Development less than 1ha in Flood Zone 1 - surface water drainage information

Exceptions to this guidance note:
This note does not apply in the following circumstances;

- Where an area with critical drainage problems has been identified by the Environment Agency and notified to the Local Planning Authority (LPA) and formal consultation is required (paragraph (ze) DMPO 2010).
- In areas where the LPA has identified drainage problems through a Strategic Flood Risk Assessment (SFRA) or Surface Water Management Plan (SWMP) and they have indicated that a formal Flood Risk Assessment is required, FRA guidance note 1 should be followed; for more information see http://www.environment-agency.gov.uk/research/planning/93498.aspx

In all other cases, the following notes set out good practice to achieve sustainable surface water management.

Surface water management good practice principles and standards

For developments (other than changes of use) less than 1 hectare in Flood Zone 1, the main flood risk issue to consider is usually the management of surface water run-off. Drainage from new development must not increase flood risk either on-site or elsewhere. Government policy strongly encourages a sustainable drainage system (SuDS) approach to achieve these objectives. Guidance on how to address specific local surface water flood risk issues may also be available through the SFRA or SWMP produced by the LPA.

For on/near site flooding, the flood risk Practice Guide at paragraph 5.51 states that:

"*For events with a return-period in excess of 30 years, surface flooding of open spaces such as landscaped areas or car parks is acceptable for short periods, but the layout and landscaping of the site should aim to route water away from any vulnerable property, and avoid creating hazards to access and egress routes (further guidance in CIRIA publication C635 Designing for exceedence in urban drainage - good practice). No flooding of property should occur as a result of a one in 100 year storm event (including an appropriate allowance for climate change). In principle, a well designed surface water drainage system should ensure that there is little or no residual risk of property flooding occurring during events well in excess of the return-period for which the sewer system itself is designed. This is called designing for event exceedence.*"

The CIRIA publication 'Designing for exceedence in urban drainage-good practice' can be accessed via the following link http://www.ciria.org.uk/suds/publications.htm

For off-site flooding, the flood risk Practice Guide states at paragraph 5.54:

Is the proposal part of a larger development?

A Reserved matters application in Flood Zone 1 might be part of a larger site that already has outline permission. If so, the LPA should ensure that any conditions applied previously in relation to drainage are taken into account in the reserved matters application. This is to prevent a piecemeal approach to drainage taking place.

Disposal to public sewer

Where it is intended that disposal is made to public sewer, the Water Company or its agents should confirm that there is adequate spare capacity bearing in mind all known development proposals in the area.

Other flood risk issues to consider for development in Flood Zone 1

Dry Islands

Some areas within Flood Zone 1 are surrounded by areas at a higher risk of flooding i.e. areas falling within Flood Zones 2 and 3. In certain cases development within such 'dry islands' can present particular hazards to public safety such as people being surrounded by water and needing to be rescued. The distribution of dry islands and the 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 your Authority area, please contact your local Environment Agency office by calling 08708 506 506.

Climate Change

As highlighted above, the frequency and intensity of rainfall is predicted to increase as a result of climate change and an allowance for how this will affect the proposal will need to be factored into design.

In addition rising sea levels may put some areas currently within Flood Zone 1 at risk from tidal flooding. These areas should have been identified in your LPA's SFRA.

End of Comment

"For the range of annual flow rate probabilities up to and including the one per cent annual exceedence probability (1 in 100 years) event, including an appropriate allowance for climate change, the developed rate of run-off into a watercourse, or other receiving water body, should be no greater than the existing rate of run-off for the same event. Run-off from previously-developed sites should be compared with existing rates, not greenfield rates for the site before it was developed. Developers are, however, strongly encouraged to reduce runoff rates from previously-developed sites as much as is reasonably practicable. Volumes of run-off should also be reduced wherever possible using infiltration and attenuation techniques. Interim guidance on calculation of site run-off rates can be found at http://www.ciria.org/suds/pdf/preliminary_rainfall_runoff_mgt_for_development.pdf ".

Sustainable Drainage Systems (SuDs)

SuDs seek to mimic natural drainage systems and retain water on or near to the site, when rain falls, in contrast to traditional drainage approaches, which tend to pipe water off site as quickly as possible.

SuDs offer significant advantages over conventional piped drainage systems in reducing flood risk by reducing the quantity of surface water run-off from a site and the speed at which it reaches water courses, promoting groundwater recharge, and improving water quality and amenity. The range of SuDs techniques available means that a SuDs approach in some form will be applicable to almost any development.

Government policy set out in paragraph 103 of the NPPF expects LPAs to give priority to the use of SuDs in determining planning applications. Further support for SuDs is set out in chapter 5 of the flood risk Practice Guide.

Approved Document Part H of the Building Regulations 2000 establishes a hierarchy for surface water disposal, which encourages a SuDs approach beginning with infiltration where possible e.g. soakaways or infiltration trenches .

Where SuDs are used, it must be established that these options are feasible, can be adopted and properly maintained and would not lead to any other environmental problems. For example, using soakaways or other infiltration methods on contaminated land carries groundwater pollution risks and may not work in areas with a high water table. Where the intention is to dispose to soakaway, these should be shown to work through an appropriate assessment carried out under BRE Digest 365.

Provision for long-term maintenance should be provided as part of any SuDs scheme submitted to the LPA. Model legal agreements that provide a mechanism for SuDs maintenance can be accessed on the CIRIA web site at http://www.ciria.org/suds/icop.htm.

Further information on SuDs can be found in chapter 5 of the flood risk Practice Guide which gives an extensive selection of references. The Interim Code of Practice for Sustainable Drainage Systems provides advice on design, adoption and maintenance issues and a full overview of other technical guidance on SuDs. The Interim Code of Practice is available on CIRIA's web site at: http://www.ciria.org