

# Flood risk and surface water drainage

## Planning guidance

January 2016



## 6 Flood risk and surface water drainage

### 6.1 Introduction

Flood risk and surface water drainage are key planning considerations for many applications.

Developments will be refused if they are at risk of flooding or if they cause flooding to other properties. In Slough the main risk of flooding comes from rivers, surface water, groundwater, foul and surface water sewers.

[Follow this link for Government guidance on how planning takes account of the risks associated with flooding](#)

### 6.2 Sustainable Drainage Systems

Since 15th of April 2015 Sustainable Drainage Systems (SuDS) will have to be provided for in new **major** developments where appropriate. The implications of this are outlined in 6.3.2 and 6.3.3.

SuDS intercept and hold back excess surface water runoff, and then slowly drain it back into the drainage network or local watercourse.

**Major** developments are those involving any one or more of the following:

- a) The winning and working of minerals or the use of land for mineral-working deposits;
- b) Waste development;
- c) The provision of dwelling houses where:
  - i) the number of dwelling houses to be provided is 10 or more; or
  - ii) the development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within subparagraph (c)(i);

- d) The provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or
- e) Development carried out on a site having an area of 1 hectare or more.

For more information please refer to the [Town and Country Planning \(Development Management Procedure\) \(England\) Order 2015](#).

### 6.3 Planning applications

Planning applications must demonstrate that flood risk, from all sources of flooding, has been accounted for.

#### 6.3.1 Flood Risk Assessment

For **major** and **non-major** developments a Flood Risk Assessment (FRA) will be required for all new dwellings and most other buildings:

- Within either flood zone 2 or 3.
- Within flood zone 1 if the site is 1 ha or greater.
- If a more vulnerable change of use is proposed in flood zone 2 or 3.
- Within flood zone 1 if there is an existing local surface water drainage, foul drainage or groundwater problem. See note below.

***Note:** Local areas where flooding is a problem are not always shown on the Environment Agency maps. Further detail can be found in the local [Strategic Flood Risk Assessment](#) and through pre-application consultations.*

An assessment may also be required for:

- A change of use in flood zone 1 if a more vulnerable use is proposed.
- Developments within 20 metres of a 'main river' which includes significant streams (identified in blue on the map at the end of this chapter).

Slough Borough Council advise developers to consult with the Environment Agency for all development, other than minor development, or as defined by the Environment Agency Flood Risk Standing Advice, which is carried out on land:

- within flood zone 2 or 3, or
- in an area within Flood Zone 1 which has critical drainage problems as (as defined by the Strategic Flood Risk Assessment and through pre-application consultation).

Flood zones 1, 2 and 3 are identified on the Environment Agency flood maps and are available from their website, or by calling 08708 506 508. The map at the end of this section gives an indication of the current extent of flood zones in Slough.

For more information on when you need to do a flood risk assessment as part of your planning application, how to do one and how it's processed, please see the Flood risk assessment for planning applications government guidance.

### 6.3.2 Drainage Strategy

A Drainage Strategy describes how surface water will be managed. For all **major** developments developers should submit a Drainage Strategy. Slough Borough Council encourages developers to submit a Drainage Strategy at outline planning. Reserved matters and full planning applications must include one.

Drainage Strategies must demonstrate planning, design, construction and maintenance considerations for surface water management systems. This applies to both greenfield and previously developed sites and is in addition to completing a FRA (if required - see above for guidance on when a FRA should be produced). The two documents will include similar details and should inform one another.

A Drainage Strategy may form an appendix to your FRA however for validation purposes it should be submitted separately and be clearly identified. Failure to do so could result in a delay to your application.

The Drainage Strategy should be appropriate to the scale and location of the proposed development. Critically it must consider the receptor for your drainage in this order:

- 1) Discharge to the ground.
- 2) Discharge to a surface water body (eg river or lake).
- 3) Discharge to a surface water sewer, highway drain, or another drainage system.
- 4) Discharge to a combined sewer.

The preferred order of discharge should be applied even where infiltration can only account for a proportion of the runoff.

As a developer you must show a **technical reason** for not using the preferred order. Dismissing a drainage receptor on the basis of cost will not be acceptable. As an example, if you propose to discharge to sewer you must demonstrate why you can't discharge to the ground or surface water body first.

Other principles include:

- Wherever possible rainwater harvesting and green roofs are preferred as measures of improving water use and reducing run-off. Other features such as permeable surfaces could be considered including permeable pavement, and bio-retention areas.
- It is important to consider areas where there may be high water tables or low ground permeability if you want to infiltrate to ground. Designs at the full planning stage will not be approved if existing ground water levels have not been investigated and the appropriate soakage tests have not been carried out.
- Development plans must consider up to the 1 in 100 year storm event plus climate change and must show what will happen if the drainage system were to overflow.
- Drainage systems should be considered at the outset of the development design process and integrated with it. Space for drainage needs to be coordinated with building, highway and landscaping layouts to make good use of space and avoid unnecessary constraints or conflicts.

For more information on the content of a drainage strategy please see the [Surface Water Drainage Pro-Forma](#).

#### 6.3.3 Surface Water Drainage Pro-forma

For all major developments Slough Borough Council encourages developers to complete the [Surface Water Drainage Pro-forma](#) at the outline planning stage. Reserved matters and full planning applications must complete the [Surface Water Drainage Pro-forma](#). The document can form an appendix to your Drainage Strategy, however for validation purposes it should be submitted separately and be clearly identified.

Pre-application consultation with Slough Borough Council may help to reduce the amount of information that you will need to submit. The charge payable for pre-application will be dependent on the size of the development and the time taken to assess it.

[Follow this link for more information on the pre-application advice scheme and charges.](#)

**Non-major** developments do not need to complete the Surface Water Drainage Pro-forma.

*Note: The Surface Water Drainage Pro-forma requires detailed calculations to be made. Slough Borough Council advises that you allow sufficient time to complete this form.*

#### 6.4 Other important information

The Council, as a Lead Local Flood Authority, may be required by the [Flood and Water Management Act, 2010](#) to designate some of the drainage on your site as a "Flood Structure". If this happens you will need to contact the Council if any changes are to be made to that structure after your development is constructed.

Slough Borough Council will not adopt or maintain any drainage including sustainable drainage other than adopted Highway Drainage that meets the criteria shown in Part 3 of this guide. It is the responsibility of the developer to ensure that the person or person(s) responsible for the long term maintenance of drainage at the site are identified and that the Council are informed of this through submission of the maintenance form. See section 7.185 of the [Slough Core Strategy 2006-2026 \(development plan adopted 2010\)](#). An [example maintenance form](#) is available from Slough Borough Council.

## 6.5 Strategic Flood Risk Assessment (Slough)

This has been carried out in connection with the Core Strategy. It identifies local flood issues not covered by the Environment Agency flood maps and is available on the Council's website. It should be consulted before submitting applications and when carrying out flood risk or drainage studies. In brief it identifies local areas at risk due to ground conditions, ground water, foul surface water sewer flooding and areas potentially at risk of fluvial flooding but not highlighted on Environment Agency maps at present. It also identifies protection areas near groundwater sources (includes wells, bore holes, springs, etc). It identifies information required in site specific flood risk assessments. Further information can be sought from the Council's Drainage Engineer.

## 6.6 Guidance documents

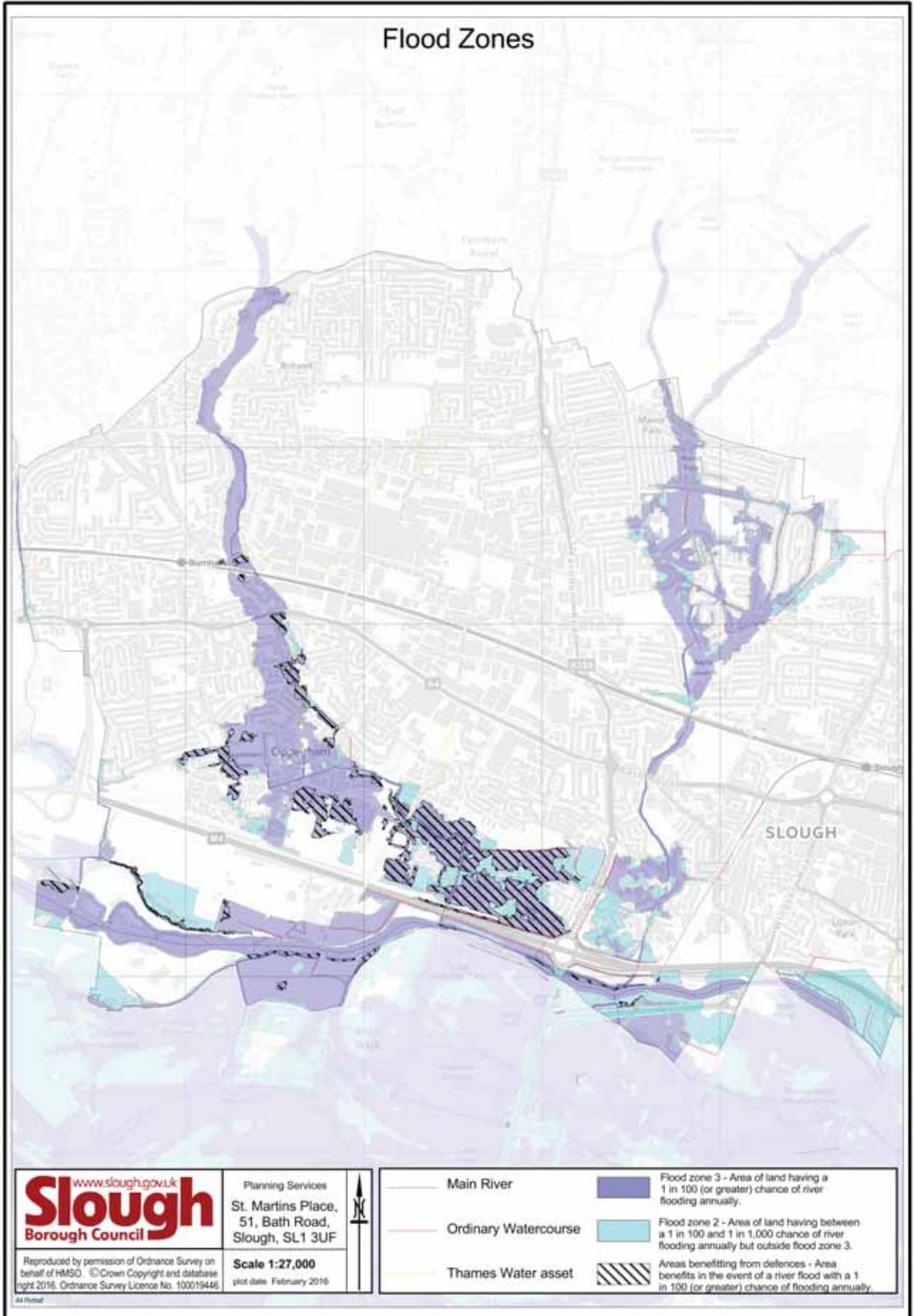
Many other design guides and guidance notes are also available which developers may find useful when designing their sustainable drainage system. Some of these documents are linked below:

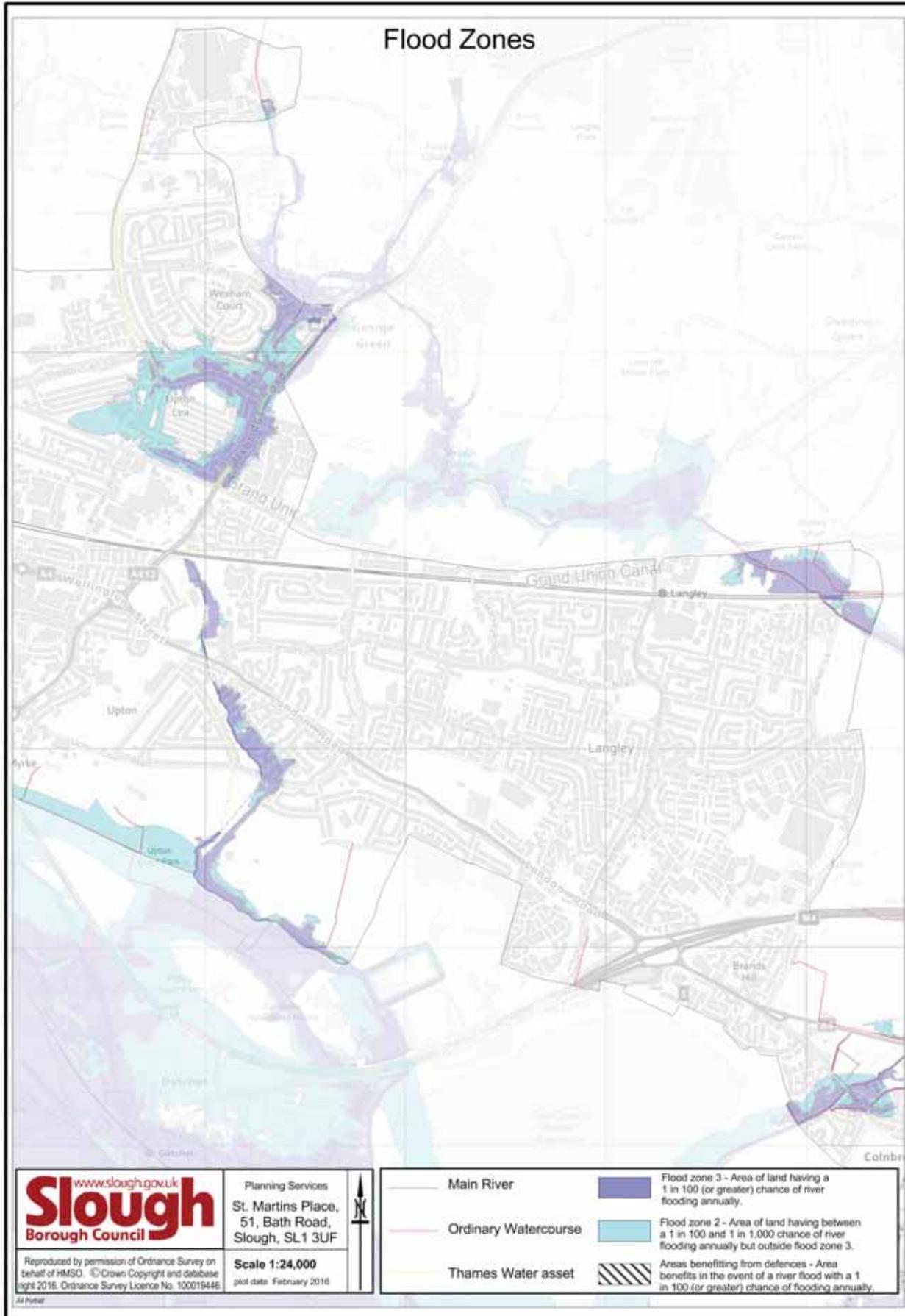
[Sewers for adoption \(7th edition\)](#)

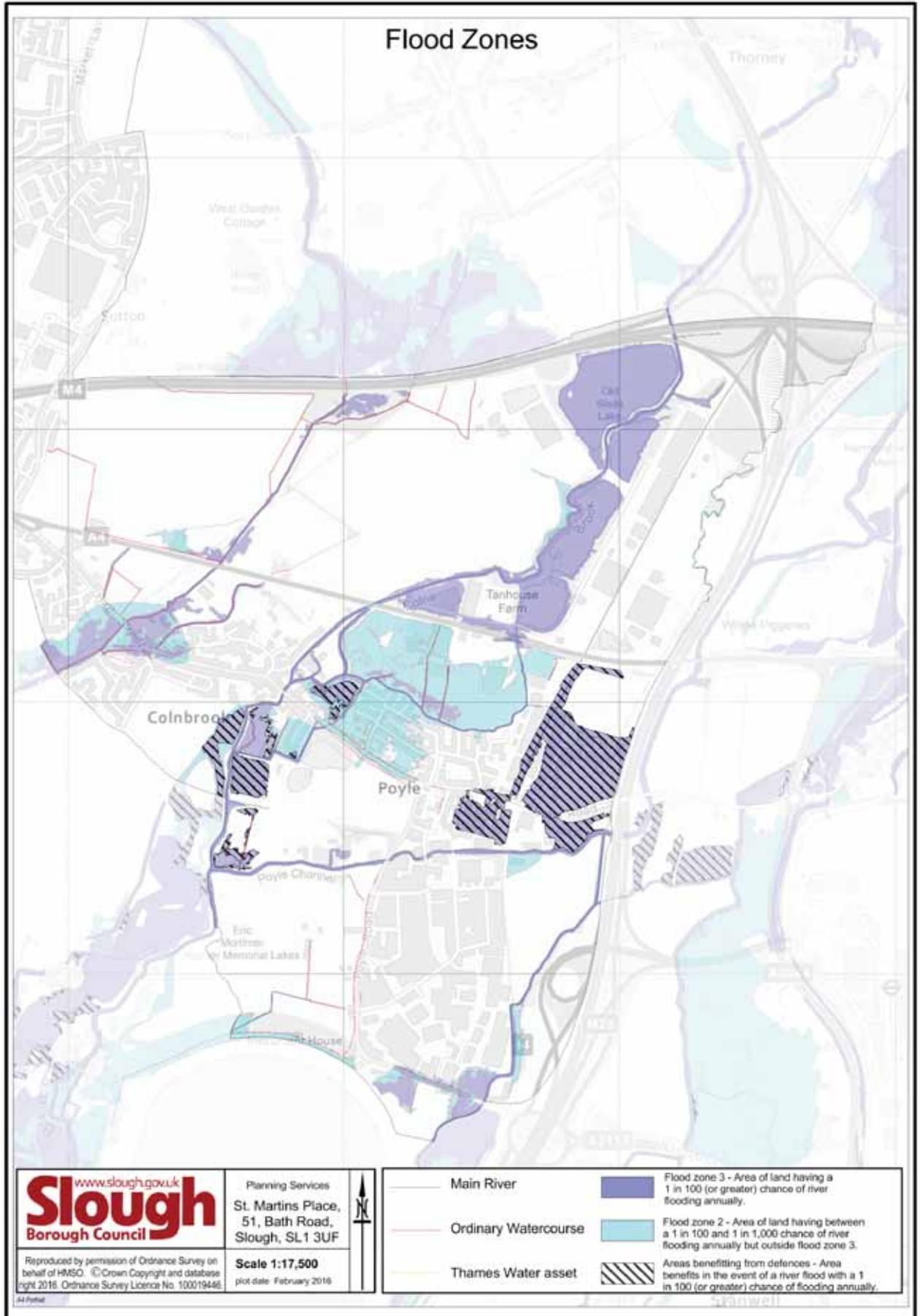
[SUSDRAINS website](#)

[CIRIA Guidance](#)

[Defra/EA Rainfall Runoff Management for new Developments science report, Revision E](#)











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