March 2007

FRA Guidance Note 1:

Development Greater Than 1 Hectare in Flood Zone 1

Environment Agency guidance on requirements for undertaking a Flood Risk Assessment (FRA) for planning applications.

This guidance note principally relates to the commissioning and undertaking of flood risk assessment studies for development greater than 1.0 ha in **Flood Zone 1** [1] . It is designed:

a. to consider the principles of the sustainable drainage of surface water,

b. for use where works may affect watercourses or flood defences, or

c. for use where a known drainage problem exists on which the LPA would like assurance from the developer that flood risk has been addressed.

For sites less than 1 hectare in Flood Zone 1, a formal FRA will not usually be required (see Table D1 of Planning Policy Statement 25). In these cases, applicants are advised to refer to the standard comments on managing surface water drainage as set out in our Standing Advice on Development and Flood Risk. However, where (b) and/or (c) above apply, a FRA may still be required for development of less than 1 hectare and this guidance note can be used to inform the FRA.

Why is a FRA required?

In Flood Zone 1, where the risk of flooding from rivers or the sea is classified as low, a Flood Risk Assessment is still required but it should be focused on the management of surface water run-off. Development that increases the amount of impermeable surfaces can result in an increase in surface water run-off, which in turn can result in increased flood risk both on site and elsewhere within the catchment. This is particularly important for larger scale sites, which have the potential to generate large volumes of surface water run-off. The site may also still be at risk from other sources of flooding (e.g. groundwater and overland runoff), which are not considered in the mapping of Flood Zones. Further information is provided in Annex C of PPS25.

What should be in the FRA?

The detail and technical complexity of a flood risk assessment will reflect the scale, nature and location of the development. The following list sets out the kind of information that should be submitted as a FRA for developments of greater than 1ha in Flood Zone 1:

Plans

- A location plan that includes geographical features, street names and identifies the catchment, watercourses or other bodies of water in the vicinity.
- A plan of the site showing:
    - existing site
    - development proposals and
    - identification of any structures, which may influence local flood flow overland or in any watercourses present on the site.

Surveys

- Site levels related to Ordnance Datum, both existing and proposed.

Assessments

The Applicant should submit:

- Information about the surface water disposal measures already in place and their state of maintenance.
- An assessment of the volume of surface water run-off likely to be generated from the proposed development.
- Proposals for surface water management according to sustainable drainage principles, with the aim of not increasing, and where practicable reducing, the rate of runoff from the site as a result of the development.
- Allowance in design for how climate change will affect the probability and intensity of events in the future.
- Information about any other potential sources of flooding that may affect the site – streams, surface water run-off, sewers, groundwater, reservoirs, canals and other artificial sources or any combination of these.
- Information on how these sources of flooding will be managed safely within the development proposal.
- Consideration of the proposal relative to any existing Strategic Flood Risk Assessment carried out by the local authority.
- Confirmation as to whether Environment Agency consent is needed for any aspect of the work, and whether this has been applied for or not.

‘Dry islands’:

An additional issue that may need to be considered for development in Flood Zone 1 is that of ‘dry islands’. These are areas within Flood Zone 1 that are completely surrounded by areas at a higher risk of flooding i.e. areas falling within Flood Zones 3 and 2. In certain cases development within 'dry islands' can present particular hazards to public safety and risks such as those risks associated with maintaining a means of safe access and exit for occupants during flood events. The distribution of dry islands and risks posed by them in terms of access/exit vary considerably across the country. If you are in any doubt about how flood risks associated with 'dry islands' may affect an area, please contact the Development Control team in the area where the development is planned.

What is the Environment Agency’s Role?

We will usually provide comments at the planning application stage on Flood Risk Assessments covered by this guidance note. We have three main interests:

- Ensuring that the calculation and design of the site drainage system meets the aims of sustainable drainage management, and does not increase, and where practicable reduces, the current runoff from the site.
- If the proposal is within the Byelaw Distance [2] of a Main River [3] or flood defence structure, or includes the diversion or culverting of an Ordinary Watercourse [4] then formal consent for the proposal may also be required from us.
- Prior to carrying out a FRA, developers should contact the Environment Agency and other operating authorities (including the engineering department of the local authority or Internal Drainage Board as appropriate) to establish whether any information is available relating to flood risk at the site they propose to develop. It should be noted that we only record known problems of this kind and the absence of information does not mean that a site will not flood. Developers should also take full account of the local knowledge of flooding in the community and account for this within the FRA.

Sources of information:

Information on SUDS can be found in the PPS25 Draft Practice Guide and Appendix F of the PPS. In addition, the CIRIA C522 document Sustainable Urban Drainage Systems-design manual for England and Wales and the Interim Code of Practice for Sustainable Drainage Systems [5] give technical guidance on SUDS systems. This Interim Code of Practice provides advice on design, adoption and maintenance issues and a good overview of other technical guidance on SUDS. The Interim Code of Practice is available electronically on both the Environment Agency's web site at: www.environment-agency.gov.uk and CIRIA's web site at: www.ciria.org.uk Note that whilst the focus within the FRA must be on flood risk management, any SUDS should also seek to maximise opportunities for water quality and amenity benefits.

[1] This Zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any year (<0.1%).

[2] Byelaw distance varies across the country. To find out what distance applies in your area call 08708 506 506 and ask to speak to a member of your local Development Control team in the area where the development is planned.

[3] Main Rivers are watercourses designated as such on Main River maps and are generally the larger arterial watercourses. Main Rivers are indicated with a red line as part of the Flood Zones on maps held by the Local Planning Authority and on maps held by the Envronment Agency.

[4] An Ordinary Watercourse is any watercourse that doesn't form part of a Main River

[5] Interim Code of Practice for Sustainable Drainage Systems Published by the National SUDS Working Group - July 2004 ISBN 0-86017-904-4
