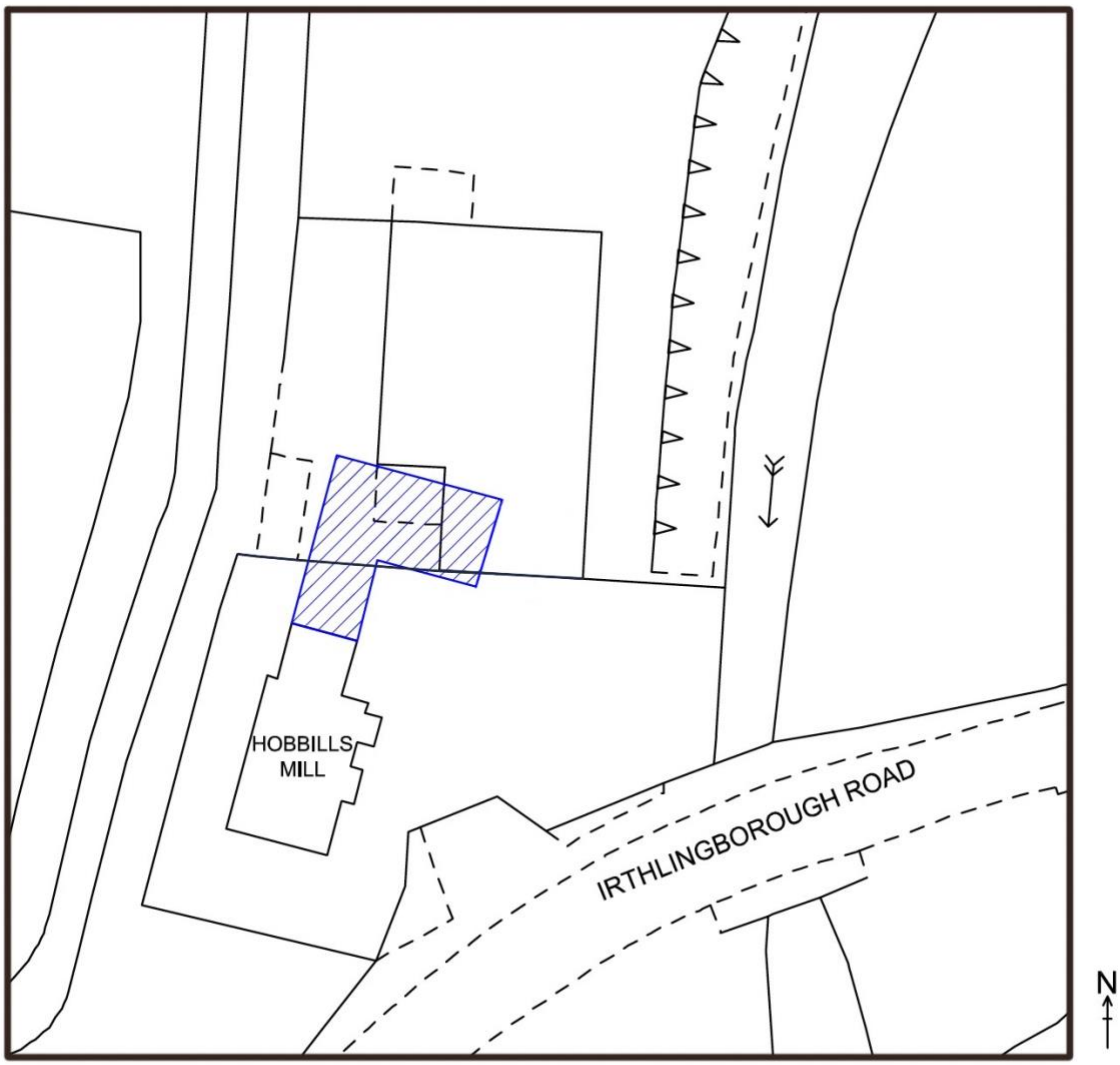
Hobbils Mill, Irthlingborough Road, Wellingborough, NN8 1RA
Site Specific Flood Risk Assessment

Site: Single Storey Extension
Hobbils Mill
Irthlingborough Road
Wellingborough
NN8 1RA



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Contents

Appendix G - Emergency Planning and Preparing for a Flood Emergency

i) Abbreviations Used Throughout (where applicable)

- EA – Environment Agency
- NNS – North Northamptonshire Council
- FRA – Flood Risk Assessment
- PFR – Property Flood Resilience
- LLFA – Lead Local Flood Authority
- SuDS – Sustainable Urban Drainage System
- The Site – The proposed development site

ii) General Reference and Guidance Documentation (where applicable)

- NPPF – National Planning Policy Framework – Nov 2019/Online
- PPG – National Planning Practice Guidance – Online
- PFR Docs – Property Flood Resilience Reference Documents
- JCS – North Northamptonshire Joint Core Strategy

1.0 Executive Summary

This flood risk assessment identifies the potential sources of flood risk affecting the property.

According to the flood maps, the property lies within Flood Zone 3, prompting the need for this FRA, despite the application being classified as a 'Minor Development'.

To protect the property from the effects of flooding for the lifetime of the development, the applicant is committed to incorporating flood protection and resilience measures to the recommended standards.

The North Northamptonshire Joint Core Strategy recommends that development should meet a minimum of 1% (1 in 100 year) annual probability standard of flood protection and there are many measures available that have been highlighted within this FRA which will ultimately be incorporated to achieve this standard of protection.

Planning Practice Guidance is available on the gov.uk website, including advice and guidance for minor extension planning applications. The advice states that a pragmatic approach should be taken overall and to the scope and level of detail included in the flood risk assessment for such development. The advice emphasises that the assessment *needs to show that the development will be safe for its users for the intended lifetime of the development, without increasing flood risk elsewhere, and will be sufficiently flood resistant and resilient to the level and nature of the flood risk.*

The above statement has formed the basic objective of this FRA and it is felt that each requirement outlined in the guidance has been met within this document. Although the detail of the flood resistance and protection measures have not been specified, the applicant has committed to incorporating approved measures to the required standard of protection.

It is hoped that this FRA has achieved its stated 'Aim' and is accepted as being adequately detailed at this stage as an FRA accompanying a Minor Application.

2.0 Introduction

Wicken Design has been engaged to prepare this Flood Risk Assessment (FRA) in support of a Planning Application to extend an existing dwelling at the site address noted on the front page and the header throughout this document.

3.0 Aim

It is intended that the contents of this Flood Risk Assessment and appendices will demonstrate that the proposal will comply with relevant guidance documentation, national and local requirements and will not increase flood risk to the development site itself, or elsewhere as a consequence of the development proposal.

4.0 Nature of the Proposal and Current Land Use

Appendix A includes a drawing showing the floor plan for the existing building and the proposed extension. A site location plan is also included.

The proposal is for the construction of a single storey extension as shown. The area of the proposed extension is approximately 95m^2. Historically, the building was a farmhouse, but since 2004 the agricultural ties have been removed and the building has been a domestic family home.

5.0 Development Class & Approach to FRA

Appendix B includes numbered extracts from the online pages of National Planning Policy Guidance (PPG).

The extract numbered 1, indicates that this proposal is classified as a 'Minor Development and extract 5, states the vulnerability classification as 'More Vulnerable'.

This development does not 'raise significant flood issues' or cause concerns as specified in the bullet points of extract 2.

However, this extract goes on to say that an extension or addition to a property still requires a site-specific flood risk assessment. It states that a pragmatic approach should be taken to the scope and detail of the FRA such that a shorter, simpler assessment is likely to be sufficient in most cases.

Crucially, this states that as a minimum: ***the assessment needs to show that the development will be safe for its users for the intended lifetime of the development, without increasing flood risk elsewhere, and be sufficiently flood resistant and resilient to the level and nature of the flood risk.***

This FRA will principally be guided by this statement and will thus commit to instigating flood resilience and protection measures as may be required to protect the property and its inhabitants for the lifetime of the development. It is hoped that adopting a 'pragmatic approach' includes providing flexibility at this stage to allow the most appropriate suitable measures to be specified within the final design.

6.0 Sequential & Exception Tests

The extract numbered 3, states that sequential & exception tests should be applied to 'major' & 'non-major' development (development falling below the definition of 'Major Development' but excluding 'Minor Development'). Hence minor developments do not require that these tests be applied.

Extract 4, is footnote 56 as referred to, which reinforces the above in this case since the extension is well below 250m^2.

7.0 Further Guidance

Extract 6 in Appendix B shows that the Environment Agency's standing advice should be followed for this development proposal and extract 7 outlines the advice given for minor extensions.

8.0 Local Design Standards

In response to a request for pre-application advice, in their letter dated 16th December 2022, North Northamptonshire Council has made reference to the North Northamptonshire Joint Core Strategy. The letter cites Policy 5 (water environment, resources and flood risk management) of the JCS as the specific reference document to ensure conformity with the Council's Development Plan.

The following clause from Policy 5 of the JCS stipulates the standard of flood protection as being a minimum of 1% annual probability of recurrence.

> b) Development should meet a minimum 1% (1 in 100) annual probability standard of flood protection with allowances for climate change unless local studies indicate a higher annual probability, both in relation to development and the measures required to reduce the impact of any additional run off generated by that development to demonstrate that there is no increased risk of flooding to existing, surrounding properties;

9.0 Flood Risk Information Specific to the Development

Appendix C includes the flood zone map for the development site and Appendix D includes maps showing flood risk from rivers and the sea and also from surface water. This information is available online.

Further flood risk information and data was sought from the Environment Agency and this is included in their letter of 26th January 2023, which is attached as Appendix E.

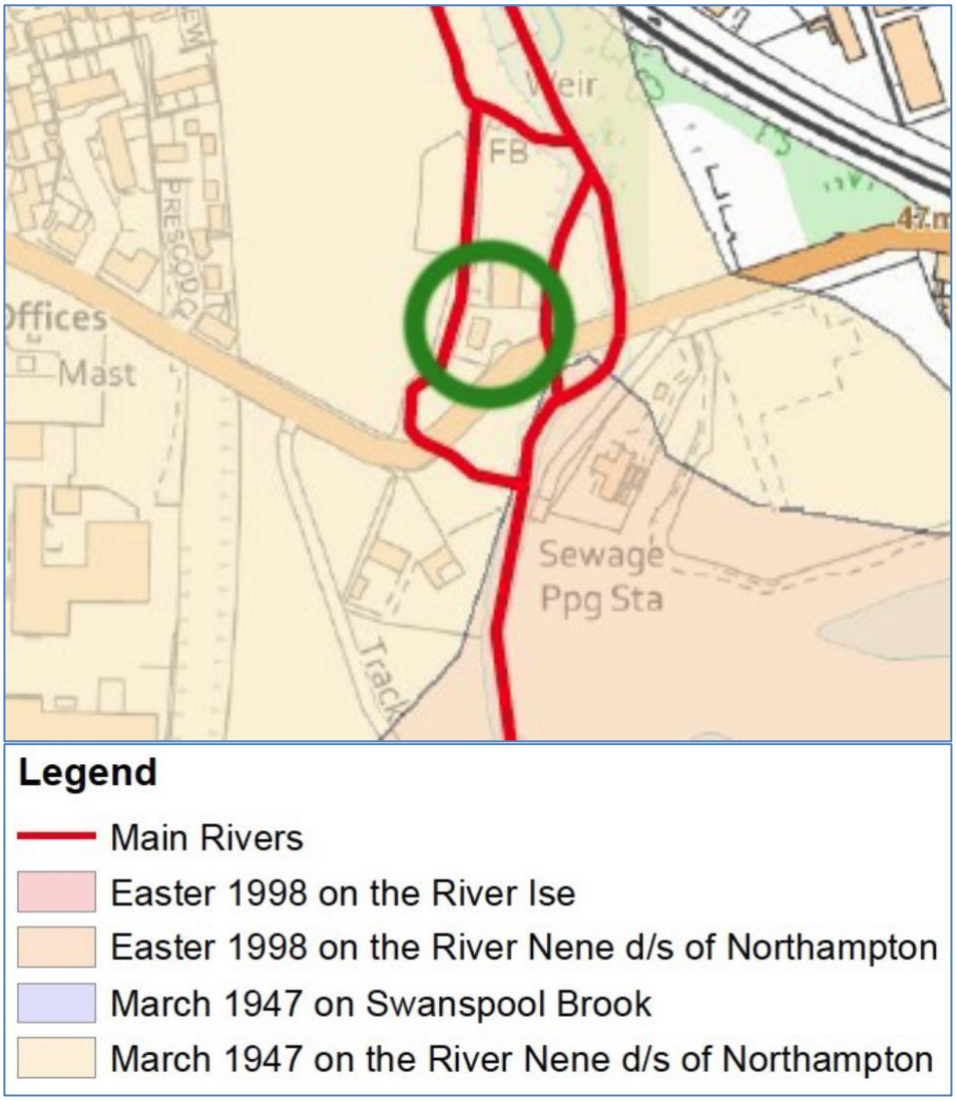
10.0 Appraisal of Flood Risk

From the flood zone map included in Appendix C, it appears the site lies within Flood Zone 3.

However, as mentioned previously, more detailed flood risk information and data is included in the letter from the EA dated 26th January 2023, which is attached as Appendix E. This includes various maps and data from a modelling exercise along the middle Nene in 2013.

The first map represents the scenario for a 0.5%, or 1 in 200-year storm. Although the site is shown as at risk of flooding from this event, this is a more severe scenario than the local design standard of 0.1% outlined in section 8.0.

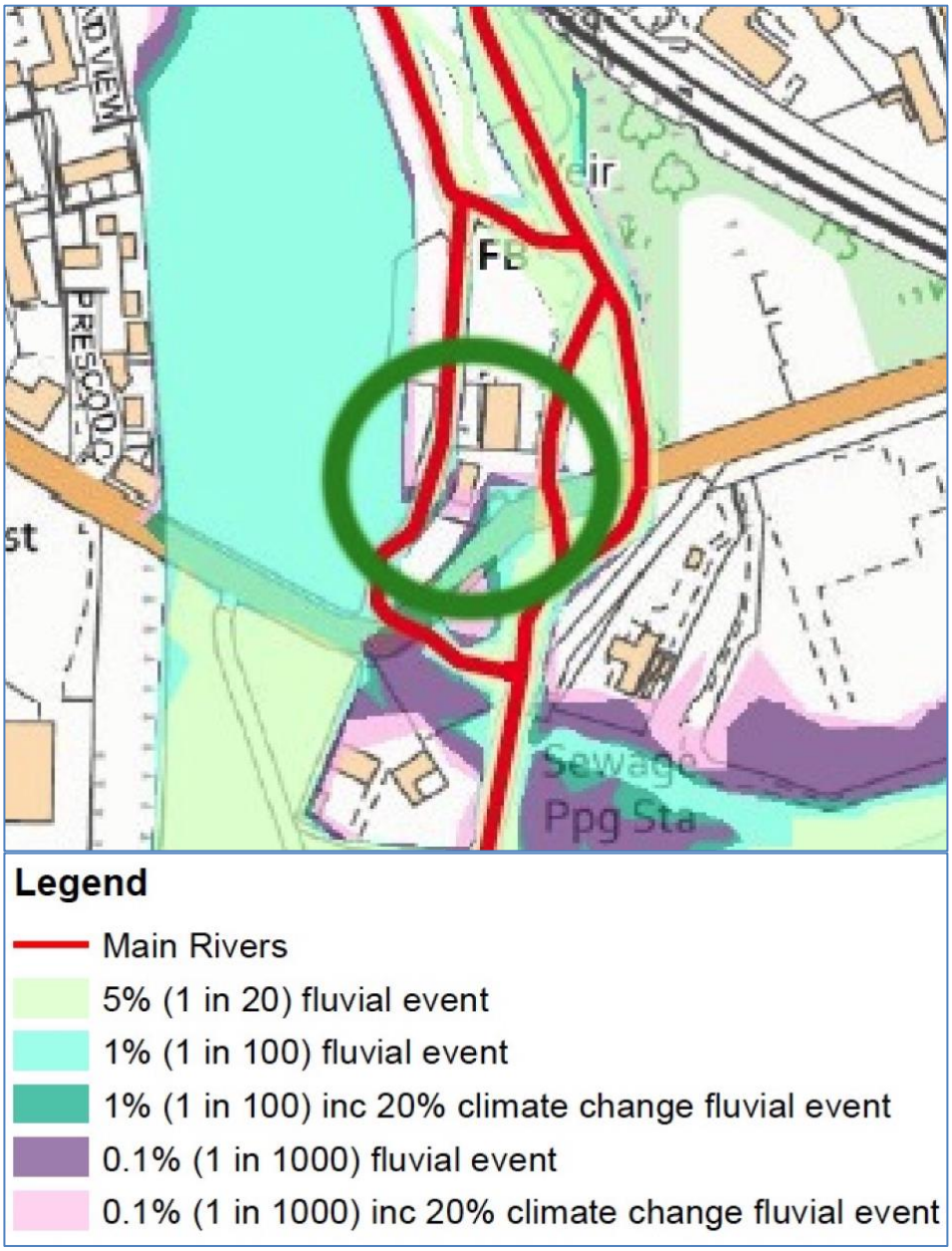
The second map is the historic flood map for the area and from the colour coding, as shown below, it is clear from the map at least that the site was only affected by the storms of March 1947 on the River Nene.



It can be seen from the above that the floods of Easter 1998 did not affect the site. Following analysis of this flood event across Northamptonshire and country wide, it was concluded that these storms were said to be 'unprecedented' but were certainly in excess of the 1 in 200-year return period, or 0.5% annual probability. Clearly on the above historical evidence, the 1947 storms are shown as having been more severe, at least in this area, although it may be argued that the data gathering may have been less accurate at the time.

This area did not have the benefit of flood defences during the Easter 1998 floods. Since this time, significant investment has been made on flood defences in Northampton and in many other parts of the county, particularly along the River Nene. As has been stated, these storms were found to be in excess of the 1 in 200-year event, and hence it would be difficult to dispute the view that the site would not be affected by the 1 in 100-year design standard storm.

The last map in this appendix shows the modelled flood extents, but with the benefit of flood defences.



From this evidence, the property itself seems only to be affected by the 0.1% + climate change event, but not the design event of 1% + climate change. The site of the extension appears to be completely unaffected by any of the events examined under the modelling exercise.

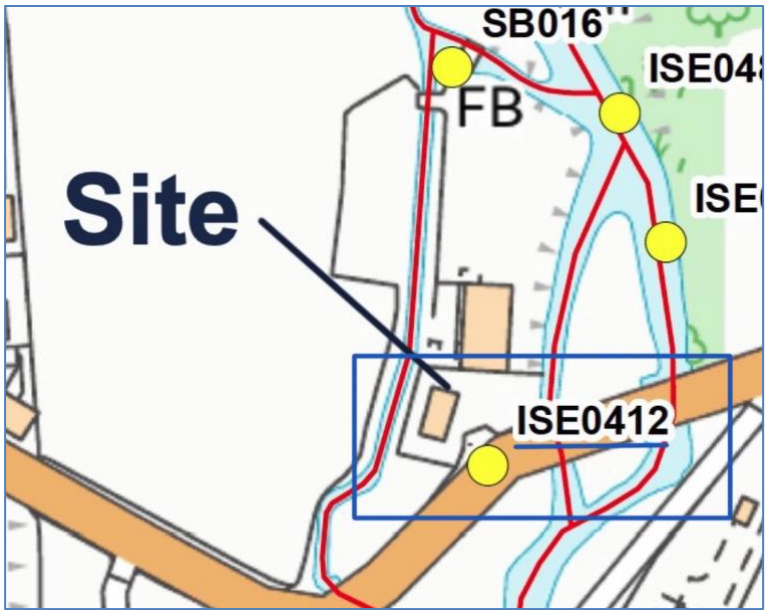
Of course, the site should be protected to the prescribed standard without the benefit of defences, which it will be. However, it is reassuring that the additional property resilience measures should only be of benefit in the unlikely event that there is a breach in the existing flood defences.

11.0 Property Flood Resistance and Resilience

The applicant is committed to providing protection to the property to the specified heights as outlined in extract 7 of Appendix B. At present a site level survey has not been undertaken. However, the floor levels for the extension will be the same as the existing property.

Once the level survey has been undertaken and the floor levels are compared to flood levels, the most appropriate resilience measures will be determined, included in the design and subsequently installed during construction. Appendix F includes a diagram which shows a fairly comprehensive range of recommended measures that may be adopted to provide property protection. Such measures as flood barriers, flood resistant doors, flood resistant air bricks, drainage non-return valves and even toilet bungs may be used to ensure the property is protected.

The modelling data included in Appendix E will be used in determining the flood level in the vicinity of the property. It Is useful that a specific modelling node is located just outside the entrance to the property.



			Annual Exceedance Probability - Maximum Water Levels (mODN)												
Node Label	Easting	Northing	50% (1 in 2)	20% (1 in 5)	10% (1 in 10)	5% (1 in 20)	4% (1 in 25)	2% (1 in 50)	1.33% (1 in 75)	1% (1 in 100)	1% (1 in 100) inc 20% Climate Change	0.5% (1 in 200)	0.5% (1 in 200) inc Climate Change	0.1% (1 in 1000)	0.1% (1 in 1000) inc 20% Climate Change
ISE0480U	490703	267501	41.31	41.58	41.70	41.80	41.84	41.96	41.97	41.96	42.06	42.06	42.15	42.21	42.30
ISE0446	490715	267467	41.26	41.52	41.63	41.72	41.75	41.86	41.87	41.87	41.95	41.95	42.03	42.09	42.18
ISE0412	490668	267407	41.23	41.52	41.64	41.75	41.78	41.89	41.90	41.90	41.99	42.00	42.08	42.15	42.24
ISE0300	490677	267322	40.71	40.76	40.78	40.81	40.82	40.87	40.88	40.89	40.93	40.93	40.98	41.01	41.15
SB016	490659	267513	41.31	41.58	41.70	41.80	41.84	41.95	41.96	41.96	42.04	42.04	42.12	42.16	42.21

The flood level for the design storm of 1% + climate change is given as 41.99m above ordnance datum. If this is acceptable, this will be the flood level used as the basis for the flood protection and resilience measures.

12.0 Flood Risk from Surface Water

The surface water flood risk map is included in Appendix D. Although there appears to be flood risk areas around and near the property, the house itself seems to be outside of the flood risk areas. In any case the flood resilience measures will also protect the property at times of surface water flood risk.

13.0 Flood Risk from Groundwater and Other Sources

There is no known risk of flooding to the property from groundwater, sewers or other sources.

14.0 Assessment of Flood Risk Impact from this Development

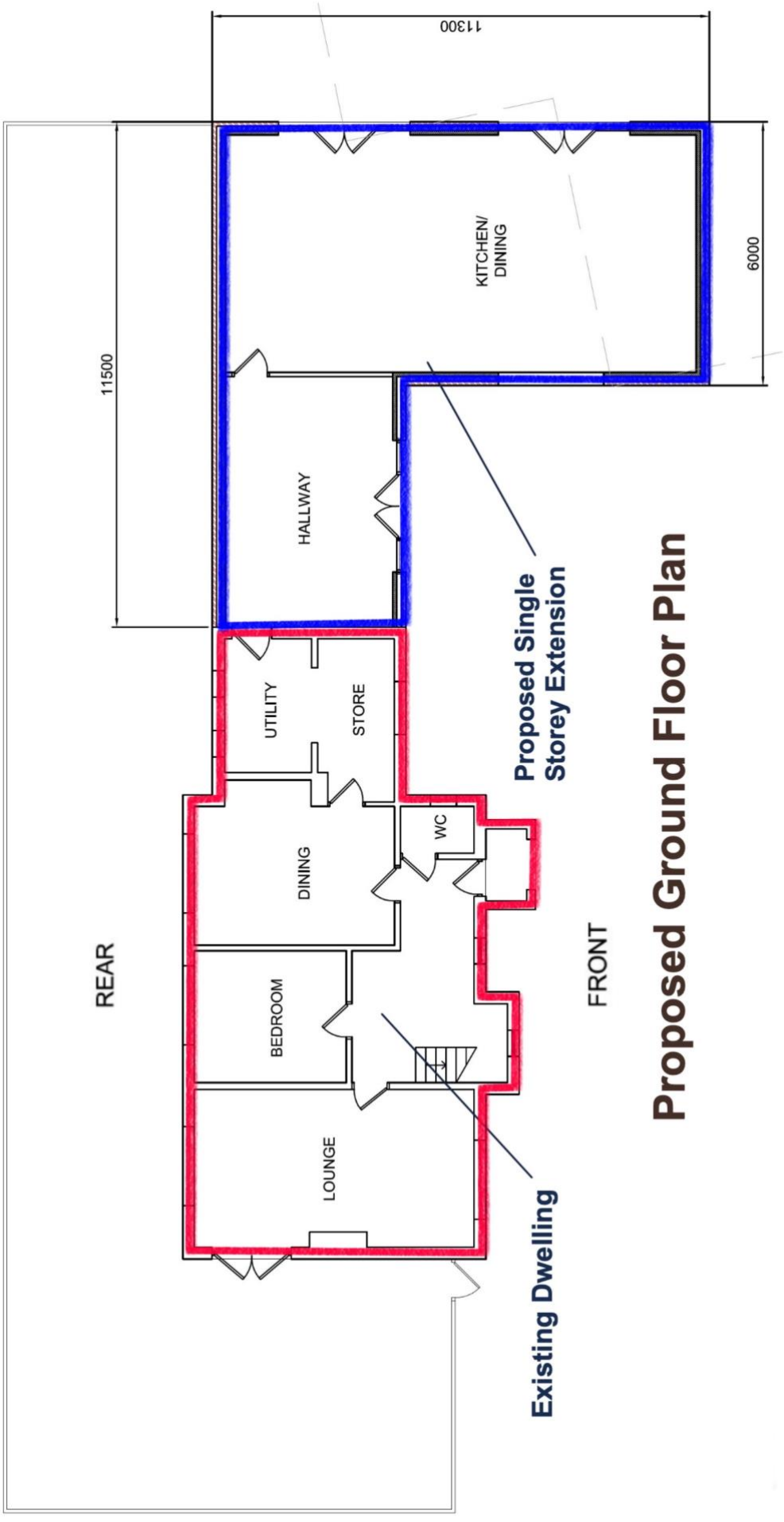
The application includes for the demolition of an existing detached storage building. The roof area of this building is approximately 300m2. As the proposed extension is 95m2, and with the use of permeable surfacing and the extension of grassed areas, there is a net reduction to the impermeable area of the site overall. Therefore, there will be a slight reduction in flood risk elsewhere as a result of the development.

15.0 Conclusion

It is hoped that the contents of this flood risk assessment and appendices demonstrate that any potential flood risk affecting this site will be adequately managed through the installation of flood resilience measures, which will protect the property and users of the property from the effects of flooding for the lifetime of the development.

The development will cause no impact on flood risk as a result of the development itself and should result in a slight reduction to flood risk elsewhere.

Tom Livingstone
June 2023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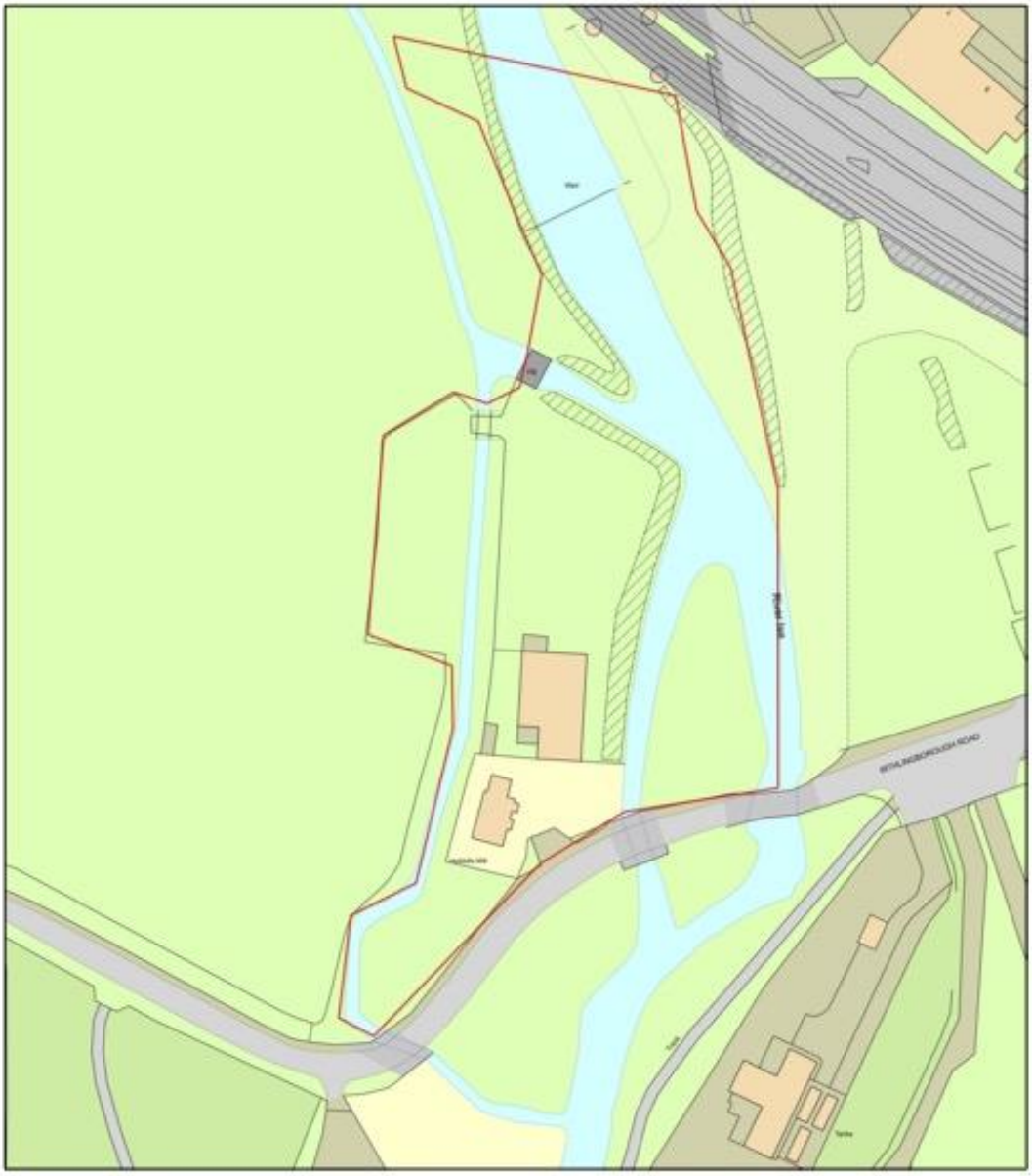
BEDROOM
LOUNGE
REAR
FRONT
Proposed Single
Storey Extension
Existing Dwelling
Proposed Ground Floor Plan

Hobbills Mill



0 50
Metres

N

ReQuestaPlan

Plan Produced for: Mr. M. Rahman

Date Produced: 21 Mar 2023

Plan Reference Number: TQRQM23080203331026

Scale: 1:1250 @ A4

What is meant by "minor development" in relation to flood risk?

Minor development means:

- minor non-residential extensions (industrial/commercial/leisure etc): extensions with a floorspace not in excess of 250 square metres.
- alterations: development that does not increase the size of buildings, e.g. alterations to external appearance.
- householder development: for example, sheds, garages, games rooms etc. within the curtilage of the existing dwelling, in addition to physical extensions to the existing dwelling itself. This definition excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling (e.g. subdivision of houses into flats) or any other development with a purpose not incidental to the enjoyment of the dwelling.

1. Definition of Minor Development

Are minor developments likely to raise flood risk issues?

Minor developments are unlikely to raise significant flood risk issues unless:

- they would have an adverse effect on a watercourse, floodplain or its flood defences;
- they would impede access to flood defence and management facilities; or
- where the cumulative impact of such developments would have a significant effect on local flood storage capacity or flood flows.

Even minor developments can affect flood risk within or beyond the property, particularly in areas susceptible to flooding. Applications for minor development involving extensions or additions should still meet the requirements to provide a site-specific flood risk assessment (as per footnote 55 of the National Planning Policy Framework). A pragmatic approach should be taken to the scope and level of detail of the assessment – a shorter, simpler assessment is likely to be sufficient in most such cases. As a minimum, the assessment needs to show that the development will be safe for its users for the intended lifetime of the development, without increasing flood risk elsewhere, and be sufficiently flood resistant and resilient to the level and nature of the flood risk.

The Environment Agency's advice on flood risk assessment is helpful for ensuring extensions or alterations are designed and constructed to conform to any flood protection already incorporated in the property, and include flood resilience measures in the design.

2. Appraisal of Flood Risk Issues Relating to Minor Developments

Notes to table 2:

- This table does not show the application of the Sequential Test which should be applied first to guide development to the lowest flood risk areas; nor does it reflect the need to avoid flood risk from sources other than rivers and the sea;
- The Sequential and Exception Tests do not need to be applied to those developments set out in National Planning Policy Framework footnote 56. The Sequential and Exception Tests should be applied to 'major' and 'non major' development;
- Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.

3. Sequential & Exception Tests and Minor Development

(56) This includes householder development, small non-residential extensions (with a footprint of less than 250m^2) and changes of use; except for changes of use to a caravan, camping or chalet site, or to a mobile home or park home site, where the sequential and exception tests should be applied as appropriate. ↩

4. Footnote 56

More vulnerable

- Hospitals
- Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels.
- Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels.
- Non–residential uses for health services, nurseries and educational establishments.
- Landfill* and sites used for waste management facilities for hazardous waste.
- Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

5. 'More Vulnerable' Classification

When to follow standing advice

You should follow the Environment Agency's standing advice if you're carrying out a flood risk assessment of a development classed as:

- a minor extension (household extensions or non-domestic extensions less than 250 square metres) in flood zone 2 or 3
- 'more vulnerable' in flood zone 2 (except for landfill or waste facility sites, caravan or camping sites)
- 'less vulnerable' in flood zone 2 (except for agriculture and forestry, waste treatment, mineral processing, and water and sewage treatment)
- 'water compatible' in flood zone 2

You also need to follow standing advice for developments involving a change of use into one of these vulnerable categories or into the water compatible category.

6. When to Follow Standing Advice

Advice for minor extensions

You need to provide a plan showing the finished floor levels and the estimated flood levels.

State in your assessment all levels in relation to Ordnance Datum (the height above average sea level). You may be able to get this information from the Ordnance Survey. If not, you'll need to get a land survey carried out by a qualified surveyor.

Make sure the floor levels are either no lower than existing floor levels or 300 millimetres (mm) above the estimated flood level. You will also need to use flood resistant materials up to at least 300mm above the estimated flood level.

Flood water can put pressure on buildings, causing structural issues. If your design aims to keep out a depth of more than 600mm of water, you should get advice from a structural engineer.

Standards for the installation and retrofit of resistance measures are available in British Standard 851188-1:2019+A1:2021.

If you cannot raise the floor levels in this way, you will also need to include extra flood resistance and resilience measures. These measures should protect the property to at least 300mm above the estimated flood level.

7. Standing Advice for Minor Extensions

Environment Agency

Flood map for planning

Your reference	Location (easting/northing)	Created
Hobbils Mill	**490661/267427**	**8 Jun 2023 10:29**

Your selected location is in flood zone 3, an area with a high probability of flooding.

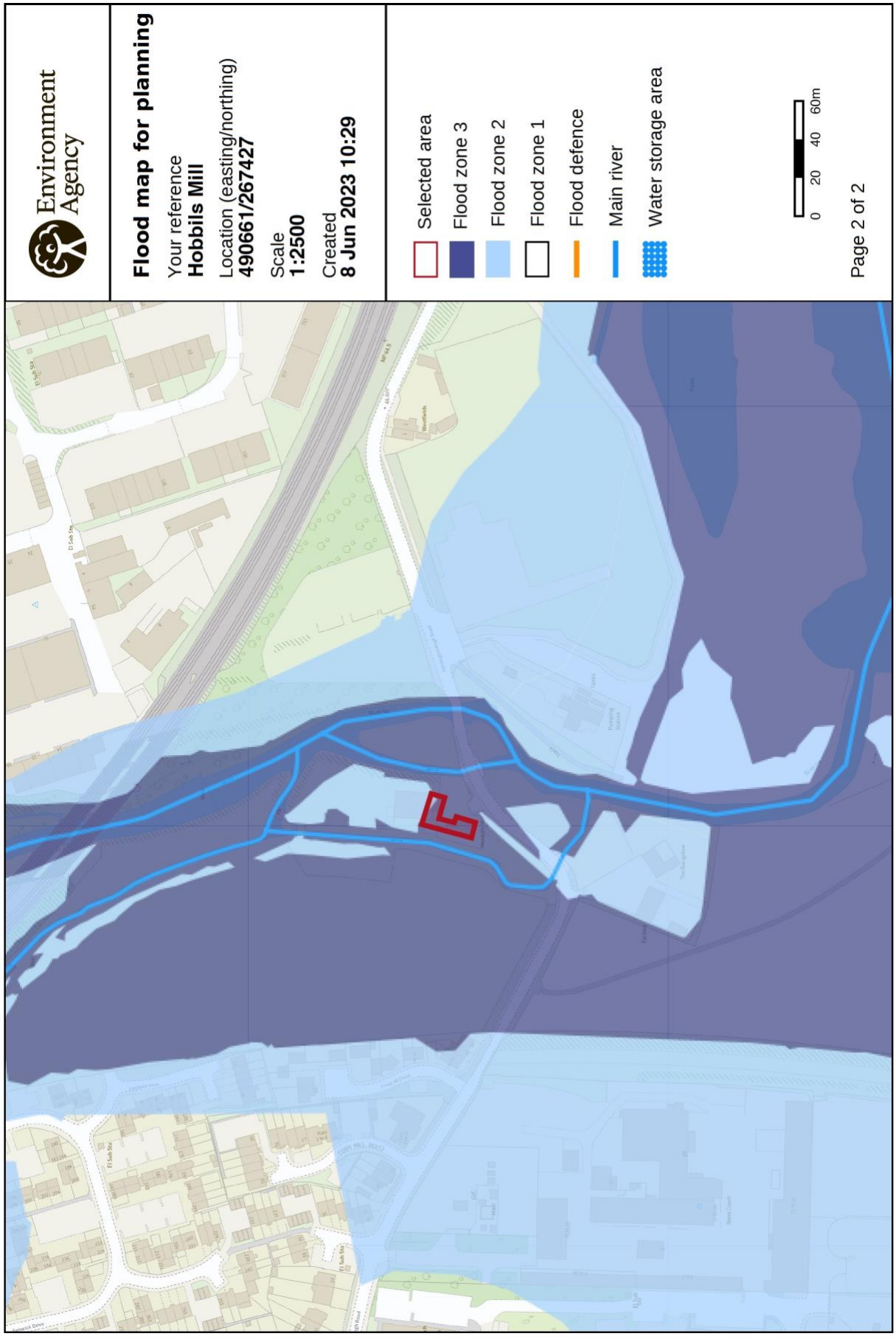
This means:

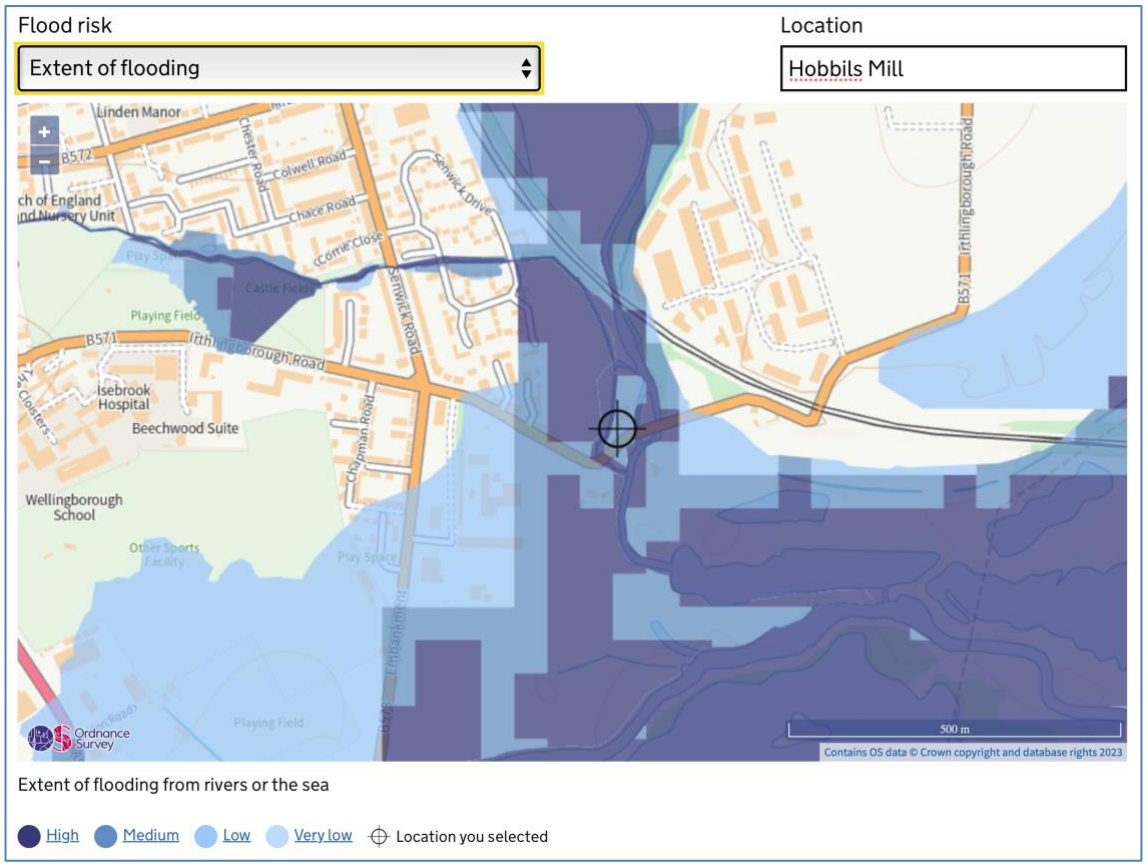
- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see www.gov.uk/guidance/flood-risk-assessment-standing-advice)

Notes

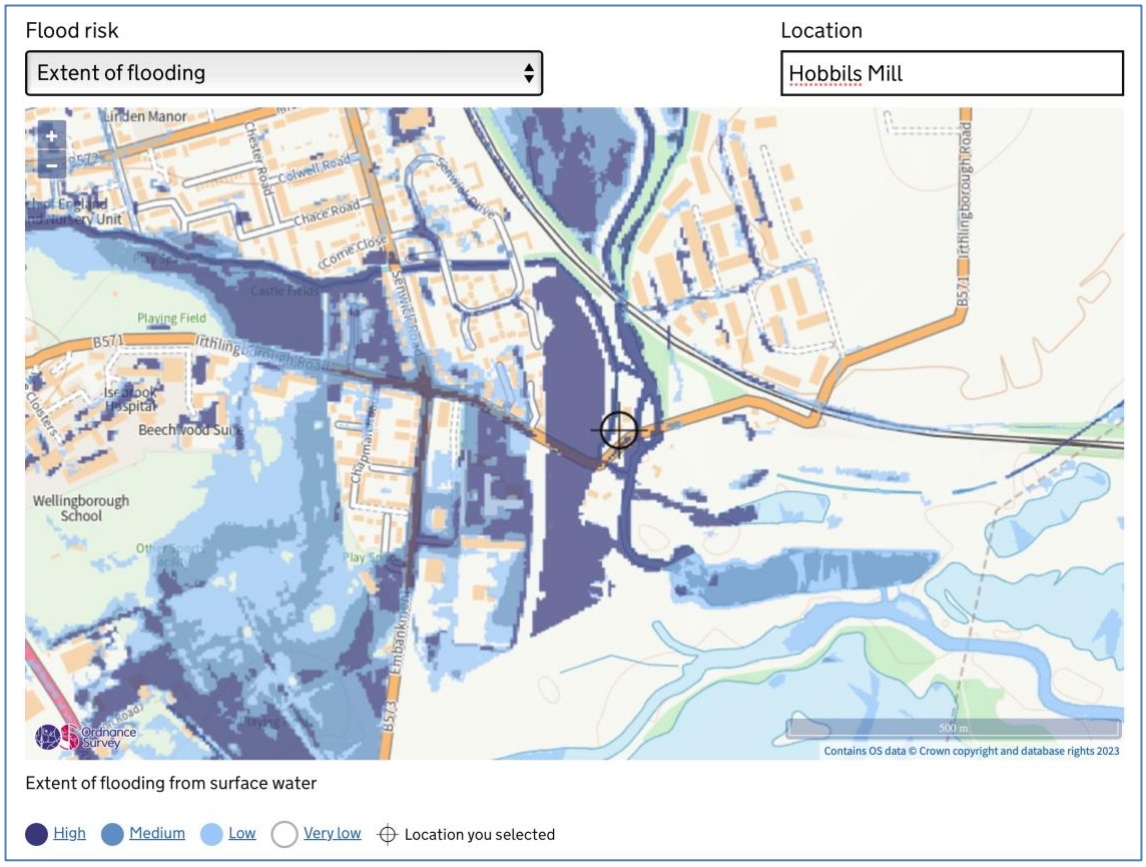
The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.





Flood Risk from Rivers & The Sea



Flood Risk from Surface Water

Tom Livingstone
tomlivingstone@ymail.com

Our ref: CCN-2023-296345

Date: 26/01/2023

Dear Tom,

Provision of Flood Risk Information for Irthlingborough Road, Wellingborough

Thank you for your request for our flood risk information for the above site. The information is set out below and attached. It is important you read any contextual notes on the maps provided.

If you are preparing a Flood Risk Assessment (FRA) for this site, please note this information may not be sufficient by itself to produce an adequate FRA to demonstrate the development is safe over its lifetime. Additional information may be required to carry out an appropriate assessment of all risk, such as consequence of a breach in defences.

We aim to review our information on a regular basis, so if you are using this data more than twelve months from the date of this letter, please contact us again to check it is still valid.

Please read the letter in full as the information covered has been updated in **January 2023.**

1. Flood Map

The attached map includes the current Flood Map for your area. The Flood Map indicates the area at risk of flooding, **assuming no flood defences exist**, for a flood with a 0.5% chance of occurring in any year for flooding from the sea, or a 1% chance of occurring for fluvial (river) flooding. It also shows the extent of the Extreme Flood Outline which represents the extent of a flood with a 0.1% chance of occurring in any year, or the highest recorded historic extent if greater.

In some locations, such as around the fens and the large coastal floodplains, showing the area at risk of flooding assuming no defences may give a slightly misleading picture in that if there were no flood defences, water would spread out across these large floodplains. This flooding could cover large areas of land but to relatively shallow depths and could leave pockets of locally slightly higher land as isolated dry islands. It is important to understand the actual risk of the flooding to these dry islands, particularly in the event of defence failure.

The Flood Map also shows the location of formal raised flood defences and flood storage reservoirs. It represents areas at risk of flooding for present day only and does not take account of climate change.

The Flood Map only indicates the extent and likelihood of flooding from rivers or the sea. It should also be remembered flooding may occur from other sources such as surface water sewers, road drainage, etc.

2. Historic Flood Event Outlines

A copy of the Historic Flood Event Outlines Map showing the extent of previous recorded flooding in your area is attached. This only covers information we hold and it is possible recent flooding may have occurred which we are currently investigating, therefore this information may be subject to change. It is possible other flooding may have occurred which other organisations, such as the Lead Local Flood Authority (ie top tier council), Local Authority or Internal Drainage Board (where they exist), may have records.

3. Schemes in the area

There are no ongoing capital projects to reduce or sustain the current flood risk to this site.

4. Fluvial Flood Risk Information

This site is considered to be at risk of flooding from main rivers.

The site may be at risk from local ordinary watercourses for which other risk management authorities, such as the Lead Local Flood Authority (ie top tier council) or Internal Drainage Board (where they exist) have responsibility.

4.1 Fluvial Defence Information

There are no formal flood defences reducing the risk of flooding to this site.

4.2 Fluvial Modelled Levels and Flows

Available modelled fluvial flood levels and flows for the model nodes shown on the attached map are set out in the data table attached. This data is taken from the model named on the data table, which is the most up-to-date model currently available.

Please note these levels are “in-channel” levels and therefore may not represent the flood level on the floodplain, particularly where the channel is embanked or has raised defences.

Our models may not have the most up to date climate change allowances. In time we will update our models for the latest allowances. You should refer to 'Flood risk assessments: climate change allowances' to check if the allowances modelled are appropriate for the type of development you are proposing and its location. You may need to undertake further assessment of future flood risk using different allowances to ensure your assessment of future flood risk is based on best available evidence.

4.3 Fluvial Modelled Flood Extents

Please find attached a map showing available modelled flood extents, taking into account flood defences, for your area. This data is taken from the model named on the map, which is the most up-to-date model currently available.

In some cases the flood extents shown may not be from main river, but may be from other sources such as IDB lowland drainage networks.

4.4 Fluvial Hazard Mapping

At present this site is not covered by any fluvial hazard mapping.

Ceres House, Searby Road, Lincoln, LN2 4DW
Customer services line: 03708 506 506
Email: enquiries@environment-agency.gov.uk
www.gov.uk/environment-agency

5. Tidal Flood Risk Information

This site is not considered to be at risk from tidal flooding.

6. Development Planning

If you would like local guidance on preparing a flood risk assessment for a planning application, please contact our Sustainable Places team at LNplanning@environment-agency.gov.uk. It will help if you mention this data request and attach your site location plan.

We provide free preliminary advice; additional/detailed advice, review of draft FRAs and meetings are chargeable at a rate set to cover our costs, currently £100 (plus VAT) per hour of staff time. Further details are available on our website at https://www.gov.uk/guidance/developers-get-environmental-advice-on-your-planning-proposals.

General advice on flood risk assessment for planning applications can be found on GOV.UK at https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications

Climate change will increase flood risk due to overtopping of defences. Please note, unless specified otherwise, the climate change data included has an allowance for 20% increase in flow. Updated guidance on how climate change could affect flood risk to new development - 'Flood risk assessments: climate change allowances' was published on GOV.UK in **July 2021**. The appropriate updated climate change allowance should be applied in a Flood Risk Assessment.

You should also consult the Strategic Flood Risk Assessment produced by your local planning authority.

7. Data Licence and Other Supporting Information

We respond to requests for recorded information we hold under the Freedom of Information Act 2000 (FOIA) and the associated Environmental Information Regulations 2004 (EIR).

This information is provided in accordance with the Open Government Licence which can be found here: http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/

Further information on flood risk can be found on the GOV.UK website at: https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather

8. Other Flood Risk Management Authorities

The information provided with this letter relates to flood risk from main river or the sea. Additional information may be available from other risk management authorities, such as the Lead Local Flood Authority (ie top tier council) or Internal Drainage Board (where they exist).

Ceres House, Searby Road, Lincoln, LN2 4DW
Customer services line: 03708 506 506
Email: enquiries@environment-agency.gov.uk
www.gov.uk/environment-agency

I hope we have correctly interpreted your request. If you have any queries or would like to discuss the content of this letter further please contact Alexander Tan using the email address below and quoting our CCN reference number above.

Yours sincerely,

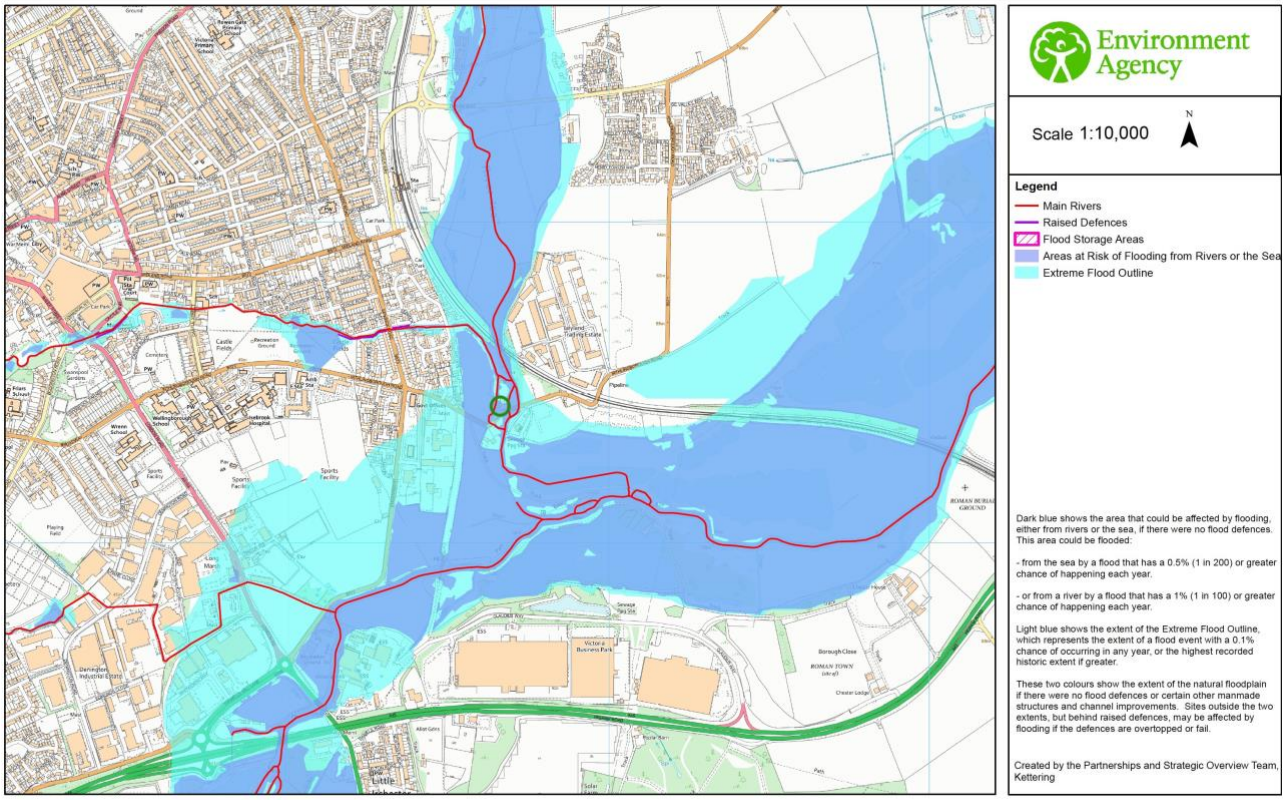
Team dial: +442030253535

for Alastair Windler
Welland and Nene Partnerships and Strategic Overview Team Leader
e-mail PSOWN@environment-agency.gov.uk

Enc.
Flood Map
Historic Flood Event Outlines Map
Modelled Node Points Map
Modelled Fluvial Levels and Flows Data Sheet
Modelled Flood Extent Maps

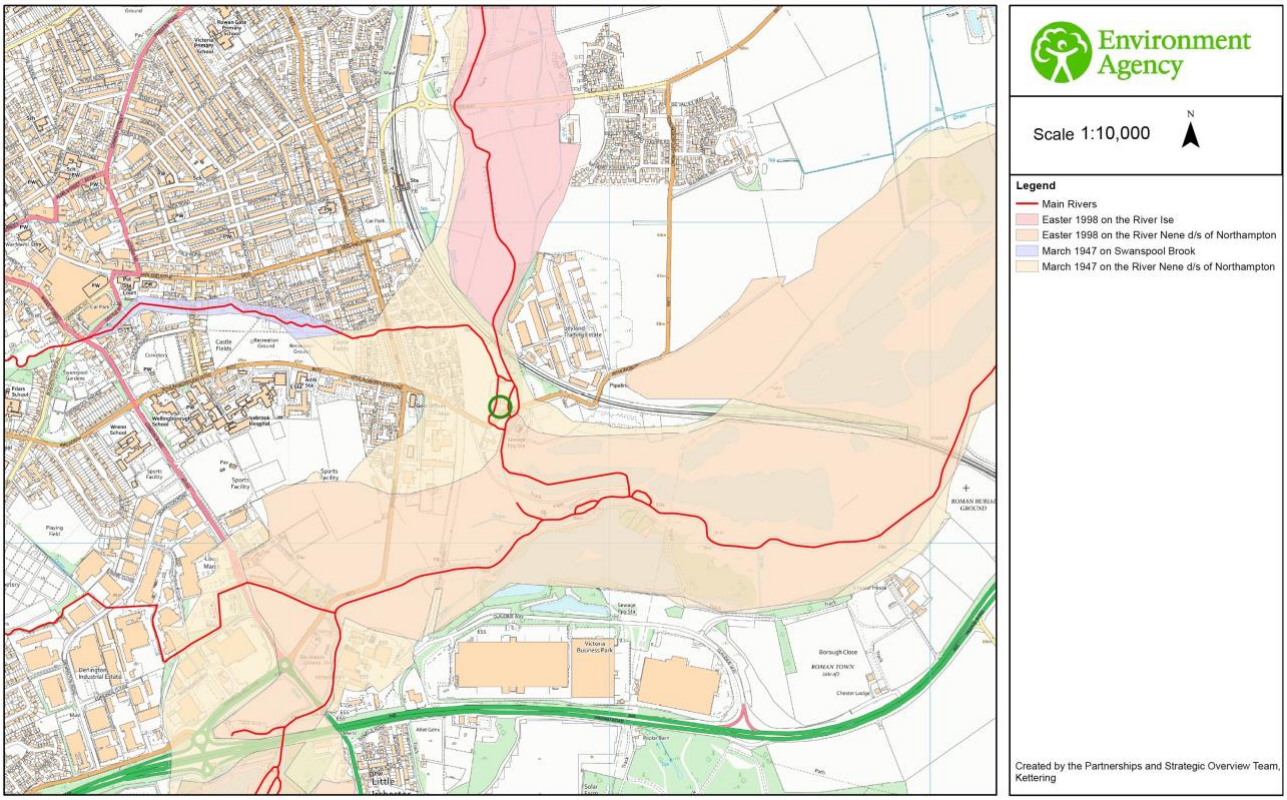
Ceres House, Searby Road, Lincoln, LN2 4DW
Customer services line: 03708 506 506
Email: enquiries@environment-agency.gov.uk
www.gov.uk/environment-agency

Flood Map centred on SP 90660 67445 - created January 2023 [Ref: CCN-2023-296345]



Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

Historic Flood Map centred on SP 90660 67445 - created January 2023 [Ref: CCN-2023-296345]



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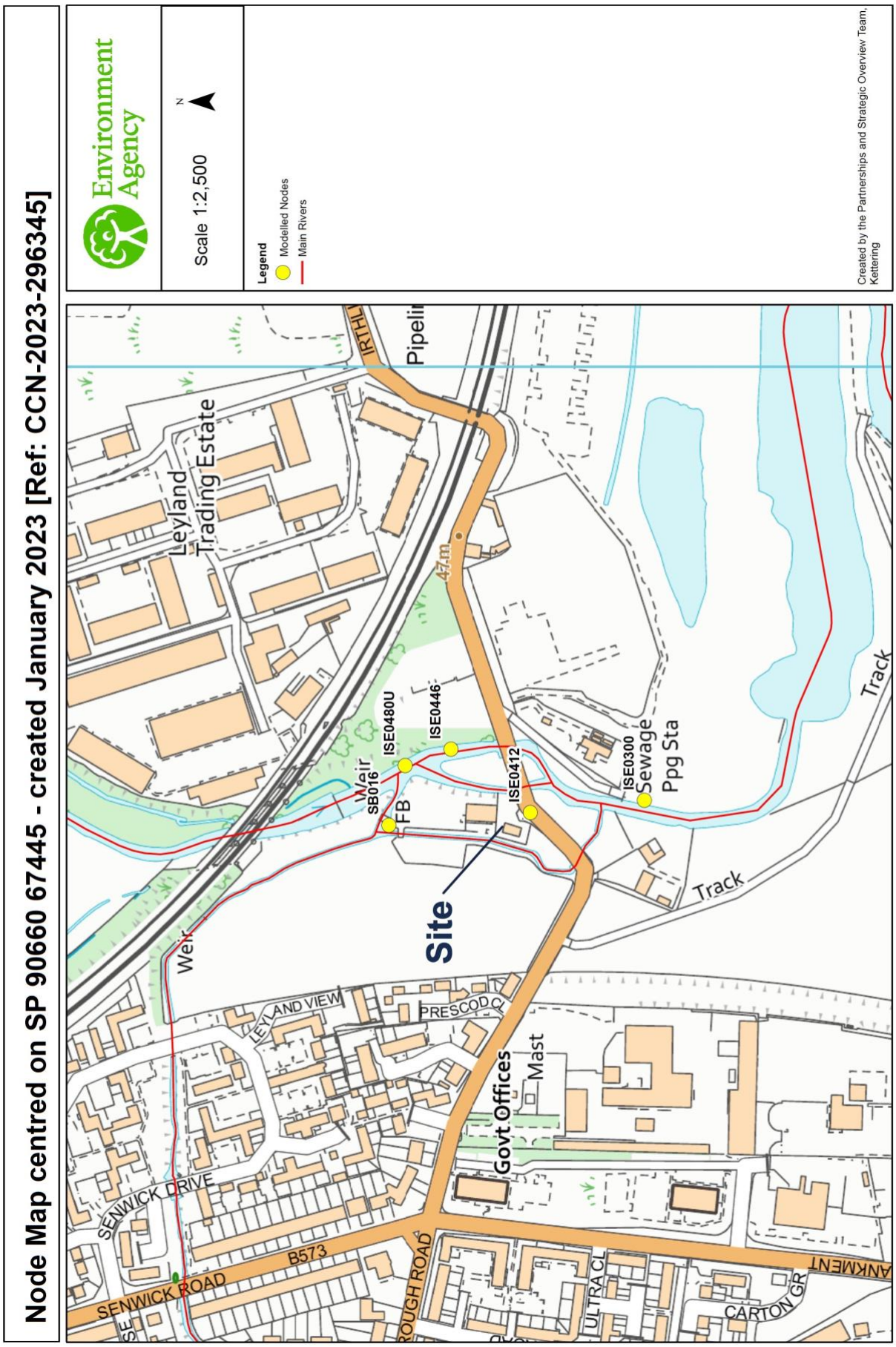

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Datasheet [Ref: CCN-2023-296345] **Model Name: Middle Nene** **Model Date: 2013**

Fluvial Flood Levels (mODN)

The fluvial flood levels for the model nodes shown on the attached map are set out in the table below. They are measured in metres above Ordnance Datum Newlyn (mODN).

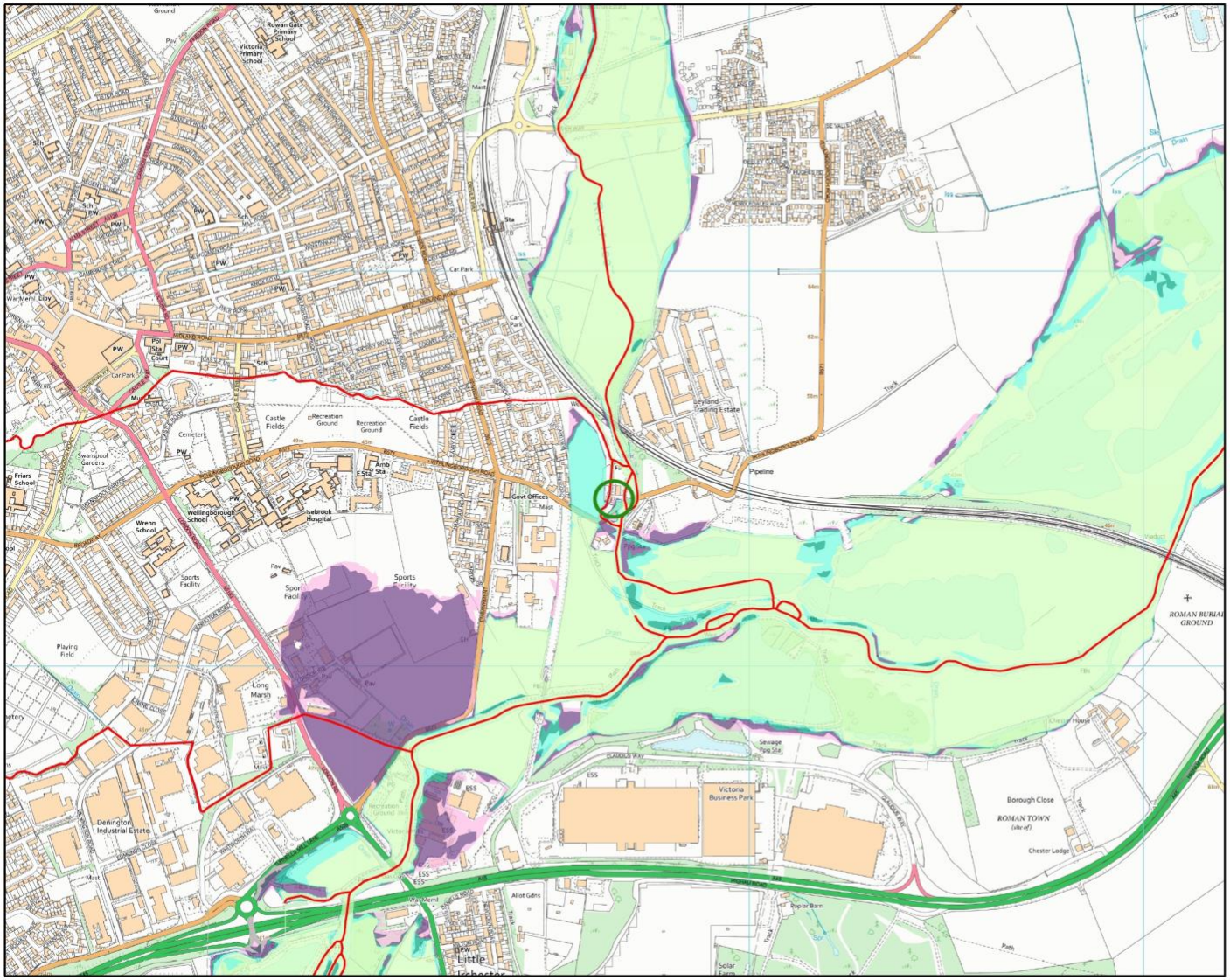
			Annual Exceedance Probability - Maximum Water Levels (mODN)												
Node Label	Easting	Northing	50% (1 in 2)	20% (1 in 5)	10% (1 in 10)	5% (1 in 20)	4% (1 in 25)	2% (1 in 50)	1.33% (1 in 75)	1% (1 in 100)	1% (1 in 100) inc 20% Climate Change	0.5% (1 in 200)	0.5% (1 in 200) inc Climate Change	0.1% (1 in 1000)	0.1% (1 in 1000) inc 20% Climate Change
ISE0480U	490703	267501	41.31	41.58	41.70	41.80	41.84	41.96	41.97	41.96	42.06	42.06	42.15	42.21	42.30
ISE0446	490715	267467	41.26	41.52	41.63	41.72	41.75	41.86	41.87	41.87	41.95	41.95	42.03	42.09	42.18
ISE0412	490668	267407	41.23	41.52	41.64	41.75	41.78	41.89	41.90	41.90	41.99	42.00	42.08	42.15	42.24
ISE0300	490677	267322	40.71	40.76	40.78	40.81	40.82	40.87	40.88	40.89	40.93	40.93	40.98	41.01	41.15
SB016	490659	267513	41.31	41.58	41.70	41.80	41.84	41.95	41.96	41.96	42.04	42.04	42.12	42.16	42.21

Fluvial Flood Flows (m³/s)

The fluvial flood flows for the model nodes shown on the attached map are set out in the table below. They are measured in metres cubed per second (m³/s).

			Annual Exceedance Probability - Maximum Flows (m³/s)												
Node Label	Easting	Northing	50% (1 in 2)	20% (1 in 5)	10% (1 in 10)	5% (1 in 20)	4% (1 in 25)	2% (1 in 50)	1.33% (1 in 75)	1% (1 in 100)	1% (1 in 100) inc 20% Climate Change	0.5% (1 in 200)	0.5% (1 in 200) inc Climate Change	0.1% (1 in 1000)	0.1% (1 in 1000) inc 20% Climate Change
ISE0480U	490703	267501	17.09	23.26	26.45	29.18	30.01	33.00	33.38	33.41	36.45	36.52	39.55	41.87	45.10
ISE0446	490715	267467	17.55	23.62	27.08	30.51	31.69	36.40	36.83	36.81	41.00	41.09	45.49	49.07	54.33
ISE0412	490668	267407	17.55	23.62	27.08	30.51	31.69	36.40	36.83	36.81	41.00	41.09	45.49	49.07	54.33
ISE0300	490677	267322	17.46	23.19	26.26	29.07	29.96	33.18	33.41	33.26	35.71	35.91	38.26	39.53	41.68
SB016	490659	267513	3.21	4.64	5.48	6.36	6.72	8.05	8.27	8.30	10.05	10.18	12.37	14.47	18.11

Modelled Flood Extents (with defences) Model: Middle Nene (2013)
centred on SP 90660 67445 - created January 2023 [Ref: CCN-2023-296345]



Environment Agency

Scale 1:10,000

N

Legend

- Main Rivers
- 5% (1 in 20) fluvial event
- 1% (1 in 100) fluvial event
- 1% (1 in 100) inc 20% climate change fluvial event
- 0.1% (1 in 1000) fluvial event
- 0.1% (1 in 1000) inc 20% climate change fluvial event

Created by the Partnerships and Strategic Overview Team, Kettering

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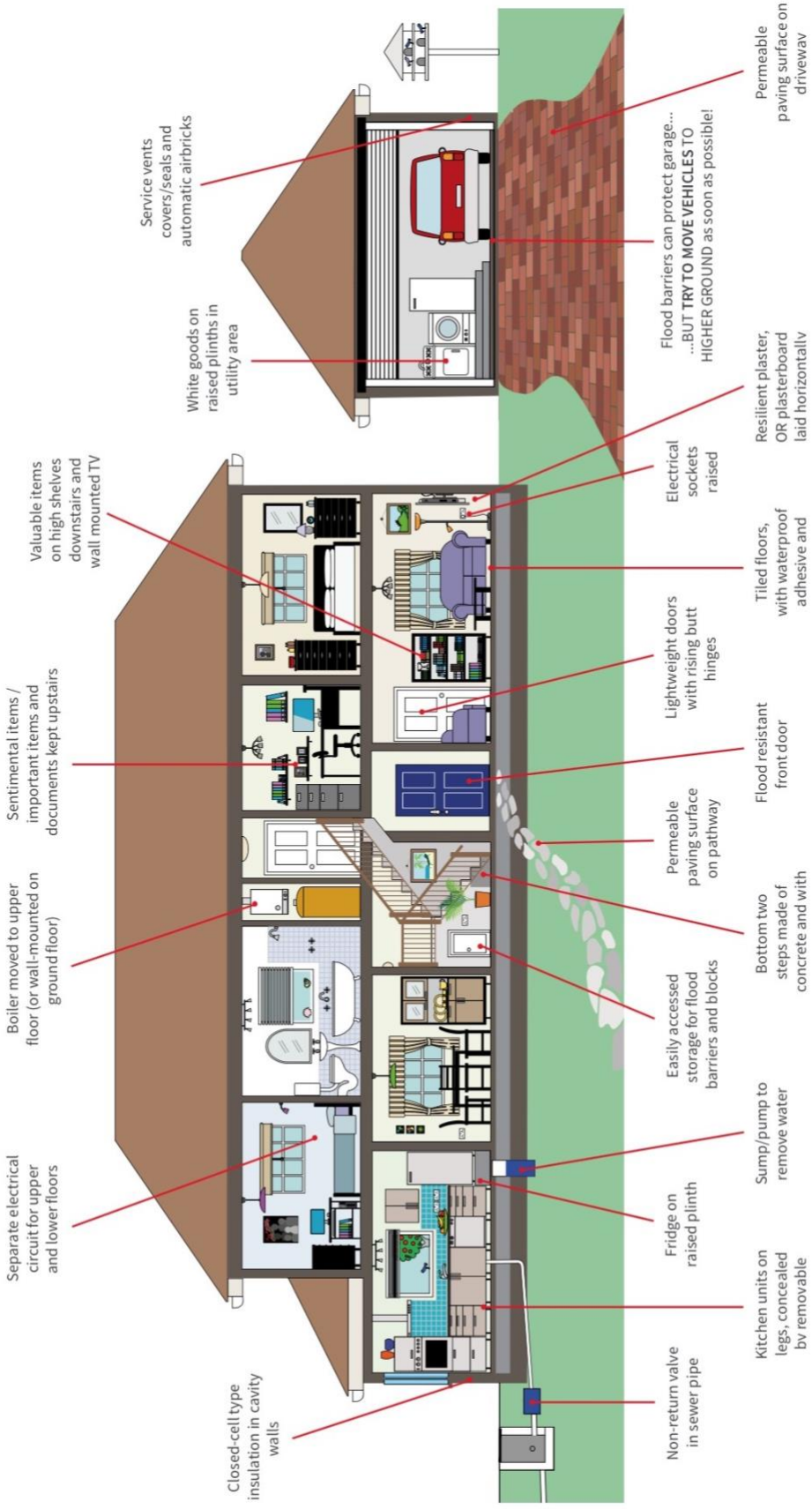
Service vents covers/seals and automatic airbricks
White goods on raised plinths in utility area
Flood barriers can protect garage... ...BUT TRY TO MOVE VEHICLES TO HIGHER GROUND as soon as possible!
Permeable paving surface on driveway
Valuable items on high shelves downstairs and wall mounted TV
Sentimental items / important items and documents kept upstairs
Boiler moved to upper floor (or wall-mounted on ground floor)
Separate electrical circuit for upper and lower floors
Closed-cell type insulation in cavity walls
Non-return valve in sewer pipe
Kitchen units on legs, concealed by removable
Fridge on raised plinth
Sump/pump to remove water
Easily accessed storage for flood barriers and blocks
Bottom two steps made of concrete and with
Permeable paving surface on pathway
Flood resistant front door
Lightweight doors with rising butt hinges
Tiled floors, with waterproof adhesive and
Electrical sockets raised
Resilient plaster, OR plasterboard laid horizontally

Emergency Measures –

Homeowners/Residents, Local Authorities and Local Community Groups

In addition to property resilience measures, there are many additional safeguards available to members of the community who may be at risk of suffering a flooding emergency. Local Authorities and Local Community Groups such as Parish Councils have duties and responsibilities to ensure they are prepared for an emergency in order to minimise the impact of any such incident on members of the community who may be at risk.

Local Authorities have a range of duties as a Category 1 responder under the Civil Contingencies Act 2004.

At times of elevated flood risk, the Environment Agency issue warnings in areas at risk of flooding and residents of the new property will sign up for flood alerts with Floodline and hence to receive early warnings of flood risk as follows.

https://www.gov.uk/sign-up-for-flood-warnings
Floodline
Telephone: 0345 988 1188
24-hour service

It is important that residents are aware of the different levels of severity of flood risk warnings and understand the need to evacuate on receipt of a severe flood warning in the knowledge that this indicates 'danger to life'.

In terms of egress from the property during times of extreme emergency; the Environment Agency and the Met Office work closely in predicting incidents of severe flooding and issue warnings, and in the most extreme cases notices to evacuate, in plenty of time to allow this to happen in all affected areas, should such action become necessary. At such times, the Local Authority will open refuge centres to receive those who have been displaced.

Evacuation is an extreme reaction to potentially serious incidents of flooding. However, given the much-improved prediction techniques, it should be clear to the authorities well in advance when such a decision is necessary.

All Local Authorities produce and maintain a 'Community Risk Register' and as part of their duties under the Civil Contingencies Act, they also educate and inform members of the community on relevant issues and in particular those in areas at risk of flooding.

Awareness is an important aspect of community safety and relevant information is communicated to all residents by various means regarding safety and preparedness.

In combination with the property resilience measures adopted where necessary and the raising of awareness and full appreciation of the owners/residents of the new property to the issue of flood risk, their ongoing safety is assured.

North Northamptonshire Council also offer useful emergence planning advice which can be accessed via the link below.

https://www.northnorthants.gov.uk/flooding/what-do-if-flooding-occurs