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an RSK company

RSK ref: 680350-R1(5) - FRA
MBC ref: 23/504471/OUT
KCC (LLFA) ref: MBC/2023/097666

19th December 2023

Marion Geary
Maidstone Borough Council
Maidstone Planning Department
King Street
Maidstone
Kent
ME15 6JQ

By email only

Location: Land At Moat Road Headcorn Maidstone TN27 9NT

Proposal: Outline application (with all matters reserved except access) for the development of up to 120no. dwellings (Use Class C3) including demolition of existing buildings, new means of access into the site from Moat Road (not internal roads), associated highway works, provision of public open space, emergency/pedestrian access to Millbank, and associated infrastructure including surface water drainage (with related off site s278 highway works to Moat Road).

In response to comments received from Kent County Council (KCC) as the LLFA with respect to the flood risk and drainage proposals at the above site, we write to provide additional information to address the issues raised in KCC's letter dated 8th November 2023 (see **Appendix A**).

This letter makes reference to the following documents:

- RSK Flood Risk Assessment (FRA) ref. 680350-R1(4) = FRA dated September 2023
- KCC Objection ref: MBC/2023/097666 dated 8th November 2023
- RSK Flood Risk Assessment (FRA) ref. 680350-R1(5) = FRA dated December 2023

For ease of reference, we have copied the pertinent points from the KCC Nov 2023 response in blue text, with a direct RSK response to each point following on in black text. Please refer to the updated FRA referenced above for full details, supporting calculations and drawings.

The LLFA understand from the report that most of the site is currently undeveloped except for several agricultural outbuildings on the south east corner of the site. A 150mm outfall is understood to be present and receives surface water runoff from the agricultural buildings. The current residential proposal would see a vast increase in impermeable areas on site and as such a drainage strategy has been set out. The surface water strategy currently proposed would see waters being captured through a combination of swales, permeable paving systems and gullies, prior to entering a series of large attenuation ponds with a restricted off site discharge.

The LLFA welcome that discussions have taken place with the Upper Medway Internal Drainage Board regarding the potentially agreeable discharge rates from the site. It is understood that a maximum allowable rate of 8.2 l/s for all return periods has been proposed. From the greenfield runoff estimations provided within the report (Appendix H), a rate of 8.2 l/s for all return periods would appear to be below both the 1 year and Qbar (2.2 year return) scenarios.

The various strategy components and overall indicative drainage layout remain unchanged although the sizing and some specifications have been adjusted to account for other requested amendments (see below).

As mentioned within the report, the current outfall from the agricultural buildings passes under Moat Road through a 150mm culvert into the roadside ditch on the opposite side. This ditch is understood to then have a connection into the Hoggs Stream. We note that this stream has been a source of flooding to Moat Road and the surrounding area and as such we would expect the site outfall being surcharged during high levels within the stream. In view of this, we would request a preliminary analysis into what impact a surcharged outfall would have on the required levels of storage needed on site.

The design specifications of the third and lowest lying basin has been amended to account for the potential fluvial flood extents from the watercourses to the south and southeast. The only basin that would potentially be affected by fluvial floodwater and a potential surcharged outfall, the base level and flow control device level of this basin have been raised to a level of 19.75mAOD in order to raise the flow control device above the 1 in 100 year flood level (19.65mAOD).

This will necessitate some minor land level re-profiling and raising in the vicinity of the southeastern most basin but the modifications are comparatively minor and none of the changes will adversely impact on floodplain storage or landscaping. In this way the sites surface water outfall will be set above all flood events up to and including the 1 in 100 year event. The likelihood of a major rainfall event (such as the 1 in 100 year 45% rainfall event) coinciding with the 1 in 100 year climate change fluvial flood event is considered extremely unlikely, and this assessment follows best practice with regard to considering appropriate fluvial and rainfall events occurring concurrently.

Further to the surcharged outfall, the current Micro-drainage Source Control analysis of the attenuation volumes utilises FSR Rainfall dataset. The LLFA would request that either FEH (Flood Estimation Handbook) 2013 or 2022 is now used instead. If FSR is continued to be used, the M5-60 value should be uplifted to 26.25mm. This is to be in line with our requirements contained within the Drainage and Planning Policy Statement (2019).

Basin calculations have been re=calculated using FEH 2022 data. (See Appendix I in updated FRA). The basin sizes and inter-basin flow rates have been adjusted to account for the altered characteristics. The overall outfall for the site (discussed above) remain unchanged.

Section 7.2 within the report highlights that areas of public open space and gardens will infiltrate into the underlying geology. This statement would appear to contradict the later section 7.3.1 that highlights that infiltration is unlikely to the suitable due to the underlying weald clay formation that has low permeability and shallowness of groundwater. With the relative fall of land from north to south and the

locating of open spaces within the western and middle portions of the site, we have concern that flows from these areas could enter into the positively drained system. Consideration for this additional volume within the drainage system is required.

The statements in Section 7.2 have been amended in the updated FRA. What was being described was soil percolation rather than full infiltration. The soil/geology type is unsuitable for large scale infiltration so this method is unviable as the principle outfall, but some level of percolation will still occur. No additional accounting within the surface water drainage strategy is required to account for this.

We trust that the above meets with your approval, but should you have any further queries, please do not hesitate to contact the writers. If you deem it helpful, we would be happy to meet you on site to talk through the proposal.

Yours sincerely,

For RSK LDE Limited

Matthew Cheeseman
Associate Director

Appendices

Appendix A – LLFA Objection and Comments dated 8th November 2023

Marion Geary
Maidstone Borough Council
Maidstone Planning Department
King Street
Maidstone
Kent
ME15 6JQ

Flood and Water Management
Invicta House
Maidstone
Kent
ME14 1XX
Website: www.kent.gov.uk/flooding
Email: suds@kent.gov.uk
Tel: 03000 41 41 41
Our Ref: MBC/2023/097666
Date: 8 November 2023

Application No: 23/504471/OUT

Location: Land At Moat Road Headcorn Maidstone TN27 9NT

Proposal: Outline application (with all matters reserved except access) for the development of up to 120no. dwellings (Use Class C3) including demolition of existing buildings, new means of access into the site from Moat Road (not internal roads), associated highway works, provision of public open space, emergency/pedestrian access to Millbank, and associated infrastructure including surface water drainage (with related off site s278 highway works to Moat Road).

Thank you for your consultation on the above referenced planning application. Kent County Council as Lead Local Flood Authority have reviewed the Flood Risk Assessment and Surface Water Drainage Strategy report (September 2023) and are able to provide the LPA with the following comments:

- The LLFA understand from the report that most of the site is currently undeveloped except for several agricultural outbuildings on the south east corner of the site. A 150mm outfall is understood to be present and receives surface water runoff from the agricultural buildings. The current residential proposal would see a vast increase in impermeable areas on site and as such a drainage strategy has been set out. The surface water strategy currently proposed would see waters being captured through a combination of swales, permeable paving systems and gullies, prior to entering a series of large attenuation ponds with a restricted off site discharge.

  The LLFA welcome that discussions have taken place with the Upper Medway Internal Drainage Board regarding the potentially agreeable discharge rates from the site. It is understood that a maximum allowable rate of 8.2 l/s for all return periods has been proposed. From the greenfield runoff estimations provided within the report (Appendix H), a rate of 8.2 l/s for all return periods would appear to be below both the 1 year and Qbar (2.2 year return) scenarios.

- As mentioned within the report, the current outfall from the agricultural buildings passes under Moat Road through a 150mm culvert into the roadside ditch on the opposite side. This ditch is understood to then have a connection into the Hoggs Stream. We note that this stream has been a source of flooding to Moat Road and the surrounding area and as such we would expect the site outfall being surcharged during high levels within the stream. In view of this, we would request a preliminary

analysis into what impact a surcharged outfall would have on the required levels of storage needed on site.

- Further to the surcharged outfall, the current Microdrainage Source Control analysis of the attenuation volumes utilises FSR Rainfall dataset. The LLFA would request that either FEH (Flood Estimation Handbook) 2013 or 2022 is now used instead. If FSR is continued to be used, the M5-60 value should be uplifted to 26.25mm. This is to be in line with our requirements contained within the Drainage and Planning Policy Statement (2019).

- Section 7.2 within the report highlights that areas of public open space and gardens will infiltrate into the underlying geology. This statement would appear to contradict the later section 7.3.1 that highlights that infiltration is unlikely to the suitable due to the underlying weald clay formation that has low permeability and shallowness of groundwater. With the relative fall of land from north to south and the locating of open spaces within the western and middle portions of the site, we have concern that flows from these areas could enter into the positively drained system. Consideration for this additional volume within the drainage system is required.

In view of the above points, the LLFA would currently object to the proposals.

This response has been provided using the best knowledge and information submitted as part of the planning application at the time of responding and is reliant on the accuracy of that information.

Yours faithfully,

Daniel Hoare
Senior Flood Risk Officer
Flood and Water Management