

East Hertfordshire District Council

Level 1 and 2 Strategic Flood Risk Assessment – Addendum – Historic Flood Map and Flood Zones

Final Addendum

March 2017

East Hertfordshire District Council

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Revision History

Revision Ref / Date Issued	Amendments	Issued to
Draft v1.0 / March 2017		Chris Butcher, East Hertfordshire District Council
Final v1.0 / March 2017		Chris Butcher, East Hertfordshire District Council

Contract

This report describes work commissioned by East Hertfordshire District Council. The Council's representative for the contract was Chris Butcher.

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Purpose

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Acknowledgements

We would like to acknowledge the assistance of East Hertfordshire District Council.

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1 Introduction

This report has been produced as an Addendum to the Level 1 and 2 East Hertfordshire Strategic Flood Risk Assessment (SFRA), specifically to provide the Environment Agency's Historic Flood Map of the district, and to confirm the approach to deriving Flood Zone 3b (the functional floodplain, as displayed in Appendix B), in line with latest guidance from the Environment Agency.

2 Flood Zone 3b

The NPPF Guidance identifies Flood Zones 3b as the functional floodplain where:

- Only water compatible and essential infrastructure are permitted in this zone and should be designed to remain operational in times of flood, resulting in no loss of floodplain or blocking of water flow routes. Infrastructure must also not increase flood risk elsewhere.
- All developments in this zone require an FRA.
- Developers and local authorities should seek opportunities to:
 - reduce the overall level of flood risk in the area and beyond through the layout and form of the development
 - relocate existing development to land in lower risk zones

The SFRA identifies Flood Zone 3b, in line with NPPF guidance, as land which would flood with an annual probability of 1 in 20 years. Where detailed Environment Agency hydraulic modelling exists, the 1 in 20-year defended flood extent has been used to represent Flood Zone 3b (provided by the Environment Agency). In the absence of detailed hydraulic model information, a precautionary approach has been adopted with the assumption that the extent of Flood Zone 3b would be equal to Flood Zone 3a (i.e. termed 'indicative extent of Flood Zone 3b'). If a proposed development is shown to be in Flood Zone 3, further investigation should be undertaken as part of a detailed site-specific Flood Risk Assessment to define and confirm the extent of Flood Zone 3b. This may require detailed hydraulic modelling.

When considering FZ3b, developers should also consider the extent of any historical flooding to the site. Information regarding recorded historical events in East Hertfordshire are provided in Section 5.3 of the SFRA and the Environment Agency's Historic Flood Map is provided in Appendix A of this Addendum. Any developments which are shown to fall within the extent of FZ2, 3a or 3b or the Historic Flood Map require a site-specific Flood Risk Assessment to further quantify the flood risk to the site.

2.1 Why a change in approach from the 2008 SFRA?

In the previous 2008 SFRA, the approach to creating the functional floodplain included all historical flood records from the previous 20-year period at that time. This extent was then trimmed to ensure it did not extend beyond Flood Zone 3a. There has been no further refinement of Flood Zone 3b since the 2008 SFRA. This valid, though non-standard, approach was agreed with the Environment Agency at the time, as a way of incorporating areas in the district which had flooded historically, but which may not be shown in Flood Zone 3b.

This approach was discussed with both East Hertfordshire District Council and the Environment Agency during the 2017 SFRA update, and it was decided not to implement the same approach (i.e. using the most up to date 20-year period of flooding). NFFP guidance states that the functional floodplain should include "*land which would flood with an annual probability of 1 in 20 years*", otherwise known as the 20-year return period event. A return period is the probability that an event will occur therefore, the 20-year return period is the chance of flooding happening once every 20 years (i.e. a 5% annual exceedance probability of flooding occurring in any given year), not events which have occurred in the last 20 years. In the last 20-years for instance, there may have been four floods of different sizes or return periods, a 5-year, 20-year, 50-year, and 1,000-year. Therefore, by including the Historical Flood Map into Flood Zone 3b, it will likely include a range of return period flood outlines, which will therefore differ from the 2008 SFRA. Therefore, our approach will aid with future-proofing the SFRA's Flood Zones should another large flood event occur in the years ahead. It is however recommended, that if a site has flooded historically (as shown on the

Historic Flood Map) but is not shown to be located in Flood Zone 3, that flood risk at the site is confirmed by developers through detailed analysis at the site-specific level.

3 Advice to developers

To avoid disparities in advice given to developers, it is recommended that both the Flood Zone and Historic Flood Mapping are used in conjunction to decide if further analysis of flood risk is necessary. If the development site is found to be located in *either* the Historic Flood Map *or* Flood Zone 2, 3a or 3b, a site-specific investigation (this may be a Flood Risk Assessment) will be required to confirm the flood risk to site.



Appendices

A Appendix A – Environment Agency Historic Flood Map



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B Appendix B – Flood Zone Mapping

This mapping forms part of the group of flood risk maps published as part of the main SFRA report appendices (formerly Appendix B of the main SFRA report).

The mapping consists of outputs from the Environment Agency's Flood Zones and detailed hydraulic model outputs for the 20-year return period event to represent Flood Zone 3b, where available.



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