Bridgend County Borough Council

Flood and Water Management Act 2010

Section 19 Flood Investigation Report

Unnamed Storm – 6th to 7th September 2024

Document Verification

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Checker – Highways Network Manager

Approver – Group Manager - Highways & Green Spaces

This report should be read in its entirety

This report has been prepared in accordance with the requirements of section 19 Flood and Water Management Act 2010 (FWMA). The Council assumes no responsibility or liability from any person in connection with its contents or findings.

1.0 Introduction

As Lead Local Flood Authority, Bridgend County Borough Council's Flood & Coastal Management team provide support to residents and businesses who may be or are affected by flooding in Bridgend County Borough by investigating potential causes of flooding and where appropriate initiating schemes to mitigate or alleviate flood risk.

Between April 2024 and March 2025, the team responded to 753 advised concerns (ranging from hydraulic overload of networks to blockages within drainage assets), completed 51 culverted watercourse surveys and delivered 2 Welsh Government (WG) funded schemes to mitigate flood risk to communities.

This Section 19 report has been prepared in response to the number of properties that were subject to internal flooding during a storm event on 6th /7th September 2024.

1.1 Purpose of Investigation

On the 6th & 7th of September 2024, Bridgend County Borough was impacted by an extreme weather event. The Met Office did not designate the storm as a named storm. The threshold recommended by WG in the National Strategy for Flood and Coastal Erosion Risk Management is for investigations, as outlined in Section 19 of FWMA, where 20 or more properties are affected in one area. However, due to the extent and impact of the event in the Brackla site, the Lead Local Flood Authority (LLFA) opted to include an investigation of the Brackla properties

Whilst the storm resulted in widespread flooding within Bridgend Borough and residential flooding within Bridgend town. This report focuses on residential flooding within the areas of Brackla and Bryntirion in Bridgend.

The reason behind BCBCs investigation is in response to the duties of the local authority regarding Section 19 of the Flood and Water Management Act 2010, which states:

1. "on becoming Aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate:

a) "Which risk management authorities have relevant flood risk management functions and,
b) Whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in the response to the flood."

2. "When an authority carries out an investigation under subsection (1) it must (a) publish the results of its investigation, and (b) notify any relevant risk management authority"

The Risk Management Authorities in the borough of Bridgend are Natural Resources Wales (NRW), which has an oversight role for flooding from main rivers and the sea, Dwr Cymru/Welsh Water (DCWW) which has an oversight role for flooding from public sewers/potable water mains and Bridgend County Borough Council (BCBC), as LLFA, which has an oversight role for flooding from Ordinary Watercourses, surface water and groundwater.

Note that although these organisations are responsible for managing flood risk, this does not mean that they are liable for damage caused by flooding. Property owners

have a responsibility for protecting their properties and for clearing watercourses and rivers where they are the riparian owner.

Under Section 19 Sub-section (2) the Council liaises with the other Risk Management Authorities, in the course of investigations, records the investigation details and will produce and publish an annual report of investigations undertaken to comply with the requirements of the FWMA.

Whilst local information is recorded, due to the restrictions imposed by the Data Protection Act the published report will not identify individual properties; or property owners but will be restricted to the number of incidents investigated, identification of the Risk Management Authority (RMA) with oversight role, the type of flooding experienced and any action taken.

Information recorded will be retained and used in the review of Flood Risk Assessment for the Borough, including identification of any remedial works to drainage systems under the control of the Council and potential improvements to drainage systems and/or operations.

The purpose of the investigation is to determine which RMAs have relevant flood risk management functions and which functions have been exercised in response to a flood.

This initial report covers the flooding during 6th/7th September 2024; it only includes reference to those flooding incidents of which the Council is aware and will be included in a report to Cabinet.

1.2 Site Locations

The areas investigated within this report covers the Bridgend suburbs of Brackla and Bryntirion, both located within Bridgend town catchment of the County Borough, refer to Figure 1 below.

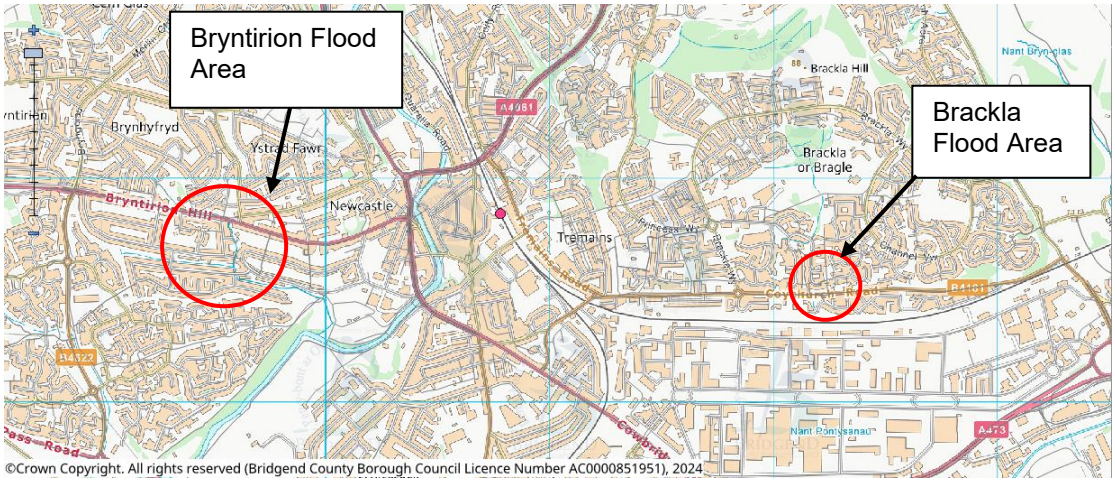


Figure 1 – Flood Investigation Areas

1.2.1 Bryntirion

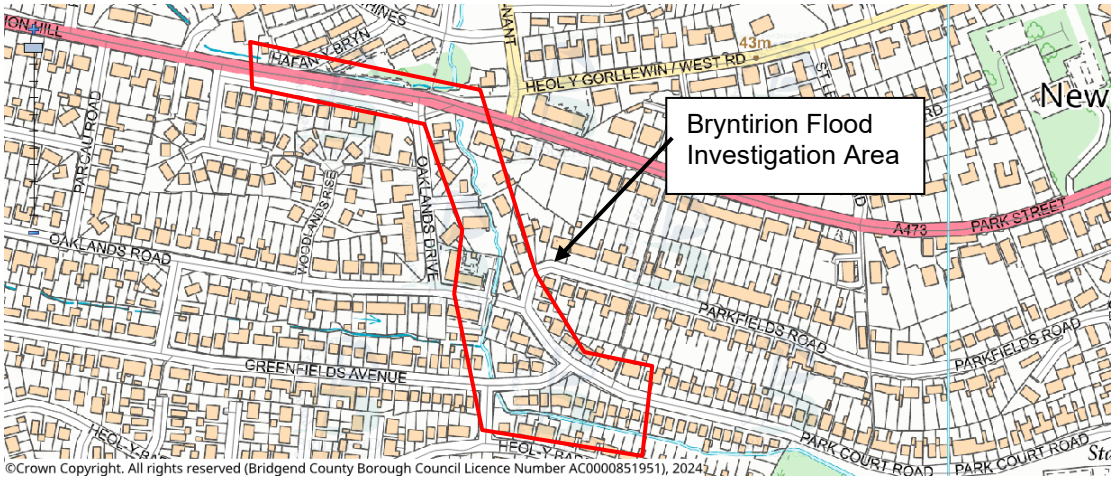


Figure 2 – Bryntirion Flood Investigation Area

The Bryntirion suburb sits west of Bridgend town centre, which primarly consists of residential developments bordering the area. The Nant Cefn Glas flows north to south from the Cefn Glas area north of Bryntirion, before draining east from Bryntirion to the River Ogmore via the low lying Newbridge fields. Sections of the Nant Cefn Glas are culverted beneath highways, including Park Street/Bryntirion Hill, Oaklands Close & Greenfields Avenue, which fall within the investigation area. The Nant Cefn Glas is classfied as an ordinary watercourse and the River Ogmore is classified as main river.

Flood risk is generally associated with the Nant Cefn Glas, notably from culvert inlets and bank breaches. A high and medium flood risk is present across a large proportion of the investigation area, as illustrated in Figures 3, 4 & 5 which are extracts from the NRW Flood Map For Planning.

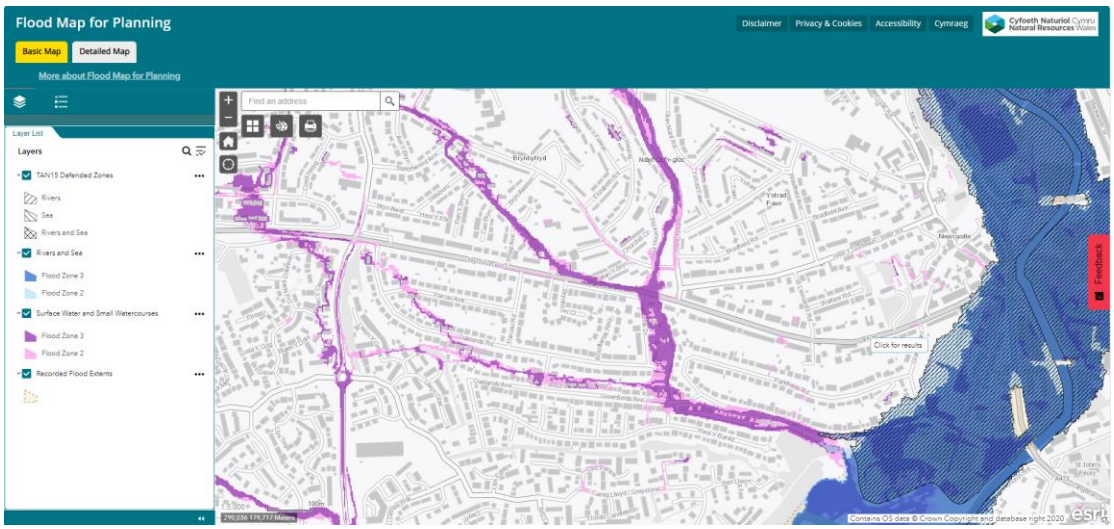


Figure 3 – NRW Flood Map for Planning - Bryntirion

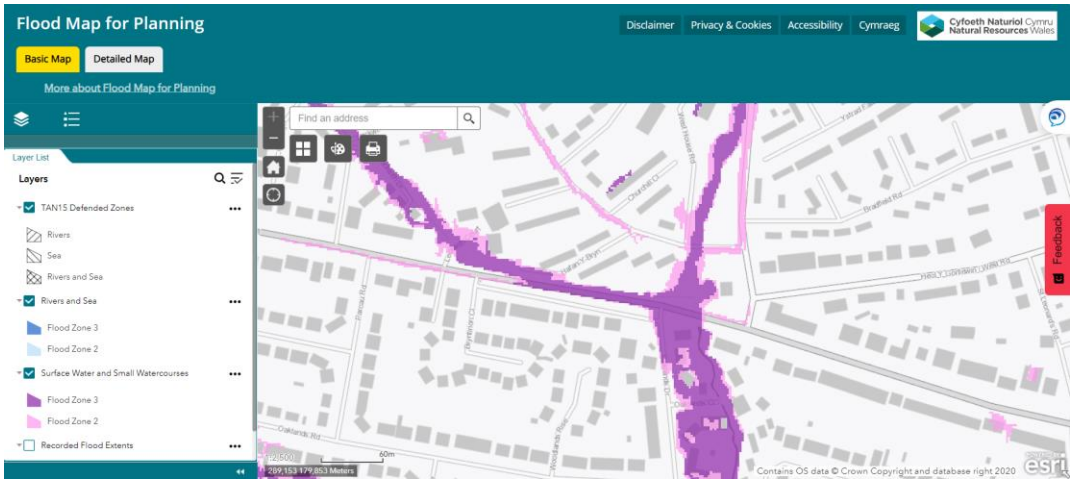


Figure 4 – NRW Flood Map for Planning - Bryntirion

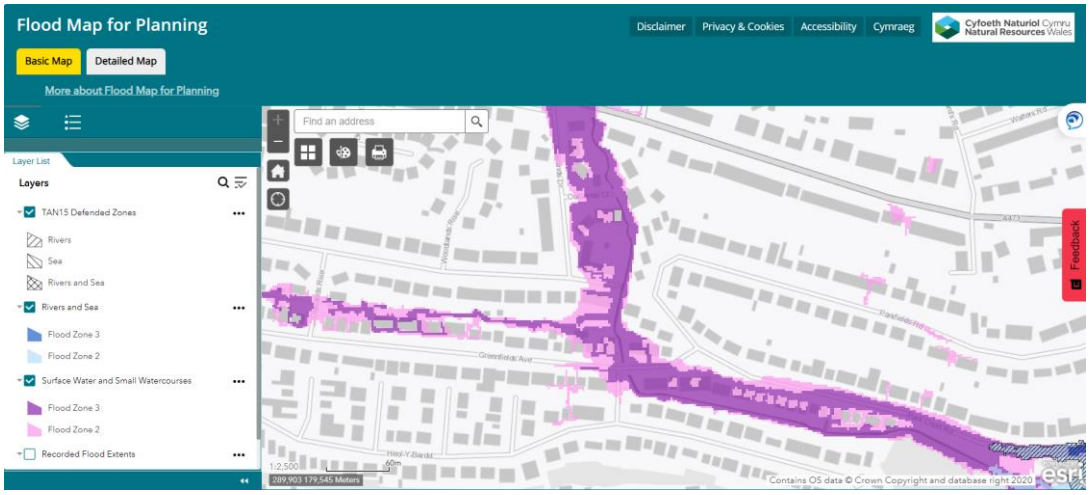


Figure 5 – NRW Flood Map for Planning - Bryntirion

The surface water drainage system that serves the investigation area is that of the highway drainage network designed to manage the surface water within the highway and public surface water sewer and combined sewer network operated by DCWW.

1.2.2 Brackla

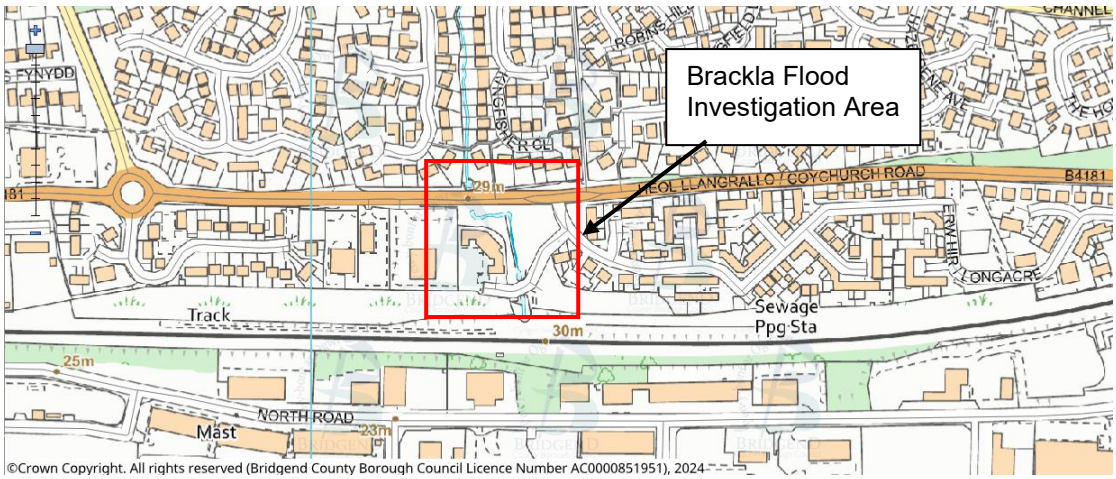


Figure 6 – Brackla Flood Investigation Plan

The Brackla suburb sits east of Bridgend town centre, which primarly consists of residential developments bordering the area and an industrial estate located south of the railway line. The Nant Pontysanau flows north to south from higher ground within Brackla woods towards the flood investigation area. The watercourse diverts around the Caer Castell House development, before heading south beneath the railway line through Bridgend industrial estate before discharing to the the River Ewenny. Sections of the Nant Pontysanau are culverted beneath Coychurch Road (public highway), Private road acessing the properties and the Main Swansea/Paddington railway line, which fall within the investigation area. The Nant Pontysanau is classfied as an ordinary watercourse and the River Ewenny is classified as main river.

Flood risk is generally associated with the Nant Pontysanau, notably from culvert inlets and bank breaches. A high and medium flood risk is present across the majority of the investigation area, as illustrated in Figures 7 & 8, which are extracts from the NRW Flood Map for Planning.

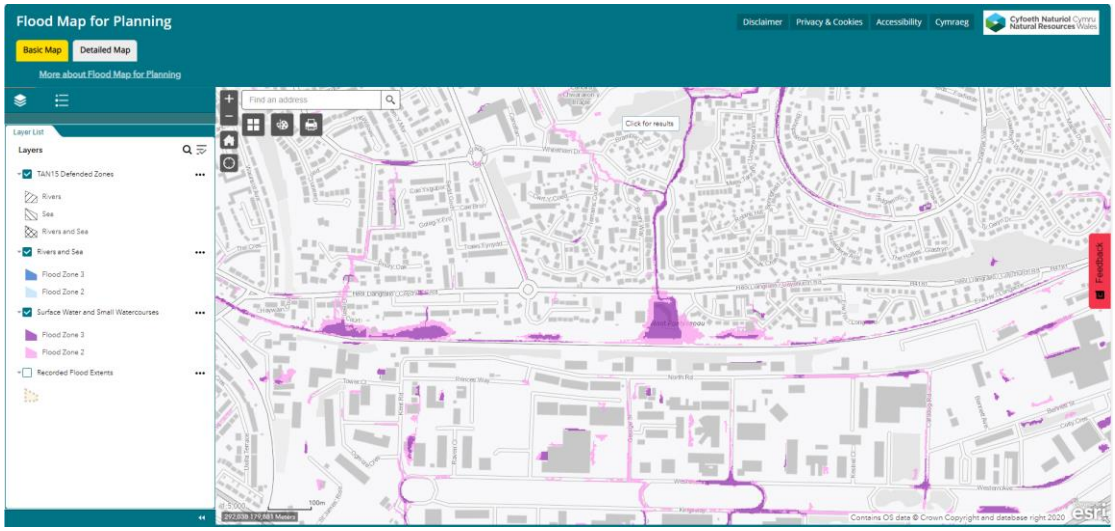


Figure 7 – NRW Flood Map for Planning

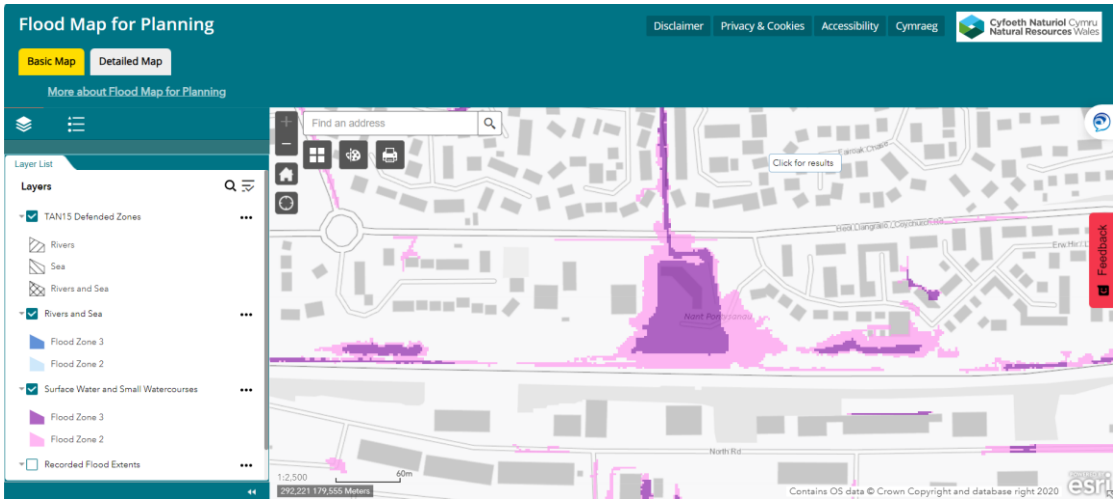


Figure 8 – NRW Flood Map for Planning

The surface water drainage system that serves the investigation area is that of the highway drainage network designed to manage the surface water within the highway and public surface water sewer and combined sewer network operated by DCWW

1.3 Investigation Evidence

To support the investigation, a range of qualitative and quantitative evidence has been gathered from numerous sources, the summary of which is listed in Table 1.

Source	Data
Residents	Residents Photos, videos, statements, emails
Responders' statements	Local responders' statements
Met Office Data	Weather Warning information
Rain Gauges	NRW operated rain gauge information
Natural Resources Wales	River Level and Flood Warning data
BCBC Flood Risk Management Plan	Site specific information and data for each electoral ward in BCBC
Communities at Risk Register	Flood risk ranking and scores for all flood types based on community data in Wales
Flood Investigation Report	The Flood Investigation Report as part of the Section 19 report.

Table 1: Investigative evidence gathered in preparation of this Section 19 report

1.4 Public Engagement

Due to the volume of calls received by BCBC's Out of Hour department, visits were prioritised to those areas experiencing significant internal flooding to residential properties, however some properties had already experienced significant internal flooding.

Following the initial flooding event that occurred on the weekend of the 6th & 7th September 2024, flood risk officers from the BCBC Flood Risk Management department were deployed from Monday 9th September to areas across the borough to investigate reports of internal flooding by residents. Residents engaged with the Flood Risk Management team to determine the initial impacts caused by the flooding event and to investigate the potential source(s) and pathway(s) of flood water during the event.

2.0 Storm Event & Rainfall Analysis

On Wednesday 4th September, the Met Office issued a weather warning for thunderstorms and heavy rain, which stated *"Outbreaks of heavy rain are expected widely across southern England and southern Wales on Friday. Heavy rain will be persistent for some and may be particularly heavy in a few places. Rainfall totals of 15-30 mm are expected widely, however, the wettest areas are likely to see 40-60 mm through the whole of Friday with a lower likelihood of a few areas seeing as much as 75-100 mm. This heavy rain follows on from an expected wet day across some similar areas on Thursday which will increase the likelihood of impacts. There is also the potential for further spells of heavy rain across parts of the south over the weekend".*

The weather warning was issued for east of England, East Midlands, London & south east England, south west of England, West Midlands, as well as large parts of south Wales that included Bridgend, Caerphilly, Cardiff, Carmarthenshire, Merthyr Tydfil, Monmouthshire, Neath Port Talbot, Newport, Powys, Rhondda Cynon Taf, Swansea, Torfaen and the Vale of Glamorgan.

This followed weather warnings issued on Monday, September 2, where the Met Office issued a warning for thunderstorms and heavy rain for the whole of Wales, with a similar weather warning covering Wednesday, September 4 until Thursday, September 5.

On receipt of the yellow weather warning on Monday 4th October, BCBC's DLO mobilised resources to inspect all priority culvert inlets across the borough for any evidence of damage and/or obstruction. Maintenance teams were deployed, and drainage infrastructure subsequently cleansed in response to any observed obstructions identified upon inspection.

Rainfall during the storm event was recorded at the Brackla rain gauge which is owned and maintained by NRW. The location of the rain gauge in relation to the flood investigation areas is shown in Figure 9. A summary of the rainfall recorded at the Brackla rain gauge during the storm event of the 6th & 7th September 2024 is shown in Tables 2 & 3 and Figures 10 to 13.

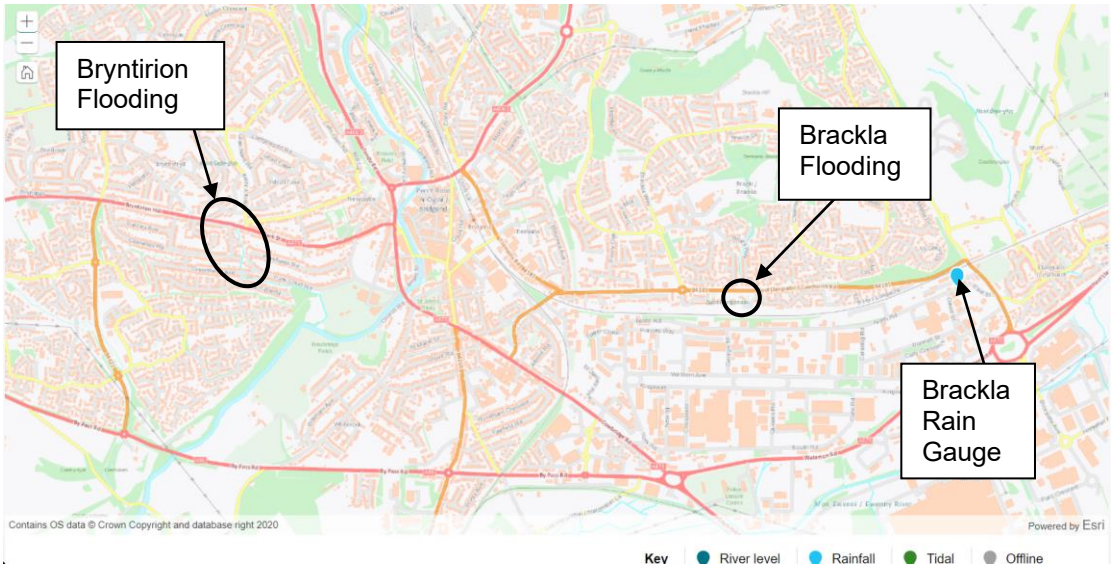
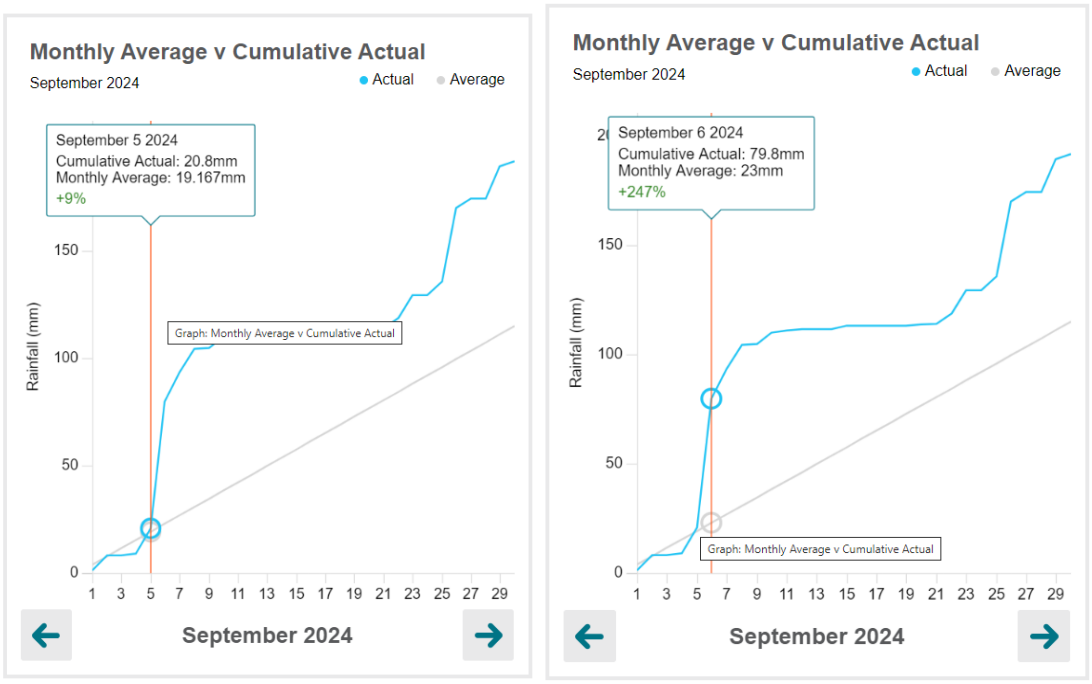


Figure 9 – NRW Brackla Rain Gauge Location

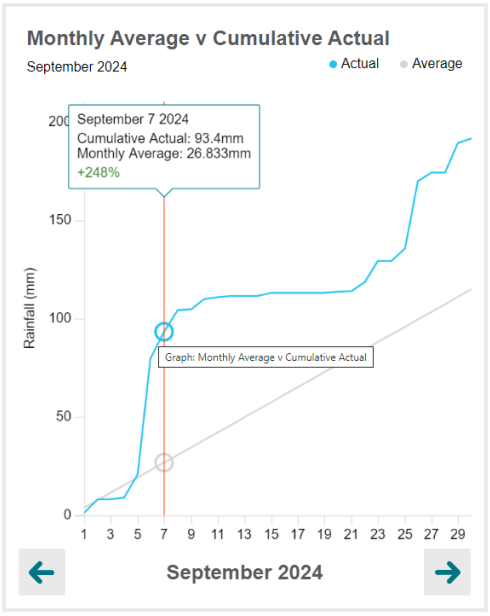
NRW Rainfall Monitoring Station	Date & Time of Peak Intensity	Rainfall (mm)	Cumulative Rainfall (mm)
Brackla	6/9/2024 18:00 to 19:00	0.4	0.4
Brackla	6/9/2024 19:00 to 20:00	16	16.4
Brackla	6/9/2024 20:00 to 21:00	3.6	20.0
Brackla	6/9/2024 21:00 to 22:00	21.6	41.6
Brackla	6/9/2024 22:00 to 23:00	8.2	49.8
Brackla	6/9/2024 23:00 to 00:00	3.2	52.8
Brackla	7/9/2024 00:00 to 01:00	1.6	54.6
Brackla	7/9/2024 01:00 to 02:00	1.2	55.8
Brackla	7/9/2024 02:00 to 03:00	0	55.8

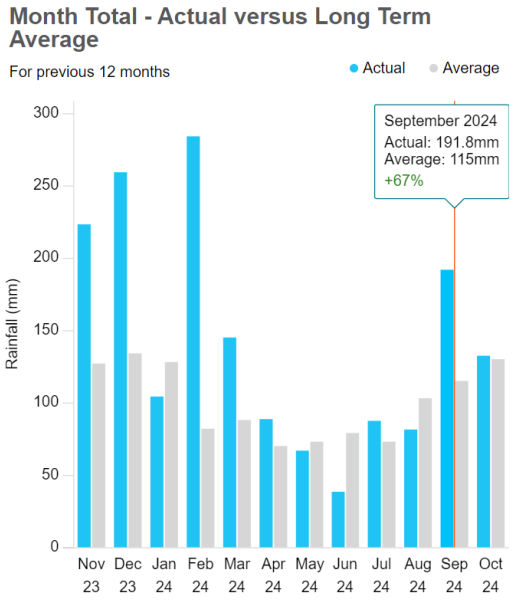
Table 2 – NRW Brackla Rainguage Rainfall Data

Table 2 identifies two single hour periods with intense rainfall recorded with 16mm falling between 19:00 to 20:00 and another 21.6mm falling between 21:00 and 22:00, with 55.8mm falling during the storm event between 18:00 on the 6th September to 02:00 on the 7th September.



Figures 10 & 11 – NRW Brackla Rain Gauge Rainfall Data





Figures 12 & 13 – NRW Brackla Rain Gauge Rainfall Data

Figures 10 to 13 show the cumulative rainfall identified from the Brackla rain gauge. A large spike in rainfall is identified between the 5th & 7th September which ties into the rainfall recorded during the storm event in Table 2. Table 3 below identifies the daily rainfall totals recorded during the storm and the days leading to and after the storm. The cumulative rainfall for September is shown on the last row of Table 3

Date	**Recorded Daily Rainfall (mm)**	**Cumulative Recorded Rainfall from 1st September 2024 (mm)**
4th September 2024	0.8	9
5th September 2024	11.8	20.8
6th September 2024	59	79.8
7th September 2024	13.6	93.4
8th September 2024	11	104.4
30th September 2024	2.4	191.8 (September average rainfall typically 115mm)

Table 3 – Recorded Daily Rainfall

Figure 4 overleaf identfies all NRW rain guages located in close proximty to Bridgend. Table 4 identifies the recorded rainfall at these locations on the 6th & 7th of September. The Brackla rain gauge recorded rainfall data suggests that this location recorded over 20mm additional rainfall on the 6th Setpember and also recorded two hourly rainfall peaks of 16mm and 21mm compared to the one hour of peak rainfall of 10mm recorded at the Blaenogwr rain gauge during the same storm.

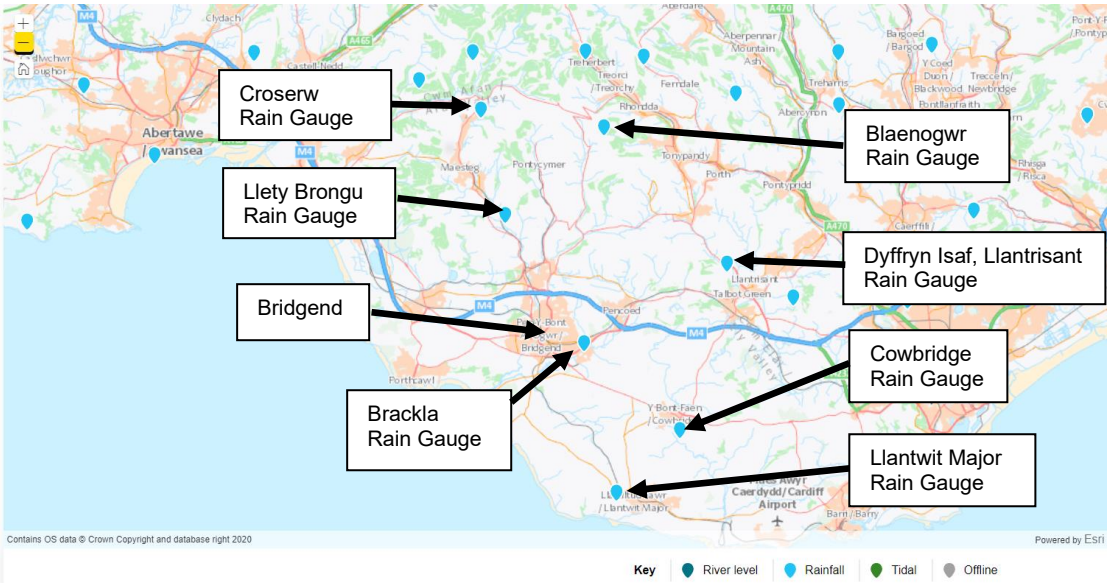


Figure 14 – NRW Rain Gauge Locations

Rain Gauge	6th September Cumulative Rainfall (mm)	7th September Cumulative Rainfall (mm)	Total Rainfall over storm 6th & 7th September (mm)	Peak Rainfall in 1 hour during 6th Sept & 7th Sept (mm)
Brackla (Bridgend)	61.6	11.8	73.4	16mm 19:00 to 20:00 9.8mm in 15mins at 19:15 21.6mm 21:00 to 22:00 10.6mm in 15mins at 22:00 6th Sept 2024
Llety Brongu (Llynfi)	21.6	22.4	44.0	8.2mm 23:00 to 00:00 6th Sept 2024
Croserw (Llynfi)	25.0	28.8	53.8	6.6mm 00:00 to 01:00 7th Sept 2024
Blaenogwr (Ogmore)	40.6	23.6	64.2	10.2mm 23:00 to 00:00 6th Sept 2024
Cowbridge (Vale of Glamorgan)	18.2	7.2	25.4	5.6mm 21:00 to 22:00 6th Sept 2024
Llanwit Major (Vale of Glamorgan)	17.2	6.0	23.2	3.2mm 21:00 to 22:00 6th Sept 2024
Dyffryn Isaf Llantrisant (RCT)	36.6	11	47.6	11mm 22:00 to 23:00 6th Sept 2024

Table 4 – NRW Rain Gauges Rainfall Data

From reviewing the rainfall data from NRW's Brackla rain gauge it has been identified that approx. 50mm of rainfall fell between 7pm and 11pm on the evening of the 6th September 2024. The Brackla rain gauge is located in close proximity to the flood investigation sites and would be considered to provide a good representation of the level of rainfall experienced in the vicinity. An analysis of the rainfall data recorded at other rain gauges also suggests more localised heavy rainfall occurred in Bridgend compared to elsewhere.

Consequently, it is considered that the rainfall levels experienced by this storm is one of the more intense encountered in recent years.

3.0 Flooding History

3.1 Previous Flood Incidents

Brackla

Incidences of flooding to properties within the flood investigation area have occurred on the 2nd November 2012 and 6th September 2024. The flooding incident on the 2nd November 2012 was due to a blockage at the inlet to the culverted watercourse crossing beneath the railway line which is under the land ownership of Network Rail. Both flooding incidents have led to internal flooding to 10 No. properties and external flooding to the residential car park causing damages to cars parked during each storm event.

Bryntirion

Previous incidences of flooding to properties within the wider investigation area have occurred over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water from the Cefn Glas suburb and through Bryntirion. Dates of flooding incidents are listed below:

- 28th August 2008 – 1 property;
- 3rd September 2008 – 1 property;
- 5th September 2008 – 1 property;
- 12th September 2008 – 1 property;
- 5th September 2010 – 1 property;
- 16th July 2011 – 1 property;
- 6th September 2024 – 24 properties.

3.2 Flood Incident – 6th & 7th September

The flooding that occurred on the 6th & 7th of September 2024 at Brackla and Bryntirion suburbs of Bridgend was a result of an unnamed storm which caused widespread flooding to several streets within the borough of Bridgend.

The Out of Hours officers attended a number of locations that reported flooding issues during the storm event on the 6th & 7th September, which are listed below:

- Moorlands Road, Bridgend;
- Elm Crescent, Bryntirion;
- Greenfields Avenue, Bridgend;
- GWR, Coity Road;
- Western Court, Oaklands Drive;
- Castle View, Bridgend;
- Wetherspoons, Dunraven Place, Bridgend;
- 4 Oaklands Close, Bridgend;
- Hafan-y-Bryn;
- Chestnut Way;
- A48 Stormy down to Redhill Roundabout;
- Porthcawl Road South Cornelly, near Quarry entrance;
- New Road. Porthcawl;

- Esplanade Avenue, Porthcawl;
- Bryneglwys Avenue, Porthcawl;
- A473 Bryntirion Hill;
- A4063 Coytrahen;
- Heol Ty Gwyn, Maesteg;
- Abergarw Road Brynmenyn;
- Parkcourt Road, Bridgend;
- Porthcawl Road, North Cornelly;
- Haywain Roundabout, Brackla;
- Bryngolau, Bryntirion;
- Heol-y-Frenhines, Bryntirion.

The post event inspections undertaken on the days following the storm event by BCBC's Flood Risk Management Team identified 34 residential properties suffered from internal flooding.

A summary of the source(s) and pathway(s) of flooding within the investigation area during the unnamed storm on the 6th & 7th September 2024 have been outlined in Table 5 and further described throughout this section.

Flood Location	**Source**	**Pathway(s)**	**Receptor(s)**
Caer Castell House, Brackla	Intense rainfall feeding ordinary watercourse	Surcharging flood water from ordinary watercourse	Flow path from overland flows from Nant Pontysanau contributed to internal flooding to 10No. Properties
Hafan-y-Bryn, Bryntirion	Intense rainfall feeding ordinary watercourse Culvert inlet west of Hafan Y Bryn	Surcharging flood water from inlet of culverted watercourse flowing down Hafan Y Bryn	The flow path towards Hafod Y Bryn caused internal flooding to 7No. properties.
Oaklands Close, Bryntirion	Intense rainfall feeding ordinary watercourse Culvert Inlet in private land off Oaklands Close	Surcharging flood water from inlet of culverted watercourse on Oaklands Close	Flow path from overland flows from watercourse contributed to internal flooding to 1 No. Property at Oaklands Close and external flooding to 2 No. properties at Oaklands Close
Great Western Court Flats & West Road Flats	Intense rainfall feeding ordinary watercourse Culvert inlet in private land off Oaklands Close	Overland flows from Oaklands Close culverted watercourse flowing through private land towards flats.	Flow path from overland flows from watercourse contributed to internal flooding to 5 No. flats over both locations and flooding to garages
Greenfield Avenue/Park Court	Intense rainfall feeding ordinary	Surcharging flood water from inlet of	Flow path from overland flows from

Road	watercourse	culverted watercourse on Greenfield Avenue Overland flows along highway following natura topography to properties on Park Court Road.	watercourse contributed to internal flooding to 11 No. residential properties

Table 5 – Summary of the source(s), pathway(s) and receptor(s) affected during the unnamed storm on 6th & 7th September 2024 in Bryntirion & Brackla

3.2.1 – Caer Castell House Flooding Incident

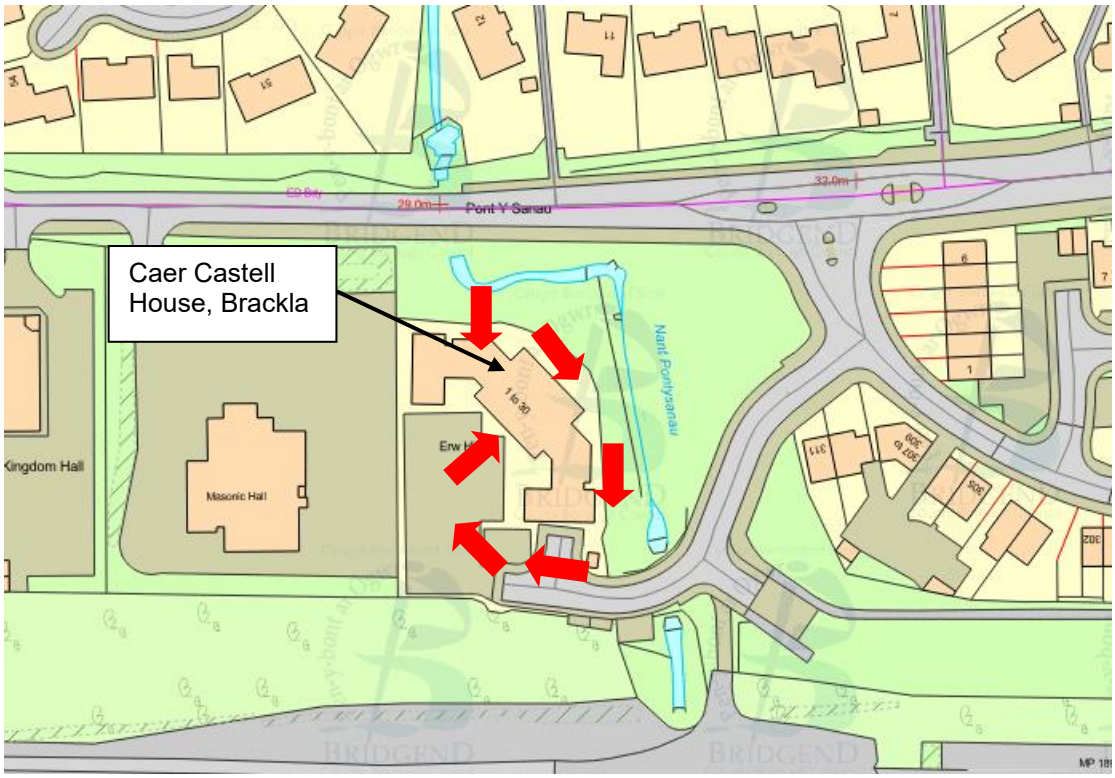


Figure 15 – Caer Castell House, Brackla assumed flood exceedance route

Figure 15 outlines the assumed flood exceedance route during the storm event where flows overtopped the embankment of the ordinary watercourse. The flood exceedance route has been determined following discussions with residents and on-site investigations.

3.2.2 – Bryntirion Flood Incident

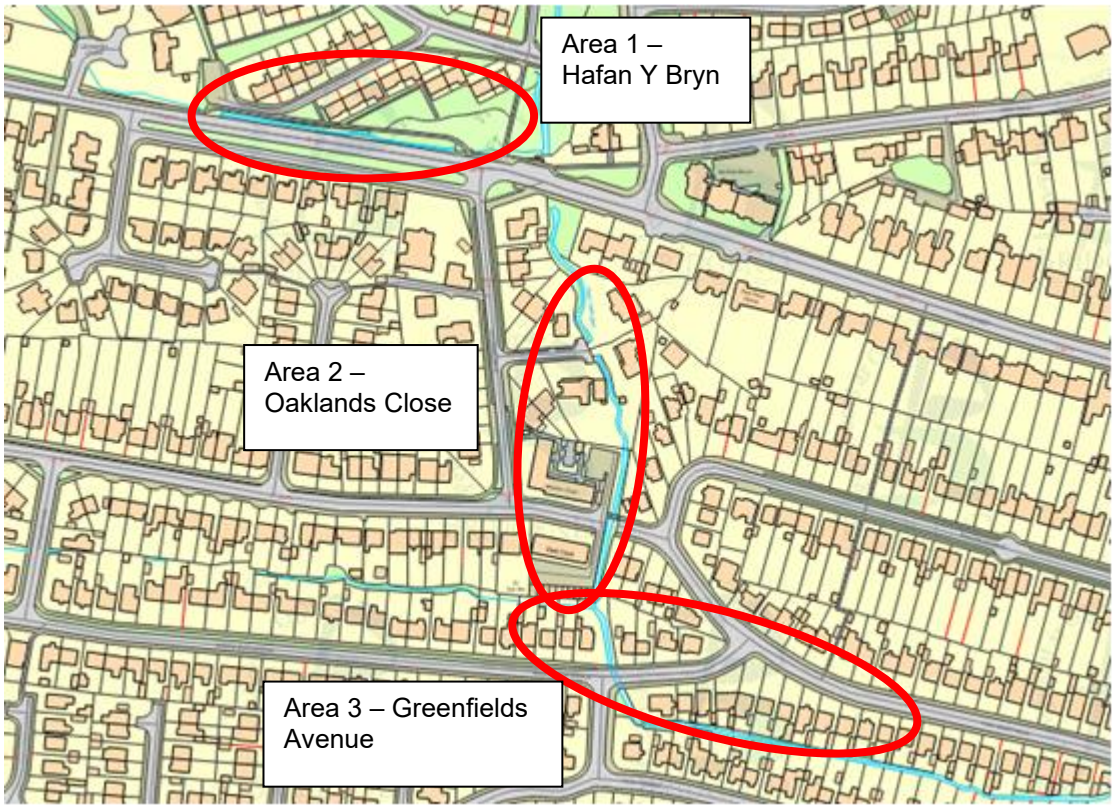


Figure 16 – Bryntirion Flood Areas

Figure 16 outlines the flood investigations areas in the Bryntirion area, which have been divided into three areas, Hafan Y Bryn, Oaklands Close/Western Court Flats/Park Court Flats and Greenfields Avenue/Park Court Road.

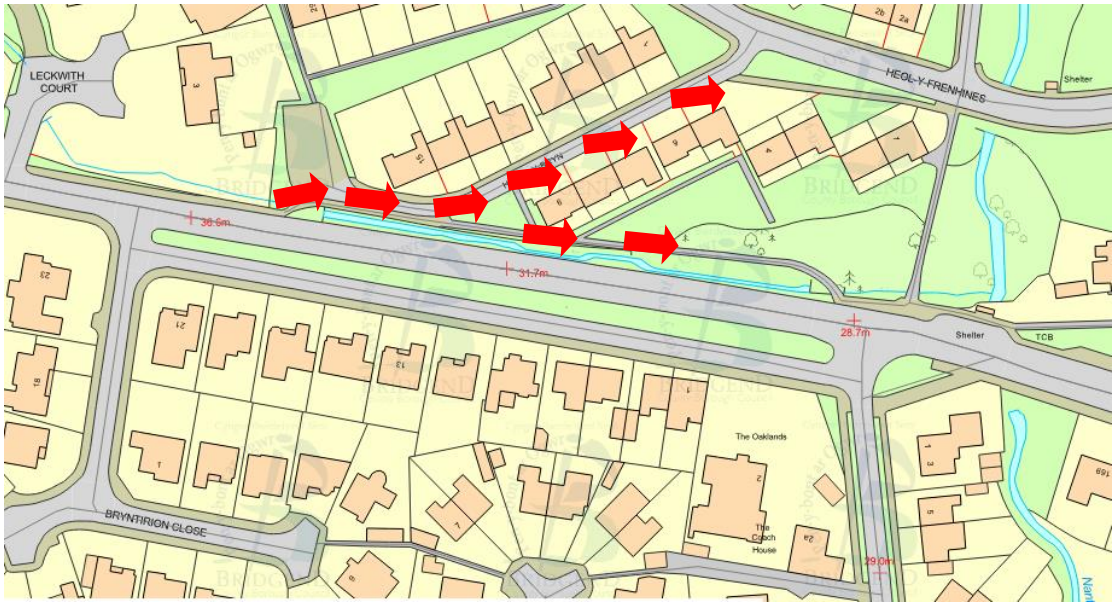


Figure 17 – Hafan Y Bryn, Bryntirion assumed flood exceedance route

Figure 17 outlines the assumed flood exceedance route at Hafan Y Bryn during the storm event. The flood exceedance route has been determined following discussions

with residents and on site investigations. Flows appear to have exceeded the capacity of the culvert inlet to the west of Hafan Y Bryn.

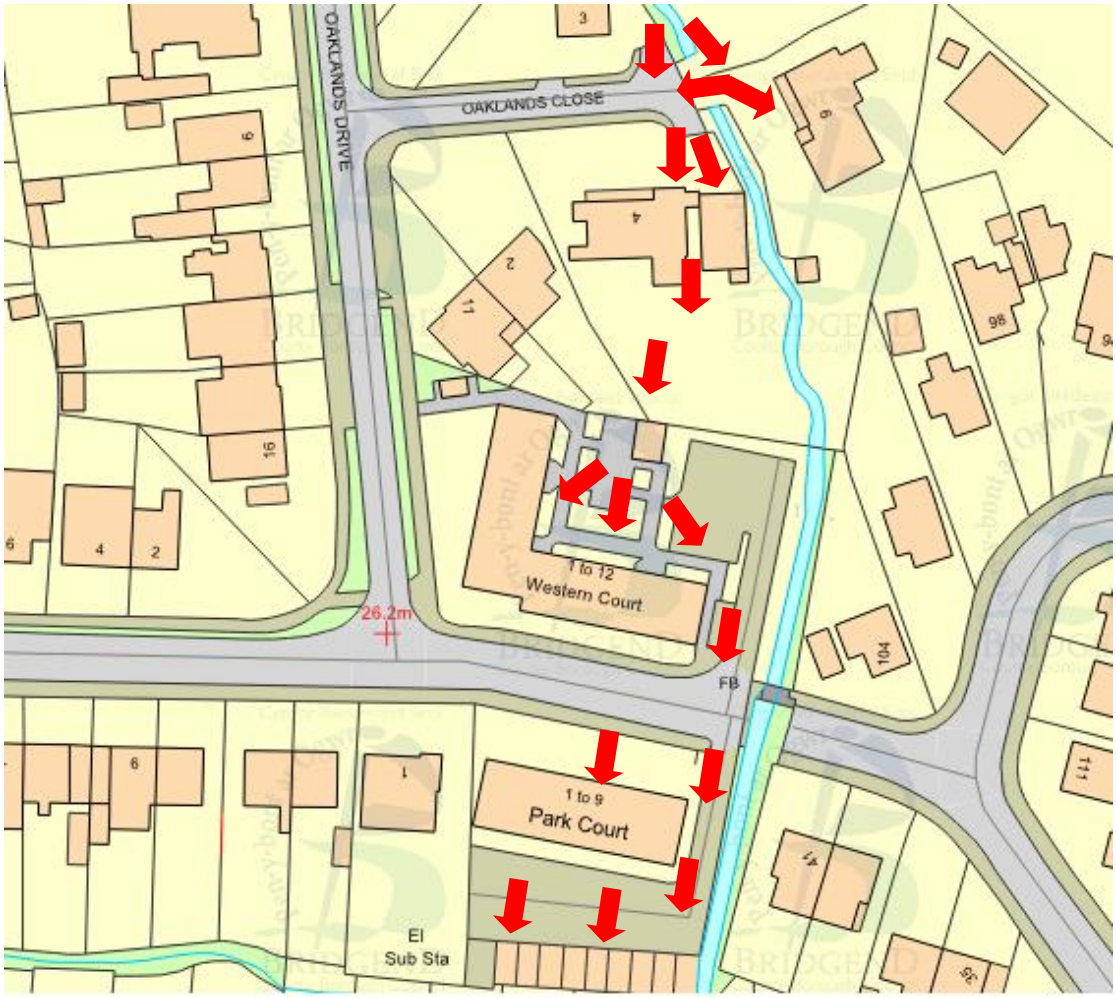


Figure 18 – Oaklands Close, Bryntirion assumed flood exceedance route

Figure 18 outlines the assumed flood exceedance route at Oaklands Close, Western Court flats and Park Court flats during the storm event where flows overtopped the embankments of the ordinary watercourse. The flood exceedance route has been determined following discussions with residents and on-site investigations.

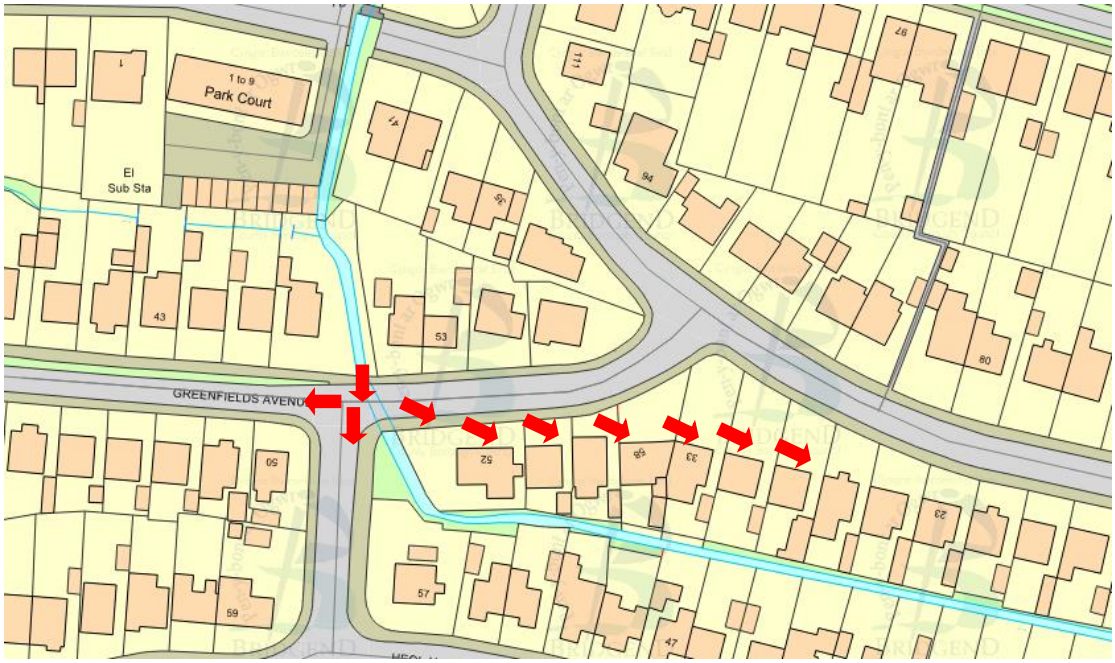


Figure 19 – Greenfields Avenue, Bryntirion assumed flood exceedance route

Figure 19 outlines the assumed flood exceedance route at Greenfields Avenue & Park Court Road during the storm event where flows overtopped the embankments of the ordinary watercourse. The flood exceedance route has been determined following discussions with residents and on-site investigations.

Photographs of internal flooding to properties have been provided by resideints however these have not been included within this Section 19 report due to the requirements of the GDPR.

4.0 Possible Causes

The following section identifies potential causes associated with the storm of the 6th & 7th September 2024.

4.1 Rainfall Intensity during Storm Event

From reviewing the rainfall data from NRW's Brackla rain gauge it has been identified that approx. 50mm of rainfall fell between 7pm and 11pm on the evening of the 6th September 2024. The Brackla rain gauge is located in close proximity to the flood investigation sites and would be considered to provide a good representation of the level of rainfall experienced in the vicinity. Further information in relation to the rainfall encountered during the storm is discussed in Section 2 of this report.

Our initial findings suggest that the primary cause of flooding experienced at all locations is hydraulic overload of the local watercourses due to the rainfall experienced during the storm event.

4.2 Ordinary Watercourses & Culverted Watercourses

Figures 20 & 21 – Caer Castell House, Brackla – Nant Pontysanau Debris

Figure 20 identifies debris within the Nant Pontysanau prior to the storm event. Figure 21 identifies the debris that was subsequently removed following the storm events. Although debris was identified in the watercourse it was below the dry weather flow level, which is dictated by concrete weirs within the watercourse.

Figures 22 & 23 – Caer Castell House, Brackla – Nant Pontysanau Storm Debris

Figure 22 identifies storm debris within the Nant Pontysanau, which was subsequently removed by BCBC following the storm event, as shown in Figure 23.

Figures 24 & 25 Network Rail Culvert downstream

Figures 24 & 25 identify the Network Rail culvert located downstream of the Brackla flood investigation area.

Figure 26 & 27 – Hafan Y Bryn Properties & Culvert Inlet Post Vegetation Clearance

Figure 26 identifies the bungalows that were subjected to flooding on Hafan y Bryn. Figure 27 identifies the location of the inlet to the culverted watercourse located to the west of Hafan Y Bryn. On inspection of the area and the general topography it is noted that there is a gap within the hedge line, which it is believed has been created to allow the flood water to disperse and acts as an exceedence route when the culvert capacity is exceeded.

Figure 28 & 29 – Hafan Y Bryn Unnamed Watercourse

Figures 28 & 29 identifies the unnamed watercourse located south of Hafan Y Bryn.

Figures 30 & 31 – Hafan Y Bryn Inlet Post Vegetation Clearance

Figures 30 & 31 identifies the Hafan y Bryn culvert inlet following vegetation clearance. No debris was identified within the culvert, indicating that hydraulic overload was the primary cause of flooding at this location.

Figure 32 & 33 – Culverted watercourses Upstream of Oaklands Close

Figure 32 & 33 identifies the culvert inlets to two culverted watercourses upstream of Oaklands Close. Both culverts beneath Park Street and Oaklands Close were clear during the post storm inspection indicating that hydraulic overload was the primary cause of flooding at this location.

4.2 Main River

The designated main river the River Ogmore, flows south of the Bryntirion flood investigation area.

The hydrograph in Figure 34 overleaf illustrates a moderate rise in levels of the River Ogmore in response to rainfall, captured at NRW's Bridgend station located at the leisure centre footbridge.

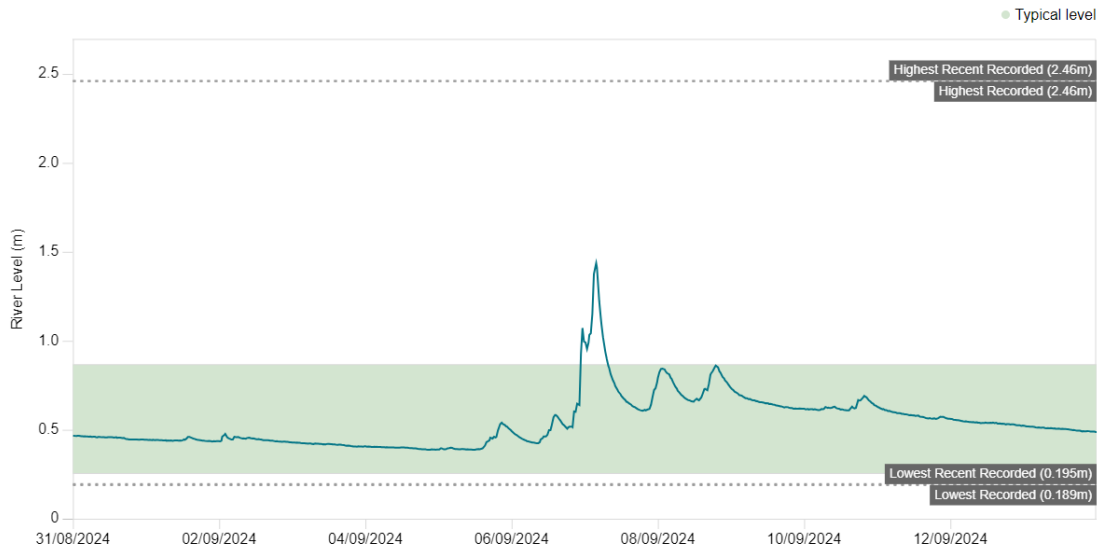


Figure 34 – NRW Flood Map for Planning

The designated main River Ewenny flows south of the Brackla flood investigation area.

The hydrograph in Figure 35 below illustrates a moderate rise in levels of the River Ewenny in response to rainfall, captured at NRW's Keepers Lodge station, located Ewenny, downstream of Old Mill and Felindre Road.

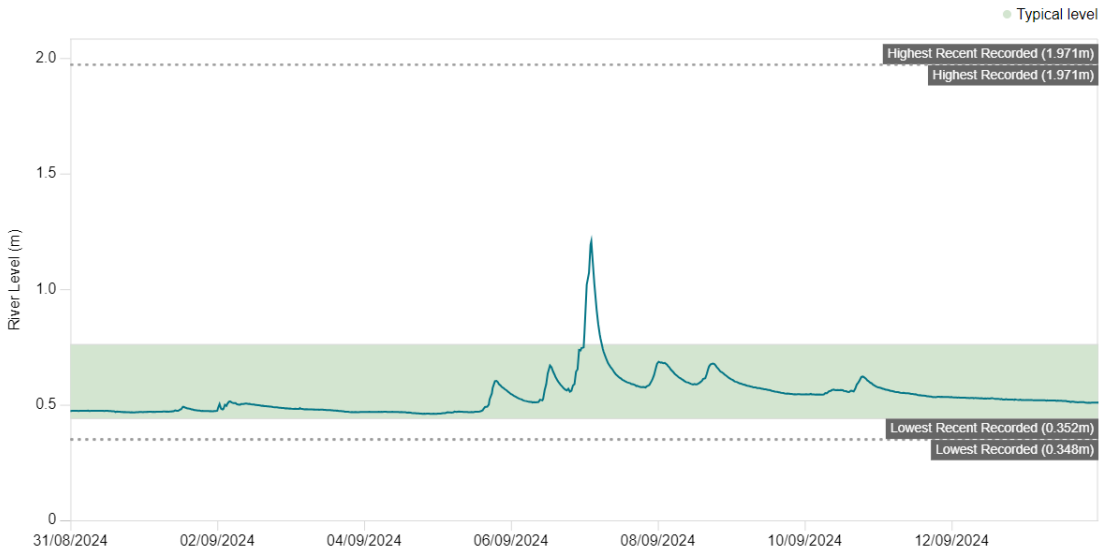


Figure 35 – NRW Flood Map for Planning

There is no evidence from this investigation to suggest that the River Ogmore or River Ewenny significantly contributed to the recorded flooding of properties within the investigation areas during the storm event on the 6th & 7th of September 2024.

4.3 Highway Drainage

Although there was flooding within the highway caused by hydraulic overload of the local watercourses, there is no evidence from this investigation that the highway

drainage networks contributed to the flooding that occurred on the 6th & 7th September 2024 within the investigation areas.

4.4 DCWW sewer

There is no evidence from this investigation that DCWW networks contributed to the flooding that occurred on the 6th & 7th September 2024 within the investigation areas.

4.5 Summary of Possible Causes

The above sections have identified and described the possible causes of flooding within the Brackla and Bryntirion suburbs in Bridgend during the storm event on the 6th & 7th September 2024. A summary of the identified source(s) and possible cause(s) of flooding has been outlined below in Table 6 below.

Ref No.	Location	Asset (Source)	Issue	Asset Owner	Type of Flooding
1	Caer Castell House, Brackla	Nant Pontysanau	Intense rainfall across Bridgend resulted in hydraulic overload of watercourse	BCBC	Fluvial Flooding of Ordinary Watercourse
2	Hafan Y Bryn, Bryntirion	Unnamed Watercourse Culvert Inlet	Intense rainfall across Bridgend resulted in hydraulic overload of watercourse	V2C	Fluvial Flooding of Ordinary Watercourse
3	Oaklands Close, Bryntirion	Nant Cefn Glas Culvert Inlet	Intense rainfall across Bridgend resulted in hydraulic overload of watercourse	Private	Fluvial Flooding of Ordinary Watercourse
4	Western Court & Park Court flats, Bryntirion	Nant Cefn Glas Culvert Inlet	Intense rainfall across Bridgend resulted in hydraulic overload of watercourse	Private	Fluvial Flooding of Ordinary Watercourse
5	Greenfields Avenue/Park Court Road, Bryntirion	Nant Cefn Glas Culvert Inlet	Intense rainfall across Bridgend resulted in hydraulic overload of watercourse	BCBC	Fluvial Flooding of Ordinary Watercourse

Table 6 – Summary of source(s) and possible cause(s) of flooding in Bryntirion and Brackla on 6th & 7th September 2024

5.0 Risk Management Authority Actions

As the LLFA, BCBC has the responsibility to coordinate the management of flood risk and the interaction of RMAs across Bridgend County Borough.

An overview of the relevant RMAs in Bridgend County Borough in relation to flood type is provided in Table 7 below. For further details of the roles and responsibilities of individual Risk Management Authorities in managing flooding, refer to WG's National Strategy for Flood and Coastal Erosion Risk Management, Section 4 'Roles and Responsibilities

Type of Flooding	Relevant Risk Management Authority
Flooding from ordinary watercourses, surface water and groundwater	LLFA (BCBC)
Flooding from Main River, reservoirs and the sea (including coastal erosion).	NRW
Flooding from water and sewage systems	BCBC
Flooding from the highway	Highway Authority
Flooding from the highway (motorways and major trunk roads)	Welsh Government Trunk Road Agency

Table 7 - Risk Management Authority with relevant functions to manage the risk for different flood types

RMAs have direct flood risk management functions under the Flood and Water Management Act 2010, as well as the Water Resources Act 1991, Land Drainage Act 1991 and the Highways Act 1980. Through analysis of the flooding that impacted BCBC, the flood risk management functions exercised, or proposed to be exercised, by relevant RMAs was recorded pursuant to Section 19 of the Flood and Water Management Act 2010, which states;

"On becoming aware of a flood in its area, a LLFA must, to the extent that it considers it necessary or appropriate, investigate:

a) Which risk management authorities have relevant flood risk management functions and,
b) Whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in the response to the flood."

Through the investigation process, the source(s) and possible cause(s) of flooding in Bryntirion and Brackla as a result of the unnamed storm event on 6th & 7th September 2024 has been previously identified and summarised within Table 6. Most of the flooding was due to hydraulic overloading of local watercourses and culverts, where flows exceeded the capacity of systems. The RMAs responsible for managing that flooding have been listed within Table 8 overleaf, along with a series of recommendations presented by the LLFA.

Ref	Location	Asset Source	Asset Owner	Relevant Risk Management Authority	Type of Flooding	Proposed Action & Recommendations	Link to BCBC Flood Risk Management Plan – EU reporting Code	Status/Notes
1	Caer Castell House, Brackla	Ordinary Watercourse	BCBC	Lead Local Flood Authority	Fluvial	Inspect watercourses	M41- Preparedness	Storm debris clearance from the Nant Pontysanau completed in October 2024
2	Caer Castell House, Brackla	Ordinary Watercourse	BCBC	Lead Local Flood Authority	Fluvial	Investigate potential options to mitigate flood risk and apply for FCERM funding	M41- Preparedness	Investigate feasibility of installing a bund around the watercourse in BCBC land WG FCERM funding to be applied for 2025/26 financial year
3	Caer Castell House, Brackla	Ordinary Watercourse	BCBC	Lead Local Flood Authority	Fluvial	Discussions with other asset owners	M41- Preparedness	Meeting held with Network Rail on site.
4	Caer Castell House, Brackla	Ordinary Watercourse	BCBC	Lead Local Flood Authority	Fluvial	LLFA to liaise with landowner regarding ongoing maintenance	M41- Preparedness	Meeting held with BCBC holding department to discuss ongoing maintenance and inspections in this area
6	Hafan Y Bryn, Bryntirion	Ordinary Watercourse	V2C	Lead Local Flood Authority	Fluvial	Inspect watercourses	M41- Preparedness	Completed 11th September 2024.
7	Hafan Y Bryn, Bryntirion	Ordinary Watercourse	V2C	Lead Local Flood Authority	Fluvial	Engage with riparian owner to ensure area around culvert entrance is clear and	M41 - Preparedness	Meeting held with Valleys to Coast (V2C).

						free flowing		V2C cleared areas of vegetation around culvert inlet. V2C to undertake further clearance works in downstream watercourse running parallel to Bryntirion Hill
8	Hafan Y Bryn, Bryntirion	Ordinary Watercourse	V2C	Lead Local Flood Authority	Fluvial	Improve access culvert entrance	M41- Preparedness	Works completed in September 2024
9	Hafan Y Bryn, Bryntirion	Ordinary Watercourse	V2C	Lead Local Flood Authority	Fluvial	Investigate potential options to mitigate flood risk to this area	M41- Preparedness	BCBC to apply for WG FCERM funding for 2024/25 financial year
10	Oaklands Close, Bryntirion	Ordinary Watercourse	Private	Lead Local Flood Authority	Fluvial	Inspect watercourse	M41- Preparedness	Completed 11th September 2024. Culverts clear during inspection.
11	Oaklands Close, Bryntirion	Ordinary Watercourse	Private	Lead Local Flood Authority	Fluvial	Investigate potential options to mitigate flood risk to this area	M41 - Preparedness	BCBC to apply for WG FCERM funding to Investigate potential options to mitigate flood risk in the area
12	Western Court & Park Court flats, Bryntirion	Ordinary Watercourse	Private	Lead Local Flood Authority	Fluvial	Inspect watercourse	M41- Preparedness	Completed 11th September 2024. Culverts clear during inspection.
13	Western Court & Park Court flats, Bryntirion	Ordinary Watercourse	Private	Lead Local Flood Authority	Fluvial	Investigate potential options to mitigate flood risk to this area	M41 - Preparedness	BCBC to apply for WG FCERM funding to Investigate potential options to mitigate

								flood risk in the area
14	Greenfields Avenue/ Park Court Road, Bryntirion	Ordinary Watercourse	BCBC	Lead Local Flood Authority	Fluvial	Inspect watercourse	M41- Preparedness	Completed 11th September 2024. Culverts clear during inspection.
15	Greenfields Avenue/ Park Court Road, Bryntirion	Ordinary Watercourse	BCBC	Lead Local Flood Authority	Fluvial	Investigate potential options to mitigate flood risk to this area	M41 - Preparedness	BCBC to apply for WG FCERM funding to Investigate potential options to mitigate flood risk in the area

Table 8 – Recommendations provided by LLFA to be considered by the relevant Risk Management Authority identified in response to the source(s) of flooding to the Brackla and Bryntirion Flood Investigation Areas in Bridgend.

5.1 Lead Local Flood Authority

In review of Ref 1 – 15 in Table 8, the LLFA has been determined as a relevant RMA in relation to the flooding which occurred within the Brackla and Bryntirion flood investigation areas in Bridgend on 6th & 7th of September 2024.

The LLFA exercised the following functions in response to the flooding at Brackla and Bryntirion flood investigation areas:

- Officers investigated the initial flooding and have produced this report in line with Section 19 of the Flood and Water Management Act 2010;
- The LLFA, assisted by the Highway Authority, have undertaken clearance works to the culvert network systems which fall under the responsibility of the Authority (Ref No. 1);
- The LLFA have initiated engagement with riparian landowners to ensure the ordinary watercourse infrastructure is free flowing and unobstructed (Ref No. 3 & 7).

The LLFA propose to exercise the following functions in response to the flooding at Brackla and Bryntirion flood investigation areas:

- The LLFA will continue to engage with riparian landowners to ensure all culverts and watercourses are free flowing and unobstructed;
- The LLFA will be applying for Welsh Government funding to undertake a flood alleviation scheme at Brackla. If funding is secured, the scheme will involve the construction of a bund around the Nant Pontysanau to mitigate flood risk to properties at Caer Castell House, Brackla;
- The LLFA will be applying for Welsh Government funding to undertake a Nant Cefn Glas catchment study to identify potential options to mitigate flood risk to properties in Bryntirion.

5.2 Natural Resources Wales

Natural Resources Wales were not identified as a relevant authority in relation to the flooding at Byntirion or Brackla on the 6th & 7th September 2024.

5.3 Dwr Cymru Welsh Water

DCWW were not identified as a relevant authority in relation to the flooding at Byntirion or Brackla on the 6th & 7th September 2024.

5.4 Highway Authority

The Highway Authority were not identified as a relevant authority in relation to the flooding at Byntirion or Brackla on the 6th & 7th September 2024.

6.0 Useful Links/Contacts

Flood Re – Flooded Property Insurance Scheme - https://www.floodre.co.uk/

Natural Resources Wales – Check Flood Warnings – https://naturalresources.wales/flooding/check-flood-warnings/?lang=en

Natural Resources Wales - Long Term Flood Risk - https://naturalresources.wales/flooding/check-your-flood-risk-by-postcode/?lang=en

Bridgend County Borough Council – Local Flood Risk Management Strategy -

https://www.bridgend.gov.uk/residents/nature-climate-and-environment/flooding/local-flood-risk-management-strategy/

Welsh Government - National Strategy for Flood and Coastal Erosion Risk Management https://www.gov.wales/national-strategy-flood-and-coastal-erosion-risk-management-wales

Welsh Water – How to Contact Us – https://contact.dwrcymru.com/en