the same drainage catchment. Recognising the particular constraints on the drainage network that are characterised in the Lancing SWMP and Reference C, a full quantitative assessment of the pre and post-development run-off rates is needed to evaluate the depths of water for design storm events, consistent with the non-statutory technical standards.

The analyses will also need to take into consideration the effects both of tide-locking on the Lancing Brooks outfall and the tidal effects upon groundwater levels, both referred to in the FRA. Analyses should cover the full extent of the Lancing Brooks Catchment (Figure 3-2 of the SWMP) and, therefore, the post-development scenario for New Monks Farm that also feeds into the drainage network.

The interconnectivity of the Lancing Brooks and catchment-wide effects of tide-locking on the outfall reinforces the need for an FRA that considers the whole drainage catchment (as recommended to Tully De'Ath staff in summer 2016 by the EA). It is also consistent with best practice for phased developments set out in paragraph 7.2.4 of the SuDS Manual.

Specific Comments on text

Paragraph 3.6 Groundwater

West Sussex County Council Lead Local Flood Authority (WSCC LLFA) is concerned that the data provided for boreholes WLS 107-WLS 111 is not representative of typical overwinter conditions, having been taken between Sep 2016 and Nov 2016 when rainfall was below average for much of UK including the south. Given that infiltration is under consideration as part of the drainage strategy for New Salts farm, infiltration testing should be consistent with recommendations in BRE 365.

Paragraph 4.1 – Development Proposals

The proposals for green roofs with integral attenuation below (Blue Roof) is innovative and welcome but the attenuation & storage provided by this and other components of the proposed drainage needs to be calculated to demonstrate that greenfield run-off rates can be maintained.

The use of permeable paving for roads, parking courts and hard paved areas is considered to provide negligible benefit for critical groundwater and surface water flooding events, given the high groundwater levels associated with much of the development area.

5.3 Lancing Brooks Modelling

This paragraph makes reference to Appendix Q, and modelling of both the 1 in

100+40% CC and the 1 in 1000-year return periods. Appendix Q only contains output images; without the methodology, catchment assessed, input values and other key parameters used to generate the model outputs, they are of no value to the assessment.

Section 6.0 Flood Management and Mitigation

6.3 Floor Levels

WSCC LLFA is concerned at the allowance of only 0.3m freeboard between ground floor level and the existing ground surface given the high risk of ground water / surface water flooding over parts of the site.

6.5 Surface Water Run-off Rates

Consistent with the recommendations in the Lancing SWMP, WSCC LLFA would advise that infiltration into the subsoils is not an appropriate drainage measure for the site. It is unclear how / where water will be attenuated upstream of flow control devices; clarification should be sought.

6.8 Safe Access and Egress

This states: it may not be possible to provide a dry means of escape from the buildings in the event of a flood. To overcome this the units will have direct access to the first floor, which will be the primary area for refuge in the event of a major coastal flood event.

The above statement is not consistent with our interpretation of NPPF paragraph 103. If this response is to form part of the flood evacuation plan for all properties within New Salts Farm, how are disabled residents being accommodated for?

6.10 Foul Sewers

Confirmation needs to be sought by A&WC from Southern Water whether the proposed infrastructure measures outlined in Appendix C will provide sufficient capacity to address the proposed new development, existing sewerage flooding issues and take into consideration the Southern Water measures proposed to accommodate the allocation of 600 homes at New Monks Farm. Specifically, confirmation from Southern Water should be sought that they have strategically reviewed all the proposed development affecting this sewerage catchment and can provide the capacity needed within the timescale that development is being brought forward.

No reference is made to the issue of groundwater inundation of the foul system and we assess this as being a significant risk. Inundation may result from hydrostatic pressure on the existing foul drains as well as excessive surface water draining down through any existing or new foul sewer manholes. This risk needs to be considered and appropriate mitigation put in place.

13.0 Conclusion

The conclusion states that: *the main flood risk for the development is associated with coastal flooding.* This statement and the tenor of the FRA, as a whole, in our view underplay the significant flood risk from groundwater and surface water.

The site conditions are summarised in paragraph 3.4.2 of the Lancing SWMP that states:

Under conditions of high winter recharge and elevated groundwater levels in the Chalk and in response to upward groundwater pressure from the underlying Chalk, there may be upward leakage from the Chalk to the upper aquifer and surface water. This occurs through more permeable windows in the Superficial Deposits... Where there is partial connectivity between the two aquifers, the upper alluvial aquifer may become more permanently saturated, leading to areas of marshy ground. These mechanisms are most likely to occur in the southern part of the study area.

It is these conditions of saturated ground water in combination with prolonged rainfall that present a significant issue for surface water drainage for the site and for existing residences in adjacent areas that rely upon the same drainage network. The FRA has not demonstrated that surface water under these conditions can be adequately drained without causing increased flood risk to existing residents in the catchment or risking flooding of the proposed residential properties.

Yours sincerely

Ray Drabble
Flood Risk Engineer (Sustainable Drainage)
West Sussex Lead Local Flood Authority

Copies to: Adrian Jackson, Environment Agency

Internal: Caroline West, West Sussex County Council