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Flood risk, water and environment

Flood Risk Site Screening (FRSS)
7038_WA5_Penketh_12
Site Address: Farnworth Road

Penketh
Warrington
WA5 2SD

**UK Experts in Flood Modelling, Flood Risk Assessments,
and Surface Water Drainage Strategies**

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Summary

Site Address: Farnworth Road, Penketh, Warrington, WA5 2SD

Prepared For: Nick Kalampokas

Prepared On: 10 January 2025

Purpose: The Flood Risk Site Screening report informs you about risk to your site from fluvial, pluvial, tidal and historic sources as well as from nationally modelled data sources provided by Fathom including present day and future climate data. This report also provides critical local policy information related to drainage and flood risk issues. Unless indicated, the FloodMetric report is unlikely to be suitable for submission to a Local Planning Authority. To the best of our knowledge the data is current and appropriate at the time of reporting.

Status

Canal Policy	Red	Amber	Green
Climate Change Policy	Red	Amber	Green
Groundwater Policy	Red	Amber	Green
Regulatory Policy	Red	Amber	Green
Rivers And Sea Policy	Red	Amber	Green
Surface Water Policy	Red	Amber	Green
Historical Policy	Red	Amber	Green
Overall	Red	Amber	Green

About the site



Fig 1: Site Plan

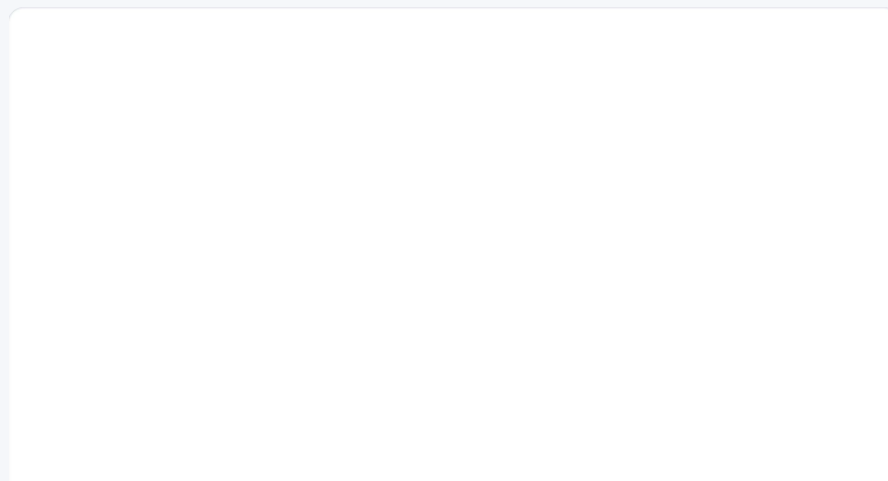
The site development is not described in our records.

Responsible authorities

The site falls under the jurisdiction of a number of authorities that can be contacted for specific purposes.

- For flood issues the Lead Local Flood Authority is [Warrington Borough Council](#)
- For development planning the Local Planning Authority is also [Warrington Borough Council](#)
- For water supply the area Water Company is [United Utilities](#)
- For sewers and drainage the Water Company is [United Utilities](#)
- For flood models and details of flood defences the site is in the Greater Manchester Merseyside and Cheshire Environment Agency area

Flood risk from rivers or the sea



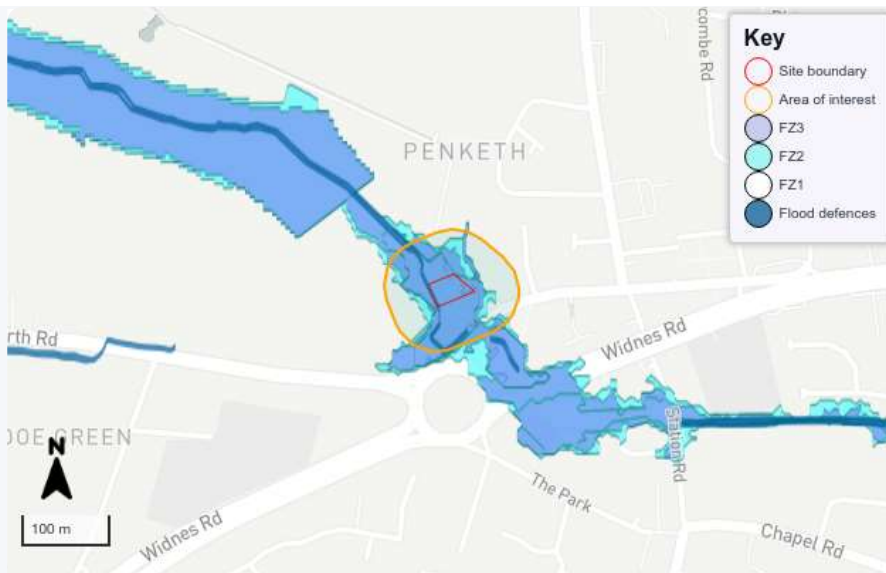


Fig 2: Flood Zones

An initial search suggests the site is within Fluvial / Tidal Models Flood Zone 3 (100%) as defined by the EA Flood Map for Planning and Strategic Flood Risk Assessment of the Local Planning Authority.

Risk of surface water flooding

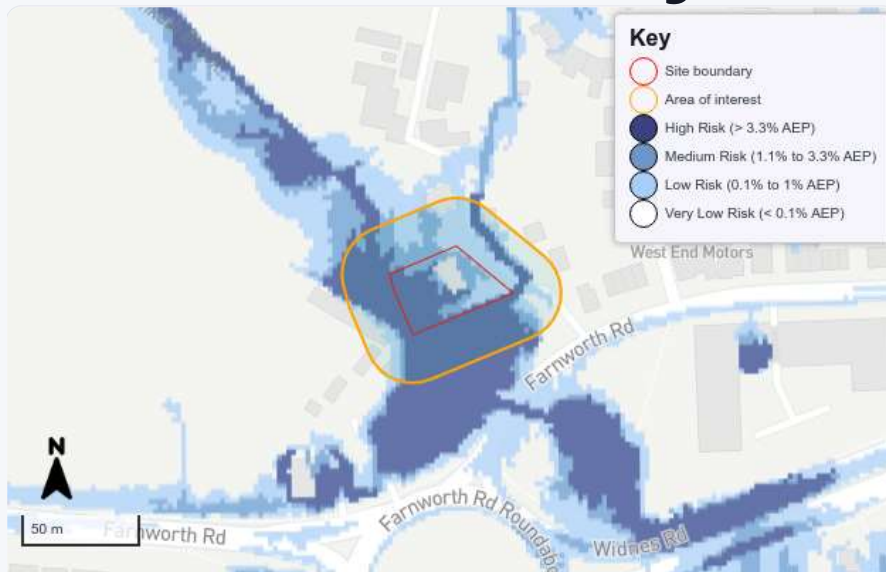
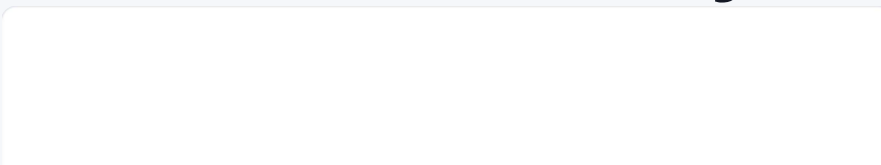


Fig 3: Surface Water Flood Risk

Examination of the EA's Flood Risk from Surface Water mapping for High Risk, Medium Risk, and Low Risk AEP flood events shows the site and its immediate vicinity is at risk of flooding in 'High' surface water flood events.

Pluvial flooding can occur during prolonged or intense storm events when the infiltration potential of soils, or the capacity of drainage infrastructure is overwhelmed leading to the accumulation of surface water and the generation of overland flow routes.

Historical and recorded flooding



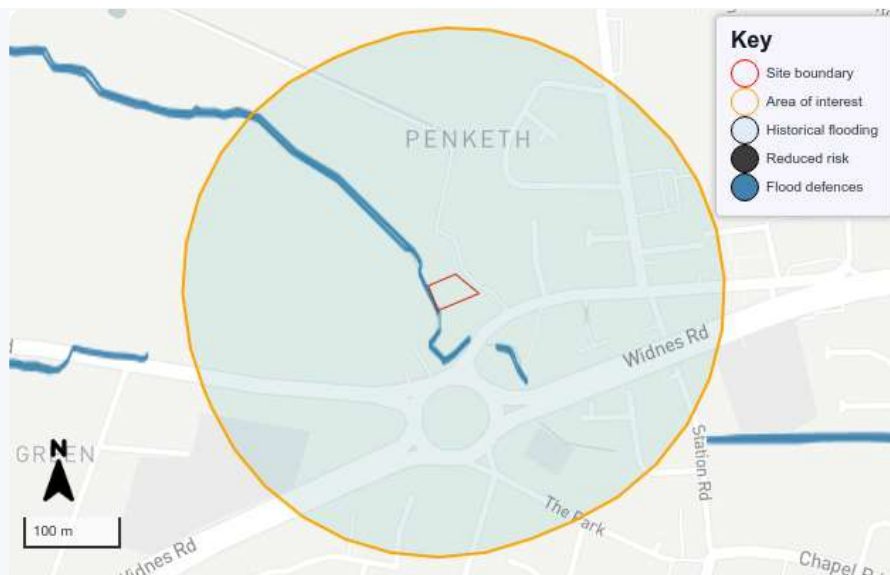


Fig 4: Historical Flooding

Our review of Recorded and Historical Flood Outlines within 250 metres of the site shows that the site is outside of past historical flood events.

Records of past flooding, mostly since 1946, are published in the Historic Flood Map.

There is no record of historical tidal or sea flooding within 250 metres of the site.

There is no record of historical flooding within 250 metres of the site specifically linked to groundwater.

It is also possible for a property to have been affected in the past by heavy or prolonged rain or groundwater. Local Authorities often publish mapping of historical surface water flood incident records. Reviewing these records is out-of-scope for this statement. These would be reviewed in a more detailed report such as a Flood Risk Assessment.

Flood defences

The site is not in an area designated as benefiting from a 'Reduction in Risk of Flooding from Rivers and Sea due to Defences'.

Climate Change

The site is in the Lower Mersey management catchment. It is in Flood Zone 3 (high risk of flooding) leading to a peak river flow allowance category of higher central, central, or development not permitted depending on the site vulnerability and whether it is FZ3a or FZ3b.

Fathom climate change analysis indicates the following. The site is at risk of being affected by the 1 in 100 year pluvial flood event by 2070 at a level of between 0.0 and 0.74 metres above ground level. The site is unlikely to be affected by fluvial flooding by 2070.

Present day

AEP	UK Fluvial Defended 2020	Global Fluvial Undefended 2020	UK Pluvial Defended 2020	UK Coastal Defended 2020	Global Coastal Undefended 2020
1 in 20 (5%)	0m	0m	0m	0m	0m
1 in 100 (1%)	0m	0m	0.69m	0m	0m
1 in 200 (0.5%)	0m	0m	0.76m	0m	0m
1 in 1000 (0.1%)	0m	0m	0.29-0.87m	0m	0m

Near future. 2070 RCP 8.5 climate change scenario (equivalent to NPPF Central Allowance for all vulnerability except essential infrastructure)

AEP	UK Fluvial Defended 2070	UK Pluvial Defended 2070	UK Coastal Defended 2070
1 in 20 (5%)	0m	0m	
1 in 100 (1%)	0m	0.74m	
1 in 200 (0.5%)	0m	0.21-0.8m	0m
1 in 1000 (0.1%)	0m	0.32-0.91m	0m

Critical Drainage Areas

Local policy documentation identifies the site as being in a Critical Drainage Area. This does not mean that the site is at risk of flooding, more that it could affect flooding elsewhere. There could be development restrictions from the LLFA to help prevent overloading the sewer system and causing flooding elsewhere.

Critical Drainage Areas are places where drainage could cause flooding problems elsewhere. They are discrete geographic areas (usually a hydrological catchment) where multiple and interlinked sources of flood risk (surface water, groundwater, sewer, main river and/or tidal) cause flooding in one or more Local Flood Risk Zones (sometimes called surface water flood risk hotspots) during severe weather thereby affecting people, property, or local infrastructure. Land which has been identified by the Environment Agency as having critical drainage areas have a separate, yet similar, function and are referred to as Areas with Critical Drainage Problems (ACDPs).

Reservoir failure

Large waterbodies or reservoirs that have walls built above the surrounding ground level pose a risk of flooding. Walls could fail due to old age, accident, or because excess flood water has been added to the reservoir. Although a breach is unlikely the consequences would be significant, leading to rapid inundation of the downstream floodplain.

Flood warning services

The site is not in an area where the EA provide specific flood alerts and warnings. The occupant of the dwelling should monitor Met Office Weather Warnings to be prepared for extreme weather events

To sign up for the EA flood warning service visit <https://www.fws.environment-agency.gov.uk/app/olr/home> or call Call Floodline for advice 24x7: Telephone: 0345 988 1188, Textphone: 0345 602 6340

Applicable policies

Policy ENV2: Flood Risk and Water Management, Policy ENV2, Warrington Local Plan, p.152-153, Warrington Borough Council (2023)

“ General Principles 1. Development should be focused towards areas at the lowest risk of flooding from all - sources. 2. Sustainable water management measures must be integrated into developments to reduce flood risk across the Borough and to avoid adverse impacts on water quality and - quantity. 3. New development should not result in increased flood risk from any source, or cause other drainage problems, either on the development site or elsewhere. 4. No development should take place within 8m of the top of the bank of a watercourse either culverted or open, or within 8 metres of a raised flood defence, such as a flood wall or a flood embankment, unless this approach is supported by the Environment Agency and

Warrington Borough Council as the Lead Local Flood Authority. Development proposals 5. The Council will only support development proposals where the risk of flooding has been fully assessed, understood and justified, with the implementation of appropriate mitigation measures where necessary. 6. A site specific Flood Risk Assessment is required for:

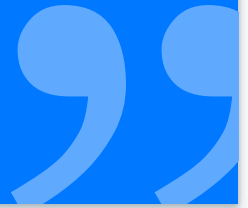
- a. development proposals of 1 hectare or greater in Flood Zone 1;
- b. any development proposals within Flood Zone 1, which has critical drainage problems (as notified to the Local Planning Authority by the Environment Agency);
- c. all proposals for new development (including minor development and change of use) in Flood Zones 2 and 3; and
- d. development proposals or a change of use to a more vulnerable class that might be susceptible to other sources of flooding.
- The Flood Risk Assessment should also address, if required, the Sequential and Exceptions tests as set out in National Planning Policy, and should take into account all sources of flooding identified in the Warrington Strategic Flood Risk Assessment (SFRA).
- The Council will require development proposals to:
 - a. provide safe and clear access and egress routes in the event of a flood;
 - b. manage surface water runoff to ensure that flood risk is not increased;
 - c. use Sustainable Drainage Systems that reflect the principles set out in the adopted Warrington Sustainable Drainage Systems (SuDS) Design and Technical Guidance, unless it can be demonstrated that such techniques are impractical or would present an unacceptable pollution risk;
 - d. provide compensatory storage where development is proposed in undefended areas of the floodplain;
 - e. ensure that the layout and design of a site is considered to provide the opportunity to provide flood resilience measures and reduce flood risk within the development;
 - f. apply a sequential approach at a site level to minimise risk by directing the most vulnerable development to areas of lowest risk;
 - g. avoid the use of culverting and building over watercourses and where practical to re-open existing culverts;
 - h. ensure that appropriate mitigation is included within the design of the development to make it safe for the future users of the site without adversely affecting others;

- i. ensure that developers have considered the impacts of climate change to ensure that the future users of the development are not put at additional danger of flooding, which may be exacerbated by climate change over the lifetime of the development. Climate Change allowances should be in accordance with the latest Government guidance;
- j. Consider the connectivity and condition of watercourses within the development and make improvements where required;
- k. Make an assessment of downstream watercourse to ensure their suitability and effectiveness; and
- l. have regard to the Sankey Catchment Action Plan when assessing flood risk and any appropriate mitigation measures.
- In addition, in areas identified by the Council as being at intermediate and high risk of surface water flooding, development proposals that are greater than 0.5 hectares should be supported by a Flood Risk Assessment which considers information in Warrington's Strategic Flood Risk Assessment and Preliminary Flood Risk Assessment to demonstrate that the development:
 - a. is not at risk from existing drainage systems or overland flows;
 - b. will make a positive contribution to managing or mitigating flood risk; and
 - c. will not adversely affect existing flooding conditions.
- The Council will expect surface water to be discharged in the following order of priority:
 - a. An adequate soakaway or some other form of infiltration system.
 - b. An attenuated discharge to surface water body.
 - c. An attenuated discharge to public surface water sewer, highway drain or another drainage system.
 - d. An attenuated discharge to public combined sewer.
- Applicants wishing to discharge to public sewer will need to submit clear evidence demonstrating why alternative options are not available. The expectation will be for only foul flows to communicate with the public sewer.
- Applicants will be expected to conform to the following discharge requirements unless site-specific policies indicate otherwise:

- a. On greenfield sites, applicants will be expected to demonstrate that the current natural discharge solution from a site is at least mimicked.
- b. On previously developed land, applicants will also be expected to follow the surface water hierarchy.
- c. Thereafter, any proposal based on a proposed reduction in surface water discharge from a previously developed site should target a reduction to greenfield run-off rate. A reduction of at least 30% will be sought on previously developed land, rising to a minimum of at least 50% in Critical Drainage Areas (as defined in Warrington's Strategic Flood Risk Assessment) or in areas susceptible to intermediate or high risk surface water flooding. In demonstrating a reduction, applicants should include clear evidence of existing positive operational connections from the site with associated calculations on rates of discharge.
- Development proposals will be expected to incorporate sustainable drainage systems in accordance with the requirements of national planning policy. The preference will be for new development to incorporate infiltration based systems and thereafter surface level sustainable drainage systems with multi-functional benefits as opposed to underground tanked storage systems for the management of surface water. Applicants will need to submit clear evidence where surface level sustainable drainage features are not proposed.
- Any development proposal which is part of a wider development / allocation should demonstrate how the site delivers foul and surface water drainage as part of a wider strategy having regard to interconnecting phases of development. It will be necessary to ensure the drainage proposals are part of a wider, holistic strategy which coordinates the approach to drainage between phases, between developers, and over a number of years of construction. Applicants will be expected to include details of how the approach to foul and surface water drainage on a phase of development has regard to interconnecting phases within a larger site. Infrastructure should be sized to accommodate flows from interconnecting phases and drainage strategies should ensure a proliferation of pumping stations is avoided on a phased development. This will ensure a comprehensive approach to drainage and that any early phases of development provide the drainage infrastructure to meet the needs of any later interconnecting phases of development. In delivering drainage as part of a wider strategy, applicants will also be expected to ensure

unfettered rights of discharge between the various parcels of development within a wider development to prevent the formation of 'ransom situations' between separate phases of development.

- Approved development proposals will be expected to be supplemented by appropriate maintenance and management regimes for surface water drainage schemes.
- Applicants will need to consider and maximise the contribution landscaping proposals can make to reducing surface water discharge. This should include hard and soft landscaping such as permeable surfaces to reduce the volume and rate of surface water discharge.



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