



Bristol Core Strategy Examination 2010

Bristol City Council's Response to Inspector's Comments and Questions

Flood Risk Sequential Test Position Paper

11 May 2010

Flood Risk Sequential Test Position Paper

Introduction

1.1 Through policy BCS16 of the Bristol Development Framework Core Strategy, Bristol City Council recognises the Sequential Approach to determining the suitability of land for development in flood risk areas as set out in PPS25: Development and Flood Risk (December 2006) and its associated Practice Guide (June 2008).

1.2 This Sequential Test Paper will show that the level of development proposed for Bristol's administrative area cannot be entirely accommodated on reasonably available sites within Flood Zones 1, and that, having regard to the range, type and level of development required, some degree of new development in Flood Zone 2 will be required. This paper will also explore the implications of proposed growth in Avonmouth and the City Centre, where areas of land fall within Flood Zones 2 and 3a, either now or in the future in the "with climate change" scenario.

1.3 This paper will then go on to provide evidence of the conformity of the proposed development in flood risk areas with the Exception Test, including how the risk of flooding might be mitigated in these areas.

1.4 Flood Zones as referred to in this paper are those defined by the Bristol Strategic Flood Risk Assessment (SFRA) Reports Level 1 (2009) & 2 (2010) (Core Document Ref: CDE16/ENV16 and CDE17/ENV17).

The Context for Growth

2.1 The level of housing growth in Bristol and the strategic approach to other forms of development in the city over the next twenty years will be informed by the Regional Spatial Strategy for the South West (RSS) and the Bristol Development Framework Core Strategy.

2.2 The emerging RSS, currently set out in the Secretary of State's Proposed Changes (July 2008), proposes that the majority of growth in the South West for the period to 2026 will take place at a series of Strategically Significant Cities and Towns (SSCTs). The Bristol SSCT is one such growth area and comprises the administrative area of Bristol City Council plus parts of South Gloucestershire, North Somerset and Bath and North East Somerset.

2.3 The emerging RSS proposes challenging levels of growth for the West of England Housing Market Area, which includes the Bristol SSCT. 36,500 homes are proposed for the Bristol administrative area. The Core Strategy is required to be in general conformity with the RSS; however, progress on the RSS is currently stalled pending further sustainability appraisal work following a legal challenge to the East of England Regional Spatial Strategy. Consequently, work on the Core Strategy is proceeding without a formally adopted RSS.

2.4 Options for meeting the higher target of 36,500 homes, which exceeded the target set in earlier drafts of the RSS, were explored in the Core Strategy Preferred Options Review Paper (February 2009). However, the council was unable to find an option for the development of the additional homes that did not cause significant negative effects at the sustainability appraisal¹. The Core Strategy is moving forwards with a tested level of housing provision, specifically the target of 30,000 homes within its administrative area as set out in the RSS Examination in Public Panel Report (December 2007). Despite the reduction in housing numbers compared to the Secretary of State's Proposed Changes this remains a

¹ Sustainability Appraisal Update – Preferred Options Review (February 2009)

challenging target for the city to achieve², which offers comparatively limited flexibility in terms of alternative options for site selection.

The Sequential Approach

3.1 The council's evidence for Bristol's capacity for new homes is set out in the Strategic Housing Land Availability Assessment (SHLAA) (November 2009).

3.2 In developing the SHLAA, notional housing capacities were identified for each available site, having regard to certain density assumptions and key constraints that discounted or limited the capacity of some sites. One such constraint was flood risk. Sites entirely within Flood Zone 3 were not included in the SHLAA, while sites partially within Flood Zone 3 had their notional capacity reduced accordingly.

3.3 Taking account of all information sources, the SHLAA was able to identify sufficient land to accommodate 30,000 homes without encroaching on Flood Zone 3. However, it was not possible to identify sufficient reasonably available sites to accommodate 30,000 homes solely in Flood Zone 1 without exploring the alternative options for growth previously discounted on sustainability grounds at the Preferred Options Review stage.

3.4 Following the sequential approach, if the council cannot find sufficient reasonably available land in Flood Zone 1 to meet its housing requirements, it has no option but to consider the development of sites falling within Flood Zone 2. As such, the SHLAA identifies a total of 17 sites that are wholly or partly in Flood Zone 2 as having capacity for development, many of which are located in the central area of the city.

Disposition of Development

3.5 As noted above, most of the housing sites identified by the SHLAA lie within Flood Zone 1. Correspondingly, of the five key policy areas for residential development as set out in the Core Strategy, four lie predominantly within Flood Zone 1. The proposals for these four areas are as follows:

- **10,000 homes in South Bristol**
- **3,000 homes in the Northern Arc**
- **2,000 homes in Inner East Bristol**
- **6,000 homes in the rest of Bristol**

3.6 There are two principal areas of the city in which the risk of flooding is greater:

- **Avonmouth:** Primarily within Flood Zone 3. This area has been identified for industrial and warehousing development on brownfield land only.
- **City Centre:** Partially within Flood Zone 2, small areas within Flood Zone 3. The City Centre has been identified for a mixture of uses including **9,000 homes**. Most of the SHLAA sites that fall within Flood Zone 2 lie within this area, but there are also large areas within Flood Zone 1.

3.7 These two locations are discussed in more detail below.

Avonmouth

3.8 Although large areas of Avonmouth fall within Flood Zone 3, both as existing and in the "with climate change" scenario, no residential growth is proposed for this area. The area has been identified for industrial and warehousing development, waste development and

² Bristol City Council's Response to Inspector's Initial Questions, 29 April 2010

port-related activities. In terms of the sequential approach, there are limited opportunities to meet industrial and warehousing development needs on reasonably available land elsewhere in the city, while Avonmouth is also a favoured location for industrial and warehousing development due to its proximity to strategic infrastructure including the port, the rail network and the motorway network.³

3.9 Industrial, warehousing and waste uses are classified by PPS25 as “Less Vulnerable” development, which Table D3 of PPS25 identifies as compatible with Flood Zone 3a and would not need to be subject to the Exception Test. No further development is proposed on greenfield sites that do not already benefit from planning permission. Proposals of similar character to industrial uses but with a higher vulnerability classification, such as energy plant, would be subject to the Exception Test.

City Centre

3.10 Proposals for the city centre include 9,000 new homes and 150,000m² of office floorspace.

3.11 At present, there is limited land within this area classified as Flood Zone 3a. Areas within Flood Zone 3a consist primarily of river banks and small parts of north Redcliffe and Harbourside, plus a moderate area within St. Philip’s, north of the Feeder Canal. Coverage by Flood Zone 2 is more widespread, affecting a large area of Redcliffe, a small part of the Old City and further areas of Harbourside. The “with climate change” scenario for 2110 shows potentially greater areas of flood risk, with Flood Zone 3a extending onto most of north Redcliffe, Harbourside and St. Philips and large parts of Broadmead and the Old City.

3.12 At the present time, there is sufficient reasonably available land within the city centre for the use of land within Flood Zone 3a to be minimised. In the “with climate change” scenario, however, the use of some land within Flood Zone 3a may be necessary to accommodate the proposed growth. The disposition of uses and design of development in the city centre will therefore require careful attention in order to ensure that the most vulnerable uses are directed to the less vulnerable sites.

3.13 In assessing the proposed growth in the city centre against the sequential approach, however, a number of additional considerations must be taken into account:

- The emerging RSS provides a clear steer towards regeneration, growth and expansion in the city centre (CDE50/RS1 and CDE51/RS2).
- A large proportion of the 9,000 homes proposed for by the Core Strategy for the city centre already benefit from planning permission, with 1,532 of that number already completed 2006/07-2008/09 and 3,761 committed 2009/10-2014/15 (i.e. identified by their developers as likely to come forward).⁴
- The proposed Bristol Central Area Action Plan DPD, which will allocate sites for development within the city centre, will provide an opportunity for an holistic approach to the planning of the area. Given the strong steer in the emerging RSS towards regeneration, growth and expansion in the city centre, it may be appropriate for the scope of the sequential test in the city centre to be defined in terms of the Central Area Action Plan boundary⁵, allowing the council to assess the disposition of uses within the central area to direct the more vulnerable uses away from the areas more at risk of flooding while still meeting development needs.

³ Bristol Development Framework Employment Land Study (February 2009) CDE15/EV15

⁴ Bristol Infrastructure Delivery Programme (March 2010) CDE27/EV27

⁵ PPS25 Practice Guide (June 2008), paras.4.33-4.34

- Strategic flood risk mitigation measures such as improved flood defences will enable the risk of flooding in the city centre to be reduced. Work to determine the scope, cost and feasibility of these measures, the need for which is recognised in the Bristol Infrastructure Delivery Programme, as well as delivery mechanisms, has been commissioned (See Appendix A for the latest on this position as recently communicated to the Environment Agency).

The Exception Test and Mitigation

4.1 It is not the objective of this paper to undertake a detailed Exception Test for each site to be allocated for development within a flood risk area. However, in broad terms, following the criteria set out in para. D9 of PPS25:

- It is considered that the sustainability benefits of development in the affected areas can be demonstrated, particularly in terms of the continued need for regeneration in Avonmouth and the city centre. The Core Strategy proposals for development in the city centre were found to have predominantly positive impacts in the Sustainability Appraisal, while proposals for development in Avonmouth were found to have positive impacts, dependent on how they are implemented.
- The development proposed in the areas at risk of flooding would take place predominantly on brownfield land, including in Avonmouth, where no further greenfield sites (above and beyond those already benefiting from planning permission) are proposed to be allocated for development, and in the city centre, where there is very little greenfield land available.
- It is considered that development in the areas at risk of flooding can in most instances be made safe through the implementation of flood mitigation measures such as providing safe access and egress routes in parts of St. Philip's, improvements to the tidal lock gates controlling water levels in the Floating Harbour (currently underway as part of the City Docks Capital Project), the provision of less vulnerable employment uses at ground floor level and the integration of flood resilience into the design of new buildings. The option of an Avon flood barrier / weir is one of a range of options which could also be considered. As noted above, work to determine the scope, cost and feasibility of strategic flood risk mitigation measures and delivery mechanisms is already in hand.

4.2 Taking account of the above, it is considered that the development proposed by the Core Strategy could be carried out in accordance with the Exception Test.

Conclusion

5.1 The council's assessment of its housing capacity has indicated that there are insufficient reasonably available sites in Flood Zone 1 to meet the city's challenging housing targets and employment development needs. As such it has been necessary, in accordance with the sequential approach, to consider a small amount of development in Flood Zone 2 in order to make up the shortfall. In the absence of reasonably available opportunities in lower flood risk areas, the development of sites in Flood Zone 2 is considered to pass the Sequential Test.

5.2 Many of the affected opportunities for development lie within the city centre, where the emerging RSS provides a strong steer towards regeneration, growth and expansion. Through the development of a detailed mitigation strategy for flood risk in the affected areas, it is considered that compliance with the Exception Test, where necessary, can also be achieved.

Appendix A: Letter to Environment Agency with draft Memorandum of Understanding



Mr B Smith
Planning Liaison Team Leader Wessex Area
The Environment Agency
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Reply to Sarah O'Driscoll
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Fax
E-mail sarah.odriscoll@bristol.gov.uk
Our ref BDF CS
Your ref
Date 16/03/10

Dear Barry

Bristol Development Framework Core Strategy

May I thank you and your colleagues for visiting our offices on Thursday 11 March to discuss the SFRA and the Core Strategy. I found the meeting very helpful and productive. Dave Crook's contribution from the Government Office perspective was also extremely helpful.

We clarified that considerations of flood risk have informed the Core Strategy which proposes to locate development predominantly in areas with a low risk of flooding and, in particular, avoids further greenfield development on the functional floodplain. I would note that the Core Strategy (paragraph 4.16.4) also explains that reasonably available sites with a low risk of flooding are unlikely to offer sufficient capacity to meet the totality of requirements for growth in Bristol. Consequently the Core Strategy explains that some sites will have to be allocated in areas with a greater risk of flooding. It goes on to say that in the selection of any sites for development in areas at sequentially greater risk of flooding, the exception test outlined in PPS25 will be carried out to demonstrate the need for further development in those locations.

We also explained that the approach to Avonmouth was based on renewal of existing sites and that the policy does not promote new allocations for employment development on greenfield land. We consider this to be a sound approach to the complex range of planning issues which arise in this area, in particular the risk of flooding. As the delivery section of Policy BCS4 makes clear, the Council will work with all key partners, including the Environment Agency, to support the area's sustainable development.

We discussed the fact that parts of the City Centre are affected by flood risk – indeed the historic city grew up as a port on the River Avon. However, it is worth noting that much of the City Centre policy area is located on higher ground and is not at significant risk of

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flooding, as the SFRA demonstrates. It was clarified that the references to St Philips in the Core Strategy refer to the area north of the Feeder Canal, not the industrial area to the south. St Philips North of the Feeder Canal is proposed to be included within the city centre boundary where its future development will be guided by City Centre Policy BCS2. The regeneration of the area can therefore be approached flexibly, the form and location of uses having regard to the relative flood risk in the different parts of St Philip's. The detailed approach to St Philip's North of the Feeder Canal will be determined in the Bristol Central Area Action Plan. The Environment Agency will, of course, be a key partner in assembling that plan.

My overall understanding is that the Agency does not consider the strategic approach of the Core Strategy to be unsound; but that in order to ensure any necessary mitigation strategies can be effectively implemented further information on strategic solutions needs to be contained in further iterations of Strategic Flood Risk Assessment.

There were two main actions arising from the meeting:

1. The Agency would review its response on Avonmouth and confirm whether it concurred with the strategic approach set out in Policy BCS4.
2. The Council would draft a memorandum of understanding setting out the additional work to be carried out in respect of the SFRA and the timescales for this work.

We have already supplied a suggested amendment to the flood risk policy text which helps to indicate that it is not intended to adopt a piecemeal approach. I have attached the draft memorandum for your consideration. It would be helpful to have your earliest possible response to this in order to assist the examination process. As discussed at the meeting, the Core Strategy was submitted to the Secretary of State on 15 March and the examination process commences from that date.

I look forward to meeting with you and your colleagues again as we continue to refine the evidence base and progress with the Core Strategy, the Site Allocations Plan and the Bristol Central Area Action.

Yours sincerely,



Sarah O'Driscoll
Team Manager - Strategic Planning

Enc: Draft Memorandum of Understanding – Bristol City Council and the Environment Agency

cc: Dave Crook, Government Office for the South East

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16th March 2010

Memorandum of Understanding between the Environment Agency and Bristol City Council

This document sets out a programme of current and proposed studies which will inform the development of planning policy, the determination of planning applications and the provision of strategic and other flood risk management infrastructure for the plan period of the City Council's Core Strategy. This programme builds on a series of earlier studies undertaken between 2004 and 2009 which have informed the preparation of the Core Strategy.

Completed Studies

	Study Title	Scope/Purpose	Completion Dates
1	Avonmouth/ Severnside SFRA Phase 1	Broad SFRA for coastal area, with detailed mapping of two key development areas.	January 2005
2	Avonmouth/ Severnside SFRA Phase 2	Detailed mapping of a third key development area. Flood risk matrix provided for development control purposes. Advice on the probability of defending the coast to a standard consistent with PPG25.	April 2005
3	Avonmouth/ Severnside SFRA Phase 2	Update model to take account of new data on water level, wave heights and topographical surveys. Revise mapping. Update past reports.	January 2007
4	Bristol SFRA Level 1	Desk top appraisal of flood risk to meet Level 1 requirements of PPS25	March 2009
5	Bristol SFRA Level 2	Provides mapping of flood risks, policies for managing risk, information for use in FRAs and broad appraisal of strategic options for flood risk management infrastructure.	November 2009

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Proposed Studies

The City Council undertakes to deliver the following studies, in consultation with the Environment Agency, consistent with the study purposes and timetables indicated below.

	Study Title	Scope/Purpose	Status/Completion Target
1	Avonmouth/ Severnside Strategic Flood Study (Phase 4)	To update 2007 study with new model outputs and data and to appraise defence options and ensure PPS25 compliance.	<i>Started Completion June 2010 (Joint with S. Gloucs Council/Lower Severn Internal drainage Board) BCC lead</i>
2	Bristol SFRA update	To incorporate conclusions of the Avonmouth/ Severnside Phase 4 study and fill data gaps on FZ3b and climate change for other areas.	<i>To be commissioned May/June 2010 Completion September 2010 BCC lead</i>
3	Bristol Central Area Flood Risk Assessment	To develop a full understanding of flood risk from combined tidal/fluvial influences for the River Avon within Bristol; as well as the effects of tide lock on tributary watercourses. To Identify and assess flood risk management options to guide investment and flood risk management strategies.	<i>Started Completion February 2011 BCC lead</i>
4	Surface Water Flood Risk Assessment (SFMP)	Study of the Bristol City catchment to highlight areas at risk of surface water flooding and propose strategic as well as localised solutions	<i>Subject of current tendering Start in May 2010. Completion December 2010 BCC lead</i>
5	Flood Risk Management Strategy for Bristol	To propose a full programme of flood risk management investment in Bristol to 2030	<i>Commission July 2011 Completion December 2012 BCC lead</i>

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