Jo Dawes

From: Alison Cadge [redacted]
Sent: Monday 16 February 2015 18:39
To: Jo Dawes
Cc: Neal MacGregor
Subject: RE: WA/2014/1754 - Land at Chantry's Bungalow & west of Horsham Road, Cranleigh
Attachments: 34890001R FRA review Horsham Road, Cranleigh.pdf

Dear Jo,

Please find attached our review of the surface water drainage strategy relating to the above site. We would consider that the report adequately meets the requirements of the NPPF.

If you have any queries, please don't hesitate to give me a call,

WA/2014/1754.

Kind regards,

Alison

Flooding information

Alison Cadge
Principal Consultant - RPS Health, Safety and Environment
14 Cornhill,
London, EC3V 3ND.
United Kingdom
Tel: [redacted]
Fax:
Direct:
Email:
www:

From: Neal MacGregor [mailto:Neal.MacGregor@waverley.gov.uk]
Sent: 30 January 2015 11:58
To: Alison Cadge
Subject: WA/2014/1754 - Land at Chantry's Bungalow & west of Horsham Road, Cranleigh

Dear Alison,

I am pleased to confirm that Waverley have accepted the terms of your fee proposal dated 26th January 2015 for a Flood Risk Assessment on details submitted for the above application. You will receive formal written confirmation of this in the next day or two.

Kind Regards,

Neal MacGregor
Planning Technician, Planning Services
www.waverley.gov.uk
01483 523494

RPS

14 Cornhill, London, EC3V 3ND
[redacted]

Our Ref: HLEF34890/001R

Email: [redacted]

Date: 16th February 2015

Jo Dawes
Waverley Borough Council
Council Offices
The Burys
Godalming
Surrey
GU7 1HR

Dear Ms Dawes,

Re: Application Reference WA/2014/1754 – Land at 106 & Chantreys Bungalow & Land to the South West of Horsham Road, Cranleigh

RPS was commissioned to undertake a review of the following document, submitted to Waverley Borough Council in support of the above planning application:

- *Flood Risk Assessment, Mayer Brown Ltd for Crest Strategic Projects, August 2014, Final Issue*

The aim of the review was to assess whether the above document adequately addresses the requirements of the National Planning Policy Framework 2012 (NPPF) with regard to surface water attenuation. The Environment Agency has reviewed the above document and has no objections on the basis that the details of the surface water drainage scheme are conditioned. The outline application is to provide up to 149 dwellings.

Key Findings of Flood Risk Assessment (FRA) and RPS Comments

The site occupies an area of 9.37ha and comprises 'greenfield' land, which is identified to drain by way of existing ditches to the downstream watercourse. The site therefore forms part of the natural catchment of the watercourse. The greenfield runoff rate has been calculated by way of IoH124 methodology, on a pro-rata basis, and is quantified as 4.8l/s/ha. The QBar greenfield rate for the site is calculated to be 44.98l/s.

Mayer Brown consider that infiltration is not a suitable means of discharging surface water, due to bedrock being poorly drained, and the likelihood of shallow groundwater beneath the site (likely to be

less than 3m below ground level for part of the year). This is based on a BGS Infiltration SuDS GeoReport included as Appendix G to the FRA. RPS notes that intrusive ground works do not appear to have been undertaken, and until soakaway testing to BRE:365 is undertaken the use of infiltration cannot be ruled out. Should groundwater be identified at shallow depth within the site, this would preclude infiltration drainage. However, RPS would suggest that intrusive investigations are undertaken at the detailed design stage to confirm the infiltration potential.

The report identifies an indicative SuDS strategy which demonstrates that attenuation is provided for surface flows arising from the 1 in 100 year plus 30% climate change allowance storm. It is proposed that surface flows arising from the development will be discharged at a rate of 4.8 l/s/ha (i.e. the calculated greenfield rate). Attenuation is proposed to be provided by way of a combination of attenuation ponds and below ground attenuation tanks. Surface flows will be discharged from the site by way of attenuation pond D, at a peak rate of 44.98l/s (the calculated QBar greenfield rate). Preliminary calculations are provided to illustrate this system. RPS notes that the peak rate of discharge identified within the provided calculations is 33.8l/s, which suggests that more attenuation is provided than required to meet the QBar greenfield rate. Minor volumes of flooding are illustrated within the supporting Micro-drainage calculations (2.5m^3 and 1.5m^3 within SuDS features B and C respectively). However, RPS appreciates that the calculations are indicative only, and the volume of flooding within these features is not significant; this would be fully dealt with at the detailed design stage.

The calculations illustrate that surface water can be attenuated within design proposals. Little explanation is provided within the FRA to illustrate the capacities of the proposed attenuation facilities, and the areas provided within the Micro-drainage calculations are unclear, especially for SuDS features B and C. However, it is noted that detailed design will be undertaken, which will provide an opportunity to detail the proposed site drainage design. The FRA outlines the principles by which surface water could be dealt with, so as not to pose a flood risk to the proposed development, as well as to limit the discharge from the development, so as to not increase flood risk elsewhere. The proposals outlined in the FRA appear to represent a methodology by which surface water could be drained from the site, should infiltration drainage be demonstrated not to be feasible.

In terms of foul drainage, Thames Water has advised they do not have capacity at present to serve the development. Thames Water has been commissioned to undertake an Impact Study to determine the foul sewer capacity and the impact of the development proposal. The foul drainage strategy states that the site will either be serviced from the existing infrastructure or following upgrades to the network.

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Assessment of Compliance with NPPF

In relation to surface water management, the NPPF states that development 'should be made safe without increasing flood risk elsewhere'. RPS considers that the proposed surface water strategy adequately demonstrates that there will be no increase in flood risk as a result of surface water runoff from the development site. The requirements of the NPPF are therefore met.

Conclusions

Overall, RPS considers that the proposed surface water strategy demonstrates that the existing greenfield runoff rates can be maintained, meaning that there will be no increase in flood risk either on-site or elsewhere. The attenuation requirement is currently demonstrated to be met through the use of storage features. RPS notes that infiltration methods could be considered at the detailed design stage if intrusive testing demonstrates their feasibility.

RPS concurs with the conditions proposed by the Environment Agency and Thames Water in relation to the application. These will ensure that surface water proposals are fully detailed.

If you have any queries regarding any aspect of this letter, please don't hesitate to contact me.

Yours sincerely,
For RPS Health, Safety & Environment

Alison Cadge
Principal Environmental Consultant

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