

Flood Risk Assessment Addendum frontispiece

- 1.1 The flood risk assessment (FRA) addendum that forms Technical Appendix F to the new Bicester Phase 1 – housing number increase application is the same as that submitted to Cherwell District Council in August 2012 for the Section 73 application (12/01355/OUT) that is to be withdrawn. The increase in housing number as proposed in this application does not alter the technical content of the FRA addendum, because each land parcel designer has to meet a 1 in 10 year greenfield runoff rate however many units they build. In addition, the overall site-wide drainage design is based on a 75% impermeable area, which is very conservative. It was therefore considered acceptable to submit the same FRA that formed part of the Section 73 application for this new, outline planning application.



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SOUTH WEST BICESTER

NPPF: Flood Risk Assessment and Drainage Strategy
Addendum

Countryside Properties (Bicester) Ltd.

16/08/2012

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16/08/2012

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1 Introduction

1.1 Background

- 1.1.1 The Flood Risk Assessment for the South West Bicester project was prepared by WSP in January 2007. As part of the consultation process the Environment Agency were contacted and information relating to known and predicted flood sources were obtained.
- 1.1.2 The Flood Risk Assessment, submitted in January 2007, was prepared using the best available information at the time. The development proposals for South West Bicester was granted outline planning application in June 2008. However, Countryside Properties are seeking to provide an additional 100 dwellings over and above those already approved under the outline consent.
- 1.1.3 The previous Flood Risk Assessment, was prepared in accordance with “Planning Policy Statement 25: Development and Flood Risk Guidance” (PPS25). This Addendum report takes account of the “National Planning Policy Framework” (NPPF) published in March 2012, which supersedes PPS25.
- 1.1.4 This Addendum assesses the impacts the additional dwellings proposed would have on the drainage strategy outlined in the previous Flood Risk Assessment. This report should be read in conjunction with the previous Flood Risk Assessment completed in January 2007.

2 Existing Site

2.1 Site Location

- 2.1.1 Countryside Properties (Bicester) Ltd. is developing 119 ha of land, which is located along the south west edge of Bicester in Oxfordshire.
- 2.1.2 Three main watercourses, Pingle Brook to the north, Whitelands Farm Brook in the centre and Gaggle Brook to the south, run within or in the vicinity of the site area. Refer to Figure 1 in Appendix A for the Key Features Plan.
- 2.1.3 The NPPF guidance released in March 2012, supersedes that of PPS25, and requires that developers making planning applications for sites that are potentially at risk of flooding, or cover an area of greater than one hectare, should consult with the Environment Agency and produce a flood risk assessment for their proposals.
- 2.1.4 During the production of the January 2007 Flood Risk Assessment, the Environment Agency had stated that part of the site appeared to lie within Flood Zone 3 associated with the Pingle Brook, according to their coarse hydraulic modelling in the area.
- 2.1.5 As part of the previous FRA report, WSP carried out a more detailed hydraulic model of the Pingle Brook, using Infoworks RS and found that the extent of flooding up to and including the 1 in 100 year plus 20% climate change event does not encroach onto the proposed site. Refer to Section 3 of the South West Bicester Flood Risk Assessment issued in January 2007.
- 2.1.6 The current Environment Agency's Flood Mapping Website has since incorporated the modelling undertaken by WSP and indicates that the South West Bicester site lies wholly within Flood Zone 1 (little or no risk), which is outside of the flood plain. Refer to Figure 2 in Appendix A of this report.

2.2 Site Description

- 2.2.1 Table 2.1 describes the general site characteristics.

Table 2.1 Characteristics of the site

Area	119.4 ha
General Topography	<i>Overall Site generally slopes from the north-west to the south-east.</i>
	<i>Highest point of the site is located to the north-west at 82.76m AOD and the lowest point is located to the south-east, at the boundary with Oxford Road at a level of 65.19m AOD.</i>
Existing surfacing	<i>Partially developed</i>
Current use	<i>Development site</i>
Boundaries	<i>North Middleton Stoney Road (B4030)</i> <i>South Greenfield Areas north of Gaggle Brook</i> <i>East Oxford Road (A41)</i> <i>West A4095</i>
Access	<i>Vehicular: Vehicular Access available via Oxford Road (A41) and Middleton Stoney Road.</i>

3 Proposed Development

3.1 Proposed Development Description

- 3.1.1 The original development proposals were for a mixed-use development, which consisted of the construction of 1585 residential properties, B1 and B2 employment uses, 2 primary and a secondary school, a hotel, a sports pavilion and a local centre consisting of shops, offices and a community centre with possibly a pub/restaurant and children's nursery. A link road between the A41 and Middleton Stoney Road was also included to provide access into the new development.
- 3.1.2 This report is to support an Section 73 application for an additional 100 residential dwellings over and above the 1585 dwellings already approved under the outline consent. It is intended that the additional dwellings will be spread across the land parcels.

4 Drainage Strategy

4.1 Development of the Drainage Strategy

- 4.1.1 The FRA drainage strategy prepared for the outline planning application was developed further into a more detailed strategy (approved pursuant to condition discharge) and was also covered further in an approved Design Code. This places minimum requirements for Sustainable Drainage Systems (SuDS) for the developers of each parcel. This is set out on the latest drainage strategy drawing 1903/D/006(N) in Appendix B and in the approved Design Code for the development now known as Kingsmere.
- 4.1.2 The strategy and Design Code requires each parcel developer to carry out detailed infiltration tests and use on-parcel infiltration SuDS wherever practicable. Where infiltration is not practicable or is limited, the parcel designer must design attenuation storage to ensure the parcel discharge does not exceed greenfield runoff rates for the 1 in 10 year event. Above the 1 in 10 year event, discharges over the greenfield runoff rate are attenuated in the regional basins provided for each main site catchment.

4.2 Proposed Drainage Strategy

- 4.2.1 The calculations for the original drainage strategy assume 100% runoff from highways and 75% runoff from residential parcels. Actual percentage impermeable areas for residential areas are expected to be about 50-60% for any densities of dwellings, so actual runoff will be less than assumed whether or not a few extra dwellings per parcel are added.
- 4.2.2 Furthermore, the design criteria for the parcels will remain the same in that the greenfield runoff rate for the 1 in 10 year event must not be exceeded. This applies whatever the number of dwellings or parcel impermeable area is.
- 4.2.3 Therefore the slight increase in dwelling numbers will have no effect on discharges from the parcels and hence, there is no change to off-site discharge rates.
- 4.2.4 The regional attenuation basins provide enough storage to comply with the requirements for discharge of additional volume. This was not a requirement of the original strategy in 2007, but it has been demonstrated to comply with this current policy criteria as the volume provided assumed no infiltration on-site.

5 Conclusions

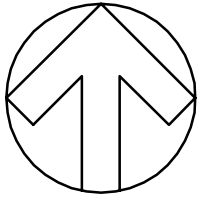
- 5.1.1 This Addendum Report addresses revisions to the Phase 1 application made since the submission of the Phase 1 South West Bicester, Flood Risk Assessment in January 2007. It also addresses the proposed increase in dwellings numbers by 100 compared to the original outline planning application in 2007.
- 5.1.2 As part of the previous FRA report, WSP had carried out a more detailed hydraulic model of the Pingle Brook, using Infoworks RS and found that the extent of flooding up to and including the 1 in 100 year plus 20% climate change event does not encroach onto the proposed site.
- 5.1.3 The current Environment Agency's Flood Mapping Website, has since incorporated the modelling undertaken by WSP and indicates that the South West Bicester site lies wholly within Flood Zone 1 (little or no risk), which is outside of the flood plain.
- 5.1.4 It has been shown that the increase in dwelling numbers will have no effect on the discharge rates offsite as the Design Code for the site requires parcel designers to limit parcel runoff rates based on the 1 in 10 year greenfield runoff. This is not related to the number of dwellings on the parcel. Furthermore, impermeable areas for the site wide strategy are based on 75% impermeable area, which will be much higher than the actual percentages even with the extra 100 units spread across the site.
- 5.1.5 The revised development proposals are therefore robust and compliant with NPPF in terms of flood risk and surface water drainage strategy.

6 Appendices

APPENDIX A

Figure 1 – Key Features Plan

Figure 2 – EA Flood Map



KEY
 SITE BOUNDARY

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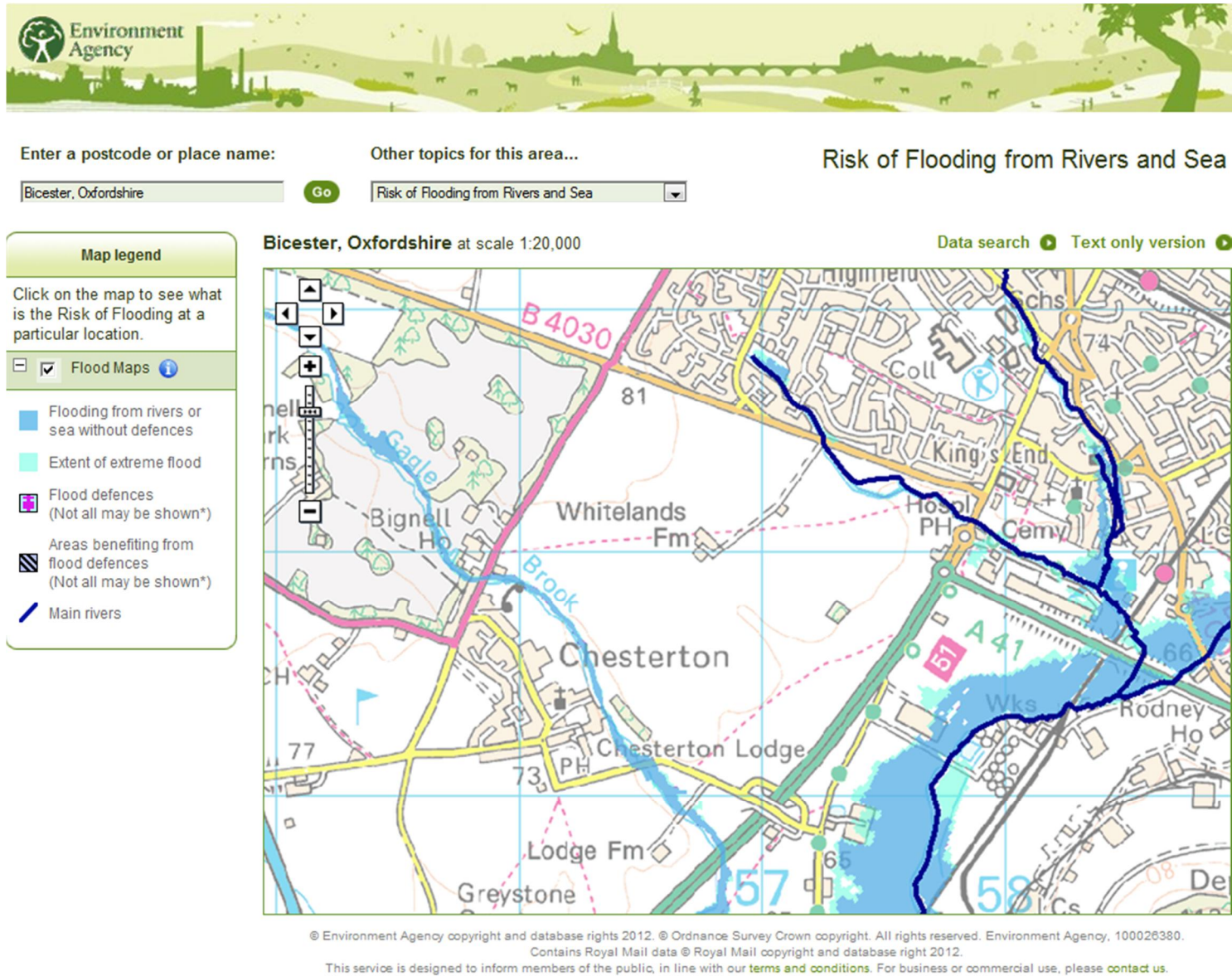


TITLE: SOUTH WEST BICESTER
 KEY FEATURES PLAN

FIGURE No: FIGURE1

N:\South West Bicester\DRAWINGS\AUTOCAD\Figures\FRA\Figure 1_Key_Features_Plan.dwg

FIGURE 2 – ENVIRONMENT AGENCY FLOOD MAP_ SOUTH WEST BICESTER



http://maps.environment-agency.gov.uk/wiyby/wiybyController?value=BICESTER&lang=_e&ep=map&topic=floodmap&layerGroups=default&scale=9&textonly=off#x=456944&y=221833&lg=1,&scale=9

APPENDIX B

1903/D/006(N) – Surface Water Strategy and Catchment Layout

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