

Site: The Lake House, Rowfant, RH10 4TB
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1.0 Introduction

- 1.1 This technical note has been prepared to discuss the Flood Risk Assessment (FRA) requirements of Mid-Sussex District Council's (MSDC) Lead Local Flood authority (LLFA) response to planning application reference DM/24/2263, in which they requested further information to be submitted.
- 1.2 The key points of MSDC response are:
1. The site is within Flood Zone 2.
 2. Mid Sussex District Council's records do not contain records of the site flooding. Their records also do not have any records of flooding within the area immediately surrounding the site.
 3. The MSDC SFRA states that any area located within 20m of Flood Zone 2 should be treated as being Flood Zone 2. The proposed development is located within 20m of Flood Zone 2 and therefore, for the purposes of planning, the development is within Flood Zone 2.
 4. The proposed development is a vulnerable development within Flood Zone 2 and therefore we would advise the applicant that the development should follow the Environment Agency's 'Standing Advice for vulnerable developments'. The 'Standing Advice for vulnerable developments' states that the applicant should make sure the Finished floor levels should be a minimum of whichever is higher of 600mm above the:
 - „ average ground level of the site
 - „ adjacent road level to the building
 - „ estimated river or sea flood level
- 1.3 This technical note will discuss each of the four above points in turn.

2.0 Discussion

- 2.1 The FRA discussed the site's location, topography and the distribution of Flood Zone 2. It stated the following:
- "The EA's Flood Map for Planning shows that The Mill Pond is within Flood Zone 2 – an area at between a 1 in 100-year and 1 in 1,000-year risk of flooding. This area of flood risk is not shown to ingress into the location of The Lake House, except for where Flood Zone 2 shows some extension into of the property boundary by virtue of the square-edged, low resolution of the outline (which is on a 5-metre grid).*
- Referring back to the topographic information presented in Section 2 of this report (paragraphs Error! Reference source not found. to Error! Reference source not found.) and the levels of the proposed dwelling (paragraphs Error! Reference source not found.– Error! Reference source not found.), it is clear that the footprint and internal spaces of the proposed dwelling will be at least 1.4m – 1.5m vertically higher than the water level of The Mill Pond. The ground floor of the northern wing, which is closest to The Mill Pond, will contain the garage and garden room/store and these non-residential uses will be at 47.4m – 47.5m (80.4mAOD to 80.5 mAOD).*
- The lowest level of residential accommodation will within the southern wing, which will be set at 82.5mAOD, which is 3.5m vertically above the water level in The Mill Pond. Finally, sleeping accommodation will be at a minimum of 83.4 mAOD in the southern wing's self-contained apartment, which will be 4.4m vertically above the water level in The Mill Pond.*

Therefore, the proposed Lake House replacement dwelling is not within an area at fluvial flood risk. The levels information clearly tell of how the proposed dwelling will be well above and outside any flood risk areas associated with The Mill Pond.

*As a final note on this, it has been told that The Mill Pond's water level is controlled by a weir and sluice gate and that the pond's water is impounded by a dam structure at its northern extent. The LiDAR level/contour data presented in **Appendix E** shows that the crest level of the dam is approximately 79 mAOD, thus if the weir and sluice gates were to fail and water levels were to rise in The Mill Pond, they would start to overtop the dam at 79 mAOD. As such, levels would not be able to rise further and certainly would never threaten the floor levels described for the proposed development.*

Consequently, the proposed development can be firmly concluded as being within Flood Zone 1 (very low risk).

2.2 Therefore, it has been demonstrated that the development is not within Flood Zone 2 and can never be at flood risk on three fundamental points.

1. The suggestion of being in Flood Zone 2 is only by the very low resolution of the mapping, which is on 5m grid and has a square edged outline that encompasses areas outside of any 'at risk' location because of this.
2. The steeply sloping and rising topography of the land adjacent to the lake means that all internal spaces are vertically well above the lake and any possible flood levels. Indeed, internal living spaces will be a minimum of 3.5 vertical metres above the lake and sleeping accommodation will be 4.4 vertical metres above. This can not be threatened by flooding, especially when considering Point 3, below.
3. The FRA demonstrated that this man-made lake has an impounding crest level of 79 mAOD. Therefore, if the current flow control structures holding water within the lake were to fail and water levels were to rise in The Mill Pond, they would start to overtop the dam at 79 mAOD. As such, levels would not be able to rise further or get anywhere near the level of the dwelling.

2.3 In summary, the site is not within Flood Zone 2 and all the topographical and local hydraulic information confirms this.

Mid Sussex District Council's records do not contain records of the site flooding. Their records also do not have any records of flooding within the area immediately surrounding the site.

2.4 This is noted and supports the position that the site and area are at very low risk of flooding due to how water levels are managed on this man-made structure.

The MSDC SFRA states that any area located within 20m of Flood Zone 2 should be treated as being Flood Zone 2. The proposed development is located within 20m of Flood Zone 2 and therefore, for the purposes of planning, the development is within Flood Zone 2.

2.5 While we note that this is in the MSDC SFRA and that they look to incorporate its advice within their planning responses, we would assert that it is imprudent to add an arbitrary 20m buffer to Flood Zone 2 without regard to topography or other factors.

2.6 SFRA's are produced by external consultants and, because they must make recommendations for the management of Flood Risk to underpin the decisions of the Local Plan, they must make broad assumptions and provide generic advice that is not location specific but is also not necessarily tailored to the need of the planning authority. Because of this, the recommendations of SFRAs are imperfect for all situations and why LLFA's must still apply individual and pragmatic consideration to planning consultations.

- 2.7 The site that is the subject of this planning application is a perfect example of why the LLFA should use the advice of the SFRA as a guide but should have site-specific consideration.
- 2.8 The Flood Zone 2 outline is inaccurate, and the information already provided in the FRA and this technical note clearly shows that the lake level would never increase above 79 mAOD because that is the crest level of the impounding structure on this man-made lake. Additionally, the land rises steeply from the water's edge, so an arbitrary 20m horizontal buffer equals a rise in land levels of approximately three (or more) vertical metres.
- 2.9 Consequently, we urge the LLFA revisit their decision to add an arbitrary 20m buffer to Flood Zone 2 because in this location it is incorrectly applied and leads to inaccurate conclusions.

The proposed development is a vulnerable development within Flood Zone 2 and therefore we would advise the applicant that the development should follow the Environment Agency's 'Standing Advice for vulnerable developments'. The 'Standing Advice for vulnerable developments' states that the applicant should make sure the Finished floor levels should be a minimum of whichever is higher of 600mm above the:

- average ground level of the site
- adjacent road level to the building
- estimated river or sea flood level

- 2.10 Firstly, it has been firmly established in the FRA and this technical note that The Mill House is not within Flood Zone 2 in the present day or future scenario.
- 2.11 With regards to the standing advice and the requirement to make sure that FFL's are a minimum of 600mm above the estimated flood level, it has been demonstrated that internal living spaces will be a minimum of 3.5 vertical metres above the lake and sleeping accommodation will be 4.4 vertical metres above it.
- 2.12 Bearing in mind that the lake level cannot increase, the proposed levels of the FFL's are suitable and appropriate and, moreover, there cannot be any sustainable reason to require FFL's to be 600mm above ground levels, especially on a sloping site where this requirement cannot be suitably applied.

3.0 Summary

- 3.1 This technical note has suitably considered and responded to the LLFA's request for further information. It has been demonstrated why further information regarding flood risk cannot be required and that the Environment Agency's 'Standing Advice for vulnerable developments' is not applicable to this site.
- 3.2 As a final note, the LLFA have asked for a drainage strategy to be provided, which is outside of the remit of this technical note and will be supplied separately. As such, our client will accept a condition on this matter.