# FLOOD RISK ASSESSMENT FOR CHANGE OF USE OF LAND TO USE AS A CARAVAN SITE AT SPRING LANE, CROFT, WARRINGTON

**FINAL REPORT** 

**ECL1667/PHILIP BROWN ASSOCIATES** 

**DATE OCTOBER 2025** 

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#### **DISCLAIMER**

This document has been prepared solely as a Flood Risk Assessment in support of a planning appeal for a change of use of land to use as a caravan site on Spring Lane, Croft. "Ellingham Consulting Ltd" accepts no responsibility or liability whatsoever for any use made of this document other than by the client Mr T Smith for the purposes it was originally commissioned and prepared. All comments and opinions made are based upon information available to "Ellingham Consulting Ltd" during the necessary investigative process, and the conclusions and recommendations could, therefore, differ in the event of material subsequently being found erroneous, incomplete, or misleading. "Ellingham Consulting Ltd" therefore, accepts no liability should this prove to be the case.

### 1.0 INTRODUCTION

This Flood Risk Assessment has been prepared in accordance with National Planning Policy Framework (NPPF) and supporting planning practice guidance (PPG) on Flood Risk and Coastal Change.

In areas at risk of flooding or for sites of 1 hectare or more, developers are required to undertake a site-specific Flood Risk Assessment to accompany an application for planning permission. This Flood Risk Assessment has been produced on behalf of Mr T Smith in respect of a development that consists of the change of use of land to use as a caravan site on Spring Lane, Croft.

A planning appeal for the proposed development is to be held in November 2025.

#### 2.0 SITE LOCATION AND DESCRIPTION

#### 2.1 Site Location

The site is situated on land at Spring Lane, Croft, Warrington, WA3 7AS. The National Grid Reference of the site is 36381/39261.

The location of the site is shown on Figure 1.



Figure 1 – Location Plan (© OpenStreetMap contributors)

# 2.2 Existing Site

The site is on the eastern side of Spring Lane. The site is a former garden nursery. The existing development comprises areas of hardstanding and a storage building on the south eastern boundary of the site. The M62 forms the south eastern boundary of the site and there is agricultural land to the east and north. There is an access to Spring Lane in the south western corner of the site. The area of development is approximately 0.4ha.

Environment Agency LiDAR shows that the site is flat with ground levels typically between 16.3m AOD and 16.0m AOD. Ground levels close to the southern boundary reduce from 16.0m AOD to 15.4m AOD. Spring Lane at the entrance to the site is typically 15.5m AOD.

The online British Geological Survey maps indicate that the site is likely to be underlain by Wilmslow Sandstone Formation – Sandstone. The superficial deposits at the site are Till, Devensian - Diamicton.

### 2.3 Proposed Development

The proposed development consists of the change of use of land to use as residential caravan site for 5 gypsy / traveller families. Each pitch will comprise two caravans including no more than one static caravan/mobile home together with the laying of hardstanding and erection of communal amenity building. Details of the proposed development are provided in Attachment 1.

### 2.4 Local Development Documents

The Warrington Local Plan 2021/22 – 2038/39 was adopted by the Council in December 2023. The Local Plan will be used to guide decisions on planning applications and to identify areas where investment and growth should be prioritised.

A Level 1 Strategic Flood Risk Assessment (SFRA) for Warrington Borough Council was prepared in was prepared in July 2018.

### 2.5 Available Flood Risk Information

An extract from the Environment Agency Flood Map for Planning is shown in Figure 2. The site is located in Flood Zone 1, an area with a low probability of flooding.

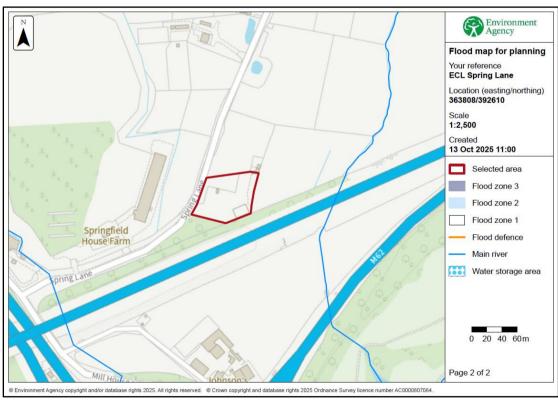


Figure 2 – Environment Agency Flood Map for Planning

The Environment Agency Long Term Flood Risk maps provide an indication of the risk from the primary sources of flooding. The details provided with these maps are summarised in Table 1. The depth of flooding identified is the maximum depth that occurs during a low chance (between 0.1% and 1% chance each year) event.

	Present	Day	2050 Ep	ooch
	Chance of Flooding	Depth (Low chance)	Chance of Flooding	Depth (Low chance)
Rivers and the Sea	The site is outside the area at risk.	Not at risk	The site is outside the area at risk.	Not at risk
Surface Water	The south eastern part of the site has a high chance (greater than 3.3% chance each year)	To 0.3m	The south eastern part of the site has a high chance (greater than 3.3% chance each year)	To 0.3m
Reservoir	Outside of the area at risk.			

Table 1 – Environment Agency Long Term Flood Risk Maps

Warrington Borough Council have an interactive map that can used to identify constraints within a specific site. There are two maps indicating the extent of surface water flooding. The 'Intermediate and High Risk Surface Water Flood Map' and the 'DEFRA Risk of Surface Water Flooding' maps are shown in Figure 3 and Figure 4.

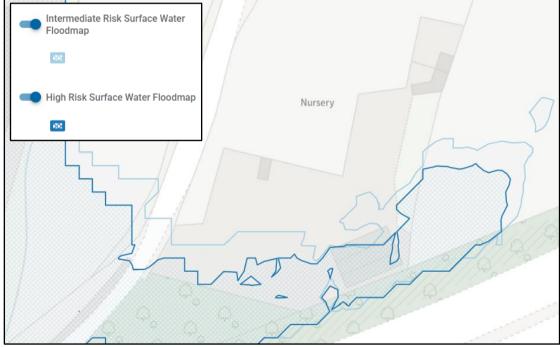


Figure 3 - Intermediate and High Risk Surface Water Flood Map

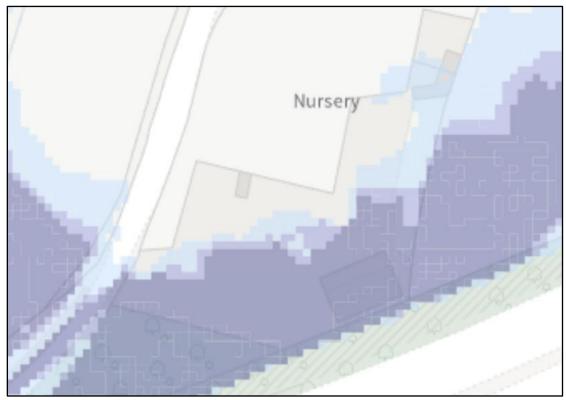


Figure 4 - DEFRA Risk of Flooding Surface Water

A request was made to the Environment Agency for Flood Risk Assessment data that is specific to the site. The hydraulic modelling undertaken by the Environment Agency is downstream of the site and therefore does not provide information that is relevant to this assessment. The Environment Agency response is provided in Attachment 2.

#### 3.0 FLOOD RISK VULNERABILITY

### 3.1 The Sequential and Exception Test

The NPPF requires the application of a Sequential Test to ensure that new development is in areas with the lowest probability of flooding.

The Exception Test is a method to demonstrate and help ensure that flood risk to people and property will be managed, while allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available.

### 3.2 Vulnerability Classification

Table 2 of the PPG Flood Risk and Coastal Change categorises different types of uses and development according to their vulnerability to flood risk. The proposed develop is covered by the description of caravans, mobile homes and park homes intended for permanent residential use is classified as 'Highly Vulnerable'.

Table 3 of the PPG Flood Risk and Coastal Change sets out Flood Risk Vulnerability and flood zone 'compatibility'. The site is in Flood Zone 1 and the development is 'Highly Vulnerable' therefore it is not necessary to complete the Exception Test.

PPG Flood Risk and Coastal Change defines that the lifetime of the development in terms of flood risk and coastal change is 100 years.

### 3.3 Application of the Sequential Test

It is for the Local Planning Authority, using the evidence provided and taking advice from the Environment Agency as appropriate, to consider whether an application passes the Sequential Test.

The site is in Flood Zone 1 and therefore it is not possible for the development to be at an alternative site with a lower probability of flooding.

The September 2025 update to the PPG on Flood Risk and Coastal Change stated:

'Where a site-specific flood risk assessment demonstrates clearly that the proposed layout, design, and mitigation measures would ensure that occupiers and users would remain safe from current and future surface water flood risk for the lifetime of the development (therefore addressing the risks identified e.g. by Environment Agency flood risk mapping), without increasing flood risk elsewhere, then the sequential test need not be applied.'

Based upon the Flood Zone and PPG the development is considered to pass the Sequential Test.

#### 4.0 SITE SPECIFIC FLOOD RISK

#### 4.1 Local Flood Assets

The nearest main river to the site is the Cross Brook. The Cross Brook is 150m east of the site and is a tributary of the River Mersey. The Cross Brook is the responsibility of the Environment Agency.

# 4.2 Sources of Flooding

A summary of the sources of flooding is provided in Table 2.

Source of Flooding	Level of Risk
Drainage Network Flooding	There are no local watercourses that could affect the
	site.
Surface Water Flooding	Based upon the EA maps part of the site has a high
	chance.
Fluvial Flooding	Based upon the site being in Flood Zone it is not
	considered to be at risk of fluvial flooding from a
	main river.
Tidal Flooding	The site is not at risk of tidal flooding
Reservoir Flooding	Based upon the EA maps the site is not at risk of
	reservoir flooding.
Groundwater Flooding	There is no evidence to suggest the site is at risk of
	groundwater flooding.

Table 2 – Sources of Flooding

The single source of flooding that has been assessed further within this flood risk assessment is surface water flooding. Whilst the Environment Agency mapping indicates that the site is not at risk from the Cross Brook it is considered likely that out of channel flow from the Cross Brook to the north of the site contributes to the overland flow path and therefore the extent of surface water flooding.

### 4.3 Probability of Flooding

The Environment Agency Long Term Flood Risk Maps indicating the extent of surface water flooding have been used to assess the chance and depth of flooding.

During the present day event the south eastern part of the site has a high chance of flooding with depths to 0.3m.

### 4.4 Historic Flooding

The Environment Agency advised that they hold no record of flooding in this area, however from operational discussions with Warrington Borough Council, they are aware of flooding in January 2025.

Surface water on the Spring Lane carriageway is discharged to a culvert on the south eastern side of Spring Lane. The applicant has advised that during the flood event of January 2025 this culvert was blocked and as a consequence there was localised flooding on the access to the site.

### 4.5 Climate Change

Climate change is likely to impact the site through increased rainfall intensity and duration affecting the local drainage network.

The extent and probability of flooding for the 2050 Epoch is shown in Figure 5.

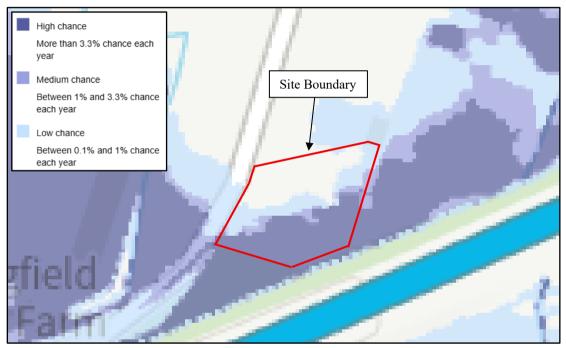


Figure 5 – Environment Agency Surface Water Flood Risk Map – 2050 Epoch Extent

Figure 3 shows that the south eastern part of the site has a high chance (more than 3.3% chance each year of surface water flooding.

The extent of flooding with depths to 0.3m is shown in Figure 6.

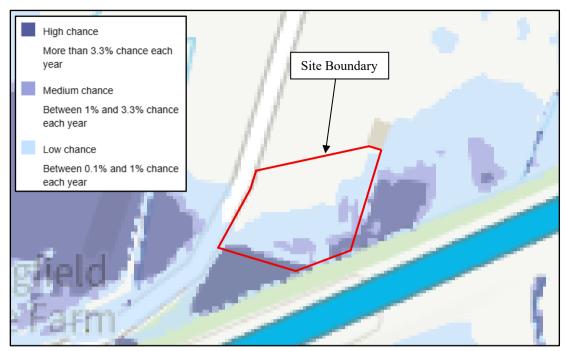


Figure 6 – Environment Agency Surface Water Flood Risk Map – 2050 Epoch to 30 cm

Figure 4 shows that in general there is a low chance that flood depths within the southern part of the site are to 0.3m.

The extent of flooding with depths to 0.6m is shown in Figure 7.

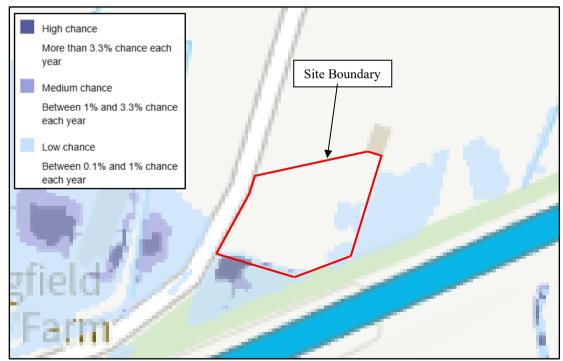


Figure 7 – Environment Agency Surface Water Flood Risk Map – 2050 Epoch to 60 cm

Figure 5 shows that the in general the site is not affected with flood depths to 0.6m.

#### 5.0 FLOOD RISK MITIGATION

### 5.1 Summary of Risks

The single source of flood risk that may affect the site is surface water flooding.

During the present day surface water flood event part the south eastern part of the site has a high chance of surface water flooding with depths to 0.2m. Over time there will be a gradual increase in risk to the site due to climate change. For the 2050 epoch, the south eastern part of the site has a high chance (more than 3.3% chance each year) of surface water flooding. Flood depths to 0.3m would occur during a low chance (0.1% to 1% chance each year) event but depths would not be to 0.6m.

### 5.2 Mitigation Measures

As noted in Section 4.4 a surface water culvert runs along the south eastern side of Spring Lane. Since the flood event in January 2025 the applicant has undertaken works to improve the effectiveness of this culvert at discharging surface water away from the site. It is recommended that this culvert is maintained.

The mobile homes have been positioned so that they are in the northern half of the site and are therefore outside of the area with a high chance of surface water flooding.

Based upon the information available during the preparation of this flood risk assessment it is recommended that the mobile homes have a finished floor level not less than 0.6m above ground level or are positioned on a structure of this height that allows flood water to pass underneath. The homes will be restrained by ground anchors.

The vulnerability of people at a site at risk of flooding should be lowered where possible. The occupants of the pitches should be made aware of the risk of flooding.

As the surface water flooding has the potential to impact the access to the site a pedestrian access will be provided between the site and Spring Lane. This access, which would be available for use in emergencies, would be located close to the northern boundary of the site in an area not at risk of surface water flooding.

Surface water run-off will be managed so that stormwater from the site will not affect any adjoining properties or increase the flood risk elsewhere. Based upon the underlying geology it is anticipated that the site will be suitable for percolation. Runoff from the impermeable areas will be discharged to geocellular crates to infiltrate. Should the ground conditions not be suitable the geocellular crates will be used for attenuation with a controlled discharge to the drainage ditch on the southern boundary of the site.

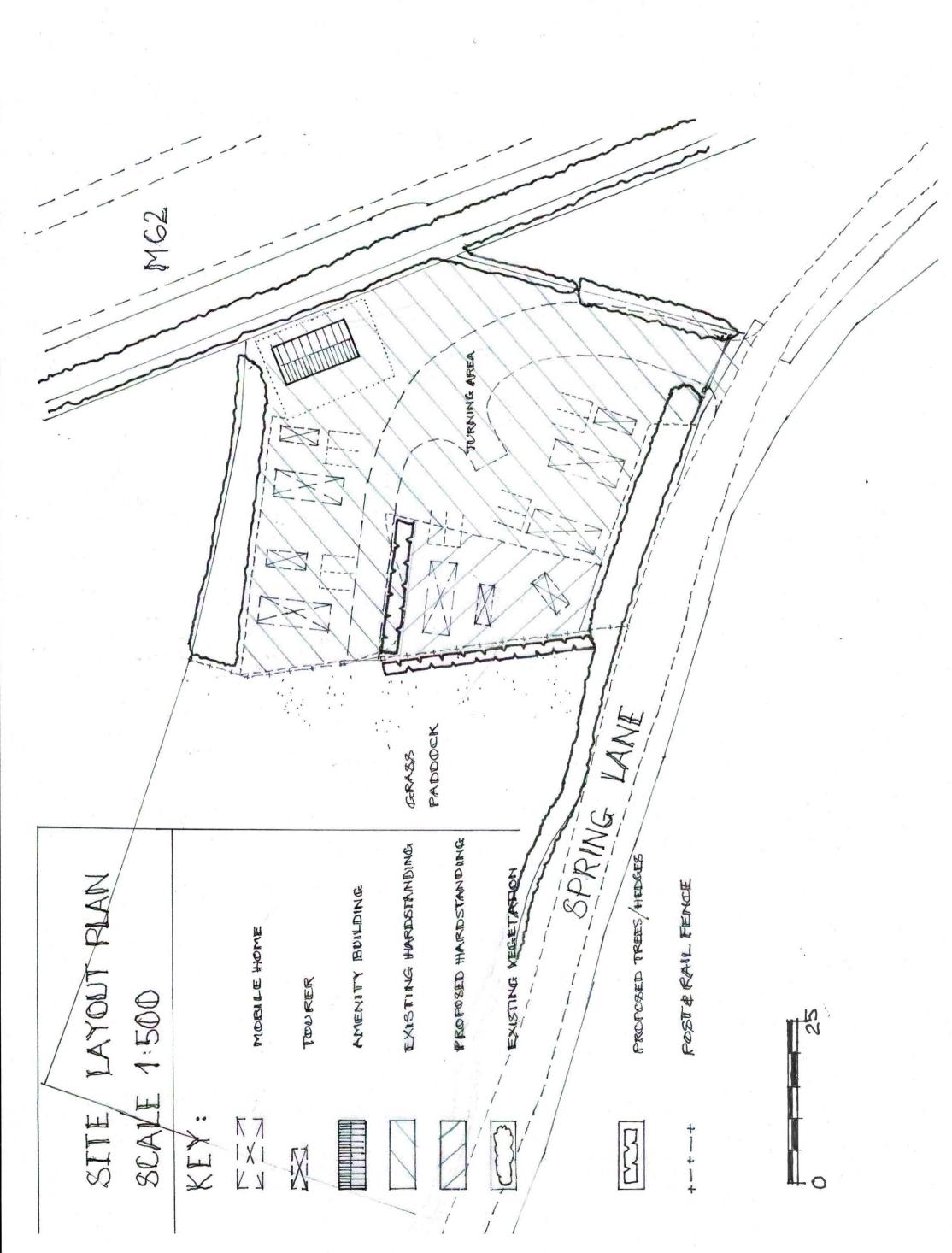
#### 6.0 CONCLUSIONS

As a result of the assessment, the following conclusions have been reached.

- The proposed development consists of the change of use of land to use as residential caravan site for 5 gypsy / traveller families on land at Spring Lane, Croft, Warrington.
- The site is in Flood Zone 1. The site is at risk of surface water flooding.
- Including an allowance for climate change the south eastern part of the site
  has a high chance (more than 3.3% chance each year) of surface water
  flooding. Flood depths to 0.3m would occur during a low chance (0.1% to 1%
  chance each year) event but depths would not be to 0.6m.
- The mobile homes have been positioned so that they are in the northern half of the site and are therefore outside of the area with a high chance of surface water flooding.
- It is recommended that this culvert on the south eastern side of Spring Lane is maintained to reduce the risk of surface water flooding to the site.
- It is proposed that the mobile homes have a finished floor level not less than 0.6m above ground level and will be restrained by ground anchors.
- It is recommended that the finished floor level of the amenity building is not less than 0.6m above surrounding ground level.
- The development passes the Sequential Test and is therefore suitable for the proposed location.

# **ATTACHMENT 1**

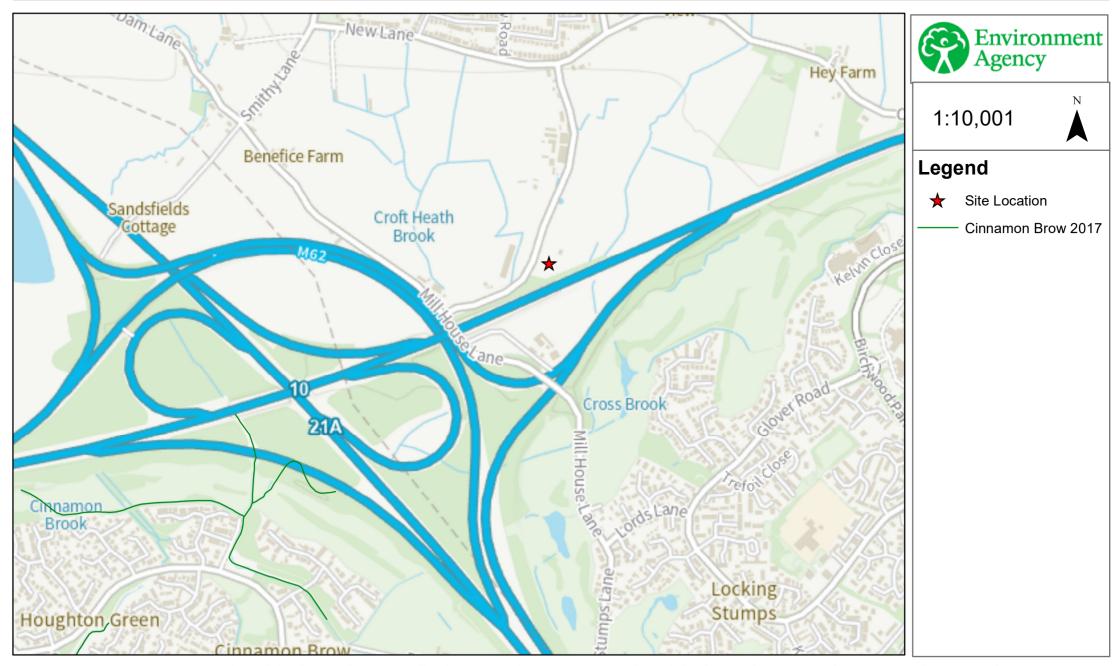
**SITE LAYOUT PLAN** 



# **ATTACHMENT 2**

# **ENVIRONMENT AGENCY FLOOD RISK INFORMATION**

# Detailed Flood Map Centred on Spring Lane, Warrington, WA3 7AS. Created 14/10/2025 [EIR2025/35107]



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# Flood risk assessment data



Location of site: 363808 / 392610 (shown as easting and northing coordinates)

Document created on: 13 October 2025

This information was previously known as a product 4.

Customer reference number: YKYKPH35ATY4

Map showing the location that flood risk assessment data has been requested for.



### How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

We recommend that you work with a flood risk consultant to get your flood risk assessment.

# Included in this document

In this document you'll find:

- · how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- past floods
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- modelled data
- information about strategic flood risk assessments
- · information about this data
- information about flood risk activity permits
- help and advice

# Surface water and other sources of flooding

When using the surface water map on the <u>check your long term flood risk service</u> the following considerations apply:

- surface water extents are suitable for use in planning
- surface water climate change scenarios may help to inform risk assessments, but the available data fall short of what is required to assess planned development
- surface water depth information should not be used for planning purposes

To find out about other factors that might affect the flood risk of this location, you should also check:

- reservoir flood risk
- groundwater flood risk you could use the <u>British Geological Survey</u> groundwater flooding data, groundwater: current status and flood risk and the guide on <u>mining and groundwater constraints for development</u> further information may be available from the lead local flood authority (LLFA)
- your local planning authority's SFRA, which includes future flood risk

Your Lead Local Flood Authority is Warrington.

For information about sewer flooding, contact the relevant water company for the area.

# About the models used

Model name: Cinnamon Brow FAS 2017

Scenario(s): Defended fluvial, no defences exist fluvial

Date: 1 July 2017

These models contain the most relevant data for your area of interest.

# Terminology used

# Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occurring in any one year, is described as 1% AEP.

# Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

# Flood map for planning (rivers and the sea)

Your selected location is in flood zone 1.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

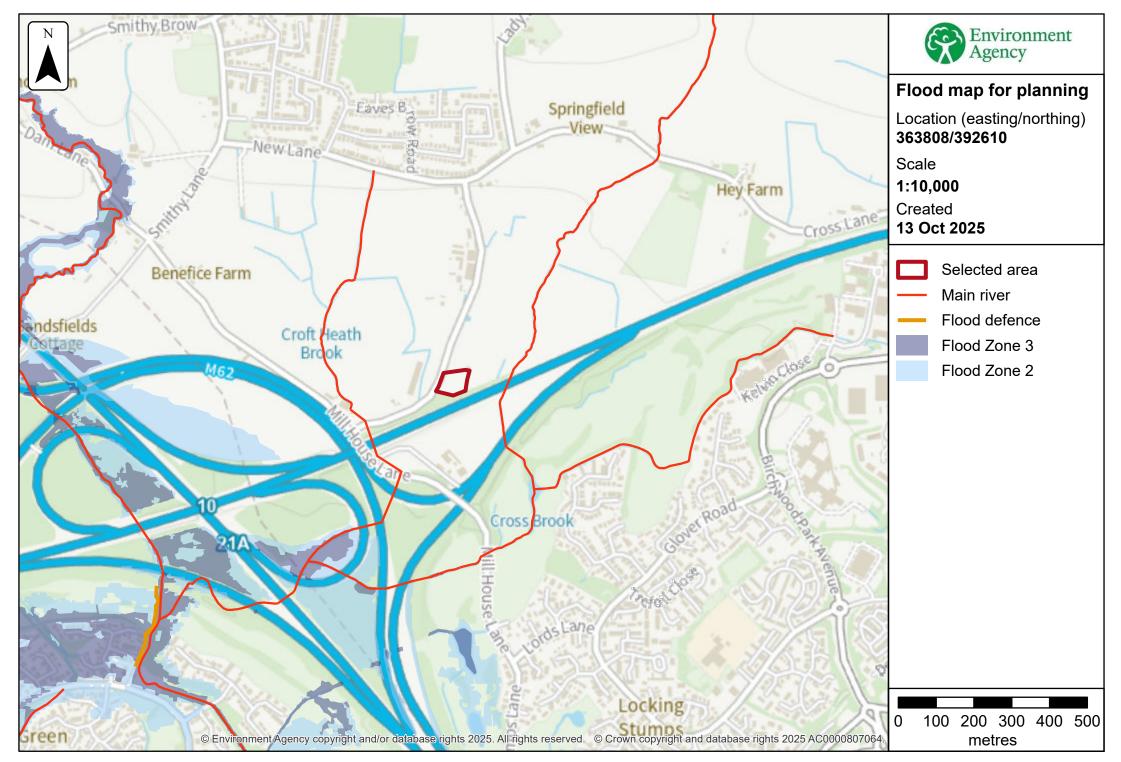
- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- · do not take into account potential impacts of climate change



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# Flood defences and attributes

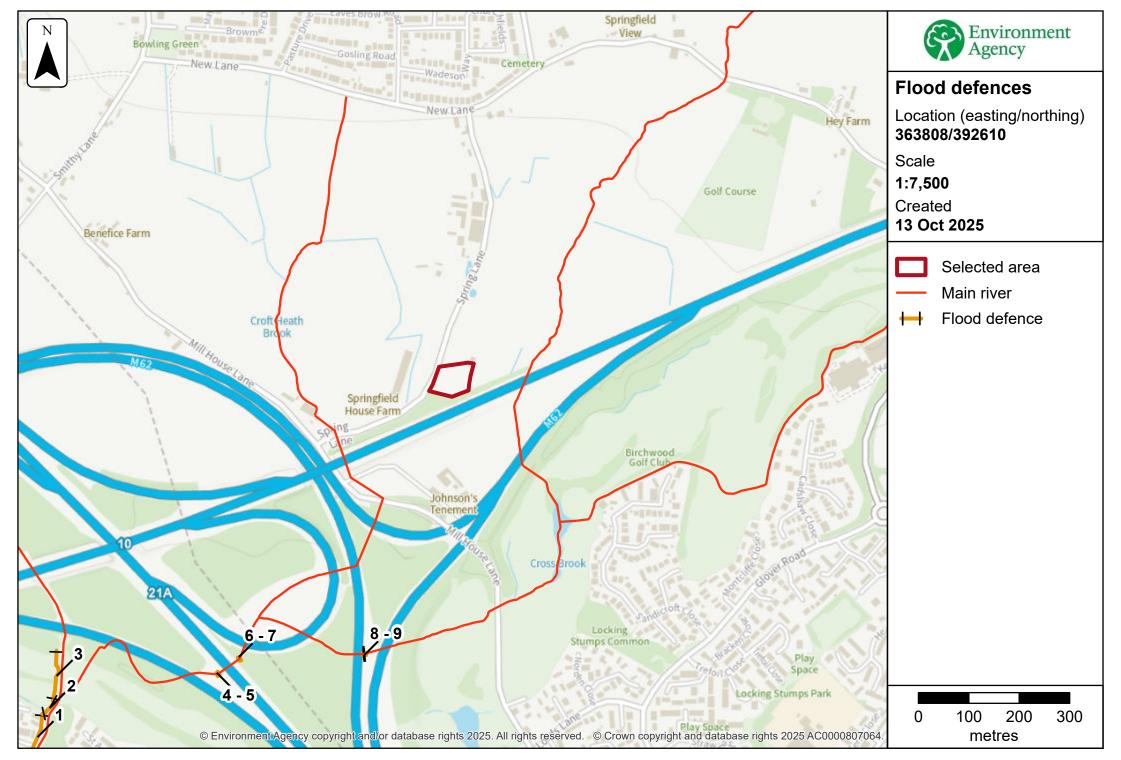
The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is In mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

#### Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk



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# Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	459399	Wall	100	Good	13.02	13.02	
2	459438	Wall	100	Good	13.07	13.07	
3	162266	Embankment	50	Very good	13.07	13.07	
4	158117	Wall			14.14	14.15	
5	158931	Wall			14.13	14.16	
6	158118	Wall			14.26	14.27	
7	158932	Wall			14.27	14.24	
8	62506	Wall			13.66	13.70	
9	120281	Wall			13.66	13.95	

Any blank cells show where a particular value has not been recorded for an asset.

### Modelled data

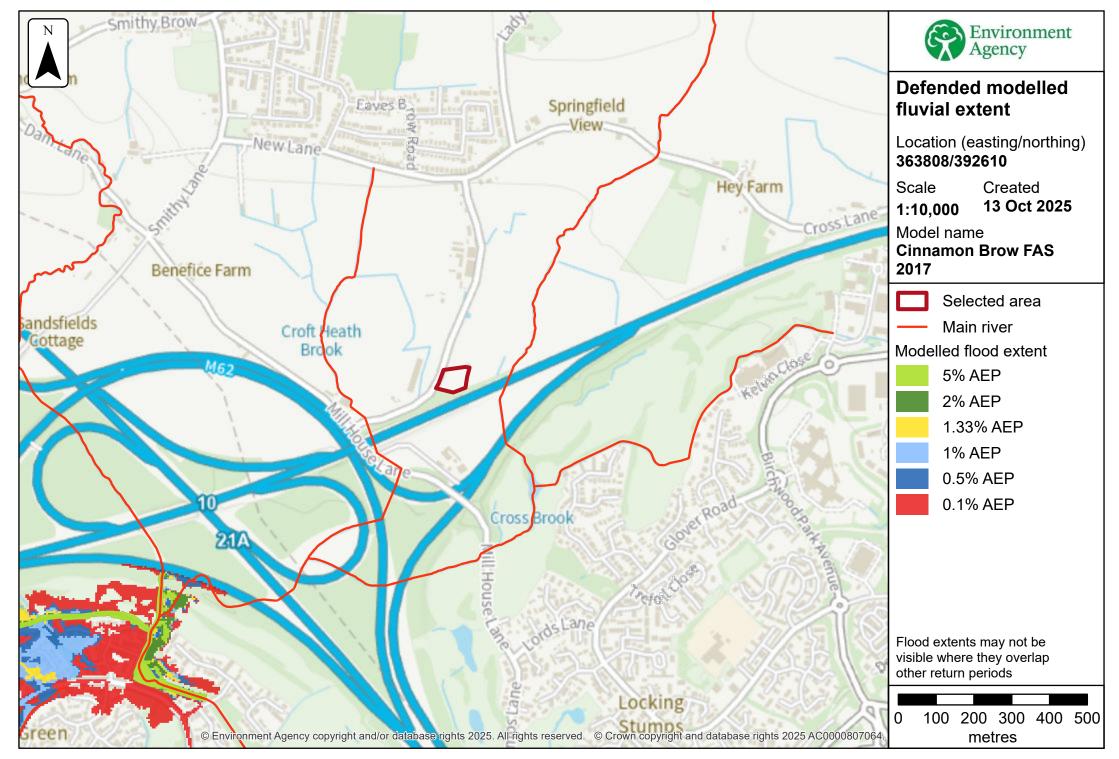
This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- modelled node point map(s) showing the points used to get the data to model the scenarios and table(s) providing details of the flood risk for different return periods
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

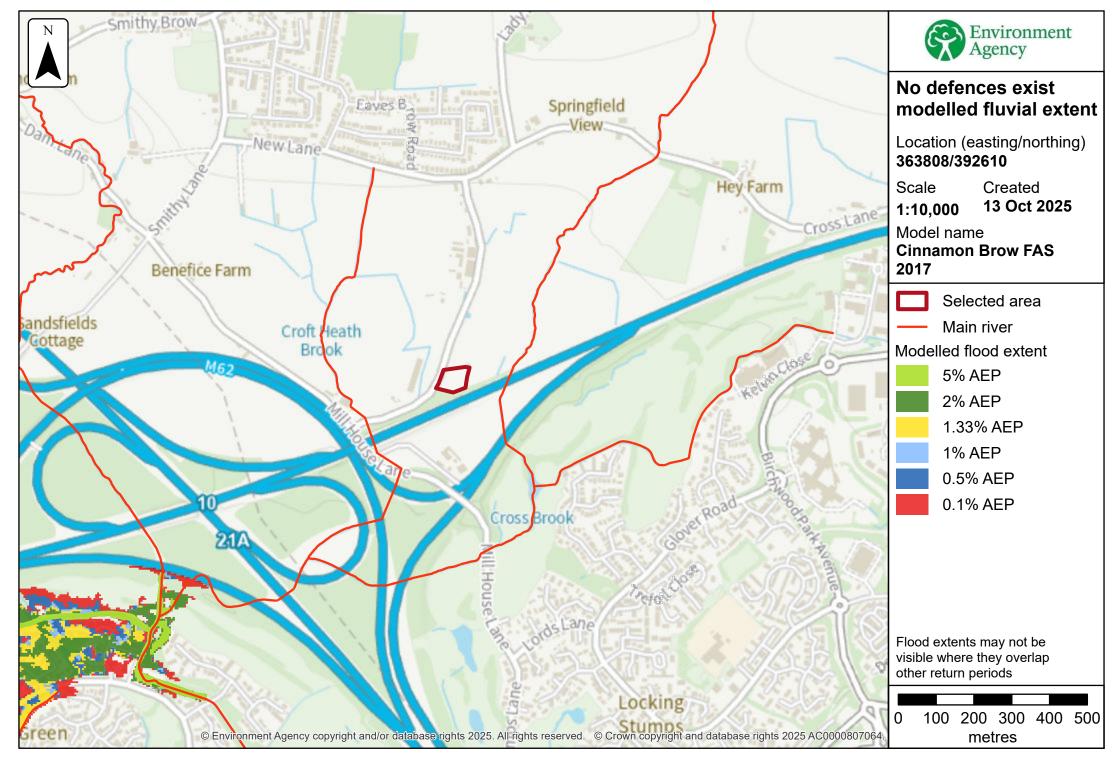
### **Modelled scenarios**

The following scenarios are included:

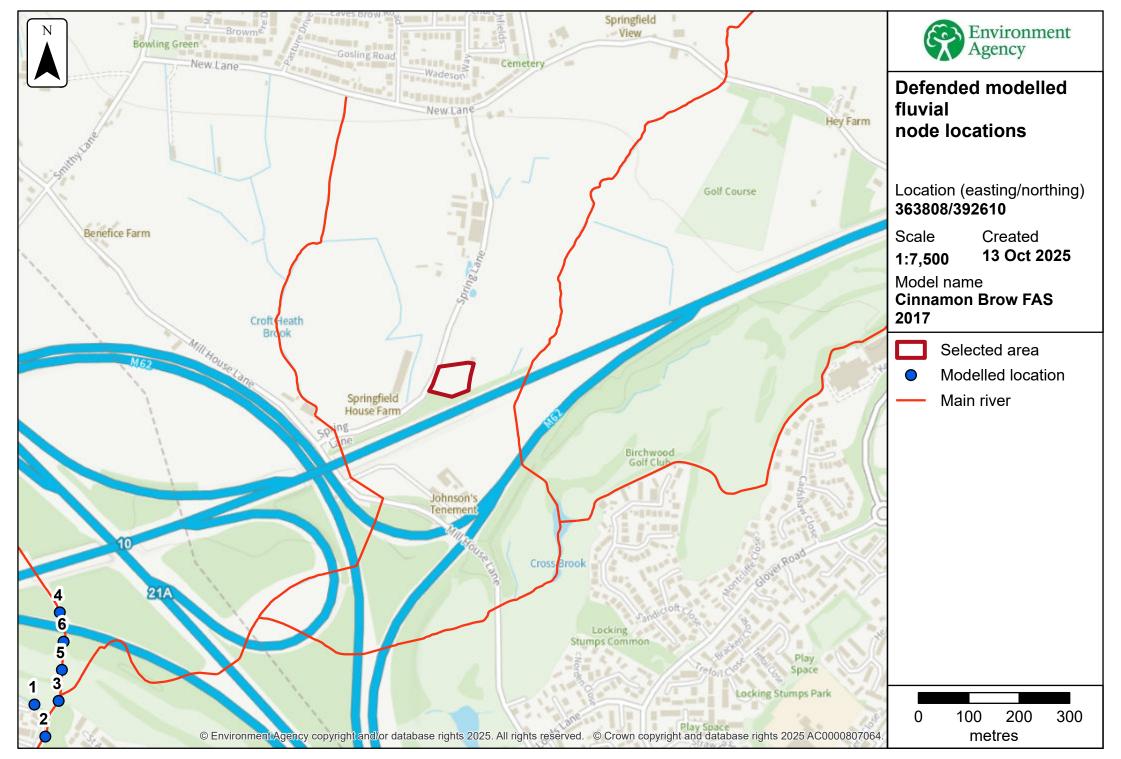
- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- No defences exist modelled fluvial: risk of flooding from rivers where there are no flood defences



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# Modelled node locations data

## **Defended**

Label	Modelled location ID	Easting	Northing	20% AEP	10% AEP	5% AEP	4% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level	Level	Level	Level
1	919381	362978	391965	10.78	11.13	11.47	11.57	11.72	11.88	11.95	12.04	12.24
2	919370	363000	391902	12.07	12.21	12.35	12.38	12.56	12.66	12.71	12.82	13.06
3	919333	363026	391972	12.14	12.28	12.41	12.45	12.61	12.68	12.73	12.83	13.07
4	919371	363028	392148	12.38	12.58	12.77	12.82	13.02	13.12	13.20	13.37	13.89
5	919393	363032	392034	12.17	12.31	12.44	12.47	12.64	12.72	12.77	12.88	13.11
6	919348	363036	392090	12.26	12.41	12.54	12.58	12.74	12.83	12.89	13.02	13.33

Data in this table comes from the Cinnamon Brow FAS 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.

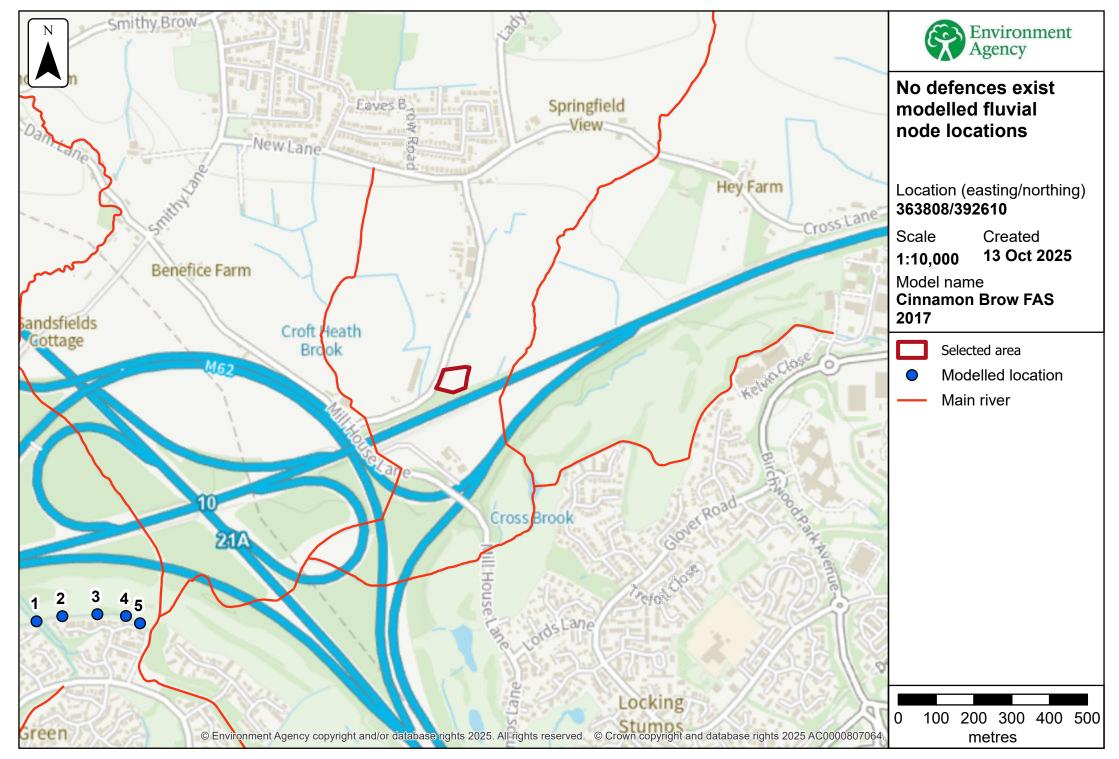
## **Defended**

Label	Modelled location ID	Easting	Northing	20% AEP	10% AEP	5% AEP	4% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
1	919381	362978	391965	0.22	0.22	0.22	0.22	0.24	0.35	0.36	0.34	0.24
2	919370	363000	391902	4.31	5.13	5.99	6.19	7.14	7.19	7.19	7.17	7.49
3	919333	363026	391972	4.13	4.96	5.84	6.09	7.22	7.96	8.54	10.15	14.92
4	919371	363028	392148	2.54	3.05	3.59	3.77	4.46	4.90	5.26	6.31	10.02
5	919393	363032	392034	2.54	3.05	3.59	3.72	4.15	4.24	4.46	4.67	7.81
6	919348	363036	392090	2.54	3.05	3.60	3.77	4.45	4.90	5.26	6.25	10.02

Data in this table comes from the Cinnamon Brow FAS 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.



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# Modelled node locations data

## No defences exist

Label	Modelled location ID	Easting	Northing	20% AEP	20% AEP
	location ib			Level	Flow
1	919368	362704	391970	10.79	0.22
2	919364	362773	391984	10.79	0.21
3	919350	362865	391989	10.79	0.20
4	919328	362941	391985	10.78	0.20
5	919381	362978	391965	10.78	0.22

Data in this table comes from the Cinnamon Brow FAS 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.

# Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

Your Lead Local Flood Authority is Warrington.

### About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

# Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

Find out more about flood risk activity permits

# Help and advice

Contact the Greater Manchester Merseyside and Cheshire Environment Agency team at <a href="mailto:inforequests.gmmc@environment-agency.gov.uk">inforequests.gmmc@environment-agency.gov.uk</a> for:

- more information about getting a product 5, 6, 7 or 8
- general help and advice about the site you're requesting data for