

# Flood Risk Policies

# 9 Flood Risk Policies

There are a number of existing regional and local policies that relate to the flood risk. These are described in the following sections. In addition, a number of flood risk specific planning policy proposals have been discussed by the project. These are also discussed in the following sections.

## 9.1

### Current Planning Policy

#### Regional

Submitted Draft Regional Spatial Strategy for the East Midlands (March 2008) states the following:

*Policy 36 – A Regional Approach to Managing Flood Risk*

Development Plans, future Local Development Frameworks, and strategies of relevant agencies should:

- be informed by the use of appropriate Strategic Flood Risk Assessments in order to evaluate actual flood risk and should include policies which prevent inappropriate development either in, or where there would be an adverse impact on, the coastal and fluvial floodplain areas;
- deliver a programme of flood management schemes that also maximise biodiversity and other regeneration benefits; and
- require sustainable drainage in all new developments where practicable.

Development should not be permitted if, alone or in conjunction with other new development, it would:

- be at unacceptable risk from flooding or create such an unacceptable risk elsewhere;
- inhibit the capacity of the floodplain to store water;
- impede the flow of floodwater;
- have a detrimental impact upon ground water storage capacity;
- otherwise unacceptably increase flood risk; and
- interfere with coastal processes.

However, such development may be acceptable on the basis of conditions or agreements for adequate measures to mitigate the effects on the overall flooding regime, including provision for the maintenance and enhancement (where appropriate) of biodiversity. Any such measures must accord with the flood management regime for that location.

Strategic flood risk assessments should be carried out where appropriate to inform the implementation of this policy.

## Local

### *Chesterfield*

The Replacement Chesterfield Borough Local Plan (June 2006) states the following:

*Policy EVR10 – in areas of flood risk shown on the proposal map or otherwise identified by the Environment Agency, applications for developments will be subject to the following restrictions and requirements;*

In Zone 3 areas identified as protected washlands – development will only be permitted in exceptional circumstances for essential infrastructure which cannot be practicably located elsewhere. In other Zone 3 areas and in Zone 2, planning permission will not be granted if the flood risk assessment indicates that the development would:

- a) increase the risks of flooding on site and/or elsewhere, whether upstream or downstream; or
- b) be at risk of flooding itself; or
- c) impede access to a watercourse for maintenance; or
- d) not provide adequate flood mitigation and flood warning measures.

### *Bolsover*

Bolsover District Local Plan (February 2000) states the following:

*Policy GEN 5 – planning permission will only be granted for developments that interact positively with the natural watercourse and land drainage system.*

The drainage of the system will be protected and permission will not be granted for development which would result in:

- 1) A reduction in the capacity of the natural floodplain as defined on the proposals map (unless compensatory measures are provided to the satisfaction of the local planning authority);
- Or
- 2) Detrimental changes in the characteristics of surface water run-off or groundwater drainage (unless works can be provided on or loss the site to accommodate the effects of the changes);
- Or
- 3) new uses at risk in areas liable to flooding;
- Or
- 4) loss of access to watercourses for future maintenance and improvement works

### *NE Derbyshire*

The North East Derbyshire Local Plan (November 2005) states the following:

*Policy NE9 – development proposals will not be permitted in areas at risk of flooding unless:*

- a) the proposals is for an open recreation or open space use; or
- b) the location is essential for a particular development and there are no alternative locations in a lower risk area; and
- c) the proposals can be adequately safeguarded against flood risk through appropriate mitigation and/or compensation works; and
- d) it can be demonstrated that the proposal would have no adverse effects on the management of flood risk either upstream or downstream of the development:
  - i. by a reduction of the capacity or increase in flows in the floodplain;
  - ii. through the discharge of additional surface water;
  - iii. by harming flood defences; and
- e) adequate provision is made for access to watercourses for maintenance purposes.

## 9.2

### **LDF Draft flood risk policies**

Flooding issues have long been recognised as a material consideration in the development planning process. In view of the apparent increase in frequency and severity of fluvial flooding in recent years, the Government has asked LPAs to give greater consideration to flood risk in the planning process by discouraging inappropriate development. Government advice is that a precautionary and risk-based approach should be taken in respect of decisions made by LPAs on applications for development consent where flood risk is an issue.

Policies should be applied to planning applications based on the Flood Zones defined in PPS25. PPS25 aims to steer development away from areas at risk of flooding. If development does need to take place in a Flood Zone, less vulnerable development types should be considered first and the lower risk Flood Zones should also be considered first.

In addition, PPS25 sets guidelines on surface water disposal and developments that interfere with the natural flow of watercourses.

### **The following Draft Flood Risk Policy Recommendations have been prepared for the Chesterfield, Bolsover and North East Derbyshire SFRA.**

#### *DRAFT POLICY RECOMMENDATION 1 - The Need for a Flood Risk Assessment*

The Council may require the submission of an appropriate site specific Flood Risk Assessment from the developer in connection with any application for development consent. The Environment Agency has produced standing advice to assist Local Planning Authorities make decisions on low risk planning applications (i.e [www.pipernetworking.com](http://www.pipernetworking.com)). The standing advice also sets out those higher risk developments on which the EA is a statutory consultee on development and flood risk where the EA needs to be consulted directly by Local Planning Authorities.

If the LPA considers that a proposed development is on land considered to be at risk of flooding or is likely to present a significant flood risk or increased flood risk to other land or property, they may require that the developer submits a site specific Flood Risk Assessment of the development site in connection with the application for planning permission. It should be assumed that a site specific Flood Risk Assessment may be required in most cases, though exceptions will normally be made for minor developments such as alterations to existing buildings. Developers are therefore advised to seek the advice of the LPA before submitting an application as to whether the LPA is likely to require a site specific Flood Risk Assessment. Developers are directed to the "Development and Flood Risk: A Practice Guide Companion to PPS25 'Living Draft'. See also guidance on the Sequential Test and the Exception test in Section 8.1 of this SFRA.

The site specific Flood Risk Assessment must examine the flood risk issues and implications for the development over its whole lifetime, taking into account (where relevant) the possible impacts of climate change. The Assessment must be appropriate to the location, size, complexity and sensitivity of the development proposal and should address those matters outlined in Annex E of PPS 25. The Assessment should consider the risks of flooding from open watercourses and, where relevant, from surface water sewers and piped drainage systems, groundwater and any artificial sources of flood risk.

The site specific Flood Risk Assessment should also address the implications of increased surface water runoff from paved and impermeable areas created by the development for flood risk to land and property downstream of the development. If the Assessment finds that additional surface water runoff is likely to be generated by the development at times of heavy rainfall, the development proposals should incorporate suitable measures to attenuate the additional runoff to levels that existed prior to the development taking place. Consideration of the use of SuDS is recommended. SuDS are dealt with in detail in Draft Policy Recommendation 5.

Where a substantial development (e.g. greater than one hectare) is envisaged, the LPA strongly advises developers to consult the Environment Agency before making a formal application for planning consent to discuss:

- the potential flood risks to their development,
- the likely impact of their proposals on flood risk elsewhere,
- and what flood risk mitigation measures might be necessary, effective and acceptable.

For substantial developments, a site specific Flood Risk Assessment carried out by a competent person will be an essential element in the overall evaluation of the proposed development and its approval by the LPA.

Where flood risk alleviation works form a necessary pre-condition of development consent, such works will normally be funded by the developer, probably through a Section 106 Agreement with the LPA. Consent for work next to or in a watercourse will require consent from the EA. Where the proposed alleviation works are likely to require ongoing future maintenance, appropriate agreements shall be entered into prior to their construction to ensure the long term effectiveness of the works.

*DRAFT POLICY RECOMMENDATION 2 - Development in areas deemed to be at Low Probability of flooding, (Flood Zone 1)*

The LPA's SFRA has classified all land within one or other of the four Flood Zones described in the SFRA. This classification has been undertaken at the strategic level and is intended primarily for guidance purposes in the overall planning process. It should not therefore be regarded as definitive and does not remove the need for site specific FRAs.

A site specific Flood Risk Assessment will be required for all applications for major sites<sup>4</sup>. The EA will be a Statutory Consultee for the following situations:

- development within 20m of the bank top of a Main River;
- any culverting operation or development which controls the flow of any river or stream;
- development other than minor development in Flood Zones 2 & 3;
- development in Flood Zone 1 where there are critical drainage problems;
- any development exceeding one hectare in extent.

The Environment Agency is required to respond to consultations on preplanning enquiries within 21 days, unless otherwise formally agreed in writing.

The site specific FRA should consider the potential to increase flood risk elsewhere through the addition of hard surfaces and the effect of the new development on surface water run-off. With these considerations in mind, planning permission will only be granted for development in these areas provided that:

- A) The development will not itself be at an inappropriate risk of flooding. (It may itself be at risk from other, secondary sources of flooding such as surface water sewers.)
- B) The development will not create an increased risk of flooding for other persons, land and property. (Even though a development outside the floodplain may not itself be at risk of flooding, it may nevertheless increase the risk to others by increasing the rate and volume of surface water runoff from the development site.)
- C) All flood risk mitigation measures shall be implemented in accordance with the implementation programme submitted with the approved site specific Flood Risk Assessment before the development is brought into use. Developers should therefore appreciate that a site specific Flood Risk Assessment may still be necessary for developments of Low Probability or Medium to High Probability of flooding.

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<sup>4</sup> Major development is defined in The Town and Country Planning (Flooding) (England) Direction 2007 as:  
 (a) in respect of residential development, a development where the number of dwellings to be provided is 10 or more, or the site area is 0.5 hectares or more; or  
 (b) in respect of non-residential development, a development where the new floorspace to be provided is 1,000 square metres or more, or the site area is 1 hectare or more;

*DRAFT POLICY RECOMMENDATION 3 - Development in areas deemed to be at Medium to High Probability of flooding (Flood Zones 2 and 3a)*

Developments within the natural floodplain of a river or stream are inherently at risk of flooding and can also increase flood risks to others, not only by increasing surface water run-off rates but by obstructing or diverting flood flows and reducing flood storage. Planning permission will be granted where the following criteria are met:

- A) It is considered either appropriate (in developed areas), or essential (in other high risk areas) for development to take place in that location within the criteria set out in Tables D1 and D2 of PPS25 (see section Table 2.2).
- B) It is protected from flooding to an appropriate standard or is designed to cope with the risk of flooding.
- C) Ground floor living accommodation is excluded in residential developments where that development is adjacent to a raised flood defence.
- D) The development does not create an unacceptable obstruction to flow across a floodplain under flood conditions, and does not divert the flow of flood water towards or across adjacent land or property.
- E) The development does not reduce the volume available for the retention of water on the flood plain in times of flood (i.e. no loss of flood plain storage due to new development, ground raising etc.).
- F) The development does not jeopardise the integrity of existing flood defences in any way, or obstruct operational access thereto.
- G) All flood risk mitigation measures shall be implemented in accordance with the implementation programme submitted with the approved Flood Risk Assessment before the development is brought into use.
- H) For brownfield floodplain redevelopment, natural floodplain should be restored either by reducing the building footprint or by changing the use to a less vulnerable classification.

A development shall not result in a net loss of flood plain storage – i.e. compensation storage can be provided BUT it should be contiguous with the flood plain and connected to the area where flood plain storage is lost. Compensation storage should also be level for level with the flood plain storage lost i.e. if volume is lost from the 1 in 100 year flood plain it cannot be compensated for by additional flood plain storage in the 1 in 25 year flood plain and vice versa. Existing buildings are assumed to take up flood plain storage and need not be compensated for when re-developed.

Table 19 summarises which land uses are appropriate in these Flood Zones. This is shown in full in Figure 5.

Table 19: Appropriate uses of land in Flood Zones

<b>Flood Zone</b>	<b>Appropriate uses of land</b>
Flood Zone 1	All uses of land are appropriate in this zone
Flood Zone 2	The water-compatible, less vulnerable and more vulnerable uses of land and essential infrastructure in Table D.2 from PPS25 are appropriate in this zone.
Flood Zone 3a	The water-compatible and less vulnerable uses of land in Table D.2 from PPS25 are appropriate in this zone.
Flood Zone 3b	Only the water-compatible uses and the essential infrastructure listed in Table D.2 from PPS25 that has to be there should be permitted in this zone.

*DRAFT POLICY RECOMMENDATION 4 - Development involving building in areas identified as Functional Floodplain (Flood Zone 3b)*

A Functional Floodplain is an area of undefended floodplain which is expected to flood on a frequent basis and which, by being allowed to flood, will reduce the risk or severity of flooding elsewhere. The functional floodplain includes water conveyance routes and flood storage areas (sometimes referred to as washlands).

Development involving building in areas identified as Functional Floodplain in the SFRA will only be permitted in exceptional circumstances. Specific brownfield sites can be designated as Flood Zone 3a (high risk) and not part of the functional flood plain if agreed between the EA and the LPA (Ref: Section 2.2).

Table 19 outlines which land uses are appropriate in this Flood Zone.

This Draft Policy Recommendation is intended to prevent development which might impede the flow of water onto a functional floodplain or reduce the volume available for the temporary storage of flood water in those areas.

### 9.3

#### **SuDS**

Sustainable drainage is the practice of controlling surface water runoff as close to its origin as possible before discharge to a watercourse or to a soakaway. It has many benefits relating to a variety of environmental issues such as reducing flood risk, minimising pollution of watercourses and groundwater, minimising soil erosion and damage to natural habitats, maintaining or restoring natural flow regimes in receiving watercourses, maintaining groundwater recharge and achieving environmental enhancements. The many and diverse benefits resulting from the use of SuDS justify the requirement for the widespread use of SuDS in development proposals. Appendix E gives a brief description of the use of SuDS and sustainable development.

*DRAFT POLICY RECOMMENDATION 5 - Sustainable Drainage Systems (SuDS)*

The LPA should require developers to demonstrate that their surface water drainage proposals, particularly for large sites, are appropriate and adequate for the development and will not increase the flood risk to land and property either upstream or downstream of the development site. The Council considers that Sustainable Drainage Systems (SuDS) are a desirable means of achieving this and encourages their use by developers.

Planning permission for site without SuDS will not usually be granted unless the Developer can provide sufficient justification as to why SuDS are inappropriate, unfeasible or unnecessary at the proposed development site.

New development, especially of greenfield sites, alters the existing drainage characteristics of an area with roofs, roads and other impermeable surfaces from which rainfall is more rapidly translated into runoff. The management and control of this increased surface runoff has a major role in sustainable development.

### 9.4

#### **Culverting of Open Watercourses**

*DRAFT POLICY RECOMMENDATION 6 - Culverting of Open Watercourses*

The Environment Agency and Council are in general opposed to the culverting of open watercourses because of the adverse ecological effect, potentially increased flood risk and other consequences that are likely to arise. Where practical in connection with the development proposals, LPAs should seek to have existing culverted watercourses restored to open channels, using planning conditions or S106 legal agreements.

The LPA will therefore only approve plans to culvert an open watercourse if there is no reasonably practical alternative to culverting, or if the detrimental effects of culverting would be so minor that they would not justify a more costly alternative. In all cases where it is

appropriate to do so adequate mitigation must be provided for damage caused to natural habitats and to animal, plant and other species by the culverting.

If culverting is approved, the size and material of the pipes used must be adequate to convey flood flows in the watercourse and able to support any vehicular or other load likely to be imposed upon the culvert. The developer may be required to demonstrate to the LPA with appropriate hydraulic calculations that the culvert will adequately convey the flood flow in the watercourse without exacerbating flooding upstream or along the line of the culvert. The LPA will not normally approve the installation of a culvert of smaller size than one further upstream on the same watercourse.

Culverts, especially in urban areas, are liable to become obstructed or blocked by debris carried by flood waters or by illegally deposited rubbish. The LPA may therefore require a screen of a suitable design to be erected at the entrance to the culvert. The design of the screen must permit safe and convenient access for the removal of debris and rubbish. Where the culvert is longer than twenty metres, the LPA may require the installation of one or more intermediate access manholes on the line of the culvert for maintenance purposes.

## 9.5

### Climate Change

It is generally accepted that climate change is happening and is likely to cause an increase in flood risk in the future. As such, draft policy 7 has been included to allow councils to manage climate change at development level.

#### *DRAFT POLICY RECOMMENDATION 7 - Climate Change*

All new developments must take account of climate change both for river flows and surface water run-off. River flows should be assumed to increase by 10% or 20% and peak rainfall intensity by 10%, 20% or 30% depending on the lifetime of the development.

Current guidance defines development lifetimes of 30 years for retail, 60 years for commercial/industry and 100 years for residential.

Climate change allowances should be in accordance with Planning Policy Statement 25.

## 9.6

### Afforestation

Afforestation outside floodplains is beneficial and can reduce runoff and flood risk if undertaken in a sustainable manner. Afforestation within floodplains is more complex, can cause both positive and negative effects and would need to be reviewed as part of a catchment wide hydraulic modeling exercise.

#### *DRAFT POLICY RECOMMENDATION 8 - Afforestation*

Opportunities for afforestation (outside of the floodplain) should be considered and implemented wherever practical. Deforestation and other significant tree loss should be avoided, especially clear cutting.

## 9.7

### Increased Impermeability

It is widely understood that a major factor for increased flood risk in urban areas is due to small (but many) increases in impermeable area (e.g. paving driveways and gardens). It is likely that planning permission will be required in the future for similar such development. Draft policy 8 aims to tackle this issue prior to any legislation being in place.

#### *DRAFT POLICY RECOMMENDATION 9 - Increased Impermeability*

Increases in impermeable area requiring planning permission will not normally be permitted unless it can be demonstrated that the run-off from these areas will not be increased. This could be achieved by the following:

- Sustainable drainage techniques such as permeable pavements and infiltration;
- Underground storage and flow control.



**9.8****Runoff Rates**

For events with a return-period between 30 to 100 years, surface flooding of open spaces such as landscaped areas or car parks may be acceptable for short periods, but the layout and landscaping of the site must ensure flooding does not affect property FFL's or increase off-site flooding.

A climate change allowance of 20% must be applied for industrial/commercial developments and 30% for residential developments.

For greenfield sites, discharge rates must be reduced to 5 l/s per ha for the design (30 year) storm.

For brownfield sites, discharge rates should match greenfield run-off rates (5 l/s per ha). Where it is impractical, it will be the responsibility of the developer to justify why this can not be achieved.

SuDSs should be used on all development sites as a method of achieving the above criteria. Where SuDS are impractical, it will be the responsibility of the developer to justify why.

***DRAFT POLICY RECOMMENDATION 10 - Runoff Rates***

PPS 25 requires flood risk to be reduced wherever possible by limiting peak surface water discharge but national guidance on the expected scale of reduction is not consistent.

Recommendations vary from no detriment to a preference that brown field solutions provide similar run-off characteristics to green field development. Consequently the Local Authority will seek the maximum possible reduction as follows:-

For sites currently draining direct to sewer or watercourse and proposals to use the same outlet(s), a minimum of 30% reduction in peak discharge. Indirect drainage via the highway is not included in the calculation of existing flow.

For sites not currently drained or to be drained to alternative outlets, peak discharge to be restricted to 5 litres per second per hectare with a 5 litres per second minimum/per site (i.e. sites < 1hectare would have a discharge of 5l/s).