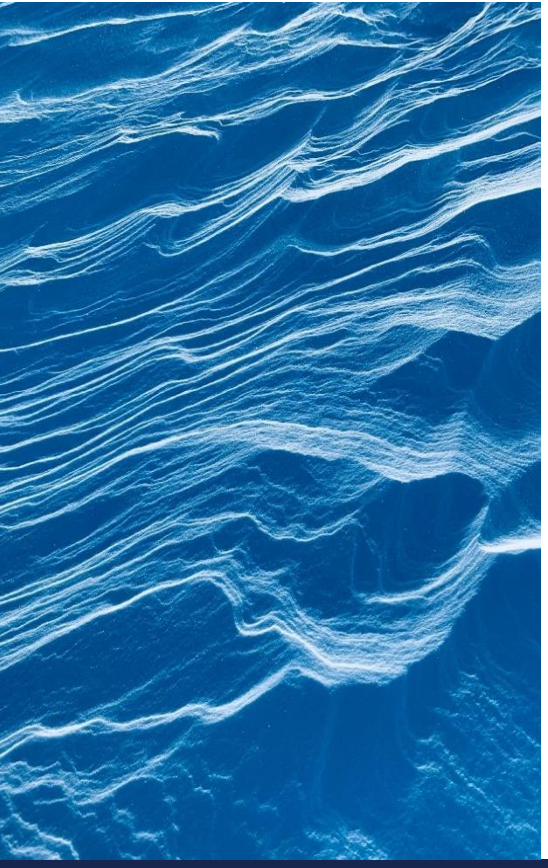

Level 1 Strategic Flood Risk Assessment

Mid Sussex District Council

Final Report

aegaea

water, civils and environment

on behalf of:

MID SUSSEX DISTRICT COUNCIL

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

Document Issue Record

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Please Note:

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Glossary

Term	Definition
Annual Exceedance Probability (AEP)	The estimated probability of a flood of a given magnitude occurring or being exceeded in any year, usually expressed as the X year flood, 1 in X or X%, for example; 1 in 100 flood, 100 year flood or 1% flood.
AOD	Above Ordnance Datum. A datum used for measuring land elevation. Generally metres Above Ordnance Datum (m AOD).
Aquifer	A source of groundwater comprising water bearing rock, capable of yielding significant quantities of water.
Asset Information Management System (AIMS)	Environment Agency database of assets associated with Main Rivers including defences, structures, and channel types. Information regarding location, standard of service, dimensions, and condition.
Attenuation	In the context of this report - the storing of water to reduce peak discharge of water.
BGS	British Geological Survey.
Catchment Flood Management Plan (CFMP)	A high-level plan through which the Environment Agency works with their key decision makers within a river catchment to identify and agree policies to secure the long-term sustainable management of flood risk.
CIRIA	Acronym for: Construction Industry Research and Information Association. Publisher of the CIRIA C753 "The SuDS Manual" and Code of Practice for Property Flood Resilience, both referenced within this report.
Climate Change	Long term variations in global temperature and weather patterns caused by natural and human actions. A 4˚C increase in global temperatures is predicted by 2100 according to the UK Climate

	Projections, published in 2018 (UKCP18). This is projected to result in wetter winters and warmer summers which are drier with more frequent intense storms. The Environment Agency has guidance for changes in peak river flow, sea level rise, offshore wind speed, extreme wave heights and peak rainfall intensity based on UK Climate Change Projections 2018 (UKCP18) and were last updated in May 2022. The Environment Agency's climate change allowances for flood risk assessments webpage: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances.
Culvert	A structure, often a channel or pipe that carries water below the level of the ground.
Defra	Department for Environment, Flood and Rural Affairs.
Design flood	Paragraph 002 of the Planning Practice Guidance: *Flood risk and coastal change* defines this as a flood event of a given annual flood probability, which is generally taken as: • fluvial (river) flooding likely to occur with a 1% annual probability (a 1 in 100 chance each year) including an appropriate allowance for climate change; • or surface water flooding likely to occur with a 1% annual probability (a 1 in 100 chance each year) including an appropriate allowance for climate change; • or tidal flooding with a 0.5% annual probability (1 in 200 chance each year) including an appropriate allowance for climate change (albeit Mid Sussex is not considered to be at risk of tidal flooding). The suitability of a proposed development is assessed and mitigation measures, if any, are designed against the design flood.
DG5 Register	A water-company held register of properties which have experienced sewer flooding due to hydraulic overload, or properties

	which are 'at risk' of sewer flooding more frequently than once in 20 years.
Exception Test	The Exception Test should be applied following the application of the Sequential Test. The Exception Test is a method to demonstrate and help ensure that flood risk to people and property will be managed satisfactorily, while allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available. Conditions need to be met before the Exception Test can be applied; • development that has to be in a flood risk area will provide wider sustainability benefits to the community that outweigh flood risk; and • the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.
Flood Defence	Infrastructure used to protect an area against floods, such as (but not limited to) floodwalls and embankments; they are designed to a specific standard of protection (design flood) which is the largest flood that a given project is designed to safely accommodate.
Flood Resilience	Measures that minimise water ingress (e.g. to buildings) and promotes fast drying and easy cleaning, to prevent permanent damage.
Flood Resistant	Measures that prevent flood water entering a building or damaging its fabric. This has the same meaning as flood proof.
Flood Risk	The level of flood risk is the product of the frequency or likelihood of the flood events and their consequences (such as loss, damage, harm, distress, and disruption).
Flood Zone 1	Land having less than 1 in 1,000 annual probability of river or sea flooding (all land outside Zones 2 and 3).

Flood Zone 2	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.
Flood Zone 3a	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding.
Flood Zone 3b	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: • land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or • land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)
Fluvial	Relating to the actions, processes, and behaviour of a watercourse (river or stream).
FRA	Flood Risk Assessment.
FRMP	Flood Risk Management Plan.
Functional Floodplain	Refer to definition of Flood Zone 3b. This also includes areas within the modelled 1 in 30 year surface water flood extent associated with watercourses and overland flows (i.e. not isolated low spot flooding).
'Future Flood Zone 1'	Very low risk area. Land greater than 20m horizontal buffer from Flood Zone 2 (based on Flood Map for Planning) and/or within 'very

	low' (<0.1% AEP) surface water risk area (based on Risk of Flooding from Surface Water mapping)
'Future Flood Zone 2'	Low risk area. Land within 20m horizontal buffer from Flood Zone 2 (based on Flood Map for Planning) and/or within 'low' (0.1% to 1% AEP) surface water risk area (based on Risk of Flooding from Surface Water mapping).
'Future Flood Zone 3'	Medium risk area. Land having between a 1% and 0.1% AEP for river or pluvial flooding; or land having between a 0.5% and 0.1% AEP for sea flooding. I.e. land in Flood Zone 2 (based on Flood Map for Planning) and/or in the 'low' surface water risk area (based on Risk of Flooding from Surface Water mapping).
'Future functional floodplain – flood zone 3b'	High risk area. Land having greater than a 1% AEP for river, sea or surface water flooding. I.e. land in Flood Zone 3 (based on Flood Map for Planning) and/or in the 'medium' or 'high' surface water risk area (based on Risk of Flooding from Surface Water mapping).
FWMA	Flood and Water Management Act 2010.
GIS	Geographical Information System.
Groundwater	Water that is in the ground, this is usually referring to water in the saturated zone below the water table.
IDB	Internal Drainage Board.
Lead Local Flood Authority (LLFA)	As defined by the Flood and Water Management Act, the LLFA (in this case West Sussex County Council) is responsible for developing, maintaining and applying a strategy for local flood risk management (flooding from surface water, groundwater and ordinary watercourses) in their areas and for maintaining a register of flood risk assets.
LFRMS	Local Flood Risk Management Strategy published in 2022.
Light Detection and Ranging (LiDAR)	Airborne ground survey mapping technique, which uses a laser to measure the distance between the aircraft and the ground. Within

	this report, LiDAR has been used to map topography across the District as illustrated in Figure 1.
Local Planning Authority (LPA)	The public local authority that is responsible for controlling planning and development through the planning system.
Main River	Watercourse defined on a 'Main River Map' designated by Defra. The Environment Agency has permissive powers to carry out flood defence works, maintenance and operational activities for Main Rivers only.
MSDC	Mid Sussex District Council.
Mitigation measure	An element of development design which may be used to manage flood risk or avoid an increase in flood risk elsewhere.
NPPF	National Planning Policy Framework - sets out the Government's planning policies for England and how these should be applied. Latest version is December 2023.
Ordinary Watercourse	A watercourse that does not form part of a Main River. This includes "all rivers and streams and all ditches, drains, cuts, culverts, dikes, sluices (other than public sewers within the meaning of the Water Industry Act 1991) and passages, through which water flows" according to the Land Drainage Act 1991.
Ordnance Datum	In the British Isles, an ordnance datum is a vertical datum used by an ordnance survey as the basis for deriving altitudes on maps. A spot height may be expressed as AOD (Above Ordnance Datum), in this instance meaning above mean sea level at Newlyn in Cornwall.
OS	Ordnance Survey.
Overland flow flooding	Flooding caused by surface water runoff when rainfall intensity exceeds the infiltration capacity of the ground, or when soil is so saturated that it cannot accept any more water.
PPG	Planning Practice Guidance outlines additional advice on the planning polices set out by the NPPF. Latest version August 2022.

Reservoir flooding	Flooding from reservoirs following embankment overtopping or breaching.
Residual Flood Risk	The remaining flood risk after risk reduction measures have been taken into account. An example of residual flood risk includes the failure of flood management infrastructure, or a severe flood event that exceeds a flood management design standard, such as a flood that overtops raised flood defences, or an intense rainfall event which the drainage system cannot cope with.
Return Period	Also known as a recurrence interval, it is an estimate of the likelihood of an event, such as a flood to occur. For example, 1 in 100 year return period.
Risk	Risk is a factor of the probability or likelihood of an event occurring multiplied by consequence: Risk = Probability x Consequence. It is also referred to in this report in a more general sense.
RoFSW	Risk of Flooding from Surface Water
Runoff	The flow of water from an area on the catchment surface, caused by rainfall.
SA	Sustainability Appraisal.
Sequential Test	Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). The aim of the sequential test is to steer new development to areas with the lowest risk of flooding from any source. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding – taking into account all sources of flood risk and the current and future impacts of climate change.
Sewer Flooding	Flooding caused by a blockage or overflowing in a sewer or urban drainage system.

SFRA	Strategic Flood Risk Assessment.
SPZ	Source Protection Zone.
Superficial deposits	Younger rocks which sit on bedrock.
Surface Water Flooding	Flooding caused when intense rainfall exceeds the capacity of the drainage systems or when, during prolonged periods of wet weather, the soil is so saturated such that it cannot accept any more water resulting in overland flow and pooling at the surface.
Sustainable Drainage Systems (SuDS)	Methods of management practices and control structures that are designed to drain surface water in a more sustainable manner than some conventional techniques.
Topographic survey	A survey of ground levels.
WSCC	West Sussex County Council

1. Introduction

Purpose of the SFRA

1.1. This Strategic Flood Risk Assessment (SFRA) has been prepared as part of the evidence base for the updated District Plan (2021-2039) for Mid Sussex District Council (MSDC).

1.2. The current Mid Sussex District Plan 2014-2031 was adopted in March 2018 and included Policy DPH4 committing Mid Sussex District Council ('the Council') to review the plan, starting in 2021, with submission to the Secretary of State in 2023 in accordance with the 5-year review requirement set out in national policy.

1.3. Consequently, the Council is in the process of reviewing its District Plan and published the draft District Plan 2021-2039. The plan guides development within those areas outside the South Downs National Park (SDNP) to the year 2039.

1.4. To inform the District Plan process, the Council requires a proportionate SFRA. The previous SFRA is dated June 2015 and since its publication, several changes have been made to both climate change allowances and the national approach to flood risk from all sources and as such the report's recommendations are in need of review to ensure it remains robust and compliant.

1.5. The overall objective of this SFRA is to provide the Council with a robust evidence base to inform the application of the Sequential and, if necessary, Exception Tests to inform the future development strategy for the district. The SFRA will need to identify if there are any further development opportunities around towns and villages identified in the settlement hierarchy.

1.6. The objectives of this SFRA are in line with the overarching aims set out in the NPPF, and guidance set out in Paragraph 09 of the Planning Practice Guidance (PPG): *Flood Risk and Coastal Change*[1], as follows:

[1] **https://www.gov.uk/guidance/flood-risk-and-coastal-change**

- Inform the sustainability appraisal of the Local Plan, so that flood risk is fully taken into account when considering allocation options and in the preparation of plan policies;
- Apply the Sequential Test and, where necessary, the Exception Test when determining land use allocations;
- Inform the allocation of land to safeguard it for flood risk management infrastructure;
- Inform policies for change of use and reducing the causes and impacts of flooding;
- Identify the requirements for site-specific flood risk assessments in particular locations, including those at risk from sources other than river and sea flooding;
- Determine the acceptability of flood risk in relation to emergency planning capability; and,
- Help demonstrate how the adaptation to climate change has been met.

1.7. The Environment Agency's Guidance '*How to prepare a strategic flood risk assessment* (March 2022)[2] has also been followed during the preparation of this SFRA. This guidance states that an SFRA is required to be able to:

- Carry out the sequential test for the local plan or spatial development strategy;
- Carry out the sequential test for individual planning applications;
- Do the exception test for the local plan, when you're proposing to allocate land for development in flood risk areas;
- Establish if a development can be made safe without increasing flood risk elsewhere;
- Decide when a flood risk assessment will be needed for individual planning applications;
- Identify if proposed development is in functional floodplain;
- Identify and safeguard from development, land likely to be needed for future flood risk management features and structures; and
- Do the sustainability appraisal of the local plan or spatial development strategy.

[2] **https://www.gov.uk/guidance/local-planning-authorities-strategic-flood-risk-assessment**

1.8. The findings of the Level 1 SFRA will be used to determine whether development can be brought forward in a sustainable manner in areas at lowest risk of flooding, through application of the Sequential Test. Where it is identified that it will be necessary to allocate development within areas at elevated risk of flooding, a Level 2 SFRA will be undertaken to enable the Sequential and Exception Test to be applied.

Key Changes Since Previous Version

1.9. Since the previous SFRA was published in 2015;

- Several updates have been made to the National Planning Policy Framework (NPPF) in 2018, 2019, 2021 and most recently in December 2023. The requirements for applying the Sequential Test have been extended to consider the risk of flooding from all sources, and the impacts of climate change over the anticipated lifetime of the development. There have also been minor changes to the definitions of the parts of the Exception Test and clarifications on the types of development which fall under certain flood risk vulnerability classifications. In addition, further detail has been added to the requirement for resistant and resilient design to specify that this means development could be quickly brought back into use without significant refurbishment in the event of a flood.
- The Planning Practice Guidance (PPG): *Flood risk and coastal change* has been updated in August 2021 and August 2022. The 2022 update provided a significant number of changes to the guidance to bring it in line with the National Planning Policy Framework. Further detail was provided in regard to the implementation of the Sequential Test and emergency planning. The definition of the 'design flood' was extended to include surface water.
- The Government has also published the White Paper 'Planning for the Future'[3]. This sets out major reforms to the planning system. This SFRA can be used to assist the Council in responding to these reforms as they are bought into action.

[3] **https://www.gov.uk/government/consultations/planning-for-the-future**

- The Environment Agency updated its national guidance 'Flood risk assessments: climate change allowances'[4], following the publication of the UK Climate Projections[5] in 2018 (UKCP18). The guidance includes changes to the assessment of increases to peak river flow, peak rainfall intensity, sea level rise, offshore windspeed, and extreme wave heights to inform Flood Risk Assessments (FRA) and SFRAs.
- In 2020, the Environment Agency published their Flood and Coastal Erosion Risk Management Strategy[6] for England. The strategy sets out the long-term vision for a nation ready for, and resilient to, flooding and coastal change to the year 2100. The strategy identifies that it is not possible to eliminate the risk of all flooding and coastal change and focusses on improving resilience to flooding and coastal change by ensuring people understand the risks and responsibilities relating to flood risk and securing sustainable growth through the right investments and planning decisions.

Consultation

1.10. The following parties have been consulted to review and provide comments on this Level 1 SFRA:

- Environment Agency;
- West Sussex County Council - Lead Local Flood Authority;
- South East Water;
- Southern Water;
- Thames Water;
- Sutton and East Surrey Water;
- Mid Sussex District Council – Emergency Planning and Flood Management;
- West Sussex County Council;

[4] **https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances**
[5] **https://ukclimateprojections-ui.metoffice.gov.uk/ui/home**
[6] **https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england-action-plan/flood-and-coastal-erosion-risk-management-strategy-action-plan-2021**

- Ardingly Reservoir - South East Water;
- Weir Wood Reservoir - Southern Water;
- Weir Wood Sport & Leisure;
- Canal and River Trust;
- Ouse & Adur Rivers Trust;
- Adur & Ouse Partnership;
- Medway Catchment Partnership;
- River Mole Catchment Partnership;
- Arun & Western Streams Catchment;
- National Highways;
- West Sussex County Council Highways;
- Horsham District Council;
- Crawley Borough Council;
- Tandridge District Council;
- Wealden District Council;
- Lewes District Council;
- Brighton & Hove County Council;
- South Downs National Park (SNDP);
- Regional flood and coastal committees;
- Sussex Resilience Forum; and,
- Upper Medway Internal Drainage Board (UMIDB).

1.11. A copy of the final version of this report will be issued to all consultees for their records.

Data Sources and Mapping

1.12. Data has been obtained for the production of this SFRA, and this has been used to create mapping which is presented on the MSDC website and also been reviewed to undertake this report.

1.13. Several of the datasets which have been referenced, such as the 'Flood Map for Planning', are in the public domain and updated on a regular basis. Where this is the case, information has been provided on where to access the most recent version of these live datasets. Where documents or online-only mapping datasets have been referenced, details have been provided in the footnotes of this document.

Table 1: Sources of Data used within Level 1 SFRA

Data Source:	Available from:
District Boundary	Council
Site allocations	Council
Sustainable communities	Council
Postcode Polygons	Council (OS)
Bedrock Geology	BGS
Superficial Geology	BGS
Hydrogeology	BGS
Flood Zone 2	Defra (Environment Agency)
Flood Zone 3	Defra (Environment Agency)
Reduction in Risk of Flooding from Rivers and Sea due to Defences	Defra (Environment Agency)
Risk of Flooding from Surface Water - Extent	Defra (Environment Agency)
Risk of Flooding from Surface Water - Depth	Defra (Environment Agency)
WFD River Basin Districts and Catchments Cycle 2 - River Management Catchments	Defra (Environment Agency)
Reservoir flood extent - Wet Day	Defra (Environment Agency)
Reservoir flood extent - Dry Day	Defra (Environment Agency)
Historical Flooding records	Defra (Environment Agency)
Recorded Flood Outline	Defra (Environment Agency)
Main Rivers	Defra (Environment Agency)
Spatial Flood Defences Inc. Standardised Attributes	Defra (Environment Agency)
Flood alert areas	Defra (Environment Agency)
Flood warning areas	Defra (Environment Agency)
Historical Flood Archive	Council
Historical Flood Archive	LLFA (WSCC)

Ordinary Watercourses	LLFA (WSCC)
DG5 - Internal	Southern Water
DG5 - External	Southern Water
Floodings	Southern Water
Floodings	Thames Water
IDB Catchments	UMIDB
IDB Boundary	UMIDB
IDB Reaches	UMIDB
Terrain 50	OS

Accessibility

1.14. The SFRA will be used by others, such as other council departments, the Environment Agency, developers and other flood risk consultants, so the assessment will need to be clear and accessible for others to use. The SFRA will be published on the Council's website and will, therefore, need to meet the Government's accessibility standards.

1.15. This document has therefore been prepared in accordance with the Environment Agency's Accessible Document Policy and aims to be partially compliant with the Web Content Accessibility Guidelines version 2.1 AA standard. The non-compliances are listed below:

- Information required to be presented in Tables which may affect the reading order, where possible the reading order will be specified set to improve accessibility.
- Some images are not in line with the text though alternative text has been specified.
- Some of the document information, within the footer and chapter heading pages may be difficult to read as it is low contrast but this does not affect the content of the document.
- The document has been automatically tagged, and some instances may occur where tags are not correctly identified.

1.16. It is recommended that an online version of this document is provided to improve accessibility to the mapping information appended to this document and enable simpler access to update the content of this report.

Future Updating

1.17. This report will require regular review and updating and should be considered to be 'live', but should be reviewed a minimum of every 5 years.

2. User Guide

2.1. This Level 1 SFRA will have several end users for example, strategic planners who may be developing policies, undertaking the Sequential Test and allocating sites; development management officers, emergency planners, and those preparing site specific FRAs. Table 2 sets out a user guide to summarise the content of the SFRA and how it is intended to be used.

Table 2: User Guidance for each section of the Level 1 SFRA.

Section	Use
Section 1 – Introduction	Provides the aims of the Level 1 SFRA and drivers for its completion. Includes an overview of the data sources obtained and used throughout the production of the Level 1 SFRA, the relevant consultees and information on the accessibility requirements and updating of this report.
Section 2 – User Guide	This section – provides an overview of the content of the SFRA and how it should be used.
Section 3 – Relevant Policy and Guidance	Provides an overview of the policies and guidance documents, which apply to the Mid Sussex District in relation to flood risk.
Section 4 – Requirements	Provides details of how the Sequential Test should be applied at the Local Plan stage, and for individual planning applications, as well as information on the Exception Test. Provides details of when a Flood Risk Assessment, or Foul Sewerage and Surface Water (Drainage) assessment is required and what they should include.
Section 5 – Context	Provides an overview of relevant context of the District including geology and topography. Identifies existing measures in place to control flooding such as existing flood risk management infrastructure, flood storage areas, and flood alleviation schemes. Provides useful

	guidance on responsible authorities relating to flood risk, and how to assess flood risk.
Section 6 – Current Risk	Provides an overview of the different sources of flooding in the present day.
Section 7 – Historic Incidents	Provides information on the history of flooding in the district and how to access records of historic flooding.
Section 8 – Future Risk	Provides guidance on how future risk should be assessed due to the impacts of climate change and what impacts this may have in the Mid Sussex District
Section 9 – Guidance	Provides guidance on the management of flood risk both on-site and off-site for future development and allocations
Section 10 - Conclusions	Provides concluding remarks on the content of the Level 1 SFRA report

3. Relevant Policy and Guidance

National

National Planning Policy Framework

3.1. The National Planning Policy Framework (NPPF), which was published on 27th March 2012 and most recently updated on the 19th December 2023, sets out the Government's planning policies for England and how these should be applied. The NPPF states that strategic policy making should be informed by an SFRA and should manage flood risk from all sources. Additionally, the NPPF outlines how an SFRA can provide the basis for the Sequential Test, which aims to steer new development to areas with the lowest risk of flooding from any source.

Planning Practice Guidance

3.2. The Planning Practice Guidance (PPG), which was published 6th March 2014 and most recently updated on 25th August 2022, provides further information on how an SFRA should be used when a Local Authority is preparing plans and outlines additional advice on the planning polices set out by the NPPF.

Flood and Water Management Act

3.3. Following the 2007 floods and the independent Pitt Review on 25th June 2008, the Flood and Water Management Act 2010 transposed local flood risk leadership into UK law. This relates to the risk concerning flooding and coastal erosion. The act promoted the use of Sustainable Drainage Systems (SuDS) and introduced the concept of a 'Lead Local Flood Authority' who create the Local Flood Risk Management Strategy (LFRMS).

National Flood and Coastal Erosion Risk Management Strategy 2100

3.4. The National Flood and Coastal Erosion Risk Management Strategy, published on 14th July 2020, describes what needs to be done by all risk management authorities in England, involved in flood and coastal erosion risk management for the benefit of people and places. The strategy was produced as a result of the Flood and Water Management Act, which placed a statutory duty on the Environment Agency to prepare the strategy. The strategy aimed to help local

places better plan and adapt to future flooding and coastal change, up to the year 2100, allowing practitioners and policy makers to make the best decisions, taken at the right time to benefit people, infrastructure, the economy and the environment, now and in the future.

Non-Statutory Technical Standards for Sustainable Drainage Systems

3.5. The Non-Statutory Technical Standards for Sustainable Drainage Systems, which are intended to be used in conjunction with the NPPF and PPG, was prepared by the Department for Environment, Food and Rural Affairs (Defra) and came into effect from 6th April 2015. The standards outlined the design, maintenance and operation of SuDS to drain surface water. Changes in December 2014, to the planning system, aimed to increase the use of SuDS in developments, resulting in the publication of the Non-Statutory Technical Standards for Sustainable Drainage Systems, to aid the SuDS implementation.

Regional

West Sussex Local Flood Risk Management Strategy

3.6. West Sussex Couty Council (WSCC) are the Local Lead Flood Authority (LLFA). As per the Flood and Water Management Act 2010, WSCC have a statutory requirement to produce a Local Flood Risk Management Strategy which defines how local flood risk will be managed within the county. Working in combination with neighbouring Lead Local Flood Authorities and other risk management authority partners, the WSCC Flood Risk Management Strategy 2013, outlines the risk from all types of flooding and identifies 'wet spots', which are areas that have an increased risk of flooding compared to the rest of the county. This data is used to inform activities, decision making and investment, while being management in a prioritised and organised way.

Catchment Flood Management Plans

3.7. The Environment Agency has defined catchments where inter-connected water bodies converge to a single point and the resulting Catchment Flood Management Plans (CFMPs) are used to manage water issues in an integrated way across authorities.

3.8. CFMPs are a strategic planning tool through which the Environment Agency will seek to work with other key decision-makers within a river catchment to identify and agree policies for sustainable flood risk management.

3.9. The south of the District (up to the southern boundary of Haywards Heath) is covered by the River Adur Catchment Flood Management Plan (CFMP) (December 2009). The north of the district is split between three catchment areas; the villages of Copthorne, Pease Pottage and the surrounding countryside fall within the Thames Region CFMP (December 2009) area along with Crawley and Gatwick Airport. East Grinstead and the surrounding villages fall within the Medway CFMP (December 2009) area and Haywards Heath and villages to the north-east and west are within the Ouse CFMP (December 2009) area.

River Adur Catchment Flood Management Plan

3.10. The River Adur Catchment Flood Management Plan (December 2009) aims to deliver sustainable long term flood risk management for the catchment area by identifying flood risk management policies to assist decision making. The main sources of flood risk in the Adur catchment area are from both localised river flooding and surface water flooding, including flooding in urban areas due to under capacity of, or blockages in, the drainage network. The plan uses data from pre 2009 and a more up to date study would be required to understand whether there are any current capacity constraints on the drainage network. There have been several serious flood events in the catchment area over the last century caused by surface water run-off from the South Downs. The Plan is intended to inform local authority spatial planning activities, as well as informing project and investment plans for the Environment Agency, utility companies, transport planners, businesses and landowners/managers whilst assisting the public.

3.11. The Burgess Hill and Hassocks area is identified within the CFMP as being an 'area of low, moderate or high flood risk where we are already managing the flood risk effectively but where we may need to take further actions to keep pace with climate change' (CFMP Policy 4). The Plan also predicts that the number of properties in Burgess Hill and Hassocks at risk will increase from 13 to 250 by 2100. The proposed actions for Burgess Hill and Hassocks include strengthening development management advice, increasing the use of SuDS through local development framework policies, and developing a Surface Water Management Plan for Burgess Hill.

3.12. Rural areas to the south and west of the Burgess Hill/Hassocks area (Upper Adur and South Downs - East) are identified as 'areas of low to moderate flood risk where we will take action with others to store water or manage run-off in locations that provide overall flood risk reduction or environmental benefits'. The proposed actions for the Upper Adur include investigating opportunities where additional storage of water on the floodplain could reduce flood risk to downstream areas, restore rivers and floodplains to a naturally functioning state, and contribute to meeting biodiversity action plan targets.

River Thames Catchment Flood Management Plan

3.13. The area of Mid Sussex within the River Thames catchment area is entirely within the Upper Mole sub-area and is identified as an area of 'low to moderate flood risk where actions to store water or manage run-off in locations that provide overall flood risk reduction or environmental benefits are recommended'. The approach to flood risk management in these places uses the natural protection already provided by the river channel and the open spaces in the floodplain. The proposed actions include ensuring that recommendations in Strategic Flood Risk Assessments and Local Development Framework policies create the potential to reduce flood risk through adaptation of places at risk, managing run-off and retaining open spaces in the floodplain.

3.14. The main aim of the River Mole Flood Risk Strategy is to reduce the level of flood risk on parts of the Upper Mole catchment, which could have knock-on effects downstream. Records show that severe flooding incidents have taken place within the Upper Mole catchment in 1947, 1968, 1980, 1990, 1993, 1994, 2000, 2002, 2013 and 2014. The flood events in 2000 caused a significant number of properties to suffer from flood damage at Fetcham, Dorking, Maidenbower, Furnace Green and Ifield Green. Although all of these areas are outside of Mid Sussex, some of the measures proposed to reduce the flood risk in these areas will impact upon the district.

3.15. The Environment Agency, in partnership with the Upper Mole Strategy Working Group, identified two flood alleviation schemes within Mid Sussex, which will be used to store and attenuate flow into the downstream watercourses, thereby reducing the risk of flooding during heavy rainfall/storm events. It is essential that such areas are safeguarded from development so that the implementation of these flood alleviation measures is not compromised. The scheme at Worth Farm has now been implemented and the scheme at Clay's Lake is at an advanced stage at the time of writing. It is anticipated that these works will be completed ahead of the

adoption of the Mid Sussex District Plan 2014 – 2031. This land should be safeguarded from development in accordance with District Plan Policy DP41 Flood Risk and Drainage.

River Medway Catchment Flood Management Plan

3.16. The area of Mid Sussex within the River Medway catchment area is entirely within the Upper Catchment sub-area and is identified as an area 'where the risks are currently appropriately managed and where the risk of flooding is not expected to increase significantly in the future'. Development within the town of East Grinstead should follow national policy, the Strategic Flood Risk Assessment and the Local Flood Risk Management Strategy, produced by West Sussex County Council, in order to manage flood risk and the speed of surface water run-off.

River Ouse Catchment Flood Management Plan

3.17. The River Ouse Catchment Flood Management Plan predicts that the number of properties in Haywards Heath at risk in a 1% annual probability river flood is 27 and this figure is predicted to rise to 50 by 2100.

3.18. The Haywards Heath area is identified as an area of 'low, moderate or high flood risk where we are already managing the flood risk effectively but where we may need to take further actions to keep pace with climate change'. The CFMP identifies the potential for localised flooding from the Scrase Bridge Stream and West Common Stream as a result of surface water overwhelming urban drainage systems. It is recommended that policies are developed to work towards long-term protection and re-creation of the Scrase Bridge Stream and West Common Stream and that a Surface Water Management Plan is developed for Haywards Heath.

Drainage and Wastewater Management Plan

3.19. Southern Water's regional Drainage and Wastewater Management Plan (DWMP) provides a long term approach to ensure that drainage and wastewater services are resilient, sustainable, and affordable, from 2025 till 2050. The plan explains what challenges the drainage and wastewater systems are facing, and outlines ways Southern Water will prepare for those challenges.

3.20. Southern Water's DWMP includes the Adur and Ouse Catchment, Arun and Western Streams Catchment, and Medway Catchment plans, that were published in October 2022. These provide

a specific look at the drainage and wastewater systems within each catchment and hold records of flooding incidents that have happened in the catchment area.

Gatwick Sub-Region Water Cycle Study

3.21. The Gatwick Sub-Region Water Cycle Study (August 2020) provides strategic level advice on water infrastructure and environmental capacity in order to develop an integrated approach to management of the water environment.

3.22. This study assesses the potential issues relating to future development within the Gatwick Sub-Region and the impacts on water supply, wastewater collection and treatment and water quality. The Water Cycle Study assesses the constraints and requirements that will arise from potential growth on water infrastructure.

West Sussex Multi Agency Flood Plan

3.23. The Council is also working with partners across West Sussex to develop Part 2 Multi-Agency Flood Plans for areas at risk of flooding and these complement the Sussex Resilience Forum's adopted Part 1 Multi-Agency Flood Plan.

3.24. The West Sussex Multi-Agency Flood Plan sets out when a response should be triggered and was activated and used during flooding in June 2012. If a response is activated, adverse weather arrangements are supported by the Sussex Emergency Response, Recovery Document and Multi-Agency Strategic Co-ordinating Group Guidance. The multi-agency response will either be an Adverse Weather Teleconference (chaired by the Environment Agency), an Adverse Weather Office (chaired by the Police), or, to set up a Strategic Co-coordinating Group (chaired by the Police).

3.25. With regard to rescue procedures the detailed plans for each urban centre contain the processes involved to evacuate, and also include shelter arrangements. Procedures and the response to flooding can vary depending on the type of flood event, the area and the time of year. Membership of the recovery group will vary depending on the event, but will usually include all risk management authorities of which Mid Sussex District Council is one. A Recovery Co-ordinating Group led by West Sussex County Council will manage the recovery process.

Local

Mid Sussex District Plan (Draft for Consultation)

3.26. The Submission draft Mid Sussex District Plan 2021 - 2039 was available for consultation (Regulation 19) from Friday 12th January until 23:59 on Friday 23rd February 2024. Upon the plans adoption it will supersede the adopted Mid Sussex District Plan 2014 – 2031. The Plan aims to set out the vision for Mid Sussex by outlining policies that will help to achieve the strategy. Of relevance, are the policies: DPS4 and DPS5.

3.27. Policy DPS4 Flood Risk and Sustainable Drainage, outlines the need for development to follow a sequential risk-based approach, while using the SFRA to identify present and future flood risk from sources. This policy also outlines how Sustainable Drainage Systems (SuDS) should be implemented:

> *DPS4: Flood Risk and Sustainable Drainage*
>
> *Flood Risk*
>
> *Proposals for development will need to follow a sequential risk-based approach directing development away from areas at highest risk (whether existing or future risk), ensure development is safe across its lifetime and not increase the risk of flooding elsewhere. All development should consider flood risk in line with national guidance at the time of assessment, including the need to consider and assess flood risk from all sources consistently.*
>
> *Environment Agency or site-specific flood mapping and the District Council's Strategic Flood Risk Assessment (SFRA) should be used to identify areas at present and future flood risk from a range of sources including fluvial (rivers and streams), pluvial (surface water), groundwater, infrastructure and reservoirs. The cumulative impacts of all sources of flooding should be considered.*
>
> *Where possible, development proposals should reduce overall flood risk. Particular attention will be paid to those areas of the district that have experienced flooding in the past.*

Development proposals must, where required by national policy, be accompanied by a site-specific flood risk assessment. Development in areas of flood risk will, where relevant, be required to meet national sequential and exceptional tests.

Development classified as 'Highly vulnerable' will not be permitted within areas at 1:100 or greater flood extents now or in the future (flood zone 3a, 3b and equivalent). Development classified as 'more vulnerable' will not be permitted within areas of 1:30 flood extents now or in the future (flood zone 3b and equivalent).

Where flood management and mitigations are proposed to be utilised within a development, soft flood management methods are preferred over hard engineered solutions.

Sustainable Drainage

Surface water drainage schemes must be implemented in all new development, including replacement structures and brownfield development unless demonstrated to be inappropriate, to avoid any increase in flood risk and protect surface and ground water quality. Wherever possible, Sustainable Drainage Systems (SuDS) should be utilised within these surface water systems. SuDS must be incorporated into major development surface water drainage schemes. To mitigate flood risk both on and off-site, surface water drainage system discharge rates should be restricted to the equivalent Greenfield Qbar runoff rate or as close as practically possible, but never greater than 2 litres per second per hectare (2l/s/Ha).

Arrangements for the maintenance and management of drainage systems for their lifetime must also be identified through a maintenance and management plan, to be secured by condition at planning application stage.

New development will be required to make suitable provision for surface water drainage to ground, watercourses or surface water sewer. Surface water drainage to the foul sewer will be resisted in order to maximise the capacity of foul sewage to reduce the risk of sewer flooding. For the redevelopment of brownfield sites, any surface water drainage to the foul sewer should be disconnected, unless it can be

shown no other feasible drainage option is available and that the Water Authority agree to the connection.

Surface water drainage should be sensitively designed and located, wherever possible, to promote the improvement of biodiversity, enhance landscape and create good quality spaces that improve public amenities. Green infrastructure will be incorporated, where possible, to improve biodiversity and water quality. Where relevant, proposed surface water drainage would need to be carefully designed to ensure that the bird strike risk to Gatwick airport is not increased and the safety of the airport is not compromised.

The preferred hierarchy of managing surface water drainage from any development is:

1. *Infiltration Measures,*
2. *Attenuation and discharge to watercourses; and if these cannot be met,*
3. *Discharge to surface water only sewers.*

Land that is considered to be required for current and future flood management and/or sustainable drainage will be safeguarded from development and proposals will have regard to relevant flood risk plans and strategies. Any land located within the functional flood plan (1:30-year flood extent from any source) will be safeguarded from development.

3.28. Policy DSP5 Water Neutrality, outlines how developments should protect and enhance water resources and water quality and take measures to control pollution of the water environment:

DPS5: Water Neutrality

1. *All development within the Sussex North Water Resource Zone (WRZ) will need to demonstrate water neutrality through water efficient design and offsetting of any net additional water use of the development. This is to be achieved by ensuring that:*

Water Efficient Design

a) *New residential development is designed to utilise no more than 85 litres of mains supplied water per person per day.*

b) *New non-domestic buildings achieve a score of 3 credits within the water (WAT01 Water Consumption) issue category for the BREEAM Standard or an equivalent standard set out in any future update.*

AND

Offsetting Water Use

c) *Development proposals demonstrate that having achieved water efficient design, any remaining mains-supplied water use from the development is offset such that there is no net increase in mains-supplied water within the WRZ compared with pre-development levels.*

Water Neutrality Statement

2. *A water neutrality statement will be required to demonstrate how policy requirements have been met in relation to water supply, water efficient design and offsetting. The statement shall provide, as a minimum, all of the following:*

a) *Baseline information relating to existing water use within a development site.*

b) *Full calculations relating to expected water use within a proposed development.*

c) *Full details of how any remaining water use will be offset.*

Offsetting Schemes

3. *A local authority- and South Downs National Park-led water offsetting scheme will be introduced to bring forward development and infrastructure supported by Local and Neighbourhood Plans. The authorities will manage access to the offsetting scheme to ensure that sufficient water capacity exists to accommodate planned growth within the Plan period.*

4. *Development proposals are not required to utilise the local authority- and South Downs National Park-led offsetting scheme and may bring forward their own offsetting schemes. Any such development proposals will need to have regard to*

the local authority- and South Downs National Park-led offsetting scheme and associated documents.

5. *Offsetting schemes can be located within any part of the WRZ, with the exception that offsetting will not be accepted within the Bramber/Upper Beeding area in Horsham district.*

Alternative Water Supply

6. *Where an alternative water supply is to be provided, the Water Neutrality Statement will need to demonstrate that no water is utilised from sources that supply the Sussex North WRZ. The wider acceptability and certainty of delivery for alternative water supplies will be considered on a case-by case basis.*

Mid Sussex District Council Site Allocations Development Plan Document

3.29. The Mid Sussex District Council Site Allocations Development Plan Document was designed to complement the Mid Sussex District Plan to aid the allocation of employment and development sites to meet the residual housing requirement in a sustainable way, as outlined in the Mid Sussex District Plan. One of the General Principles for Site Allocation, set out in the Site Allocations Development Plan, is flood risk and drainage, further enforcing the need for Flood Risk Assessment, the undertaking of a sequential approach to site layout, and priority will be given to use of SuDS.

Neighbourhood Plans

3.30. Several Neighbourhood Plans are adopted within Mid Sussex. These have been summarised in Table 3 along with any relevant policies relating to flood risk identified.

Table 3: Summary of neighbourhood plans within Mid Sussex and their relevant policies

Neighbourhood Plan (all plans are used in conjunction with the Mid Sussex District Plan)	Date Made (covers the Parish area for the period up to 2031)	Summary	Relevant Flooding Policies
Albourne Neighbourhood Plan	September 2016	The Plan sets out the development principles and allocation of areas for future building and land use.	No relevant policies
Ansty, Staplefield & Brook Street Neighbourhood Plan	February 2017	The Plan aims to provide guidance to any interested parties wishing to submit planning applications for development within the neighbourhood plan area.	There are no specific water related policies within the plan, however there is mention of sufficient surface water drainage.
Ardingly Neighbourhood Plan	November 2014	The plan includes policies where the District and Parish Council will encourage development and changes, and other areas where development will be resisted.	No relevant policies
Ashurst Wood Neighbourhood Plan	March 2016	The Plan sets out policies for the use of land and rules for local development.	There are no specific water related policies within the plan, however there is mention of developments needing to include green infrastructure measures to manage water use and physical measures such as connection

Neighbourhood Plan (all plans are used in conjunction with the Mid Sussex District Plan)	Date Made (covers the Parish area for the period up to 2031)	Summary	Relevant Flooding Policies
			to utilities services and facilities for waste collection.
Balcombe Neighbourhood Plan	September 2016	The Plan contains a series of land use policies, the successful delivery of which during the plan period will help achieve the community's vision for the parish.	No relevant policies
Bolney Neighbourhood Plan	September 2016	The Plan contains a vision and objectives for the future of Bolney Parish and sets out clear planning policies to realise this vision.	Within Policy BOLE1 there is mention that planning policies should aim to prioritise the adoption of SuDS and have no increase to flood risk.
Burgess Hill Neighbourhood Plan	January 2016	The Plan sets out a wide range of policies that address significant issues which have been developed in consultation with the local community.	No relevant policies
Copthorne Neighbourhood Plan	June 2021	The Plan sets out a clear vision for the future of Copthorne together with the policies and proposals to realise this vision	No relevant policies
Crawley Down Neighbourhood Plan	January 2016	The Plan ensures that new development in the Crawley Down	Policy CDNP06 demonstrates the need for

Neighbourhood Plan (all plans are used in conjunction with the Mid Sussex District Plan)	Date Made (covers the Parish area for the period up to 2031)	Summary	Relevant Flooding Policies
		Neighbourhood Plan Area will be sustainable and in accordance with the vision.	development proposals to include sustainable drainage systems that help to manage the risk of surface water flooding and that they do not increase flood risk elsewhere in the Parish.
Cuckfield Neighbourhood Plan	May 2014	The Plan contains a vision for the future of Cuckfield Parish and sets out clear planning policies to realise this vision.	Policy CNP 4 shows the need for development to contain SuDS which helps to provide minimal increase to downstream flood risk.
East Grinstead Neighbourhood Plan	November 2016	The Plan aims to deliver the sustainable development needed to ensure that the right type of development is created in the most suitable locations.	No relevant policies
Hassocks Neighbourhood Plan	July 2020	The Plan aims to: Provide a Framework for Future Development in the Parish, Protect and Enhance Existing Open Spaces, Harness Development Value to Improve Infrastructure,	Policy 4 demonstrates that development proposals should seek to reduce the risk of surface water flooding through the implementation of

Neighbourhood Plan (all plans are used in conjunction with the Mid Sussex District Plan)	Date Made (covers the Parish area for the period up to 2031)	Summary	Relevant Flooding Policies
		and Ensure High-Quality Design and Sustainable Development.	sustainable drainage and manage water as close to its source as possible.
Haywards Heath Neighbourhood Plan	December 2016	The Plan sets out to provide a clear vision for the future of the town via appropriate and considered planning policies	Objective 6A promoted the use of green infrastructure that integrates sustainable urban drainage to help manage localised flooding issues. Objective 6D aims to implement SuDS to new development, to help effectively mitigate any adverse effects from surface water run-off and flooding on people, property and the ecological value of the local environment.
Horsted Keynes Neighbourhood Plan	February 2023	The Plan sets out a series of planning policies that will be used to determine planning applications in the area.	Policy HK12 shows the need for development proposals to create significant new drainage requirements that demonstrate that effective Sustainable

Neighbourhood Plan (all plans are used in conjunction with the Mid Sussex District Plan)	Date Made (covers the Parish area for the period up to 2031)	Summary	Relevant Flooding Policies
			Drainage Systems are incorporated where practicable, and a long term management plan must be prepared to secure future maintenance of the drainage system.
Hurstpierpoint and Sayers Common Neighbourhood Plan	March 2015	The plan sets out the development principles and allocation of areas for future building and land use.	Policy Housing HurstH1 indicates that new housing developments will be supported if they enhance the flood and drainage management. Policy Housing HurstH6 states that new development must provide adequate surface water and foul water drainage capacity.
Lindfield and Lindfield Rural Neighbourhood Plan	March 2016	The Plan contains a number of policies that aim to give local people more say about what happens in the area.	No relevant policies
Slaugham Neighbourhood Plan	September 2019.	The Plan establishes planning policies for the development and use of land.	Policy 3 promotes the use of Green Infrastructure to help

Neighbourhood Plan (all plans are used in conjunction with the Mid Sussex District Plan)	Date Made (covers the Parish area for the period up to 2031)	Summary	Relevant Flooding Policies
			reduce flood risk to the parish.
Turners Hill Neighbourhood Plan	March 2016	The Plan provides a vision for the future of the parish and sets out how that vision will be achieved through planning and controlling land use and development change.	No relevant policies
Twineham Neighbourhood Development Plan	March 2016	The Plan establishes planning policies for the development and use of land.	Policy TNP1 and TNP3 demonstrate that housing and employment development in Twineham should not be liable to flooding nor increase flooding elsewhere.
West Hoathly Neighbourhood Plan	April 2015	The Plan prepares a vision of the future of the parish and sets out how that vision will be realised through planning and controlling land use	No relevant policies

4. Requirements

Sequential Test

4.1. The NPPF states that the aim of the Sequential Test is to steer new development to areas with the lowest risk of flooding from any source. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding.

Local Plan Allocations

4.2. When considering sites for allocation, the Sequential Test should be applied by the LPA in accordance with the NPPF. This will help ensure that sites are not promoted which would otherwise be inappropriate on flood risk grounds and can be safely and sustainably delivered.

4.3. In the allocation of sites as part of the preparation of Mid Sussex District Plan, the approach for applying the Sequential Test is shown in Figure 1.

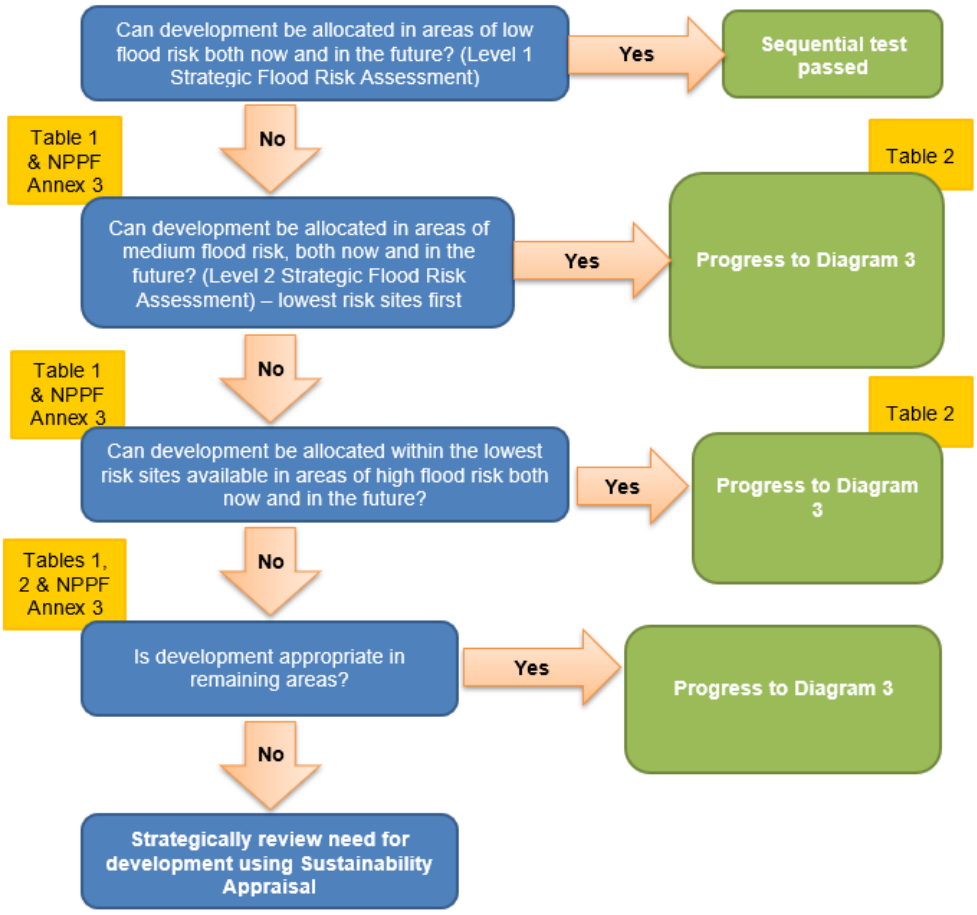

Figure 1: Sequential Test approach for site allocation process taken from Diagram 2 of the Planning Practice Guidance: Flood risk and coastal change.

4.4. At the time of preparation of this report, the District Plan (2021-2039) is at Regulation 19 stage. The draft Regulation 19 District Plan includes a range of proposed site allocations including sustainable communities' developments.

4.5. MSDC is undertaking a site-screening exercise as part of a Level 2 SFRA to demonstrate how the Sequential Test has been applied in the allocation of development sites and sustainable communities in the District Plan (2021-2039). This will be available as a separate document to the Level 1 SFRA.

4.6. Where planning applications come forward on sites allocated in the development plan through the Sequential Test, applicants need not apply the Sequential Test again. However, the Exception Test may need to be reapplied if relevant aspects of the proposal had not been

considered when the test was applied at the plan-making stage, or if more recent information about existing or potential flood risk should be taken into account.

Windfall sites

4.7. For development coming forward outside of the site allocation process (i.e. windfall sites), it will be necessary to demonstrate that the Sequential Test has been met.

4.8. The Sequential Test is also not required to be applied where the site is in an area at low risk from all sources of flooding, unless indicated to be at future risk of flooding by this Level 1 SFRA or other information, such as modelled flood level data.

4.9. The NPPF states that some minor development and changes of use are exempt from the Sequential Test. The definition of minor development relates to flood risk, not the Town and Country Planning (Development Management Procedure) (England) Order 2010[7]. As set out in Paragraph 051 of the PPG: *Flood Risk and Coastal Change*, the definition of minor development (in terms of flood risk) is as follows;

- *minor non-residential extensions (industrial/commercial/leisure etc): extensions with a floorspace not in excess of 250 square metres.*
- *alterations: development that does not increase the size of buildings, e.g. alterations to external appearance.*
- *householder development: for example, sheds, garages, games rooms etc. within the curtilage of the existing dwelling, in addition to physical extensions to the existing dwelling itself. This definition excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling (e.g. subdivision of houses into flats) or any other development with a purpose not incidental to the enjoyment of the dwelling.*

4.10. MSDC are preparing guidance setting out the approach required for applicants when applying the Sequential Test to windfall sites. This document will be available separate to the Level 1 SFRA report when available.

[7] **https://www.legislation.gov.uk/uksi/2010/2184/made**

Exception Test

4.11. Following application of the Sequential Test, where it has been demonstrated that development is required in a flood risk area in line with wider sustainability objectives, the Exception Test may need to be applied.

4.12. The application of the Exception Test should be informed by a strategic or site specific flood risk assessment, depending on whether it is being applied during plan production or at the application stage. To pass the Exception Test it should be demonstrated that:

a) the development would provide wider sustainability benefits to the community that outweigh the flood risk; and

b) the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

4.13. The NPPF states that both elements of the Exception Test should be satisfied for development to be allocated or permitted.

4.14. The applicability of the Exception Test depends upon the Flood Zone classification of the site and its 'flood risk vulnerability classification'.

4.15. Annex 3 of the NPPF sets out the flood risk vulnerability classifications providing examples of types of development for each classification. Some example development types are provided below for reference though the NPPF should be referenced for a comprehensive list:

- Essential Infrastructure, e.g. essential transport and utility infrastructure, wind turbines;
- Highly vulnerable, e.g. emergency services (those required to be operational during flooding), basement dwellings;
- More vulnerable, e.g. residential dwellings, hospitals, schools, hotels, drinking establishments;
- Less vulnerable, e.g. retail, offices, storage and distribution, leisure, restaurants; and
- Water compatible development, e.g. docks, marinas, wharves.

4.16. The Environment Agency's Flood Zones are defined in the glossary.

4.17. Table 4 sets out when the Exception Test is required. The table also identifies combinations of Flood Zone classification and Flood Vulnerability Classification which would result in development which should not be permitted (irrespective of the outcome of the Sequential and Exception Test).

Table 4: Flood risk vulnerability and flood zone 'incompatibility' coped from Table 2 of the Planning Practice guidance: Flood risk and coastal change.

		Flood Risk Vulnerability Classification				
		Essential Infrastructure	**Highly Vulnerable**	**More Vulnerable**	**Less Vulnerable**	**Water Compatible**
Flood Zones	**Zone 1**	✓	✓	✓	✓	✓
	Zone 2	✓	Exception Test required	✓	✓	✓
	Zone 3a	Exception Test required †	x	Exception Test required	✓	✓
	Zone 3b	Exception Test required	x	x	x	✓

Key:

✓ Exception test is not required

X Development should not be permitted

"†" In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

"" In Flood Zone 3b (functional floodplain) essential infrastructure that has passed the Exception Test, and water-compatible uses, should be designed and constructed to:*

- *remain operational and safe for users in times of flood;*

- *result in no net loss of floodplain storage;*
- *not impede water flows and not increase flood risk elsewhere.*

4.18. Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.

Site Allocations

4.19. MSDC is undertaking a site-screening exercise as part of a Level 2 SFRA to demonstrate how the Sequential Test has been applied in the allocation of development sites and sustainable communities in the District Plan (2021-2039). This will be available as a separate document to the Level 1 SFRA. The assessment will comment on the suitability of sites and recommendations in terms of flood risk.

4.20. As part of this Level 1 SFRA, a review has been undertaken of the sites allocated and sustainable communities against the following Environment Agency datasets;

- Flood Map for Planning;
- Risk of Flooding from Surface Water; and
- Flood Risk from Reservoirs.

4.21. The results of the review identify that the following allocated sites are located within Flood Zones 2 and 3 based on the Environment Agency's Flood Map for Planning (Table 5).

Table 5: Percentage of allocation sites within Flood Zones.

Draft Allocation	SHLAA ID	Site Name	% of Site in Flood Zone 2	% of Site in Flood Zone 3
DPSC2	18	Crabbet Park, Old Hollow, Near Crawley	2.0%	-
DPSC1	740	Broad location to the West of Burgess Hill	2.4%	1.9%
DPA7	556	Land east of Borde Hill Lane, Haywards Heath	1.4%	1.0%

4.22. Parts of these sites may affected by an event with an AEP greater than 3.3% due to the presence of watercourses within the sites or along the boundary. No development should be permitted in this area.

4.23. In the absence of modelled flood levels for these sites, a modelling study may be required to be undertaken to accompany the Flood Risk Assessment as these sites come forward for development. However, given the small percentage of the sites identified as being located in Flood Zones 2 and 3, the Exception Test would not be applicable provided all residential development is located outside Flood Zones 2 and 3 (i.e. entirely within Flood Zone 1).

4.24. The results show that several of the draft allocation sites include areas at risk of flooding from surface water and/or reservoirs (Table 6). Additional analysis of the other sources of flooding has not been undertaken in the absence of detailed mapping. A Flood Risk Assessment would be required for these sites as they come forward for development as discussed in the following section.

Table 6: Sites at surface water risk or reservoir risk.

Allocation	% of site within risk area...				
	'Low' surface water risk (0.1% to 1% AEP)	'Medium' surface water risk (1% to 3.3% AEP)	'High' Surface Water Risk (>3.3% AEP)	Reservoirs 'Wet Day'	Reservoirs 'Dry Day'
DPA4	<0.1%	-	-	-	-
DPA2	0.2%	-	-	-	-
DPA1	0.9%	-	-	-	-
DPA5	1.1%	-	-	-	-
DPA14	2.7%	1.0%	0.6%	-	-
DPA3	5.5%	1.6%	0.5%	-	-
DPA8	6.4%	1.1%	0.1%	-	-
DPA15	8.8%	1.6%	-	-	-
DPA7	9.7%	2.8%	2.2%	-	-
DPA12	13.8%	3.4%	0.5%	-	-
DPA9	15.2%	4.7%	2.2%	-	-
DPA19	15.4%	5.0%	1.6%	-	-
DPA6	17.5%	5.5%	2.0%	-	-
DPA18	25.9%	7.4%	3.4%	-	-
DPA10	33.1%	21.2%	12.7%	-	-

DPSC5	7.9%	2.8%	1.3%	-	
DPSC3	14.2%	4.8%	2.4%	-	-
DPSC2	10.5%	4.5%	2.6%	8.1%	6.4%
DPSC1	10.3%	4.0%	2.7%	1.6%	-
DPSC7	10.2%	5.4%	4.4%	-	-
DPSC4	18.7%	11.1%	6.0%	-	-
DPSC6	24.0%	14.9%	11.8%	-	-

4.27. Only the following four sites were shown to remain outside Flood Zones 2 and 3, outside the 'low' (0.1% to 1% AEP), 'medium' (1% to 3.3% AEP) and 'high' (>3.3% AEP) surface water risk areas, and outside the area affected by reservoirs under a 'dry' and 'wet' day scenario;

- DPA11 - Land rear of 2 Hurst Road, Hassocks;
- DPA13 - The Paddocks, Lewes Road, Ashurst Wood;
- DPA16 - Land west of North Cottages and Challoners, Cuckfield Road, Ansty; and
- DPA17 - Land to the west of Marwick Close, Bolney Road, Ansty

4.28. DPA16 and DPA17 cover an area greater than 1ha and would require a Flood Risk Assessment to accompany any planning application, and all sites would require a Foul Sewerage and Surface Water (Drainage) Assessment due to being greater than 0.5ha residential development, as set out in the following sections.

Flood Risk Assessment

4.29. A site-specific Flood Risk Assessment FRA is required to be submitted for all development located within Flood Zones 2 and 3 based on the Flood Map for Planning (as defined in the glossary).

4.30. Footnote 59 of the NPPF goes on to require that development located within Flood Zone 1 will also require an FRA if the application meets one or more of the following criteria;

- The development site is greater than 1 hectare;
- The development site is located within an area known to have critical drainage problems;
- The development site is located within an area identified by the SFRA as being at increased flood risk in the future;
- The development site is located in an area that may be subject to other sources of flooding; and
- The development site introduces a more vulnerable use in an area shown to be at risk of flooding.

4.31. The Council's validation checklists should be reviewed to confirm the submission requirements. The Council can also request that a site-specific FRA is prepared to accompany an application; reasons could include development in an area known to have an historical risk of flooding.

4.32. Footnote 59 of the NPPF states that "some minor development [in terms of flood risk] and changes of use should not be subject to the Sequential or Exception Test but are still required to meet the requirements for preparing an FRA". This includes householder development, small non-residential extensions (with a footprint of less than 250m^2) and most changes of use. However, for changes of use to a caravan, camping or chalet site, or to a mobile home or park home site, the Sequential and Exception Tests should be applied as appropriate.

4.33. An FRA may be required to be submitted in support of applications for a change of use with regards to permitted development rights. A prior approval is required for certain permitted development classes which should include an assessment of the potential impact of the proposals with regard to transport and highways, contamination, flood risk and noise impact.

4.34. In accordance with Paragraph 020 of the PPG: *Flood Risk and Coastal Change*, an FRA should be site-specific and should demonstrate how flood risk will be managed now and over the lifetime of the development, taking climate change into account, and with regard to the vulnerability of its users. The objectives of a site-specific flood risk assessment are to establish:

- whether a proposed development is likely to be affected by current or future flooding from any source;
- whether it will increase flood risk elsewhere;
- whether the measures proposed to deal with these effects and risks are appropriate;

- the evidence for the local planning authority to apply (if necessary) the Sequential Test, and;
- whether the development will be safe and pass the Exception Test, if applicable.

4.35. The FRA should be proportional to the scale and type of development, the Environment Agency's guidance 'Flood risk assessments if you're applying for planning permission' sets out what is required as part of an FRA and how it will be processed. This guidance can be found at: https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications.

4.36. This guidance also sets out when the Environment Agency's standing advice applies. Standing advice is applicable for;

- Minor extensions in Flood Zones 2 and 3;
- 'More vulnerable' in Flood Zone 2 (except for landfill or waste facility sites, caravan or camping sites);
- 'Less vulnerable' in Flood Zone 2 (except for agriculture and forestry, waste treatment, mineral processing, and water and sewage treatment); and
- 'Water compatible' in Flood Zone 2.

4.37. MSDC also applies the Environment Agency's standing advice to the following;

- Minor extensions with a risk greater than 0.1% AEP of river, tidal or surface water flooding;
- 'More vulnerable' with a risk between 0.1% and 1% AEP of river, tidal or surface water flooding (except for landfill or waste facility sites, caravan or camping sites);
- 'Less vulnerable' with a risk between 0.1% and 1% AEP of river, tidal or surface water flooding (except for agriculture and forestry, waste treatment, mineral processing, and water and sewage treatment); and
- 'Water compatible' with a risk between 0.1% and 1% AEP of river, tidal or surface water flooding.

Foul Sewerage and Surface Water (Drainage) Assessment

4.38. The Council's '*validation criteria for planning applications*'[8] (Sept 2022) requires a Foul Sewerage and Surface Water (Drainage) Assessment for certain types of application for sites which the following applies;

- Commercial proposals which rely on non-mains drainage;
- Residential developments where a new dwelling or replacement dwelling is created and/or where the alterations are greater than 250m^2 and/or where the site area is 0.5ha (5000sq m) or more;
- Other development where the floor area to be created is more than or equal to 1000m^2; or
- Other development where the site area is more than or equal to 1ha (10,000m^2).

4.39. In accordance with the NPPF, applications which are required to be accompanied by an FRA are required to incorporate SuDS, 'unless there is clear evidence that this would be inappropriate'.

4.40. The NPPF also specifies that SuDS should be incorporated into Major Developments, as defined by The Town and Country Planning (Development Management Procedure) (England) Order 2010, unless there is evidence this would be inappropriate. Paragraph 82 of the PPG: Flood Risk and Coastal Change clarifies that it is a matter of judgement for the LPA, seeking advice from the LLFA, as to whether SuDS are deemed inappropriate.

4.41. As the statutory consultee with respect to surface water management, West Sussex County Council (WSCC) as the Lead Local Flood Authority (LLFA) will review Foul and Surface Water (Drainage) Assessments for all applications for major development and require a detailed SuDS Assessment report to be submitted alongside the planning application.

[8] **https://www.midsussex.gov.uk/media/8497/msdc-local-list-september-2022.pdf**

4.42. Notwithstanding the above, all development will be subject to Approved Document Part H of the Building Regulations with respect to the specification of drainage and waste disposal. The use of SuDS should be prioritised wherever possible, particularly where development is connected to a public sewer.

4.43. In addition to the above, the General Permitted Development Order requires planning permission for any proposals for hard surfacing of more than $5m^2$ to domestic front gardens. The exception is where the surface in question is rendered permeable where it would fall under permitted development rights (subject to conditions).

4.44. Government guidance contained within the National Planning Practice Guidance (Water supply, wastewater and water quality – considerations for planning applications, paragraph 020) sets out a hierarchy of drainage options that must be considered and discounted in the following order:

1. Connection to the public sewer.
2. Package sewage treatment plant (adopted in due course by the sewerage company or owned and operated under a new appointment or variation).
3. Septic Tank.

4.45. Foul drainage should be connected to the main sewer. Where this is not possible, under the Environmental Permitting (England and Wales) Regulations 2016, any discharge of sewage or trade effluent made to either surface water or groundwater will need to be registered as an exempt discharge activity, or hold a permit issued by the Environment Agency. This applies to any discharge to inland freshwaters, coastal waters or relevant territorial waters

4.46. The '*validation criteria for planning applications*' (Sept 2022) provides the following advise with regards to Foul Sewerage and Surface Water (Drainage) Assessments;

- If an application proposes to connect a development to the existing drainage system, then details of the existing system should be shown on the application drawing(s). It should be noted that in most circumstances surface water is not permitted to be connected to the public foul sewers.
- If the proposed development results in any changes/replacement to the existing system or the creation of a new system, scale plans of the new foul and/or drainage arrangements will also need to be provided. This will include a location plan, cross

sections/elevations, specifications and where necessary, a plan indicating both finished levels and flood flow routes.

- If connection to any of the above requires crossing land that is not in the applicant's ownership, other than on a public highway, then notice may need to be served on the owners of that land.
- Note that the supplied drainage details should show that they would achieve Building Regulations Approval in addition to meeting the requirements of West Sussex County Council's Lead Local Flood Authority Policy for the Management of Surface Water.

5. Context

Topography

5.1. Land levels across the district vary between approximately 4.90m Above Ordnance Datum (AOD) to 234.70m AOD.

5.2. The southern part of the district, predominantly part of the 'Low Weald', consists of a gently rolling landscape with elevations shown to be generally lower than the remainder of the district. Figure 2 shows the general topography of the district.

5.3. The northern part of the district extends into the 'High Weald'. This area is generally set at a higher elevation than the southern extent of the district with the topography characterised by more rugged hilly terrain with ridges, valleys, and woodland.

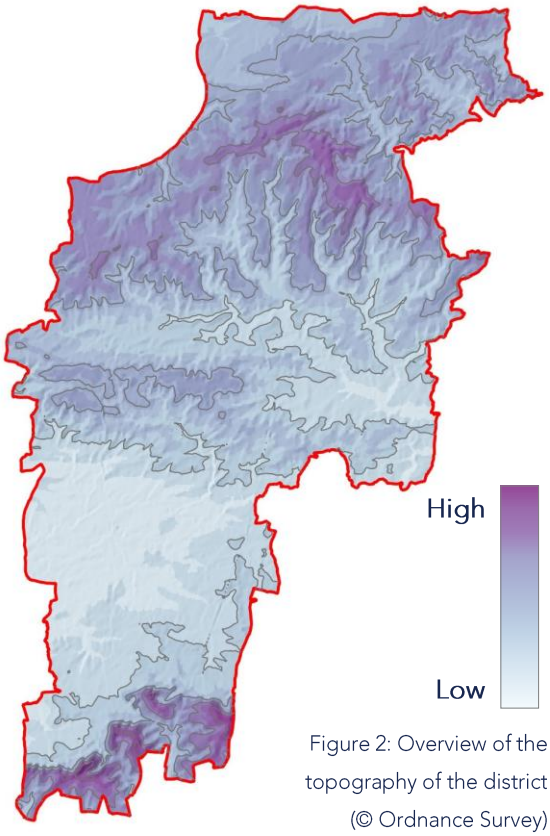

Figure 2: Overview of the topography of the district (© Ordnance Survey)

Geology

5.4. The underlying geology of the area influences flood risk within the district, with variability in the permeability of the rock resulting in different rates of percolation. This in turn dictates groundwater flows, which in addition to affecting the potential for above ground flooding from groundwater, influences flows within rivers and streams, as well as the generation of overland flows during rainfall events. Within the District, the geology is generally congruent with the changes in topography.

5.5. The BGS hosts publicly available online geological mapping of England at a 1:50,000 scale which has been reviewed to assess the geology of the district. This dataset is publicly available and

can be accessed via the BGS Geology Viewer at: https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/

5.6. The mapping shows that the district lies within the geological region known as the 'Weald Basin' which is characterised by sedimentary bedrock (Wealden Group) composed of mainly sandstones, siltstones, clays, and occasional limestone beds underlying much of the district. This is particularly the case in the northern part of the district, from East Grinstead to Burgess Hill. The southern part of the district (to the south of Burgess Hill) is shown to have a slightly more varied bedrock geology. The geological composition of this area comprises several formations:

- Lower Greensand Group Formation: Comprised of sandstone and mudstone.
- Gault and Upper Greensand Formation: Comprises mudstone, sandstone, and limestone.
- Grey Chalk Subgroup Formation: Comprised of primarily of chalk.
- White Chalk Subgroup Formation: Also primarily comprised of chalk.

5.7. The superficial geology within the district is shown to be very limited with only two notable areas within the district shown to be overlain by superficial deposits. The first being to the east of the district within the River Ouse valley where Alluvium deposits comprised of clay, silt, and sand are shown. The second area being to the south of the district to the east of Poynings where superficial deposits of Clay-with-Flints Formation comprised of diamicton are shown.

Responsible authorities

5.8. Responsibility for the management of flood risk falls within the remit of a number of bodies. The roles of the key parties are briefly outlined below.

Landowners

5.9. Landowners have the primary responsibility for draining their land and managing the flood risk issues associated with their property. The owners of assets such as canals and reservoirs are similarly responsible for managing the flood risk issues associated with them.

Local Planning Authority

5.10. A Local Planning Authority (LPA) is the local government body that is empowered by law to exercise urban planning functions for a particular area and also control development. It is the responsibility of the LPA to prepare the Local Plan. These documents set out the vision and framework for the future development of and land use in their area. A Local Plan identifies what development is needed, where it should go, and what land is protected.

5.11. The government's planning policies are set out in the National Planning Policy Framework (NPPF) and accompanying Planning Practice Guidance. Local and neighbourhood plans should be prepared in line with the NPPF.

Environment Agency

5.12. Within England, the Environment Agency has a responsibility for protecting and improving the environment, as well as contributing to sustainable development. One of the agency's specific functions is as a Flood Risk Management Authority. They have a general supervisory duty relating to specific flood risk management matters in respect of flood risk arising from rivers classified as 'Main Rivers' or from the sea. Alongside this, the agency is an environmental regulator issuing a range of permits and consents and provides incident response in relation to flooding.

5.13. The Environment Agency have statutory powers to manage flood risk to existing properties and assets. They prepare strategic plans for measures to reduce flood risk posed to existing communities and assets by rivers, watercourses and the sea, in accordance with policies developed by the Department for Environment, Food and Rural Affairs (Defra).

Lead Local Flood Authority

5.14. Lead Local Flood Authorities (LLFAs) play a crucial role in managing flood risk at the local level and ensuring that communities are better prepared for and protected against flooding. LLFAs are a designation given to certain local authorities in England and Wales under the Flood and Water Management Act 2010. LLFAs have specific responsibilities related to managing flood risk within their areas.

5.15. The Mid Sussex district falls within the administrative boundaries of West Sussex County Council. Therefore, the Local Flood Risk Management Authority responsible for the Mid Sussex district would be West Sussex County Council. They oversee flood risk management activities and coordinate with other relevant agencies and organisations as needed.

Internal Drainage Boards (IDBs)

5.16. An Internal Drainage Board (IDB) is a public authority responsible for managing water levels and drainage within a designated area, typically low-lying areas prone to flooding or waterlogging. These areas often include agricultural land, marshes, or fenlands.

5.17. The only IDB maintained watercourses within Mid Sussex are located to the south of East Grinstead and are tributaries to the River Medway. The Upper Medway Internal Drainage Board (UMIDB) is responsible for the regulation of these watercourses. IDBs will require consent for any works on land within 8m of an IDB maintained watercourse, additionally any works within the trapezoidal cross-section of any Ordinary Watercourse within the IDB District requires consent under Section 23 of the Land Drainage Act 1991.

5.18. Any site within the Internal Drainage District (IDD) or within the watershed catchment discharging their surface water to a watercourse requires consent from the Board under Byelaw 3. Maps showing the IDD can be accessed at: https://medwayidb.co.uk/watercourses/

5.19. Any consent granted will likely be conditional, pending the payment of a Surface Water Development Contribution fee, calculated in line with the Board's charging policy. Further information on when consent is required, how to apply, and the charging policy can be found at: https://medwayidb.co.uk/development/

Reservoir Owners

5.20. Flooding can occur from large waterbodies or reservoirs if they are impounded above the surrounding ground levels or are used to retain floodwater. Although unlikely, reservoirs and large waterbodies could overtop or breach leading to rapid inundation of the downstream floodplain.

5.21. There are different requirements for registration, monitoring, maintenance, and inspection depending on whether the reservoir is classified as either:

- large raised reservoirs;
- reservoirs that hold less than 25,000m^3 of water above ground level.

5.22. A large raised reservoir holds or has the potential to hold 25,000m^3 of water above ground level. All large raised reservoirs must be inspected and supervised by reservoir panel engineers as detailed by the Reservoirs Act 1975 in England and Wales. The Environment Agency are responsible to ensure that reservoirs are inspected regularly, and essential safety work carried out. As reservoirs are highly managed and the maximum flood extent provided in the Environment Agency Risk of Flooding from Reservoirs mapping is considered a worst-case scenario.

Sewerage Undertakers

5.23. Sewerage undertakers are responsible for any sewers adopted under the requirements of the Water Industry Act 1991. This includes adopted shared surface water and shared foul water sewers. They prepare Asset Management Plans (AMPs) approved by the water regulator, Ofwat, which include investment programmes to manage the flood risk from sewers.

Highways Authority

5.24. Highways Authorities are responsible in ensuring that roads are safe and passable. The highway authority responsible for MSDC is West Sussex County Council. In relation to flood risk, the highways authority also is responsible for the management of watercourse culverts and bridges which lie beneath adopted highways and some watercourses which lie adjacent to the highway (i.e. when the watercourse lies within highway authority land). Responsibility for the maintenance of highways drainage systems and roadside gullies lies with the highways authority where ever these are not privately owned.

Flood Risk Management Infrastructure/Schemes

5.25. Mapping showing the existing formal defences within the District alongside details of the Standard of Protection can be found on the Environment Agency's Asset Management Tool website which can be accessed at: https://environment.data.gov.uk/asset-management/index.html

5.26. A variety of flood risk management measures have been implemented by different stakeholders, including landowners, developers, local authorities, and other organizations across the district. While it is impractical to provide an exhaustive list, some of the measures initiated by the District Council are as follows;

- Dolphin Balancing Pond, Haywards Heath – Construction of a balancing pond.
- Balancing Pond, Lincoln Wood, Haywards Heath – Raising of the banks of the existing pond.
- Penland Road, Haywards Heath – Construction of a balancing pond, clearing and regrading stream and raising existing banks.
- Concorde House, Balcombe Road, Haywards Heath – Clearing of rubbish from banks of the stream.
- Builders Centre, Bridge Road, Haywards Heath – Construction of a permanent sandbag barrier.
- Drummond Close, Haywards Heath – Bank construction works and landscaping.
- By Sunte, Lindfield – Raising banks of the stream.
- Meadow Lane, Burgess Hill – De-silting stream.
- Chanctonbury Road, Burgess Hill – Improvements to outlet.
- Herring Stream, Hassocks – Stream and bank clearance and de-silting of culvert.
- Gleave Close Balancing Pond, East Grinstead – Construction of a balancing pond and improvements to retain more water.
- The Street, Bolney – Construction of large relief culvert.
- Sydney Road, Haywards Heath – Construction of relief culvert.
- Janes Lane, Burgess Hill – Improvements to culvert entrance and placement of new screen.
- Pyecombe – Improvements to drainage ditch.
- Greenways, Haywards Heath – Construction of relief culvert.
- Penland Road, Haywards Heath – Construction of relief culvert.
- Oakhurst, Sayers Common – Construction of relief culvert.
- Longhurst, Burgess Hill – Relining of foul sewer and improvement works.

- Sandy Vale, Haywards Heath – Construction of relief culvert.
- Norton House Car Park, Tower Close, East Grinstead – construction of a storm water attenuation tank with restricted outlet.
- Copthorne Common Road – installation of a new trash screen.
- Hickmans Lane Recreation Ground – Construction of a balancing pond.

River Mole Flood Risk Strategy

5.27. Notably, two flood alleviation schemes in northwest Mid Sussex have been executed as part of the River Mole Flood Risk Strategy, completed in Summer 2016.

5.28. The goal of the River Mole Flood Risk Strategy was to mitigate flood risk levels within segments of the Upper Mole catchment area, which could potentially have cascading impacts downstream. Historical records document severe flooding incidents occurring within the Upper Mole catchment in various years, including 1947, 1968, 1980, 1990, 1993, 1994, 2000, 2002, 2013, and 2014.

5.29. Particularly noteworthy was the flood event in 2000, which resulted in significant property damage in areas such as Fetcham, Dorking, Maidenbower, Furnace Green, and Ifield Green. Although these locales lie outside the confines of Mid Sussex, certain proposed measures aimed at reducing flood risk in these regions will inevitably affect the district.

Environment Agency Flood Alleviation Schemes

5.30. In collaboration with the Upper Mole Strategy Working Group, the Environment Agency has identified two flood alleviation schemes within Mid Sussex. These schemes are designed to serve as reservoirs for storing and moderating the flow of water into downstream watercourses, thereby mitigating the risk of flooding during periods of heavy rainfall or storm events. It is imperative to ensure that these designated areas remain protected from development to safeguard the effective implementation of these flood alleviation measures.

5.31. Areas covered by Environment Agency flood warnings encompass properties situated in close proximity to tributaries of the River Adur, notably around Albourne, Bolney, Hurstpierpoint & Sayers Common, and Twineham parishes. Similarly, small portions of the countryside near the River Ouse, within Ardingly and Lindfield Rural parishes, are covered, as well as areas around

Scrase Stream in Lindfield. Details of Flood Warnings and Alert areas can be found at https://check-for-flooding.service.gov.uk/alerts-and-warnings

5.32. In the event of a flood incident, the Council's Emergency Plan, Severe Weather Plan, and the West Sussex Multi-Agency Flood Plan could be activated. The West Sussex Multi-Agency Flood Plan delineates the circumstances under which a response should be initiated.

Assessing Risk

Probability of Flooding

5.33. The probability of flooding is assessed for an event with a specific percentage Annual Exceedance Probability (AEP) which is defined as the probability of the flood event being exceeded in any one year. AEPs are often expressed in terms of return periods, for example 1 in 100 year return period, which relates to the annual probability of flooding of 1 in 100 (1%), rather than flooding occurring once every 100 years.

'Design Flood'

5.34. Development should be designed to be safe from flooding for all events up to and including the 'design flood event'. The *PPG: Flood Risk and Coastal Change* defines the design flood event as:

"This [the design flood] *is a flood event of a given annual flood probability, which is generally taken as:*

- *river flooding likely to occur with a 1% annual probability (a 1 in 100 chance each year); or*
- *tidal flooding with a 0.5% annual probability (1 in 200 chance each year); or*
- *surface water flooding likely to occur with a 1% annual probability (a 1 in 100 chance each year).*

The design flood event should include an appropriate allowance for climate change.".

Lifetime of Development

5.35. The risk should be assessed over the lifetime of the development. Paragraph 006 of the PPG, residential developments can be assumed to have a lifetime of at least 100 years (unless there is specific justification for considering a different lifetime). The lifetime of a non-residential development depends on the characteristics of that development but a period of at least 75 years should form a starting point for assessment. Mixed use development should utilise the longest lifetime within the scheme (i.e. 100 years for mixed use residential and commercial development).

Actual and Residual Risk

5.36. When assessing the risk of flooding to a site, it is necessary to take into consideration the presence of flood defences – this is referred to as the 'actual' risk of flooding. When considering defence infrastructure, the current standard of protection afforded by the defences should be assessed. As river levels and extreme sea levels rise due to climate change, the standard of protection afforded by defences will decline with time, particularly as the design lifetime of many flood management schemes is generally limited to a 50 year period. Consideration should therefore be made to the flood risk management policies which will set out whether there is an intended future commitment to maintaining the standard of protection.

5.37. In any areas identified within the district where the current defences do not provide a standard of protection suitable to prevent flooding under the design flood event, there is a risk of overtopping during such a flood event.

5.38. Paragraph 041 of the PPG: *Flood Risk and Coastal Change* states residual risk comes in two main forms:

- *Residual risk from flood risk management infrastructure; and*
- *Residual risk to a development once any site-specific flood mitigation measures are taken into account.*

5.39. Examples of residual risk include:

- *a breach of a raised flood defence, blockage of a surface water conveyance system or failure of a pumped drainage system;*

- *failure of a reservoir; and*
- *a flood event that exceeds a flood management design standard, such as a flood that overtops a raised flood defence, or an intense rainfall event which the drainage system cannot accommodate.*

5.40. Examples of residual flood risk to a development include:

- *the depth of internal flooding predicted after any raising of land or floor levels;*
- *the flood hazard to which people would be exposed on access or escape routes after they have been raised; and*
- *a failure of flood forecasting or flood warning and the risks associated with people not receiving warnings or acting upon them.*

5.41. In addition to assessing the actual risk of flooding, taking into account the level of protection provided by defences , it is imperative that an FRA includes a comprehensive assessment of the residual risk of flooding from all sources. This could include breach failure of flood defences, failure of flood gates to operate in the intended manner, or failure of pumping stations.

5.42. Where mitigation is proposed to manage the actual risk of flooding under the design flood event, consideration should be made to the impacts of an event which exceeds this, to limit the time and cost of recovery from such an event. Mitigation should be designed to ensure that people are not placed at undue risk in the event of exceedance or failure of flood management measures which are intended to reduce the risk of flooding (e.g. catastrophic failure of a flood embankment upstream of development or exceedance of the design of a sustainable drainage system).

6. Current Risk

Fluvial

6.1. There are a number of watercourses across the District which are a source of fluvial flood risk. Due to the nature of Mid Sussex, in terms of it being at the source of four river catchments that cover the district, the level of fluvial flooding is comparatively low compared to neighbouring authorities.

6.2. The four main rivers within the District are the River Ouse, the River Adur, the River Medway and the River Mole. The River Ouse is located within the centre of the district, the River Mole to the north, the River Adur to the west and the River Medway is located on the eastern boundary of the District.

6.3. The Environment Agency's 'Flood Map for Planning' service shows which of these are designated as 'main rivers' and are managed by the Environment Agency. The online maps hosted on the Mid Sussex District Council website[9] show which watercourses fall within the IDB responsibilities. All other watercourses, including any ditches, culverts and streams not shown on mapping, are classified as 'ordinary watercourses'.

River Ouse

6.4. The River Ouse rises near Lower Beeding in West Sussex. It is classified as an Environment Agency Main River as passes under the A23 bridge between Slaugham and Staplefield in the western parts Mid Sussex District. It then flows eastward through the central areas of Mid Sussex District flowing through or near several towns and villages in the area, including Haywards Heath and Burgess Hill. From source to mouth, the River Ouse is some 48km long of which 17km is within Mid Sussex District.

6.5. Flood model outputs are available as part of the Upper Ouse Mapping Study (2012), which was completed in 2012 for a number of defended and undefended scenarios by JBA Consulting.

[9] **Link to be provided once live.**

However, it is a 1-D ISIS model and the Environment Agency do not deem this data appropriate to inform site specific Flood Risk Assessments due to its low confidence.

6.6. Analysis of the outputs of this study show that the primary areas at risk of flooding is within rural areas and in low-lying areas adjacent to its floodplain.

Scrase Bridge Stream/West Common Stream

6.7. The Scrase Bridge Stream, classified as an Environment Agency Main River, is a tributary of the Ouse and flows through the urban areas of Haywards Heath and Lindfield. The West Common Stream, also classified as an Environment Agency Main River, flows through Lindfield until the confluence of the Scrase Bridge Stream to the north of Oathall Community College.

6.8. Flood model outputs are available for the Scrase Bridge Stream Flood Mapping Study, a 1D-2D ISIS TUFLOW model, which was completed in 2009 by Atkins.

6.9. Analysis of these outputs show there are localised areas of flooding that may occur from the Scrase Bridge Stream (and associated ordinary watercourses in Haywards Heath), specifically, around Penland Road, Burrell Road and Bridgers Mill to the west of the railway line. Flood risk is also shown at the junction of West Common and Greenways as the Scrase Bridge Stream goes from an open channel into a culvert.

6.10. During the modelled 0.1% AEP event a small area of flooding, associated with the West Common Stream, is shown to affect Fieldway and By Sunte. A larger area of flooding is shown to affect property and roads of Hickmans Lane, Chestnuts Close and Oakfield Close, likely as a result of overland flow caused as the watercourse enters the culvert at Sunte Avenue.

6.11. The River Ouse Catchment Flood Management Plan (2009) predicts that the number of properties in Haywards Heath at risk in a 1% annual probability river flood is 27 and this figure is predicted to rise to 50 by 2100.

River Adur (East Branch)

6.12. The eastern branch of the Upper Adur flows through the town of Burgess Hill before continuing through a largely rural area, before joining the western branch near to the village of Henfield, from where it flows southwards towards its mouth at Shoreham.

6.13. The River Adur, passing through a largely undeveloped and rural catchment, does not have a notable history of flooding affecting large numbers of properties. There have been isolated incidents of flooding, particularly in Burgess Hill in the upper reaches.

6.14. Flood model outputs are available from the Upper Adur Eastern Branch Model which was undertaken by Hyder Consulting (UK) Limited in 2011. Outputs were provided for the following AEP flood events;

- 20%;
- 5%;
- 2%;
- 1.33%;
- 1%;
- 1% (including a 20% increase in flows for climate change); and
- 0.4%.

6.15. Climate change reruns were undertaken by JBA Consulting as part of the Adur Eastern Branch Climate Change Modelling (2016).

6.16. Analysis of the modelled 0.1% AEP found that in Burgess Hill, flood extents were largely contained within the banks of the watercourse. Within rural areas it is predominantly the low-lying floodplain areas adjacent to channel that are shown to be affected by flooding.

6.17. The floodplain in much of the Upper Adur catchment is characterised by well-defined large flat expanses of wet grassland, from which ground levels suddenly rise some distance from the river. This means that for a number of flood events assessed in this study, a notable change in level results in almost no change in flood extent, as the entire floodplain is inundated up to its boundary with the neighbouring rising ground.

Herring Stream

6.18. The Herring Stream is an ordinary watercourse which flows through Hassocks and is a major tributary of the River Adur (East Branch). Along its extent, the Herring Stream is mostly classed as ordinary watercourse with the last 650m being classed as Main River by the Environment Agency.

6.19. There are five tributaries to the Hearing Stream; the Mill Brook, the Ham Shaw Stream, the Keymer Stream, the Adastra Stream and the Hurst Wickham Stream.

6.20. The Herring Stream catchment at Hassocks is fairly small (11.8km^2) and is predominantly rural in the upstream reaches. Flooding in the village of Hassocks may be slightly more responsive to rainfall events compared to the upstream rural catchment. In addition to this, the geology in the downstream section of the catchment is characterised by Greensand deposits and Weald Clay deposits which are more impermeable than the upstream catchment and would therefore also lead to a faster response in the downstream part of the catchment.

6.21. Flood model outputs are available as part of the Hassocks Model (2013) by JBA Consulting and climate change reruns were undertaken by JBA Consulting as part of the Hassocks Climate Change Allowance Update (2016). The model consists of a 1D-2D linked hydraulic model of the study reach was developed using ISIS-TUFLOW. Outputs were provided for the 50%, 20%, 10%, 5%, 3.33%, 2%, 1.33%, 1% and 0.1% AEP design flood events.

6.22. The model results showed that there is notable flood risk through Hassocks, affecting residential gardens, properties, and roads, primarily in the vicinity of Damian Way, Spitalford Bridge, Lodge Lane and Dale Avenue. Potential for internal flooding is dependent on multiple factors, including threshold levels for buildings.

6.23. Flooding is principally in parallel to the watercourses; key flood risk is caused by flows over surcharged culverts. These modelled flows follow the route of the original watercourse/ the topographic low areas associated with historically lost open watercourses. This modelling study identified that blockages of culverts can have a severe consequence on flood risk.

6.24. Another area of flood risk is at the confluence of the Herring Stream and Adastra Stream, although there are limited properties at risk compared to other flooded areas.

6.25. In general, in comparison with the Environment Agency Flood Zone 3, the modelled 1% AEP event is smaller. Similarly, in comparison with the Environment Agency Flood Zone 2, the modelled 0.1% AEP event is also smaller.

Mole

6.26. The River Mole rises in Surrey, but it forms part of the boundary between West Sussex and Surrey. It passes through parts of Mid Sussex District before flowing through Crawley and Horley in West Sussex.

6.27. There is little risk of flooding from the Upper Mole to Mid Sussex, however, it is important to note that what happens in Mid Sussex can impact on flood risk in neighbouring authorities. This would generally occur where development in Mid Sussex would result in an increase in surface water being discharged into a watercourse, which would be likely to impact negatively on flood risk downstream, particularly in urban areas such as Crawley.

6.28. Schemes have been implemented within Mid Sussex to reduce the risk of flooding in Crawley, Horley and at Gatwick Airport as part of the Upper Mole Flood Alleviation Scheme.

6.29. The Upper Mole Flood Alleviation Scheme is a series of schemes that have been designed to reduce the risk of flooding for at least 1,038 properties in the Crawley and Horley areas as well as Gatwick Airport. Two of these schemes are located within Mid Sussex District. Already constructed works include a new flood detention reservoir adjacent to the M23 motorway at Worth Farm, and the construction of a larger replacement dam at Clay's Lake.

6.30. Worth Farm lies to the east of the M23 near Junction 10A and close to the motorway. This consists of a new embankment dam about 6.5m above the surrounding ground, broadly parallel with the motorway. For most of the year, the area can still be used for farming but when flows of water increase, the existing brook will start to pond up behind the dam and will create a reservoir. This reservoir will have a restricted outlet meaning that it will empty at a steady rate as water levels in the brook fall.

6.31. When water flows are high, the amount of water stored in Clay's Lake will increase before returning to normal as water levels in the river fall. This allows the release of water at a steady rate which should reduce the risk of flooding downstream in Crawley.

Copthorne Brook/Kits Stream

6.32. The Copthorne Brook is a watercourse that flows through the village of Copthorne in the north of the District. The Kits Stream is a tributary of the Copthorne Brook. The watercourses join the

Burstow Stream on the northern border of the District then continue to the north of Horley where they join the River Mole. For the most part, the Copthorne Brook and Kits Stream and classified as ordinary watercourses, however both are classified as Environment Agency Main Rivers within the urban area of Copthorne.

6.33. The West Sussex Local Flood Risk Management Strategy (2013-2018) estimates approximately 130 properties are at risk of fluvial flooding within Copthorne.

6.34. The Environment Agency do not hold any fluvial flood model outputs for the Copthorne Brook or Kits Stream; therefore, a site-specific modelling assessment may be required to assess the risk of flooding for sites in Copthorne.

Medway

6.35. While not entirely within Mid Sussex District, the River Medway forms part of its eastern boundary. The Medway rises to the north of Turners Hill near East Grinstead in the High Weald. The River Medway is not classified as an Environment Agency Main River in the District.

6.36. The Environment Agency hold no detailed flood modelling for this stretch of the River Medway located within Mid Sussex.

6.37. The area of Mid Sussex within the River Medway catchment area is entirely within the Upper Catchment sub-area and is identified as an area 'where the risks are currently appropriately managed and where the risk of flooding is not expected to increase significantly in the future' (River Medway Catchment Flood Management Plan Summary Report, December 2009).

Other Watercourses

6.38. Ordinary watercourses and Internal Drainage Board watercourses often present a risk of flooding on a more localised scale. There are a significant number of ordinary watercourses in the District that could pose a risk of flooding. This often includes flooding following rainfall events and can be attributed with surface water flooding.

6.39. Fluvial flooding outputs are not available for the ordinary watercourses within the District; therefore a site-specific modelling assessment may be required to assess the risk of flooding for sites in close proximity to an ordinary watercourse. Mid Sussex District Council and West Sussex

County Council should be consulted in the absence of modelled flood data for an ordinary watercourse.

Tidal

6.40. Mid Sussex does not border any stretches of coastline and is therefore not considered to be at risk from coastal flooding. The watercourses within Mid Sussex are all influenced by the tide up until a certain distance inland. The stretches of these watercourses where they are tidally influenced are outside of the district (i.e. the River Adur is influenced by the tide up until Chates Weir and Mockbridge, both locations are near to Henfield and lie within Horsham District downstream of Mid Sussex).

6.41. As a result of these findings there are no areas identified at risk from tidal flooding.

Pluvial

6.42. Pluvial, or surface water, flooding occurs as a result of heavy rainfall which is unable to infiltrate into the ground or enter a drainage system, resulting in runoff flowing overland. The former typically occurs in more rural locations, where poor permeability of soil or high groundwater conditions prevents water from being infiltrated, or the rate of rain falling simply exceeds the capacity of the soil to infiltrate water quickly enough.

6.43. Surface water flooding in urban areas tends to be as a result of a blockage of drainage systems, i.e. blocked road gullies, or as a result of a storm event which exceeds the design capacity of the drainage system. Given these complex interactions, there is an inherent relationship between the risk of flooding from pluvial, fluvial, groundwater and sewer flooding, but the following section seeks to focus on the consequences of heavy rainfall within the District.

6.44. The Environment Agency hosts mapping showing the Flood Risk from Surface Water which can be accessed at: https://check-long-term-flood-risk.service.gov.uk/map

6.45. The mapping shows the risk of flooding for a range of return period events. The mapping is intended as a strategic tool to identify areas where further assessment is required and should not be relied upon to provide an assessment of risk at property-scale.

6.46. Mid Sussex District Council consider surface water flooding with the same definition as the flood zones as shown in Table 7 below.

Table 7: Risk levels based on Environment Agency's Flood Map for Planning and Long Term Flood Risk Information Service (for surface water)

Annual Exceedance Probability	EA' Flood Risk from Surface Water map	Flood Zone equivalent
Less than 0.1%	Land in 'very low' surface water risk area.	Flood Zone 1
1% to 0.1%	Land in 'low' surface water risk area.	Flood Zone 2
3.3% to 1%	Land in 'medium' surface water risk area	Flood Zone 3a
Greater than 3.3%	Land in the 'high' surface water risk area.	Flood Zone 3b

6.47. The risk of surface water flooding in the district is generally concentrated around the urban areas. The highest risk areas are located within Haywards Heath, Burgess Hill, East Grinstead and Hassocks. Haywards Heath has been identified to be the area at highest risk within the District.

6.48. The West Sussex LLFA Local Flood Risk Management Strategy (2021 – 2026) listed the total number of properties (residential and non-residential and including properties above ground floor level) at risk of flooding from surface water during a 1 in 30 year (3.33% AEP) event, 1 in 100 year (1% AEP) event and 1 in 1000 year (0.1% AEP) event (Table 8).

6.49. A list of 5 Priority areas have been identified in Mid Sussex. These include Burgess Hill, Hassocks, Haywards Heath, Lindfield and Worth. The Priority Areas have been considered by local experts from the Strategy Partners organisations, including the Borough and District Councils, the County Council, Southern Water, the South Downs National Park Authority and by the Environment Agency.

Table 8: Count of properties susceptible to surface water flood risk by area, Priority Areas indicated in green taken from the West Sussex LLFA Local Flood Risk Management Strategy.

Area	30-year	100-year	1000-year
Albourne CP	8	11	39
Ansty and Staplefield CP	6	12	69
Ardingly CP	17	37	121
Ashurst Wood CP	10	29	164
Balcombe CP	11	30	109
Bolney CP	30	59	122
Burgess Hill CP	459	1083	2885
Cuckfield CP	23	63	188
East Grinstead CP	321	771	2649
Fulking CP	0	1	5
Hassocks CP	162	340	884
Haywards Heath CP	568	1173	3164
Horsted Keynes CP	5	19	78
Hurstpierpoint and Sayers Common CP	108	170	553
Lindfield CP	91	276	809
Lindfield Rural CP	14	44	162
Newtimber CP	1	1	7
Poynings CP	1	1	25
Pyecombe CP	1	2	8
Slaugham CP	5	14	74
Turners Hill CP	3	10	92
Twineham CP	3	8	29
West Hoathly CP	20	53	188
Worth CP	172	394	1337

6.50. In certain circumstances, for example, where the risk of flooding is uncertain or the development is of a significant size, it may be necessary to quantify the risk of flooding from surface water more accurately. For small and/or urban catchments (<5km^2), direct rainfall modelling can be undertaken. The LLFA (West Sussex) should be consulted to agree the scope of the modelling

study and agree the appropriate climate change allowances have been considered. For large areas (>5km^2) with a rural land use, the Environment Agency's climate change guidance requires that fluvial flood risk should be assessed using the peak river flow allowances, as direct rainfall modelling is unlikely to be appropriate.

Sewers

6.51. Sewer flooding occurs when intense rainfall overloads the sewer system capacity (surface water, foul or combined), and/or when sewers cannot discharge properly to watercourses due to high water levels. Entry of soil or groundwater into the sewer system via faults within the fabric of the sewerage system is another cause of sewer flooding. This is often related to high groundwater levels and may cause high flows for prolonged periods of time. Sewer flooding can also be caused when problems such as blockages, collapses or equipment failure occur in the sewerage system.

6.52. Southern Water provides wastewater treatment services across the majority of the district, with Thames Water providing the same service for the north-western part of the district (Copthorne and Pease Pottage area).

6.53. Existing sewers can also become overloaded as new development adds to their catchment, or due to incremental increases in roofed and paved surfaces at the individual property scale (urban creep). To limit the impacts of surcharging sewers, new development is presumed to preclude the use of combined sewers, with a dedicated sewer network for foul and for sustainable drainage systems to be considered for surface water. Surface water networks, if required (for example in cases where rainwater cannot be recaptured and re-used or managed entirely though good SuDS design) should connect to local ditches and watercourse. A connection to a surface water sewer should only be considered when the use of a self-contained SuDS is not feasible.

6.54. Southern Water and Thames Water provided extracts from their Sewer Flooding Register for the purposes of the SFRA (discussed in Section 7). These are water-company held registers of properties which have experienced sewer flooding due to hydraulic overload, or properties which are 'at risk' of sewer flooding. This information should be used to identify an issue that would need resolving before further development could proceed in that location, rather than

identifying a location where further development would not be allowed. Southern Water should be consulted before any works are undertaken to public sewers or other Southern Water assets.

Groundwater

6.55. Groundwater is water that lies below the surface, where it occupies all or part of the void spaces in soils or geologic strata and results from rainfall infiltrating below the ground surface into the subsoil. Where underlying ground conditions are permeable and capable of holding water, it is commonly known as an aquifer.

6.56. Above ground flooding from groundwater occurs when the level of the groundwater rises above the land surface. This typically occurs at topographic low points following rising groundwater caused by extended periods of rainfall.

6.57. Groundwater flooding usually occurs in low lying areas underlain by permeable rock and aquifers that allow groundwater to rise to the surface through the permeable subsoil following long periods of wet weather. Low lying areas may be more susceptible to groundwater flooding because the water table is usually at a much shallower depth and groundwater paths tend to travel from high to low ground.

6.58. Where permeable deposits sit atop more impermeable underlying geology, a perched water table can occur, where water is trapped within the permeable deposits and prevented from percolating into the bedrock.

6.59. In other cases, groundwater can be confined within permeable subsoil that is capped by impermeable soil, preventing it from rising to the surface. In certain circumstances, water can flow along the boundary between permeable and impermeable layers of geology and can result in a spring occurring where this is exposed.

6.60. Groundwater flooding can occur for long periods of time, days to months, whilst groundwater levels recede following a prolonged wet period.

6.61. Modelled flood data showing the risk of flooding from groundwater is not generally available due to; a lack of records of groundwater level, the variability in geological conditions and the limitations of predictive tools (such as modelling) needed to make assessments of groundwater flow and risk of groundwater flooding.

6.62. The British Geological Society (BGS) hosts a view showing the 1:50,000 scale maps of the underlying geology (bedrock and superficial) that can be accessed via the via the BGS Geology Viewer at: https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/

6.63. The BGS also hosts other datasets that can be used to assess the potential for groundwater flooding (licenced for a fee). This includes the 'Hydrogeology 625k digital hydrogeological map of the UK', 'depth to groundwater' and 'Susceptibility to groundwater flooding' datasets.

6.64. The West Sussex LLFA Local Flood Risk Management Strategy (2021 – 2026) includes mapping of the county showing areas considered to be at risk from groundwater flooding based on the Geosmart Groundwater Flood Risk Map GW5 Version 2.3 (©www.geosmartinfo.co.uk). This mapping has been reproduced in Figure 3.

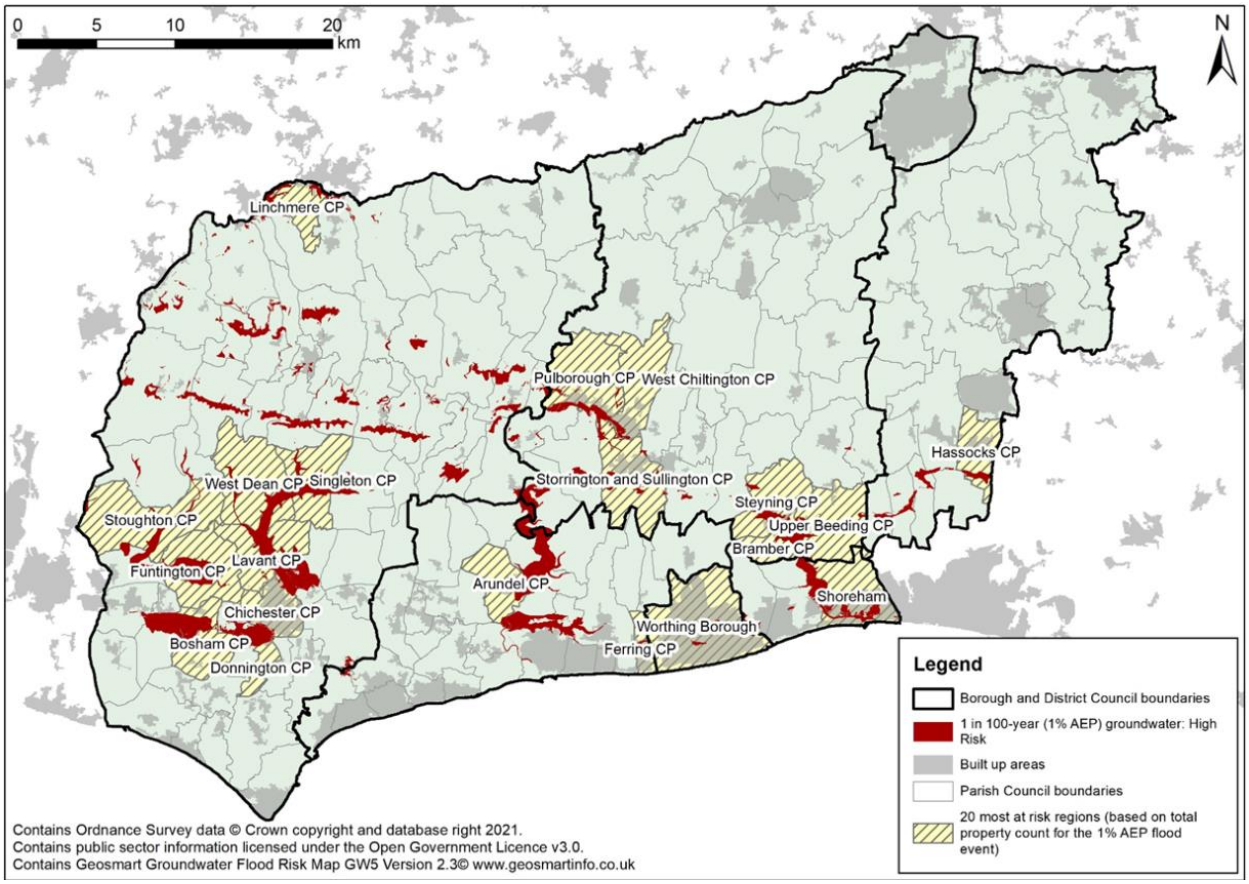

Figure 3: Risk from groundwater flooding based on the Geosmart Groundwater Flood Risk Map GW5 Version 2.3 (©www.geosmartinfo.co.uk) reproduced from WSCC LFRMS (2021 – 2026).

6.65. From Figure 3, it is evident that majority of the Mid Sussex is considered to have low potential for groundwater flooding as a result of the underlying geology. Permeable chalk geology is located to the south of the district and consequently a high risk of groundwater flooding is identified in mostly rural areas and Hassocks CP.

6.66. The settlements of Burgess Hill, Haywards Heath, Hurstpierpoint, Albourne and Sayers Common, as well as countryside areas to the west are considered to be in an area of low potential for groundwater flooding.

6.67. There are known issue of springs within the district, many of which located in areas of generally low groundwater flood risk but are caused by perched groundwater tables and local alterations to ground conditions or levels.

Reservoirs and Artificial Sources

6.68. Reservoirs and other artificial sources of flooding, such as canals, basins or even private water storage (for example, factories which require significant water storage) pose a risk of flooding, generally as a result of a catastrophic failure of the storage facility.

6.69. There are no canals within the district.

6.70. There is one major reservoir within the District, located at Ardingly. The reservoir is owned and run by South East Water. Ardingly Reservoir is located north of Haywards Heath and Lindfield. The reservoirs southernmost extent is about 2.5km from the northern most extent of Lindfield. It covers an area of around 198 acres (80 hectares) and has a capacity of approximately 4.9 billion gallons (22.3 million cubic meters) of water.

6.71. Weir Wood reservoir is west of Forest Row, just outside the district boundary, and is owned by Southern Water Services Limited. While outside the district boundary, the modelled flood extents could impact part of the district. The EA's Flood Risk from Reservoirs dataset[10] shows a small area of flooding at the boundary of the district to the south-east of East Grinstead during a 'dry day' scenario. When the 'wet day' scenario is considered the flood extents reach the south-

[10] **https://check-long-term-flood-risk.service.gov.uk/map**

western boundary of Sunnyside. To ensure flood risk originating outside of the district is considered fully as part of any relevant development the risk of flooding from this reservoir should be assessed and considered as if it was located within the district.

6.72. The Environment Agency provides mapping indicating the risk of flooding from reservoirs. The mapping provides information on two scenarios, the definition of each is set out in the document '*LIT56607 Reservoir Flood Mapping Specification'* which can be requested from the Environment Agency (enquries@environment-agency.gov.uk) and is summarised briefly below for context:

- 'Dry Day' scenario: Failure of the reservoir dam under normal day fluvial flood conditions; and,
- 'Wet Day' scenario: Failure of the reservoir during 1 in 1000 year return period (0.1% AEP) fluvial flood conditions.

6.73. Reservoirs in the UK have an extremely good safety record with no incidents resulting in the loss of life since 1925 and are carefully maintained to prevent flooding. Reservoir flooding is therefore extremely unlikely to happen, but the Environment Agency has produced mapping to indicate the worst-case scenario in the event that a reservoir was to fail.

6.74. This mapping indicates that a limited area around existing watercourses to the south of Ardingly reservoir (countryside areas to the north of Haywards Heath/Lindfield/Cuckfield) and in the immediate vicinity around Weir Wood reservoir (countryside areas to the south of East Grinstead/Ashurst Wood) could be affected.

6.75. The Ardingly reservoir is formally designated as 'large raised reservoirs' under the Reservoirs Act 1975 as they hold greater than 25,000m^3 of water above ground level. As a result, the reservoir operator has a responsibility to frequently inspect and maintain a reservoir to a high standard of protection and therefore the occurrence of a breach is considered highly unlikely.

6.76. There may be sources of flooding from other artificial sources such as smaller reservoirs which are not formally designated. Mapping of the area surrounding a site and the topography should be reviewed to assess the risk of flooding in addition to the Environment Agency's 'Flood Risk from Reservoirs Mapping' as part of a site-specific flood risk assessment.

6.77. A generic off-site plan for reservoirs has been prepared by Sussex Resilience Forum to ensure a swift and effective response to any flooding emergency involving reservoirs for which specific off-site plans have not been established. It sets out the co-ordination and control arrangements at each level of response across all agencies.

7. Historic Incidents

Environment Agency

7.1. The Environment Agency has provided an extract from the 'Recorded Flood Outlines' dataset for the study area which details the following historic fluvial events in the Borough:

- River Medway: November 1960, September 1968.
- Ouse: January 2009.
- Herrings Stream: 1974.
- Eastern Adur: 1966, 1973, 1974.

7.2. The majority of the recorded flood events have affected rural areas in the district only. However, it should be emphasised that not all floods that have occurred in every location have necessarily been recorded. The 'Recorded Flood Outlines' are shown on the online maps hosted on the MSDC website[11].

Mid Sussex District Council

7.3. A large amount of information and data has been supplied by Mid Sussex District Council, particularly records on properties that had experienced flooding as a result of flood events in December 1993, October/November 2000 and December 2013 to February 2014, 2016, 2018, 2019, 2020, 2021, 2022 and 2023.

7.4. Records for individual properties are available from MSDC, however, due to data protection requirements the data has not been provided at individual property level; rather the number of properties within 4- or 5-digit postcode areas the records have been presented on the online maps hosted on the MSDC website[12], and where postcode information was not available records have been summarised by street address and town in Appendix A. These

[11] **Link to be provided once live.**

[12] **Link to be provided once live.**

records are not extensive. An absence of records does not indicate that an area has not been flooded historically.

7.5. Table 9 provides the number of reported incidents by year, ranging from minor flooding of gardens and external areas to internal flooding.

Table 9: Number of Reported Incidents within Mid Sussex per year (records from 2005 to 2023)

Year	No. of events
2023	37
2022	64
2021	58
2020	26
2019	58
2018	11
2017	4
2016	8
2015	12
2014	17
2013	15
2012	32
2011	3
2010	9
2009	7
2008	11
2007	9
2006	5
2005	1

Thames Water and Southern Water

7.6. All water companies, who operate the sewerage systems in England and Wales, are required to record all instances of internal flooding to properties. This record is usually known as a DG5 or 'Flood Risk' register.

7.7. Due to data protection requirements the data has not been provided at individual property level; rather the register comprises the number of properties within 4- or 5-digit postcode areas that have experienced flooding either internally or externally within the last 10 years due to hydraulic incapacity.

7.8. It should be noted that these are flooding incidents that have been reported to Thames Water or Southern Water by the homeowners. This will not account for any incidents that have not been reported and therefore do not show on the register. Therefore, these records are not extensive. An absence of records does not indicate that an area has not been flooded historically.

7.9. Furthermore, given that Thames Water and Southern Water target these areas for maintenance and improvements, areas that experienced flooding in the past may no longer be at greatest risk of flooding.

7.10. Overall, there have been a total of 178 incidents of both external and internal sewer flooding within the Southern Water maintained assets in Mid Sussex and 16 incidents of external and internal sewer flooding within the Thames Water maintained assets, these incidents have been broken down into 4- or 5-digit postcode area in Table 10.

Table 10: DG5 record for Southern Water and Thames Water by postcode area (no date range provided).

Postcode Area	Internal	External	Total No. of events
Southern Water			
BN6 9	2	10	12
RH10 4	0	1	1
RH15 0	0	1	1
RH15 8	2	6	8
RH15 9	0	6	6
RH16 1	5	27	32
RH16 2	4	14	18
RH16 3	3	7	10
RH16 4	0	11	11
RH17 5	2	9	11
RH17 6	0	8	8
RH17 7	1	0	1
RH19 1	2	5	7
RH19 2	2	8	10
RH19 3	16	16	32
RH19 4	5	5	10
Thames Water			
RH1 1	0	0	0
RH1 2	0	0	0
RH10 1	0	2	2
RH10 3	1	9	10
RH10 7	0	4	4

8. Future Risk

Climate change guidance

8.1. A 4˚C increase in global temperatures is predicted by 2100 according to the UK Climate Projections, published in 2018 (UKCP18). This is projected to result in wetter winters and warmer summers which are drier with more frequent intense storms. The Environment Agency has guidance for changes in peak river flow, sea level rise, offshore wind speed, extreme wave heights and peak rainfall intensity based on UK Climate Change Projections 2018 (UKCP18) which were last updated in May 2022.

8.2. The anticipated changes in flood risk due to climate change necessitate a proactive approach to ensure the sustainability of development and the safety of communities. As climate patterns evolve, so too must the strategies for mitigating flood risks.

8.3. It is essential to consider these anticipated changes over the lifespan of a development, as discussed in the Section "Lifetime of Development".

8.4. At all stages of the development process, it is important to understand not only the current flood risk to a site but also the flood risk for the lifetime of the development, taking into account the future impact of predicted climate change.

8.5. In accordance with the Environment Agency's guidance 'Flood Risk Assessments: Climate change allowances' guidance, Flood Risk Assessments are required to demonstrate that future implications of climate change have been considered, and that risks are managed where possible, for the lifetime of the proposed development.

8.6. Further details of these impacts are provided below, with a summary of their implications on the various sources of flood risk in the District.

Peak River Flow

8.7. An increase in the peak flow in rivers is expected with more frequent and intense summer storms, and wetter winters. As a result, the depth and extent of flooding could increase, as well as the frequency of out-of-bank flooding occurring. Many areas currently situated within Flood Zone 2 may become part of Flood Zone 3a in the future, and similarly areas of Flood Zone 3a may

become part of Flood Zone 3b due to the effects of climate change. The compatibility of the site with the proposed use may therefore change in the future.

8.8. The Environment Agency's guidance '*Flood risk assessments: climate change allowances*'[13] requires assessment of an increase in peak river flow. The Environment Agency's guidance provides a range of climate change allowances for river flows and rainfall intensities which are dependent on location (by river basin, or 'management catchment') and timescale of development (termed 'epoch'). The guidance is a live document and can be updated by the Environment Agency as predictions of climate change are improved upon. The latest guidance (May 2022) has been referenced for the SFRA. It sets out a percentage increase in peak river flow based on the management catchment in which the site is located.

8.9. The District is covered by four management catchments; the Medway Management Catchment and the Mole Management Catchment to the north, the Adur and Western Streams Management Catchment to the west, and the Adur and Ouse Management Catchment to the south. The geographical extent of each catchment is shown in Figure 4.

[13] **https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances**

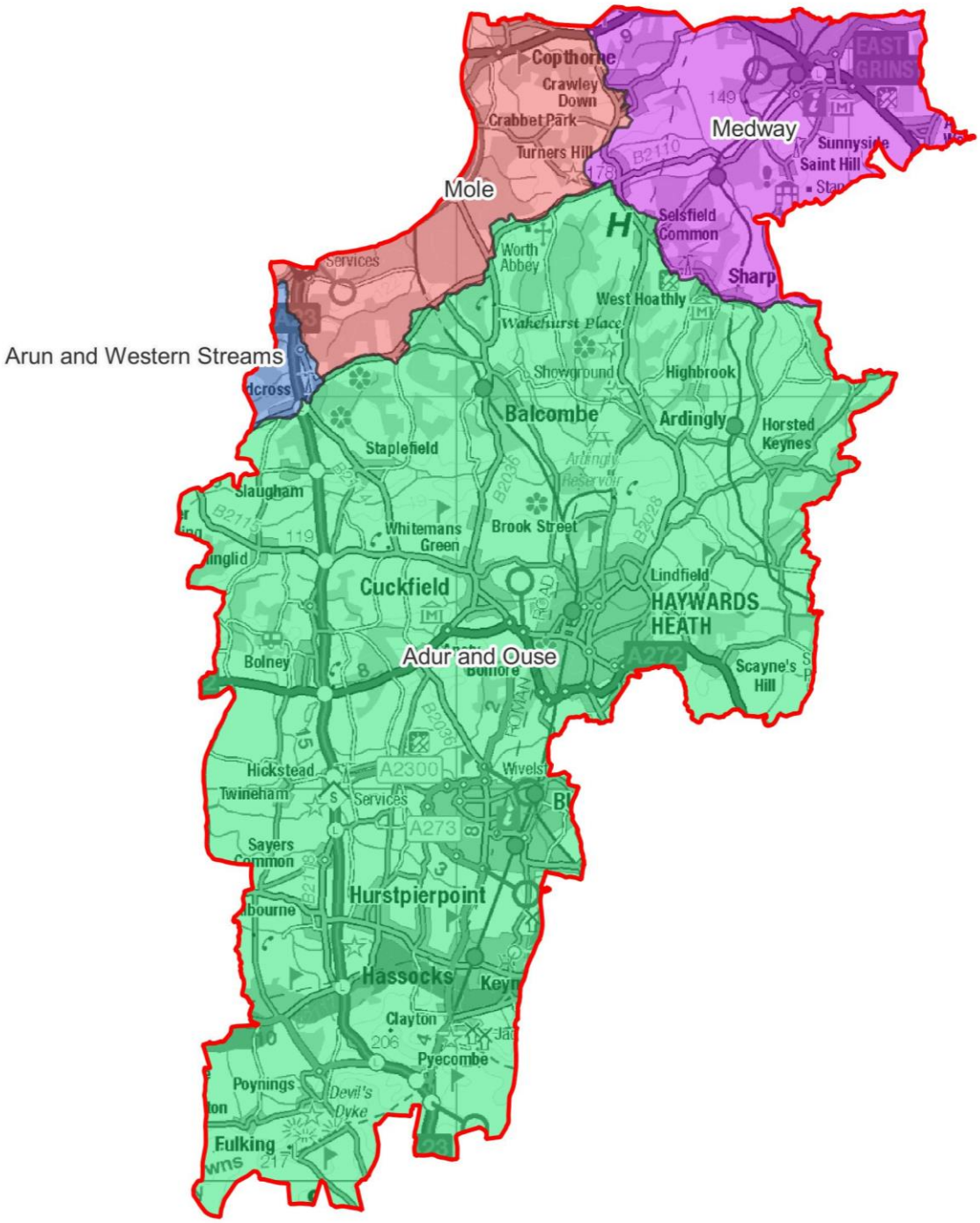

Figure 4: Management catchments for the district used to define climate change allowances (© Environment Agency, Ordnance Survey)

8.10. A range of confidence intervals are considered;

- the 'central' allowance represents the 50th percentile estimate,
- the 'higher central' represents the 70th percentile estimate, and
- the 'upper end' allowance represents the 95th percentile estimate.

8.11. The percentage increase in peak flow that is applicable depends on the Flood Zone classification of the site and the flood risk vulnerability of the development. This information is used to determine the level of confidence of the allowance to be used as set out in Table 11.

Table 11: Climate change confidence allowance required to be applied based on Flood Zone classification and Flood Vulnerability classification.

Flood Vulnerability classification	Flood Zones 2 and 3a	Flood Zone 3b
Essential infrastructure	higher central allowance	higher central allowance
Highly vulnerable	central allowance (development should not be permitted in flood zone 3a)	development should not be permitted
More vulnerable	central allowance	development should not be permitted
Less vulnerable	central allowance	development should not be permitted
Water compatible	central allowance	central allowance

8.12. Consult the Environment Agency if there is any doubt regarding which allowance should be used.

8.13. When assessing a Site as part of a flood risk assessment, the guidance should be referenced to determine the appropriate allowance for the development proposed. For this Level 1 SFRA, the Environment Agency advises that the central and higher central allowances should be considered. The relevant peak river flow allowances for Mid Sussex are provided in Table 12.

Table 12: Management Catchment Peak River Flow Allowances within Mid-Sussex District from Environment Agency's Climate Change Guidance (2022)

Adur and Ouse Management Catchment peak river flow allowances			
Epoch	**Central**	**Higher Central**	**Upper**
2020s	16%	23%	40%
2050s	18%	28%	57%
2080s	37%	55%	107%
Arun and Western Streams Management Catchment peak river flow allowances			
Epoch	**Central**	**Higher Central**	**Upper**
2020s	11%	16%	27%
2050s	13%	19%	36%
2080s	25%	36%	64%
Medway Management Catchment peak river flow allowances			
Epoch	**Central**	**Higher Central**	**Upper**
2020s	14%	19%	29%
2050s	15%	21%	37%
2080s	27%	37%	62%
Mole Management Catchment peak river flow allowances			
Epoch	**Central**	**Higher Central**	**Upper**
2020s	11%	16%	27%
2050s	6%	12%	26%
2080s	12%	20%	40%

8.14. For nationally significant infrastructure project, new settlements or urban extensions, the Environment Agency requires a 'credible maximum scenario' which requires the upper end allowance to be applied which can be obtained from the Environment Agency's guidance online.

8.15. The flood modelling for the district pre-dates the release of the latest climate change allowances. As such, the modelling studies will not necessarily include the percentages required by the Environment Agency's guidance. The climate change allowances included in the various modelling studies within the district are summarised in Table 13.

Table 13: Climate Change Allowances Available in Environment Agency Modelling Studies

Watercourse	Modelling Study	Allowances Included
Adur Eastern Branch	Adur Eastern Branch (2011) Adur Eastern Branch CC rerun (2016)	20% 35%, 45%, 105%
Herring Stream	Hassocks Model (2013) Hassocks Climate Change Update (2016)	20% 35%, 45%, 105%
Scrase Bridge Stream	Scrase Bridge Stream Mapping Study (2009)	20%
Upper Ouse	Upper Ouse Mapping Study (2012)	20%

8.16. Where the existing modelling studies do not include the latest allowances for climate change as set out in the Environment Agency's guidance, the nearest higher percentage allowance of previous climate change runs of the required climate change allowances could be used. However, in line with the precautionary principle, a conservative approach is recommended to be taken whereby a higher allowance is used, where available.

8.17. It may be necessary as part of a flood risk assessment to carry out new or additional modelling to properly test these climate change allowances. It is advisable to contact the Environment Agency to establish what is expected, and whether any new modelling is available.

Peak Rainfall Intensity

8.18. The frequency, duration and intensity of storm events is anticipated to increase due to climate change. This will result in an increased risk of localised flooding across the District due to a drainage systems and soils not being able to accommodate the increase rainfall, causing an increase in overland flows. Existing sewers may have been built many years ago and therefore were designed and constructed to difference standards from what is in place today.

8.19. The Environment Agency's guidance 'Flood risk assessments: climate change allowances' requires an increase in peak rainfall intensity to be assessed when assessing pluvial flooding over the lifetime of a development. In May 2022, the Environment Agency released an update on the peak rainfall intensity climate change allowances in their guidance '*Flood risk*

assessments: climate change allowances[14]. Within this update, more specific guidance was included on assessing the impact of climate change on rainfall intensity. Flood Risk Assessments and Strategic Flood Risk Assessments must assess the Upper end allowance for both the 1% and 3.3% annual exceedance probability (AEP) events for the 2070s epoch (2061 to 2125).

8.20. As with peak river flow, the District is covered by four management catchments; the Medway Management Catchment and the Mole Management Catchment to the north, the Adur and Western Streams Management Catchment to the west, and the Adur and Ouse Management Catchment to the south. The geographical extent of each catchment is shown in Figure 4 above. The allowances are stated in Table 14.

[14] **https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances#peak-rainfall-intensity-allowance**

Table 14: Peak rainfall intensity allowances for Management Catchments within Mid Sussex from Environment Agency's Climate Change guidance (2022)

Catchment	Allowance Category	3.3% AEP '2050s' (up to 2060)	3.3% AEP '2070s' (up to 2125)	1% AEP '2050s' (up to 2060)	1% AEP '2070s' (up to 2125)
Adur and Ouse Management Catchment	Central	20%	35%	20%	25%
	Upper End	20%	40%	45%	45%
Catchment	**Allowance Category**	**3.3% AEP '2050s' (up to 2060)**	**3.3% AEP '2070s' (up to 2125)**	**1% AEP '2050s' (up to 2060)**	**1% AEP '2070s' (up to 2125)**
Arun and Western Streams Management Catchment	Central	20%	25%	20%	25%
	Upper End	35%	40%	45%	45%
Catchment	**Allowance Category**	**3.3% AEP '2050s' (up to 2060)**	**3.3% AEP '2070s' (up to 2125)**	**1% AEP '2050s' (up to 2060)**	**1% AEP '2070s' (up to 2125)**
Medway Management Catchment	Central	20%	20%	20%	20%
	Upper End	35%	35%	45%	40%
Catchment	**Allowance Category**	**3.3% AEP '2050s' (up to 2060)**	**3.3% AEP '2070s' (up to 2125)**	**1% AEP '2050s' (up to 2060)**	**1% AEP '2070s' (up to 2125)**
Mole Management Catchment	Central	20%	20%	20%	25%
	Upper End	35%	35%	40%	40%

8.21. Development should be designed so that it will be safe from surface water flooding and there is no increase in flood risk elsewhere in the 1 in 100 year return period event (1% AEP) event including the upper end climate change allowance.

8.22. The Environment Agency's climate change guidance (2022) states that when modelling the risk of flooding from surface water by direct rainfall methods for large areas (>5km^2), the allowances in Table 14 should not be used, instead the allowances for Peak River Flow should be applied. The Environment Agency should be consulted if there is any doubt over the appropriate allowances to be applied.

8.23. The design of the proposed development should consider overland flow paths in the event that the capacity of the drainage system is exceeded, including assessment of the impacts of climate change. If overland flows are such that the velocity or depth of surface water flow is sufficient to present a hazard to site users then mitigation measures should be provided – the upper end allowance for climate change should be used in this assessment, and there should be no significant flood hazard to site users when the central allowance is applied.

Impacts of climate change

Fluvial

8.24. Climate change affects the frequency, as well as the extent of flooding. For example, a storm which currently has a 1 in 50-year return period may increase to a 1 in 20-year return period with the impacts of climate change. The impact of an event with a given probability is also likely to become more severe. As water depths, velocities and flood hazard increase, so will the risk to people and property.

8.25. The Flood Zones indicated by the Environment Agency's Flood Map for Planning can provide a proxy for showing where climate change may have the most lateral effect (i.e. extent of the flood risk area). By comparing Flood Zones 2 and 3 it is possible to get an indication of how more extreme flows affect the extents of flooding.

8.26. Where an appropriate climate change allowance is not available with the Environment Agency's existing modelling studies, and it is not deemed appropriate to undertake a modelling exercise to quantify the impacts of climate change more accurately, a basic approach was previously agreed between the District Council and the Environment Agency which utilises the Flood Zones shown on the Flood Map for Planning (Table 13).

Table 15: Proxy approach for accounting for climate change for fluvial and surface water risk.

Risk Level	Annual Exceedance Probability	Future risk classification
Very Low	• Less than 0.1%	Very low: • **more than** 20m horizontal buffer of Flood Zone 2; and, • within 'very low' surface water risk area ('Future Flood Zone 1')
		Low: • **within** 20m horizontal buffer of Flood Zone 2 ('Future Flood Zone 2')
Low	• 1% to 0.1% for rivers and surface water. • 0.5% to 0.1% for tidal.	Medium ('Future Flood Zone 3')
Medium	• 3.3% to 1%	High ('Future functional floodplain – flood zone 3b')
High	• Greater than 3.3%	

8.27. The Environment Agency plans to publish improvements to their national flood risk maps in early 2025. These improvements are the result of the National Flood Risk Assessment version 2 (NaFRA2). This will include future scenarios accounting for climate change.

Tidal flooding

8.28. Sea level rise can lead to increased water levels in estuaries and coastal rivers. This rise in water level can cause a 'tide-locking' effect, pushing water upstream into inland watercourses. While Mid Sussex is not directly affected by tidal flooding, it has rivers and streams that discharge into downstream tidal waterbodies. Therefore, higher sea levels could contribute to increased flooding along these inland watercourses during periods of high tide or storm surges. However,

the tidal limits of these watercourses are located outside of Mid Sussex and therefore this is not considered to present a significant future risk to the District.

Pluvial flooding

8.29. Climate change is predicted to increase rainfall intensity in the future by a range of between 20% and 45% in Mid Sussex during a 1 in 100-year event (for the '2070s' epoch of 2061 to 2125). This will increase the likelihood and frequency of pluvial flooding across the entire district; however, it is likely to particularly affect impermeable urban areas that are already susceptible such as Haywards Heath, Burgess Hill, East Grinstead and Hassocks.

8.30. The Risk of Flooding from Surface Water map does not include a specific scenario to determine the impact of climate change on the risk of pluvial flooding.

8.31. The Environment Agency plans to publish improvements to their national flood risk maps in early 2025. These improvements are the result of the National Flood Risk Assessment 2 (NaFRA2). This will include future scenarios accounting for climate change.

8.32. In the absence of mapping including an appropriate allowance for climate change, the 'low risk' (1 in 1000 year return period [0.1% AEP]) scenario can provide a high-level indication of the depth and velocity of an event which exceeds the design event (i.e. due to climate change). Based on rainfall estimates from the Flood Estimation Handbook Depth-Duration-Frequency Model (available from the Flood Estimation Handbook (FEH) Web Service[15]), the 1 in 1000 year event is approximately 60% higher than the 1 in 100 year return period event, and therefore will provide a conservative estimate of the impacts of climate change under the Environment Agency's recommended allowances.

8.33. Otherwise, it may be necessary to assess the risk using a site-specific flood model. West Sussex County Council should be consulted to agree whether the 0.1% AEP event can be used in place of modelling, and what is expected as part of the scope of the modelling study if required.

[15] **https://fehweb.ceh.ac.uk/**

8.34. Where an appropriate climate change allowance is not available with the Environment Agency's existing modelling studies, and it is not deemed appropriate to undertake a modelling exercise to quantify the impacts of climate change more accurately, a basic approach was previously agreed between the District Council and the Environment Agency which utilises the Risk of Flooding from Surface Water maps (refer to Table 15).

8.35. The West Sussex LLFA Local Flood Risk Management Strategy (2021 – 2026)[16], published in 2022, listed the total number of properties (residential and non-residential and including properties above ground floor level) at risk of pluvial flooding during a 1 in 100 year event with a 40% uplift in rainfall to account for climate change. The report does not state the source of the mapped information on pluvial risk with climate change for use in this SFRA.

8.36. Analysis of Table 16 shows that the urban areas of Burgess Hill and Haywards Heath could experience a significant number of properties at risk of flooding in the future.

[16] **https://www.westsussex.gov.uk/media/18047/draft_lfrms_2021to2026.pdf**

Table 16: Count of properties susceptible to future surface water flood risk by area. Priority Areas indicated in green taken from the West Sussex LLFA Local Flood Risk Management Strategy (2022).

Area	100-year + 40% climate change uplift
Albourne CP	19
Ansty and Staplefield CP	35
Ardingly CP	80
Ashurst Wood CP	75
Balcombe CP	53
Bolney CP	72
Burgess Hill CP	1840
Cuckfield CP	119
East Grinstead CP	1497
Fulking CP	2
Hassocks CP	545
Haywards Heath CP	1975
Horsted Keynes CP	38
Hurstpierpoint and Sayers Common CP	322
Lindfield CP	502
Lindfield Rural CP	84
Newtimber CP	3
Poynings CP	11
Pyecombe CP	5
Slaugham CP	24
Turners Hill CP	50
Twineham CP	13
West Hoathly CP	106
Worth CP	818

Sewer flooding

8.37. The Design and Construction Guidance is the current standard[17], most new public surface water sewers are designed with capacity for a 1 in 30 year (3.3% AEP) rainfall event. This means that, even where sewers are built to current specification, they are likely to be overwhelmed by larger magnitude events often considered when assessing river or pluvial flooding (e.g. the design event).

8.38. When accounting for impacts of climate change (more frequent and intense rainfall events) it is likely that exceedance events will become more common. Heavy rainfall can overwhelm sewer systems, causing them to surcharge, resulting in sewer flooding. Sewer systems that were designed to handle historical rainfall patterns may become inadequate in the face of more extreme weather conditions.

8.39. Many sewer systems in urban areas are already aging and may be more vulnerable to the impacts of climate change. Older infrastructure may be less resilient to extreme weather events and may be more prone to failures such as leaks, blockages, and collapses, leading to increased instances of sewer flooding.

Groundwater flooding

8.40. There is currently no guidance regarding the impacts of climate change on groundwater flooding.

8.41. The effect of climate change on groundwater flooding, and those watercourses where groundwater has a large influence on winter flood flows is more uncertain. Milder wetter winters may increase the frequency of groundwater flooding incidents in areas that are already susceptible, but warmer drier summers may counteract this effect by drawing down groundwater levels to a greater extent during the summer months.

8.42. As this occurs when the water table rises after significant long duration rainfall events, typically occurring over several weeks or months and receding very slowly, the increased regularity of wet

[17] **https://www.water.org.uk/wp-content/uploads/2021/07/SSG-App-C-Des-Con-Guide.pdf**

winters could result in increased risk of groundwater flooding, particularly in the winter and spring months. Mean groundwater levels are not expected to change significantly as the predicted wetter winters would be offset by drier summers. However, increased rainfall *intensity* due to climate change is considered unlikely to increase the risk of groundwater flooding.

9. Guidance

Managing on-site flood risk

9.1. New development is required by the NPPF to ensure occupants/users will remain safe from all forms of flooding for its anticipated lifetime. Where development is located in an area identified to be at risk of flooding, the applicant is required to appraise the risk of flooding from all sources and set out appropriate mitigation. For developments that are subject to the Exception Test, appropriate mitigation measures are required to ensure that the second criterion of the Test is met. The following sections provides guidance on managing flood risk on-site and is listed in order of priority;

Sequential Test

9.2. Development in flood risk areas should be minimised wherever practicable. This principle is implemented through the Sequential Test, which prioritises development in areas with lower flood risks. A detailed discussion of the Sequential Test is provided in Section 4.

9.3. In the absence of deliverable alternative sites with lower flood risk, development must be designed for sustainable operation throughout its lifetime. This includes ensuring the safety of occupants and preventing any increase in flood risk to other areas. The following sections discuss the mitigation measures that can be employed to achieve these objectives.

9.4. It should be noted that it is recommended that further information on the application of the Sequential Test should be sought from the appropriate parties at the earliest opportunity in any applicable development.

Sequential Approach

9.5. Following the Sequential Test, development should be further optimised within the site using the same risk-based approach. This means placing more vulnerable elements on higher ground, where the risk of flooding is lowest, while allocating less sensitive uses such as green infrastructure/public realm, recreational land, parking or commercial buildings to areas with higher flood risk.

9.6. After applying the Sequential Approach at the site level, a further internal sequential approach ensures optimal placement of different elements within a development site. For example, less vulnerable uses should be located on the lower floors (such as car parking or retail), with the more vulnerable elements located on the upper floors of a building (such as sleeping accommodation).

Design Mitigation

Finished Floor Levels (FFLs) and Land Raising

9.7. In instances where it is not possible to prevent floodwater reaching the development site, the finished floor levels of a developments should be raised to reduce the risk of flooding to the users of the site.

9.8. In order to achieve the required finished floor levels, it may be possible to use a combination of the following techniques listed below;

- Raising of the internal ground floor level within the site to above the design flood level. If floor levels are proposed to be raised above the existing ground level, the ability to access to and from the building will need to be considered, especially where disabled access is required.
- The use of townhouse-style development, comprised of non-habitable uses (e.g. parking, cycle stores, bin stores etc) or non-sleeping accommodation (e.g. utility rooms, bathrooms, kitchens etc) at the lowest possible floor level. A 'sacrificial ground floor' could mean that an additional storey being required, which can have an impact on other planning matters such as ridge height limitations.
- Raising ground levels within the site in order to create a platform above the design flood level. A potential concern with land raising could be that floodwater is displaced and the development would not be acceptable if it were to be demonstrated that it has a detrimental effect on flood risk elsewhere.

9.9. For residential development, finished floor levels must be elevated above the design flood level and incorporate an additional margin of safety (freeboard) to address uncertainties in flood analysis and wave effects generated by vehicles navigating floodwaters. For most uses, a 300mm freeboard is considered adequate, while sleeping accommodation necessitates a 600mm buffer.

The EA has advised that this requirement may be expected to change to require a freeboard of 600mm for most uses.

9.10. For development types other than residential, it is acknowledged that it is not always feasible to raise finished floor levels. Floor levels should be raised as high as possible, and above the flood level. Where it is not possible to raise floor levels, it is recommended that Mid Sussex District Council are consulted on the appropriateness of other mitigations solutions.

9.11. MSDC applies the Environment Agency's standing advice to the following;

- Minor extensions with a risk greater than 0.1% AEP of river, tidal or surface water flooding;
- 'More vulnerable' with a risk between 0.1% and 1% AEP of river, tidal or surface water flooding (except for landfill or waste facility sites, caravan or camping sites);
- 'Less vulnerable' with a risk between 0.1% and 1% AEP of river, tidal or surface water flooding (except for agriculture and forestry, waste treatment, mineral processing, and water and sewage treatment); and
- 'Water compatible' with a risk between 0.1% and 1% AEP of river, tidal or surface water flooding.

9.12. The Standing Advice sets out specific finished floor level requirements for these types of development. The requirements outlined under the Environment Agency's Flood Risk Standing Advice can be found at; https://www.gov.uk/guidance/flood-risk-assessment-standing-advice

9.13. Consistent with previous recommendations, the internal layout of the building should adhere to the Sequential Approach, prioritising the placement of sleeping quarters on higher floors whenever feasible, as opposed to solely raising ground floor levels.

Resilience and Resistance

9.14. Buildings should be designed appropriately to limit the potential impact of a flood event, and to minimise the cost and time of recovery following a flood event in accordance with the NPPF.

9.15. The document *'Improving the Flood Performance of New Buildings'* published by Department for Communities and Local Government[18], and the CIRIA Code of Practice for Property Flood Resilience[19] set out guidance for property flood resilience measures.

9.16. When facing flood depths up to 0.3m, passive flood resistance measures are the recommended practice. These permanent solutions such as engineering bricks and solid concrete floors, minimise water entry while safeguarding the building's integrity.

9.17. Temporary 'active' measures like door and airbrick covers can also offer protection, but they require manual activation before flooding, which can be unreliable. Therefore, passive measures are generally preferred.

9.18. Due to the increase in hydrostatic water pressure with depth, most flood resistance products are only effective to a flood depth up to 0.6m, before potentially causing structural damage to the building.

9.19. For flood depths between 0.3m and 0.6m, flood resistance measures should be used in an effort to limit the potential for floodwater ingress with consideration for the allowable leakage through most products.

9.20. While resistance measures are still recommended to delay entry, floods deeper than 0.6m will likely breach the building. At this point, flood resilience becomes key to minimise damage and recovery costs. This includes raising appliances, using water-resistant materials like stone floors and waterproof plasterboard, and locating critical systems above flood levels.

9.21. The PPG states that preference is to apply the avoidance measures set out above (Sequential Approach). Where this is not possible, flood resistance and flood resilience measures may need

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18 **https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7730/flood_performance.pdf**

19 **https://www.ciria.org/ItemDetail?iProductCode=C790F&Category=FREEPUBS**

to be incorporated. Such measures are unlikely to be suitable as the only mitigation measure to manage flood risk, but they may be suitable in some circumstances, such as:

- water-compatible and less vulnerable uses where temporary disruption is acceptable and the development remains safe;
- where the use of an existing building is to be changed and it can be demonstrated that the avoidance measures set out above are not practicable and the development remains safe;
- as a measure to manage residual flood risk from flood risk management infrastructure when avoidance measures have been exhausted.

Flood Defences

9.22. Formal flood defences offer physical protection by diverting floodwaters away from development. For sites lacking such barriers, localised permanent defences like embankments or earth bunds can be constructed on-site (albeit consideration should be shown to offsite flood risk as discussed further herein).

9.23. Flood defences offer a limited level of protection, designed to withstand floods up to a specific standard. However, they cannot prevent flooding entirely. Extreme events exceeding their design capacity or structural failures can still cause inundation. Regular maintenance and inspections are recommended to ensure their effectiveness throughout the development's life.

9.24. The defence should be designed relative to the undefended design event. An assessment of the potential residual risk of flooding resulting from a failure of such defences should be undertaken.

9.25. While flood defences significantly protect new developments, they can alter existing flood flow patterns or reduce available flood storage in the protected area. This impact needs to be mitigated to prevent increased risk elsewhere, such as redirecting floodwaters to adjacent land. This is discussed in later sections of this report.

Safe Access

9.26. The PPG states that when assessing the safety implications of flood risk for development proposed, the following should be considered:

- the characteristics of a possible flood event, including residual risks from flood risk management infrastructure e.g. the type and source of flooding and frequency, depth, velocity, speed of onset and duration;
- the safety of people within a building if it floods and also the safety of people around a building and in adjacent areas, including people who are less mobile or who have a physical impairment. This includes the ability of residents and users to safely access and exit a building during a design flood and to evacuate before an extreme flood (0.1% annual probability of flooding with allowance for climate change);
- the structural safety of buildings: and
- the impact of a flood on the essential services provided to or from a development.

Flood Hazard Rating

9.27. The 'flood hazard rating' is used to quantify the safety of access and egress to and from a development. The Defra document '*Supplementary Note on Flood Hazard Ratings and Thresholds for Development Planning and Control Purpose*[20] sets out the methodology for planning purposes. The method is based on the expected depth and velocity of flooding along the anticipated access route with the resulting hazard rating categories shown in Table 17.

Table 17: Flood Hazard Rating Thresholds

Flood Hazard Rating		Hazard Rating (ZUK0)	Definition
	Low	<0.75	*Caution* – shallow flowing water or deep standing water
	Moderate	0.75 to 1.25	*Dangerous for some* i.e. children/elderly - deep or fast flowing water
	Significant	1.25 to 2.0	*Dangerous for most* – deep fast flowing water

20 **https://assets.publishing.service.gov.uk/media/602d04a98fa8f5037d371a08/FLOOD_HAZARD_RATINGS_AND_THRESHOLDS_explanatory_note.pdf**

	Extreme	>2.0	*Dangerous for all* – extreme danger with deep and fast flowing water

9.28. When considering the availability of safe access, the PPG states that this includes the ability of residents and users to safely access and exit a building during a design flood (as defined in Section 5 'Design Flood') and to evacuate before an "extreme flood" (0.1% annual probability of flooding with allowance for climate change). Consideration should be made for all sources of flooding, and the effects of climate change for the lifetime of the development.

9.29. The PPG states that access and escape routes need to be designed to be functional for changing circumstances over the lifetime of the development. Specifically:

- Access routes should allow occupants to safely access and exit their dwellings in design flood conditions. Vehicular access to allow the emergency services to safely reach the development during design flood conditions will also normally be required in addition to the requirements of the building regulations.
- Wherever possible, safe access routes should be provided that are located above design flood levels and which avoid flow paths. Where this is not possible, limited depths of flooding may be acceptable, provided that the proposed access is designed with appropriate signage etc. to make it safe. The acceptable flood depth for safe access will vary depending on flood velocities and the risk of debris within the flood water. Even low levels of flooding can pose a risk to people in situ (because of, for example, the presence of unseen hazards and contaminants in floodwater, or the risk that people remaining may require medical attention).
- Where a failure of flood risk management infrastructure would result in flooding with a speed-of-onset that would not allow sufficient time for safe access and escape, an internally accessible place of safety, capable of accommodating the likely number of occupants or users of the proposed development should also be provided. Local planning authorities should consider whether the development can be considered safe given the predicted duration of flooding and the vulnerability of occupants/users. In doing so, local planning authorities should account for the likely impacts of flooding on essential services such as electricity, gas, telecommunications, water supply and sewerage. Any place of safety needs to be designed to facilitate rescue in case emergency care is needed or if it is unlikely to be safe for occupants/users to wait until flood waters have receded sufficiently for safe access/escape to be possible.

9.30. MSDC's Emergency Planning[21] team should be consulted on any proposals to clarify specific constraints or requirements.

Flood Response

9.31. Alongside the flood hazard rating, factors like **time to inundation** and **rate of water rise** are crucial. The **time to inundation** indicates how quickly flooding might occur, allowing occupants to prepare for or respond to warnings. Similarly, the **rate of water rise** shows how fast water will reach its peak depth once it arrives on-site, aiding in emergency response planning.

9.32. In larger river basins with flatter terrain or porous geology, floodwater will typically reach a site with a longer lead time and a more gradual rise in water level. This provides more time for preparation and response compared to smaller, steeper catchments with less permeable ground.

9.33. Sites susceptible to flooding following the catastrophic failure of fluvial defences are at risk of experiencing rapid and unpredictable inundation, particularly in catchments characterised by steep slopes, impermeable geology, or high levels of urbanisation. The rapid rise in water levels associated with such scenarios may severely limit the time available for occupants to evacuate or prepare their property. Consequently, the provision of safe refuge within the building itself becomes a crucial design element in such situations.

9.34. In events such as these, a flood warning and evacuation plan would be best suited to providing advice on preparing for a flood event. These plans could include having a flood kit available in a location above the predicted flood level. For sites located in areas where a rapid flooding is possible, MSDC's Emergency Planning team should be consulted on any proposals to ensure there is not a disproportionate burden placed upon the emergency services.

Flood Alerts and Warnings

9.35. Flood warning service are operated by the Environment Agency in areas at risk of flooding from main rivers, the sea and groundwater (where applicable). This service utilises measurements of

[21] **https://www.midsussex.gov.uk/environment-net-zero/emergency-planning/**

rainfall, river levels and tide levels and within in-house predictive models, as well as rainfall radar data and information from the Met Office. This service operates 24 hours a day, 365 days a year.

9.36. In areas identified by at a risk of flooding, Occupants and owners should, where available, sign up to the Environment Agency's Flood Warning Service to obtain advance warning of flood events; https://www.gov.uk/sign-up-for-flood-warnings.

9.37. The Met Office provides a Severe Weather Warning service to inform users about potentially dangerous weather conditions, including heavy rainfall, strong winds, and dense fog. These warnings also indicate the expected consequences of these conditions. While there's no dedicated subscription, warnings are typically included in local weather forecasts on TV and radio. You can also access them directly on the Met Office website or social media platforms.

9.38. Although the information covers general areas, it can provide valuable advance warning of potential flood events like pluvial flooding (caused by heavy rain) or tidal flooding (caused by strong winds). This early notice can be crucial for preparing for potential flooding.

Flood Warning and Evacuation Plans (FWEP)

9.39. Paragraph 043 of the PPG: *Flood risk and coastal change* states that an emergency plan will be needed wherever emergency flood response is an important component of making a development safe. Emergency plans will be essential for sites at risk of flooding used for holiday or short-let caravans and camping and for any site with transient occupancy (e.g. hostels and hotels).

9.40. The FWEP provides crucial information to owners/occupiers and users of the development. It outlines the procedures to follow upon receiving a flood alert, warning, or severe flood warning. This plan is tailored to the anticipated flood hazard level and includes:

- Emergency contact numbers: Accessible contact details for essential services and emergency personnel.
- Flood action plan: Step-by-step instructions for occupants/users to minimize flood damage. This may include raising belongings, installing temporary flood barriers, or other relevant measures.
- Site-specific information: Details unique to the development, such as:

- Emergency access routes: Clearly defined escape routes leading to safe havens above predicted flood levels.
- Safe refuge areas: Identified locations within the development that remain above floodwater during an event, offering temporary shelter until the flood subsides.

9.41. The FWEP should be proportionate to the expected flood risk and ensures everyone on-site knows what to do in case of flooding.

9.42. The ADEPT guidance for Flood Risk Emergency Plans[22] provides guidance on emergency plans.

9.43. The practicality of safe evacuation from an area will depend on:

- the type of flood risk present, and the extent to which advance warning can be given in a flood event;
- the number of people that would require evacuation from the area potentially at risk;
- the adequacy of both evacuation routes and identified places that people from evacuated places use/are taken to (and taking into account the length of time that the evacuation may last); and
- sufficiently detailed and up to date multi-agency flood plans being in place for the locality that address these and related issues. These are prepared by local resilience forums.

9.44. It is the responsibility of MSDC, in consultation with their Emergency Planning team, to confirm that a FWEP is suitable as part of a planning application in situations where safe access/ egress is not possible for an extreme flood (0.1% annual probability of flooding with allowance for climate change).

9.45. The MSDC, in consultation with their Emergency Planning team, will need to ensure that agreed emergency plans are secured and implemented through appropriate planning conditions or planning agreements.

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22 **https://www.adeptnet.org.uk/system/files/documents/ADEPT%20%26%20EA%20Flood%20risk%20emergency%20plans%20for%20new%20development%20September%202019....pdf**

Proximity to Watercourses and Defences

9.46. Consultation zones adjacent to watercourses and waterbodies set out below are measured from top of bank or from the landward face or embankment toe of defences (whichever is the greater).

9.47. The Upper Medway Internal Drainage Board (UMIDB) will require consent for any works on land within 8m of an IDB maintained watercourse, additionally any works within the trapezoidal cross-section of any Ordinary Watercourse within the IDB District requires consent under Section 23 of the Land Drainage Act 1991.

9.48. Any site within the Internal Drainage District (IDD) or within the watershed catchment discharging their surface water to a watercourse requires consent from the Board under Byelaw 3.

9.49. It should be noted that the only IDB maintained watercourses are located to the south of East Grinstead and are tributaries to the River Medway. The IDB watercourses are indicated on the online maps hosted on the MSDC website[23]. Maps showing the IDD can be accessed at: https://medwayidb.co.uk/watercourses/

9.50. Any consent granted will likely be conditional, pending the payment of a Surface Water Development Contribution fee, calculated in line with the Board's charging policy. Further information on when consent is required, how to apply, and the charging policy can be found at: https://medwayidb.co.uk/development/

9.51. West Sussex County Council in their role as the LLFA are the land drainage authority outside of any Internal Drainage Board areas.

9.52. The Environment Agency is responsible for watercourses which are designated as 'main rivers' and the sea. The Environment Agency should be consulted for applications;

- On or within 8 metres of a main river (16 metres if tidal);
- On or within 8 metres of a flood defence structure or culvert (16 metres if tidal);

[23] **Link to be provided once live.**

- On or within 16 metres of a sea defence;
- Involving quarrying or excavation within 16 metres of any main river, flood defence (including a remote defence) or culvert; and/or
- In a floodplain more than 8 metres from the river bank, culvert or flood defence structure (16 metres if it is a tidal main river) where planning permission is not already in place.

Managing off-site risk

Floodwater Displacement and Impeding Flow Routes

Compensatory Flood Storage

9.53. Where it is not possible to locate all development outside the design flood extent, it may be necessary to provide compensatory flood storage to replace the volume of water displaced up to the design flood level. This is to ensure that the development does not increase the risk of flooding elsewhere as a result of displacing floodwater.

9.54. Compensatory flood storage is required to be established on a level-for-level, volume-for-volume basis. An equal volume of water displaced by the development should be provided and located outside of the existing flood extent.

9.55. Flood storage can be provided as either a 'block' which covers the same area as the development or may be distributed across the site at convenient locations within the same flood compartment. Though notably, an equal volume must apply at all levels, typically in 'slices' at contours of 100mm between the lowest point on site and the design flood level. This will ensure that there is no adverse impact off site in any flood up to and including the design flood event.

9.56. In most cases, when assessing the requirement for compensatory flood storage, the *central* climate change allowance should be applied. There are exceptions to this requirement though such as if the affected area contains essential infrastructure, the *higher central* climate change allowance should be applied to determine the design flood level including climate change.

9.57. Inappropriate development within floodplains is discouraged, however it is recognised that there are circumstances within flood risk areas where it may not always be possible to provide compensatory flood storage on a level-for-level and volume-for-volume basis. Where it can be demonstrated that there are no other reasonable locations for the development to be located

through the application of the Sequential Test and that it is not possible to provide compensatory storage using the methods set out above, then the Environment Agency or LLFA should be consulted to discuss alternative options as appropriate.

9.58. As per paragraph 049 of the PPG, *'the use of voids should not normally be relied upon for compensating any loss of floodplain storage'*. Therefore, these would only be suitable subject to consultation with the Environment Agency (for fluvial flooding) and/or the LLFA (for other sources).

Floodable Ground Levels

9.59. A potential alternative method of providing compensatory flood storage could be to utilise entire storey which could be utilised for less vulnerable uses such as parking.

9.60. To guarantee their intended function of accommodating floodwater, under-croft areas and voids must be protected throughout the lifetime of the development. This will involve removing permitted development rights, preventing infilling and adaptation, and ensuring the void space remains available for flood storage. A Flood Warning and Evacuation Plan would be required.

9.61. Converting or altering ground floor areas designated for compensatory flood storage should only be possible through planning permission. This permission will be granted only if the displaced flood storage capacity can be suitably replicated elsewhere on land controlled by the applicant.

Impeding of Flood Flows

9.62. Development should avoid obstructing any flood flow paths. This is crucial to avoid diverting floodwater and worsening off-site flood risk. The preferred approach is ideally to locate the development outside the overland flow path.

9.63. Alternatively, if this option is not feasible developers could consider landscaping the site to allow water to flow naturally around buildings. In such circumstances, consideration should be given to other requirements for maintaining safe access/egress and other residual risk to the development or surrounding area.

9.64. If the development changes existing flood flow paths, the scheme must compensate for this by providing equivalent flood flow capacity. Compensation cannot increase or decrease flow rates in addition to volumes as this could have an adverse impact on flooding to the surrounding area.

Daylighting Culverted Watercourses

9.65. Where possible, applications should consider daylighting culverted watercourses and optimising riparian zones and offsets from built structures. This approach can help address the rapid flood response often seen in urban areas with highly modified and culverted channels. Encroachment on riparian zones through construction, fencing, land elevation, or material storage exacerbates the problem. These actions obstruct floodwater movement and reduce the natural conveyance capacity of the land, contributing to increased flood risk.

Development in Areas of Groundwater Risk

9.66. For developments planned in areas with high groundwater levels, an assessment must be conducted to identify any potential hindrance or impact on groundwater flow that could affect surrounding developments.

9.67. In such cases, groundwater monitoring might be necessary, requiring expert input from a hydrogeologist. If the assessment reveals potential impacts on groundwater flow paths due to the development, mitigation measures must be implemented. These measures should demonstrate minimal changes in groundwater level (head) both upstream and downstream of the site after construction.

Sustainable Drainage Systems

9.68. New developments often increase the impermeable surface area which hinders natural water infiltration and lead to faster, larger volumes of runoff, raising flood risks in surrounding areas. Managing surface water runoff is crucial to mitigate these risks, including potential sewer or river overflows.

9.69. The most effective way to manage surface water runoff is at the source. This involves reducing the rate and volume of runoff from the development to pre-development levels, or even lower, for all rainfall events, including extreme scenarios under climate change.

9.70. The NPPF (2023) encourages the use of Sustainable Drainage Systems (SuDS) in all developments and there is a presumption for SuDS to be integrated within all development proposals, unless there is compelling evidence that this is inappropriate. Policy DPS4: Flood Risk and Sustainable Drainage of the Mid Sussex Draft District Plan (2023) also requires the use of SuDS on all new development.

9.71. SuDS is a term that represents a range of techniques that mimic natural processes to manage surface water runoff. These systems should be seamlessly integrated into development plans, blending with landscaping, public spaces, and building design. Well-designed SuDS go beyond simply controlling flow and should meet the needs of each of the pillars of SuDS; Attenuation, Biodiversity, Amenity, and Water Quality.

9.72. Guidance on the potential benefits, suitability and feasibility for different SuDS types is available in the 'Water. People. Places.'[24] document prepared for South East England authorities. Moreover, information on the types of SuDS available and their appropriateness for different site conditions can be obtained from CIRIA C753 "The SuDS Manual"[25]. This guidance should be used as part of the initial planning and design process for all types of residential, commercial and industrial development.

9.73. Re-use of rainwater should be incorporated wherever possible. Measures which address this could include rainwater harvesting schemes and the use of water butts on residential dwellings as well as larger systems which combine with greywater for recycling and use within a development. This can reduce the reliance on potable water resource and steer developments towards water neutrality, where appropriate.

9.74. The Local Plan notes that water scarcity is an increasing concern as the population of the district increases and new homes are built, and therefore re-use of rainwater can assist in reducing

[24] https://www.susdrain.org/files/resources/other-guidance/water_people_places_guidance_for_master_planning_sustainable_drainage_into_developments.pdf

[25] https://www.ciria.org/ItemDetail?iProductCode=C753F&Category=FREEPUBS

reliance on potable water. Re-use can contribute towards achieving the requirement of Policy DPS5 of the District Plan (2021-2039) to achieve a maximum use of 85 litres per person per day.

9.75. The method of discharge of surface water should prioritise infiltration methods (where technically viable and underlying ground conditions allow) before considering connection to a watercourse.

9.76. The Environment Agency advise that developments should avoid increasing discharge to 'main rivers' or ordinary watercourses which ultimately discharge to 'main rivers'. There should be no increase in discharge from the proposed site and should be as close as reasonably practicable to predevelopment greenfield rates. Evidence should be provided to clearly demonstrate that a development will not increase flood risk for the design flood event including an appropriate allowance for climate change and that the effective use of SuDS can reduce run-off to watercourses.

9.77. MSDC requires that discharge off-site needs to be restricted to the Greenfield QBar runoff rate for the area being drained for all events up to and including the 1 in 100 year (1% AEP) plus climate change event.

9.78. Where development is proposing to discharge to any watercourse in the UMIDB district, regardless of whether the development is located within the UMIDB district or not, consent will be required for discharging their surface water to a watercourse. The UMIDB recommends that any discharge is in line with the Non-Statutory Technical Standards for Sustainable Drainage Systems (SuDS), therefore the Board is unlikely to grant consent for discharges in excess of greenfield rate. It should be noted that the only IDB maintained watercourses are located to the south of East Grinstead and are tributaries to the River Medway.

9.79. If the preferred options of discharging to the ground or a watercourse have been analysed and discounted it may be possible to proposed to discharge surface water runoff to a surface water sewer. This is subject to the condition that there remains a right to connect under Section 106 of Water Industry Act 1991. At the planning stage a pre-planning enquiry wastewater application should be made to the appropriate sewerage provider for the site location to confirm whether sufficient capacity exists in the receiving network.

9.80. Should a sustainable draining system be proposed for adoption to a sewerage undertaker, it will also need to meet the technical standards as set out within the industry codes for adoption 'design and construction guidance'[26].

9.81. As per Policy DPS4, surface water drainage to the foul sewer will be resisted in order to maximise the capacity of foul sewage to reduce the risk of sewer flooding. For the redevelopment of brownfield sites, any surface water drainage to the foul sewer should be disconnected, unless it can be shown no other feasible drainage option is available and that the Water Authority agree to the connection.

9.82. No development is to discharge groundwater into the sewerage system when de-watering during construction phases or on completion of a development.

9.83. Source control measures such as raingardens, should be incorporated rather than a reliance on underground tank storage. Developments should explore greener options; for example, the incorporation of green 'living' roof and blue roof attenuation, permeable paving, open water storage and conveyance (including rain gardens, swales and wetlands) as a positive design feature of developments. Features should seek to improve biodiversity, water quality and public amenity as well as managing the rate and volume of surface water runoff. The use of green roofs can contribute to achieving biodiversity net gain.

9.84. In order to provide appropriate water quality standards, treatment trains should be designed into any SuDS scheme, and to ensure that an appropriate level of treatment is provided depending on the surfaces being drained. The CIRIA C753 "The SuDS Manual"[27] sets out the Simple Index Method which provides a standard approach to quantify the level of pollution hazard presented by a development and a proportionate level of treatment provided to mitigate this.

[26] https://www.water.org.uk/wp-content/uploads/2021/07/SSG-App-C-Des-Con-Guide.pdf

[27] https://www.ciria.org/ItemDetail?iProductCode=C753F&Category=FREEPUBS

9.85. To improve biodiversity and promote cooling, green and blue roof provision should be maximised. These features are particularly effective where the external footprint is severely limited or constrained.

9.86. All SuDS features must be designed with long-term maintenance in mind. The development proposal should include a detailed maintenance schedule for the proposed SuDS, specifying the responsible party. This could be:

- Private maintenance for individual homes.
- A designated management company for the entire site.
- Adoption by the Lead Local Flood Authority (LLFA) or Sewerage Undertaker (where applicable).

9.87. The LLFA and/or sewerage provider should be engaged at the earliest stage to confirm the proposals for development and discuss any arrangements for maintenance or adoption.

9.88. A plan indicating the impacts of a rainfall event which exceeds the design criteria of the SuDS, or a blockage of any pipework or control structures, should be provided to ensure risk is not exacerbated and can be managed appropriately (e.g. overland flow routes, raised thresholds, resilience measures).

9.89. Parts of the District face increased surface water flood risk due to an increase in the urban extents. Smaller developments, like house extensions and paved gardens/driveways, contribute to this risk by reducing natural infiltration areas. This is known as "urban creep," and cumulatively increases surface runoff. The CIRIA C753 "The SuDS Manual"[28] offers guidance for major developments, including an "urban uplift factor" based on proposed density to account for increased runoff.

9.90. For smaller projects, minor developments (in terms of flood risk), and household developments, MSDC aims to reduce the flood risks associated with urban creep. This includes:

- Presumption against paving over gardens and using permeable driveway solutions.

[28] **https://www.ciria.org/ItemDetail?iProductCode=C753F&Category=FREEPUBS**

- Presumption for implementing SuDS to mitigate increased runoff from new hard surfaces.

9.91. It is noted that at the time of writing the District does not have any designated Areas with Critical Drainage Problems (ACDPs). However, given the existing risk of flooding from surface water within the urban areas growing urban centre (such as the 'Priority Zones' noted in the LFRMS), it is recommended that consideration is made to stricter restrictions on managing surface water runoff to ensure development does not only ensure no increase in flood risk, but also contributes to an improvement to flood risk of existing development wherever possible.

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10. Conclusions

10.1. As part of the plan-making process, LPAs are required to update their SFRA's to inform both policies and site allocations. Since the previous SFRA in 2015, there has been significant changes to policy and guidance in relation to flood risk, namely updates to the NPPF and PPG: Flood risk and coastal change, including a requirement for all sources of flooding to be considered, including future impacts of climate change. Furthermore, there has been updates to the Environment Agency's guidance 'How to prepare a strategic flood risk assessment' and 'Flood risk assessment: climate change allowances', and projections of climate change with the publication of UKCP18.

10.2. This report has been prepared in line with the relevant guidance and policies, including consultation with statutory consultees and neighbouring authorities.

10.3. A user guide for this document is included in Section 2 of this Level 1 SFRA to aid navigation through the document.

10.4. This report includes an overview of the risk of flooding from all sources across the district. The variation in risk across the district is characterised by the distinctive topographic and geology. The assessment has been based upon flood mapping, reporting and historical records provided. From a review of Mid Sussex District, the risk of flooding is overall low and mostly localised flooding around watercourses or valley routes.

10.5. When considering sites coming forward for allocation as part of the new Local Plan, the LPA is required to take a risk-based approach with respect to flooding, and should seek to locate development outside of risk areas through application of the Sequential Test.

10.6. As set out in the NPPF, the SFRA provides the basis for applying the Sequential Test. A review of the draft site allocations and sustainable communities reveals that only three sites are located partially within Flood Zones 2 and 3 as per the Flood Map for Planning (DPSC2, DPSC1 and DPA7). The area affected is less than 2.5% of the total allocated site area for all three sites. Whilst the Exception Test would typically apply for residential development in Flood Zone 3, it is considered that development could be delivered entirely within Flood Zone 1 for these development sites. However the Exception Test will be considered as part of the separate Level 2 SFRA.

10.7. Furthermore, an assessment based on the Environment Agency's Long Term Flood Risk Information maps has identified that all but four sites are partially affected by flooding of the risk of pluvial and reservoir flooding. A flood risk assessment should be undertaken for these sites, along with two of the low risk sites which on land greater than 1 ha. Some sites are located on watercourses, or adjacent to, and therefore a site-specific assessment of the extent of Flood Zone 3b/ functional floodplain should be undertaken where modelled flood level data for the 1 in 30 year (3.3%AEP) is not available. A Sequential Approach should be applied with respect to surface water flooding. In line with MSDCs guidance, a Foul Sewerage and Surface Water (Drainage) assessment may also be required.

10.8. The Environment Agency's guidance specifies that a Level 2 SFRA is required if it not possible to allocate all land for development outside flood risk areas, or there is expected to be a high number of applications in flood risk areas.

10.9. MSDC is undertaking a site-screening exercise as part of a Level 2 SFRA to demonstrate how the Sequential Test has been applied in the allocation of development sites and sustainable communities in the District Plan (2021-2039). This will be available as a separate document to the Level 1 SFRA.

10.10. Windfall sites are required to apply the Sequential Test to demonstrate that there are no alternative sites available at a lower risk of flooding from all sources which could deliver the same type of development. In determining whether the Sequential Test has been passed, the LPA will require evidence to be submitted as part of a flood risk assessment or a separate Sequential Test statement. Development which can demonstrate the Sequential Test can be passed will also need to submit evidence to demonstrate *both parts* of the Exception Test can be met, where applicable, based on the Flood Zone (or equivalent) classification and Flood Vulnerability Classification for the development.

10.11. This SFRA sets out the requirements for when a flood risk assessment or Foul Sewerage and Surface Water (Drainage) Strategy is required to be submitted alongside a planning application. As well as providing information on the risk of flooding, the SFRA sets out measures which can be employed to manage the risk of flooding to occupants/users of a Site, and to ensure that flood risk is not increased elsewhere. This includes consideration of access and egress routes

and emergency response in the event of a flood, use of SuDS, as well as protection of the riparian zone though easement requirements with the Environment Agency, LLFA and IDBs.

10.12. This Level 1 SFRA forms part of the Evidence Base for the Mid Sussex District Plan (2021-2039). Signposts have been provided to information which is regularly updated to limit the expiry of the content of this report. The report should be read in conjunction with online mapping hosted on the MSDC website[29]

10.13. The report only represents screenshot of the information available at the time of writing. Where possible, this SFRA is intended to be a live document and should be updated as soon as new information is available, for example changes to key policies, guidance, changes to the defences or new flood modelling and mapping information. It is recommended that this report is reviewed a minimum of every 5 years.

[29] **Link to be provided once live.**

Appendix A - MSDC & WSCC Historic Records

The following records have been edited so individual properties cannot be identified. For further information about a record please contact the data owner:

Mid Sussex District Council records:

Road name	Location	Incident start date	Incident end date	Year	Comments
Church Lane	Albourne			2016	Surface water runs off the road into the property (Yew Tree Farmhouse) on the corner of Church Lane and The Street
Church Lane	Albourne	20-Dec		2019	Field pipe (culvert?) burst and water flooding across land and into back of property. Fire attended, pumped water away
Henfield Road	Albourne	24-Dec		2013	Sitting room flooded to a depth of about 50mm - surface water
Muddleswood Road	Albourne	05-Mar	06-Mar	2020	Garden filled with water (there are generalised reports of previous flooding at this location but no dates given), problem reported to be the gully under the A281
Cuckfield Road	Ansty	24-Dec		2013	Water entered ground floor of property - surface water
Pickwell Lane	Ansty	17-Nov		2016	Reports of flooded land - see result of MSDC flooding investigation in property file
Bishopstone Lane	Ansty and Staplefield/Hurstpierpoint and Sayers Common (on border)		04-Dec	2023	Road impassable
Holmans	Ardingly	07-Jul	08-Jul	2012	Call to report flooding (no detail)

Road name	Location	Incident start date	Incident end date	Year	Comments
Munnion Road	Ardingly	18-May		2018	During heavy rain, water rising up underneath shed - possible damage to adjacent pond overflow pipe
Street lane	Ardingly	20-Oct	21-Oct	2021	Flooding to interior of property, below street level and at high surface water flood risk. Complaint about WSCC drain referred to WSCC
Street Lane	Ardingly	20-Oct		2021	Internal flooding following heavy rain. Drain in front of the property was blocked with leaves etc, however this property is lower than the highway and also at increased flood risk.
College Road	Ardingly	20-Dec		2019	internal flooding of homes, fire pumped water out of buildings
Combers	Balcombe	Oct		2022	Surface water pooling outside due to blocked drainage in highway (not WSCC)
High Street	Balcombe	16-Nov		2022	The road has been flooded and impassable since the evening of Wednesday 16th November 2022
London Road	Balcombe	20-Dec		2019	Broken pipe within garden, surcharging and water flowing across garden north towards Rocks Lane and railway line
London Road	Balcombe	23-Nov		2022	water surged down our driveway from London Road, made worse by the fact that the drains were unable to cope with the excess water. Some came into the house, whilst a torrent swept down the side of the house and caused damage to the garden at the back
The Timbers	Beast Grinstead	03-Jun	03-Jun	2012	Flood water from stream at the top of incline parallel to The Stennings and linked to Halford Park School. Garden of property was nearly up to patio doors and has flooded garage and neighbours' garage.
	Bolney	14th Jan	during wet weather	2023	During Met Office reported periods of exceptionally high groundwater
Albert Drive	Burgess Hill	13-Dec	13-Dec	2008	Report of flooding in the vicinity

Road name	Location	Incident start date	Incident end date	Year	Comments
Albert Drive	Burgess Hill	14-Nov	15-Nov	2020	heavy leaf fall resulting in temporary screen becoming blocked - stream overtopping at low spot, flooding road itself to ~ankle deep - Unity House is lower than road. no internal flooding
Albert Drive	Burgess Hill	03-Dec	05-Dec	2023	Road flooding
Bramber Way	Burgess Hill	04-Jan		2020	Unspecified flooding issue
Colmer Place	Burgess Hill	29-Jun	30-Jun	2021	Surface water flow from Fairfield Rec and Car Park along footpaths and out onto Colmer Place
Colmer Place	Burgess Hill	04-Oct	05-Oct	2021	Surface water flow from Fairfield Rec and Car Park along footpaths and out onto Colmer Place
Colmer Place	Burgess Hill	27-Dec	28-Dec	2021	Surface water flow from Fairfield Rec and Car Park along footpaths and out onto Colmer Place (post bund installation on Fairfield Rec)
Colmer Place	Burgess Hill	26-Dec	26-Dec	2021	Surface water flooding
Crescen Road	Burgess Hill	16-Jan		2023	Rear garden has some slight flooding
Denham Road	Burgess Hill	Mar		2021	Surface water flooding to garden, highly perched water table, ongoing issue
Downs Road	Burgess Hill	Oct		2021	Surface water runoff from the new footpath on Fairfield Rec
Downs Road	Burgess Hill	04-Oct		2021	possibly surface water run-off from the new footpath across Fairfield Rec is flooding them and their neighbour (16).
Dumbrills Close	Burgess Hill	24-Dec		2013	garden flooding which came close to becoming internal - surface water
Field Close	Burgess Hill	12-Feb	13-Feb	2020	Flooding of garage from MSDC owned road
Field Close	Burgess Hill	Oct		2021	Flooding of garage from MSDC owned road (works undertaken to alleviate)
Field Close	Burgess Hill	05-Sep	06-Sep	2022	slight water ingress into garage
Field Close	Burgess Hill	17-Nov		2022	Report of garage (not adjacent to property) flooding approx. 3 inches
Folders Lane	Burgess Hill	Dec		2020	Report to WSCC Highways, possible riparian ditches blocked, or the culvert under the road

Road name	Location	Incident start date	Incident end date	Year	Comments
Folders Lane	Burgess Hill			2021	Ongoing issue with flooding at several points on the Jones Homes site, possibly discrepancy between 'as designed' and 'as built'
Freeks Lane	Burgess Hill	Jul		2012	Various properties flooded following heavy rain, investigations found a broken WSCC highways pipe discharging
Freeks Lane	Burgess hill	Jul		2012	During the heavy rain recently all the runoff water from Mill Road / Leylands Road Flooded many properties down the lane
Gatehouse Lane	Burgess hill	17-Nov		2022	Blocked highway drains causing flooding on certain lengths of the road
Gladstone road	Burgess Hill	23-Jan		2014	Garden flooded
Hazel Grove	Burgess Hill	04-Oct	05-Oct	2021	Flooding possibly due to overwhelmed/blocked SW drains, high surface water flood risk property
Hazel Grove	Burgess Hill	05-Oct		2021	suffered several times this year from flooding due to the drains being overwhelmed, possible blockage but also already at high flood risk
Hazel Grove	Burgess Hill	06-Sep	07-Sep	2022	Resident advised property flooded
Lower Church Road	Burgess Hill	Oct		2022	Report states Highway drainage has been blocked and is causing flooding underneath property (see MSDC response in file)
Malthouse Lane	Burgess Hill	17-Jan		2023	Reports of road and footpath flooding in heavy rain
Marchants Way	Burgess Hill	14-Feb		2020	Blocked non MSDC culvert flooding roadway and business park
Marchants Way	Burgess hill	16-Nov		2022	Area flooded, possible blocked watercourse/outfall FRDI?23/0002
N/A	Burgess Hill		Ongoing	2023	Garden frequently wet/flooded, EA flood map shows SW flow path and localised very high risk low spot at this location
N/A	Burgess Hill	11-Apr	Ongoing	2023	large amounts of water coming into the garden within a short time frame after it starts to rain.
Oak Hall Park	Burgess Hill	29-Mar		2010	Garden flooded, Resident claims from adjacent building site
Orchard Road	Burgess Hill	17-Aug	17-Aug	2022	Garage flooded, WSCC aware and planning works to road to drainage scheme. High surface water flood risk area
Orchard Road	Burgess Hill	25-Aug	25-Aug	2022	Road flooding, WSCC attribute to Southern Water pipe with root ingress

Road name	Location	Incident start date	Incident end date	Year	Comments
Orchard Road	Burgess Hill	04-Sep	05-Sep	2022	water ingress from driveway to garage
Orchard Road	Burgess Hill	17-Aug	17-Aug	2022	Garage flooded, WSCC aware and planning works to road to drainage scheme. High surface water flood risk area
Orchard Road	Burgess Hill	13-Oct	14-Oct	2023	We have been copied into regular reports of this flooding recurring to WSCC and Southern Water. High (1 in 30) flood risk area)
Orchard Road	Burgess Hill	26-Aug	27-Aug	2023	We have been copied into regular reports of this flooding recurring to WSCC and Southern Water. High (1 in 30) flood risk area)
Orchard Road	Burgess Hill	18-Sep	19-Sep	2023	We have been copied into regular reports of this flooding recurring to WSCC and Southern Water. High (1 in 30) flood risk area)
Orchard Road	Burgess hill	20-Jun	21-Jun	2023	surface water flooding up to front door threshold
Park Road	Burgess Hill	03-Jan		2016	Road flooding
Payton Drive	Burgess Hill	18-Jun	19-Jun	2023	report of a blockage in watercourse causing generalised flooding
Pegasus Place	Burgess Hill	Jul		2021	overtopping attenuation basin due to blocked outlet pipe
Petworth Drive	Burgess Hill	14-Nov	15-Nov	2020	very heavy rain (~1:100) resulted in highway drain flooding
Pinehurst	Burgess Hill	17-May	18-May	2021	blockage in adjacent pond outfall causing road and garage to flood, Southern Water sewer also over capacity or blocked
Pinehurst	Burgess Hill	28-Jul	29-Jul	2021	Shared surface water sewer and adjacent pond (Southern Water) backing up and causing flooding
Potters Lane	Burgess Hill			2021	Reports of flooding to garden over 20 years, cause determined as being topography and highly perched water due to clay soil
Rolfe Drive	Burgess Hill	15-Nov		2020	Internal foul flood event
Rolfe Drive	Burgess Hill	28-Jun		2021	Internal foul flood event
Rolfe Drive	Burgess Hill	06-Nov		2022	Internal foul flood event
Rolfe Drive	Burgess Hill	16-Nov		2022	Internal foul flood event
Silverdale Road	Burgess Hill	Nov		2010	flooding of his front driveway/garden and the water has in the past been within 1 inch of the threshold of his property when it has been really bad

Road name	Location	Incident start date	Incident end date	Year	Comments
St Johns Park	Burgess Hill	14-Nov	15-Nov	2020	very heavy rain (~1:100) resulted in surface water flow across park, surrounding St Johns Pavilion, full internal flooding to northern store, slight water ingress to southern store under door (mm's deep)
Station Road	Burgess Hill	25-Jun	25-Jun	2019	Flash flooding (district wide issue) damage to road
Stoudley Drive	Burgess Hill	07-Dec		2022	Planning officer observed two areas of fairly significant surface water pooling on the road. Firstly, on the main access road to the site, just south of Road 1. Secondly, to the north of the attenuation pond, where the water was too deep to even drive through
The Nursery	Burgess Hill	20-Jun	21-Jun	2023	Report that road drains are blocked and road is surcharging water into front gardens
Unicorn Way	Burgess Hill	19-Dec	20-Dec	2019	Ground floor of property flooded, property number not given but ongoing issue with developer
Victoria Road	Burgess Hill	18-Sep	19-Sep	2023	known issue, very high flood risk area
Victoria Gardens	Burgess hill	16-Nov		2022	Reports of flooding in road
Brookhill Road	Copthorne	04-Nov	05-Nov	2013	Water is seeping into land at an alarming rate from the highway verge to the front of Dunster and also spreading across the footway onto the road
Brookhill Road	Copthorne	24-Dec		2013	garden and garage flooded did not get in the house as is higher - surface water
Brookhill Road	Copthorne	17-Jan		2014	garden and garage flooded did not get in the house as is higher - surface water
Brookhill Road	Copthorne	17-Jun		2021	SW flooding onto front driveway. Caused by blocked highway gulley. Resulting in damage to cars on driveway as passing cars spraying grit, dirt and water onto cars.
Brookhill Road	Copthorne	19-Apr		2022	water trickling up through ground/manhole on land south of property, reaching property wall. Urgent job raised at Thames water in case foul

Road name	Location	Incident start date	Incident end date	Year	Comments
Copthorne Common Road	Copthorne	24-Dec		2013	flooding in the basement area containing kitchen, surface water/ground water
Copthorne Common Road	Copthorne	24-Dec		2013	Internal flooding to ground floor
Copthorne Common Road	Copthorne	17-Jan		2014	Internal flooding to ground floor
Meadow Drive	Copthorne	14-Nov	15-Nov	2020	
Pinetrees	Copthorne	24-Dec		2013	Water entered through the back door and exited the property via the front door - ordinary watercourse
Pinetrees Close	Copthorne	24-Dec		2013	Internal flooding to 1 property and also 9 garages - ordinary watercourse
Pinetrees Close	Copthorne	17-Jan		2014	Internal flooding to 1 property and also 9 garages - ordinary watercourse
The Meadow	Copthorne	24-Dec		2013	Internal property flooding and damage to cars on driveway also sewer surcharge. Above adult knee depth on junction with The Green and The Meadow, ordinary watercourse and foul sewer surcharge
The Meadow	Copthorne	17-Jan		2014	Internal property flooding and damage to cars on driveway also sewer surcharge. Above adult knee depth on junction with The Green and The Meadow, ordinary watercourse and foul sewer surcharge
Turners Hill Road	Copthorne	03-Dec		2006	
Whitegate Close	Copthorne	24-Dec		2013	patios flooding although it is not clear whether water got into the houses
Whitegate Close	Copthorne	17-Jan		2014	patios flooding although it is not clear whether water got into the houses
Grange Crescent	Crawley Down	04-Jan	05-Jan	2016	Surface water flooding to garden following heavy rain, possibly caused by diverted pipe from historic pond
Hawmead	Crawley Down	03-Nov		2022	Report of drains backing up
Hazel Close	Crawley Down	05-Oct		2021	Water cascading down road, stream adj. to Hazel Rise development overflowing, nearby show home flooded

Road name	Location	Incident start date	Incident end date	Year	Comments
Hazel Close	Crawley Down	20-Oct	21-Oct	2021	Report of runoff from Hazel Rise pond and stream overtopping, ongoing investigation with developers/planning/drainage
Hazel Way	Crawley Down	20-Dec		2019	Internal flooding to homes
Hazel Way	Crawley Down	20-Oct	21-Oct	2021	Heavy rain overnight, flooding on roadway
Kiln Road	Crawley Down	20-Oct	21-Oct	2021	Water flowing down Grange Road and onto Kiln Road due to heavy rain. Water pooled at bottom of hill on road last night and this morning. Impacting the entire road and pavement. Water is slowly draining away now rain has stopped.
Rowan Walk	Crawley Down			2009	
Sandy Lane	Crawley Down	20-Dec		2019	Reported surface water overflow from adjacent playing field into garden. Ongoing issue due to works required on watercourse to rear of property (see file)
Sandy Lane	Crawley Down	14-Nov	15-Nov	2020	very heavy rain (~1:100) resulted in surface water flows from King George V Field into garden, alongside house and out onto Sandy Lane. Depth ~6". Water levels dropped within 12 hrs
Sandy Lane	Crawley Down	16-Jan		2023	bottom portion of field flooded
Snow Hill	Crawley Down			2015	Reports of flooding at times of heavy rain, watercourse that abuts SH and LFF over-spills and flows into LFF land. The tennis court, which appears to be a low-spot amongst the surrounding land, floods
Broad Street	Cuckfield	Nov		2009	flooding occurs at Bedlam Cottage during periods of heavy rainfall. This causes damage to premises and will often result in the floorboards having to be replaced.
Broad Street	Cuckfield	Dec		2012	Reports of internal flooding during heavy rain, investigation conducted
Broad Street	Cuckfield			2012	flooding occurs at Bedlam Cottage during periods of heavy rainfall. This causes damage to premises and will often result in the floorboards having to be replaced.

Road name	Location	Incident start date	Incident end date	Year	Comments
London Lane	Cuckfield	12-Jun	12-Jun	2023	Photos etc are from adjacent approx. what3words point but report states all three roads affected
London Road	Cuckfield	14-Aug		2010	Rain Water was flooding the pub restaurant from the road
London Road	Cuckfield	03-Jun		2012	"flooding through front door drains blocked on going issue"
Ockenden Lane	Cuckfield	03-Nov		2022	Reports of basement flooding during heavy rain
Ditchling Road	Ditchling	14-Nov	15-Nov	2020	Very heavy rain (~1:100) resulted in pond overtopping and flooding garden. Package treatment plant flooded (no waste water facility ~24hrs) also access road flooded
Beech Gardens	East Grinstead			2021	Garden floods, resident believe water is coming up from the ground as well as surface water but has no confirmed source
Buckhurst Way	East Grinstead	20-Jul		2007	Heavy rains cause flooding to local properties. It is established that the ditch to the rear of properties in Sackville Close should carry surface water in the event of heavy rainfall; this ditch has been neglected and filled in places
Buckhurst Way	East Grinstead	20-Jul		2007	
Buckhurst Way	East Grinstead	03-Jan		2012	Road and gardens flooded
Chequer Road	East Grinstead	Nov		2021	surface water runoff
Chequer Road	East Grinstead	09-Nov		2021	Surface water flooding
Church Lane/High Street	East Grinstead	27-Nov		2023	Report blocked gulley/manhole is causing internal flooding, Southern Water have advised 'council' responsibility
Cromwell Place	East Grinstead	18-Sep	19-Sep	2023	overtopping from dead end road down pathway
De La Warr Road	East Grinstead	07-Nov		2022	Report of blocked highway gulley outside this property
Dunnings Road	East Grinstead	20-Jul		2007	Extensive flooding
Dunnings Road	East Grinstead	09-Feb	10-Feb	2009	Extensive flooding (stream burst its banks)
Dunnings Road	East Grinstead	09-Feb	10-Feb	2020	Stream burst its banks causing internal flooding
Dunnings Road	East Grinstead	06-Nov		2022	Internal damage following flooding, high rainfall event

Road name	Location	Incident start date	Incident end date	Year	Comments
Fairfield Road	East Grinstead	24-Dec		2013	internal flooding to lower ground floor of properties but also slight ingress - Surface water
Fairfield Road	East Grinstead	17-Jan		2014	internal flooding to lower ground floor of properties but also slight ingress - Surface water
Fairlawn Crescent	East Grinstead	19-Dec		2019	Water coming down Fairlawn Crescent road and from Garden Wood Road's garden across garden and through into garage
Felbridge Close	East Grinstead	20-Jul		2007	No details except resident attributes flooding of home to runoff from Buckhurst Way
Felbridge Close	East Grinstead	20-Jul		2007	Heavy rains cause flooding to local properties, in particular. It is established that the ditch to the rear of properties in Sackville Close should carry surface water in the event of heavy rainfall; this ditch has been neglected and filled in places
Felbridge Close	East Grinstead	03-Jan		2012	Flooding to patio level, no internal damage
Furze Lane	East Grinstead	Nov		2008	
Garden Wood Road	East Grinstead	03-Nov		2022	road and pavement outside flooded (full span)
Gleave Close	East Grinstead	07-Jul	08-Jul	2012	Flooded Garden
Gleave Close	East Grinstead	02-Jun	03-Jun	2012	Flooded Garden
Gleave Close	East Grinstead	07-Jul	08-Jul	2012	Flooded Garden
Gleave Close	East Grinstead	07-Jul	08-Jul	2012	Report blocked trash screen causing localised flooding
Gleave Close	East Grinstead	14-Nov		2022	Report of extensive flooding to garden
Halsford Park Road	East Grinstead	21-Nov		2022	Report of deep flooding in the roadway around number 14
Halsford Park Road	East Grinstead	20-Jun	21-Jun	2023	Report of blocked road drain causing road to flood
Heathcote Drive	East Grinstead	03-Nov		2022	Report of drains backing up and flooding in front of property

Road name	Location	Incident start date	Incident end date	Year	Comments
Imberhorne Lane	East Grinstead	06-Nov	16-Nov	2022	Reports of several instances of water ingress to the factory during period of heavy rain
Lister Avenue	East Grinstead	14-Nov	15-Nov	2020	very heavy rain (~1:100) resulting in stream overtopping its banks - could have been exacerbated due to a number of blockages in stream
London Road	East Grinstead			2011	water went into shop
London Road	East Grinstead	03-Jun		2012	a heavy rain event where water had just got into the shop
London Road	East Grinstead	16-Jan	17-Jan	2014	torrential rain with large amounts dropping in short time
Lynton Park Avenue	East Grinstead	07-Jul		2012	Flooded Garden
Queens Road	East Grinstead			2022	Large quantity of surface water runoff in the area of Queensway MSDC car park
Sackville Gardens	East Grinstead	March		2011	
The Oaks	East Grinstead	13-Oct		2021	Flooding reaching garage/driveway, highway drains unable to cope with the runoff of water from the road
The Oaks	East Grinstead	06-Oct		2021	Water coming down Fairlawn Crescent road and from Garden Wood Road's garden across garden and through into garage
Tower Close	East Grinstead	07-Jul	08-Jul	2012	Call to report flooding (no detail)
Tower Close	East Grinstead	03-Jun		2012	flooding is an ongoing problem causing water to flood into Mr Harrison's property and neighbours around him
Tower Close	East Grinstead	08-Jan		2012	Reports indicate water ingress to ground floor
Vicarage Walk	East Grinstead	09-Nov		2021	Surface water flooding
Yew Lane	East Grinstead	March		2011	
Buckhurst Way	East Grinstead	27-Apr	Unknown	2023	Anonymous FixMyStreet report
Gatehouse Lane	Goddards Green	20-Jan		2022	Foul smelling water in western ditch overtopping onto the road

Road name	Location	Incident start date	Incident end date	Year	Comments
Downs View Road	Hassocks	14-Feb		2014	water dams up behind the road until such time as it can weir over the top of the road and this is likely to be the cause of the surge. When this happens he gets water running down either side of his property
Downs View Road	Hassocks	14-Feb		2014	garden and road flooded
Downs View Road	Hassocks	08-Jan		2015	garden and road flooded
Keymer Road	Hassocks	Jan		2014	The property suffered internal flooding during January of 2014 with an external water depth 50mm. Water entered the property through the kitchen (basement) sky light and through cracks and gaps in the tiles (groundwater) to a reported depth of approximately 50 mm.
Lodge Lane	Hassocks	09-Feb		2009	Road flooding adjacent to watercourse
Lodge Lane	Hassocks	30-Sep		2010	Foul sewer blockage causing internal flooding
Lodge Lane	Hassocks	14-Feb	15-Feb	2014	Domestic flooding report from West Sussex Fire Service
Lodge Lane	Hassocks	08-Jan		2015	garden and road flooded
Lodge Lane	Hassocks	29-Oct	29-Oct	2020	heavy rain creating surface water flow route across site. flooded stables themselves to ~ 45cm (located in lowest spot on site)
Lodge Lane	Hassocks	14-Nov	15-Nov	2020	heavy rain creating surface water flow route across site. flooded stables themselves to ~ 45cm (located in lowest spot on site)
London Road	Hassocks	08-Jan		2015	front gardens flooded. Jan 8th, early to morning hours, a front of wet weather sat over Hassocks and most of Burgess Hill. This created a sudden swell in surface water run-off, and there were further flooding issues at Lodge Lane and Damian Way in Hassocks at this time.
London Road	Hassocks	08-Sep		2022	FixmyStreet report of a blocked highway drain adjacent to Stonepound Crossroads
N/A	Hassocks	02-Nov		2023	Horse feed storage unit flooded
Ocley Lane	Hassocks	18-Nov		2022	Access flooding as road is blocked with water, resident reports highway gullies blocked with debris from roadworks that are ongoing

Road name	Location	Incident start date	Incident end date	Year	Comments
Parklands Road	Hassocks	14-Feb		2014	water level came right up to the back of the houses but did not get high enough to go inside the properties
Ockley Lane	Hassocks	05-Apr	Ongoing	2023	Ongoing flooding noted by MSDC FRDT engineer
Dolphin Road	Haywards Heath	20-Jun	21-Jun	2023	Heavy thunderstorm, roads fully submerged
Albert Drive	Haywards Heath	20-Dec		2019	road flooded over culvert which runs below road
Allen Road	Haywards Heath	19-Dec		2019	blockage in culvert and high water levels causing flooding to rear gardens
Allen Road	Haywards Heath	20-Dec		2019	flooding in garden
Allen Road	Haywards Heath	15-No	15-Nov	2020	Rear garden flooded due to rainfall event exceeding capacity of watercourse
Allen Road	Haywards Heath	14-Nov	15-Nov	2020	bottom 1/3 of garden flooded, due to water backing up in stream following Silver Birches Culvert flooding
Allen Road	Haywards Heath	04-Oct	05-Oct	2021	Rear garden flooded due to rainfall event exceeding capacity of watercourse
Allen Road	Haywards Heath	05-Oct		2021	Highway
America Lane	Haywards Heath	20-Dec		2019	knee high water in garden,
America Lane	Haywards Heath	19-Dec		2019	Road flooded due to capacity exceedance of culverts and blocked highway drains
America Lane	Haywards Heath	19-Oct		2021	Surface Water Flood Maps do not highlight this as a problem, so is likely to be garden run-off falling towards the road but being blocked by the houses
Appledore Gardens	Haywards Heath	20-Dec		2019	
Ashenground Road	Haywards Heath	Jul		2019	During heavy rain, waterfall coming down felride, flooding in Felride and Ashenground road, Southern Water contacted as possible surface water sewers are blocked

Road name	Location	Incident start date	Incident end date	Year	Comments
Ashenground Road	Haywards Heath	03-Aug		2022	South East Water burst pipe
B2272	Haywards Heath	23-Apr	Ongoing	2023	Deep surface water after heavy rain on road/access
Barnmead	Haywards Heath	04-Nov	06-Nov	2022	Reports of flooding on the road
Beech Hill, Th e Grove, Maple Close	Haywards Heath	20-Jun	21-Jun	2023	Road flooding, overspilling onto front gardens
Beech Hurst Close	Haywards Heath	01-Jun		2018	Surface water flow, down from play area to the rear of Beech Hurst Close
Black Hill	Haywards Heath	20-Dec		2019	
Bolding Way	Haywards Heath	03-Dec		2018	Report of wide and shallow surface water flow near The Vale Surgery
Bolney Road	Haywards Heath	26-Dec	26-Dec	2021	Residents believe insufficient drainage from adjacent development is causing surface flooding
Bolnore Road	Haywards Heath	18-Jun		2021	Internal flooding due to SW overland flow. Appears to be caused by damage to a drain on Bolnore Road; evidence of water bubbling up out of manhole / gulley
Bolnore Road	Haywards Heath	06-Nov	17-Nov	2022	Reports of several instances of flooding over this period of wet weather, including internal flooding
Bridge Road	Haywards Heath	04-Aug		2010	Report of flooding following storm 40mm in 45mins
Bridge Road	Haywards Heath	25-Jun	25-Jun	2019	flooded during flash floods of this date
Bridge Road	Haywards Heath	25-Jun	25-Jun	2019	road and footpath flooded during flash floods of this date
Burrell Road	Haywards Heath	Dec		2021	Over the Christmas holidays workshop flooded and almost the whole area was under 300mm of water causing damage to the office and tooling in the workshop
Burrell Road	Haywards Heath	16-Nov		2022	Internal damage following heavy rain

Road name	Location	Incident start date	Incident end date	Year	Comments
Burrelll Road	Haywards Heath	23-Dec	23-Dec	2022	Internal flooding around 10am due to water surcharging from downstream culvert following heavy rain
Cape Road	Haywards Heath	04-Nov		2022	Reports garden has flooded
Crawley Down Road	Haywards Heath	June		2005	
Dane Hill Lane	Haywards Heath	20-Dec		2019	
Drummond Close	Haywards Heath	04-Aug		2010	overspill of surface water appears to run along the private footway. Where are no road gullies in this section of road and consequently the water level rises. When the water reaches a certain depth this then falls over the roadside footpath and into the garage driveway/standing area under 1 Drummond Court
Edward Road	Haywards Heath	01-Nov		2022	Report of waterlogging in rear garden, likely spring fed
Farlington Avenue	Haywards Heath	Aug	Oct	2021	The concern involves surface water discharging directly into the garden from the adjacent higher land of High Trees
Felride	Haywards Heath	Jul		2019	During heavy rain, waterfall coming down felride, flooding in Felride and Ashenground road, Southern Water contacted as possible surface water sewers are blocked
Fox Hill	Haywards Heath	18-Jun		2021	SW flooding on Fox Hill carriageway which over spilled into the property - possibly due to blocked / damage highway system
Friars Oak Road	Haywards Heath	20-Dec		2019	watercourse very high, gardens flooded
Gander Hill, Portsmouth Lane, Sunte Avenue	Haywards Heath	27-Apr	Ongoing	2023	Complaint of flooding of roads and pavement at this junction during any wet weather
Gleave Close	Haywards Heath	06-Oct		2006	
Gleave Close	Haywards Heath	03-Dec		2006	
Gower Road	Haywards Heath	05-Aug		2017	Flooding on the road. Close to property ingress

Road name	Location	Incident start date	Incident end date	Year	Comments
Gravelye Lane	Haywards Heath	20-Dec		2019	EA main river - high level
Great Heathmead	Haywards Heath	23-Aug	24-Aug	2006	Development suffered flooding
Great Heathmead	Haywards Heath	13-Jul		2017	Overflowing culvert flooded parking area and some garages
Great Heathmead	Haywards Heath	13-Jul		2017	Overflowing culvert flooded parking area and some garages
Great Heathmead	Haywards Heath	03-Nov		2022	Flooding at the culvert that lies on the foot path leading to Dolphin Leisure Centre
Green Hill Way	Haywards Heath	20-Dec		2019	
Greenways	Haywards Heath	06-Nov		2022	Report of foul water discharging in road
Greenways	Haywards Heath	16-Nov		2022	Report of foul water discharging in road
Hurstwood Lane	Haywards Heath	Dec		2019	waterlogged back garden, up to rear wall of property
Hurstwood Lane	Haywards Heath	20-Dec		2019	stream has overtopped and water is running across the back gardens. Patios are full of water, water running down driveways and onto Fox Hill Road
Hurstwood Lane	Haywards Heath	20-Dec		2019	Manhole in garden surcharging
Hurstwood Lane	Haywards Heath	Oct		2021	Flooding coming from beneath relief road, through badger tunnel due to adjacent culvert being blocked with vegetation
Hurstwood Lane	Haywards Heath	Oct		2021	Flooding coming from under the relief road, via an outfall into the garden
Hurstwood Lane	Haywards Heath	23-Dec	23-Dec	2022	large amount of water that is being wrongly directed through the badger tunnel is being forced through the ground from the soakaway area under our property and is destroying not only the garden area but also effecting the property itself
Hurstwood Lane	Haywards Heath	30-Dec	30-Dec	2022	large amount of water that is being wrongly directed through the badger tunnel is being forced through the ground from the soakaway area under our property and is destroying not only the garden area but also effecting the property itself

Road name	Location	Incident start date	Incident end date	Year	Comments
Hurstwood Lane	Haywards Heath	07-Nov	17-Nov	2022	Coverwell House reports several instances of internal property flooding and adjacent pond overtopping
Hurstwood Lane	Haywards Heath	06-Nov	09-Nov	2022	Badger tunnel directing water towards building, investigation into adjacent culvert possibly not acting to capacity
Idenhurst	Haywards Heath	20-Dec		2019	
King George Field	Haywards Heath	20-Dec		2019	
Manaton Close	Haywards Heath	20-Jun	21-Jun	2023	Report that road drains are blocked and road is surcharging water into front gardens
Market Place	Haywards Heath	25-Jun		2019	forecourt completely submerged following flash flooding
Meadow Drive	Haywards Heath	20-Dec		2019	EA main river - high level
Mill Green Road	Haywards heath	04-Aug		2010	Report of flooding following storm 40mm in 45mins
Mill Green Road	Haywards Heath	31-May		2018	water ingress to several properties following intense rainfall
Mill Green Road	Haywards Heath	08-Sep	08-Sep	2022	Report of road flooding and runoff affecting local driveways
Muster Green	Haywards Heath	03-Aug		2010	Fire Brigade attended one way system to pump flood water
N/A	Haywards Heath	02-Nov	09-Nov	2023	Report states 2-3 inches deep for a length of 10-15ft
Oathall Road	Haywards Heath	20-Dec		2019	
Paddockhall Road	Haywards Heath	22-Jun		2017	MSDC reported to WSCC that during heavy rain the manhole on the roundabout outside the Sergison Arms surcharges. The gullies along the east side of Paddockhall Road also surcharged
Rosemary Close	Haywards Heath	Nov		2012	Report of garden flooding during heavy rain
Rushwood Close	Haywards Heath			2006	Extensive work undertaken after flooding
Rushwood Close	Haywards Heath	04-Aug		2010	Reports of flooding after rain around 40-48mms in 45mins
Scaynes Hill Road	Haywards Heath	20-Dec		2019	
Silver Birches	Haywards Heath	19-Dec	20-Dec	2019	Widespread flooding

Road name	Location	Incident start date	Incident end date	Year	Comments
Silver Birches	Haywards Heath	14-Nov	15-Nov	2020	Culvert blocked due to heavy leave fall - very high water levels due to very heavy rain
South Road	Haywards Heath	12-Aug		2019	Internal flooding
Sunnywood Drive	Haywards Heath	31-May		2018	Internal flooding approx. 4 inches
Sunte Close	Haywards Heath	05-Oct		2021	Blocked surface water drain, Southern water
Sydney Road	Haywards Heath	04-Jun		2012	Thinks the recent roadworks outside his property has caused flooding due to interference with the drains on the road.
Syresham Gardens	Haywards Heath	18-Sep	18-Sep	2021	There is raw sewage leaking out of the drain and into the car park of the main car park of The Priory building
The Broadway	Haywards Heath			2008	Several incidents of flooding that have occurred within the property. The flooding happens to the rear of the property as all the ground surrounding the property slopes towards it
The Broadway	Haywards Heath	25-Jun	25-Jun	2019	Road flooded and closed by police during flash floods of this date
The Broadway	Haywards Heath	Jan		2023	Report of surface water flooding on adjacent highway
Twineham Lane	Haywards Heath	20-Dec		2019	
Vale Road	Haywards Heath	24-Jun	25-Jun	2019	Internal flooding after heavy rain (30mm in an hour)
Vale Road	Haywards Heath			2019	Reports of garden flooding in periods of heavy rain
Victoria Road	Haywards Heath	Apr		2016	A build up of debris and roots in the surface water sewer, led to a reduction in the capacity of the pipe
Wealden Way	Haywards Heath	21-Dec		2015	Possibly blocked gulleys and run off from Bolnore Village development
Wealden Way	Haywards Heath	02-Jan	03-Jan	2016	Possibly blocked gulleys and run off from Bolnore Village development
Wealden Way	Haywards Heath	19-Dec		2019	Following heavy rain overnight water (approx. 2cm deep) is flowing from nature reserve. No internal flooding
Wealden Way	Haywards Heath	19-Dec		2019	Some surface water runoff in road and on pavement

Road name	Location	Incident start date	Incident end date	Year	Comments
Wealden Way	Haywards Heath	10-Mar	during wet weather	2023	Part of ongoing investigation with local landowners
Wealden Way	Haywards Heath	26-Mar	during wet weather	2023	Part of ongoing investigation with local landowners
West Mallion	Haywards Heath	17-May		2021	Drive way on slope down into garage and garage is flooding
Western Road	Haywards Heath	19-Dec		2019	Possible blockage/diversion in culvert and high water levels causing flooding
Hickstead Lane	Hickstead	20-Dec		2019	Ditch to front of property full of water. Risk of flooding to properties and highway. No internal flooding reported. Ditch within highway land
Birchgrove Road	Horsted Keynes	08-Sep	08-Sep	2022	Report of blocked drains causing large puddles on road
Chalkers Lane	Hurstpierpoint	03-Jan		2016	Severe highway flooding, onto garden and surrounding area
Chalkers Lane	Hurstpierpoint	03-Jan		2016	Severe highway flooding, onto garden and surrounding area
College Lane	Hurstpierpoint	01-Nov		2021	Drain bubbling up and flooding the road no leaves around
Danworth Lane	Hurstpierpoint	20-Dec		2019	
Iden Hurst	Hurstpierpoint	21-Oct		2021	Flooding of gardens and local play area even with small amount of rain. Developer has since amended drainage arrangements as not built to plan
Marchants Road	Hurstpierpoint			2007	Foul water flood in rear garden
Nursery Close	Hurstpierpoint	28-Oct		2020	Reports of flooding due to blocked watercourse to the rear of these properties
Nursery Close	Hurstpierpoint	14-Nov	15-Nov	2020	Bery heavy rain (~1:100) resulted in garden flooding. potentially caused by issues with ditch - at time under investigation / remediation via LLFA powers
Appledore Gardens	Lindfield	04-Oct		2021	

Road name	Location	Incident start date	Incident end date	Year	Comments
Appledore Gardens	Lindfield	16-Nov		2022	Reports of severe road flooding
Appledore Gardens	Lindfield	16-Jan		2023	Road blocked and impassable in areas
Ardingly Road	Lindfield			2007	Report of 6 floods to property between 2007-2011 due to overtopping of river Ouse
Ardingly Road	Lindfield	24-Dec		2013	Ground flood areas flooded but 3 storey so still in the property - main river
Ardingly Road	Lindfield	17-Jan		2014	Ground flood areas flooded but 3 storey so still in the property - main river
Ardingly Road	Lindfield	01-Feb		2014	Ground flood areas flooded but 3 storey so still in the property - main river
Barncroft Drive	Lindfield	24-Dec		2013	Internal flooding was only avoided by resident pumping from the patio out to the front of the property - Surface Water max depth 100mm
Barrington Close	Lindfield	14-Nov	15-Nov	2020	very heavy rain (~1:100) resulted in surface water flow down hill, across open development site and garage. Velocity high and depth ~15cm (video available)
Barrington Close	Lindfield	23-Nov		2022	Reports of several instances of flooding in garden/patio during recent weeks
Barrington Close	Lindfield	06-Nov		2022	Report of flooded garage, reports multiple occurrences from Oct 2020 onwards
Denmans Close	Lindfield	03-Feb		2021	report of flooding to garden, resident believed from Hickman's Lane Play Field and a blocked local watercourse
Denmans Close	Lindfield	04-Nov	06-Nov	2022	Garden flooded, house nearly flooded due to heavy rainfall

Road name	Location	Incident start date	Incident end date	Year	Comments
Gravelye Lane	Lindfield	25-Oct		2021	quite a large pool of water and the majority of the rain is from water running down the drive off Gravelye Lane (has happened before but no dates in record)
Hickmans Close	lindfield	16-Nov		2022	Report of road behind - The Welkin - having blocked drains causing flooding (likely highway drains)
High Beech Lane	Lindfield	06-Nov		2022	Report of surface water running down the road
High Beech Lane	Lindfield	16-Nov		2022	Report of surface water running down the road
High Beech Lane	Lindfield	23-Dec		2022	Runoff from higher ground flooding highway
Lewes Road	Lindfield	09-Jan		2016	Verge to the front is flooded, possibly due to a blocked drain on the common
Lewes Road	Lindfield	20-Dec		2019	Verge to the front adjacent the road flooded, some ingress into front gardens
Luxford Road	Lindfield	20-Jul		2007	Internal flooding, persistent problem due to issue with surface water system
Luxford Road	Lindfield	Jul		2008	Reports of several flooding events
Luxford Road	Lindfield	Nov		2009	Reports of several flooding events
Luxford Road	Lindfield	08-Jul	08-Jul	2012	Severe internal flooding
Luxford Road	Lindfield	Dec		2012	Water was pouring down all the gardens of Luxford Road at the back, sweeping water constantly into the drain at the front of the house to protect us from flooding
Monteswood Lane	Lindfield	20-Dec		2019	Flooding from ordinary watercourse. Flooding 'waist deep' internally. Residents advise they have had to rent a property in Lindfield for 2020 as home is uninhabitable
Monteswood Lane	Lindfield	20-Dec		2019	Flooding from ordinary watercourse.

Road name	Location	Incident start date	Incident end date	Year	Comments
Monteswood Lane	Lindfield	20-Dec		2020	Flooding to waist height, internal damage
Monteswood Lane	Lindfield	20-Dec		2020	Flooding 3rd party report, damage/extent unspecified
N/A	Lindfield	18-Jun	20-Jun	2023	Patio flooded, resident advised opened garage to divert water and prevent internal flooding
Portsmouth Wood Close	Lindfield	25-Aug		2022	Resident reports road drain outside their property has flooded them, they believe due to the works at a site in Town Wood Close (not verified)
Portsmouth Wood Close	Lindfield	07-Sep	09-Sep	2022	Resident reports road drain outside their property has flooded, silty runoff flooding down driveway
Savill Road	Lindfield	18-Jun		2021	SW flowing from high (Croudace development) to low land (rear garden). SW from construction site with heavy silt burden. No internal flooding.
Savill Road	Lindfield	06-Nov		2022	Report of water flowing heavily down driveways of houses on North side of road, approx. 6 inches deep in some areas
Scaynes Hill Road	Lindfield	Nov		2022	Garden flooded
School Lane (private Rd)	Lindfield	18-Apr	Ongoing	2023	complaint of deep water after rainfall at school road crossing point
Sunte Avenue	Lindfield	20-Dec		2019	Internal flooding
West View	Lindfield	20-Dec		2019	Driveway flooded with muddy water, caused by blocked gully at tennis court carpark on Lindfield Common
West View	Lindfield	07-Oct		2021	the front garden and pond has been washed out by surface water runoff from the bridleway and track
West View	Lindfield	07-Nov		2022	Reports drainage system adjacent to tennis court is not working properly and is flooding west view turning circle to car door level
West View Cottages	Lindfield	20-Dec		2019	Flooding to front gardens and to the large grass verge to the front

Road name	Location	Incident start date	Incident end date	Year	Comments
Scaynes hill Road	Lindfield Rural	20-Jun	21-Jun	2023	External and , internal flooding
M23	M23	20-Oct	21-Oct	2021	Torrential rain caused flooding around junctions 10 and 11 (road was closed both directions)
Poynings Road	Poynings	01-Dec	02-Dec	2018	Report flooding to garden over the weekend from a stream running through garden. This flooding appears to have occurred as a result of water being unable to pass through a culvert running under the land area to the north of Pond Be
The Wyshe	Pyecombe	Feb		2018	Front garden and pond has been washed out by surface water runoff from the bridleway and track
The Wyshe	Pyecombe	Apr		2018	Front garden and pond has been washed out by surface water runoff from the bridleway and track
The Wyshe	Pyecombe	20-Feb		2018	Front garden and pond has been washed out by surface water runoff from the bridleway and track
Dunlop Close	Sayers Common	12-Jan	15-Jan	2008	several houses, gardens and roads flooded
Dunlop Close	Sayers Common	15-Jan		2008	Foul water discharging onto surface
Dunlop Close	Sayers Common	25-Jan		2008	Foul water discharging onto surface
Dunlop Close	Sayers Common	26-May		2008	Foul water discharging onto surface
Dunlop Close	Sayers Common	29-Nov		2009	Foul water discharging onto surface
Dunlop Close	Sayers Common	29-Apr		2012	Watercourse overflow
Dunlop Close	Sayers Common	03-Jan		2012	Watercourse overflow
Dunlop Close	Sayers Common	29-Apr		2012	Watercourse overflow
Dunlop Close	Sayers Common	25-Apr		2012	Watercourse overflow
Dunlop Close	Sayers Common	16-Apr		2018	Blocked drain close to the pumping station
Dunlop Close	Sayers Common	14-Nov		2019	Overflowing foul drain due to pumping station failure at the front, watercourse high to the rear
Furzeland Way	Sayers Common	11-Jun		2012	

Road name	Location	Incident start date	Incident end date	Year	Comments
Huton's Field	Sayers Common	03-Jan		2012	
London Road	Sayers Common	13-Jan	15-Jan	2008	
London Road	Sayers Common	13-Feb		2018	Internal and external foul water flood
Mill Lane	Sayers Common	06-Nov		2015	
Reeds Lane	Sayers Common	30-Nov		2008	
Reeds Lane	Sayers Common	29-Nov	30-Nov	2009	
Reeds Lane	Sayers Common	25-Apr		2012	Surface water flooding
Reeds Lane	Sayers Common	21-Oct		2021	Problems with flooding caused by the pre-existing ditch on the western boundary on the Kingsland Laines site
Lewes Road	Scaynes Hill	22-Nov		2022	Report of highway flooding covering west bound carriageway
	Scaynes Hill	07-Dec	07-Dec	2021	Heavy rain has caused flooding on footpath, possibly exacerbated by debris in local screen/cover
Hamsey Road	Sharpthorne	03-Feb		2021	Waterlogged garden, coming from higher ground, likely from buried spring fed pond
Mallions Lane	Staplefield	20-Dec		2019	
Bolney Chapel Road	Twineham	Jan		2015	Reported persistent flooding to surrounding garden/land/sandschool due to blocked ditch
Church Lane	Twineham	20-Oct	21-Oct	2021	roadway and garden of this and adjacent properties flooded following heavy rain, possibly blocked highway gulleys
Partridge Land	Twineham	15-Feb	16-Feb	2020	Flood water nearly at house, various reasons for this surface water runoff issue, see correspondence
Colwood Lane	Warninglid	31-Dec		2015	Report of constant flow of water on road, WSCC Highways advised looking at this system
Colwood Lane	Warninglid	31-Dec		2015	WSCC gullies discharging into the road opposite the property
Slough Green Lane	Warninglid	09-Aug		2017	Surface water running through site

Road name	Location	Incident start date	Incident end date	Year	Comments
N/A	Worth	14-Apr	Ongoing	2023	Topography channelling surface water into garden then into house via patio doors

West Sussex County Council records:

Location	Road Name	Postcode	Date	Duration	Comments
Albourne	Twineham Lane, Twineham		02/11/2023		Closed due to flooding caused by Storm Ciaran.
Albourne	Albourne C of E Primary School	BN6 9D	02/11/2023		Closed after it was struck by lightning, lost power and was flooded. Sussex: Storm Ciaran brings power cuts and travel chaos - BBC News.
Bolney	Homewood Barn, Cowfold Road	RH17 5S	14/01/2023	during wet weather	Rising into kitchen from floor. possibly high groundwater. During Met Office reported periods of exceptionally high groundwater.
Burgess Hill	Potters Lane	RH15 9J	01/04/2023	Ongoing	Garden. surface water. April 2023 (not necessarily 1st) Garden frequently wet/flooded, EA flood map shows SW flow path and localised very high risk low spot at this location.
Burgess Hill	Edwin Street	RH15 9H	11/04/2023	Ongoing	Garden. unknown. large amounts of water coming into the garden within a short time frame after it starts to rain.
Burgess Hill	Edwin Street	RH15 9H	11/04/2023	Ongoing	Garden. unknown. large amounts of water coming into the garden within a short time frame after it starts to rain.
Burgess Hill	Orchard Road	RH15 9P	20/06/2023	1 day	House, driveway, road. surface water.

Location	Road Name	Postcode	Date	Duration	Comments
Burgess Hill	Orchard Road	RH15 9P	26/08/2023	1 day	Driveway, garage. surface water. MSDC drainage have been copied into regular reports of this flooding recurring to WSCC and Southern Water. High (1 in 30) flood risk area.
Burgess Hill	Victoria Road	RH15 9L	18/09/2023		Industrial units. surface water/culverts. known issue, very high flood risk area.
Burgess Hill	Orchard Road	RH15 9P	18/09/2023		Driveway, garage. surface water. MSDC drainage have been copied into regular reports of this flooding recurring to WSCC and Southern Water. High (1 in 30) flood risk area.
Burgess Hill	Dumbrills Close, Burgess Hill	RH15 8R	24/12/2013		Garden flooding, close to internal. surface water. Resident advised how to make sandbags from soil and carrier bags and advised to be prepared in the future. garden flooding which came close to becoming internal.
Burgess Hill	Sparrow Way, Burgess Hill		02/11/2023		Highways (maybe property too but unclear). Road closed due to flooding caused by Storm Ciaran.
Cuckfield	Broad Street		12/06/2023		Road and properties. surface water.
Cuckfield	London Lane	RH17 5L	12/06/2023		Road and properties. surface water.
Cuckfield	Courtmead Road		12/06/2023		Road and properties. surface water.
East Grinstead	Buckhurst Way	RH19 2A	27/02/2023	Unknown	Road and Pavement. Blocked Highway Drain. Anonymous FixMyStreet report.

Location	Road Name	Postcode	Date	Duration	Comments
East Grinstead	Cromwell Place	RH19 4S	18/09/2023	1 day	Front curtilage. surface water. overtopping from dead end road down pathway.
East Grinstead	Fairfield Road, East Grinstead	RH19 4H	24/12/2013		Internal property. surface water. spoke to resident - reoccurence of issue which is ongoing. internal flooding to lower ground floor of properties mainly at number 60 but also slight ingress at 58.
East Grinstead	Fairfield Road, East Grinstead	RH19 4H	17/01/2014		Internal property. surface water. spoke to resident - reoccurence of issue which is ongoing. internal flooding to lower ground floor of properties mainly at number 60 but also slight ingress at 58.
East Grinstead	Fairfield Road	RH19 4H	24/12/2013		Internal property. surface water. spoke to resident - reoccurence of issue which is ongoing. internal flooding to lower ground floor of properties mainly at number 60 but also slight ingress at 58.
East Grinstead	Fairfield Road	RH19 4H	17/01/2014		internal property. surface water. spoke to resident - reoccurence of issue which is ongoing. internal flooding to lower ground floor of properties mainly at number 60 but also slight ingress at 58.
Hassocks	Ockley Lane	BN6 8N	05/04/2023	Ongoing	Road. Unknown. Ongoing flooding noted by MSDC FRDT engineer.
Hassocks	Lodge Lane, Hassocks	BN6 8N	14/02/2014		Internal property. ordinary watercourse and surface water. Fire Service called and pumping minimised damage to internal areas. Internal flooding to ground floor.

Location	Road Name	Postcode	Date	Duration	Comments
Hassocks	Lodge House, Lodge Lane, Hassocks	BN6 8N	14/02/2014		Garage and workshop. ordinary watercourse and surface water. Officers visited area during the event. Garage and workshop flooded but did not get into the house.
Hassocks	Lodge Lane, Hassocks	BN6 8N	14/02/2014		Gardens and under house. ordinary watercourse and surface water. Officers visited area during the event. Water in gardens and underneath the house.
Hassocks	Lodge Lane, Hassocks	BN6 4N	14/02/2014		Gardens and under house. ordinary watercourse and surface water. Officers visited area during the event. Water in gardens and underneath the house.
Hassocks	Jordans, Lodge Lane, Hassocks	BN6 8N	14/02/2014		Gardens and under house. ordinary watercourse and surface water. Officers visited area during the event. Water in gardens and underneath the house.
Hassocks	Parklands Road		14/02/2014		Exact location unclear. ordinary watercourse. Officers visited area during the event. garden flooding which came close to becoming internal.
Hassocks	Downs View Road, Hassocks		14/02/2014		Exact location unclear. ordinary watercourse. Officers visited area during the event. garden flooding which came close to becoming internal.
Hassocks	Keymer Road		14/02/2014		Exact location unknown. ordinary watercourse. Officers visited area during the event. garden flooding which came close to becoming internal.

Location	Road Name	Postcode	Date	Duration	Comments
Haywards Heath	Wealden Way	RH16 4D	10/03/2023	during wet weather	Road and footpath. report of blocked culvert and surface water. Wealden.
Haywards Heath	Wealden Way	RH19 2A	26/03/2023	during wet weather	Road and footpath. report of blocked culvert and surface water. Part of ongoing investigation with local landowners.
Haywards Heath	Muster Court and B2272	RH16 A	23/04/2023	Ongoing	Road. surface water. Deep surface water after heavy rain on road/access.
Haywards Heath	Gander Hill, Portsmouth Lane, Summerhill Lane and Sunte Avenue junction	RH16 1Q	27/04/2023	Ongoing	Road. surface water. Complaint of flooding of roads and pavement at this junction during any wet weather.
Haywards Heath	One way system, Broadway, Haywards Heath		31/05/2018		FRS Callout: Rescue From Water. 1 Pte Car. No Persons Trapped In Flood Water. Efforts Being Made To Push Vehicle Off Of Highway Out Of Flood Water. Vehicle Pushed From Flood Water Off Public Highway. .
Haywards Heath	St Wilfrid's Court, Haywards Heath		31/05/2018		FRS Callout: Flood - Appl Required. Self Contained Sheltered Housing. Special Service - Advice Only.
Haywards Heath	Sergison Road, Haywards Heath		31/05/2018		FRS Callout: Flood - Appl Required. Water In Side Passage & Garage. .
Haywards Heath	Nursery Close, Haywards Heath		31/05/2018		FRS Callout: Bungalow - Single Occupancy. Flood - Appl Required, Special Service - Stand By - No Action.

Location	Road Name	Postcode	Date	Duration	Comments
Haywards Heath	Vale Road, Haywards Heath		31/05/2018		FRS Callout: Flood - Appl Required. Water Under Washing Machine.
Haywards Heath	South Road, Haywards Heath		31/05/2018		FRS Callout: Flood - Appl Required. Water Into Commercial Property.
Haywards Heath	Sunnywood Drive, Haywards Heath		31/05/2018		FRS Callout: Flood - Appl Required. In Garage.
Haywards Heath	Turners Mill Road, Haywards Heath		31/05/2018		FRS Callout: Flood - Appl Required. Water Inside Property - 2 Feet In Garden. 1 Cm In Submersible Pump In Use. .
Haywards Heath	Lockhart Court, Colwell Road		31/05/2018		FRS Callout: Flood - Insp Required. Water Inside Property - Affecting Electrics. 10-15ml Deep Outside Rain.
Haywards Heath	Mill Green Road, Haywards Heath		31/05/2018		FRS Callout: Flood - No Action, Passed To Highways.
Haywards Heath	Browns Garage, Haywards Heath		31/05/2018		FRS Callout: Flood - Appl Required. Inspection Being Carried Out. No Action By Service.
Haywards Heath	Heyworth Ride, Haywards Heath		31/05/2018		FRS Callout: Flood - Appl Required. House - Single Occupancy. In The Garage Entering The House. Grundfos Submersible Pump.
Haywards Heath	Vale Road, Haywards Heath		31/05/2018		FRS Callout: Flood - No Action. Drain Cover Has Lifted In Road - Advised Highways.

Location	Road Name	Postcode	Date	Duration	Comments
Haywards Heath	Swainsthorpe Close, Haywards Heath		31/05/2018		FRS Callout: Flood - No Action. Flooding Outside.
Haywards Heath	Former Laura Ashley, Haywards Heath		31/05/2018		FRS Callout: Flood - Appl Required. Furniture Warehouse. Flooding To Retail Shop. Efforts Being Made To Stem With Salvage Equipment. Oscar Mode Saveable Property. Will Require Wrl To Attend Due To Volume Of Water. Retail Unit Affected By Flood Water. Electrics Isolated. Now Left With On Site Manager.
Haywards Heath	Hurst Place, Kleinwort Close, Haywards Heath		29/05/2018		Burst Water Pipe. FRS Callout: Flood - Appl Required. Property Type: Retirement. Flooding Due To Faulty Pipes Efforts Being Made To Stem Water Flow. Oscar Mode Saveable Property. Water Isolated. Salvage Work Being Carried Out. Flooding To Flats And Communal Hallways. Liaison Taken Place With Anchor Care Ltd. Salvage Work In Progress. Isolation Of Electrics In Progress. Burst Water Pipes Located And Isolated.
Haywards Heath	Hurst Place, Kleinworth Close, Haywards Heath		28/05/2018		FRS callout: Flood - Appl Required . Make Safe. 1 Inch Deep Electrics Turned Off. Affecting Flats. Efforts Being Made To Isolate Water.
Haywards Heath	America Lane		13/02/2020		Highway flooding. Road closed.
Lindfield	Linfield Primary Academy	RH16 2D	18/04/2023	Ongoing	Road. surface water. complaint of deep water after rainfall at school road crossing point.

Location	Road Name	Postcode	Date	Duration	Comments
Lindfield	Barncroft Drive, Lindfield	RH16 2N	24/12/2013		Front of house. surface water. Internal flooding was only avoided by resident pumping from the patio out to the front of the property.
Lindfield	Appledore Gardens		02/11/2023		Highway (and most likely gardens). Surface water. Closed due to flooding caused by Storm Ciaran.
Worth	Acorn Avenue	RH10 4A	14/04/2023	Ongoing	Property. surface water. topography channelling surface water into garden then into house via patio doors.
Worth	The Meadow, Copthorne	RH10 3R	24/12/2013		Internal property and highways. Ordinary watercourse and foul sewer surcharge. Trash screen cleared by residents and district council. Internal property flooding and damage to cars on driveway also sewer surcharge.
Worth	Copthorne Common Road, Copthorne	RH10 3L	24/12/2013		Internal-basement containing kitchen. surface water and groundwater. Advice given by Environmental Health. flooding in the basement area containing kitchen.
Worth	The Meadow, Copthorne	RH10 3R	17/01/2014		Internal property and highways. surface water and groundwater. Trash screen cleared by residents and district council. Internal property flooding and damage to cars on driveway also sewer surcharge.
Worth	Whitegate Close, Copthorne	RH10 3B	24/12/2013		Several gardens and patios, unclear if internal. surface water/sewage. Thames Water called out by residents. patios flooding although it is not clear whether water got into the houses.

Location	Road Name	Postcode	Date	Duration	Comments
Worth	Whitegate Close, Copthorne	RH10 3B	17/01/2014		Several gardens and patios, unclear if internal. surface water/sewage. Thames Water called out by residents. patios flooding although it is not clear whether water got into the houses.
Worth	Pinetrees Close, Copthorne	RH10 3N	24/12/2013		1 internal property and 9 garages. ordinary watercourse. Residents cleared trash screen and alerted District council who also cleared. Internal flooding to 1 property and also 9 garages.
Worth	Pinetrees Close, Copthorne	RH10 3N	17/01/2014		1 internal property and 9 garages. ordinary watercourse. Residents cleared trash screen and alerted District council who also cleared. Internal flooding to 1 property and also 9 garages.
Worth	Copthorne Hotel, Copthorne Common Road, Copthorne	RH10 3P	24/12/2013		Internal ground floor of hotel. surface water. Fire Service called on two occasions and pumped out ground floor. Internal flooding to ground floor .
Worth	Copthorne Hotel, Copthorne Common Road, Copthorne	RH10 3P	17/01/2014		Internal ground floor of hotel. surface water. Fire Service called on two occasions and pumped out ground floor. Internal flooding to ground floor .
Worth	Halcyon, Brookhill Road, Copthorne	RH10 3P	24/12/2013		Garden and garage. surface water. Advice given on the telephone. garden and garage flooded did not get in the house as is higher.
Worth	Halcyon, Brookhill Road, Copthorne	RH10 3P	17/01/2014		Garden and garage. surface water. Advice given on the telephone. garden and garage flooded did not get in the house as is higher.

Appendix B - Consultation Responses Summary

The below consultees were provided with a copy of the Draft Mid Sussex Level 1 Strategic Flood Risk Assessment (Rev 1) following internal consultation with Mid Sussex District Council. The following is a summary of the consultations made and responses received.

Consultee	Response
West Sussex County Council	*"Apologies for the delay. I have added some comments to the SFRA. In terms of sites I haven't been able to assess the suitability in terms of surface water impacts as I do not appear to have the site boundaries so cannot tell if the flow paths affecting the sites are along edges or through the middle etc…. It states these will be covered in the level 2 in addition to the sequential test so look forward to receiving these so we can fully review their acceptability. "* Email accompanied by annotated document provided with comments as follows: • 9.14 - *Standing advice is only for Fluvial and Tidal not surface water* **[Note: the EA were consulted on this matter to confirm and advised that paragraph 9.14 should remain as is]** • 9.38 = *You may wish to refer to the ADEPT guidance for Flood risk emergency plans.* https://www.adeptnet.org.uk/system/files/documents/ADEPT%20%26%20EA%20Flood%20risk%20emergency%20plans%20for%20new%20development%20September%202019....pdf • 9.42 - *PPG requires safe access for the design event and therefore this needs to be clearer for events that exceed the design standard.* • 9.43 - *please refer to ADEPT guidance that states it is rarely acceptable to condition emergency plans.* **[Paragraph was not changed as it was indicating that arrangements may be conditioned not evacuation plans]** • 9.47 - *can we remove 'plain' from this as this is associated with fluvial/tidal and not surface water although this is still required for surface water.* • 9.47 - *300mm is quite large normally 100mm slices required.* • 9.49 - *maybe change this to within flood risk areas* • 9.49 - *add following the application of the sequential and exception test* • 9.49 - *or LLFA if this is surface water compensation* • 9.52 - *you may wish to add and the inclusion of a suitable Flood emergency plan* • 9.54 - *remove 'plain' maybe change to water* • 9.55 - *might need to be more specific with this as diverting around buildings could affect safe access and egress. may want to*

	add in what circumstances you believe it wouldn't be possible as diverting can also lead to further issues in regards to residual risk. • 9.56 - *ensure you add that any compensation can not increase or decrease flow rates in addition to volumes as this could have an adverse impact on flooding to the surrounding area.* • 9.67 - *source control is not a discharge method but a attenuation or conveyance method.* • 9.68 - *there should be no increase in discharge from the proposed site and should be as close as reasonably practicable to predevelopment greenfield rates.* • 9.72 - *would it be worth rephrasing so it states source control measures such as raingardens etc. should be incorporated over the reliance of underground tanks.*
EA	*"Apologies for the slight delay in getting comments back to you, but please find attached our comments which are brief and minor in nature."* Email accompanied by document provided with comments appended.
Sussex Resilience Forum	No comments received following acknowledgement of receipt of report on 2nd May 2024.

Tandridge District Council	*"Thank you for consulting Tandridge District Council with respect to the MSDC draft SFRA.* *The report is comprehensive and covers matters that TDC would expect.* *For information I can advise that on the Tandridge side of the border there are two Neighbourhood Plan Designated Areas: Felbridge NP, which has now passed the Regulation 14 stage; and Dormansland NP Area, which has yet to be the subject of any formal consultation. At this time there do not appear to be any issues emerging that would have a specific and significant impact with respect to flood risk and the water environment. I will, however, advise the Groups of progress with the MSDC Local Plan and the existence of the draft SFRA.* *In the now withdrawn revised Tandridge District Local Plan, the only significant development proposal was potentially expanded commercial use at Snowhill Business Centre. Whilst the Plan now has no formal status, TDC notes the useful information in the MSDC draft SFRA that will help inform any proposals at that site as we re-commence the review of the TDC Local Plan.* *Specific issues that are noted by TDC are, at page 64 of the SFRA, the risk that development either side of the border could have to flooding of Copthorne Brook / Kit's Stream / Burstow Stream; and that development in Mid Sussex could have an impact on the catchment of the Eden Brook. Similarly, we also note the risk of groundwater flooding north of East Grinstead and north of Gatwick Manor.* *TDC will continue to engage with MSDC on these matters, and would seek to engage in more detail discussion should site specific proposals come forward that have a bearing on the matters identified above."*
Wealden District Council	No comments received following automatic reply from documents issued on 1st May 2024.
Lewes District Council	No comments received following automatic reply from documents issued on 1st May 2024.

Brighton and Hove City Council	No comments received following automatic reply from documents issued on 1st May 2024.
Southern Water	*"Sorry for the delay, please see the Southern Water response to the Mis Sussex Strategic Flood Risk Assessment attached."* Email accompanied by document provided with comments appended.
South East Water	No comments received following confirmation of consultation address and documents issued on 1st May 2024.
Sutton and East Surrey Water	No comments received following confirmation of consultation address and documents issued on 1st May 2024.
South East rivers trust	No response received to initial contact and documents issued on 1st May 2024.
Ouse & Adur Rivers Trust	No response received to initial contact and documents issued on 1st May 2024.
Adur & Ouse Partnership	No response received to initial contact and documents issued on 1st May 2024.
Medway Catchment Partnership	No response received to initial contact and documents issued on 1st May 2024.
River Mole catchment Partnership	No response received to initial contact and documents issued on 1st May 2024.

Arun & Western Streams Catchment	No response received to initial contact and documents issued on 1st May 2024.
Weir wood	No comments received following acknowledgement of receipt of report on 20th May 2024.
National Highways	Flood hotspots and flood event drawings were provided but restricted from reproduction in third-party reports and National Highways can be contacted to request this information if required.
Upper Medway IDB	*"Our ref: 24_267_P* *Thank you very much for your email and I'm sorry for the delay in getting back to you. I have gone through all of the attachments and everything looks great. The only thing I would like to add in is to the IDB section on page 57. If possible I would like the following to be added:* • *Any site within the Internal Drainage District (IDD) or within the watershed catchment discharging their surface water to a watercourse requires consent from the Board under Byelaw 3. Any consent granted will likely be conditional, pending the payment of a Surface Water Development Contribution fee, calculated in line with the Board's charging policy (https://medwayidb.co.uk/development/). Please note that the Board recommends that any discharge is in line with the Non-Statutory technical standards for sustainable drainage systems (SuDS), therefore the Board is unlikely to grant consent for discharges in excess of greenfield rate.* • *For further information on when consent is required and how to apply please follow the link here: https://medwayidb.co.uk/development/. To discover if you site is within the Board's IDD or watershed catchment please follow the link here: https://medwayidb.co.uk/watercourses/. "*

Appended:

- EA comments

Environment Agency's comments on the draft 'Level 1 Strategic Flood Risk Assessment', Mid Sussex District Council (Rev 1, ref: 4000_MSDC_SFRA_08, 18/04/2024)	
Section, page no	**EA comments**
4.38 – 4.44, pages 48 to 49	We would recommend that a paragraph is included regarding the hierarchy of drainage options as set out in the PPG. Please see suggested addition below: *"Government guidance contained within the National Planning Practice Guidance (Water supply, wastewater and water quality – considerations for planning applications, paragraph 020) sets out a hierarchy of drainage options that must be considered and discounted in the following order:* *1. Connection to the public sewer.* *2. Package sewage treatment plant (adopted in due course by the sewerage company or owned and operated under a new appointment or variation).* *3. Septic Tank.* *Foul drainage should be connected to the main sewer. Where this is not possible, under the Environmental Permitting (England and Wales) Regulations 2016, any discharge of sewage or trade effluent made to either surface water or groundwater will need to be registered as an exempt discharge activity, or hold a permit issued by the Environment Agency. This applies to any discharge to inland freshwaters, coastal waters or relevant territorial waters."*
5.12, page 52	Please could we request that this paragraph is re-worded as follows: *"Within England, the Environment Agency has a responsibility for protecting and improving the environment, as well as contributing to sustainable development. One of the agency's specific functions is as a Flood Risk Management Authority. They have a general supervisory duty relating to specific flood risk management matters in respect of flood risk arising from rivers classified as 'Main Rivers' or from the sea. Alongside this, the agency is an environmental regulator issuing a range of permits and consents and provides incident response in relation to flooding."*
8.27, page 88	Please note that the latest timetable shows publication of Nafra2 datasets in early 2025.
9.7, page 94	We would suggest that 'Finished Floor Levels (FFLs) and Land Raising' leads this section on Design Mitigation, rather than 'Flood Defences'. We would expect applicants to use an undefended design event, even if new private defences were built. There is also no mention residual risk from the failure of these private defences. The Shoreham Joint Adur Action Plan is a good example of this where private defences are built but they still mitigate against the undefended level.

9.12, page 95	The paragraph says at the end “For most uses, a 300mm freeboard is considered adequate, while sleeping accommodation necessitates a 600mm buffer.” It is likely that policy guidance may change soon recommending a buffer of 600mm freeboard for most uses.
9.44, page 102	We should be consulted on applications: • On or within **8 metres** of a main river (**16 metres** if tidal); • On or within **8 metres** of a flood defence structure or culvert (**16 metres** if tidal); • On or within **16 metres** of a sea defence; • Involving quarrying or excavation within **16 metres** of any main river, flood defence (including a remote defence) or culvert; and/or • In a floodplain more than **8 metres** from the river bank, culvert or flood defence structure (**16 metres** if it is a tidal main river) and you do not already have planning permission.
9.57, pages 104 - 105	We are very supportive of this paragraph and commend this being included in the assessment.
SFRA mapping	The Flood Zone and Climate Change Flood Zone mapping layers seem fine.

Environment Agency – Solent & South Downs
28 May 2024