



Caerphilly County Borough
2nd Replacement Local Development Plan 2020-2035

EB40: SFCA Stage 2 Assessment

October 2026

Caerphilly County Borough Council Strategic Flood Consequence Assessment (Stage 1 and Stage 2)

Final Report

October 2026

Revision History

Revision Ref / Date	Prepared By	Amendments
S3-P01/ March 2022	JBA	First Issue – Draft Report
S3-P02/ April 2022	JBA	Second Issue – Draft Report
S3-P03/ May 2022	JBA	Draft for consultation with NRW and WG
S3-P04/ Aug 2022	JBA	Final Draft submitted to WG
A1-C01/ Nov 2022	JBA	Final report for publication
A1-C02/ Oct 2026	CCBC	Updated for public consultation to reflect changes in legislation and policy

Purpose

The original Stage 1 Strategic Flood Consequences Assessment (SFCA) was developed by JBA as a combined report for a group of ten Local Planning Authorities (LPAs) in South East Wales including Caerphilly County Borough Council. Due to the length of time between the original development of the SFCA and the public consultation of the Local Development Plan (LDP) there have been several changes to national, regional and local policy, including the publication of the update Technical Advice Note 15 (TAN15) on Development, Flooding and Coastal Erosion in March 2025, updated climate change allowances and guidance in relation to Flood Consequences Assessments (FCAs) in March 2026 and updated Statutory Guidance for Sustainable Drainage Systems (SuDS) in March 2026. Whilst much of the original Stage 1 SFCA remains valid, this update provides additional information relating to the changes in policy and guidance and includes individual candidate site assessments.

Executive Summary

This Strategic Flood Consequence Assessment (SFCA) supports the preparation of the emerging Local Development Plan (LDP) for Caerphilly County Borough. It provides an evidence base for plan-making and development management in accordance with TAN15 (2025).

Key Findings

- The principal river flood risk constraints within the County Borough are associated with the River Rhymney, River Sirhowy, River Ebbw and their tributaries.
- Surface water flooding is the most widespread source of flood risk and represents a significant consideration for future development.
- Three Critical Drainage Areas (CDAs) have been identified where drainage capacity and surface water flood risk require particular attention.
- Flood risk is concentrated within valley floor settlements where development, infrastructure and floodplains coincide.
- Many areas remain suitable for development, subject to compliance with TAN15 and, where required, site-specific Flood Consequence Assessments (FCAs).

Implications for the LDP

The assessment confirms that flood risk is a key consideration in site selection and development planning. Consistent with TAN15, development should be directed towards areas of lower flood risk wherever possible. Where development is proposed within areas affected by flooding, FCAs will be required to demonstrate that flood consequences can be managed appropriately and will not increase risk elsewhere.

Candidate site assessments have identified a number of candidate sites that require further flood risk assessment as part of the planning process. This does not necessarily preclude development but highlights the need for additional evidence and appropriate mitigation.

Climate Change and Resilience

Future climate change is expected to increase flood risk from rivers and surface water. The assessment applies current Welsh Government climate change allowances and supports a precautionary approach to site allocation and development design.

New development must:

- Incorporate sustainable drainage systems (SuDS), which should be developed in consultation with the SuDS Approving Body (SAB) and in parallel to planning applications.
- Avoid increasing flood risk elsewhere.
- Remain safe and operational during flood events.
- Include appropriate flood resilience and resistance measures where required.

Recommendations

1. Use the SFCA to inform site allocations and planning decisions.
2. Direct development to areas of lowest flood risk where possible.
3. Require FCAs for sites affected by flood risk in accordance with TAN15.
4. Ensure SuDS and climate change allowances are incorporated into development proposals.
5. Promote flood-resilient design and opportunities for natural flood management.

Conclusion

The assessment concludes that flood risk can be appropriately managed across much of Caerphilly County Borough through the application of TAN15, informed site selection, and the implementation of proportionate mitigation and resilience measures. The SFCA provides a robust evidence base to support the emerging LDP and future development decisions.

Table of Contents

1. Introduction	9
1.1. Project Overview.....	9
1.2. Stages of Strategic Flood Consequences Assessments (SFCAs).....	10
1.3. SFCA Objectives.....	11
1.4. Structure of the SFCA.....	13
2. Study Area	14
2.1. Geographic Extent.....	14
2.2. Topography.....	14
2.3. Geology and Hydrogeology	14
2.4. Watercourses and Catchments.....	15
3. Policy and Strategy.....	17
3.1.1. Flood and Water Management Act	18
3.1.2. Schedule 3 to the FWMA (Sustainable Drainage Systems, SuDS)	20
3.1.3. Technical Advice Note 15 (TAN15): Development, flooding and coastal erosion.....	23
3.2. Regional Policy.....	35
3.2.1. The third State of Natural Resources Report (SoNaRR2025)	35
3.2.2. NRW Flood Risk Management Plan, South-East Wales Place.....	35
3.2.3. River Basin Management Plans	36
3.3. Local Policy	36
3.3.1. Local Flood Risk Management Strategy (LFRMS)	36
3.3.2. Caerphilly Land Drainage Byelaws.....	40
4. Flood Risk Review	41
4.1. Flooding History.....	41
4.2. Fluvial Flood Risk (flooding from rivers).....	41
4.3. Surface Water and Small Watercourses	44
4.4. Groundwater.....	45
4.5. Sewers.....	46
4.6. Flooding from Artificial Sources	47
4.7. Impact of Climate Change	48
4.8. Roles and Responsibilities for Managing Flood Risk.....	51
4.9. Pipeline of FCERM Projects	52
5. Candidate Site Assessments	53
6. Development Management Guidance.....	54

6.1.	Introduction	54
6.2.	Flood Map Challenge.....	54
6.3.	Use of Defended Zones and Flood Defences.....	55
6.4.	Redevelopment, Change of Use and Conversions.....	56
6.5.	Surface Water and Small Watercourses	57
6.6.	Requirements for a Flood Consequences Assessment (FCA).....	58
6.7.	Resilient Design.....	60
7.	Working with Natural Processes and Natural Flood Management.....	63
7.1.	Introduction	63
7.2.	Demand for NFM	63
7.3.	Catchment zones informing NFM interventions	64
7.4.	Woodland Planting – Catchment Woodland	65
7.6.	Woodland Planting – Floodplain Woodland	66
7.7.	Woodland Planting – Riparian Woodland	68
7.8.	Bog Restoration	69
7.9.	Surface Roughness	70
7.10.	Agricultural Management	72
8.	Conclusions and Recommendations	74
8.1.	Conclusions	74
8.2.	Recommendations.....	75
8.3.	Overall Conclusion.....	76
	Appendix A: Flood Map for Planning Main Rivers	77
	Appendix B: Flood Map for Planning Surface Water and Small Watercourses	78
	Appendix C: Groundwater	79
	Appendix D: Artificial Sources	80
	Appendix E: Candidate Site Assessments	81

Abbreviations	Definition
AEP	Annual Exceedance Probability - the chance of an event with a particular magnitude occurring in each and every year
AOD	Above Ordnance Datum
AONB	Area of Natural Beauty
CDA	Critical Drainage Area
CFMP	Catchment Flood Management Plan
CIL	Community Infrastructure Levy
CIRIA	Construction Industry Research and Information Association
DCWW	Dŵr Cymru Welsh Water
FAA	Flood Alert Area
FCA	Flood Consequence Assessment
FCERM	Flood and Coastal Erosion Risk Management
FMfP	Flood Map for Planning
FRAW	Flood Risk Assessment Wales
FSA	Flood Storage Area
FWMA	Flood and Water Management Act
FWA	Flood Warning Area
FWS	Flood Warning Service
GI	Green Infrastructure
JBA	Jeremy Benn Associates
LFRMS	Local Flood Risk Management Strategy
LLFA	Lead Local Flood Authority - Local Authority responsible for taking the lead on local flood risk management
LPA	Local Planning Authority
Main River	A watercourse shown as such on the Main River Map, and for which NRW has responsibilities and powers
NFF	National Flood Forum
NFM	Natural Flood Management
NRD	National Receptor Database
NRIM	National Reservoir Inundation Mapping
NVZ	Nitrate Vulnerable Zones
Ordinary Watercourse	All watercourses that are not designated Main River. Local Authorities have similar permissive powers as Natural Resources Wales in relation to flood defence work. However, the riparian owner has the responsibility of maintenance.
PPW	Planning Policy Wales
RBMP	River Basin Management Plan
SAB	SuDS Approval Body
SFCA	Strategic Flood Consequence Assessment

Abbreviations	Definition
SuDS	Sustainable Drainage Systems
TAN15	Technical Advisory Note 15 - Guidance for local planning authorities to reduce flood risk and develop away from high risk areas.
WINS	Welsh Information for Nature-based Solutions
WFD	Water Framework Directive
WWNP	Working With Natural Processes

1. Introduction

1.1. Project Overview

- 1.1.1. The original Stage 1 Strategic Flood Consequences Assessment (SFCA) prepared by JBA in 2022 was commissioned on behalf of a group of 10 Local Planning Authorities (LPAs) in South-East Wales, including Caerphilly.
- 1.1.2. This updated SFCA focusses only on the Caerphilly County Borough Council geographic area.
- 1.1.3. This SFCA provides a robust evidence-base to inform the Council's Local Development Plan (LDP) and informed the development of LDP policies and land allocation decisions. The SFCA has been carried out in accordance with the Welsh Government's development planning guidance, Planning Policy Wales (PPW), Technical Advice Note 15: Development, flooding and coastal erosion (TAN-15), associated Welsh Government Ministerial Direction and Welsh Government Flood Consequences Assessment (FCA) Climate Change allowances.
- 1.1.4. This document has been developed due to the changes in national, regional and local policy and guidance since the original development of the Stage 1 SFCA by JBA in 2022.

1.2. Stages of Strategic Flood Consequences Assessments (SFCAs)

- 1.2.1. To provide a robust assessment of the potential flood risk, SFCAs should involve the collection, analysis and presentation of all the available information from all sources of flood risk in the study area.
- 1.2.2. Typically, SFCAs are completed in three stages, with an increasing level of detail required in the analysis at each stage. The three stages of SFCAs are summarised below:

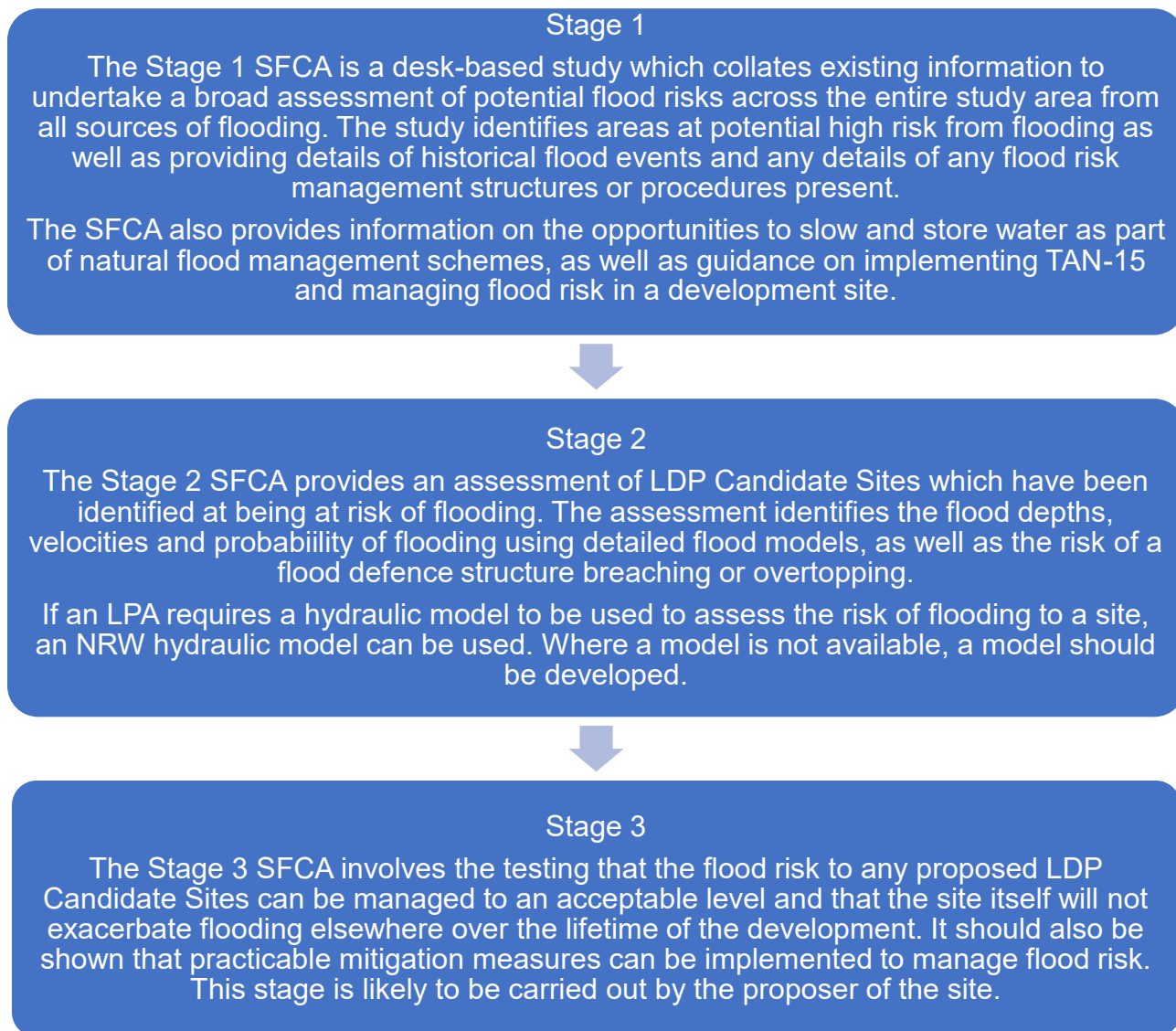


Figure 1-1 Outline of the SFCa process

1.3. SFCA Objectives

1.3.1. This report fulfils the aims and objectives of the Stage 1 and Stage 2 SFCA:

- 1.3.1.1. To inform development regarding the management of flood risk within the Local Development Plan.
- 1.3.1.2. To understand flood risk from all sources and to investigate and identify the extent and severity of flood risk throughout the Stage 1 study area. This assessment will enable the Council to steer development away from those areas where flood risk is considered greatest, ensuring that areas allocated for development can be developed in a safe, cost effective and sustainable manner.
- 1.3.1.3. To evaluate and consider flood risk from fluvial, tidal and surface water sources, using Natural Resources Wales' most recently published Flood Map for Planning (FMfP). Other sources of flooding including groundwater and artificial sources such as reservoirs and sewers are also considered.
- 1.3.1.4. To enable the Council to meet our obligations under PPW and Technical Advice Note 15: Development, flooding and coastal erosion (TAN15).
- 1.3.1.5. To supplement current policy guidelines and to provide a straightforward risk-based approach to development management in the area. This is aimed at Councillors, Local Planning Authority officers, the public and developers.
- 1.3.1.6. To provide a reference document to which all parties involved in development planning and flood risk can reliably turn to for initial advice and guidance.
- 1.3.1.7. To develop a report that forms the basis of an informed development management process that also provides guidance on the potential risk of flooding associated with future planning applications and the basis for site specific Flood Consequence Assessments (FCAs) where necessary.
- 1.3.1.8. To assist the Council in identifying specific areas where further and more detailed flood risk data and assessment work may be required.
- 1.3.1.9. To provide an update to the Council's previous SFCAs, including the 2022 JBA SFCA, using new and updated flood risk information to summarise flood risks to each Local Authority area to inform the councils individual Local Development Plans.
- 1.3.1.10. To evaluate submitted Candidate Sites identified as being at risk of flooding using a simple traffic light system. Where required, this assessment has been supported by the development of an appropriate level of detail and modelling to

enable an assessment to be made. In other cases, the initial assessment has identified that, whilst acceptable as a candidate site and a suitable location for development, further information in the form of a site specific FCA will be required at planning application stage in order to ensure that the flood risk can be managed appropriately.

- 1.3.2. It is important to highlight that this SFCA is strategic in nature and makes use of the most current available information. This SFCA should be used as a starting point for planners, developers and the public to initially consider development and flood risk and whether more detailed, site specific assessments of flood risk, such as an FCA, are required. It is also worth noting that the presence of flood zones in an area, be it fluvial, tidal or surface water, does not always mean that development simply cannot happen. Although, sites located within areas of lower risk should be considered in preference to areas at higher risk as part of the development planning process and a more detailed assessment of flood risk may be required to ensure that risks can be effectively managed.

1.4. Structure of the SFCA

1.4.1. SFCA Report Structure:

- **Part 1: Introduction**
Provides a background to the study, defines objectives and outlines the approach adopted.
- **Part 2: Study Area**
Includes an overview of the study area, including information on the topography, geological and hydrological characteristics of the area.
- **Part 3: Policy and Strategy**
Includes information on the implications of recent changes to planning and flood risk policies and legislation, as well as documents relevant to the study.
- **Part 4: Flood Risk Review**
Introduces the assessment of flood risk and provides a review of flood risk from all sources in Caerphilly County Borough.
- **Part 5: Stage 2 Candidate Site Assessments**
Summarises the Stage 2 assessments of Candidate sites in relation to flood risk.
- **Part 6: Development Management Guidance**
Provides guidance on the interpretation of TAN15, including additional guidance on development of FCAs for flood risk associated with surface water and small watercourses and guidance on FCAs for single householder applications.
- **Part 7: Working with Natural Processes and Natural Flood Management**
Includes information on areas which could be suitable for implementing natural flood management measures.

2. Study Area

2.1. Geographic Extent

2.1.1. This report covers Caerphilly County Borough Council area.

2.2. Topography

2.2.1. Caerphilly County Borough is characterised by the **Rhymney, Sirhowy and Ebbw** river valleys, which run in a generally north to south direction through the borough.

2.2.2. All general topographic information has been derived from LIDAR (Light Detecting and Ranging) data sourced from NRW.

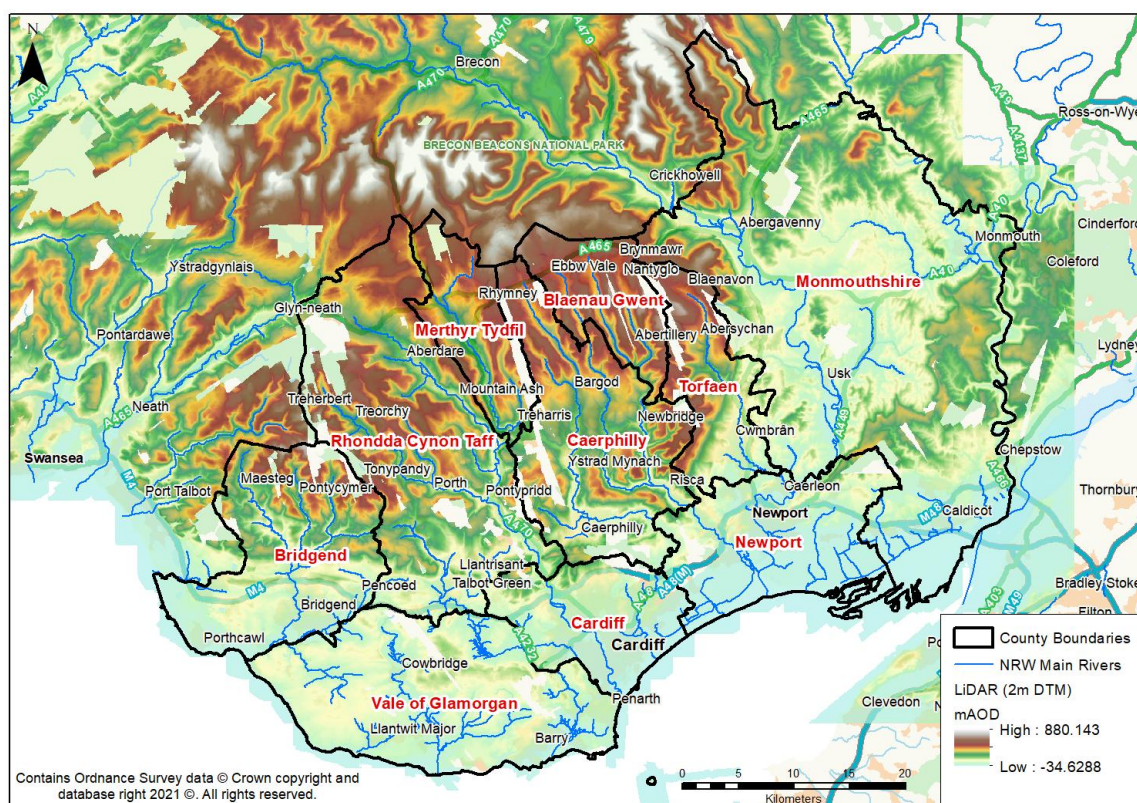


Figure 2-1 Natural Resources Wales 2m DTM LiDAR

2.3. Geology and Hydrogeology

2.3.1. Central and western areas of South East Wales are predominantly dominated by Coal Measure Formations. Mudstone, siltstone and sandstone with some areas of limestone form the dominant geology in the southern and eastern parts of South East Wales.

2.3.2. Mudstone is formed from fine grains of clay and mud and is relatively impermeable. Siltstone is formed from larger particles which are predominantly silt. Sandstone is formed from even larger 'sand sized' particles. In contrast to mudstone and siltstone

rock types, sandstone is usually porous enough to allow percolation and can store large volumes of water. These rocks underlie almost all of the southern and eastern parts of South Wales.

- 2.3.3. The large bands of coal that dominate the rest of South East Wales are formed of plants preserved and fossilised millions of years ago. The porosity of coal varies; however, it is generally considered a relatively porous rock. Due to the intensive coal mining that South Wales experienced since the start of the industrial revolution, large networks of tunnels are present in much of the South East Wales coal field. This alters the hydrogeology and natural flow paths within these catchments, making it challenging to understand flood flows in South East Wales.
- 2.3.4. Superficial deposits across South East Wales are dominated by Alluvium formed of clay, silt and sand along the South East Wales coastline. Small areas of river terrace deposits formed of sand and gravel are found dotted throughout this area.
- 2.3.5. On average, soils in the southern parts of South East Wales tend to be loamy and clayey with poor permeability. Those in the upper areas of the catchment are more freely draining and have a good permeability.
- 2.3.6. Soils are described as 'Very acid loamy upland soils with a wet peaty surface' and 'Freely draining acid loamy soils over rock'. Small areas of slowly permeable soil are also identified.

2.4. Watercourses and Catchments

2.4.1. There are 3 main river valleys in Caerphilly County Borough:

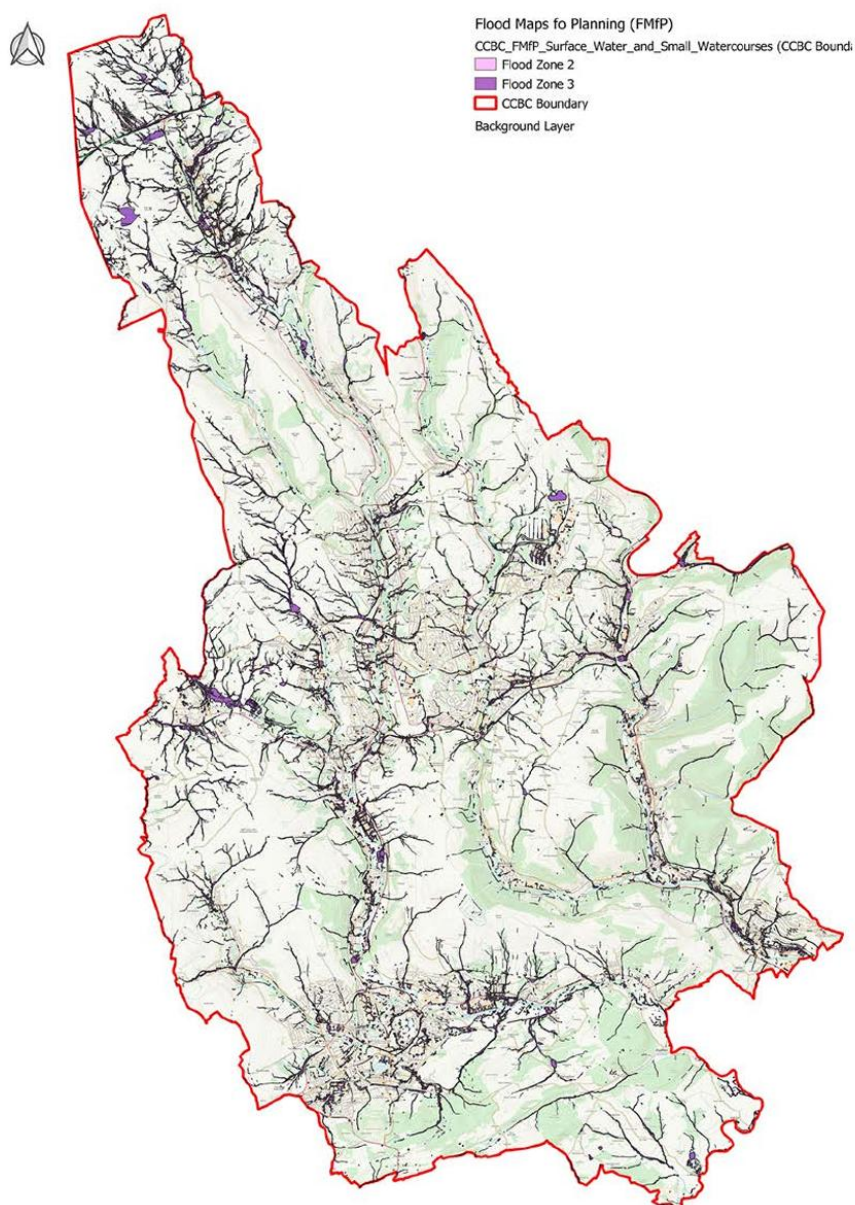
- **Rhymney River** - Flowing from its source near Rhymney through New Tredegar, Bargoed, Ystrad Mynach, Llanbradach to Caerphilly the upper reaches are steep-sided, mountainous valleys that react quickly to rainfall. The lower reaches through Bedwas, Trethomas, Machen, Draethen and further south to the Severn Estuary is flatter lower valley where the river meanders more.
- **Sirhowy River** - The Sirhowy has its source on the slopes of Cefn Pyllau-duon above Tredegar and flows south through Tredegar, Blackwood, Pontllanfraith and Cross Keys before joining the River Ebbw.
- **Ebbw River** - The main Ebbw River is formed by the confluence of the Ebbw Fach and the Ebbw Fawr, which meet at Aberbeeg. The river then flows south through Newbridge and Abercarn before joining the Sirhowy at Cross Keys and flowing on through Risca to the Severn Estuary.

2.4.2. There are also some tributaries to these rivers that are classed as Main Rivers:

- Ebbw Fach

- Nant Bargod Rhymni
- Nant y Bwch
- Nant yr Aber
- Nant Gledyr
- Porset Brook

2.4.3. The County Borough is characterised by numerous named and unnamed Ordinary Watercourses that form tributaries for the Main Rivers outlined above. Whilst many of these are visible on the surface of the land, there are approximately 1,675 known culverted watercourses (streams and small watercourses that have historically been diverted underground into pipes or other man-made structures to convey the water). There are other “lost streams” which have been diverted underground but the precise location details are no longer accurately recorded.



3. Policy and Strategy

3.1. The policy and legislative framework relating to flood risk management is extensive. This SFCA has considered the policies, legislation and guidance most relevant to plan-making and development management within Caerphilly County Borough. Table 3-1 summarises the principal documents and their relevance to the assessment. Detailed policy provisions should be consulted directly where required.

Policy / Legislation	Purpose	Relevance to the SFCA
Technical Advice Note 15 (TAN15) (2025)	Provides Welsh planning policy for development and flood risk management.	Principal planning policy governing development in flood risk areas. Establishes flood zones, vulnerability classifications, FCA requirements and acceptability criteria used throughout this SFCA.
Flood Risk Area Development (Notification) (Wales) Direction (2025)	Sets out circumstances where certain planning decisions in flood risk areas must be referred to Welsh Ministers.	Relevant where highly vulnerable development is proposed within areas of flood risk.
Planning Policy Wales (Edition 12)	Establishes the overarching land use planning framework in Wales.	Requires flood risk to be considered through the plan-making and development management process and supports a risk-based approach to site selection.
Future Wales: The National Plan 2040	Provides the national spatial framework for Wales.	Promotes climate-resilient placemaking and requires flood risk to be considered when identifying areas for growth and investment.
Flood and Coastal Erosion Risk Management Strategy for Wales	Sets national objectives for managing flood and coastal erosion risks.	Supports a risk management approach focused on prevention, resilience, preparedness and recovery from flooding.
Flood and Water Management Act 2010	Establishes the roles and responsibilities of flood risk management authorities.	Defines the responsibilities of Lead Local Flood Authorities and supports management of local flood risk sources including surface water, groundwater and ordinary watercourses.

Policy / Legislation	Purpose	Relevance to the SFCA
Schedule 3 to the Flood and Water Management Act (Sustainable Drainage Systems (SuDS) Requirements)	Requires sustainable management of surface water from new developments.	Development proposals should incorporate SuDS and demonstrate compliance with Welsh approval and adoption requirements.
Environment (Wales) Act 2016	Introduces sustainable management of natural resources.	Supports integrated catchment management, climate adaptation and opportunities for natural flood management.
Well-being of Future Generations (Wales) Act 2015	Requires public bodies to improve environmental, social, economic and cultural well-being.	Supports long-term resilience to climate change and flood risk through sustainable development and planning decisions.
Water Framework Directive and River Basin Management Planning	Promotes protection and improvement of waterbody status.	Development proposals should avoid adverse impacts on watercourses and support opportunities for environmental enhancement.
Climate Change Allowances for Flood Consequence Assessments (2026)	Provides guidance on future climate change impacts for flood risk assessments.	Sets the climate change allowances that should be applied in FCAs and site-specific assessments.

Table 3-1: Policy and legislation summary

3.1.1.Flood and Water Management Act

3.1.1.1. The FWMA creates clearer roles and responsibilities and instils a more risk-based approach. This includes a new lead role for Local Authorities in managing local flood risk (from surface water, groundwater and ordinary watercourses) and a strategic overview role of all flood risk for Natural Resources Wales. Table 3-1 provides an overview of the key LLFA responsibilities under the FWMA.

Responsibility	Description
Developing a Local Flood Risk Management Strategy	The LLFA is required to develop, maintain, apply and monitor its local strategy for flood risk management in its area. The local strategies will build on information such as national risk assessments and will use consistent risk-based approaches across different Local authority areas and catchments. The Local Strategy will not be secondary to the National Strategy; rather it will have distinct objectives to manage local flood risks important to local communities.

Investigating Flood Incidents	An LLFA has a duty to investigate and record details of 'significant flooding' in its area, under Section 19 of the FWMA. The National Strategy for FCERM in Wales states that the Welsh Government expects Section 19 reports to be undertaken where 20 or more homes in one area experience internal flooding. However, Local Authorities may choose a lower threshold as it is noted that smaller scale floods are still capable of causing significant damage. This duty includes identifying risk management authorities and their functions and how they intent to exercise those functions in response to a flood. The responding risk management authority (RMA) must publish the results of its investigation and notify other relevant risk management authorities.
Asset Register	An LLFA has a duty to maintain a register of structures or features, which are considered to have an effect on flood risk, including details on ownership and condition as a minimum. The register must be available for inspection and the Welsh Minister will be able to make regulations about the content of the register and records. Assets included in LLFA asset registers may be included in the NRW National Asset Database .
Works Powers	The Act provides the LLFA with powers to do works to manage flood risk from surface water runoff, groundwater and ordinary watercourses, consistent with the local flood risk management strategy for the area.
Designation Powers	Schedule 1 of the Act provides the LLFA with powers to designate structures and features that affect flooding or coastal erosion. The powers are intended to overcome the risk of a person damaging or removing a structure or feature that is on private land and which is relied on for flood or coastal erosion risk management. Once a feature is designated, the owner must seek consent to alter, remove or replace it. Only those structures and features related to flood risk management in respect of ordinary watercourse, surface water and groundwater flooding can be designated by LLFA under this Act.
SuDS Approval Body (SAB)	Schedule 3 of the Act establishes each LLFA as a SuDS Approval Body (SAB). The SAB has responsibility for the approval of proposed drainage systems in new developments and redevelopments, subject to exemptions and thresholds. Approval must be given before the developer commences construction. The SAB is also responsible for adopting and maintaining SuDS which serve more than one property, where they have been approved. Highways authorities will be responsible for maintaining SuDS in public roads, to National Standards.

Table 3-2: Key LLFA Responsibilities

3.1.1.2. The FWMA requires LLFAs to develop, maintain, apply and monitor a Local Flood Risk Management Strategy (LFRMS). Caerphilly has an adopted LFRMS for the period of 2024 – 2030. The adopted LFRMS identifies the following areas as being at the greatest risk of flooding from local sources (defined as Surface Water, Small Watercourses and Groundwater);

- Rhymney
- Risca
- Van Ward, Caerphilly

3.1.1.3. Each of the areas identified above has a specific Flood Risk Management Plan outlined within the LFRMS.

3.1.2. Schedule 3 to the FWMA (Sustainable Drainage Systems, SuDS)

3.1.2.1. Disposal of surface water is a key consideration, whether a development site falls within a flood risk area or not. Intense development within a catchment could result in increased runoff which if not appropriately managed could result in increased flooding within and downstream of the study area. Consequently, the impact of new developments on flood risk needs to be managed to avoid any negative impacts to the development itself and to other assets within the catchment.

3.1.2.2. New developments can also increase pressure on sewer systems and urban drainage. It is therefore important to manage the impact of developments in a sustainable manner.

3.1.2.3. Sustainable Drainage Systems (SuDS) aim to mimic the natural processes of Greenfield surface water drainage by allowing water to flow along natural flow routes and also aims to reduce the runoff rates and volumes during storm events, whilst providing water treatment benefits. SuDS also have the advantage of providing Blue and Green Infrastructure, ecology and recreational benefits when designed and maintained properly.

3.1.2.4. Schedule 3 of the Flood and Water Management Act 2010 was enacted in Wales in January 2019, leading to the requirement for all new developments to incorporate the four pillars of SuDS design, shown in Figure 3-1. The statutory requirement for SuDS approval and the associated approval process is separate from planning permission, although there is need for significant interactions and alignment between the two processes.

3.1.2.5. As the SuDS approval process is independent of the planning process, there is a risk of proposals complying with one regulatory system but not the other. A situation where a scheme receives planning permission but is refused SAB approval should be avoided wherever possible. To avoid this scenario, it is important to consider planning and SAB requirements in combination and to

provide the information to decision makers in parallel. This can be best achieved by applying for both types of consents simultaneously, ensuring the planning application documentation provides full details of the proposed SuDS.

- 3.1.2.6. Simultaneous applications are advised as the best approach, but it is accepted that this is not always feasible. Where planning permission is sought prior to SAB approval, the applicant will be expected to provide a TAN15 Drainage Statement as part of the planning application. The Drainage Statement should outline how it is proposed to integrate SuDS into the scheme, to provide the planning authority with confidence the scheme incorporates SuDS appropriately and is subsequently likely to obtain SAB approval. The statement should not generate additional cost or effort to applicants because the information it contains will be required for the subsequent SAB process.
- 3.1.2.7. The planning authority should share the Drainage Statement with the SAB, allowing time for the SAB to provide feedback before the planning application is determined on the general principles that will be adopted / incorporated into new developments to provide reassurance that the SAB approval process can be entered with confidence.
- 3.1.2.8. The planning authority and SAB may decide that drainage arrangements outlined in the Drainage Statement are sound, fundamentally flawed or require minor amendments. Inadequate Drainage Statements and flawed drainage arrangements may be a reason for a planning authority to refuse the planning application.
- 3.1.2.9. If the Drainage Statement and the proposed arrangements are broadly acceptable but minor amendments are suggested, feedback to the applicant should be provided which may inform the subsequent application for SAB approval. Minor amendments in this context are any changes to drainage arrangements that do not necessitate changes to the planning application.

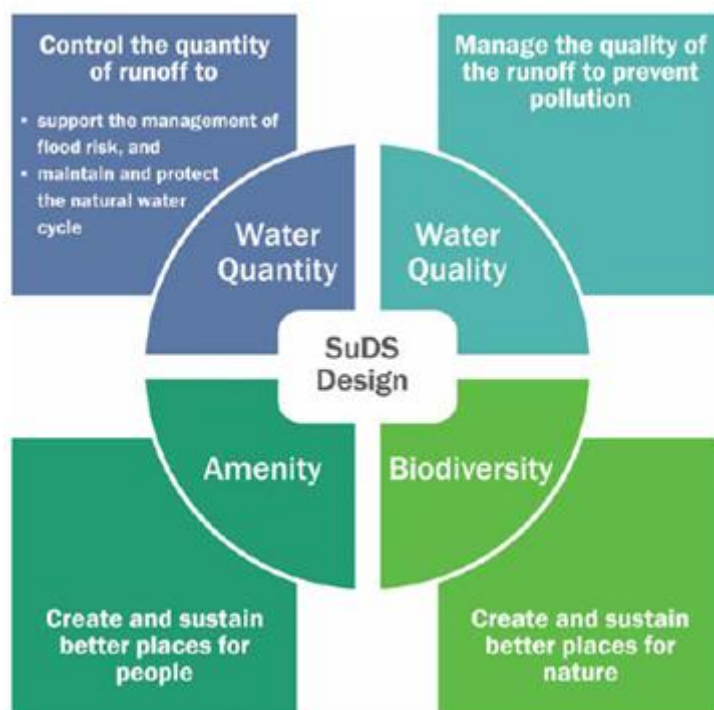


Figure 3-1 Four Pillars of SuDS (CIRIA, 2015)

3.1.2.10. There are a number of technical standards and design guidance for SuDS which is available in the documents listed below:

- SAB Society Wales Good Practice Guide
- Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining surface water drainage systems (Welsh Government, 2018)
- Welsh Government Statutory Guidance for Sustainable Drainage (March 2026)
- C753 The SuDS Manual (CIRIA, 2015) – *anticipated to be replaced by the Rainwater Management Platform in Summer 2027.*
- C768 Guidance on the Construction of SuDS (CIRIA, 2017)
- Rainfall Runoff Management for Developments – SC030219 (Environment Agency, 2013)
- PPW – Edition 12, February 2024
- The Building Regulations 2010 Part H: Drainage and Waste Disposal

3.1.3. Technical Advice Note 15 (TAN15): Development, flooding and coastal erosion

- 3.1.3.1. Technical Advice Note 15: Development, flooding and coastal erosion (TAN-15) sets out the criteria against which the consequences of a development in an area at risk of flooding can be assessed.
- 3.1.3.2. TAN15 also states that Local Planning Authorities should ensure that development is set back appropriately from flood zones to allow for extreme surface water and small watercourse events.
- 3.1.3.3. TAN15 was first introduced in 2004 by the Welsh Government. It is technical guidance related to development planning and flood risk. The latest publication of TAN15 was in March 2025 following critical updates to the guidance, notably including climate change within considerations relating to flood risk and development.
- 3.1.3.4. TAN15 reflects the core principles of the National Strategy for Flood and Coastal Erosion Risk Management in Wales to adopt a risk-based approach in respect of new development in areas at risk of flooding and coastal erosion. TAN15 comprises technical guidance related to development planning and flood risk and provides a framework within which the flood risks arising from rivers, the sea and surface water, and the risk of coastal erosion can be assessed.
- 3.1.3.5. Its initial requirement is to identify the flood zones and vulnerability classification relevant to the proposed development, based on an assessment of current and future conditions. An indicative sequence to negotiating the various elements of TAN-15 is provided below in Figure 3 2.

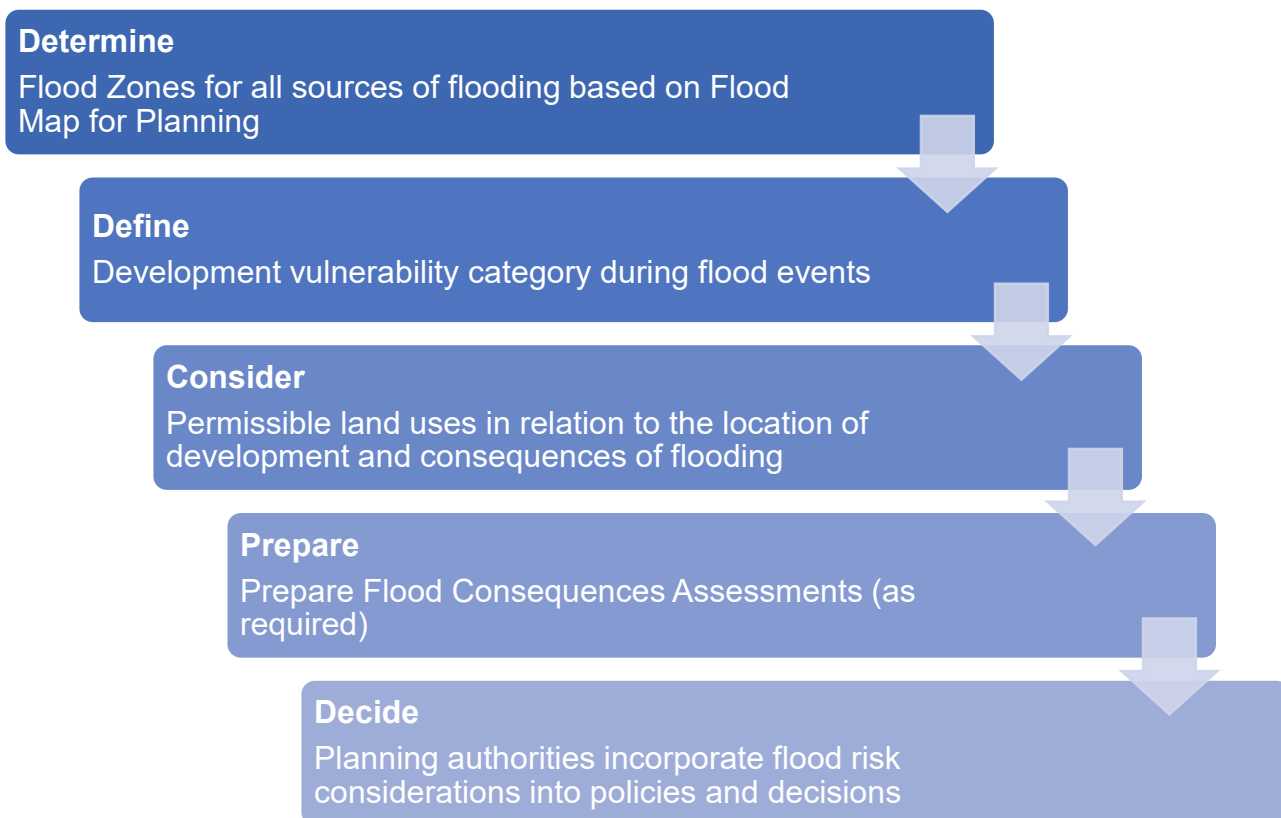


Figure 3-2: TAN15 approach

- 3.1.3.6. TAN15 distinguishes between greenfield and brownfield with more flexibility for regeneration in different Zones where it supports LDP strategy or regeneration plans
- 3.1.3.7. A new Notification Direction was published in March 2025 alongside the updated TAN15 to allow Welsh Ministers to be sighted on new highly vulnerable development proposals in Flood Zone 3 (River and Sea) which LPAs are minded to approve.

Flood Map for Planning (FMfP)

- 3.1.3.8. The Flood Map for Planning is the starting point for consideration of flood risk in the planning system. The map uses flood zones to indicate the degree to which land is at risk of flooding from rivers, the sea, surface water and small watercourses.
- 3.1.3.9. TAN outlines the actions that should be taken when considering development in the different flood zones. Table 3-2 sets out the definition of the main zones. Zone 1, and Zones 2, 3 and the TAN 15 Defended Zones.

Zone	Flooding from rivers	Flooding from the sea	Flooding from surface water and small watercourses
1	Less than 1 in 1000 (0.1%) (plus climate change) chance of flooding in a given year		
2	Less than 1 in 100 (1%) but greater than 1 in 1000 (0.1%) chance of flooding in a given year, including climate change	Less than 1 in 200 (0.5%) but greater than 1 in 1000 (0.1%) chance of flooding in a given year, including climate change	Less than 1 in 100 (1%) but greater than 1 in 1000 (0.1%) chance of flooding in a given year, including climate change
3	A greater than 1 in 100 (1%) chance of flooding in a given year, including climate change	A greater than 1 in 200 (0.5%) chance of flooding in a given year, including climate change	A greater than 1 in 100 (1%) chance of flooding in a given year, including climate change
TAN-15 Defended zone	Areas where flood risk management infrastructure provides a minimum standard of protection against flooding from rivers of 1:100 (plus climate change and freeboard)	Areas where flood risk management infrastructure provides a minimum standard of protection against flooding from the sea of 1:200 (plus climate change and freeboard)	Not applicable

Table 3-2: Flood Map for Planning flood zones

- 3.1.3.10. The Flood Map for Planning displays predicted future flood risk under the central climate change estimate. Detailed Flood Consequences Assessments, to accompany planning applications, will be required to consider a range of climate change scenarios, including upper end estimates, making reference to the Welsh Government guidance on climate change allowances for planning purposes.
- 3.1.3.11. Areas benefitting from, formal flood defences managed or maintained by Risk Management Authorities are shown on the Flood Map for Planning as TAN 15 Defended Zones.
- 3.1.3.12. The existence of flood defences does not mean development should be allowed without further consideration of flood risks. Flood defences reduce the risk of flooding but do not eliminate it. The consequences of flooding can be particularly severe in the event of defences being overtopped or breached. TAN15 Defended Zones are served by defences that provide protection from at least one of the main sources of flooding – sea or river, or both in some instances. Some areas within the TAN15 Defended Zones may be vulnerable to other sources of flood risk therefore it will be important to assess all sources of risk. It will also be important to demonstrate that any new development in the TAN15 Defended

Zones incorporates resilience and resistance measures so that it remains flood-free and safe and responds appropriately to the content of Flood Consequences Assessment.

- 3.1.3.13. In summary, using the Flood Map for Planning zones, the TAN seeks to ensure that the likelihood of flooding and the impacts it would have been appropriately considered in all relevant planning decisions. Planning Authorities need to exercise caution when allocating sites for new development and considering applications where the Flood Map for Planning clearly shows areas at risk. The level of caution increases with the level of vulnerability and likelihood. However, the **fundamental principles of TAN15 are to restrict new development in Zone 3 subject to the limited exceptions in section 10 and to ensure that decision makers have taken flood risk matters into consideration in all other zones.**
- 3.1.3.14. Natural Resources Wales is responsible for managing and updating the Flood Map for Planning. As a component of the Wales Flood Map, it will be updated every 6 months (May and November) to reflect modelled changes to the flood extents. As result of these updates, the flood zones may extend or contract, and some areas may be redefined.
- 3.1.3.15. New or extended TAN 15 Defended Zones will be created if and when Natural Resources Wales is satisfied that qualifying defences provide a standard of protection that meets or exceeds the definition provided in Figure 1. Risk Management Authorities should provide this information to Natural Resources Wales using the National Asset Database.
- 3.1.3.16. Third parties can seek to change the Flood Map for Planning using the Natural Resources Wales flood map challenge process. Successful challenges will result in the Flood Map for Planning being updated at the next available opportunity. Once the map challenge is accepted by NRW this will become a material consideration for decision makers, effective from when NRW accept it.
- 3.1.3.17. As a further means of maintaining the map's accuracy, Natural Resources Wales will review the existing TAN 15 Defended Zones on the Flood Map for Planning periodically, approximately every 2-3 years. If the standard of protection provided by defences is found to have dropped below the threshold, it will be necessary to remove the Defended Zone and reclassify the affected areas as Flood Zone 2 or 3.
- 3.1.3.18. Additionally, NRW has published a 'Recorded Flood Extents' layer on the FMfP which identifies areas that have been recorded as having flooded in the past. These records are from a number of evidence sources including Natural Resources Wales, its predecessors or other Risk Management Authorities. The datasets include flooding records from rivers, the sea, surface water and small

watercourses. Where an area is not shown to have flooded on the recorded flood extents layer, this does not necessarily mean that there has never been any flooding in the area, but rather that there is no reliably recorded flood extents data.

Climate Change

- 3.1.3.19. Welsh Government published climate change guidance for Flood Consequence Assessments. This was recently updated in March 2026 to incorporate the updated UK climate change projections. They are based on projections using Representative Concentration Pathway (RCP) 8.5, which reflects an increase in global mean surface temperature of around 4.3°C by 2100.
- 3.1.3.20. Assessing the future effects of climate change is a key aspect of TAN15 and any FCA required to support a planning application. The updated allowances for peak river flows must now be formally integrated into all site-specific Flood Consequence Assessments (FCAs) and Strategic FCAs (SFCAs).
- 3.1.3.21. There are three sources of flooding that utilise different climate change allowances; these are:
- **River flooding** – Wales is divided into three river basin districts and peak river flow allowances are provided for each area. Caerphilly falls within the **Severn River Basin** district. Recommendations are to use the central estimate (50th percentile) for the relevant river basin district. However, it is also advised that an assessment of risk should be undertaken using the upper end estimate (90th percentile).

River Basin District	Percentile	2020s (present day to 2039)	2050s (2040 to 2069)	2080s (2070 – 2125)
Severn	Central	10%	20%	35%
	Upper	20%	40%	70%

Table 3-3: Peak river flow allowances for the Severn River Basin District

- **Flooding from the sea** – Not relevant to Caerphilly County Borough geographic area.
- **Surface water and small watercourses flooding** – Peak rainfall intensity allowances are provided for catchments less than 5km. Development proposals should be assessed against the central allowance to inform design levels and against the upper allowance to inform mitigation requirements. The central estimate for increasing peak rainfall intensity is 30% over the next 100 years, and 40% for the upper estimate. The LLFA should be consulted where surface water and small watercourse flood risks are considered significant.

Location	Percentile	2050s (present day to 2060)	2070s (2061 – 2125)
All Wales	Central	20%	30%
	Upper	35%	40%

Table 3-4: Rainfall uplifts for all Wales

Lifetime of Development

3.1.3.22. The climate change uplifts detailed above are provided for different epochs. Consequently, the anticipated lifetime of development can be critical in the assessment of climate change impacts and future flood risk. This is most relevant to flooding from the sea, where sea level increases are estimated on an annual basis with increases accelerating over time. With river and surface water flood risk most climate changes effects are predicted to occur in the next 50 years, without further increases thereafter. Climate change uplifts are based on current Welsh Government guidance at the time of writing this report and may be subject to change.

3.1.3.23. TAN15 states that “*Generally, it is appropriate to think of new dwellings as having a lifetime of 100 years. Lifetimes for other types of development will vary, but 75 years is considered a reasonable rule of thumb.*”

Vulnerability Classification

3.1.3.24. TAN15 assigns one of three flood risk vulnerability classifications to a development, as shown in Table 3-5 below.

Development category	Types
Highly vulnerable development	All residential premises (including hotels, Gypsy and Traveller sites and caravan parks and camping sites). Schools and childcare establishments, colleges and universities. Hospitals and GP surgeries. Especially vulnerable industrial development (e.g. power generating and distribution elements of power stations, transformers, chemical plants, incinerators), and waste disposal sites. Emergency services, including ambulance stations, fire stations, police stations, command centres, emergency depots. Buildings used to provide emergency shelter in time of flood
Less vulnerable development	General industrial, employment, commercial and retail development. Transport and utilities infrastructure. Car parks. Mineral extraction sites and associated processing facilities (excluding waste disposal sites). Public buildings including libraries, community centres and leisure centres (excluding those identified as in Highly Vulnerable category and emergency shelters). Places of worship. Cemeteries. Equipped play areas. Renewable energy generation facilities (excluding hydro generation).
Water compatible development	Boatyards, marinas and essential works required at mooring basins. Development associated with canals. Flood defences and management infrastructure. Open spaces (excluding equipped play areas). Hydro renewable energy generation.

Table 3-5: TAN15 Vulnerability Classification

Flooding and the Plan-Led System

- 3.1.3.25. Under the updated TAN-15 that came into effect March 2025, the traditional three-part Justification Test has been retired and replaced by strict acceptability criteria assessed through a Flood Consequence Assessment (FCA).
- 3.1.3.26. The previous Justification Test required developers to demonstrate that a proposed development within a flood risk area was necessary and could not reasonably be located in an area of lower flood risk. This typically involved showing that the development would support objectives such as regeneration, the sustainability of existing settlements, or specific employment needs.
- 3.1.3.27. The revised TAN-15 approach moves away from this site-specific justification process and instead promotes a strategic, plan-led framework based on a comprehensive understanding of flood risk. It places greater emphasis on Local Development Plans identifying and allocating land for development through the use of the Flood Map for Planning and Strategic Flood Consequence Assessment (SFCA) evidence.
- 3.1.3.28. Under this approach, flood risk considerations are expected to be embedded from the earliest stages of plan-making and development planning. This allows greater flexibility for the redevelopment of previously developed land within flood risk areas, while introducing stricter controls on new development within floodplains.
- 3.1.3.29. The following general considerations apply to each of the identified River Flood Zones:
- **Zone 1:** LPAs should prioritise all types of development to Zone 1.
 - **Defended Zones:** Allocation of sites for new development in defended zones needs careful consideration as the failure of defences can lead to catastrophic flooding. LPAs should avoid intensification of uses in Defended Zones and redevelopment should broadly be of the same scale as the existing uses. Greenfield sites in defended zones should not be built upon unless they are replaced by suitable alternative sites that clearly contribute to effective flood management.
 - **Zone 2:** Allocations within Zone 2 may be made if they support the objectives of the LDP to regenerate or revitalise existing settlements or achieve specific economic or environmental objectives. Allocations or applications must demonstrate the acceptability of the flooding consequences of development. Applications for new highly vulnerable development in Zone 2 will only be permissible where allocated within the LDP.
 - **Zone 3:** In Zone 3, allocations for highly vulnerable development must not be made. No new highly vulnerable development on greenfield land should be permitted regardless of the conclusion of any SFCA or FCA. Welsh Ministers must be notified of any such proposal a planning authority intends to approve.

Allocations for redevelopment in Zone 3 should only be made in exceptional circumstances. Other development proposals in Zone 3 will only be appropriate if they are appropriate to the LDP strategy to regenerate or revitalise existing settlements or achieve specific economic or environmental objectives. Allocations or applications must demonstrate the acceptability of the flooding consequences of development.

- **Water Compatible Development** is acceptable in all flood zones.

3.1.3.30. Land allocated for new development in flood risk zone 2 or 3 should include annotation of flooding as a constraint for the individual site either in the Development Plan or on the proposals map. Any flood-related requirements for the development of that site should be specified in the Development Plan. This will include making it clear that in taking forward the allocation a developer will need to undertake detailed technical assessments prior to submitting a planning application.

Acceptability of Flood Consequences

3.1.3.31. Where a planning authority determines that development within a flood risk area is acceptable, this decision should be made with a clear understanding that the development may be affected by flooding and must therefore be designed and planned accordingly. A thorough assessment of the potential flood risks and their consequences is essential to inform the decision-making process.

3.1.3.32. For developments permitted within flood risk areas, a number of key requirements must be satisfied. Developers and planning authorities should ensure that:

- The development does not increase flood risk elsewhere.
- Future occupiers are fully informed of the potential flood risk.
- Safe and effective access, escape, and evacuation routes are available.
- Appropriate flood emergency plans and procedures have been agreed and implemented.
- Buildings incorporate flood-resistant and flood-resilient design measures.

3.1.3.33. The Flood Consequences Assessment should establish if suitable avoidance and mitigation measures can be incorporated, in a manner compatible with the placemaking aims of Planning Policy Wales, within the site design to ensure that development is safe and there is:

- minimal risk to life;
- minimal disruption to people living and working in the area;
- minimal potential damage to property;
- minimal impact of the proposed development on flood risk generally; and
- minimal disruption to the sustainable management of natural resources.

- 3.1.3.34. The required design standard for new development is to be **flood free** during the 1% river flood (i.e. a flood with a 1 in 100 chance of occurring in any year) and the 0.5% flood from the sea (i.e. a flood with a 1 in 200 chance of occurring in any year), plus an allowance for climate change over the lifetime of development. Local authority and emergency services command centres and hubs for the emergency services should be designed to be flood free during any 0.1% event (i.e. a flood with a 1 in 1000 chance of occurring in any year), including an allowance for climate change. Where appropriate, an assessment against a breach and blockage scenario should be undertaken against return periods up to and including the 1 in 1000 year flood event, including an allowance for climate change. Detailed guidance on climate change allowances for planning purposes is published separately by the Welsh Government.
- 3.1.3.35. The flood free thresholds outlined above relate to very serious but not the most extreme flood events (with the exception of thresholds for emergency services). During extreme flood events there is recognition that it may not be possible to keep all development flood-free. In these circumstances it is imperative that flooding does not endanger life, therefore it needs to be demonstrated that conditions within the development during an extreme event will be tolerable.
- 3.1.3.36. Mitigation and flood resilience measures are not sufficient justification to permit a development if the tolerable conditions are exceeded during an extreme flood event. High velocities and/or depths of floodwater pose a potential risk to life, may cause structural damage to buildings and could impact on human health and wellbeing.
- 3.1.3.37. Flooding causes danger when either the water is deep or it is moving quickly. It is particularly dangerous when both occur at the same time. The flood hazard matrix at Figure 3-3 below can help planning authorities assess how hazardous a flood event may be to different people. The matrix can be used to assess the levels of danger inside and outside buildings located in flood risk areas, by plotting the expected water depths and velocities during the flood event.
- 3.1.3.38. The planning authority should consider all potential and likely users of any proposed development when assessing whether the development can be considered to provide a safe environment during an extreme flood event. If a safe environment cannot be provided, the planning application should be refused. The matrix shows that flood events involving deep and fast moving water are dangerous to all, including the emergency services. It would not be appropriate to approve any type of development that could experience this degree of danger during an extreme flood event.

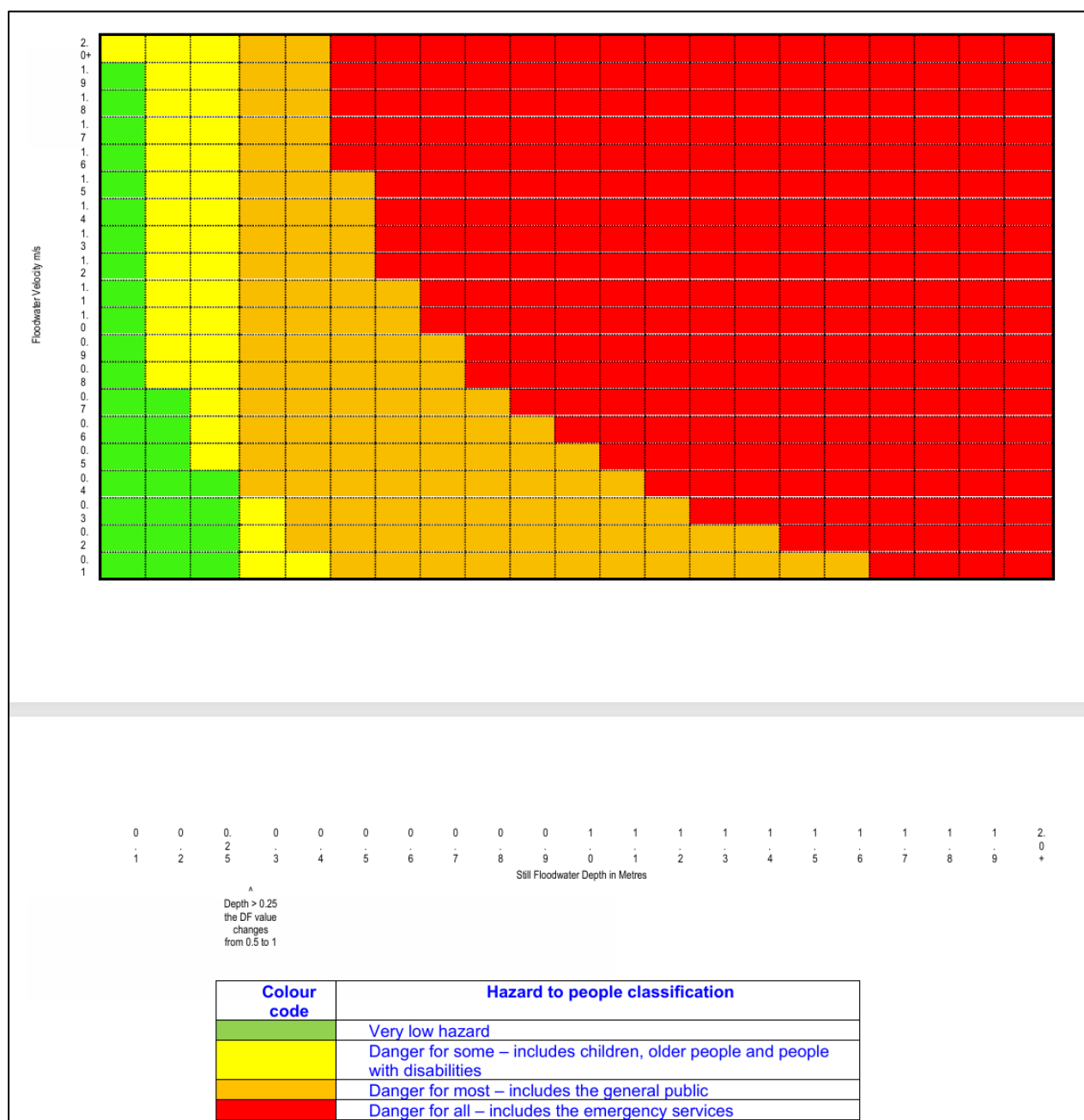


Figure 3-3: Flood hazard matrix

Surface Water and Ordinary Watercourse Flood Risk

3.1.3.39. Flooding is not confined to floodplains, as heavy rain falling on waterlogged ground or impermeable surfaces can cause localised flooding almost anywhere. Heavy rain can also result in drainage systems and ordinary watercourses, such as streams, reens and brooks quickly becoming inundated, leading to localised flooding. As the climate changes, this type of flooding will become more commonplace and more severe. **There are more properties at risk of flood from surface water in Wales than from all the other sources of flood risk combined.**

- 3.1.3.40. The FMfP includes two surface water and small watercourse flood risk zones. Zone 3 contains areas at highest risk, with Zone 2 areas facing a lower risk. Areas considered at minimal risk of flooding from these sources are in Zone 1.
- 3.1.3.41. A Flood Consequences Assessment is required for any development proposal located fully or partly in Surface Water and Small Watercourses - Flood Zones 2 and 3 -, Local Authorities may exercise some discretion for householder applications where the risk may be lower due to the nature of the development being proposed and the requirements should be proportionate to the development proposal. An assessment should also be undertaken for development on sites outside of these zones, but which has the potential to affect the course of surface water and/or excess water from ordinary watercourses. Planning authorities may provide specific local advice on this issue in Development Plans. Planning authorities should ensure any new development adjacent to Flood Zones 2 and 3 for Surface Water and Small Watercourses is appropriately set back to allow for extreme flood events.
- 3.1.3.42. Surface water and ordinary watercourse flood risk management are the responsibility of Lead Local Flood Authorities (LLFAs). The LLFA has an important role in advising on surface water and ordinary watercourse flood risks for its area and the planning authority **must** seek the LLFA's views on how to incorporate the findings of its Strategic Flood Consequences Assessment on these risks into its Development Plan policies. It should also seek the LLFA's views on planning applications where surface water and ordinary watercourse flood risk is potentially a reason for refusal or where the risk is proposed to be managed or mitigated.

3.2. Regional Policy

3.2.1. The third State of Natural Resources Report (SoNaRR2025)

- 3.2.1.1. The third State of Natural Resources Report (SoNaRR2025) shows what has been achieved over the last five years since the second Report (SoNaRR2020) and clear evidence of what that means for the state of Wales' natural resources and resilience of the ecosystems. It concludes that Wales is facing significant environmental challenges and is not yet achieving its goals for the sustainable management of natural resources.
- 3.2.1.2. The report highlights that Wales is one of the most nature-depleted countries in the world, with almost one in five species at risk of extinction, while climate change, pollution, and unsustainable land use continue to damage ecosystems and reduce their resilience. Water quality remains a major concern, with only 40% of water bodies achieving good status, and Wales' consumption levels exceed sustainable limits.
- 3.2.1.3. The report calls for coordinated efforts at local, regional, and national levels to restore nature, build climate resilience, reduce environmental inequalities, and transition to a regenerative economy that supports both people and the environment.

3.2.2. NRW Flood Risk Management Plan, South-East Wales Place

- 3.2.2.1. This document is the section of NRW's 2nd Cycle FRMP specifically related to South East Wales covering Caerphilly, Newport, Monmouthshire, Torfaen and Blaenau Gwent. By 2120, SE Wales is expected to experience around 22,000 properties at risk of flooding from the sea, and around 18,000 properties at risk from rivers which is an increase of around 6,700 properties from current. These figures are based on undefended risk to indicate the true scale of hazard on a worst-case scenario.
- 3.2.2.2. By 2120, the five communities in SE Wales experiencing the greatest increase in danger from risk of flooding from rivers are; Caerphilly, Duffryn (Newport), Monmouth, Risca, and Tirphil (New Tredegar). Three of these communities lie within the Caerphilly Borough.
- 3.2.2.3. The communities located within Caerphilly Borough identified as at risk of flooding but where actions are planned in the coming years to help manage and reduce flood risk are: Bedwas, Caerphilly, Crumlin, Llanbradach, Machen, and Ystrad Mynach.
- 3.2.2.4. The policies in this NRW Plan align closely with the updated Local Flood Risk Management Strategy (LFRMS) for Caerphilly.

3.2.3. River Basin Management Plans

3.2.3.1. The purpose of a river basin management plan is to provide a framework for protecting and enhancing the benefits provided by the water environment; it also informs decisions on land use planning. The plan contains 4 sets of key information:

- establish the base line conditions of waterbodies;
- highlight areas of land and bodies of water that have specific uses that need special protection;
- sets out statutory objectives for waterbodies; and
- summary programme of measures to achieve statutory objectives.

3.2.3.2. The whole of Caerphilly County Borough falls within the Severn River basin district.

3.3. Local Policy

3.3.1. Local Flood Risk Management Strategy (LFRMS)

3.3.1.1. Caerphilly CBC's Local Flood Risk Management Strategy was updated in 2024 and runs through to 2030.

3.3.1.2. The LFRMS identifies **6,812** residential, **1,289** non-residential and **58** critical infrastructure premises as being at risk of flooding from surface water and small watercourses.

3.3.1.3. This is expected to increase to **9,091** residential, **1,611** non-residential and **75** critical infrastructure premises through the impacts of climate change.

3.3.1.4. When considering properties that are located within Surface Water and Small Watercourses Flood Zone 2 on the FMfP, **17,259** residential, **2,487** non-residential and **121** critical infrastructure premises are considered to be at risk of flooding.

3.3.1.5. This highlights that surface water and small watercourse flood risk is a significant constraint on developments across the entire County Borough. TAN15 accepts that surface water and ordinary watercourse flood risk cannot always be managed and mitigated, particularly as these sources of flooding are increasing as a result of climate change.

3.3.1.6. Where flooding from surface water or ordinary watercourses occurs quickly, with little warning or to significant depths it would be appropriate to restrict new development. In areas where the risk is more predictable and flood depths are shallow, it may be concluded that risks can be managed in an acceptable way for existing and new development. If it is concluded that risks from surface water or ordinary watercourses can be managed or mitigated, these measures must not increase the flood risk elsewhere.

- 3.3.1.7. Managing and mitigating surface water and ordinary watercourse flood risks should not include building over ordinary watercourses. Ordinary watercourses have an important drainage function and offer significant benefits to amenity and biodiversity. Structures such as bridges may be necessary, but watercourses should not be channelled into culverts beneath new homes. They should be considered a natural asset to the development site and integrated with sustainable drainage systems (SuDS) features from the outset where appropriate.
- 3.3.1.8. During flood events, excess water will naturally flow downhill and will be diverted by fixed obstacles such as buildings. During shallow floods, small changes in surface levels such as pavements will affect the flow of water and it can pool in very minor depressions in the landscape. When a site is developed in areas at risk, or near a risk, it will potentially change the expected flow of water during a flood. It is important that planning authorities are provided with a clear assessment of how a development will affect surface water and ordinary watercourse flood risks.
- 3.3.1.9. The LFRMS identifies the following areas as being at greatest risk of flooding from local sources as shown in Figure 3-4:
- Rhymney
 - Risca East and West
 - Van Ward of Caerphilly
- 3.3.1.10. The LFRMS further defines three Critical Drainage Areas (CDAs). Within a CDA, any new development proposals will always need to be accompanied by a Flood Consequences Assessment (FCA) even if the development itself is not shown to be within a flood risk area on the national maps. In recognition of the flood risk history (see Section 4.4.3), we have defined the Nant Twyn Harris, the Scouring and Porset Brook and the upper reach of the River Rhymney Catchments as Critical Drainage Areas as shown in Figure 3-5.
- 3.3.1.11. There are approximately 1,675 known culverted watercourses (streams and small watercourses that have historically been diverted underground into pipes or other man-made structures to convey the water) within Caerphilly Borough. Of these, approximately 240 are identified as Critical Flood Risk Assets and are shown on NRW's National Flood Asset Database, accessible on the NRW website or via Data Map Wales. Where any proposed development is upstream of a structure identified on the National Flood Asset Database and has the potential to impact on the flood risk associated with the structure, a FCA will be required.

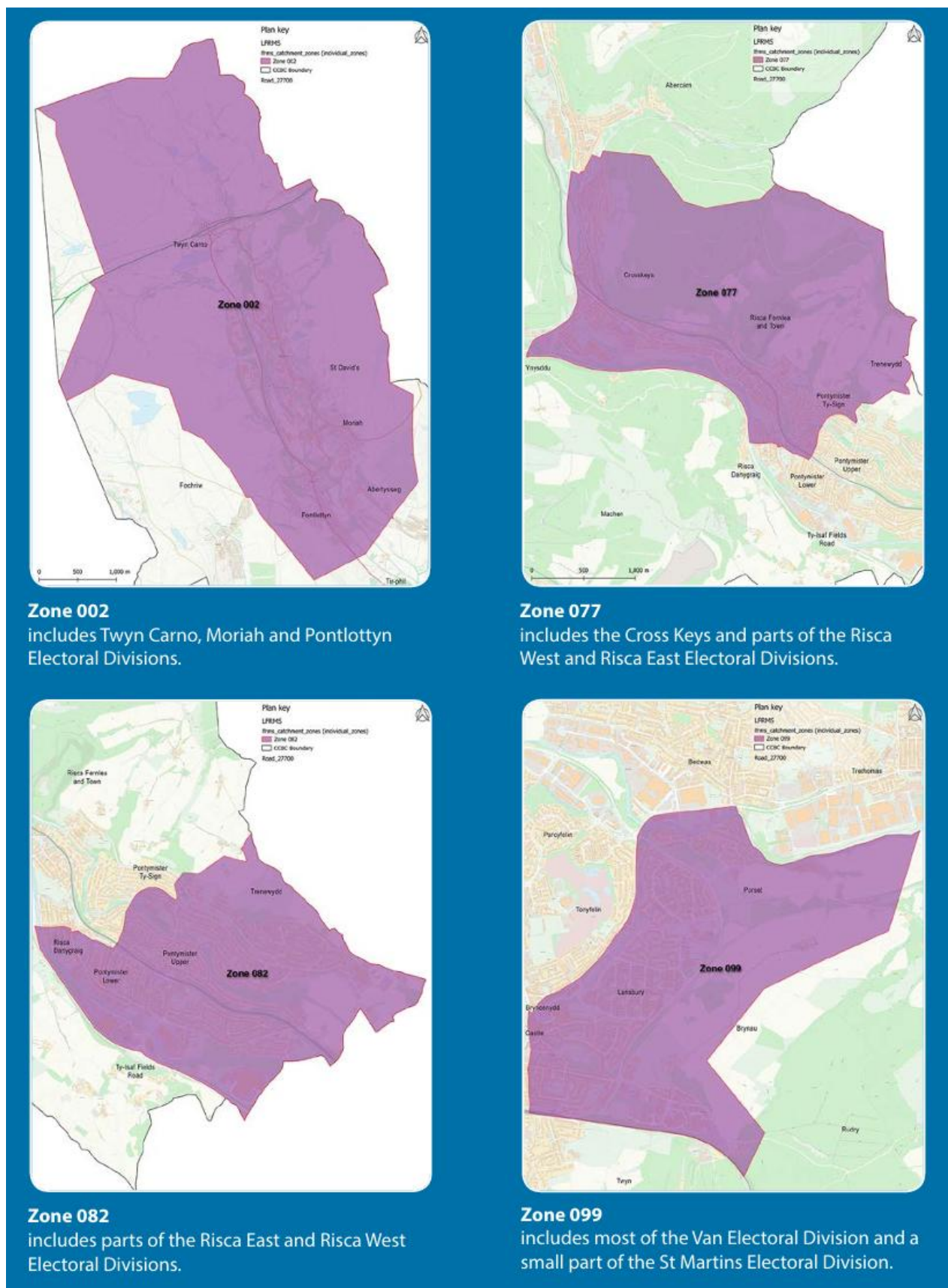


Figure 3-4: Areas at greatest risk of flooding from Surface Water and Small Watercourses

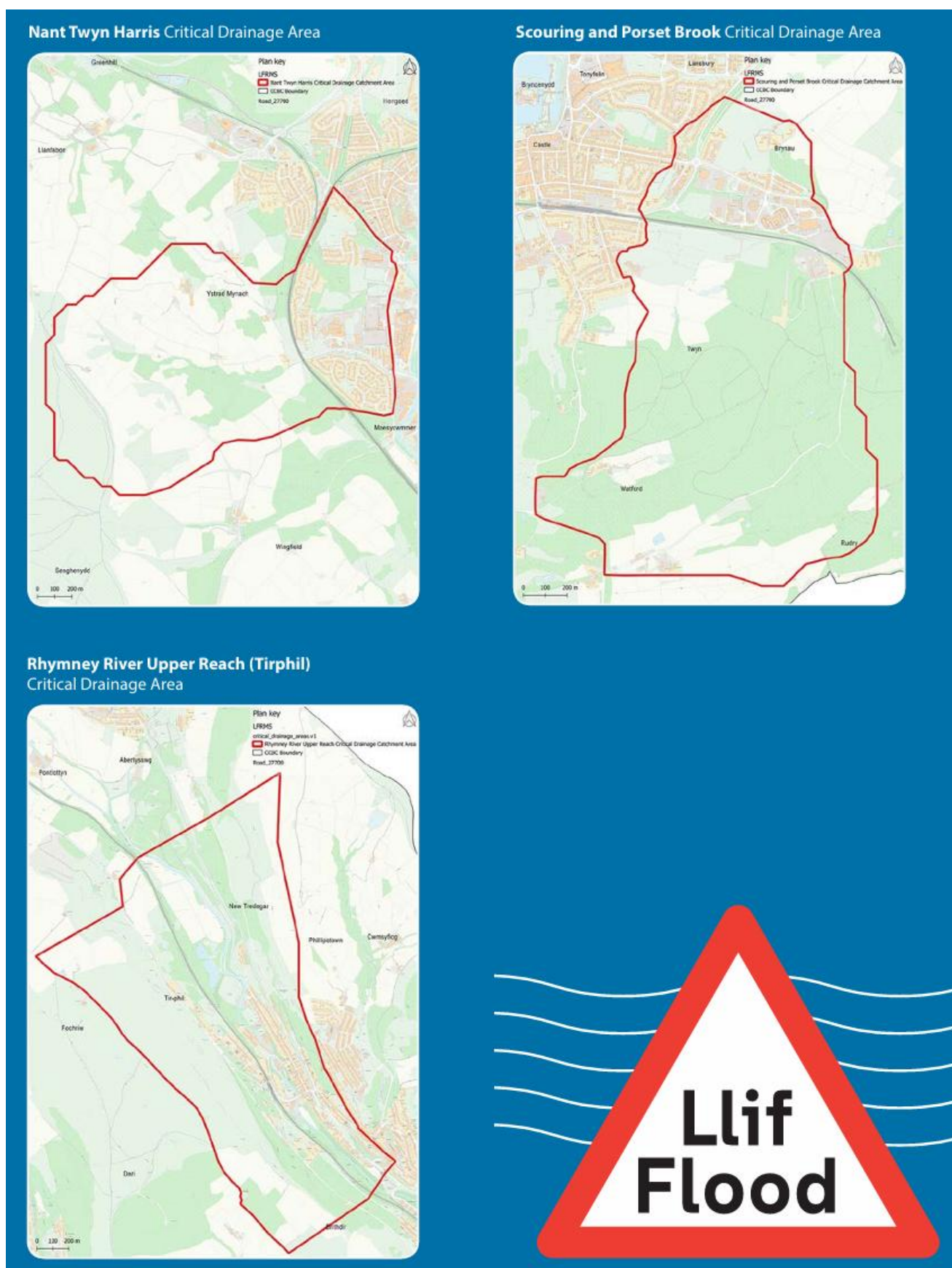


Figure 3-5: Critical Drainage Areas (CDAs)

3.3.2. Caerphilly Land Drainage Byelaws

3.3.2.1. Caerphilly County Borough Council has established byelaws for land drainage under its Section 66 powers in the Land Drainage Act 1991. These byelaws apply to ordinary watercourses in Caerphilly and have been made for the purposes of:

- Securing the efficient working of a drainage system in the Council's area.
- Regulating the effects of development on the water environment in the Council's area.
- Securing the effectiveness of flood risk management work within the meaning of section 14A of that Act.
- Securing the effectiveness of works done in reliance on Section 38 or 39 of the Flood and Water Management Act 2010 (incidental flooding or coastal erosion).

3.3.2.2. Of particular note in relation to development are the following byelaws:

- Byelaw 5 – control of the introduction of water and alterations in flow or volume of water.
- Byelaw 6 – interference with sluices, flood and tidal defences
- Byelaw 9 – maintenance of land liable to flooding and watercourse banks
- Byelaw 10 – building of structures on land liable to flooding
- Byelaw 11 – repairs to buildings or structures

3.3.2.3. Most development activities that involve works on, under, over, to or within 8m of a watercourse will require consent under these Byelaws, which is a separate legislative process to planning permission and to sustainable drainage approval.

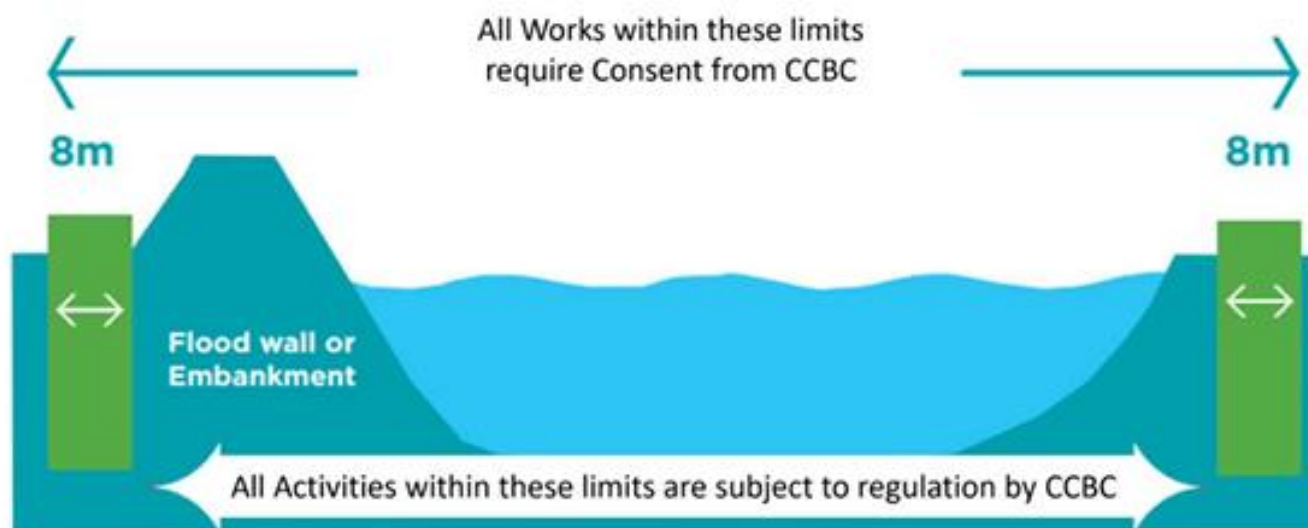


Figure 3-6: Diagram showing the Land Drainage Byelaw margin where works will require consent from CCBC.

4. Flood Risk Review

4.1. Flooding History

4.1.1. The historic flood risk across the study area has been assessed using information of recorded incidents provided by the stakeholders of the SFCAs, including flood reports from LLFA and DCWW, and NRW's 'Recorded Flood Extents' dataset. This has been supplemented with other information from the existing SFCAs, PFRAs and, LFRMP and Flood Investigation reports which have either been provided by the stakeholders or are freely available to view.

4.1.2. Caerphilly County Borough has a history of recorded flood events caused by multiple sources of flooding. Significant flood events within the county borough are recorded below by date:

Year of Flood Event	Flood Incident
December 1979	The NRW recorded flood extents dataset shows that flooding occurred on the edge of Abertysswg and in Tir-Phill, Gilfach, Pengam, Fleur-de-lis, Ystrad Mynach, Llanbradach, Bedwas and Machen as a result of the channel capacity of the River Rhymney being exceeded.
November 2006	The NRW recorded flood extents dataset shows that flooding occurred in Tir-Phil due to the channel capacity of the River Rhymney being exceeded.
February 2020	Storm Dennis resulted in widespread flooding across South Wales. A total of 203 properties (158 residential, 41 business, 1 youth club, 2 schools and 1 hospice) were confirmed as flooded internally during Storm Dennis.
November 2024	Storm Bert resulted in widespread flooding across South Wales. A total of 79 residential properties were confirmed as flooded internally during Storm Bert.
November 2025	Storm Claudia resulted in widespread flooding across South Wales. Whilst only 3 properties were confirmed as flooded internally during Storm Claudia there were significant infrastructure impacts across Caerphilly County Borough and sustained periods of disruption.

Table 4-1 Major Flooding Incidents by Year

4.2. Fluvial Flood Risk (flooding from rivers)

4.2.1. The River Rhymney, Nant Bargoed Rhymni, River Sirhowy, River Ebbw, Nant Yr Aber, Nant Gledyr and the Porset Brook are the main watercourses in the Caerphilly County Borough. These watercourses are all classified as NRW Main Rivers.

4.2.2. The NRW FMfP Flood zones have been consulted for this SFCA. The FMfP Flood Zones 2 and 3 show the potential extent of flooding, assuming no defences are in place. The TAN-15 Defended Zones show areas that benefit from RMA flood defences with a minimum standard of protection of 1 in 100 year (present day) for rivers and 1 in 200 year (present day) for the sea. Maps showing the extent of the flood outlines from the NRW FMfP- Rivers in Caerphilly are provided in Appendix A.

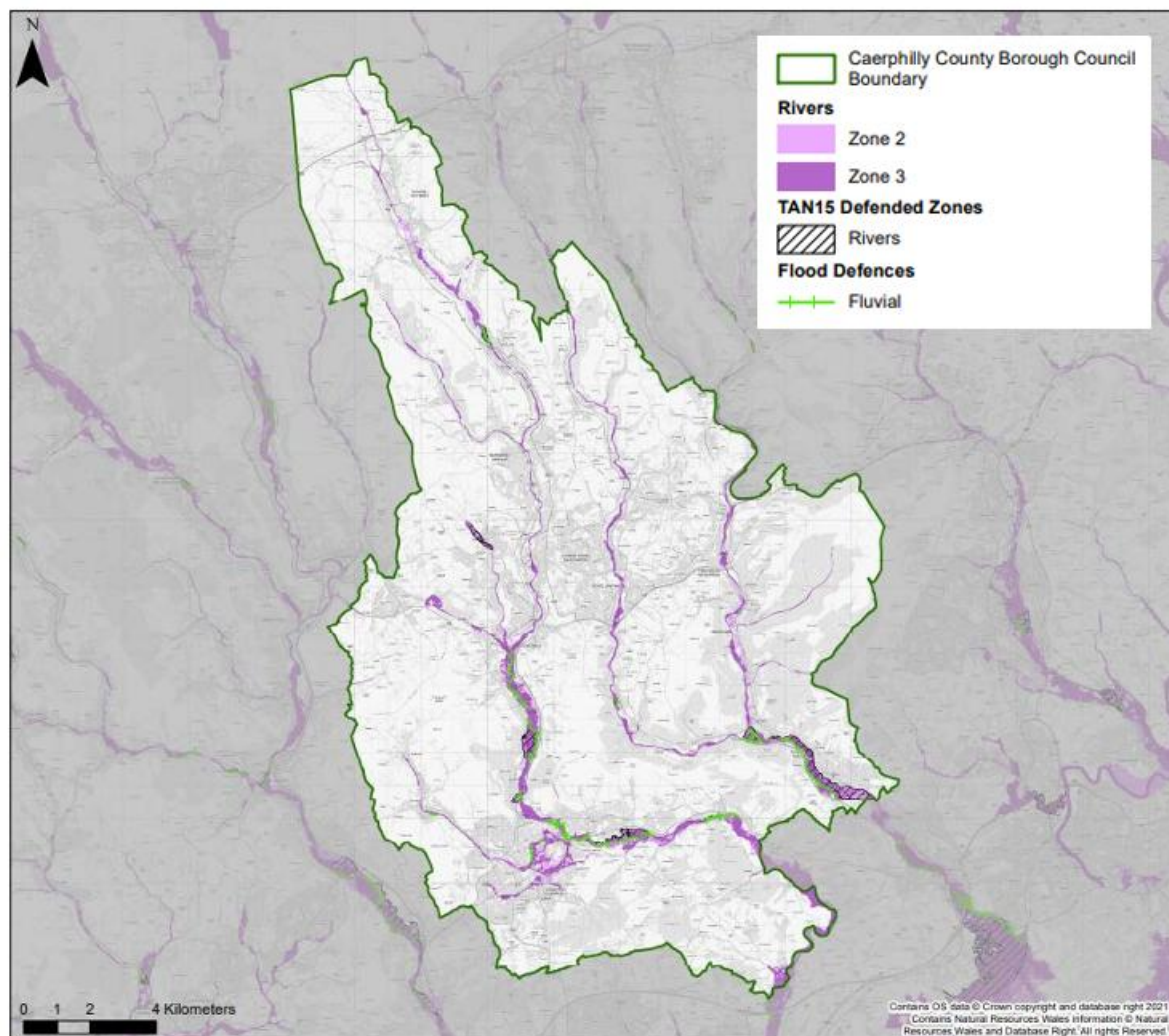


Figure 4-1: Main River Flood Risk as shown on FMfP

4.2.3. Flooding in the Caerphilly County Borough is shaped by the three clear valleys (which run from north to the south) in Caerphilly in which the River Ebbw, River Sirhowy and River Rhymney flow through.

4.2.4. The River Rhymney flows in a southerly direction from its source through Rhymney, New Tredegar, Bargoed, Ystrad Mynach, Llanbradach and to the south of Bedwas. The river then continues, flowing east towards Machen before flowing along the boundary between the Caerphilly and Newport authority areas, before flowing into the neighbouring Cardiff local authority area. The floodplains of the River Rhymney results

in parts of Tir-Phil, Ystrad Mynach, Llanbradach, Bedwas and Machen being located within Flood Zones 2 and 3. NRW Flood defences are present along the River Rhymney in Tir-Phil, Ystrad Mynach, Llanbradach, south of Bedwas, Trethomas and Machen. These defences have a standard of protection of 1 in 75 to 1 in 100 years, with some more rural areas having a standard of protection of 1 in 25 years. Flood defences in Tir-Phil, Llanbradach, Machen and Trethomas form part of the TAN15 Defended Zone for Rivers.

- 4.2.5. The Nant Bargoed Rhymni rises to the north of Deri before flowing in a southerly direction through Deri before its confluence with the River Rhymney to the north of Bargoed train station. The floodplain of this river is narrow and confined by local topography resulting in a small part of Deri being located within Flood Zones 2 and 3. No NRW flood defences are present on this watercourse.
- 4.2.6. The River Sirhowy flows into the north of the county borough from the neighbouring authority area of Blaenau Gwent. The river flows in a southerly direction through the county borough, to the east of several villages, before flowing through the urban areas of Blackwood and Pontllanfraith. The river then flows in a south easterly direction through the county borough before its confluence with the River Ebbw in Risca. Small areas of Blackwood, Pontllanfraith, Ynysddu and Cwmfelinfach are located within Flood Zones 2 and 3. NRW flood defences are present in Ynysddu and have a standard of protection of 1 in 100 years. This area forms part of the TAN15 Defended Zone.
- 4.2.7. The River Ebbw flows into the north-east of the county borough from the neighbouring Blaenau Gwent County Borough Council authority area. The river flows in a southerly direction through the county borough, flowing to the east of Newbridge and through Abercarn. The river begins to flow in a south easterly direction through Crosskeys, after its confluence with the River Sirhowy, and flows along the southern edge of Risca and Pontymister. The floodplain of the river in the upper reaches to the north of Abercarn is confined and not spread over a significant part of the urban area. To the south of Abercarn in Crosskeys, Risca and Pontymister, the floodplain is more extensive, with large areas of these towns located in Flood Zones 2 and 3. NRW flood defences are present in Crosskeys and Risca and have a standard of protection of 1 in 100 years. These flood defences form part of the TAN15 Defended Zone.
- 4.2.8. Flood defences found in and around parts of Caerphilly are maintained by NRW. As a result of these flood defences, some of the fluvial floodplain in Tir-Phil, Penpedairheol, Llanbradach, Crosskeys and Risca is categorised as a TAN15 Defended Zone. Therefore, all forms of development may be possible in these areas. The flood defences have a standard of protection of the 1% AEP event, making areas behind the flood defences favourable to the requirements of TAN-15.
- 4.2.9. Some areas of Caerphilly town, Llanbradach and Ystrad Mynach are currently at flood risk with no significant protection from flood defences. Consequently, in these

areas, development will have to be carefully located away from flood risk areas, particularly areas of Flood Zone 3. The areas of Zone 3 in the Caerphilly County Borough, which are not protected by flood defences are suitable for less vulnerable development only, subject to TAN15 requirements. Development within these floodplain areas will only be justified where land is previously developed. Any proposed development is likely to require flood mitigation considerations and may be more challenging to meet TAN15 requirements.

4.3. Surface Water and Small Watercourses

4.3.1. Maps showing the extent of the flood outlines for the surface water flood maps in Caerphilly are provided in Appendix B.

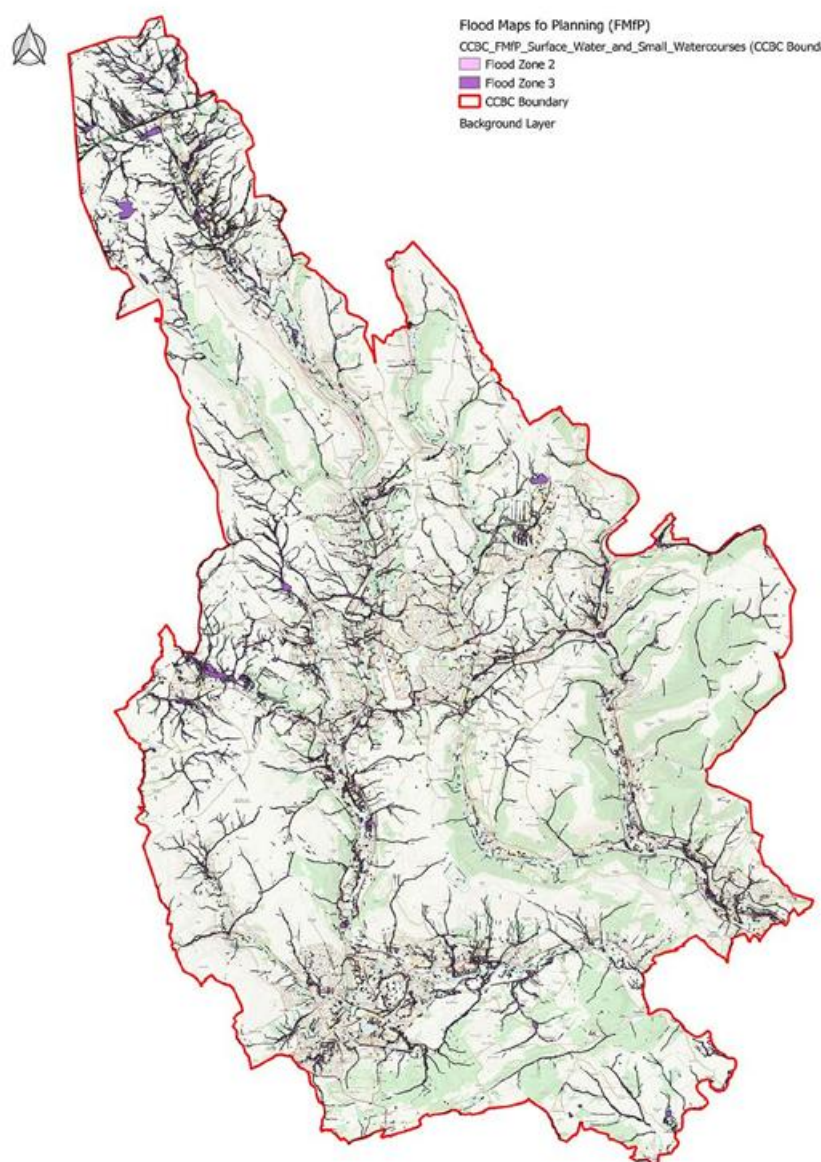


Figure 4-2: Flood Risk from Surface Water and Small Watercourses as shown on FMfP

- 4.3.2. The NRW FMfP- Surface Water and Small Watercourses map shows that the predicted flood extents predominantly follow existing watercourses or dry valleys. Some isolated ponding occurs upslope of topographic features, including railway lines and roads.
- 4.3.3. Due to the topography, a significant number of small surface water flow paths are present around the county borough. Several of these flow paths flow into urban areas. Areas at considerable risk of surface water flooding are Rhymney and the southern extent of Ystrad Mynach, which are within Flood Zones 2 and 3. Extensive areas of surface water ponding are expected in Hafodyrynys and several flow paths and areas of ponding in Caerphilly, Newbridge, Risca and Pontymister.
- 4.3.4. The LFRMS identifies areas as being at greatest risk of flooding from local sources and defines three Critical Drainage Areas (CDAs) as discussed in Section 3.3.1.

4.4. Groundwater

- 4.4.1. JBA has developed a range of Groundwater Flood Map products at the national scale. The 5m resolution JBA Groundwater map has been used within the SFCA. The modelling involves simulating groundwater levels for a range of return periods (including 75, 100 and 200-years). Groundwater levels are then compared to ground surface levels to determine the head difference in metres. The JBA Groundwater Map categorises the head difference (m) into five feature classes based on the 100-year model outputs. These are outlined in Table 4 2.

Flood depth range during a 1% AEP flood event	Groundwater flood risk
Groundwater levels are either at or very near (within 0.025m of) the ground surface.	Within this zone there is a risk of groundwater flooding to both surface and subsurface assets. Groundwater may emerge at significant rates and has the capacity to flow overland and/or pond within any topographic low spots.
Groundwater levels are between 0.025m and 0.5m below the ground surface.	Within this zone there is a risk of groundwater flooding to both surface and subsurface assets. There is the possibility of groundwater emerging at the surface locally.
Groundwater levels are between 0.5m and 5m below the ground surface.	There is a risk of flooding to subsurface assets but surface manifestation of groundwater is unlikely.
Groundwater levels are at least 5m below the ground surface.	Flooding from groundwater is not likely.
No Risk	This zone is deemed as having a negligible risk from groundwater

	flooding due to the nature of the local geological deposits.
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Table 4-2: JBA Groundwater Flood Risk Map Categories

- 4.4.2. The bedrock geology of the Caerphilly County Borough is predominantly comprised of Mudstone. Mudstone tends to have low porosity and permeability; however this is dependent upon grain size percentages and level of compaction. As a result, upward percolation of groundwater and subsequent flooding should be considered. The superficial deposits overlaying the bedrock in the Caerphilly County Borough are comprised of Till, Diamicton and Glacial Sand and Gravel which are generally permeable. Areas overlain by more permeable superficial deposits in the Caerphilly County Borough are more likely to store groundwater, and therefore pose a greater risk of groundwater flooding than those areas only underlain by bedrock. Maps showing the indicative groundwater flood depths in Caerphilly are provided in Appendix C.
- 4.4.3. Groundwater flood risk mapping indicates that the county borough has groundwater levels at least 5m below the ground surface, suggesting a low risk of groundwater flooding. Areas in Ystrad Mynach, Abercarn, Caerphilly, Machen, Risca and Newbridge, have large areas where the groundwater is between 0.025 and 5m below the surface, making groundwater flooding more likely in these areas. Around the watercourses in the county borough, there are areas where groundwater is close to the surface. Other areas of high groundwater flood depths are present outside the county borough's urban areas.
- 4.4.4. There are multiple springs and a considerable number of groundwater issues in Caerphilly including the upland areas of the County Borough. It should be noted that high groundwater levels may lead to issues with sewer capacity and below ground SuDS design even where groundwater flooding may not be a significant risk. Caerphilly County Borough Council expects developers to provide a site specific assessment of groundwater levels on all developments, including where the mapping in the SFCA even indicates low levels of risk.
- 4.4.5. TAN-15 does not specify any requirements for groundwater flood risk, other than the risk of groundwater flooding should be considered as part of an FCA. However, it would be advisable to locate developments away from areas where groundwater is less the 0.025m below the ground surface without further groundwater monitoring and detailed assessment being undertaken.

4.5. Sewers

- 4.5.1. Dŵr Cymru Welsh Water (DCWW) is responsible for sewer infrastructure across the study area and recording sewer flooding incidents.
- 4.5.2. DCWW have provided data from 2025 from their database of properties considered to be at risk of flooding. This data is shown arranged by town in table 4-3 below:

Location	Property Count
Abercarn	27
Argoed	3
Bargoed	1
Blackwood	27
Caerphilly	165
Cefn Fforest	1
Cefn Golau	1
Cefn Hengoed	1
Cross Keys	10
Crumlin	5
Deri	13
Ellots Town	1
Fleur-de-lis	6
Hengoed	2
Llanbradach	7
Maesycymmer	1
Nelson	3
Oakdale	2
Penallta	1
Pengam	3
Penpedairheol	2
Pontllanfraith	7
Pontlloftyn	1
Rhymney	1
Risca	1
Tirphil	1
Treharris	2
Ystrad Mynach	31
Grand Total	326

Table 4-3: DCWW Sewer Flooding Data (2025)

4.5.3. TAN-15 does not specify any requirements for sewer flood risk, other than that it should be considered as part of an FCA. DCWW should be able to provide specific advice on any known history of sewer flooding and any remedial action taken.

4.6. Flooding from Artificial Sources

4.6.1. For the purpose of the SFCA, flooding from artificial sources has been defined as flooding from non-natural or artificial sources of flooding such as reservoirs, canals and lakes where water is retained above natural ground level.

4.6.2. Artificial sources of flooding identified within the county borough include numerous reservoirs across and upstream of the Caerphilly County Borough and the

Monmouthshire and Brecon Canal. Maps showing the potential flood risk from artificial sources in Caerphilly County Borough are provided in Appendix D.

4.6.3. Several reservoirs are present in the county borough. These include:

- Rhymney Bridge No.1,
- Rhymney Bridge No.2,
- Jepson's Pond
- Bute Town
- Rhaslas Pond
- Pen-y-Fan Pond
- Pen-Pedair-Heol Flood Storage Reservoir
- Caerphilly Castle Moats
- Cefn Mably Lodge Lake; and
- Nant-y-Draenog,

4.6.4. Six reservoirs are located outside of the county borough and contribute to the potential risk of flooding. These are:

- Shon Sheffrey Reservoir (located 6.4km north of the county borough)
- Bryn Bach Park Lake (located 5.4km north of the county borough)
- Waun-y-Pound Upper (Blue Lake) (located 10km north of the county borough)
- Cwmtillery (located 5.1km north of the county borough)
- Blaen-y-cwm (located 11.6km north of the county borough) and
- Carno Lower (located 11.1km north of the county borough)

4.6.5. The NRW FRAW Flood Risk from Reservoirs mapping indicates that the areas along the course of the Rhymney, Sirhowy and Ebbw valleys are predicted to experience flooding due to a reservoir breach resulting from the topography of the areas. Caerphilly, Rhymney, Crosskeys and Risca are also predicted to experience significant flooding due to a reservoir breach or overtopping.

4.6.6. The failure of a reservoir can cause catastrophic damage due to the sudden release of large volumes of water. Reservoirs in the UK have an excellent safety record, and NRW is the enforcement authority for the Reservoirs Act 1975 in England and Wales. All large reservoirs must be inspected and supervised by reservoir panel engineers. It is assumed that these reservoirs are regularly inspected, and essential safety work is carried out. These reservoirs, therefore, present minimal risk.

4.7. Impact of Climate Change

4.7.1. Climate change is causing more frequent and more severe flooding to occur in Wales. The Climate Change Committee provides independent advice to the Welsh Government on setting and meeting carbon budgets and preparing for climate change. It has stated that it expects the climate in Wales to become warmer and wetter, with significant increases in the sea level around the coast and the frequency and intensity

of storm events. This will increase the risk of flooding and it is also reasonable to expect the incidence and seriousness of flood events to increase.

4.7.2. Table 4-4 below shows how Climate Change has been assessed for each source of flooding within the SFCA. Even if an area is currently not at flood risk, the impact of climate change on the extent of flooding should be considered.

Source	Data Source	Climate Change Allowance
Rivers	TAN15 FMfP for Rivers	The FMfP displays predicted future flood risk under the central climate change estimate. Detailed Flood Consequences Assessments will be required to consider a range of climate change scenarios, including upper end estimates, making reference to the Welsh Government guidance on climate change allowances for planning purposes.
Sea	TAN15 FMfP for the Sea	
Surface Water and Small Watercourses	TAN15 FMfP for Surface Water and Small Watercourses	
Groundwater	No data sets available.	The impacts of climate change on groundwater flooding problems, and those watercourses where groundwater has a large influence on winter flood flows, is much more uncertain. Milder wetter winters may increase the frequency of groundwater flooding incidents in areas that are already susceptible, but warmer drier summers may counteract this effect by drawing down groundwater levels to a greater extent during the summer months. The effect of climate change on groundwater levels for sites in areas where groundwater is known to be an issue should be considered at the planning application stage.
Sewers	No data sets available.	Climate change is likely to result in an increase in sewer flooding incidences as a result of its interaction with other flood risk sources (including surface water and groundwater) where flooding from this source is increased as a result of climate change. Where sewer flooding is known to be an issue should be considered at the planning application stage.

Reservoirs	No data sets available.	Some reservoir functions (i.e. the use that the reservoir is put to) may be relatively vulnerable to climate change, particularly where they rely on existing yields, flood flows or water quality of source waters. However, there are a number of systems that are already in place (e.g. the Water Resources Management Plan) that contain methods for identifying impacts and adapting to climate change as part of the normal ownership and operation process. In most cases, the form of the dam is resilient to the effects of climate change if the reservoir structure is well engineered with an appropriate factor of safety.
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Table 4-4: Assessment of Climate Change for all Sources of Flooding

4.8. Roles and Responsibilities for Managing Flood Risk

4.8.1. Flood risk management is a devolved matter. Welsh Government and Natural Resources Wales (NRW) have strategic oversight of flood risk management in Wales. At a more local level, roles and responsibilities relating to flood risk is quite a complicated area with no single body having overall responsibility for management of flood risk.

4.8.2. Figure 4-2 below has been taken from the Welsh Government National Strategy and summarises the different types of flooding and the key points of contact in each case. The roles and responsibilities are briefly summarised in the following sections. The organisations responsible for flooding have a duty to cooperate with each other and formal responsibilities relating to the different types of flooding.

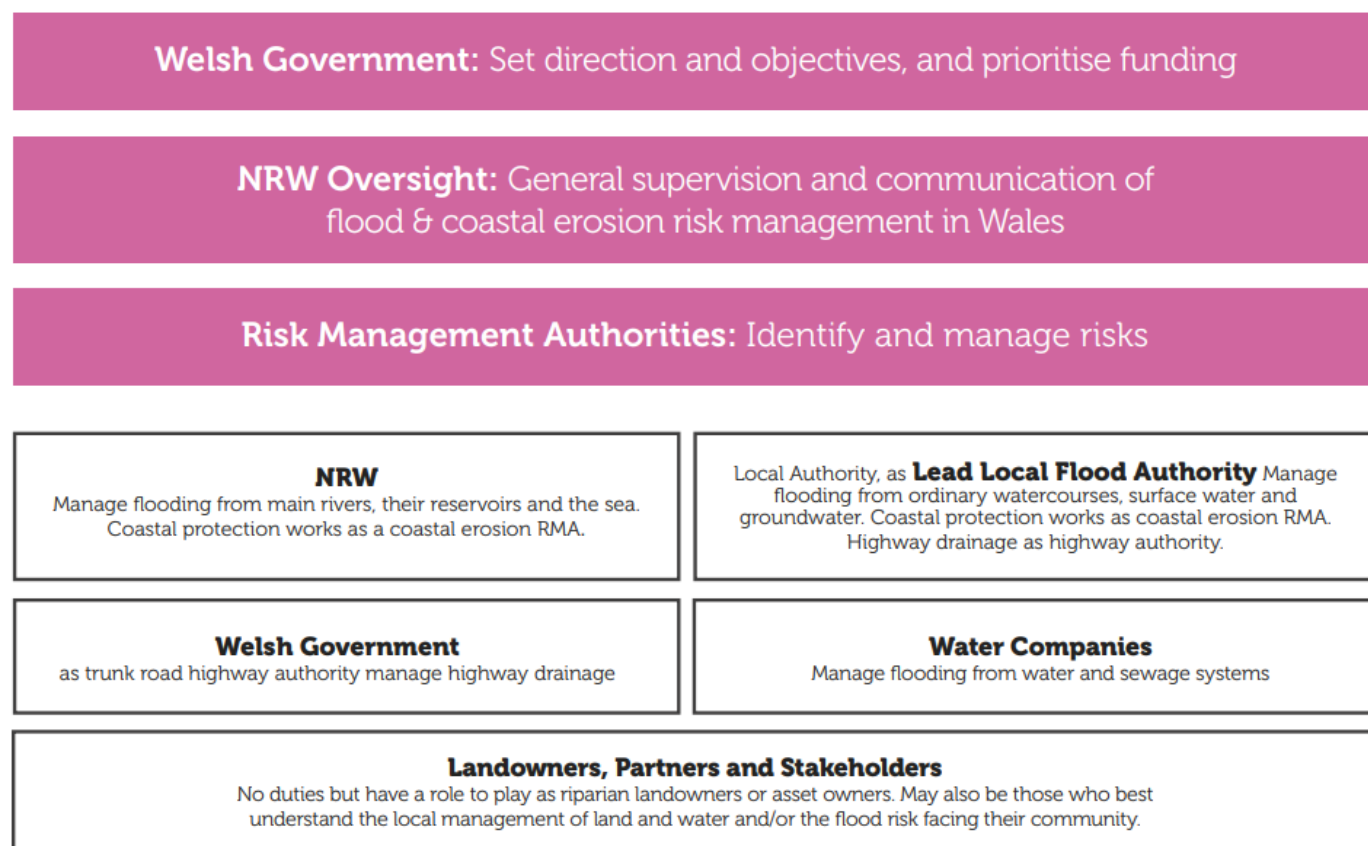


Figure 4-5: Overview of flood risk roles and responsibilities

4.9. Pipeline of FCERM Projects

4.9.1. Projects planned for delivery under the Flood and Coastal Erosion Risk Management (FCERM) programme are aimed at protection of **existing** communities. The following list of projects has been taken from NRW's Flood Risk Management Plan and from the LLFA's pipeline of planned schemes. Scheme delivery will often be dependent on funding and resources. Where schemes are included on the pipeline, this may not make development more acceptable in any of the areas indicated.

Location	Source	Risk Management Authority	Description	Timescale
Bedwas	River	NRW	Feasibility assessment	Short Term
Bedwas	River	NRW	Improve flood warning service	Short Term
Bedwas	River	NRW	Update existing hydraulic model	Short Term
Caerphilly	River	NRW	Update existing hydraulic model	Short Term
Crumlin	River	NRW	Feasibility assessment	Short Term
Llanbradach	River	NRW	Feasibility assessment	Short Term
Llanbradach	River	NRW	Improve flood warning service	Short Term
Llanbradach	River	NRW	Update existing hydraulic model	Short Term
Machen	River	NRW	Feasibility assessment	Short Term
Machen	River	NRW	Improve flood warning service	Short Term
Machen	River	NRW	Update existing hydraulic model	Short Term
Ystrad Mynach	River	NRW	Feasibility assessment	Short Term
Ystrad Mynach	River	NRW	Improve flood warning service	Short Term
Ystrad Mynach	River	NRW	Update existing hydraulic model	Short Term
Deri	Small Watercourse	LLFA	Improve culvert inlet screen	Short Term
Risca	Surface Water	LLFA	Feasibility assessment	Medium Term
Penpedairheol	Small Watercourse	LLFA	Update existing hydraulic model	Medium Term
Llanbradach	Surface Water	LLFA	Feasibility assessment	Short Term
New Tredegar	Small Watercourse	LLFA	Construct flood storage basin	Medium Term
Ystrad Mynach	Small Watercourse	LLFA	Construct flood storage basin	Medium Term
Hafodyrynys	Small Watercourse	LLFA	Feasibility assessment	Short Term
Caerphilly	Small Watercourse	LLFA	Feasibility assessment	Medium Term

Table 4-5: Pipeline of FCERM projects

5. Candidate Site Assessments

5.1.1. Individual Candidate Site Assessments have been carried out against Flood Map for Planning (FMfP) and the other relevant data sources and identified flood risk in Section 4. These are contained in Appendix E.

5.1.2. The following candidate sites have been identified as needing to be supported by a Flood Consequences Assessment at planning application stage:

- HO1.1: Castle Fields, Rhymney (HOV208)
- HO1.3: Land at Cefn Llwynau Farm, Penallta, Hengoed (YM017)
- HO1.4: Land south of A472, Tredomen, Ystrad Mynach (YM012)
- HO1.5: Former DCWW Depot, Nelson (TM005)
- HO1.6: Land at Ty Du Farm, Nelson (YM026)
- HO1.7: Land at Heol y Cefn, Blackwood (GB012)
- HO1.8: Land at Cwmgelli Farm, Blackwood (GB030)
- HO1.11: Welsh Egg Farm, Caerphilly (CB010)
- HO1.12: Land at Nant y Calch Farm, Caerphilly (CB025)
- HO1.13: Land at Watford Road, Caerphilly (CB018)
- HO1.14: Land at Pandy Road (Phase 2), Bedwas (CB017)
- HO1.15: Land at Coed-y-Brain, Aberbargoed (HOV110)
- HO1.16: Land at Brynmeadows Golf Club, Maesycwmmmer (GB203)
- HO1.17: Land at Nant Gau, Oakdale (GB010)
- HO1.18: Land east of former Oakdale Golf Club, Oakdale (GB013)
- HO1.19: Land at Pantysgawen Farm, Croespenmaen (GB023)
- HO1.20: Land off Pengam Road, Penpedairheol (YM201)
- CF1.1: Land north of Carno Street, Rhymney (HOV008)
- CF1.2: Land at Heolddu, Bargoed (HOV109)
- HO8.1: Land at former Station House, Rhymney (HOV009)
- EM1.3: Tredomen Extension, Ystrad Mynach (YM011)

6. Development Management Guidance

6.1. Introduction

6.1.1. An updated / revised version of TAN15 was published on 31st March 2025. In parallel, Welsh Government Circular 002/2025 “Guidance on the Town and Country Planning (Flood Risk Area Development) (Notification) (Wales) Direction 2025” and the associated Direction were also published. A TAN15 Frequently Asked Questions guidance document was subsequently published in March 2026.

6.1.2. The 2025 Direction requires LPAs, when determining applications for planning permission made on or after 31st March 2025 to refer those applications to the Welsh Ministers where they do not propose to refuse planning permission for:

- Highly vulnerable development
- Where the whole or part of the land for the development is within the flood risk area in Rivers and Sea – Flood Zone 3 of the Flood Map for Planning and
- Where the whole or part of the land for the development is located on ‘previously undeveloped land’.

6.2. Flood Map Challenge

6.2.1. TAN15 utilises the Flood Map for Planning (FMfP) as the primary reference source for flood risk for Rivers, the Sea and Surface Water and Small Watercourses. FMfP also identifies areas served by flood defences and identified as TAN15 Defended Zones.

6.2.2. The FMfP is routinely updated by NRW with best available information on flood risks from the sea and rivers. These updates are published every six months, in May and November. While many updates are undertaken by NRW’s modelling and mapping teams, there is an established process for other parties to submit their own flood risk modelling data where it provides a more accurate assessment of flood risk. This is referred to as the Flood Map Challenge (FMC) process.

6.2.3. NRW publish through their website comprehensive guidance on the FMC process. This guidance includes detailed specifications for the FMfP Zones, hydraulic modelling standards and supporting documentation requirements. Nevertheless, it is advised that NRW are consulted before embarking on a FMC and it is likely that expert technical advice will be required to undertake most FMC’s.

6.2.4. Where a FMC has been accepted by NRW, but not yet published online, NRW will respond to statutory planning consultations advising the LPA on the risks and consequences of flooding based on the best available information which would be the modelling from the FMC. This would include confirming what flood zone the site will be shown in from the next update. As such the LPA may give material weight to accepted FMC’s when applying the justification tests of TAN15.

6.3. Use of Defended Zones and Flood Defences

- 6.3.1. Areas benefitting from, formal flood defences managed or maintained by Risk Management Authorities are shown on the Flood Map for Planning as TAN 15 Defended Zones.
- 6.3.2. TAN15 Defended Zones are only applicable in relation to flood risk associated with Rivers and the Sea. In relation to flood risk from Rivers, defences must have a minimum standard of protection against flooding of 1% Annual Exceedance Probability (AEP) (1 in 100 years) plus climate change and an appropriate allowance for freeboard.
- 6.3.3. The existence of flood defences does not mean development should be allowed without further consideration of flood risks. Flood defences reduce the risk of flooding but do not eliminate it. The consequences of flooding can be particularly severe in the event of defences being overtopped or breached. TAN 15 Defended Zones are served by defences that provide protection from at least one of the main sources of flooding – sea or river, or both in some instances. Some areas within the TAN 15 Defended Zones may be vulnerable to other sources of flood risk therefore it will be important to assess all sources of risk. It will also be important to demonstrate that any new development in the TAN 15 Defended Zones incorporates resilience and resistance measures so that it remains flood-free and safe and responds appropriately to the content of Flood Consequences Assessment.
- 6.3.4. Areas where defences provide levels of protection below the definition provided above are not in the TAN 15 Defended Zones. The standard of protection offered by such defences is not sufficient to justify further development in those areas. In the event that investment in these defences results in them providing the necessary standard of protection, the Flood Map for Planning will be updated. Where defences are not managed by Risk Management Authorities there is insufficient certainty that they will be maintained. Similarly, infrastructure features that provide some protection but are not formal flood defences, such as rail embankments, cannot be assumed to remain in place. These types of defences therefore do not create TAN 15 Defended Zones for planning purposes.
- 6.3.5. New or extended TAN 15 Defended Zones will be created if and when Natural Resources Wales is satisfied that qualifying defences provide a standard of protection that meets or exceeds the definition outlined above. Risk Management Authorities should provide this information to Natural Resources Wales using the National Asset Database.
- 6.3.6. As a further means of maintaining the map's accuracy, Natural Resources Wales will review the existing TAN 15 Defended Zones on the Flood Map for Planning periodically, approximately every 2-3 years. If the standard of protection provided by

defences is found to have dropped below the threshold, it will be necessary to remove the Defended Zone and reclassify the affected areas as Flood Zone 2 or 3.

- 6.3.7. Designation of a private flood defence under the Flood and Water Management Act does not result in a Risk Management Authority taking responsibility for maintenance of the flood defence but rather places additional requirements on the asset owner in relation to management, maintenance and alterations to the structure. As such, designation of private flood defences does not mean that these will be added to the TAN15 defended zones.
- 6.3.8. A pipeline of Flood and Coastal Erosion Risk Management (FCERM) schemes is outlined in section 4.9. There are no new flood defences that would constitute new TAN15 defended zones that the LPA is aware of at the time of publication and no new flood defences included within the Infrastructure Plan associated with the LDP.
- 6.3.9. In some circumstances, development may be permitted subject to appropriate mitigation measures or improvements to existing flood defence infrastructure to manage the risk of flooding. Developers will normally be expected to bear the costs of necessary mitigation, construction and long term maintenance. Planning authorities should, where necessary, require developers to contribute financially via the Community Infrastructure Levy or enter into an agreement under Section 106 of the Town and Country Planning Act 1990 to ensure the infrastructure improvements can be provided. Planning authorities should ensure the developer carries out any necessary works and future maintenance commitments are met. It will normally be appropriate to vest the resulting infrastructure, constructed to the operating authority's satisfaction, in the operating authority, with a dedicated commuted sum to cover maintenance for 30 years. After that time, it would be reasonable to regard the infrastructure as a public asset which should be maintained from the public purse.
- 6.3.10. Where such works would provide a wider benefit, the funding provided by the developer may be proportional to the benefits they incur. In such cases, a reasonable allocation might be for the developer to fund the provision of the infrastructure improvements, which are then vested in and maintained by the operating authority. A "Grampian" type condition may be used where it can be guaranteed that the whole scheme would be funded and constructed prior to development proceeding.

6.4. Redevelopment, Change of Use and Conversions

- 6.4.1. The redevelopment of existing buildings in flood risk areas can present decision makers with difficult decisions. There may be circumstances where the planning authority may be sympathetic to changes of use or conversion proposals which bring clear benefits to the area and the building.
- 6.4.2. As a general principle LDPs should seek to avoid intensification of uses in Defended Zones and replacement buildings or redevelopment schemes should be broadly the

same scale as existing uses. Based on this evidence Authorities should seek to prioritise redevelopment in areas of lower flood risk.

6.4.3. In River Zone 2 allocations may be made for new development and redevelopment of any vulnerability that is necessary to implement the strategy of an LDP, a strategy to regenerate or revitalise existing settlements or to achieve key economic or environmental objectives, provided that a Strategic Flood Consequences Assessment has identified an acceptable level of risk. Land in Zone 2 may also be allocated for new developments and redevelopment that address national security or energy security needs, mitigate the impacts of climate change, that are necessary to protect and promote public health or that the planning authority can demonstrate are essential to the realisation of the strategy of the LDP provided that a Strategic Flood Consequences Assessment has identified an acceptable level of risk.

6.4.4. Allocations for redevelopment in River Zone 3 should be avoided and may only be made in exceptional circumstances where it is essential to the strategy of an LDP or where it addresses national security or energy security needs, or public health or it mitigates the impacts of climate change. Planning authorities must not allocate sites for highly vulnerable redevelopment unless there is a clear commitment that flood mitigation measures will be provided to protect those sites. Such measure must be set out in the LDP Infrastructure Plan.

6.5. Surface Water and Small Watercourses

6.5.1. It is recognised that modelling and mapping of the risks associated with surface water and small watercourses is more challenging than mapping of the risks associated with Main Rivers and the Sea. The risk-based approach recognises that surface water and ordinary watercourse flood risk cannot always be managed and mitigated, particularly as these are increasing sources of risk as a result of climate change. The Flood Map for Planning provides information on these risks to enable planning authorities to develop locally appropriate approaches for areas at risk, or in close proximity to risk.

6.5.2. Where flooding from surface water or ordinary watercourses occurs quickly, with little warning or to significant depths it would be appropriate to restrict new development. In areas where the risk is more predictable and flood depths are shallow, it may be concluded that risks can be managed in an acceptable way for existing and new development. If it is concluded that risks from surface water or ordinary watercourses can be managed or mitigated, these measures must not increase the flood risk elsewhere.

6.5.3. Managing and mitigating surface water and ordinary watercourse flood risks should not include building over ordinary watercourses. Ordinary watercourses have an important drainage function and offer significant benefits to amenity and biodiversity. Structures such as bridges may be necessary, but watercourses should not be channelled into culverts beneath new homes. They should be considered a natural

asset to the development site and integrated with sustainable drainage systems (SuDS) features from the outset where appropriate.

6.5.4. During flood events, excess water will naturally flow downhill and will be diverted by fixed obstacles such as buildings. During shallow floods, small changes in surface levels such as pavements will affect the flow of water and it can pool in very minor depressions in the landscape. When a site is developed in areas at risk, or near a risk, it will potentially change the expected flow of water during a flood. It is important that planning authorities are provided with a clear assessment of how a development will affect surface water and ordinary watercourse flood risks.

6.5.5. In cases of more than the very most minor surface water flood risk the LPA will expect planning applications to be supported by a proportionate FCA for

- any development proposal located fully or partly in Surface Water and Small Watercourses Flood Zones 2 and 3 or,
- where the development is wholly or partially within a Critical Drainage Area (CDA) irrespective of whether the development itself is shown to be at risk of flooding on FMfP or,
- where the development is liable to impact on a critical flood risk asset as shown on NRW's National Flood Asset Database irrespective of whether the development itself is shown to be at risk of flooding on FMfP.

6.6. Requirements for a Flood Consequences Assessment (FCA)

6.6.1. Site-specific FCAs are carried out by (or on behalf of) developers to assess the risk and consequences of flooding to a proposed development site and the risk and consequences of that development to third party land. Section 6 identifies Candidate Sites that will be required to submit a site specific FCA in support of the planning application. Candidate Sites not specifically listed in Section 6 may also be required to submit an FCA at planning application stage where

- the flood risk shown on FMfP has changed between the Candidate Site Assessment and the submission of the planning application or
- additional flooding history has been recorded between the Candidate Site Assessment and the submission of the planning application or
- the development proposals have altered to an extent whereby the flood risk associated with the development has also changed.

6.6.2. Section 6 of TAN15 sets out the requirements for an FCA. The prime objective of a Flood Consequences Assessment is to develop a full appreciation of:

- The risk and consequences of flooding on the development; and
- The risk and consequences (i.e. the overall impacts) of the development on flood risk elsewhere.

6.6.3. The technical requirements of an FCA as detailed in Section 6 and Figure 2 of TAN15 are generally applicable to all sources of flooding, including flooding from Surface Water and Small Watercourses and Groundwater.

6.6.4. Importantly, Figure 2 of TAN15 highlights that the consequences of flooding shall include for combinations of flooding. It is not sufficient to consider each source of flooding independently and due consideration must be given to the possibility of flooding from different sources happening either concurrently or sequentially.

6.6.5. Section 11 of TAN15 outlines the acceptability criteria of flood consequences. Whether or not a development should proceed will depend on whether the consequences of flooding can be safely managed, including the effects on flooding elsewhere.

6.6.6. There are requirements that must be in place for any development that is permitted to be located in flood risk areas. In all circumstances, developers and planning authorities should ensure the following conditions are met:

- No increase in flooding elsewhere
- Occupiers aware of flood risk
- Escape/evacuation routes present
- Flood emergency plans and procedures agreed and in place
- Flood resistant and resilient design
- Acceptable consequences for type of use

6.7. Resilient Design

- 6.7.1. TAN15 outlines the complementary role that planning and building regulations have in flood management and how the use of flood mitigation and damage resistant measures will be required as part of ensuring that the consequences of flooding are acceptable.
- 6.7.2. Any development in River Zones 2 and 3 and TAN15 Defended Zones must have resilience to flood built-in at site and property level. Many developments in Surface Water and Small Watercourses Zones 2 and 3 will also require the same level of resilience measures to be incorporated.
- 6.7.3. At the property-level, the aim should be to minimise the amount of water that can enter a property using resistance measures, and limit the damage caused if water does enter so that the building can be recovered quickly. Simple design features, such as raising floor levels, while ensuring that inclusive access is maintained, or keeping electrical circuits above levels likely to be affected by flooding, can enable buildings to resist and cope with flooding better. The use of appropriate materials will also improve the resilience of a development, for example by avoiding the use of carpets in ground floor areas. Developers are encouraged to engage with their insurers at an early stage of design planning, as integrating appropriate and effective design features can demonstrate that flood risks are being actively reduced. This can help ensure lower insurance premiums during construction and for the eventual occupiers of new developments.
- 6.7.4. Higher density and mixed-use developments can offer greater potential for resilient design. For instance, ground floor areas may be able to accommodate less vulnerable elements of the development, such as commercial uses, provided that highly vulnerable uses on upper floors have satisfactory access and egress arrangements in the event of flooding.
- 6.7.5. The use of SuDS and Nature-based Solutions may offer potential to help manage the risks of flooding safely across a site. However, locating SuDS in Flood Zones 2 and 3 may result in the SuDS becoming saturated with flood waters from alternative sources and not able to provide the anticipated level of protection against pluvial flooding (flooding associated with rainfall on or in the vicinity of the development site). Where SuDS are located in Flood Zones 2 and 3 or in TAN15 Defended Zones, Flood Consequences Assessments (FCAs) will be expected to consider the likelihood and consequences of concurrent flooding from multiple sources.
- 6.7.6. A sequential, risk-based approach should be applied to try to locate more vulnerable development use away from flood zones to higher ground, while more flood-compatible development (e.g. landscaping, recreational space) is located in higher risk areas. However, water compatible or less vulnerable uses in floodplains should consider the nature of the development, flood depths and hazard including evacuation procedures

and flood warning. The nature of risk to water quality may also need to be considered and mitigated in some cases, particularly with parking areas so accumulated hydrocarbons and other vehicle related pollutants are not released to the aquatic environment

- 6.7.7. Waterside areas, or areas along known flow routes, can be incorporated into the masterplan as multi-functional green infrastructure, being used for recreation, amenity and environmental purposes, allowing the preservation of flow routes and flood storage, and at the same time providing valuable social and environmental benefits contributing to other sustainability objectives. Landscaping should ensure safe access to higher ground from these areas and avoid the creation of isolated islands as water levels rise. These areas can be utilised for floodplain, riparian planting or can have increased surface roughness to contribute to Natural Flood Management (NFM) as outlined in Section 8.
- 6.7.8. Flood response planning is one option to help manage flood related incidents. From a flood risk perspective, flood response planning can be broadly split into three phases: before, during and after a flood. These measures involve developing and maintaining arrangements to reduce, control or mitigate the impact and consequences of flooding and to improve the ability of people and property to absorb, respond to and recover from flooding. TAN-15 (Section 11.13) states that development plans must be based on a sound understanding of the emergency services' ability to respond to flooding, therefore key stakeholders and the emergency services should be consulted when developing FCAs.
- 6.7.9. Safety is a key consideration for any new development and includes residual risk of flooding, the availability of adequate flood warning systems for the development, safe access and egress routes and evacuation procedures.
- 6.7.10. Further guidance on incorporating resistance and resilience into development through design is available from the Construction Industry Research and Information Association (CIRIA), including a Code of Practice and Guidance for Property Flood Resilience.
- 6.7.11. TAN-15 requires safe access and egress is available to and from the development in all modelled scenarios. This should consider all sources of flood risk including surface water. As a minimum safe access and egress routes should comply with the tolerable conditions (0.1% AEP plus climate change) of TAN-15 Figure 7. For any development where there is a flood risk to the development or the associated highways a Flood Emergency Plan should be compiled to inform site occupants of a safe access and egress route to and from the site.
- 6.7.12. A flood response plan should be created for any development where there is a flood risk to the development itself or the surrounding highways. The plan should detail the flood risk to the development, the actions occupants of the site should take before,

during and after flooding and the safe access and egress routes available during a flood under all conditions. The plan should always take a proactive rather than reactive approach i.e if buildings on the site are at risk of flooding occupants should have already left their properties before flood water enters. The plan should be easy to follow giving clear instructions on what actions should be taken before, during and after a flood.

6.7.13. NRW operates a Flood Warning Service for some areas deemed to be at a risk of fluvial or coastal flooding. This service covers approximately 60% of properties at risk from these sources of flood risk, and NRW is continually working to extend this service. These warnings have been designed to give the public advance notice of flooding. Each flood alert and warning area is assigned an individual code to allow NRW to make flood alerts and warnings specific to areas at risk.

6.7.14. Flood Warning and Alert areas generally follow the main river valleys, but do extend into some tributary areas. Flood Warning and Alert areas are available in map view and by postcode on the NRW Flood Risk Assessment Wales website - [Natural Resources Wales / Check your flood risk on a map \(Flood Risk Assessment Wales Map\)](#).

6.7.15. Information on signing up for flood warnings is also available on NRW's website at [Natural Resources Wales / Sign up to receive flood warnings](#) or via the 24-hour floodline service on 0345 988 1188.

7. Working with Natural Processes and Natural Flood Management

7.1. Introduction

7.1.1. It should be noted that there are several terms for measures involving natural solutions to managing flood and coastal erosion risk, for clarity these are:

- Nature Based Solutions (NBS) – broad terms referring to the sustainable management and use of natural features to tackle socio-environmental challenges.
- Working With Natural Processes (WWNP)– terms for reducing flood and coastal erosion risk through implementing measures to protect, restore and emulate the natural functions of catchments, floodplains, rivers and the coast.
- Natural Flood Management (NFM) – Use of natural processes to reduce the risk of flooding and coastal erosion.

7.1.2. This SFCA will focus on specific measures that can be used to manage flood and coastal erosion risk and will refer to the use of WWNP and NFM in Caerphilly County Borough. This section will provide an overview of different WWNP/ NFM measures that can be implemented and will provide a review of the WWNP mapping to understand the potential for using these techniques in each Local Authority area.

7.1.3. The NRW Wales Environmental Information Portal contains maps and other information relating to the Welsh Information for Nature Based Solutions (WINS). WINS is a collection of stories that show the best places to take action and enhance the environment. One of the policy themes considered in WINS is NFM.

7.1.4. Developments can provide opportunities to work with natural processes of catchments, floodplains, rivers and the coast to reduce flood and erosion risk, benefit the natural environment and reduce costs of schemes. Even ostensibly small interventions on individual development sites can contribute towards a cumulative catchment benefit.

7.1.5. WINS includes 3 summary maps and 6 maps by NFM intervention type. The opportunities and constraints within the Caerphilly County Borough area as indicated on these maps are discussed below.

7.2. Demand for NFM

7.2.1. The WINS project considered the demand space for NFM as catchments feeding into urban areas at elevated risk from fluvial (river) flooding.

7.2.2. All of Caerphilly County Borough is considered to be a demand space for NFM as shown on Figure 8-1 below.

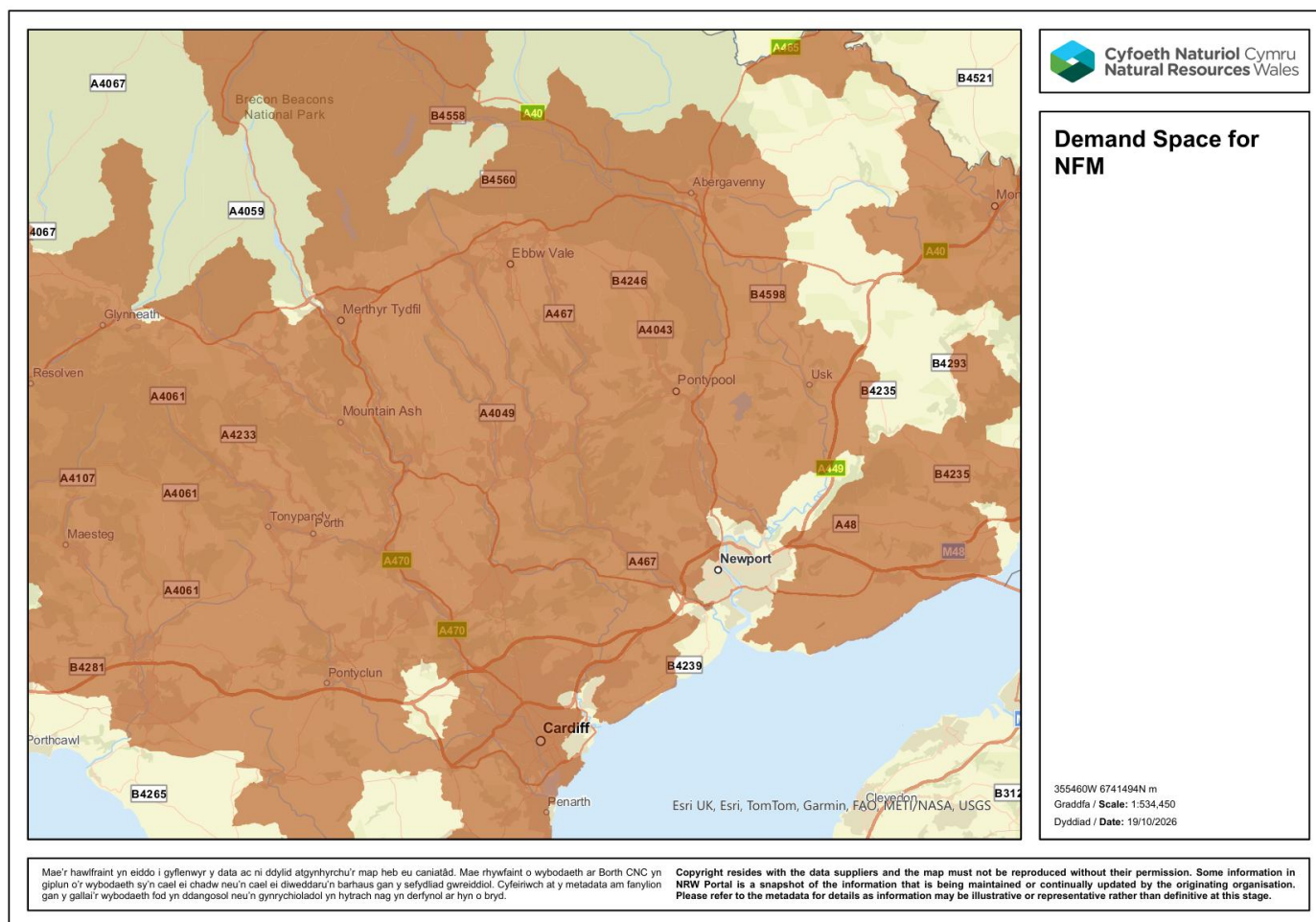
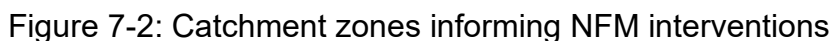


Figure 7-1: Demand space for NFM

7.3. Catchment zones informing NFM interventions

- 7.3.1. Catchment zones were modelled as part of the WINS project in order to help the targeting of NFM work. These catchment classifications help to define which NFM interventions have the greatest benefits.
- 7.3.2. The northern part of Caerphilly Borough is characterised by steep headwaters, with transitions into gentle headwaters.
- 7.3.3. South of Aberbargoed, the borough is generally characterised by gentle mid-reaches with some areas of steep mid-reaches.
- 7.3.4. South of Maesycwmmmer on the Rhymney River, south of Ynysddu on Sirhowy River and south of Abercarn on the Ebbw River include areas of floodplain in valley bottoms region in the immediate river corridors.



7.5.6342 hectares (63.4 square kilometres) of catchment woodland on artificially drained land. NFM measures, if implemented, could take a longer time period to reap benefits compared to on land that does not have extensive, artificial drainage.

7.5.1. 1502 hectares (15.0 square kilometres) of catchment woodland on artificially drained land in sensitive areas.

7.5.2. The potential exists across much of the Borough, although drained land becomes more prevalent in southern areas.

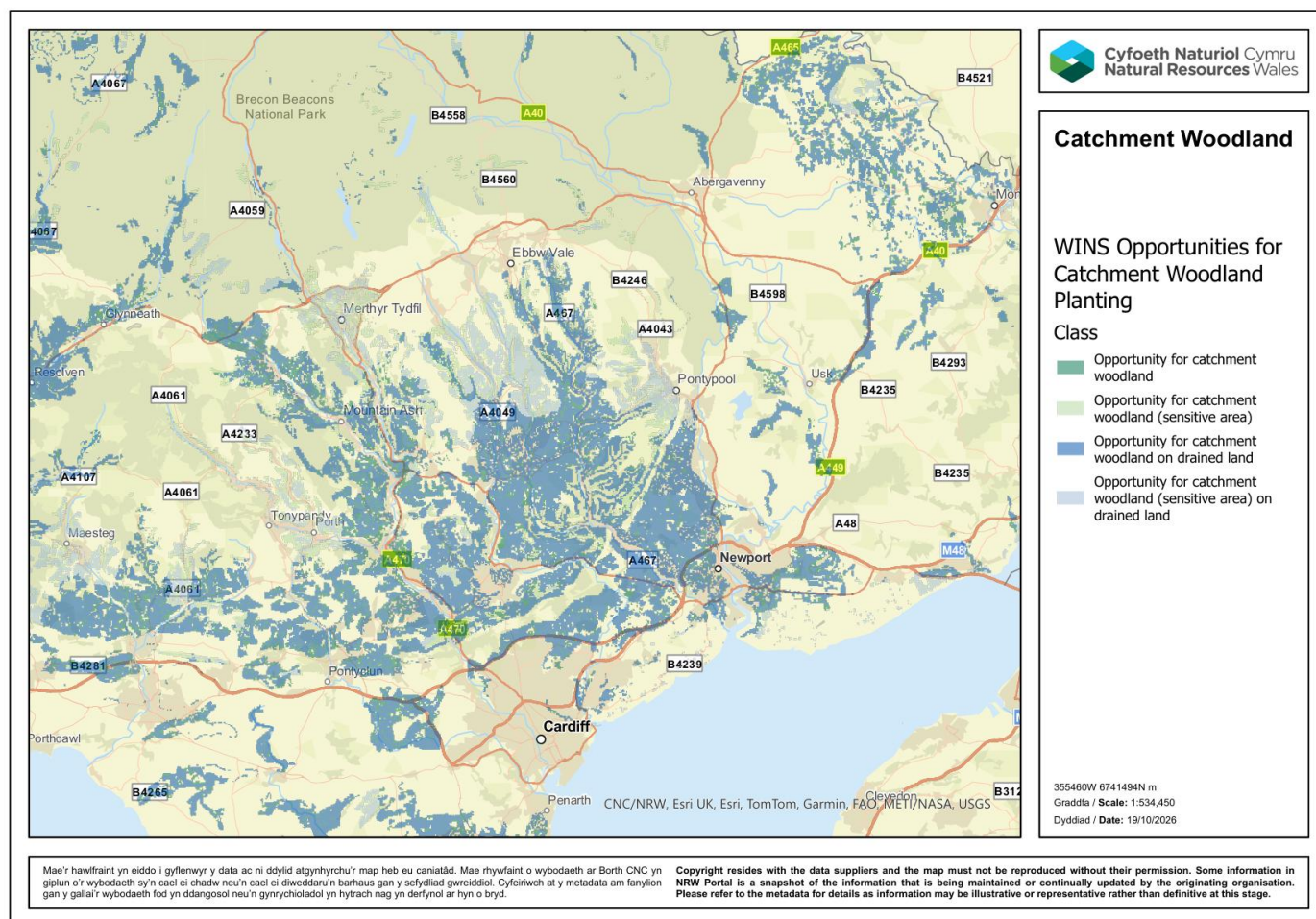


Figure 7-3: Catchment woodland

7.6. Woodland Planting – Floodplain Woodland

7.6.1. The floodplain woodland opportunity map shows where spaces potentially exist for planting woodland on floodplains for NFM benefits. When woodlands are planted on floodplains, the presence of trees can increase the amount of water that can penetrate into the ground and slow down the rate of flow back into the river as river levels decrease.

7.6.2. The WINS constraints map limits the opportunities for floodplain woodland in relation to existing woodland areas, existing habitats that could not be converted to woodland, areas where woodland creation is not expected to deliver NFM benefits, areas where the land is not suitable for woodland growth, existing urban areas, scheduled and ancient monuments, high value agricultural land and designated sites.

7.6.3. Within Caerphilly County Borough there are opportunities for

7.6.4. 162 hectares (1.6 square kilometres) of floodplain woodland in areas at greatest risk of flooding.

7.6.5. 45 hectares (0.4 square kilometres) of floodplain woodland in areas at greatest risk of flooding, but where other sensitivities also exist, such as existing peat resources, moderate to high quality agricultural land, scheduled ancient monuments and common land.

7.6.6. By definition, these areas occur along the river corridors, with the predominant opportunity areas being along the Rhymney River corridor between Maescywmmer and Caerphilly town. Opportunities also exist along the Sirhowy River in the Blackwood area and on the Rhymney River in the Aberbargoed and Bargoed areas.

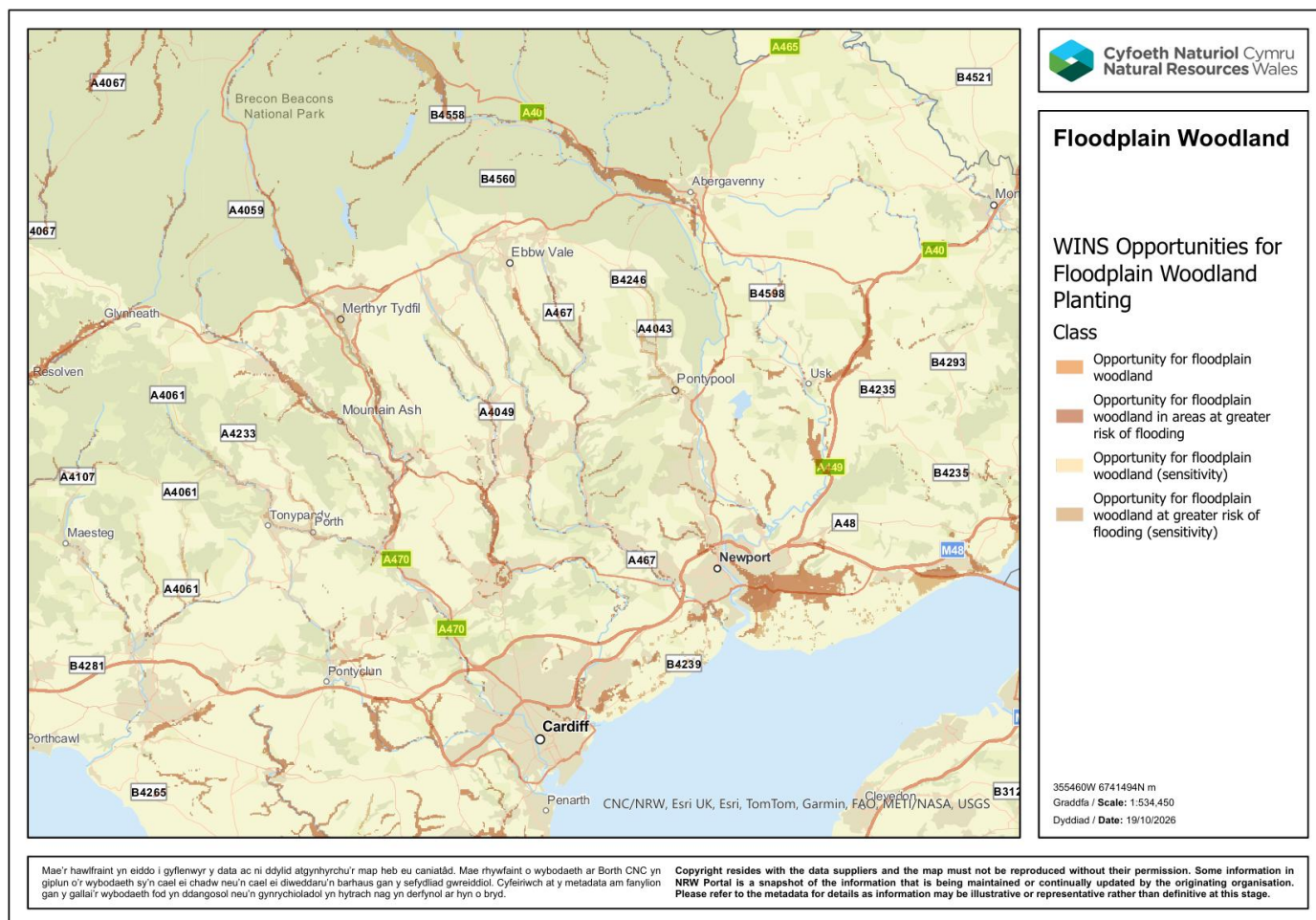


Figure 7-4: Floodplain Woodland

7.7. Woodland Planting – Riparian Woodland

- 7.7.1. If woodland is planted adjacent to rivers and channels that flow with rainwater after a storm event, these woodland belts can provide a last barrier to overland flow and reduce the severity of river swelling. The riparian woodland opportunity map shows where spaces exist for planting of riparian woodland.
- 7.7.2. The constraints map limits the application of riparian woodland for biophysical reasons, practical reasons, reasons of preservation of existing urban areas, conservation reasons and cultural reasons.
- 7.7.3. Within Caerphilly County Borough, there are identified opportunities for:
- 7.7.4. 2218 hectares (22.2 square kilometres) of riparian woodland.
- 7.7.5. 904 hectares (9.0 square kilometres) of riparian woodland where additional sensitivities were identified and constraints applied.
- 7.7.6. As with floodplain woodland, opportunities for riparian woodland follow the main river valleys but also extend significantly into the tributaries for the main rivers.



7.8.1. In Wales, bog habitats are one of the habitats with the largest potential to act as natural “sponges” for rainwater, as the soil and mosses associated with this habitat can store large quantities of water that are then released back into the hydrological environment gradually over time. The main opportunity for bog restoration is the restoration of bog habitat currently in a degraded condition, particularly if the peat soil is in good condition.

7.8.5. 2 hectares of conifers on high quality peat.

Bog Restoration

WINS Opportunities for Bog Restoration

Class

- Existing Bog
- Bog that could be restored
- Conifers on high quality peat
- Conifers on degraded peat soil
- Existing Bog on common land
- Bog that could be restored on common land
- Conifers on high quality peat on common land
- Conifers on degraded peat soil on common land

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Graddfa / Scale: 1:534,450
Dyddiad / Date: 19/10/2026

CNC/NRW, Esri UK, Esri, TomTom, Garmin, FAO, METI/NASA, USGS

Figure 7-6: Bog Restoration

7.9. Surface Roughness

7.9.1. Enhancing surface roughness covers an array of measures that can be achieved in several ways, such as relaxing grazing pressure, restoring semi-natural habitat, increasing species diversity or through complete change in land use. The opportunities map gives priority to areas well connected to the hydrological environment and / or with a low surface roughness. Habitats of high conservation value and high economic value are excluded. High surface roughness can slow down overland flow, thereby enhancing infiltration into the ground and giving more chance for evapotranspiration.

7.9.2. Within Caerphilly County Borough, the following opportunities for enhancing surface roughness have been identified:

- Cyfoeth Naturiol Cymru
Natural Resources Wales**

Enhancing Surface Roughness

WINS Opportunities for Enhancing Surface Roughness

Class

 - No opportunity
 - Opportunity involving habitat change - Low priority
 - Opportunity involving habitat change - Moderate priority
 - Opportunity involving habitat change - High priority
 - Opportunity to improve habitat condition - Low priority
 - Opportunity to improve habitat condition - Moderate priority
 - Opportunity to improve habitat condition - High priority

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Dyddiad / Date: 19/10/2026

Mae'r hawflafrint yn eiddo i gyflenwyr y data ac ni ddylid atgynhyrchu'r map heb eu caniatid. Mae rhywfaint o wybodaeth ar Borth CNC yn gipuln o'r wybodaeth sy'n cael ei chadw neu'n cael ei diweddaru'n barhaus gan y sefydliad gwreiddiol. Cyfeirwch at y metadadau am fanylion gan y galla'r wybodaeth fod yn ddangosol neu'n gynrychioladol yn hytrach nag yn derfynol ar hyn o bryd.

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Figure 7-7: Enhancing Surface Roughness

7.10. Agricultural Management

- 7.10.1. Agricultural management measures are an important consideration for NFM due to the large amounts of land under agricultural management in Wales. NFM measures could include planting of new or widening existing hedgerows as well as retention of winter stubbles.
- 7.10.2. Within Caerphilly Borough, the following opportunities have been identified:
- 7.10.3. 683 hectares (6.8 square kilometres) of opportunity for retention of winter stubbles.
- 7.10.4. 878 hectares (8.8 square kilometres) of opportunity for hedgerow planting.
- 7.10.5. 443 hectares (4.4 square kilometres) of opportunity for widening existing hedgerows.
- 7.10.6. 13 hectares (0.1 square kilometres) of opportunity for hedgerow planting with additional sensitivities.
- 7.10.7. 575 hectares (5.8 square kilometres) of opportunity for retention of winter stubbles in areas at greater risk of flooding.
- 7.10.8. 1276 hectares (12.8 square kilometres) of opportunity for hedgerow planting in areas at greater risk of flooding.
- 7.10.9. 368 hectares (3.7 square kilometres) of opportunity for widening existing hedgerows in areas at greater risk of flooding.
- 7.10.10. 22 hectares (0.2 square kilometres) of opportunity for hedgerow planting with additional sensitivities in areas at greater risk of flooding.
- 7.10.11. Due to the hydrological connectivity, many of these opportunity areas follow the main river valleys, but also extend along tributaries and into upland areas.

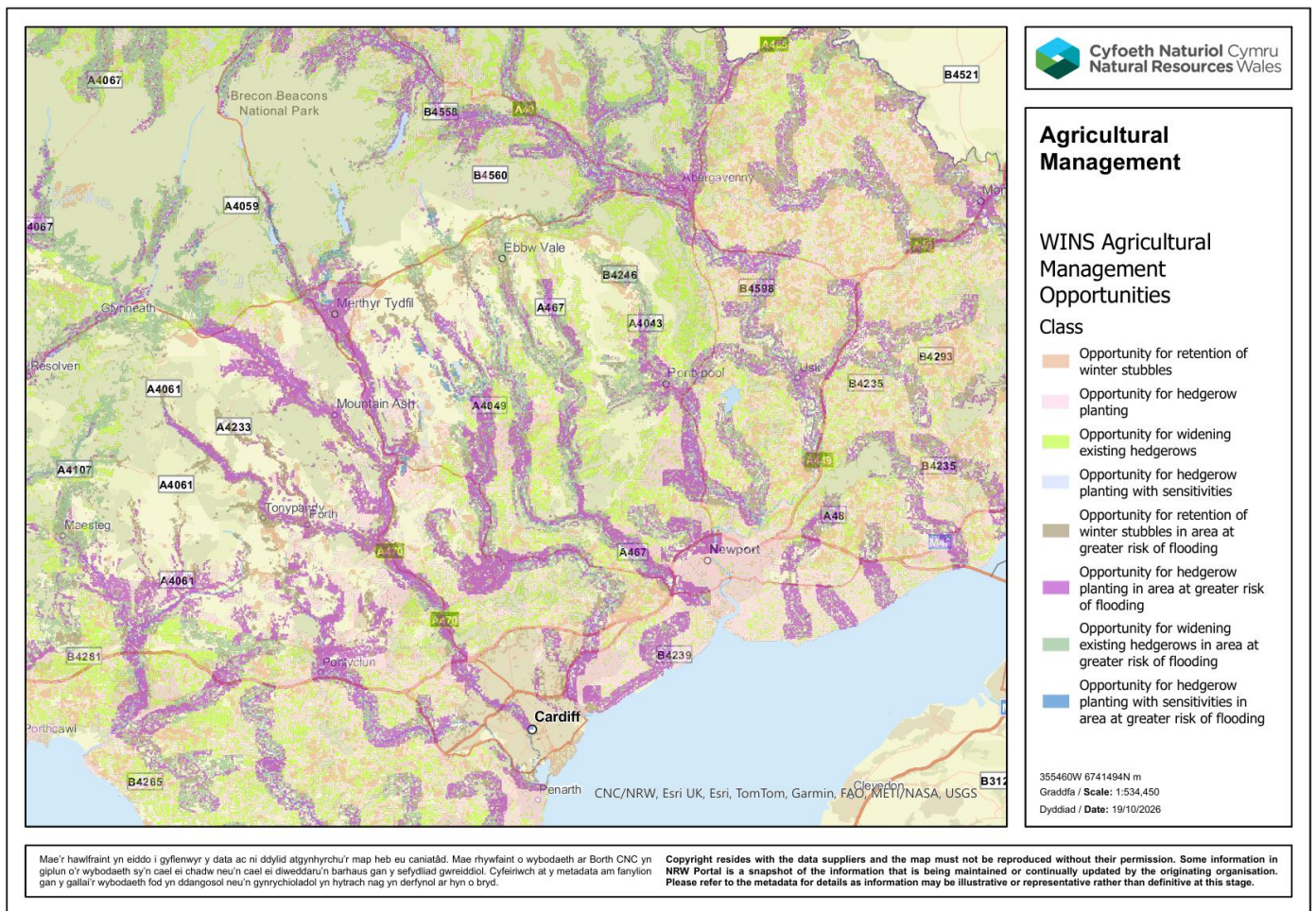


Figure 7-8: Agricultural Management

8. Conclusions and Recommendations

8.1. Conclusions

- 8.1.1. This Strategic Flood Consequence Assessment (SFCA) has been prepared to support the Local Development Plan (LDP) for Caerphilly County Borough and provide an evidence base to inform site allocation, development management and future decision-making.
- 8.1.2. The assessment has reviewed flood risk from all significant sources, including fluvial, surface water, ordinary watercourse, groundwater, sewer and reservoir flooding. It has also considered local flood history, existing flood risk management measures, current policy requirements and the projected impacts of climate change.
- 8.1.3. The assessment identifies that the principal flood risk constraints within the County Borough are associated with the River Rhymney, River Sirhowy, River Ebbw and their tributaries. Flood risk is generally concentrated within valley floor settlements where development, infrastructure and floodplains coincide.
- 8.1.4. Surface water flooding represents the most widespread source of flood risk and is a significant consideration for both existing communities and future development. Particular attention should be given to development proposals within identified Critical Drainage Areas and locations affected by known drainage constraints.
- 8.1.5. The assessment demonstrates that many areas within the County Borough remain suitable for development. However, flood risk remains an important consideration in site selection and development planning, and proposals within areas of flood risk will require appropriate assessment and mitigation in accordance with TAN15.
- 8.1.6. The Candidate Site assessment has identified sites where further site-specific Flood Consequence Assessments (FCAs) will be required to support future planning decisions. The requirement for further assessment does not necessarily preclude development but highlights the need to demonstrate that flood consequences can be managed appropriately throughout the lifetime of a development.
- 8.1.7. The effects of climate change are expected to increase flood risk over the plan period. Future development should therefore incorporate climate change allowances, sustainable drainage measures and resilient design principles to ensure long-term safety and sustainability.
- 8.1.8. Overall, the assessment concludes that sustainable development can be accommodated across much of the County Borough where flood risk is appropriately considered through site selection, development design and the application of TAN15.

8.2. Recommendations

8.2.1. To support the implementation of the Local Development Plan and future development proposals, the following recommendations are made:

Strategic Planning

8.2.2. The findings of this SFCA should be used to inform site allocations, development management decisions and future reviews of the Local Development Plan.

8.2.3. Development should be directed towards areas of lower flood risk wherever possible, consistent with the risk-based approach set out in TAN15.

8.2.4. Sites identified as requiring further flood risk assessment should be supported by additional evidence before allocation and/or development is progressed.

Flood Consequence Assessments

8.2.5. Site-specific Flood Consequence Assessments should be prepared where required by TAN15 and should consider all relevant sources of flooding.

8.2.6. Flood Consequence Assessments should demonstrate that:

- development will remain safe for its lifetime;
- flood risks to people and property can be acceptably managed;
- safe access and egress can be achieved where necessary; and
- flood risk will not be increased elsewhere.

8.2.7. Development proposals within Critical Drainage Areas or areas affected by surface water flooding should demonstrate that drainage and flood risks can be effectively managed.

Development Design

8.2.8. Sustainable Drainage Systems (SuDS) should be incorporated at the earliest stage of the design process.

8.2.9. New development should include appropriate flood resilience and flood resistance measures where flood risk has been identified.

8.2.10. Site layouts should maintain overland flow routes, protect natural drainage pathways and avoid increasing flood risk to neighbouring land and property.

8.2.11. Development proposals should incorporate current climate change allowances and demonstrate resilience to future flood conditions.

Flood Risk Management and Environmental Enhancement

8.2.12. Opportunities to incorporate natural flood management measures should be considered as part of major development and regeneration proposals.

8.2.13. Development should seek to protect and enhance river corridors, floodplains and blue-green infrastructure wherever possible.

- 8.2.14. Early engagement with Caerphilly County Borough Council, Natural Resources Wales and other relevant Risk Management Authorities is encouraged where flood risk constraints have been identified.

Maintenance and Review

- 8.2.15. This SFCA should be treated as a live evidence base and reviewed periodically to reflect:

- updated flood mapping;
- changes to national planning policy or guidance;
- new local flood risk information;
- significant flood events; and
- revised climate change allowances.

- 8.2.16. The recommendations contained within this SFCA should be applied throughout the plan period to support the delivery of sustainable and climate-resilient development.

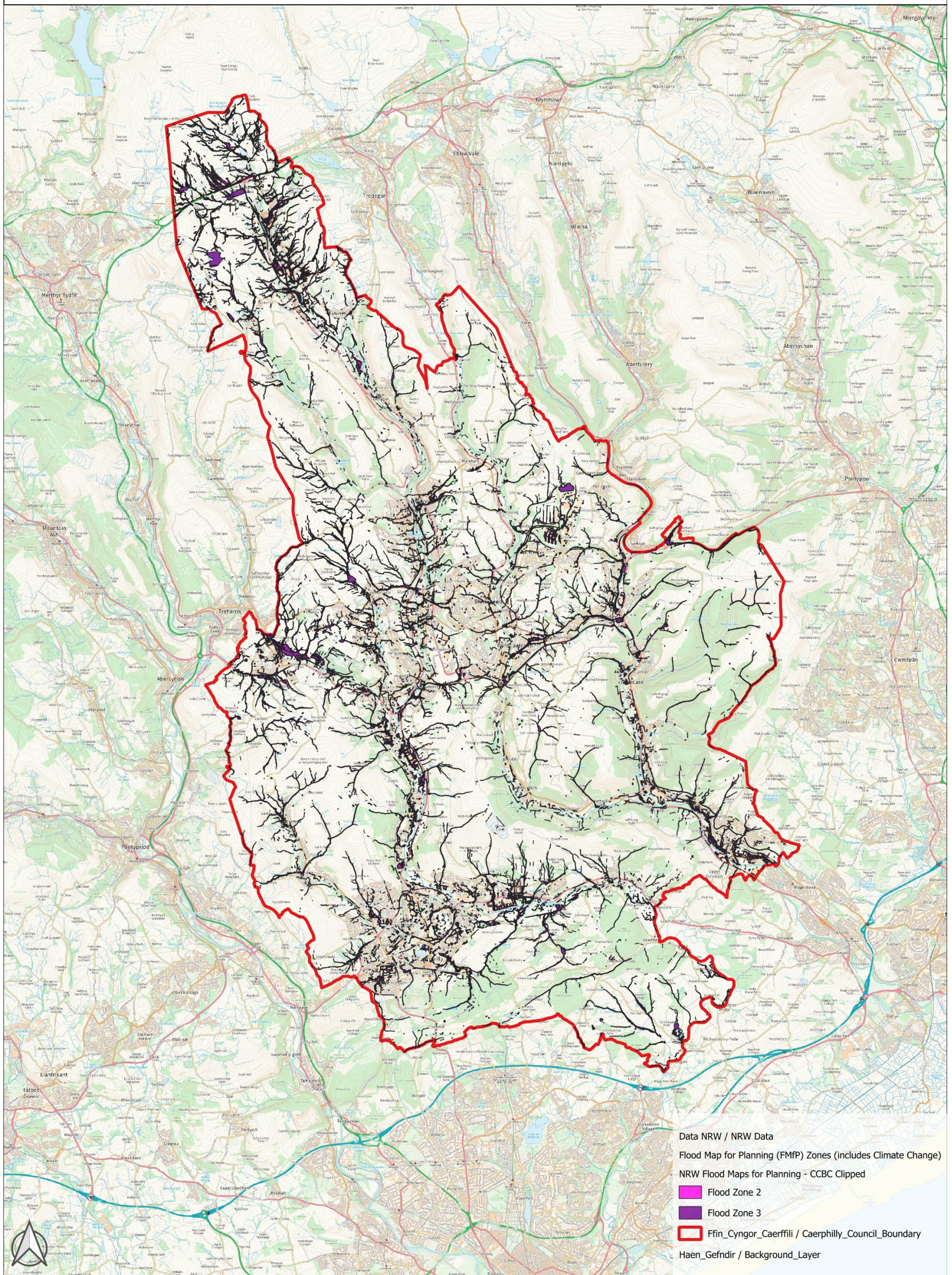
8.3. Overall Conclusion

- 8.3.1. This SFCA provides a robust and proportionate evidence base to support the emerging Local Development Plan. Whilst flood risk presents constraints in some parts of the County Borough, the assessment demonstrates that sustainable development can be delivered through the application of TAN15, informed site selection, appropriate mitigation and resilient design. By integrating flood risk considerations into both plan-making and development management, the County Borough can support future growth whilst improving the long-term resilience of communities, infrastructure and the natural environment.

This map displays the Mersey and Ribbion catchment area, highlighting the river network in blue. Key towns and locations include Merthyr Tydfil, Tredegar, Brynmawr, Nantyglo, Y Blaenau / Blaina, Abertillery, Abersychan, Pont-Y-Pry, Pontypriid, Tredegar, Rhymni / Rhymney, Merthyr Tudful, Merthyr Tydfil, Aberpennar / Mountain Ash, Treharris, Abercynon, Ystrad Mynach, Pontllanfraith, Coed Duon Blackwood, Treccoel / Newbridge, Abercam, Rhisga Risca, and Llantrisant. Major roads shown include the A470, A465, A464, A463, A462, A461, A460, A459, A458, A457, A456, A455, A454, A453, A452, A451, A450, A449, A448, A447, A446, A445, A444, A443, A442, A441, A440, A439, A438, A437, A436, A435, A434, A433, A432, A431, A430, A429, A428, A427, A426, A425, A424, A423, A422, A421, A420, A419, A418, A417, A416, A415, A414, A413, A412, A411, A410, A409, A408, A407, A406, A405, A404, A403, A402, A401, A400, A399, A398, A397, A396, A395, A394, A393, A392, A391, A390, A389, A388, A387, A386, A385, A384, A383, A382, A381, A380, A379, A378, A377, A376, A375, A374, A373, A372, A371, A370, A369, A368, A367, A366, A365, A364, A363, A362, A361, A360, A359, A358, A357, A356, A355, A354, A353, A352, A351, A350, A349, A348, A347, A346, A345, A344, A343, A342, A341, A340, A339, A338, A337, A336, A335, A334, A333, A332, A331, A330, A329, A328, A327, A326, A325, A324, A323, A322, A321, A320, A319, A318, A317, A316, A315, A314, A313, A312, A311, A310, A309, A308, A307, A306, A305, A304, A303, A302, A301, A300, A299, A298, A297, A296, A295, A294, A293, A292, A291, A290, A289, A288, A287, A286, A285, A284, A283, A282, A281, A280, A279, A278, A277, A276, A275, A274, A273, A272, A271, A270, A269, A268, A267, A266, A265, A264, A263, A262, A261, A260, A259, A258, A257, A256, A255, A254, A253, A252, A251, A250, A249, A248, A247, A246, A245, A244, A243, A242, A241, A240, A239, A238, A237, A236, A235, A234, A233, A232, A231, A230, A229, A228, A227, A226, A225, A224, A223, A222, A221, A220, A219, A218, A217, A216, A215, A214, A213, A212, A211, A210, A209, A208, A207, A206, A205, A204, A203, A202, A201, A200, A199, A198, A197, A196, A195, A194, A193, A192, A191, A190, A189, A188, A187, A186, A185, A184, A183, A182, A181, A180, A179, A178, A177, A176, A175, A174, A173, A172, A171, A170, A169, A168, A167, A166, A165, A164, A163, A162, A161, A160, A159, A158, A157, A156, A155, A154, A153, A152, A151, A150, A149, A148, A147, A146, A145, A144, A143, A142, A141, A140, A139, A138, A137, A136, A135, A134, A133, A132, A131, A130, A129, A128, A127, A126, A125, A124, A123, A122, A121, A120, A119, A118, A117, A116, A115, A114, A113, A112, A111, A110, A109, A108, A107, A106, A105, A104, A103, A102, A101, A100, A99, A98, A97, A96, A95, A94, A93, A92, A91, A90, A89, A88, A87, A86, A85, A84, A83, A82, A81, A80, A79, A78, A77, A76, A75, A74, A73, A72, A71, A70, A69, A68, A67, A66, A65, A64, A63, A62, A61, A60, A59, A58, A57, A56, A55, A54, A53, A52, A51, A50, A49, A48, A47, A46, A45, A44, A43, A42, A41, A40, A39, A38, A37, A36, A35, A34, A33, A32, A31, A30, A29, A28, A27, A26, A25, A24, A23, A22, A21, A20, A19, A18, A17, A16, A15, A14, A13, A12, A11, A10, A9, A8, A7, A6, A5, A4, A3, A2, A1, A0.

Appendix B: Flood Map for Planning Surface Water and Small Watercourses

Surface Water and Small Watercourses



Appendix C: Groundwater

Appendix D: Artificial Sources



Appendix E: Candidate Site Assessments

Available on request from Strategic Planning.