Executive Summary

Project Overview

Hertsmere Borough Council covers an area of 100km^2 (38.6 sq mi). The area is a mix of urban and rural areas, surrounded by Green Belt. The main urban settlements are Borehamwood, Potters Bar, Bushey, Radlett and Shenley. Parts of the M25 and A1(M), including the South Mimms motorway service area, are located within the study area. The entire study area falls within the catchment of the River Colne. The River Colne flows from northeast to southwest from Colney Heath through to Watford. The main tributaries of the Colne along this reach are the Hilfield Brook, Radlett Brook, Tykeswater and Mimshall Brook. The risk of flooding posed to properties arises from a number of sources including river, groundwater, surface water and sewers.

In August 2007, Hertsmere Borough Council commissioned Halcrow Group Limited to produce a Level 1 Strategic Flood Risk Assessment (SFRA) in accordance with Planning Policy Statement 25 (PPS25) and its Companion Guide, Making Space for Water (2003) and the Thames Catchment Flood Management Plan (2007). Using readily available information, the principle aim of the SFRA is to map all forms of flood risk and use this as an evidence base to locate new development primarily in low flood risk areas.

In addition, the outputs from the SFRA will enable the Council to:

- Prepare appropriate policies for the management of flood risk;
- Inform the sustainability appraisal so that flood risk is taken account of, when considering options and in the preparation of strategic land use policies;
- Identify the level of detail required for site-specific Flood Risk Assessments (FRAs), and
- Determine the acceptability of flood risk in relation to emergency planning capability.

The SFRA should be regarded as a 'living' document and reviewed on a regular basis in light of better flood risk information and emerging policy guidance.

Site Allocations and the Sequential Test Process

In accordance with PPS25, areas of 'low', 'medium' and 'high' risk have been mapped using data collected from the Environment Agency,

Hertfordshire Highways and Thames Water. This has included information on flooding from surface water (land drainage), groundwater, artificial water bodies and sewers.

A preliminary review of areas of search for housing (from the Hertsmere Core Strategy) was made as part of the SFRA to identify levels of risk from all sources of flooding. It is apparent that several areas of search for housing intersect with or are in close proximity to Flood Zone 3b Functional Floodplain, as well as other sources of flooding. In most cases there is a very small area of overlap between the site boundary and flood risk area and therefore opportunities to reduce flood risk via the master planning process should be taken (for example by setting aside low-lying waterside areas for recreation, amenity and environmental uses) (See ***Volume II, Tile L***).

The Council will eventually need to apply the Sequential Test to all sites within 'medium and 'high' risk flood zones to demonstrate that there are no reasonably available sites in areas with less risk of flooding that would be appropriate to the type of development or land use proposed. Should the need to apply the Exception Test be identified, and the Council considers that there is an insufficient number of suitable sites for development, the scope of the SFRA could be widened to a Level 2 assessment. It is recommended that this is undertaken by a suitably qualified chartered engineer.

Guiding Council Policy

Following a review of emerging best practice (e.g. PPS25 and Practice Guide), guidance from national policies and a project workshop to engender a partnering approach, the following core areas in alignment with the Thames CFMP messages (***Appendix E***) have been identified for the Council's flood policy document:

- Locate new development in least risky areas, giving highest priority to Flood Zone 1 and avoid development in areas where there is a significant and frequent risk of groundwater, surface water or artificial drainage flooding.
- Ensure that all new development is 'Safe', meaning that dry pedestrian access to and from the development is possible without passing through the 1 in 100 year plus climate change floodplain and emergency vehicular access is possible.
- Promote the use of sustainable urban drainage systems in all flood zones to achieve Greenfield discharge rates on both Greenfield and Brownfield sites.
- Prevent the development of Greenfield sites in the functional floodplain and seek flood risk reduction on redevelopment of Brownfield sites (e.g. reduction in building footprints).

- Safeguard possible sites for future flood storage.
- Seek opportunities for developer contributions to achieve flood risk reduction from all sources.
- Seek opportunities to undertake river restoration and enhancement as part of a development to make space for water.
- Work with neighbouring authorities to ensure that overall flood risk management policies are in alignment with one another.

The suggested policy and guidance notes should be used to inform the Development Control Policies and guide the Site Allocations DPD to ensure it provides clarity and outlines the requirement of the Environment Agency in response to PPS25. Furthermore, as a means of managing existing and future risk within the study area, it is recommended that the Council review their adopted flood risk response plans in light of the findings and recommendations of the SFRA.

Future Studies

Within the study area, additional modelling and mapping will be required where site allocations are proposed within or close to the 20m buffer (3b flood extent) defined for unmapped watercourses in order to more accurately define flood zones 2, 3a and 3b. In addition there are a number of reservoirs/flood storage areas (e.g. Aldenham and Hilfield Reservoirs and Radlett Flood Storage Area), which are located close to residential houses, commercial premises and highway infrastructure. It is recommended that where site allocations are proposed within the residual risk areas mapped, more detailed modelling studies should be undertaken to provide better information on the flood hazard associated with potential failure. The outputs from these studies will enable the Council's Emergency Planning teams to refine existing emergency response plans and will provide Development Control with more accurate and consistent information with which to guide future development.

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