

Figure 1

Location Plan

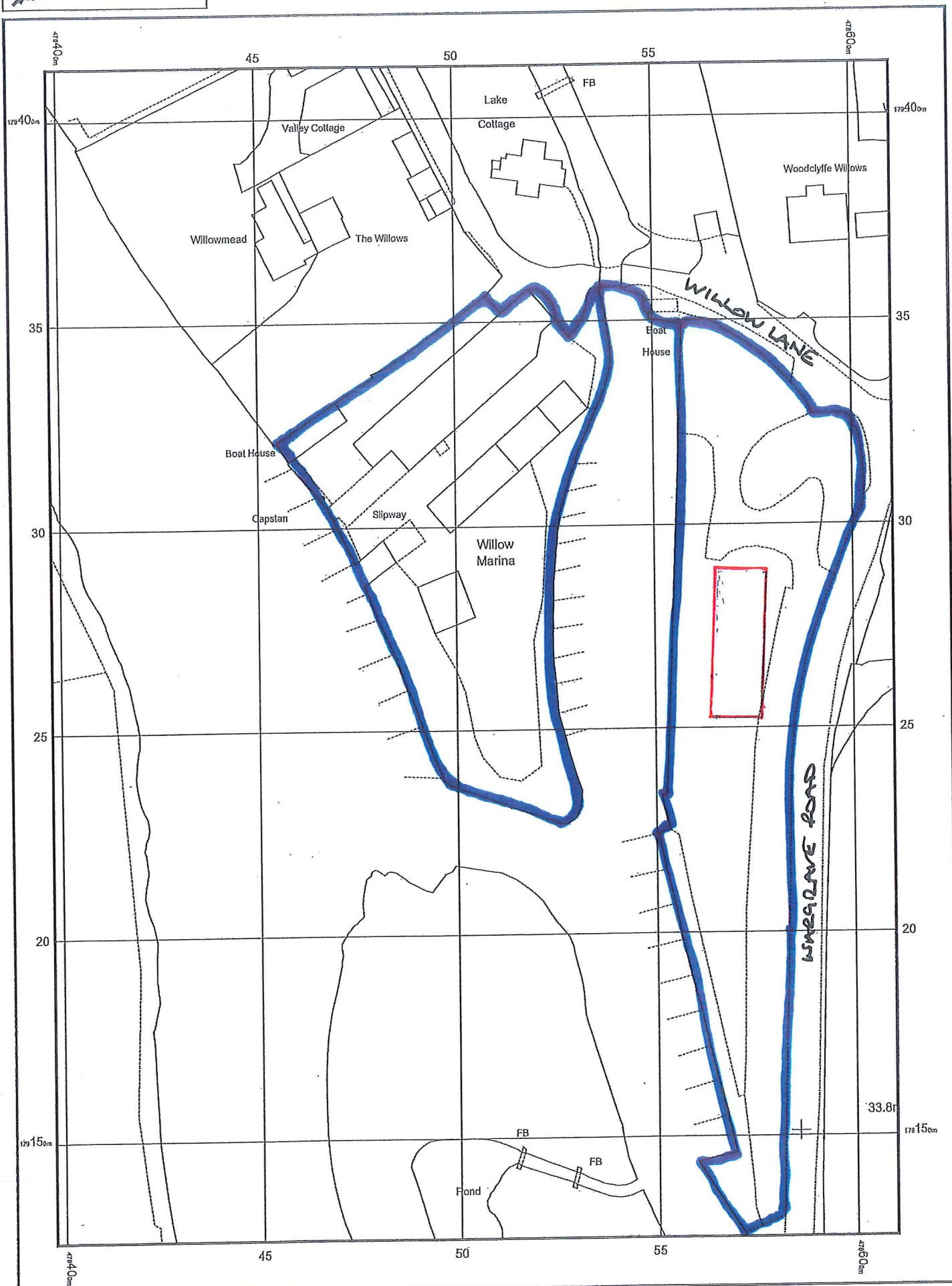
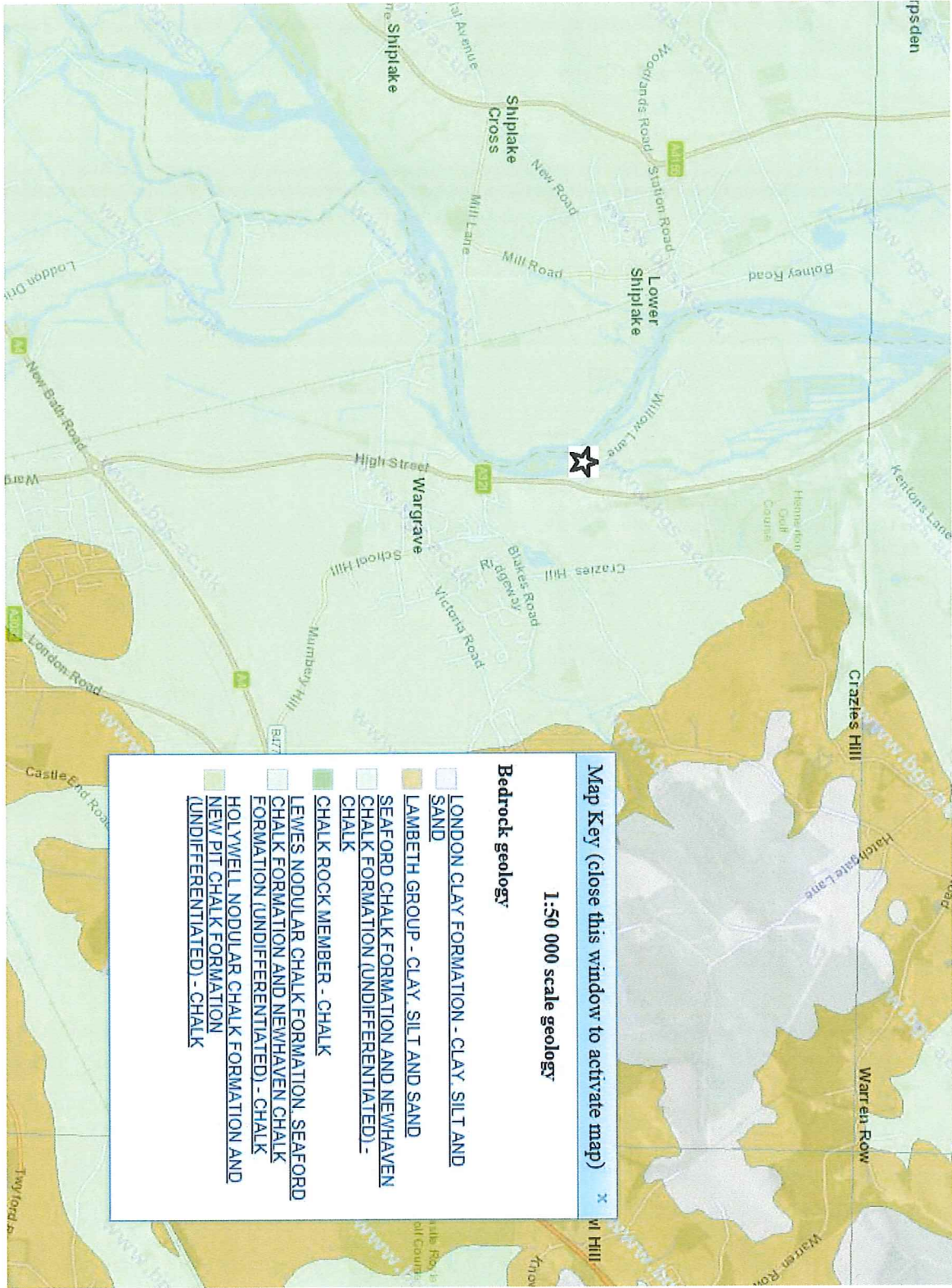


Figure 2

BGS Geology Map

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☆ Site



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JOB TITLE

Willow Marina,
Willow Lane
Wargrave

DRAWING TITLE

BGS Geology Map -
Bedrock

FIGURE NO.

Figure 2

SCALE:

nts

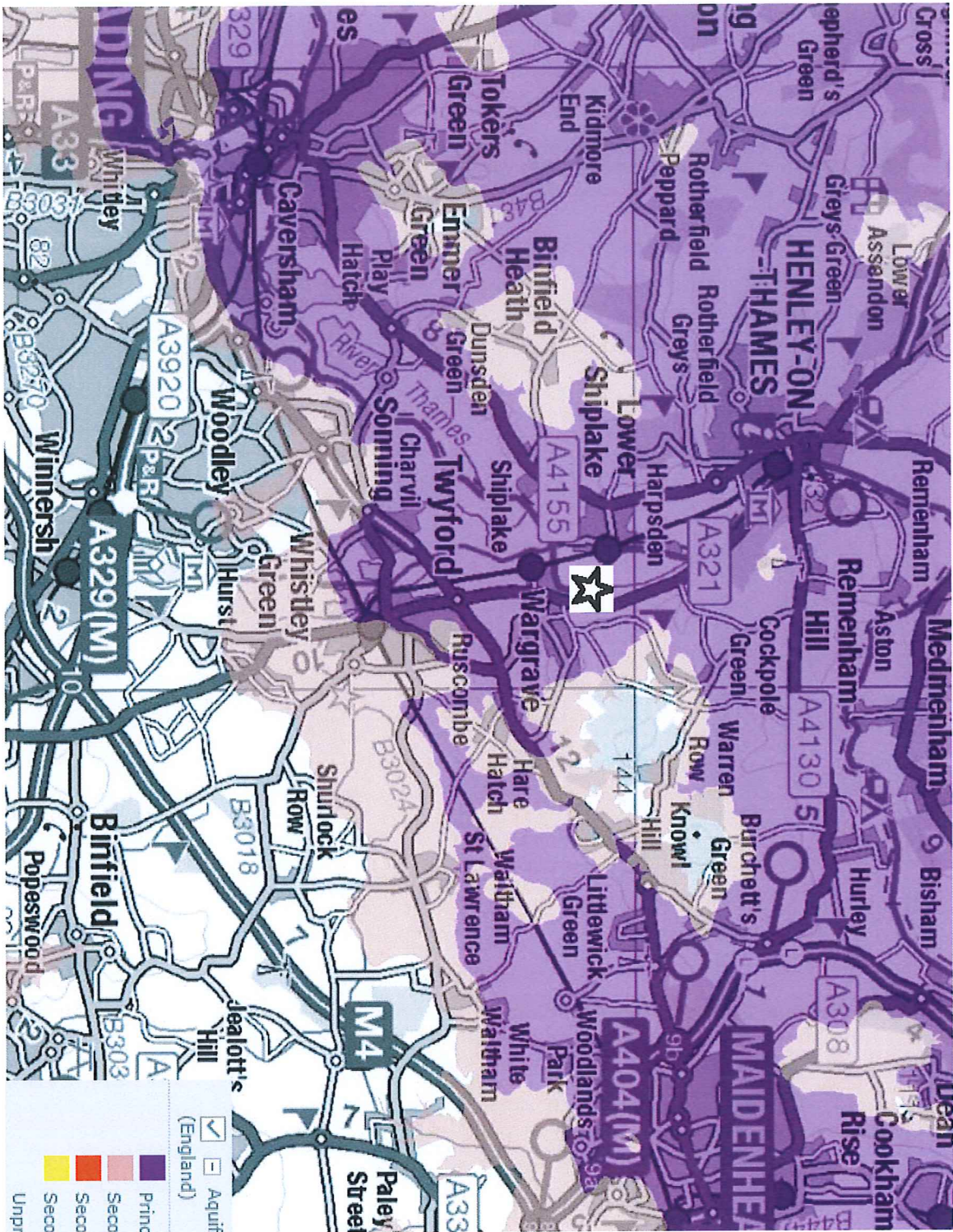
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Figure 3

EA Bedrock Map

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JOB TITLE

Willow Marina,
Willow Lane
Wargrave

DRAWING TITLE

EA Bedrock Map

FIGURE NO.

Figure 3

SCALE:

nts

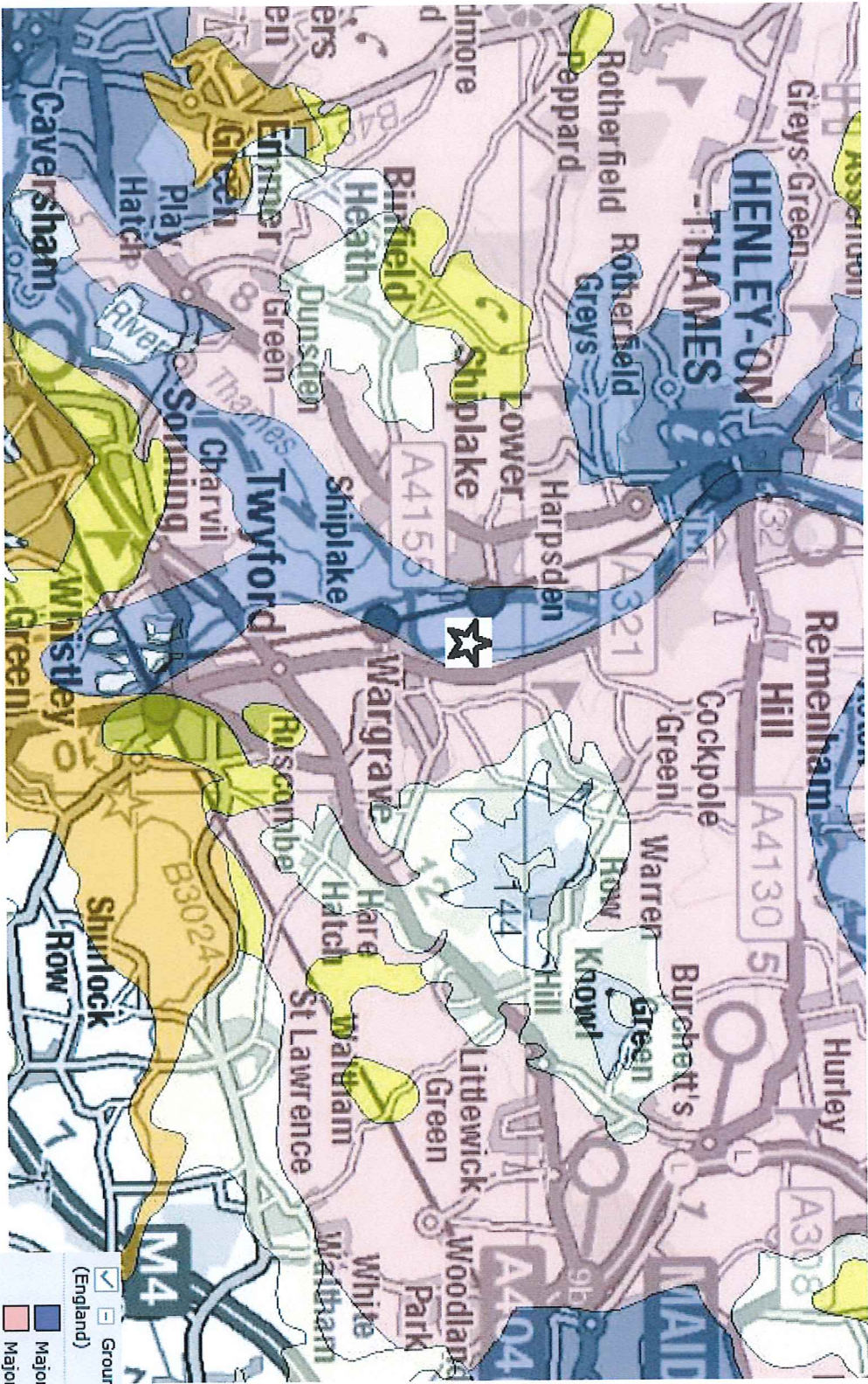
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Figure 4

EA Groundwater Vulnerability Map

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EA Groundwater Vulnerability Map

FIGURE NO.

Figure 4

SCALE:

nts

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Figure 5

UK Gov Flood Map



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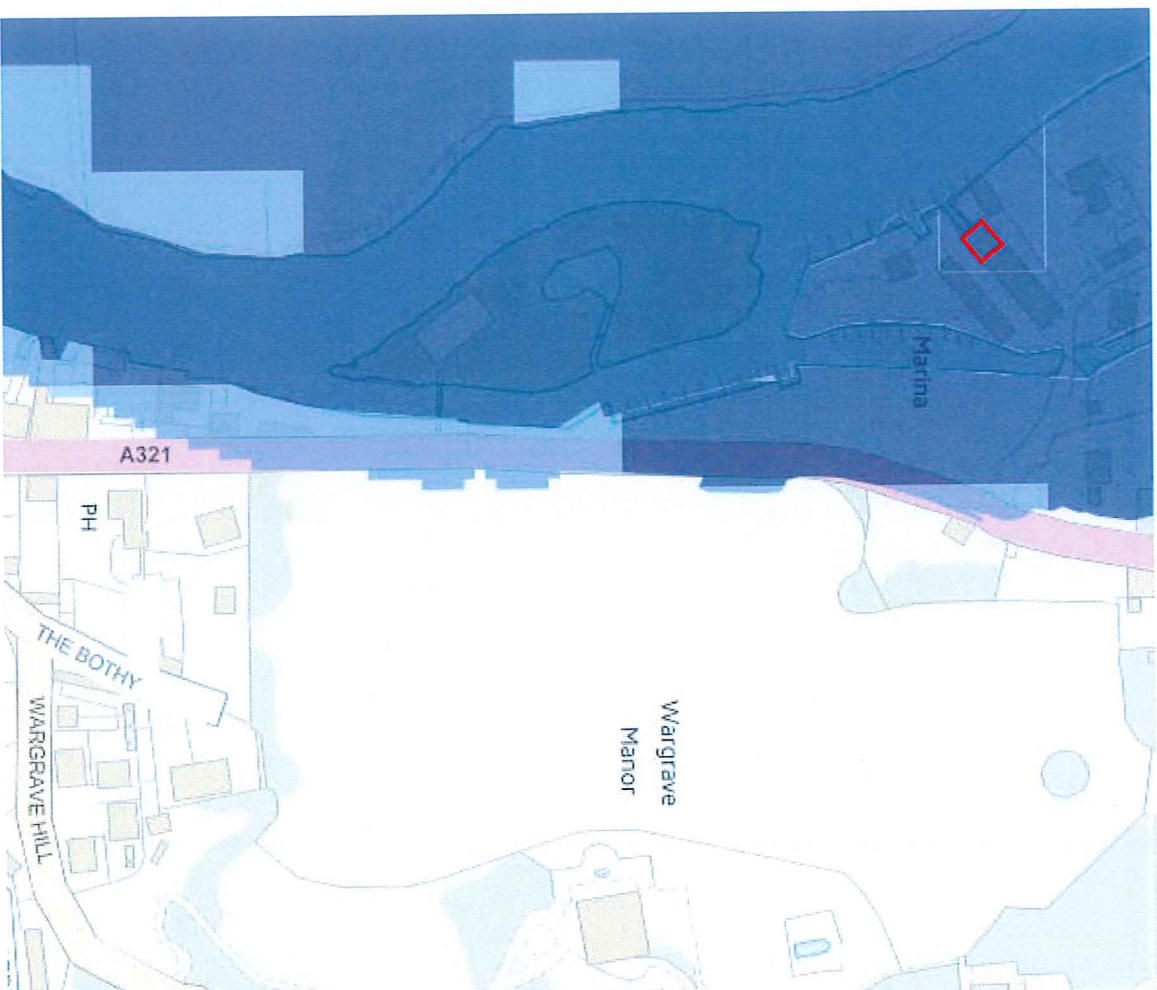
Legend

The Site



*Risk of Flooding from
River/Sea Water*

High
Medium
Low
Very Low



JOB TITLE

Willow Marina,
Willow Lane
Wargrave

DRAWING TITLE

Risk of Flooding From
River/Sea Water -
Government Map

FIGURE NO.

Figure 5

SCALE:

nts

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Figure 6

UK Gov Surface Water Flood Map



Legend

The Site



*Risk of Flooding from
Surface Water*

High



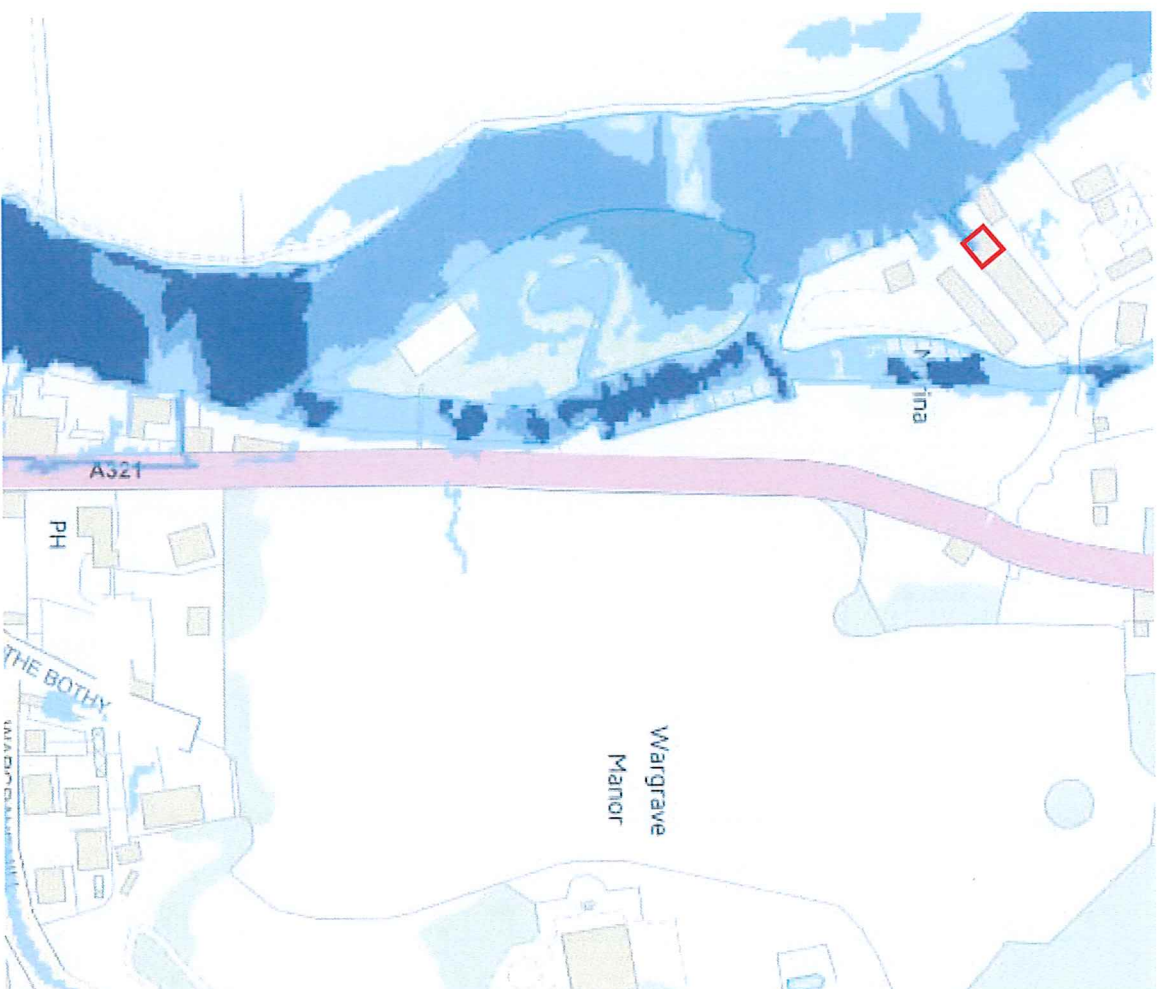
Medium



Low



Very Low



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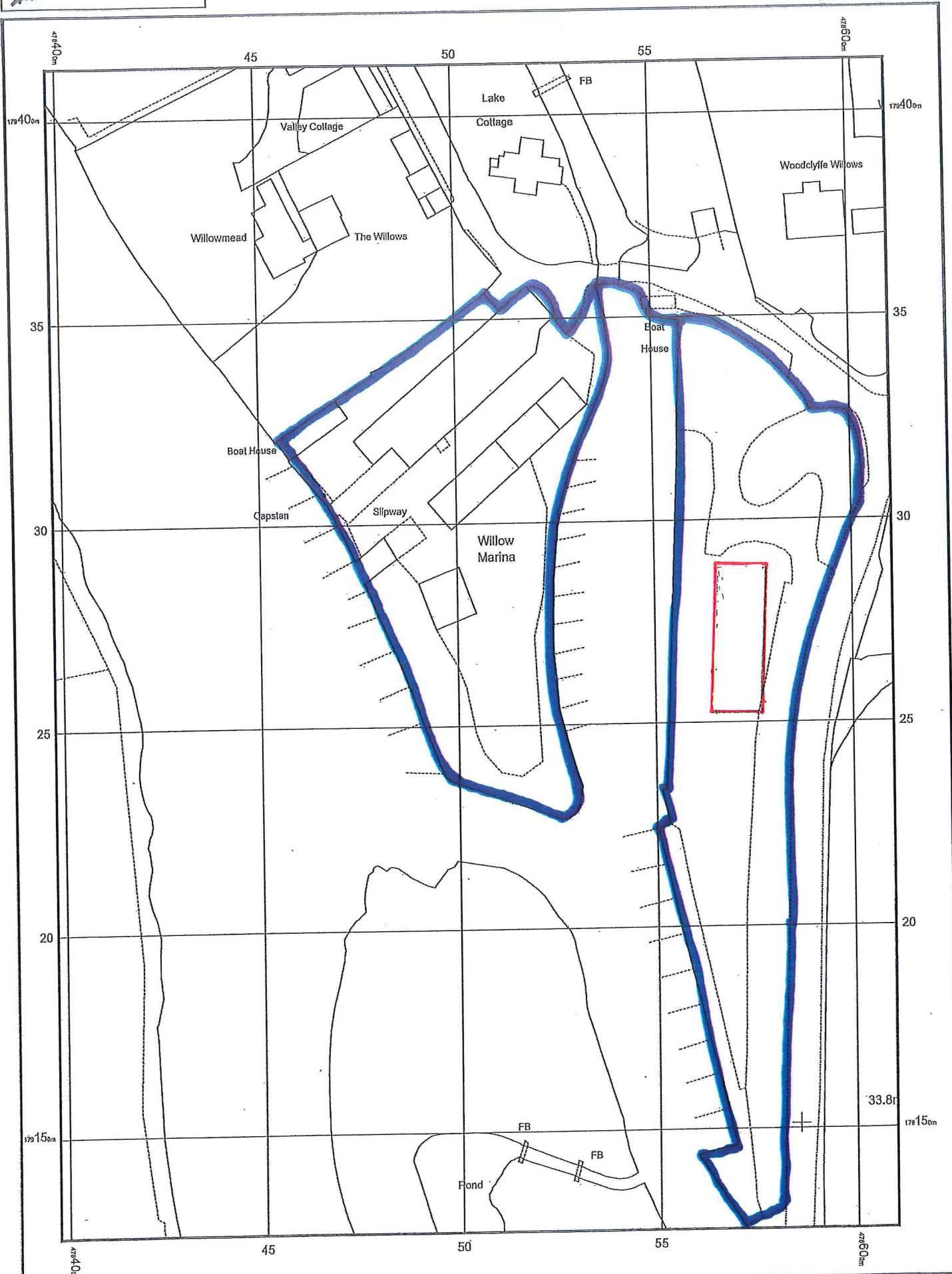
Appendix A

WBC SFRA FLOOD MAP



Appendix B

BLOCK PLAN



Appendix C

PRODUCT 4 DATA FROM EA

Product 4 (Detailed Flood Risk) for Val Wyatt Marina, Wargrave Our Ref: THM_76377

Product 4 is designed for developers where Flood Risk Standing Advice FRA (Flood Risk Assessment) Guidance Note 3 Applies. This is:

- i) "all applications in Flood Zone 3, other than non-domestic extensions less than 250 sq metres; and all domestic extensions", and
- ii) "all applications with a site area greater than 1 ha" in Flood Zone 2.

Product 4 includes the following information:

Ordnance Survey 1:25k colour raster base mapping;
Flood Zone 2 and Flood Zone 3;
Relevant model node locations and unique identifiers (for cross referencing to the water levels, depths and flows table);
Model extents showing *defended* scenarios;
FRA site boundary (where a suitable GIS layer is supplied);
Flood defence locations (where available/relevant) and unique identifiers; (supplied separately)
Flood Map areas benefiting from defences (where available/relevant);
Flood Map flood storage areas (where available/relevant);
Historic flood events outlines (where available/relevant, not the Historic Flood Map) and unique identifiers;
Statutory (Sealed) Main River (where available within map extents);

A table showing:

- i) Model node X/Y coordinate locations, unique identifiers, and levels and flows for *defended* scenarios.
- ii) Flood defence locations unique identifiers and attributes; (supplied separately)
- iii) Historic flood events outlines unique identifiers and attributes; and
- iv) Local flood history data (where available/relevant).

Please note:

If you will be carrying out computer modelling as part of your Flood Risk Assessment, please read the enclosed guidance which sets out our requirements and best practice for computer river modelling.

This information is based on that currently available as of the date of this letter. You may feel it is appropriate to contact our office at regular intervals, to check whether any amendments/ improvements have been made. Should you re-contact us after a period of time, please quote the above reference in order to help us deal with your query.

This information is provided subject to the enclosed notice which you should read.

This letter is not a Flood Risk Assessment. The information supplied can be used to form part of your Flood Risk Assessment. Further advice and guidance regarding Flood Risk Assessments can be found on our website at

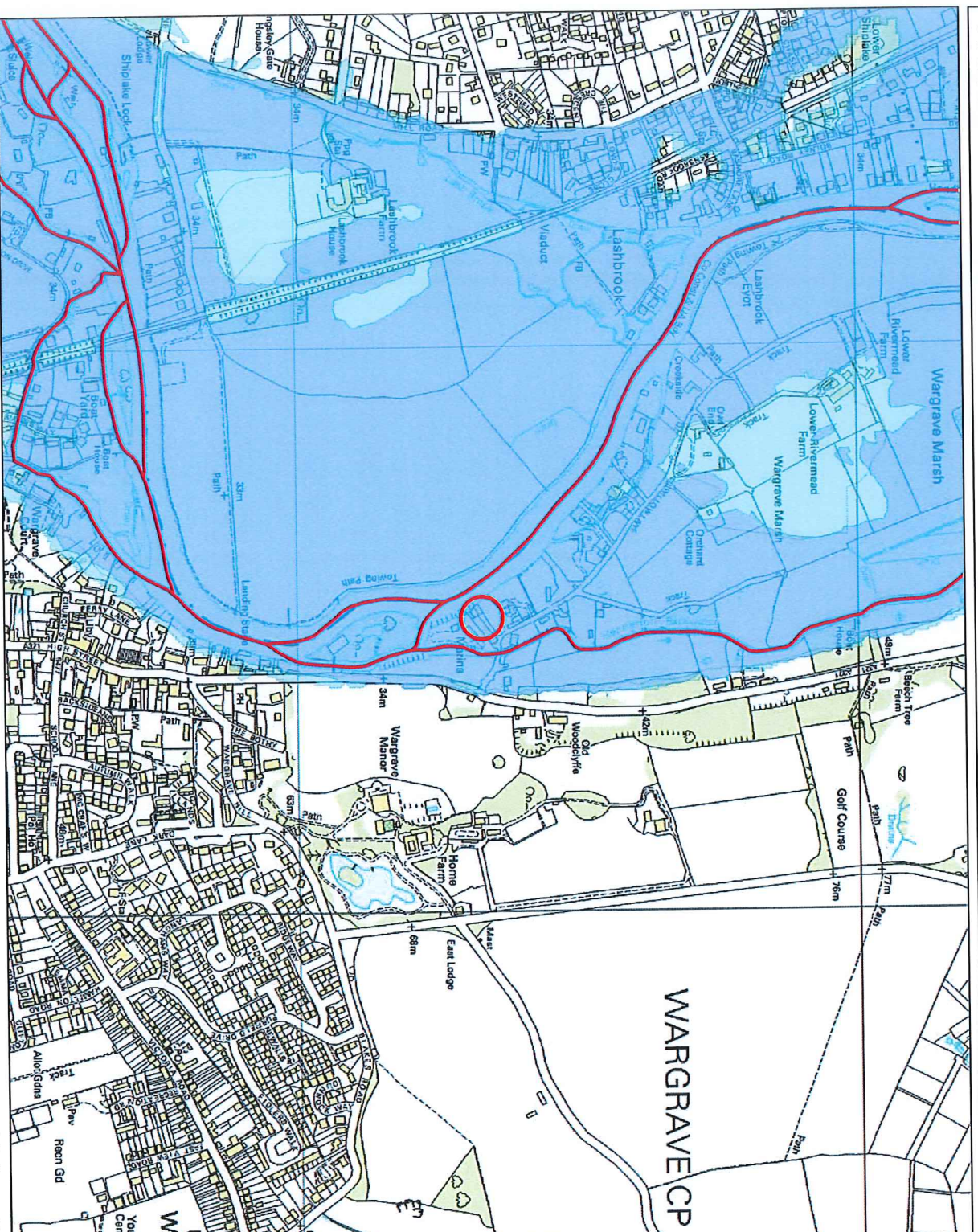
<http://www.environment-agency.gov.uk/research/planning/82584.aspx>

If you would like advice from us regarding your development proposals you can complete our pre application enquiry form which can be found at

<http://www.environment-agency.gov.uk/research/planning/33580.aspx>

Flood Map for Planning centred on: Val Wyatt Marina, Wargrave

Created on 27/02/2018 REF: THM_76377



Kilometres
0 0.09 0.18

Legend

- Main River
- Flooding from rivers or sea (FZ3)
- Extent of extreme flood (FZ2)

Flooding from rivers or sea without defences (Flood Zone 3) shows the area that could be affected by flooding:

- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.

The Extent of an extreme flood (Flood Zone 2) shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.

Defence information



THM_76377

Defence Location:

No defences on Main River

Description:

This location is not currently protected by any formal defences and we do not currently have any flood alleviation works planned for the area. However we continue to maintain certain watercourses and the schedule of these can be found on our internet pages.

Model information

THM_76377

Model:

Thames (Whitchurch to Henley) 2000

Description:

The information provided is taken from the Thames (Whitchurch - Henley) Flood Mapping Study completed in August 2000, updated with Climate Change February 2006. The study was carried out using 1D modelling software (ISIS 2.3).

Climate change data was produced as part of the Thames (Henley - Hurley) Flood Mapping Study completed in 2002.

The data between Mapledurham and Sonning has been superseded by that in project Thames (Mapledurham to Sonning) 2011 and should not be used.

Model design runs:

1 in 5 / 20% AEP; 1 in 20 / 5% AEP; 1 in 50 / 2% AEP; 1 in 100 / 1% AEP and 1 in 100+20% / 1% AEP with climate change

Mapped Outputs:

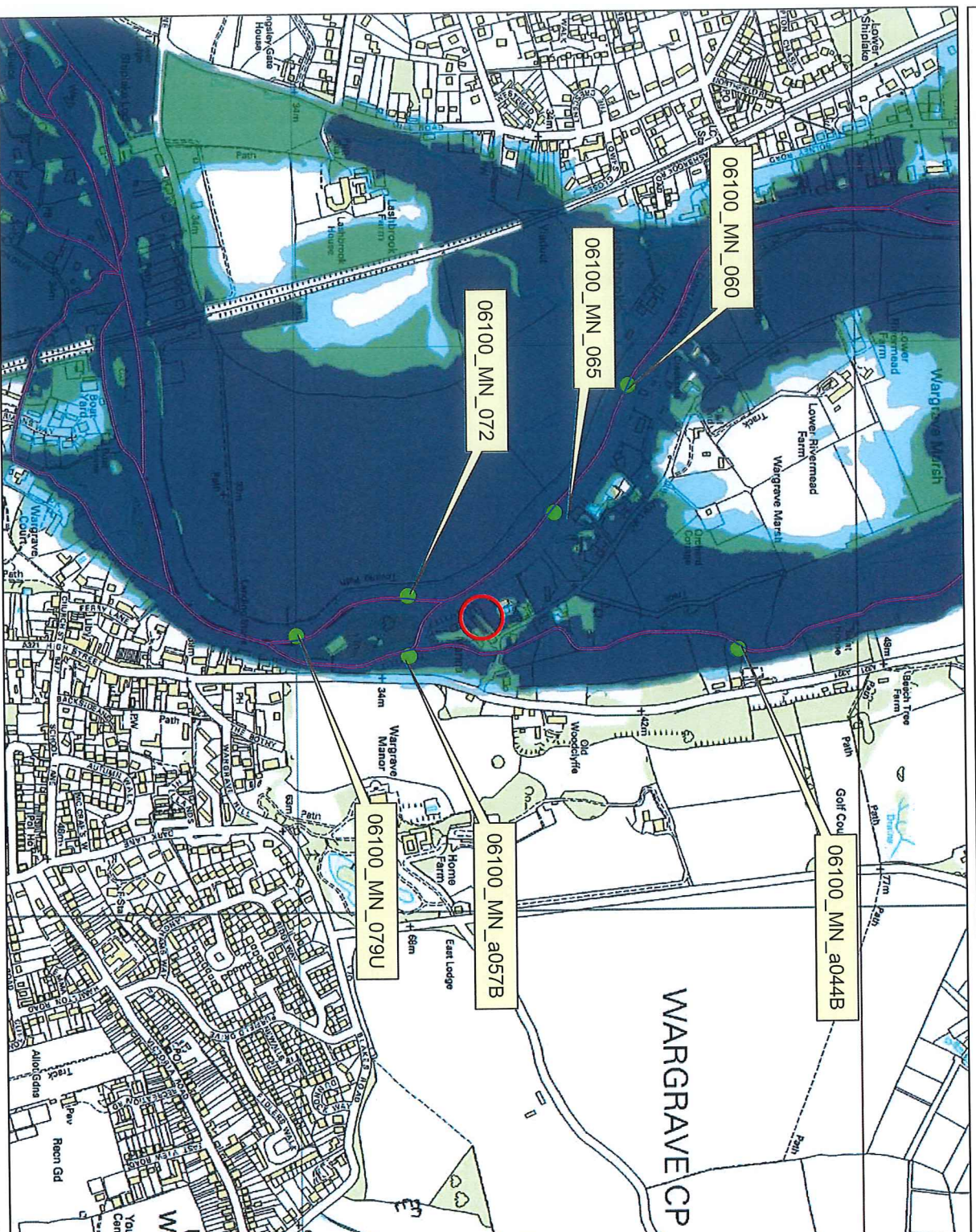
1 in 5 / 20% AEP; 1 in 20 / 5% AEP; 1 in 50 / 2% AEP; 1 in 100 / 1% AEP and 1 in 100+20% / 1% AEP with climate change

Model accuracy:

Levels \pm 250mm

FRA Map centred on: Val Wyatt Marina, Wargrave

Created on 27/02/2018 REF: THM_76377



Kilometres
0 0.09 0.18

Legend

- Thames Model Node Data
- Main River
- 20% AEP flood extent
- 5% AEP flood extent
- 1% AEP flood extent

AEP = Annual Exceedance Probability
The probability of a flood of a particular magnitude, or greater, occurring in any given year

1%CC = 1% Climate Change extent
This is the 1% AEP event with an allowance for climate change (+20% on river flows)

Modelled in-channel flood flows and levels

THM_76377

The modelled flood levels and flows for the closest most appropriate model node points for your site that are within the river channel are provided below:

| Node label | Model | Easting | Northing | Flood Levels (mAOD) | | | |
|----------------|------------------------------------|---------|----------|---------------------|--------|--------|------------------------------|
| | | | | 20% AEP | 5% AEP | 1% AEP | 1% AEP (+20% on river flows) |
| 06100 MN a044B | Thames (Whitchurch to Henley) 2000 | 478540 | 179788 | 33.35 | 33.75 | 34.15 | 34.44 |
| 06100 MN 060 | Thames (Whitchurch to Henley) 2000 | 478071 | 179596 | 33.31 | 33.66 | 34.02 | 34.28 |
| 06100 MN 065 | Thames (Whitchurch to Henley) 2000 | 478295 | 179461 | 33.34 | 33.69 | 34.06 | 34.33 |
| 06100 MN 072 | Thames (Whitchurch to Henley) 2000 | 478440 | 179200 | 33.43 | 33.78 | 34.17 | 34.44 |
| 06100 MN a057B | Thames (Whitchurch to Henley) 2000 | 478547 | 179201 | 33.51 | 33.88 | 34.31 | 34.74 |
| 06100 MN 079U | Thames (Whitchurch to Henley) 2000 | 478509 | 178999 | 33.51 | 33.88 | 34.26 | 34.54 |
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| | | | | | | | |

| Node label | Model | Easting | Northing | Flood Flows (m ³ /s) | | | |
|----------------|------------------------------------|---------|----------|---------------------------------|--------|--------|------------------------------|
| | | | | 20% AEP | 5% AEP | 1% AEP | 1% AEP (+20% on river flows) |
| 06100 MN a044B | Thames (Whitchurch to Henley) 2000 | 478540 | 179788 | 12.04 | 19.29 | 35.68 | 64.83 |
| 06100 MN 060 | Thames (Whitchurch to Henley) 2000 | 478071 | 179596 | 280.61 | 361.76 | 470.49 | 559.77 |
| 06100 MN 065 | Thames (Whitchurch to Henley) 2000 | 478295 | 179461 | 284.72 | 373.81 | 483.94 | 558.23 |
| 06100 MN 072 | Thames (Whitchurch to Henley) 2000 | 478440 | 179200 | 284.44 | 368.91 | 453.80 | 494.17 |
| 06100 MN a057B | Thames (Whitchurch to Henley) 2000 | 478547 | 179201 | 12.32 | 24.20 | 65.82 | 128.89 |
| 06100 MN 079U | Thames (Whitchurch to Henley) 2000 | 478509 | 178999 | 284.44 | 366.95 | 425.60 | 436.87 |
| | | | | | | | |
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Note:

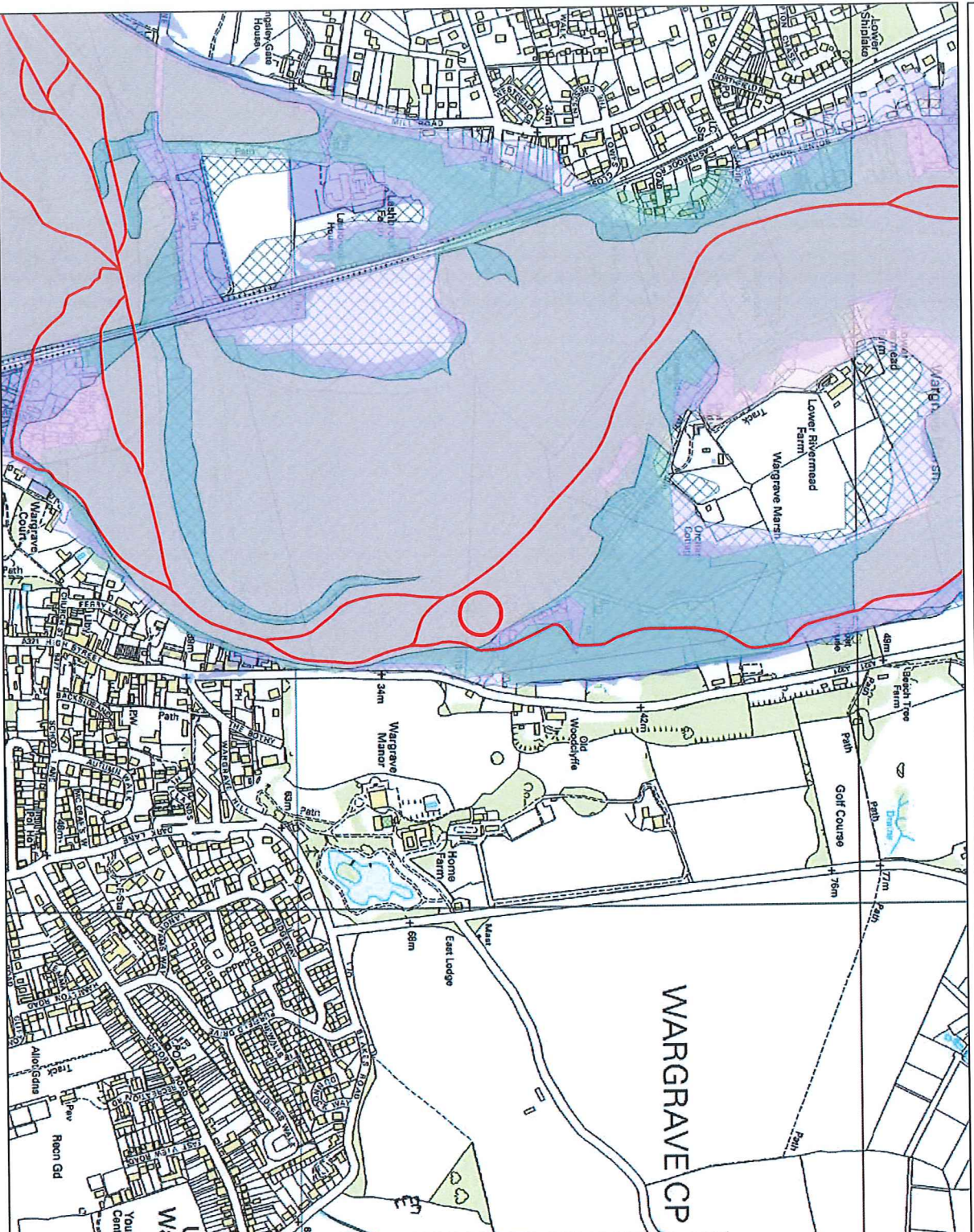
Due to recent changes in guidance on the allowances for climate change, the 20% increase in river flows should no longer to be used for development design purposes. The data included in this Product can be used for interpolation of levels as part of an intermediate level assessment.

For further advice on the new allowances please visit

<https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

Historic Flood Map centred on: Val Wyatt Marina, Wargrave

Created on 27/02/2018 REF: THM_76377



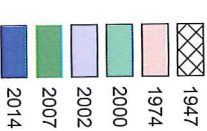
Kilometres
0 0.090.18

Legend

— Main River

Flood Event Outlines

year



Historic flood data

THM_76377

Our records show that the area of your site has been affected by flooding.
Information on the floods that have affected your site is provided in the table below:

| Flood Event Code | Flood Event Name | Start Date | End Date | Source of Flooding | Cause of Flooding |
|------------------|---------------------------|------------|------------|--------------------|--|
| EA0619470300119 | 06MarchSpring1947 | 01/01/1947 | 12/12/1947 | main river | channel capacity exceeded (no raised defences) |
| EA0619741100469 | 06NovemberAutumn1974 | 01/01/1974 | 12/12/1974 | main river | channel capacity exceeded (no raised defences) |
| EA0620001200512 | 06DecemberWinter2000 | 01/01/2000 | 12/12/2000 | main river | channel capacity exceeded (no raised defences) |
| EA0620030101899 | 06JanuaryNewYear2003 | 23/12/2002 | 12/01/2003 | main river | channel capacity exceeded (no raised defences) |
| ea061231490 | Shiplake CP_Fluvial Water | 19/07/2007 | 29/07/2007 | main river | channel capacity exceeded (no raised defences) |
| EA061002014008 | Winter 2013/2014 | 23/11/2013 | 28/02/2014 | main river | channel capacity exceeded (no raised defences) |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Please note the Environment Agency maps flooding to land not individual properties. Floodplain extents are an indication of the geographical extent of a historic flood. They do not provide information regarding levels of individual properties, nor do they imply that a property has flooded internally.

Start and End Dates shown above may represent a wider range where the exact dates are not available.

