Ryde Flood Investigation – Incident Response Phase 1 Review

Final Report

July 2025

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Abbreviations

ABC	Area Base Controller
AEP	Annual exceedance probability
AFWDO	Assistant Flood Warning Duty Officer
EA	Environment Agency
FAS	Flood Alleviation Scheme
FEH	Flood Estimation Handbook
FFC	Flood Forecasting Centre
FIDO	Flood Incident Duty Officer
FMP	Flood Modeller Pro (hydraulic modelling package)
FODO	Flood Operations Duty Officers
FWDO	Flood Warning Duty Officer
IMFS	Incident Management Forecasting System
IoW	Isle of Wight
IWC	Isle of Wight Council
JBA	Jeremy Benn Associates
mAOD	meters above ordnance datum
MFAS	Monktonmead Flood Alleviation Scheme
MFDO	Monitoring and Forecasting Duty Officer
RL	River Level
SETEL	South East Telemetry Service
SSD	Solent and South Downs (EA operational area)
TBR	Tipping Bucket Rain Gauge
TDDP	Temporary Defence Deployment Plan

1 Introduction

On the morning of Wednesday 25th October 2023, a heavy rainfall event led to the flooding of a number of properties in Ryde, Isle of Wight (IoW). The Environment Agency (EA) estimates that over 100 properties were internally flooded. The area is susceptible to a combination of fluvial and surface water flooding. Under the Flood and Water Management Act 2010, the Environment Agency is responsible for taking a strategic overview of the management of all sources of flooding. It is also responsible for flood risk management activities on main rivers. Lead Local Flood Authorities lead in managing the risk of flooding from surface water.

The Environment Agency's scope included the following point, which this particular report aims to address: *'Did the Environment Agency comply with its procedures and if it did not, was the departure from the procedures reasonable'.*

To assess this, we have undertaken the following tasks:

- Reviewing incident logs prepared by EA staff during the event;
- Undertaking a review of procedures in place during the event for the Monktonmead area.

1.1 Monktonmead Flood Alleviation Scheme

In 2019, the EA upgraded the existing Monktonmead Flood Alleviation Scheme (MFAS), this included constructing a floodwall around the Simeon Street Recreation Ground. The recreation ground is a designated flood storage area surrounded by an approximately 1.3m high floodwall with three access points (stop log gates) that can be blocked off with a maximum of five/ six stop logs each approximately 0.2m in height. The scheme was designed to protect properties against flooding from a 1% AEP (1 in 100 year) fluvial event.

On 25th October 2023 a decision was made to initially install two of the stop logs at each access point at Simeon Street Recreation Ground rather than installing all five (or six) stop logs.

5

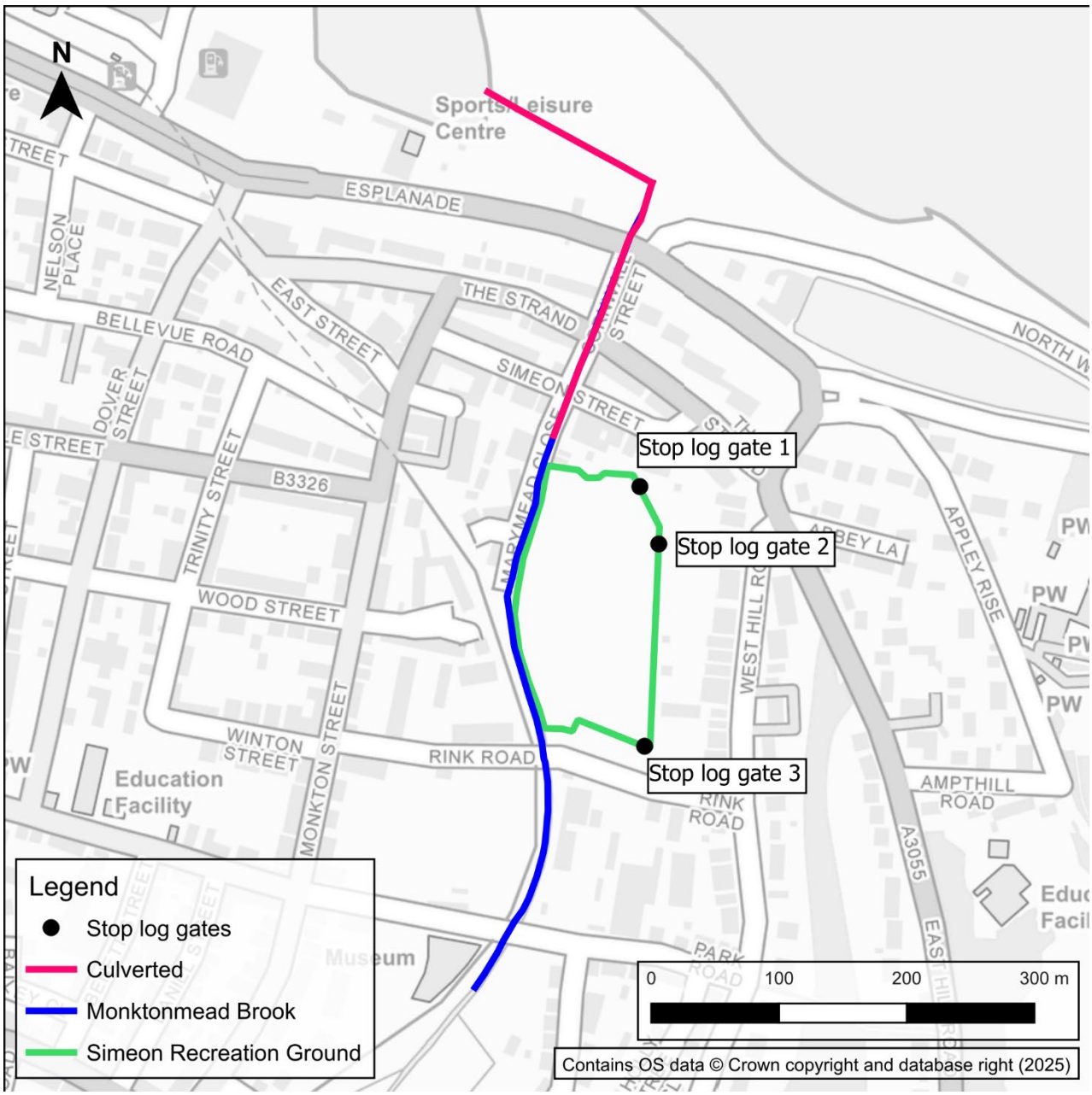

Figure 1-1: MFAS at Simeon Street Recreation Ground

1.2 Sources of information

This report is based on information provided by the Environment Agency following the flood event and includes several different sources.

There are written procedures for flood response in Ryde which are used by Environment Agency incident duty officers. These procedures provide a background on Environment Agency sites and outline the triggers and resulting actions that should, subject to their judgement during a dynamic situation, be undertaken by duty officers. The relevant procedures are:

- FWODO Alarm Actions Hampshire
- HIOW FIDO Procedures Alarm Actions 2023
- Ryde Temporary Defence Deployment Plan (04 August 2021)

As part of their duties, Environment Agency staff take on incident response roles. On-call duty officers responded to the event of the 24th and 25th October 2023 and maintained logs documenting their actions and decision making throughout.

As part of the review, the Flood Incident Duty Officer (FIDO) and Flood Warning Duty Officer (FWDO) procedures were compared to the actions and decisions noted in the corresponding logs. As well as any additional information found in the Flood Operations Duty Officer (FODO), Area Base Controller (ABC) and the Monitoring and Forecasting Duty Officer (MFDO) logs. The logs reviewed were:

- FODO logs
- FIDO logs
- FWODO logs
- MFDO logs
- ABC logs

Additionally, we have used information provided and compiled by the Environment Agency after the event to inform our understanding of its incident response, this includes the following documents:

- Timeline Monkton mead Recovery Summary_v3 (002) (dated 18/12/2023)
- EA hydrometric data (also see Hydrology Overview Report, JBA Consulting, dated January 2025).
- EA Flood Review (dated 10 November 2023).

2 Timeline of Events

2.1 Timeline of events

The following timeline of events has been derived based solely on the information provided above. Note that the interchangeable terms 'stop logs', 'flood boards', and 'drop boards' are used in the procedures and the various officer logs. For the sake of clarity, the term 'stop logs' has been used in the timeline of events summarised below.

2.1.1 24/10/2023, 08.37

On the morning of Tuesday 24th October 2023 the Flood Warning Duty Officer (FWDO) log notes an update from the Monitoring and Forecasting Duty Officer (MFDO) stating that widespread rainfall was expected between 18:00 on the 24th October 2023 until midday on the 25th October 2023, with totals of 30mm and isolated totals of 60mm. This is supported by a table taken from Incident Management Forecasting System (IMFS) copied into the Flood Incident Duty Officer (FIDO) log at 0900 (Table 2-1). It is noted that in planning for flood events, the EA takes a proportionate approach and considers a 'reasonable worst case'; on that basis the totals of 30mm would have been the scenario staff were working to manage.

It is understood that a Met Office Amber warning for rain was issued at 06:13 on 25th October 2023, however it is unclear if this was received by EA duty staff based on FWODO logs. The warning provided:

> *"Heavy rainfall is expected at first this morning adding to the rain that has already fallen overnight. Accumulations of 30 to 40mm are likely with as much as 70 to 80 mm in a few locations, these higher totals most likely over the Isle of Wight. This will lead to a risk of disruption with flooding of some homes and businesses possible."*

Table 2-1 Rainfall totals forecast as of 09:00 on 24th October 2023. Taken from the FIDO log.

		Tue 24/10/2023				Wed 25/10/2023			
Region		06-12	12-18	18-24	Day 1 total	00-06	06-12	12-24	Day 2 total
Hampshire & IOW	Average (mm)	0	0	9	13	7	0	0	7
	Max (mm)	10	6	27	34	26	2	1	27

2.1.2 24/10/3/2023 19:20

The FWDO logs a call from the MFDO stating that there is no change in the forecast provided by the FFC, with widespread totals of 30mm and isolated totals of 60mm.

2.1.3 24/10/2023, 20:00

The MFDO logs state that the MFDO and FWDO have agreed to allow for flood warning automation, therefore as thresholds are reached, warnings will be automatically issued. The MFDO and FWDO will discuss if any of these warnings are not needed on an individual basis and will remove as required.

2.1.4 25/10/2023, 01:07

The Ryde rain gauge alerts the FWDO that 15.6mm of rain had been recorded in 4 hours. According to the log, this is the first rainfall alarm for the IoW.

2.1.5 25/10/2023, 01:22

This is shortly followed by the alarm at 01:22 for Wroxall rain gauge, which recorded 20.1mm in 4 hours.

2.1.6 25/10/2023, 01:42 – 01:47

Between 01:42 and 01:47, the Ryde and Knighton rain gauges exceed the '37mm in 24 hour' threshold, recording 39.3mm and 38mm respectively. At this point, these totals remain within the isolated totals provided by the MFDO in their forecast update the previous evening. The FWDO specifically notes in the log the heavy nature of the rain on the IoW.

According to the FWDO procedures when the Ryde rain gauge threshold is reached, Monktonmead Brook should be assessed at 'St. John's RL' at this point. The FIDO log confirms the checking of the pumps at this site; the pumps are running.

2.1.7 25/10/2023, 02:12 – 02:43

At 02:12, SETAL notes that the Broadfield gauge records 35.1mm in 24 hours and Flood Warnings look likely. At 02:25 an alarm at St John’s was triggered with the FODO noting that pumps should be checked. This was actioned, with the pumps confirmed as ‘running ok’. This was further confirmed through checking a webcam at 02:43.

2.1.8 25/10/2023, 02:59

A forecast update is received by the FIDO from the FWDO. The log states that more rain than forecast is now expected on the IoW. FIDO informed to consider the need for installing drop boards (stop logs) at Ryde.

2.1.9 25/10/2023, 03:01

Internal discussion takes place regarding the installation of stop logs at Simeon Street Recreation Ground. Summary and FODO logs note the justification for installing two

stop logs, namely that it is not clear whether the recreation ground will need to be utilised as a flood storage area for fluvial flows.

Note – Water levels had not exceeded 2.3m AOD at this time, however EA Flood Incident Duty Officer Procedures allow for the early deployment *'it may be more effective to deploy early before resources are stretched*.' [FIDO procedures page 169].

If the flood event is predominantly surface water driven, installation of five/ six stop logs disrupts surface water flow paths with water pooling outside of the Recreation Ground flood storage area increasing risk of property flooding

It is noted that the installation of two stop logs will allow for the stop logs to be lifted quicker if the event becomes surface water driven. Additional reasoning includes that the public can step over two stop logs to get into the recreation ground if necessary.

The FIDO requests the stop log(s) installed as a precautionary measure. The FIDO also requests that the grilles at Monktonmead and Newport are also checked. According to FIDO procedures, the Monktonmead grille should be prioritised over other grilles in the Ryde catchment.

This discussion is followed up by a request by the FODO to the EA's incident response contractor to install two stop logs at each opening at the recreation ground and to check the Monktonmead grille for blockages.

Note – Surface water flooding is identified as an issue noted in EA Flood Incident Duty Officer Procedures: '*Stop Logs to the South of Simeon Street Recreation Ground next to Rink Road, should only be installed once the Brook levels exceed the bank and water is flowing into the recreation ground*.'

2.1.10 25/10/2023 03:03

An ACT CON FAL alert (Action, Consider Flood Alert) is received for the Freshwater RL gauge. The FWDO notes they are monitoring the Eastern Yar, Ryde and Freshwater. This is significant as it indicates the EA considers the potential for flooding in the Ryde catchment.

2.1.11 25/10/2023 03:13

FWODO logs at this time note that it '*looks like the river will come out of bank'* with regard to the Monktonmead Brook. The log further notes that the FIDO is confident that '*everything can be deployed if required'*.

2.1.12 25/10/2023, 03:18 – 03:19

The FIDO requests to the FODO that the IoW grilles are cleared. FODO confirms that action will be taken. Over the next ten minutes, alarms for blocked grilles are received by duty staff. It is noted in the logs that teams are on their way to clear these, so no further action is taken.

2.1.13 25/10/2023, 03:29

An automated Flood Alert for St. Johns, Ryde is issued.

Note – Water levels are recorded to have exceeded 2.5mAOD between 03:30 and 03:45. EA Flood Incident Duty Officer Procedures note that if this threshold is reached, stop logs should be deployed if water levels are still rising in agreement with the FODO.

2.1.14 25/10/2023, 03:50 – 03:54

The FIDO messages the FWDO to provide an update on the stop logs. A series of messages follow this regarding installation of the stop logs. At this point the stop logs have not been installed and the grille has not been cleared. Messages from the FIDO to the FWDO state that the incident response contractor has been asked to install the stop logs at Simeon Street Recreation Ground.

Within the logging it is not recorded whether information about how many boards will be installed is passed from the FIDO to the FWDO. The FWDO responds asking about pumps at the site to alleviate surface water flooding, the response states that the situation will be monitored and pumps are available if needed. The FWDO log also states that the FIDO informs them that extra surface water drains have been installed so hopefully no pumps will be needed. This conversation is also noted in the FWDO log, with the conclusion being no pumps are required due to the upgrades to the drains

2.1.15 25/10/2023, 03:55 – 03:59

The FWDO log records a series of text messages from the FWDO to the FIDO stating that there is the potential for another 15-20mm of rain. This is shortly followed by further correspondence stating that overall totals could be closer to 70-80mm in the Eastern Yar and over Ryde.

2.1.16 25/10/2023, 04:00

62mm of rain has been recorded; this exceeds the forecast from the previous evening. However, the FWDO provided a forecast update at 03:55 to say that further 15-20mm is forecast.

The alarm for Hunny Hill ActOps Grille is received. The FIDO log notes a team is already requested to clear the grille at Hunny Hill.

2.1.17 25/10/2023, 04:00 – 04:15

Note – water levels exceed 2.72m AOD between 04:00 and 04:15. EA Flood Incident Duty Officer Procedures note: '*stop logs should be installed to prevent property flooding, noting a 45min lag time before water levels in the recreation ground reach the 2.3mAOD threshold level of the stop logs'*.

The procedures additionally note that: '*Stop Logs to the South of Simeon Street Recreation Ground next to Rink Road, should only be installed once the Brook levels exceed the bank and water is flowing into the recreation ground'.*

2.1.18 25/10/2023, 04:18

There are further alarms for Hunny Hill.

2.1.19 25/10/2023, 04:19

The FIDO states that the Monktonmead stop logs were requested over an hour before. The contractor team are not yet on site, and therefore the boards have not been installed.

2.1.20 25/10/2023, 04:36

The incident response contractor had not installed the boards at Ryde or cleared the grille at Monkonmead. A message from the FODO to the FIDO states the request was only submitted 30 minutes prior.

2.1.21 25/10/2023, 04:59

The FWDO log includes reference to an email to the MFDO asking for an updated rainfall forecast. The log states that the rainfall forecast suggests 15-20mm on the IoW over the next 6 hours.

2.1.22 25/10/2023, 05:12

The FODO confirms that the stop logs are in place and that Monktonmead grille has been cleared.

2.1.23 25/10/2023, 05:14

Confirmation from the FIDO to the FWDO states that the stop logs have gone in at Simeon Street Recreation Ground and that grilles on the IOW have been cleared.

2.1.24 25/10/2023, 05:19

The water level is 2.72m and according to the FIDO log water from Monktomead Brook is starting to enter the flood storage area at Simeon Street Recreation Ground.

2.1.25 25/10/2023, 05:33

An update from the Isle of Wight Council's Emergency Planning Team to the FWDO states that the police and fire and rescue service are closing roads due to flooding and travel across the island is difficult. 66mm of rain has been recorded at this point.

2.1.26 25/10/2023, 05:40 and 05:43

There is a request from the FODO for additional teams to support with Hunnyhill and Gunville grilles.

2.1.27 25/10/2023, 05:50

Request by FIDO to check if there is a second standby so someone remains in Ryde.

2.1.28 25/10/2023, 05:53

A photo is provided of two stop logs installed at Simeon Street Recreation Ground, this is confirmed by a text from the incident response contractor. The incident response contractor is asked to go to Hunnyhill.

2.1.29 25/10/2023, 05:58

The FIDO log notes that there is a request to the incident response contractor to go back to Ryde to check the stop logs at Simeon Street Recreation Ground. From the logs it is unclear whether these were checked.

2.1.30 25/10/2023, 06:29

The FODO log notes it is no longer safe to access Hunnyhill or Gunville Stream.

2.1.31 25/10/2023, 06:34

A response from the MFDO to FWODO is recorded to confirm that there is 10-20mm of rain still forecast.

2.1.32 25/10/2023, 08:03

The FIDO log states that the recreation ground is flooding.

2.1.33 25/10/2023, 08:12

The FODO log states Isle of Wight Council has been in contact stating that the stop logs are not installed at Simeon Street Recreation Ground. Earlier logging states that two stop logs have been installed. The incident response contractor is asked for more information and whether a small pump to pump surface water outside of the recreational ground into the storage area is needed.

2.1.34 25/10/2023, 08.15

There is a message from IWC expressing concern that stop logs are not installed at Simeon Street Recreation Ground.

At 9.01, within the FIDO log it is noted that there is uncertainty whether the stop logs are installed at Simeon Street Recreation Ground. As of 9:00, according to the rainfall record provide 79.2mm of rain had been recorded over a 12-hour period.

2.2 Rainfall forecast and impact on incident response

The rainfall profile measured at Ryde Vineyard TBR for 24th and 25th October 2023 is presented in Figure 2-1. A rainfall record was also provided alongside the duty officer logs. The record provided shows that 7.9mm was recorded as of midnight on the 24th October 2023, with the record commencing presumably earlier that day. This is roughly in line with the widespread totals that were forecast for this period.

Please refer to the Hydrological Overview Report for a detailed analysis of the hydrological conditions preceding and during the 25 October 2023 flood event. We consider the following factors to have particular relevance in relation to the EA's incident response:

2.2.1 Forecast and actual rainfall

It is understood that the EA based its incident response on the reasonable worst case as detailed at paragraph 2.1.1 above. It should be noted that average monthly rainfall for Ryde in October 2023 was the highest ever recorded on the gauge's 74-year history. This unprecedented and unexpectedly high level of rainfall, contrary to what was forecast may have impacted incident response during the event.

	24 October 2023 (18:00 – 00:00)	25 October 2023 (00:00 – 06:00)
Forecast (mm) – based on Hampshire and IOW forecast	9 – 27	7 - 26
Actual (mm) – recorded values at Ryde Vineyard RG	10.63	61.8

Table 2-2 Comparison between forecast and actual rainfall

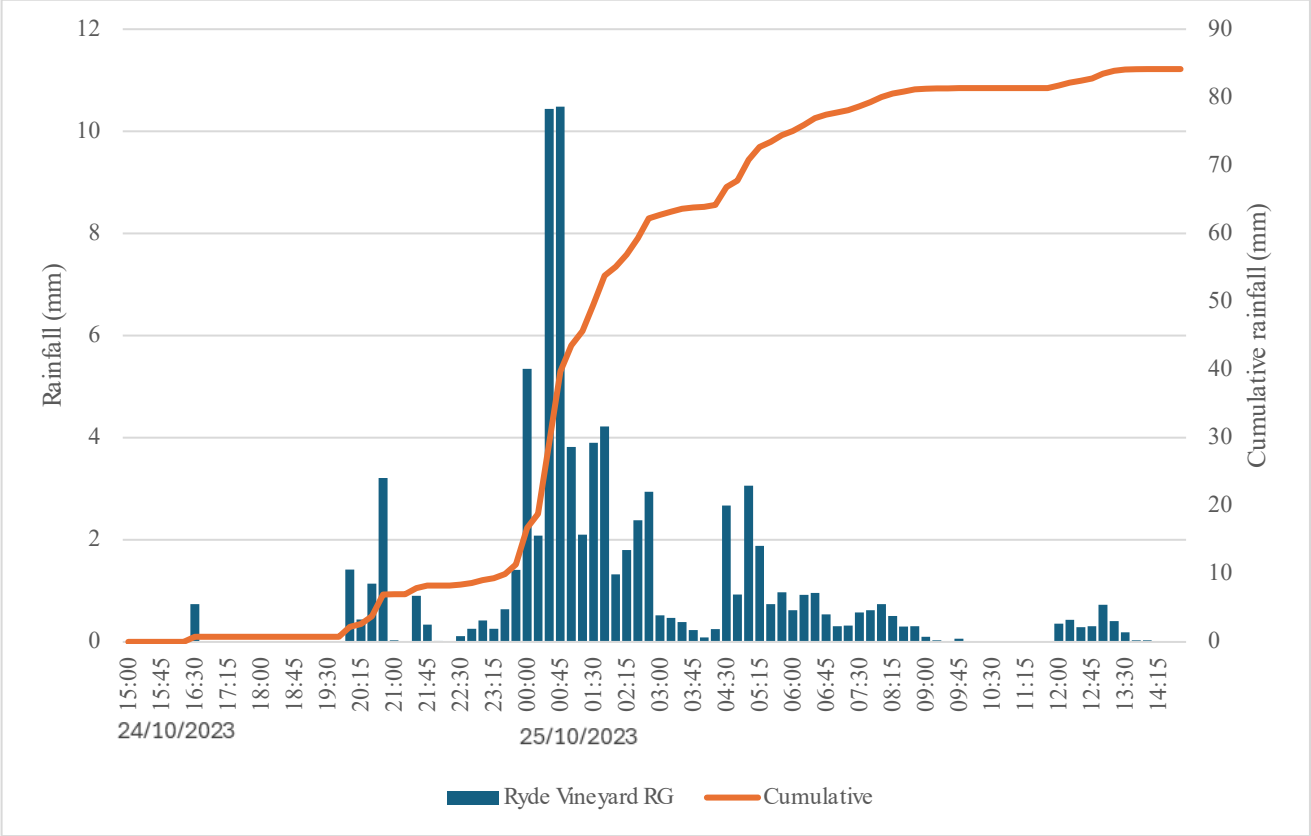

Figure 2-1 Recorded rainfall at Ryde rain gauge during flood event.

2.2.2 Summary of river levels

We note the following with regard to timings of river levels during the event:

- River levels at Monktonmead gauging station started to rise at 23:30.
- The Monktonmead Brook reaches 2.30mAOD at 03:15 and reaches 2.72m at 04:15.
- The Monktonmead Brook peaks at 09:15 when the gauge records a river level of 3.16m (Figure 2-2).

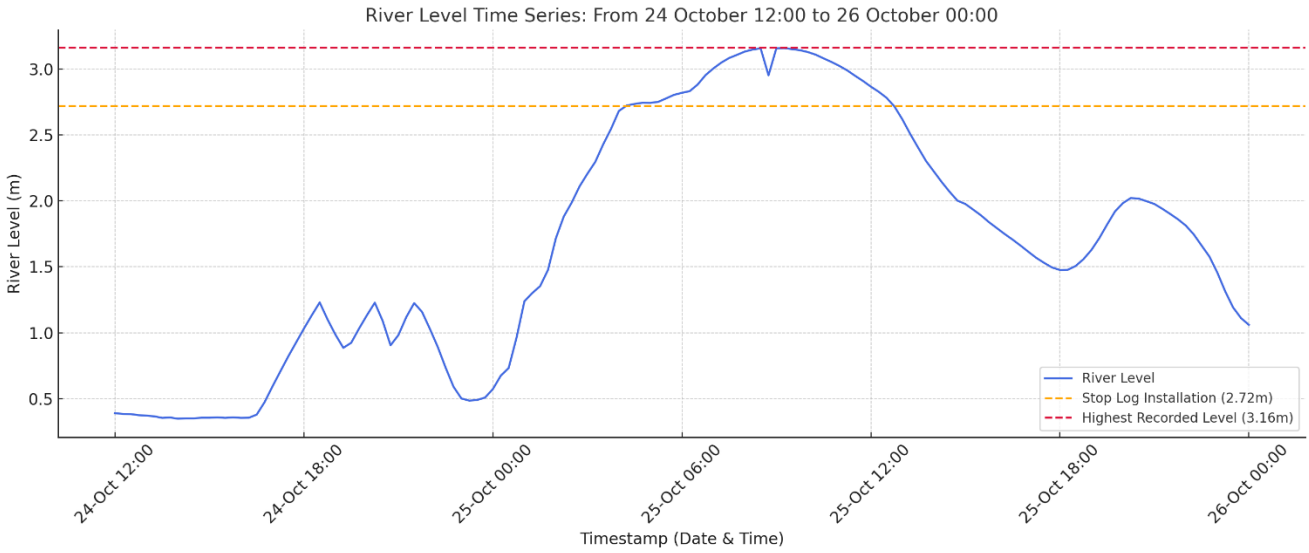

Figure 2-2 river level recorded at Monktonmead gauging station between 23/10/23 and 27/10/24.

3 Procedures

3.1 EA FIDO/ FWODO procedures

The Environment Agency South East, Solent and South Downs Area, Hampshire & IOW Flood Incident Duty Officer Procedures for Monktonmead Grille – Upstream Trash Screen Level (pages 166 - 174) states the following:

> *Simeon Flood Alleviation Scheme*
>
> *N.B. If levels in the Brook look like they will exceed 2.72mAOD, the Stop Logs will need to be installed at the Rec ground to ensure property in West Hill Rd do not flood. In theory, with stop logs installed, the rec ground can handle a 100 year event.*
>
> *Threshold of stop logs 2.3mAOD. Top of the Recreation Ground wall 3.65mAOD.*
>
> *See Deployment Plans - TDDP for Stop Log instructions. Stop Logs to the South of Simeon Street Recreation Ground next to Rink Road, should only be installed once the Brook levels exceed the bank and water is flowing into the recreation ground. Installation before this can lead to surface water being prevented from entering into the recreation ground and directed towards properties on West Hill Road. 2 x 2" Honda Pumps with hoses should be brought to site to drain gardens into the recreation ground and sandbags to be used in the event of stop log seepage. This will need to be requested to the Contractor.*
>
> *Once mobilised it is recommended that a Contractor 'On-site' Operator is identified and a direct contact number is provided to the FIDO/FODO. The On-site Operator can provide updates on both the pumps and recreation ground. All other IOW operations can continue to be managed through the Primary/Secondary Contractor Incident Numbers.*

FIDO procedures page 172 state the following:

> *ACT OPS [Stoplogs] 2.5mAOD*
>
> *Check conditions on SETEL and Hyrad, and if water level still rising call out the IOW Contractor to assess river conditions and with agreement of FODO-FIDO install the stoplogs in the wall at the Simeon Recreation Ground. (see deployment plans, link above).*
>
> *Consider whether the 6" pumps need to be deployed – Plan based on available resources and other demands on the IOW. (See deployment plans, link above and text in the Notes section above).*

Furthermore, the FIDO procedures highlight that there is flexibility in the timing of the decision to deploy stop logs noting that: *'Plan based on available resources and other demands on the IOW – it may be more effective to deploy early before resources are stretched.'* [FIDO procedures page 169].

The following observations can be made with regard to these procedures and water levels in the Monktonmead Brook:

- **2.3mAOD** – consider the need to deploy stop logs and 6" pumps, this acknowledges that '*it may be more effective to deploy early before resources are stretched'*.
- **2.5mAOD** – if water levels are still rising stop logs should be deployed in agreement with the FODO.
- **2.72mAOD** - stop logs should be installed to prevent property flooding, noting a 45min lag time before water levels in the recreation ground reach the 2.3mAOD threshold level of the stop logs.

Table 3: Summary of key thresholds and events on 25 October 2023

Time	Water level (mAOD)	Event
03:01	2.20	Request made to incident response contractor deploy stop logs at Simeon Street Recreation Ground. Decision made to install two boards per gate due to concerns over surface water flooding.
Between 03:15 and 03:30	2.30	Water levels reached 2.3m AOD
Between 03:30 and 03:45	2.50	Water levels reached 2.5m AOD
Between 04:30 and 04:15	2.72	Water levels reached 2.72mAOD
05:19	2.72	Water levels noted to be entering recreation ground
05:25	Between 2.75 and 2.77	Confirmation of 2x stop logs installed in each stop log gate

Time	Water level (mAOD)	Event
05:58	2.80 – 2.81mAOD	Incident response contractor requested to attend Hunnyhill

3.2 Temporary Defence Deployment Plan

The Environment Agency has a Temporary Defence Deployment Plan (TDDP) for Ryde, which provides specific detail as to how the MFAS should be operated. Note that the use of the term '*temporary'* in this case refers to the temporary barriers i.e. the stop logs, as opposed to the plan itself. The plan also details deployment triggers for operating the scheme which are consistent with the FIDO/ FWODO procedures.

The TDDP makes specific reference on managing surface water for the stop log gate to the south on page 6:

'Stop logs to be installed at the installation point to the south of the recreation ground (next to Rink Road) should only be fully installed once the brook has begun to flow into the recreation ground, otherwise a gap under the boards should be left. This is to allow surface water from the pathway to enter into the recreation ground and not be diverted into the gardens of properties on West Hill Road.'

This indicates that there is a provision in the EA operational procedures for a partial stop log deployment, albeit only for the stop log gate to the south of the recreation ground.

3.3 Analysis of incident response

The TDDP allows for a partial deployment of the stop logs in the southern stop log gate in the interests of managing surface water. The FIDO/ FWODO logs also acknowledge the need to wait until water levels exceed bank levels before installing the stop logs at the south of Simeon Street Recreation Ground as this can otherwise prevent surface water entering the recreation ground, backing up and causing flooding.

The decision to install only two stop logs at the other gates is unlikely to have materially affected the scheme's performance. Even with full deployment at those two gates, the system would not have operated as designed while the southern gate only had two stop logs deployed. It was not possible for the incident response contractor to complete the installation as they were unable to return to the site due to flooding. It should be noted that the installation of two stop logs in all of the gates, as occurred would have provided some flood storage and therefore some mitigation in flood risk terms.

Flood gates at Simeon Rec on Thursday morning © Michael Lilley

Figure 3-1 Reference photograph of Simeon Street Recreation Ground Flood Wall and installed stop logs. Image taken from https://onthewight.com/could-additional-flood-boards-at-simeon-rec-have-prevented-flooding-environment-agency-to-investigate/. Date accessed 3rd January 2025.

The following procedures detail actions that should be taken once water levels in the Monktonmead Brook, as recorded by the Monktonmead Grille – Upstream Trash Screen Level gauge reach 2.5m AOD:

At 03:45 the water level at Monktonmead reached 2.5mAOD (based on recorded river levels). The stop logs are not in place at this time although installation had been requested at 03:01.

The logging indicates that the FODO had been unable to contact the incident response contractor (ATM) despite several calls and messages. Within the log several calls from the FODO to the incident response contractor between 03:01 and 03:49 are noted to have lasted 2-3 seconds implying no response, one call is noted to have lasted 37 seconds however the logging implies that this may be a voicemail rather

than conversation. The first record of the incident response contractor responding is at 03:52.

It is understood that this resulted in a delay in communicating the decision to install two drop boards to the local contractor (Brighstone) and required EA staff to bypass the incident response contractor (ATM) during the event.

In line with the procedures, the FWDO queries whether seepage pumps will be required at the site, however FIDO reports that updated surface water drains should cope with the surface water flooding, but situation will be monitored.

At ~2.7mAOD water will now be coming out of bank into the recreation ground. Ensure that the stoplogs have been installed before this level or property flooding may occur, as there is approximately 45 minutes before water level in recreation ground reaches threshold of stoplogs. Stoplog threshold is 2.3mAOD. [FIDO procedures page 172].

At 04:15 the water level reaches 2.72mAOD. The contractor team is not yet on site to install the stop logs.

Two stop logs are installed at approximately 05:12 at both points in the Simeon Flood Alleviation Scheme. The FIDO log notes that someone should remain on site in Ryde to monitor the situation as per procedures; however it appears this is not followed as at 05:53 the incident response contractor is sent to Hunnyhill to clear the grille.

Within the log it is not clear whether the incident response contractor returns to site or attempts to return to site to install the remaining stop logs (i.e. a total of 5/ 6 stop logs at all stop log gates in the scheme). A request from the FIDO to the incident response contractors to return to the recreation ground at 05:58 to monitor the site is noted, however it is not clear whether this request is carried out. The lack of any comment in the log about installing the remaining flood boards suggests that this was not actioned.

Procedures for Simeon Street Recreation ground are also outlined in the FWDO Alarm Actions Hampshire, page 259-260.

2.72mAOD ACT FAL - Water will be coming out of bank into the recreation ground. Ensure that a Flood Alert for Simeon Street Rec Ground, Ryde has been issued (065WAF216) to say that everything is operating correctly, and that the recreation ground will be flooding (as per the design of the defence scheme), but this will not affect property.

Ensure FIDO is/has installed the stop logs which will keep water in the rec ground.

3.2mAOD ACT CON FW - River level higher than ever recorded before. A significant amount of water will be in the recreation ground. There should still be capacity within the defence but as it is impossible to see when the defence wall will be overtopped, liaise with FIDO, to get someone to site for a visual inspection. From an 'on the ground' assessment then consider issuing a Flood Warning for Monktonmead Brook

at Simeon Street Recreation Ground (065FWF7202). If the defence wall overtops then property in West Hill Road will flood.

The water level did not reach 3.2mAOD, peaking at 3.16mAOD at 09:15. 'ACT CON FW' refers to 'Action: Consider Flood Warning'. These flood levels are based on fluvial flooding and therefore the impacts of surface water and property flooding are unknown.

Capacity within the recreation ground is based on the assumption that all stop logs would be installed in the stop log gates, as opposed to a partial installation of stop logs. Whilst concerns over surface water flooding are accounted for, this is addressed through only installing stop logs in stop log gate 3 once river levels are out of bank. It should be noted that the installation of two stop logs in all of the gates, as occurred would have still provided some flood storage and therefore mitigation in flood risk terms.

4 Conclusion

We have reviewed the Environment Agency's incident response based on the information provided in Section 1.1. From the information provided it can be determined that the Environment Agency did deviate from procedures as follows:

- The TDDP specifically permits partial installation of stop logs at the southern gate adjacent to Rink Road, to allow surface water to enter the recreation ground and prevent it being diverted toward properties on West Hill Road. The decision to install two stop logs at this gate aligns with the TDDP. However, the installation of two stop logs at the other two access points is not supported by the TDDP and therefore constitutes a procedural deviation.
- The decision to install only two stop logs at the other gates is unlikely to have materially affected the scheme's performance. Even with full deployment at those two gates, the system would not have operated as designed while the southern gate only had two stop logs deployed.
- The procedures also make reference to use of seepage pumps and maintaining continuous presence at the site. Although this is recognised in the logs, it is not clear from the information provided whether these procedures were followed during the event.
- It should be noted that the installation of two stop logs in all of the gates, as occurred would have provided some flood storage and therefore some mitigation in flood risk terms whilst balancing the risk of diverting surface water flows from being unable to enter the Recreation Ground, which may have led to properties on West Hill Road and elsewhere being flooded.

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