

Binstead Section 19 – 2024 Addendum

Final Report

October 2024

Prepared for:



**Isle of Wight
Council**

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This report describes work commissioned by Isle of Wight Council, by an instruction dated 07 February 2024. Isle of Wight Council's representative for the contract was James Brewer. Grace Sheppard of JBA Consulting carried out this work.

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The methodology adopted and the sources of information used by JBA in providing its services are outlined in this Report. The work described in this Report was undertaken between January and June 2024 and is based on the conditions encountered and the information available during the said period. The scope of this Report and the services are accordingly factually limited by these circumstances.

Where assessments of works or costs identified in this Report are made, such assessments are based upon the information available at the time and where appropriate are subject to further investigations or information which may become available.

Acknowledgements

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Abbreviations

| | |
|-------|---|
| AOD | Above Ordnance Datum |
| AONB | Area of Outstanding Natural Beauty |
| EA | Environment Agency |
| FCERM | Flood and Coastal Erosion Risk Management (R&D programme) |
| FEH | Flood Estimation Handbook |
| FMfP | Flood Map For Planning |
| IWC | Isle of Wight Council |
| LLFA | Lead Local Flood Authority |
| PFR | Property Flood Resilience |
| RoFSW | Risk of Flooding from Surface Water mapping |
| S19 | Section 19 post flood investigation |

Executive Summary

Background

Following flooding in Binstead on 25 October 2023, Isle of Wight Council (IWC) as the Lead Local Flood Authority (LLFA) is undertaking a formal flood investigation under Section 19 of the Flood and Water Management Act, which will be an addendum to the Binstead Section 19 Report dated June 2022.

The village of Binstead is located in the north east of the Isle of Wight, approximately 2.km west of Ryde. This report will investigate internal flooding to at least 20 properties in the area as a result of the heavy rainfall event on 25 October 2023. As the number of properties affected by flooding in October 2023 constitutes 'significant flooding' in accordance with [its Flood Investigation Protocol](#), IWC is under a duty to investigate this flooding. IWC has appointed JBA Consulting to undertake this investigation on its behalf.

Stakeholder engagement

As part of the Section 19 addendum, JBA Consulting engaged with multiple local stakeholders in Binstead, including residents, IWC and Risk Management Authority (RMA) partners. Engagement with residents and business owners involved the distribution of an online community survey, which included gathering information on property flooding that occurred on the Isle of Wight during October and November 2023.

Long-term flood risk

There have been 6 recorded flood events in Binstead since 2000. The most significant recent event was 25 July 2021, where internal flooding to at least 20 properties occurred as a result of surface water and foul sewer flooding.

The storm event on 25 October 2023

Rainfall levels recorded at Ryde Vineyard gauge was significantly greater in October 2023 compared to the same month for the preceding three years. This was calculated by taking an average of the greatest rainfall over the preceding three years. During the event on 24 and 25 October, an average rainfall depth of 81.4mm fell between a 13 and 22 hour period. Therefore, the rainfall event is estimated to have a return period of between approximately 144 and 190 years, indicating that the storm event was significant.

Incident response

Several agencies responded to the flooding event in Binstead, including the Isle of Wight Council, the Environment Agency and Island Roads. A Yellow warning of rain on 24 October triggered a response from the Emergency Management team at IWC, who, through correspondence with Island Roads, ensured that strategic sandbag stocks were full and accessible. Ward Councillor Ian Dore contacted IOW Emergency Planning at 09:55 on 25 October, requesting they provide additional sandbags to affected properties in Binstead.

Source-pathway-receptor analysis

The sources, pathways and receptors of flooding during the event were as follows:

- Sources- extreme rainfall, drainage, Binstead Stream and culverted watercourse
- Pathways- overland flow, surface water drainage exceedance
- Receptors- internal flooding to at least 20 properties, internal damage, resident displacement, loss of possessions.

Subsequent actions

Section 5 highlights the actions that have taken place since the flooding events in 2021 and 2023.

Actions taken since the 2023 flood event include riparian maintenance, whereby residents of Cemetery Road have removed the debris and vegetation in the stream that flows through the rear of their properties. This stream was a source of flooding during both the 2021 and 2023 events due to blockages within the watercourse.

Additionally, in the first few months of 2024, Southern Water have been offering Binstead residents free water butts as part of a multi-agency co-originated flood mitigation approach, to ensure that the drainage system is not overwhelmed during periods of heavy rainfall.

On the request of Councillor Dore, a CCTV survey of the culvert running from Cemetery Road and behind the Farriers has been carried out by Southern Water. There were current and historic concerns that the culvert was blocked. The survey reveals that the culvert is operating at 100% with no blockages, however pipe capacity in this area requires review.

In August 2024, a public Property Flood Resilience (PFR) meeting was held at Binstead community centre where flood affected residents were able to engage with key stakeholders, including representatives from IWC planning, the project manager from the EA and others associated with the PFR scheme.

Recommendations

Highway SuDS scheme- it is recommended that IWC in their role as highway authority implement the highway SuDS scheme, which is fully funded, as soon as possible.

Property Flood Resilience – following months of work between IWC and the Environment Agency, the dedicated PFR scheme for Binstead residents has started, providing grant funded flood resilience measures to properties affected by flooding. It is recommended that this scheme is progressed to completion as soon as possible.

Raising kerb levels – it is recommended that Island Roads / IWC as Highway Authority review and address the kerb levels on Cemetery Road as highlighted in the Section 19 report of 2022.

Gully cleaning / grass cutting – it is recommended that Island Roads / IWC as Highway Authority carry out additional gully cleaning and grass cutting / removal to reduce the risk of gully blockages, as highlighted in the Section 19 investigation of 2022.

Water butts – it is recommended that Southern Water continue to offer water butts to residents to help remove surface water from the system

Sandpath hedgerow – it is recommended that the hedgerow on the western side of Sandpath is removed and replaced to allow drainage channels underneath to operate at maximum capacity

Riparian maintenance and management – it is recommended that a community riparian maintenance and management plan should be prepared with regard to the watercourse in gardens at Cemetery Road by local residents with support from any Flood Action Group should one be established.

Community Flood Preparedness – residents are encouraged to find out about possible flood risk in the area and whether their property is at risk. Communities can also work together to improve flood resilience by setting up a Flood Action Group to plan and prepare for flooding, with support from Risk Management Authorities.

1 Introduction

1.1 Background to Addendum,

Following flooding in Binstead on 25 October 2023, the Isle of Wight Council (IWC) as the Lead Local Flood Authority (LLFA) has commissioned JBA Consulting to prepare an addendum to the previous Binstead Section 19 Investigation which was published in 2022, as the causes of flooding in Binstead are relatively well understood. The scope of this report will include:

- Estimations of rainfall return period for the 25 October 2023 event
- Preparation of Source-Pathway-Receptor mapping
- Outline of the flood response during the vent
- Review of actions undertaken since the publication of the Binstead Section 19 investigation in 2022

For detailed review of roles and responsibilities, catchment characteristics and a background to flooding mechanisms on Binstead please review to the Binstead Section 19 Investigation.

Whilst this addendum and the previous Section 19 report in 2022 sought to identify causes of flooding within the Binstead area and have made recommendations as to how the risk and / or impact of flooding may be reduced, these reports alone do not provide the Isle of Wight Council with the mandate or funding to implement any measures to reduce or remove the risk of flooding.

1.2 Investigation extent

The village of Binstead is located in the northeast of the Isle of Wight, approximately 2.4km west of Ryde. This report will investigate internal flooding to at least 20 properties in the area, with the majority centred around Binstead Hill and Cemetery Road, west of the settlement. Additionally, various other properties affected by flooding on 25 October 2023 are located in proximity to the Binstead Stream, which flows through the centre of the village. Figure 1-1 shows the location of Binstead. The risk of flooding from surface water (RoFSW) and Flood Map for Planning (FMfP) extents are shown in Figures 1-2 and 1-3, respectively.

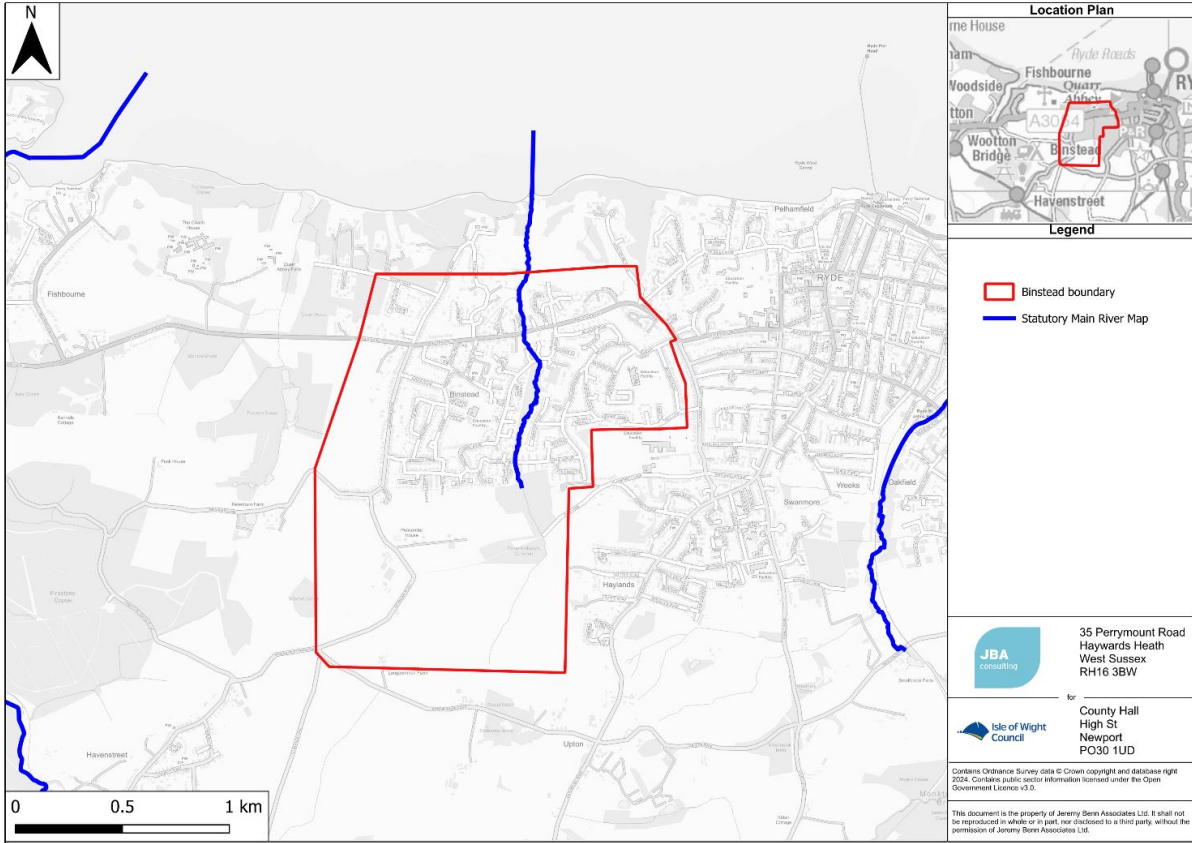


Figure 1-1: Study area

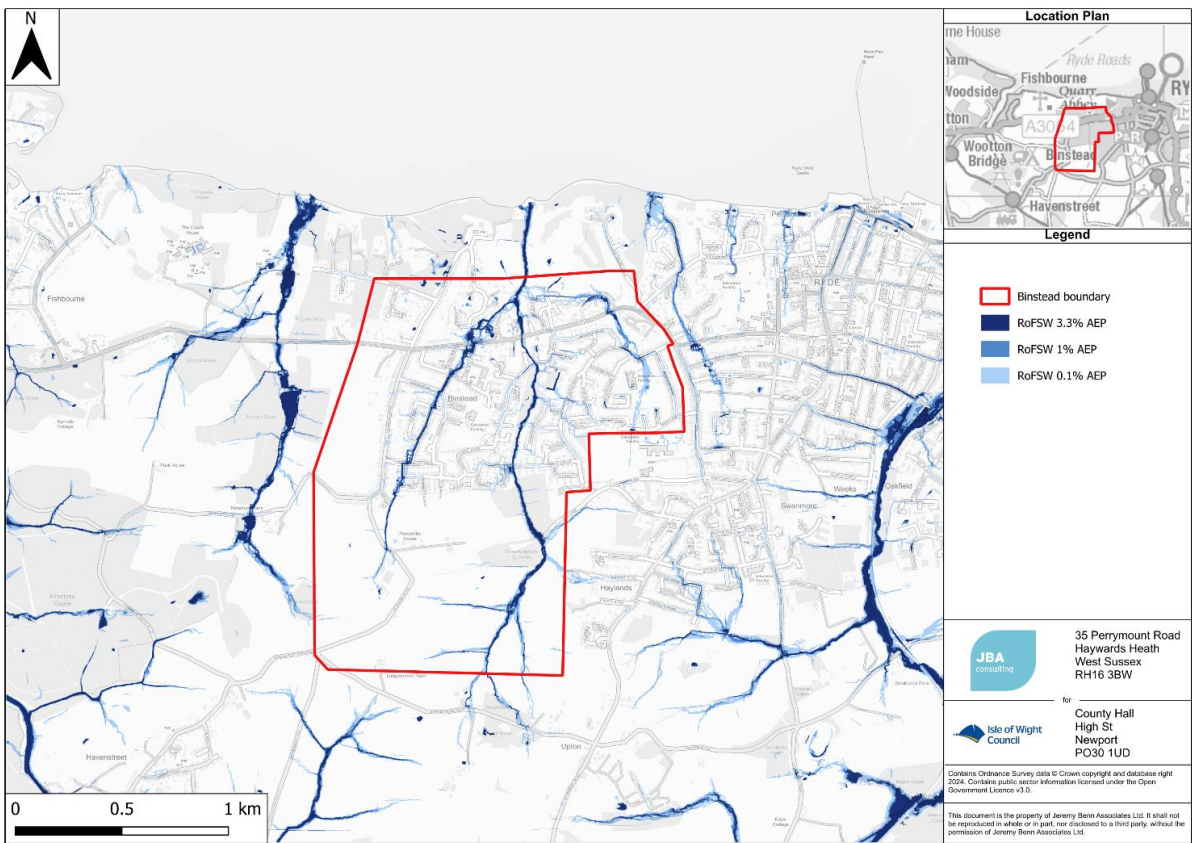


Figure 1-2: RoFSW in Binstead

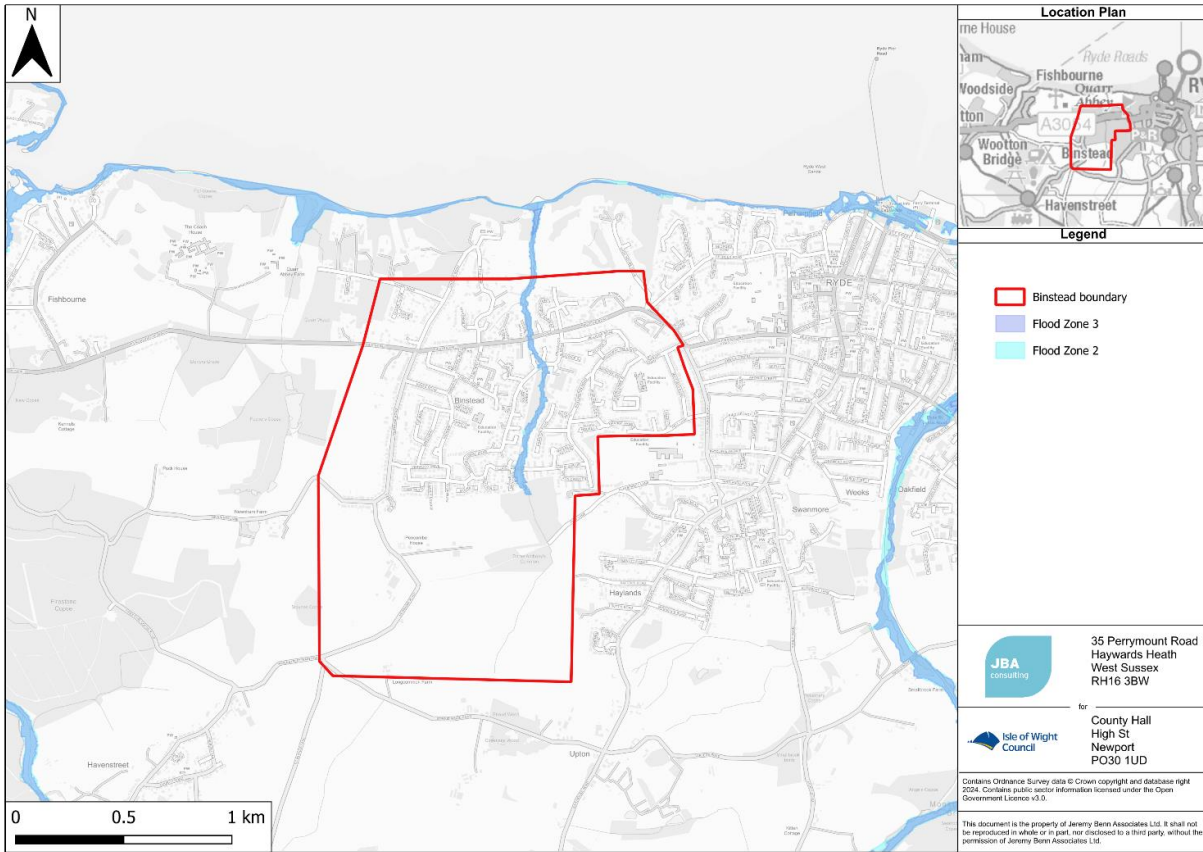


Figure 1-3: FMfP

1.3 Data collection

Data collection involved the online distribution of a community survey, whereby residents were asked a series of questions relating to the wider flooding events that occurred on the Isle of Wight during the months of October and November 2023. This data suggested that the main flooding event occurred on 25 October, with Binstead being one of the most affected areas.

Additionally, the Isle of Wight Council launched a flood recovery grant, whereby residential properties and businesses directly affected by the floods as a result of Storm Babet (between 19 and 25 October) were able to apply for UK Government funded support. This information, together with the responses from the community survey, were used to understand the areas most affected during this flooding event.

Further data has also been collected and assessed to inform the addendum. This has been used to understand the causes of flooding in Binstead and to establish the context of the area and includes the following:

- Open-source data from GOV.UK
- Hydrometric data
- Information from authorities on drainage infrastructure, such as highways and water companies

- Photographs, newspaper articles and notes from the event

1.4 Stakeholder engagement

We engaged with multiple local stakeholders in Binstead, including residents, the Isle of Wight Council and Risk Management Authority (RMA) partners. Engagement with residents and business owners involved the distribution of the online community survey, which included gathering information on property flooding that occurred on the Isle of Wight during October and November 2023.

The objectives of engagement are to:

- Gather facts, opinions and data to aid the understanding of the investigation
- Enable the involvement and buy-in of the community investigation
- Provide more technical debrief with RMA and operational partners
- Disseminate the findings of the investigation to the community

A list of key stakeholders and how we engaged with them is provided in Table 1-1. The engagement terminology is taken from the Environment Agency's 'Working with Others' (2013) Methodology:

- Inform - provide information
- Consult - receive, listen, understand and feedback
- Involve - decide together
- Collaborate - act together
- Empower - support independent action

Table 1-1: Key stakeholders

| Role | Organisation | How to engage | Type of engagement |
|----------------------------|-----------------------|---------------|--|
| Residents /business owners | N/A | Consult | Online questionnaire/ flood grant application |
| Local ward councillor | Cllr Ian Dore | Involve | Invitation to contribute, correspondence, public engagement meeting, evidence provision |
| Environment Agency | Environment Agency | Involve | Correspondence, data provision |
| LLFA | Isle of Wight Council | Involve | Correspondence, invitation to contribute, online survey distribution, site visit, data provision |
| Water company | Southern Water | Consult | Correspondence |

1.5 Flood history

Historically, Binstead has been affected by flooding on multiple occasions, with Table 1-2 outlining the flood history of the area prior to the latest event in October 2023 that has triggered this addendum report.

Table 1-2: Flood history

| Date | Source of flooding | Description of impacts |
|---------------------|--|--|
| 2000 | Foul sewer drainage and groundwater | Approximately 70 properties in the Ryde area were flooded |
| Nov 2010 | Drainage | Flooding to at least one property caused by blocked drainage |
| Dec 2012 | Drainage/surface water | Unknown |
| July 2012 | Unknown | Caused internal flooding to at least one property on Cemetery Road |
| Dec 2013 / Jan 2014 | Multiple sources including surface water | Caused internal flooding to at least one property on Cemetery Road to a depth of approximately 250mm |
| 25 July 2021 | Surface water | Caused internal flooding to at least 20 properties – at least one commercial. Road closures. |

2 Hydrological Analysis

2.1 Antecedent conditions

2.1.1 Rainfall

Rainfall records at Ryde Vineyard show that in the six months before the event on the 25th October 2023, rainfall was at or below the daily average for Ryde, approximately 24mm. For most months, there were two to three rainfall events that were around the daily average, whilst the rest were much lower.

2.1.2 Soils

The rainfall recorded at Ryde Vineyard in the months before the rainfall event in October 2023 were moderate to low, with little to no events exceeding the daily average of approximately 24mm. By contrast, October was a fairly wet month, with six rainfall events prior to the 25th October. This suggests that the soil was already saturated as there was limited time between rainfall events for the ground to recover. This therefore may have contributed to the flooding on the 25th October.

2.1.3 Groundwater levels

Based on the rainfall events at the beginning of October 2023, it can be assumed that the groundwater levels were slightly higher than normal. However, rainfall estimates across the Isle of Wight for the six months before the rainfall event show that rainfall levels were relatively low, suggesting that these events would not have caused a significant change in groundwater level.

2.2 Rainfall return period estimation

The rainfall return period for Ryde was estimated using the rainfall data from the Ryde Vineyard rainfall gauge using JBA’s Hydrometric Database. The recorded rainfall for the event was measured multiple times, each time including other peaks either side of the main rainfall event. These durations and depths for each measurement were used to estimate the return period using the Flood Estimation Handbook (FEH) Web Service. The return period estimations from the different rainfall durations are shown below in Table 2-1.

Table 2-1: Rarity of the rainfall event in Binstead on 25 October 2023 (Ryde vineyard Guage)

| Storm Duration (Hours) | Rainfall total (mm) | Return period |
|------------------------|---------------------|---------------|
| 13.00 | 78.99 | 189.27 |
| 17.00 | 81.19 | 161.15 |
| 22.00 | 84.09 | 144.36 |

The range of return periods is between **1 in 144 and 1 in 190 years** which corresponds to a rainfall event with annual probability of occurrence of less than 1% but greater than 0.5% each year. As a result, this is considered to be an extreme rainfall event although it is likely that events of this type will become more frequent due to the impacts of climate change.

Surface water drainage systems are typically not designed to manage events in excess of a 1 in 100 year event, and this may be less for older drainage systems. Assuming these systems were operating

2.3 Impact of river levels

It has not been possible to obtain river level data as the Binstead Stream is ungauged.

2.4 Impact of groundwater levels

The groundwater levels for October 2023 recorded at Alverstone are similar to that of previous years, with a value of approximately 19.5m AOD, which is a standard measurement for this time of year.

3 Incident Response

The Isle of Wight Council, Environment Agency and Island Roads were the main agencies to respond to the flooding event in Binstead.

Additionally, Hampshire and Isle of Wight Fire and Rescue service logged 20 requests for assistance on the 25 October 2023, the earliest of these was logged at 01:44 and the latest at 05:17. 13 of these incidents were logged along the main flow route identified in the 2022 Section 19 investigation. Additionally, there were two incidents logged at Chestnut Close and two at Binstead Hill which correlate well with the flood mechanisms identified in the previous investigation. A further three incidents were logged in the neighbouring ward of Ryde West at Wellington Road and Broadway Crescent.

The Met Office issued weather warnings corresponding with the period of flooding. These warnings were as follows:

- 24 October 2023: Yellow warning of rain issued at 11:00 on 24 October. Valid between 18:00 on 24 October and 10:00 on 25 October.
- 25 October 2023: Amber warning of rain issued at 06:13 on 25 October. Valid between 06:13 and 10:00

The village of Binstead is not covered by the Environment Agency's Flood Warning Service. The agencies that responded to the flooding in Binstead included the Isle of Wight Council, Hampshire and IOW Fire and Rescue Service and Island Roads. An amber warning of rain on the morning of 25 October triggered a response from the Emergency Management team at IWC, who, through correspondence with Island Roads and the ward councillor, ensured that strategic sandbag stocks were full and accessible. Following this, IWC contacted Island Roads at 09:55 on 25 October, requesting they provide additional sandbags to affected properties in Binstead.

The Environment Agency also responded to fluvial flooding at one property located on the eastern side of the Binstead Stream.

4 Source-pathway-receptor analysis

The Source-Pathway-Receptor model is a concept that can provide an understanding of all aspects of flood hazard. It breaks a flood incident down into three elements:

- Source - the origin of flood water
- Pathway - a route or means by which a receptor can be affected by flooding
- Receptor - something that can be adversely affected by flooding (e.g. people, property, infrastructure)

We analysed all of the information available to determine the main sources of flood water, the pathways it took and the main receptors. Source-Pathway-Receptor Mapping (Figure 4-1 and Figure 4-5) shows the east and west areas of Binstead, highlighting the various flow paths within the area.

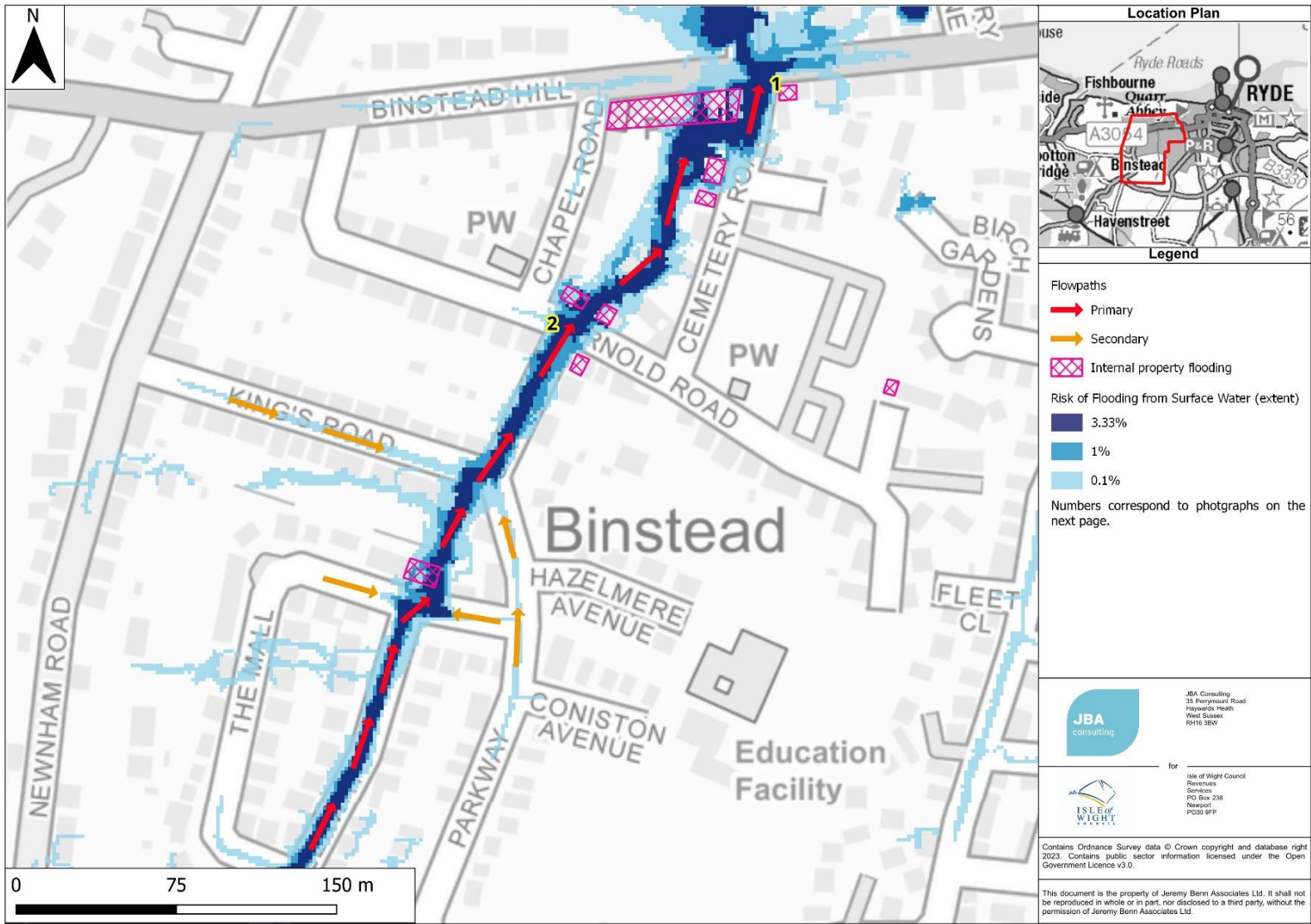


Figure 4-1: Map of sources, pathways and receptors for the west of the study area

4.1 West of study area

4.1.1 Source

The intense rainfall experienced in Binstead on 25 October 2023 caused significant amounts of water to fall directly onto the ground surface. One response to the stakeholder engagement survey identifies the cause of flooding along Arnold Road to be a mixture of fluvial, surface water and drainage issues, with significant pooling of water in this area. It has been observed that the boundary wall of a property on the corner of Chapel Road and Arnold Road effectively acts as a dam to the pooling water.

It is evident that the water originated from the fields south of Chestnut Close, with extreme rainfall exacerbating the volume of floodwater along the main pathways (detailed in Section 4.1.2). Additionally, a heavily culverted ordinary watercourse which flows through the western area of Binstead (through the gardens of properties along Cemetery Road), is also a main source of flooding in this area. Residents have indicated that this watercourse becomes heavily vegetated, with high rainfall causing a significant increase in water levels.



Figure 4-2: Photograph showing watercourse flowing through gardens on Cemetery Road.

4.1.2 Pathway

Figure 4- 2 demonstrates the pathways of water in west Binstead during the flood event on 25 October 2023. The main pathway originated in the fields behind Chestnut Close. Responses to the survey indicate that flood water flowed along Verwood Drive and Greenway, towards Sandpath at a high velocity. The water then pooled along Arnold Road and Cemetery Road. Additionally, flow paths reflected the natural topography, flowing in an eastern direction along Binstead Hill.

4.1.3 Receptor

Internal flooding to at least 17 residential properties and one non-residential property was recorded in the western area of Binstead, the majority located along Binstead Hill, Cemetery Road and Arnold Road. It is evident from the flood grant application forms and photographs provided that many of the residents have had to vacate their homes due to damage caused by the flooding, with many residents not being able to return for at least 6 months after the event. One response to the community survey highlights approximately 600 to 900mm of water in the kitchen and bathroom of their property along Binstead Hill. They also determine that water entered the property through the airbricks and floorboards.



Figure 4-3: Photograph showing significant pooling at the junction of Binstead Hill and Cemetery Road



Figure 4- 4: Photograph showing pooling of water at the junction of Arnold Road and Sandpath

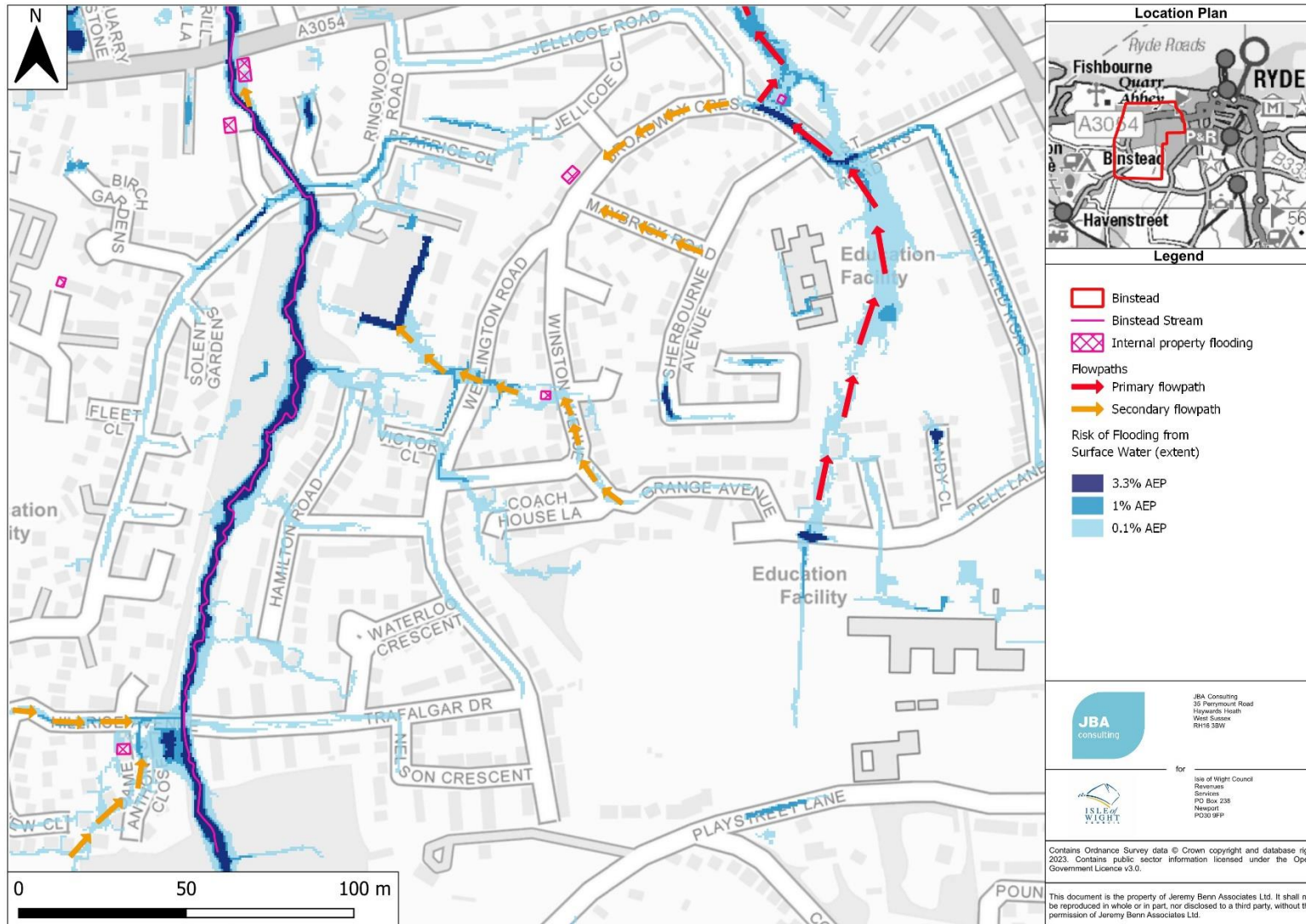


Figure 4-5: Map of sources, pathways and receptors for the east of the study area

4.2 East of study area

4.2.1 Source

Risk of Flooding from Surface Water (RoFSW) mapping indicates that flood water originates from the Binstead Stream, which flows through the centre of the village. This EA classified Main River overtopped its banks on 25 October 2023 as a result of extreme rainfall, causing internal flooding to at least one property on the eastern side of the watercourse.

Additionally, it is evident that surface water also originates in the fields west of the Ryde Academy in Binstead and was an additional source of flooding in the area.

Responses to the stakeholder engagement survey also identify problems with drainage as a source of flooding, with issues such as blockages and insufficient drainage generating surface water runoff.

4.2.2 Pathway

Various pathways are present in the eastern part of Binstead, with a primary flow path located along the Binstead Stream. An additional primary flow path is located far east of the study area, originating from the fields surrounding the school in Binstead. This surface water pathway flows north towards St Vincent's Road and Broadway Crescent, in the neighbouring ward of Ryde West. Responses to the stakeholder engagement survey indicate flooding along Broadway Crescent and Maybrick road, as shown by the secondary flow paths in Figure 4-5.

In addition, secondary flow paths are shown along Dame Anthony's Close, as well as Winston Avenue towards Wellington Road, whereby surface water pathways reflect the sloping topography.

4.2.3 Receptor

Internal flooding to at least 8 residential properties occurred in the eastern area of Ryde. Only one property is known to have flooded as a result of the watercourse overtopping its banks. This property is located on the eastern side of the Binstead Stream, where the topography is slightly lower. Additional internal flooding in this area was the result of drainage and surface water issues.

Responses to the stakeholder engagement survey indicate that flooding occurred at two properties along Broadway Crescent. The residents indicate that flooding occurs every time after heavy rainfall, with drainage issues and surface water highlighted as the main sources of flooding. Photographic evidence provided as part of the community survey and flood grant application, indicates damage to ground floor rooms and garages, with some residents having to vacate their properties for at least 6 months.

5 Subsequent actions

5.1 Actions taken since 2021 flooding

It is understood that in February 2022, at the Full Council budget meeting, Cllr Dore secured and ringfenced a sum of money (£170,000) for flood mitigation works to be carried out in Binstead. This money has been allocated exclusively to the construction of highway SuDS by IWC. However additional funding from the Environment Agency (Local Levy: £200,000 & FCERM: up to £250,000) has now been secured to ensure a successful multi project scheme. This amounts to a total of over £600,000 of partnership funding to mitigate flooding in Binstead. Funding is likely to include a range of SuDS measures in addition to PFR. The PFR scheme will cover approximately 28 properties and fully fund resilience measures at each home.

Topographical surveys have also taken place on a number of highway verges, with the construction of sustainable drainage solutions (SuDS) due to begin later on this year. Rain gardens and soakaways will be installed to hold back rainwater, slowing down the volume flowing into the sewer during high rainfall events. Locations include, but not limited to, The Mall, Sandpath, Greenway and Parkway.

5.2 Actions undertaken following October 2023 flooding

5.2.1 Riparian maintenance

Since the flooding in Binstead on 25 October, residents of Cemetery Road have cleared out the debris and vegetation in the stream (not classified as an EA main river) that flows at the rear of their properties. It is clear from the image in Figure 5-1 that the detritus would have had a negative impact on the water flow during the flooding of both 2021 and 2023. These blockages were experienced causing flood issues, resulting in damage to many properties in Binstead. Some residents who have been affected by the flooding on 25 October, have attempted to address this problem by clearing out the vegetation and detritus in the watercourse. The residents have addressed this issue as it is the riparian owner's responsibility to manage the watercourse that runs through their property, as per the [Land Drainage Act 1991](#). Figure 5-1 shows images of the watercourse before being cleared out, characterised by debris and detritus. The watercourse after debris clearance is shown Figure 5-2.



Figure 5-1: Photographs of the watercourse with debris and dense vegetation



Figure 5-2: The watercourse after the removal of vegetation and debris

5.2.2 Flood mitigation scheme – water butts & de-paving

In the first few months of 2024, Southern Water have been offering Binstead residents free water butts as part of a multi-agency co-originated flood mitigation approach, involving the Isle of Wight Council, Southern Water, and the Environment Agency. The scheme has been put in place to avoid significant surface water runoff during heavy rainfall and to make sure

that the drainage system is not overwhelmed. Southern Water visited Binstead and installed a total of 246 water butts, having visited 490 properties out of the 800 being targeted. They have now issued an email address for residents wishing to have one, asking residents to contact them directly to arrange installation.

Although not part of the core flood mitigation scheme, Southern Water have also trialled a 'de-paving' scheme where they have offered to cover a significant proportion of the cost of removing hard surfacing from property driveways to be replaced by permeable surfacing. The initial take up is reported to be between two and four signed contracts with residents.

5.2.3 Community Recovery Grant

Flooded households in affected areas were able to apply for up to £500 to get cash quickly to help with immediate costs. The grant was available to anyone whose primary home suffered internal flood damage, or for people who were not able to live in their property, as a direct result of Storm Babet between 19 and 25 October 2023. Flooded households were also eligible for a 100 per cent council tax discount for a minimum of three months — this means affected residents did not have to pay council tax during this period.

5.2.4 Business Recovery Grant

Small-to-medium sized businesses were eligible for up to £2,500 from the Business Recovery Grant to help them return quickly to business as usual. The business had to be a Small and Medium Sized Enterprise (SME) at the point of grant award.

The business must have been trading at and/or from the property at the point that the property was impacted by Storm Babet. For the purposes of this grant scheme, a business is trading if it is engaged in business activity. The business must have been either:

- Directly impacted by Storm Babet – for instance the business suffered flood damage to the property, or
- Indirectly impacted by Storm Babet – for instance access to the business premises is severely restricted as a result of flooding, including restricted access for customers, suppliers or staff.

Businesses that have not been able to operate due to flooding at their premises may be eligible for 100 per cent Business Rates Relief for a minimum of three months.

5.2.5 Property Flood Resilience grant

Isle of Wight Council is administering a Property Flood Resilience grant on behalf of DEFRA, for properties affected by flooding between 19 – 25 October 2023. Eligible property owners (both domestic and commercial) can apply for up to £5,000 (including VAT) towards the cost of flood resilience and recoverability measures. Up to £800 of the grant must be for survey costs.

6 Conclusion and recommendations

6.1 Conclusions

The flooding that occurred in Binstead on 25 October 2023 caused internal flooding to at least 20 properties. Isle of Wight Council, as the Lead Local Flood Authority, has prepared this addendum to the previous Binstead Section 19 Investigation which was published in 2022, as the causes of flooding in Binstead are relatively well understood.

Analysis of the Ryde Vineyard rainfall gauge from the storm event indicates that this was likely to be between a 1 in 144 and 1 in 190 year event. Therefore, the storm event was an extreme rainfall event, with a large volume of rainfall occurring in a relatively short amount of time. As rainfall levels were high during the month of October compared to the same month in previous years, it is likely that the catchment was highly saturated prior to the event. The rainfall experienced in Binstead caused water to accumulate on the roads, as well as causing an increase in levels of the Binstead Stream. Responses to the stakeholder engagement survey identify problems with drainage as a source of flooding, with issues such as blockages, lowered kerbs and insufficient drainage generating surface water runoff.

The main flood pathways in Binstead originated in the fields south of the village, with roads, footpaths and gardens acting as conduits for the flood water. In the west of the village, it is evident that flood water flowed along Verwood Drive and Greenway, towards Sandpath at a high velocity, before pooling along Arnold Road and Cemetery Road. In the east of the village, a significant flow path is present along Binstead Stream, whereby water flows north in the ward of Ryde West, towards St Vincent's Road and Broadway Crescent. Overall, internal flooding occurred to at least 20 properties on 25 October 2023, with surface water and drainage issues acting as the main source of flooding in the area.

Several agencies responded to the flooding event in Binstead, including the Isle of Wight Council, Hampshire and IOW Fire and Rescue Service and Island Roads. An amber warning of rain on 25 October 2023 triggered a response from the Emergency Management team at IWC, who, through correspondence with Island Roads ensured that strategic sandbag stocks were full and accessible. Following this, the Ward Councillor contacted Island Roads at 09:55 on 25 October 2023, requesting additional sandbags to affected properties in Binstead.

The flooding has significantly impacted residents, and the majority of these properties were also impacted during the July 2021 event. Many of these residents have had to move out of their homes into alternative accommodation, either on a temporary or permanent basis. This includes vulnerable residents who cannot stay in their homes whilst repairs are being carried out. People have lost carpets, floorboards, furniture, and belongings from the ground floor of their properties and has led to financial pressures.

To support homes and businesses impacted by the flooding, owners could apply for flood relief support. This included a Community Recovery Grant of £500 for households affected and a Business Recovery Grant for small-to-medium sized businesses of whom were eligible for up to £2,500.

A Council Tax Discount was also available for flooded households, who could be eligible for a 100% council tax discount for a minimum of three months. If after three months home owners were not able to return to their properties, council tax would not have to be paid until they moved back.

6.2 Recommendations

Based on the review of the previous Section 19 and the events of the 25 October 2023, the following recommendations should be considered to mitigate flood risk and improve resilience to flooding.

6.2.1 Surface Water Management

It can be noted that the drainage system in Binstead was overwhelmed as a result of extreme rainfall on 25 October. Therefore, it is recommended to incorporate the use of Sustainable Drainage Systems (SuDS), including swales, green roofs or biofiltration strips to reduce the volume of water entering the sewer system.

As the source of flooding in Binstead is largely surface water, the use of SuDS will help to reduce flooding in a heavy rainfall event. Following Cllr Dore securing and ring fencing the necessary funding at Full Council in February 2022 (see section 5.1) the topographical surveys and modelling have been carried out. The SuDS should be delivered and implemented as soon as possible as they will help to play a pivotal role in reducing surface water entering the system and protect properties.

6.2.2 Property Flood Resilience (PFR)

It is understood that the Isle of Wight Council and Environment Agency have started the implementation of the fully funded PFR scheme with residents engaged in August 2024. This recommendation is an important mitigation measure as it reduces the likelihood of localised property flooding.

PFR measures include implementing barriers for doorways, portable puddle sucker pumps and sump pumps with drainage outlets. As the properties are within the same areas and have flooded from different sources, PFR may be an appropriate solution (where the property construction is suitable for such measures). It is understood that Isle of Wight Council working with the EA, successfully explored funding options for a PFR scheme since the 2022 Section 19 investigation and the scheme is now funded and progressing. It is recommended that the PFR scheme is implemented as soon as possible.

6.2.3 Raising kerb levels

As recorded in the Section 19 report of 2022 and picked up during site visits as part of the preparation of that report, a number of kerbs along Cemetery Road, Gordon Close and Arnold Road were noted to have been very near to pavement level and may have aided in the conveyance of flood water off the road network during the event. It is strongly recommended that raising kerb levels is investigated in select locations throughout

Binstead. This may help limit the conveyance of water towards properties. This previous Section 19 recommendation has not been implemented and Island Roads / Highway Authority should engage at the earliest opportunity.

6.2.4 Removal and replacement of hedgerow on Sandpath

It was observed by Cllr Dore as early as July 2021, that the gully run off on Sandpath, was operating below its capacity as the hedgerow on Sandpath has been allowed to grow out over the gully. Various observations have been further noted in times of heavy rainfall and it is clear that the overgrown hedge impedes the effectiveness of the gully.

The hedgerow is owned by IWC Council and it was informed by Island Roads of the requirement to cut back the vegetation and requesting that this is undertaken, as per Section 154 of the Highways Act 1980. It has never been fully addressed properly and so a removal and replacement option has been investigated, complete with a funding package sourced by Cllr Dore. IWC / Island Roads should implement this as soon as possible.

6.2.5 Continued deployment of water butts

In early 2023, Southern Water visited Binstead and installed 246 water butts having visited 490 properties out of a total of 800 targeted. The take-up represents only a quarter of the area, although residents can contact Southern Water directly via an email address asking for a Water Butt. Further phases of direct delivery would be of great benefit getting take up in the area as high as possible.

6.2.6 Additional gully cleaning

In the IWC budget of February 2023, it was announced that the council had allocated additional budget, under new capital schemes, ring fenced grants and contributions. It was stated that *“Island Roads and the Client Management Team are currently reviewing drainage schemes to reduce flooding. The budget allocation will be aligned with proposed drainage schemes.”* This was to the value of £375,000. As yet it is understood that the funds have not been drawn down and no *additional* works such as gully cleaning or an increase in grass cutting (in flood prone locations), have been carried out or scheduled. IWC should investigate this with immediate effect with a view to resolution.

6.2.7 Riparian maintenance and management

In addition to the previous recommendations, the preparation of a community riparian maintenance and management plan should be prepared with regard to the watercourse in gardens at Cemetery Road by local residents with support from any Flood Action Group should one be established. This plan would set out maintenance responsibilities and frequency and seek to ensure that this watercourse remains free flowing and free of obstructions. It is also recommended that this watercourse is surveyed (if not already undertaken) and the results of this are shared with the community to enable better understanding of the watercourse and catchment.

6.2.8 Community Flood Preparedness

Residents are encouraged to find out about possible flood risk in the area and to find out if their property is at risk. It is recommended that the individuals at risk of flooding make a personal flood plan, which sets out a list of actions which can quickly be put in place during a flood event to minimise the disruption caused. Guidance and a personal flood plan template is provided by the Environment Agency and can be found on the [Government website](#).

Communities can also work together to improve their resilience and plan for future flood events. All Risk Management Authorities could assist communities in Binstead in setting up a Flood Action Group, to plan and prepare for flooding.

6.2.9 Sandbag provision

In the flooding of July 2021 and October 2023, it was clear that the nearest emergency sandbag provision at Monkton Mead in Ryde was not suitable or accessible for some residents of Binstead. Consideration for storage of emergency sandbags at the Binstead Arms, Binstead Community Centre or other suitable locations within Binstead, should be investigated.

6.2.10 Private property drainage – Chapel Road / Arnold Road

For the property on the corner of Chapel Road and Arnold Road, alternative drainage options should be explored by the owner to mitigate the risk of the wall becoming overrun. This happened in the July 2021 flood event, with water finding its way around and subsequently through neighbouring properties. Additionally, other residents should speak with the EA and IWC ahead of installing any of their own defences, clarifying their appropriateness and any associated risks.

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