

MAIDSTONE & MALLING SURFACE WATER MANAGEMENT PLAN

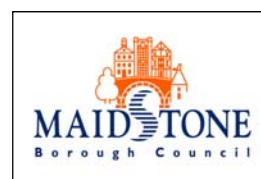


Final Report

KENT COUNTY COUNCIL



In Partnership With:



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Quality Management

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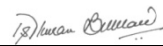

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AUTHOR

Name	Organisation and Role
Bruno Venturini	Halcrow Project Manager
Olly Evans	Halcrow Deputy Project Manager

APPROVALS

Name	Title	Signature	Date
Imran Bukhari	Project Director, Halcrow		14/11/12
Elliot Gill	Technical Director, Halcrow		14/11/12
Max Tant	Flood Risk Manager, KCC		

RELATED DOCUMENTS

Doc Ref	Document Title	Author	Date of Issue	Version
PFRA	Preliminary Flood Risk Assessment	Kent County Council	June 2011	Final
SFRA	Strategic Flood Risk Assessment – updated hydrology and flood mapping	Tonbridge & Malling Borough Council	February 2011	Final
SFRA	Strategic Flood Risk Assessment	Maidstone borough Council	May 2008	Final
WCS	Water Cycle Study for Maidstone	Halcrow	March 2010	Final
SWMP Guidance	Surface Water Management Plan Technical Guidance	DEFRA	March 2010	Final

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Contents

Quality Management	i
1.0 Introduction	4
1.1 Study Area	4
1.2 What is a Surface Water Management Plan?	5
1.3 Scope of the Study	5
1.4 Delivery of Local Risk Management	7
1.5 SWMP Leadership and Partnership	8
1.6 SWMP Objective	9
2.0 Phase 1 – Preparation	10
2.1 Introduction to this chapter	10
2.2 Data Collection and Review	10
2.3 Selecting the Level of Assessment of the Main Phases of the Study	11
3.0 Phase 2 – Risk Assessment	12
3.1 Strategic Risk Assessment	12
3.2 Intermediate Risk Assessment	12
3.3 Selection and prioritisation of Hotspots	12
4.0 Phase 3 & 4 – Options & Action Plan	16
4.1 Introduction	16
4.2 Local Action Plan	16
4.3 Generic Action Plan	18
4.4 Ongoing Monitoring	18
Glossary	
Appendix A – Project Organogram & Communications Plan Overview	
Appendix B – Data Log	
Appendix C – Summary of Strategic Assessment	
Appendix D – Summary of Intermediate Risk Assessment (Hotspots Storyboard)	
Appendix E – Options	
Appendix F – Maps	

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1.0 Introduction

1.1 Study Area

1.1.1

The study covers the area of Maidstone and Malling which straddles the administrative boundaries of Maidstone and Tonbridge and Malling Borough Councils (see **Figure 1.1 - Study Area**). The study area comprises the large urban area of Maidstone town with a population of ~139,000 and rural areas containing a number of smaller villages and the Kent Downs Area of Outstanding Natural Beauty (AONB).

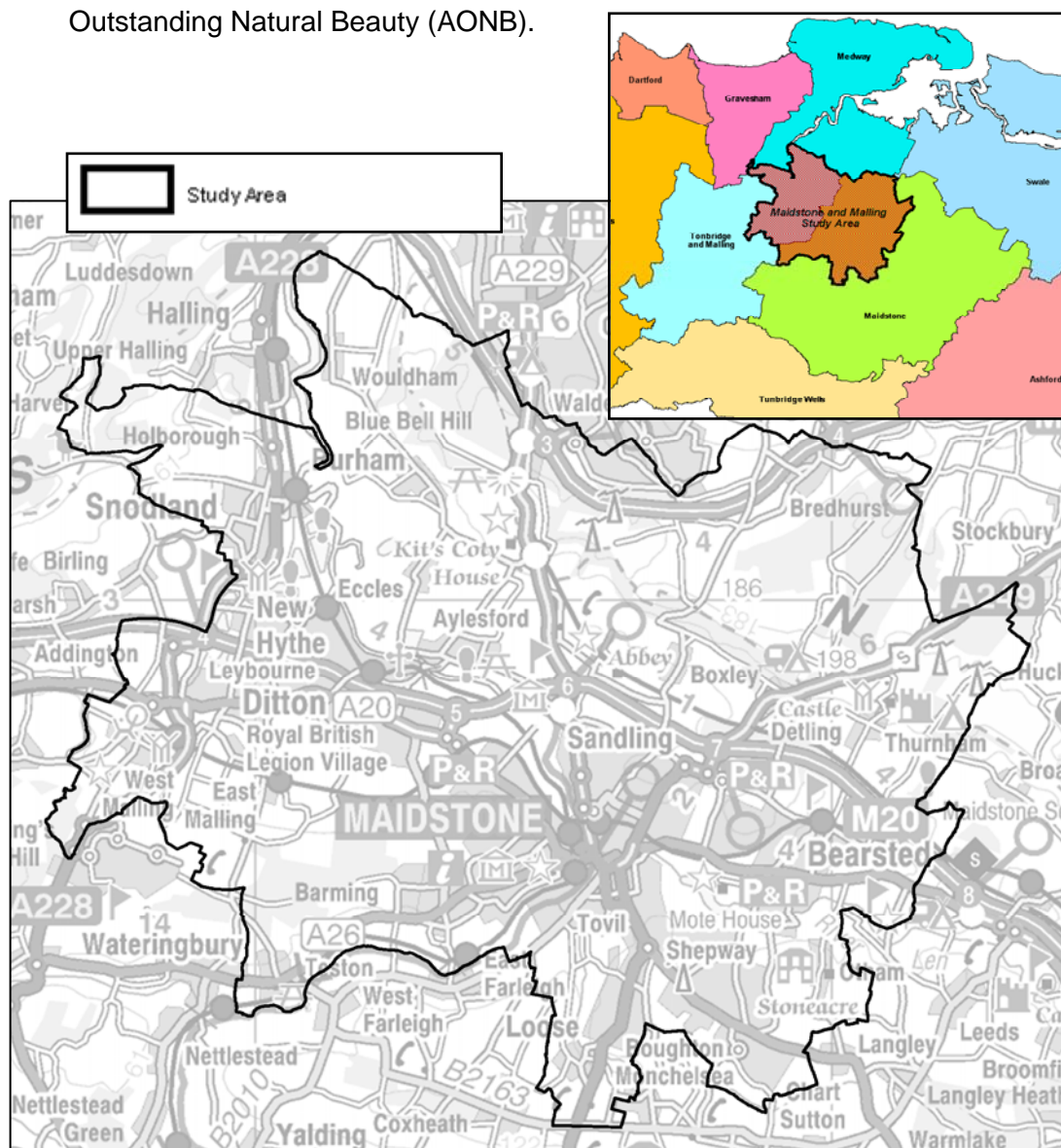


Figure 1.1 – Study Area

1.2 What is a Surface Water Management Plan?

- 1.2.1 A Surface Water Management Plan (SWMP) is a study that aims at effectively managing flood risks that arise from local flooding, which is defined by the Flood and Water Management Act (FWMA) 2010 as flooding from surface runoff, groundwater, and ordinary watercourses.
- 1.2.2 SWMPs are led by KCC in partnership with other flood risk management authorities who have responsibilities for aspects of local flooding, including the County Council, Local Authority, the Sewerage Undertaker and other relevant authorities.
- 1.2.3 The purpose of a SWMP is to identify what the local flood risk issues are, what options there may be to alleviate the risk and who should take these options forward. This is presented in an Action Plan that the partners agree.
- 1.2.4 As a result of the surface water mapping from the Environment Agency and the outputs of the Preliminary Flood Risk Assessment (June 2011), KCC recognised that there are significant risks in Kent and that these needed to be better understood. Based on historic flooding records and the potential for future development, the area of Maidstone and Malling was identified as a priority area where an outline SWMP would be beneficial to the overall understanding of local flood risk in Kent.
- 1.2.5 This SWMP is being undertaken by Kent County Council (KCC) to investigate the local flood risks in the Maidstone & Malling area as part of their new remit for strategic oversight of local flood risk management in Kent, conferred on them by the Flood and Water Management Act 2010.
- 1.2.6 This study only focuses on local flood risks. It does not include flooding from main rivers or coastal flooding. These forms of flooding are managed by the Environment Agency and information about how they are managed can be found in the North Kent Rivers and Medway Catchment Flood Management Plans for main river flooding, or the Medway Estuary and Swale Shoreline Management Plan for coastal flooding.

1.3 Scope of the Study

- 1.3.1 Local flood risk is defined as flood risk originating from sources other than main rivers, the sea and large reservoirs and principally meaning flood risk from:
- a) surface runoff (including snow melt, see overview in **Section C.5**),
 - b) groundwater (see assessment in **Section C.7**),
 - c) ordinary watercourses (see assessment in **Section C.8**),
- 1.3.2 This main definition of local flood risk requires further clarification, because:
- a) it includes ponds and lakes (see assessment **Section C.8**),

- b) it does consider flooding from sewers if wholly or partly caused by rainwater or other precipitation entering or otherwise affecting the system (see overview **Section C.6**),
- c) it considers the interaction with high groundwater levels, high fluvial levels and high tidal levels (see **Sections C.7** and **C.10** respectively).

1.3.3

A schematic of local flood risk is shown in **Figure 1.2**.

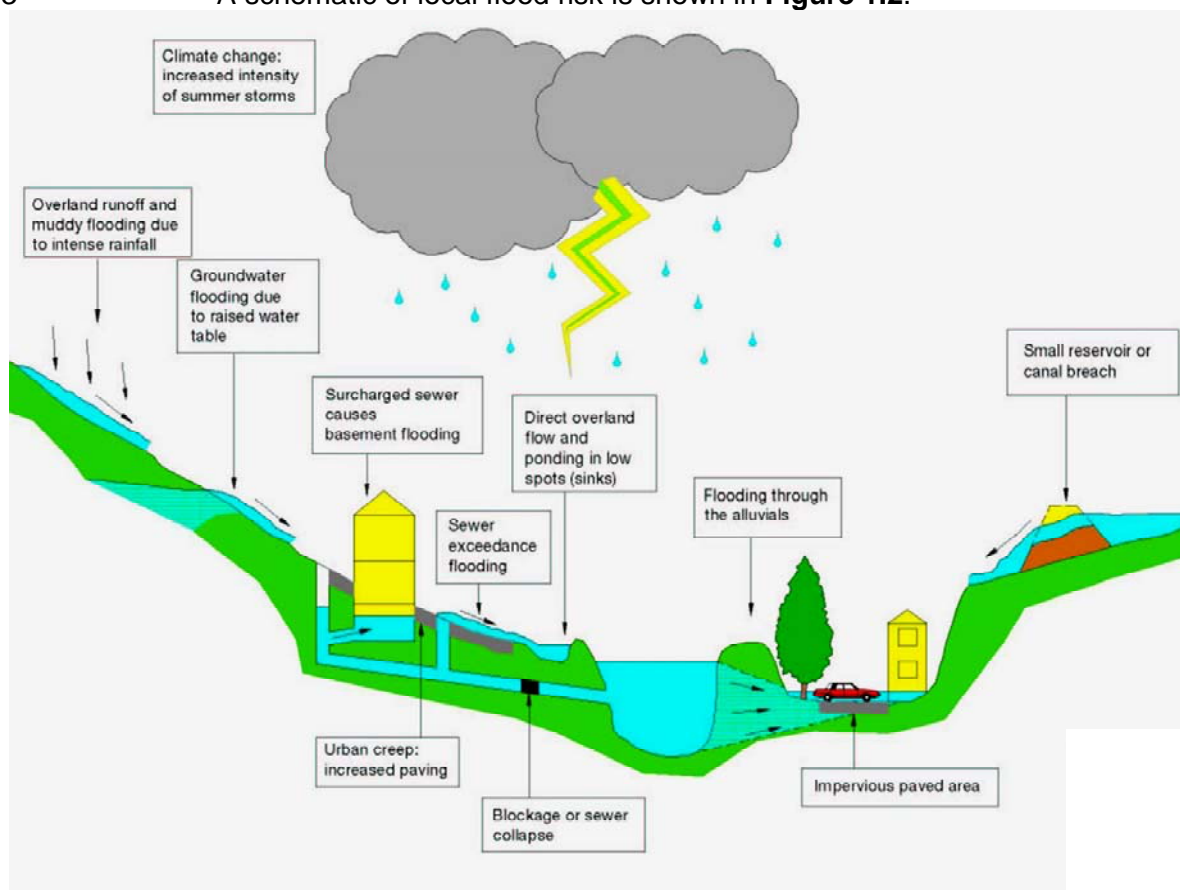


Figure 1.2 – Schematic of Local Flood Risk

1.3.4

Local flood risk does not include flooding from water supply systems (for example burst water mains), foul only sewers or large reservoirs.

1.3.5

This report builds on previous relevant studies undertaken in the study area and has been delivered using a tiered, four phase approach (see **Figure 1.2**); Phase 1 – Preparation; Phase 2 – Risk Assessment; Phase 3 – Options; and Phase 4 – Implementation and Review.

1.4 Delivery of Local Risk Management

1.4.1 The diagram in **Figure 1.3** illustrates how this SWMP fits into the delivery of local flood risk management, and where the responsibilities for this lie.

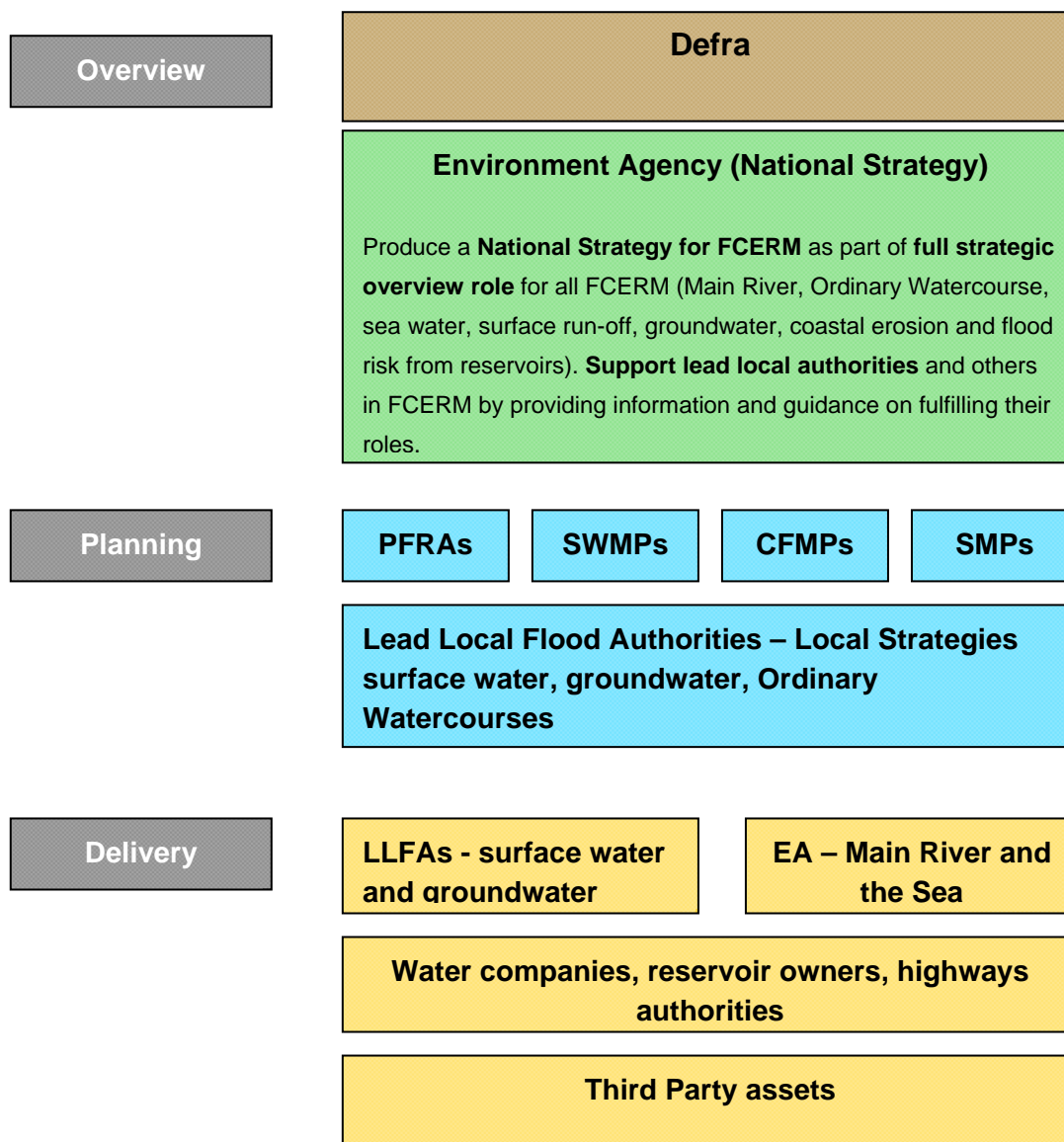


Figure 1.3 – Delivery of local flood and coastal erosion risk management (FCERM)

1.5 SWMP Leadership and Partnership

1.5.1 **Figure 1.4** provides a schematic of the SWMP partnership and stakeholder arrangements.

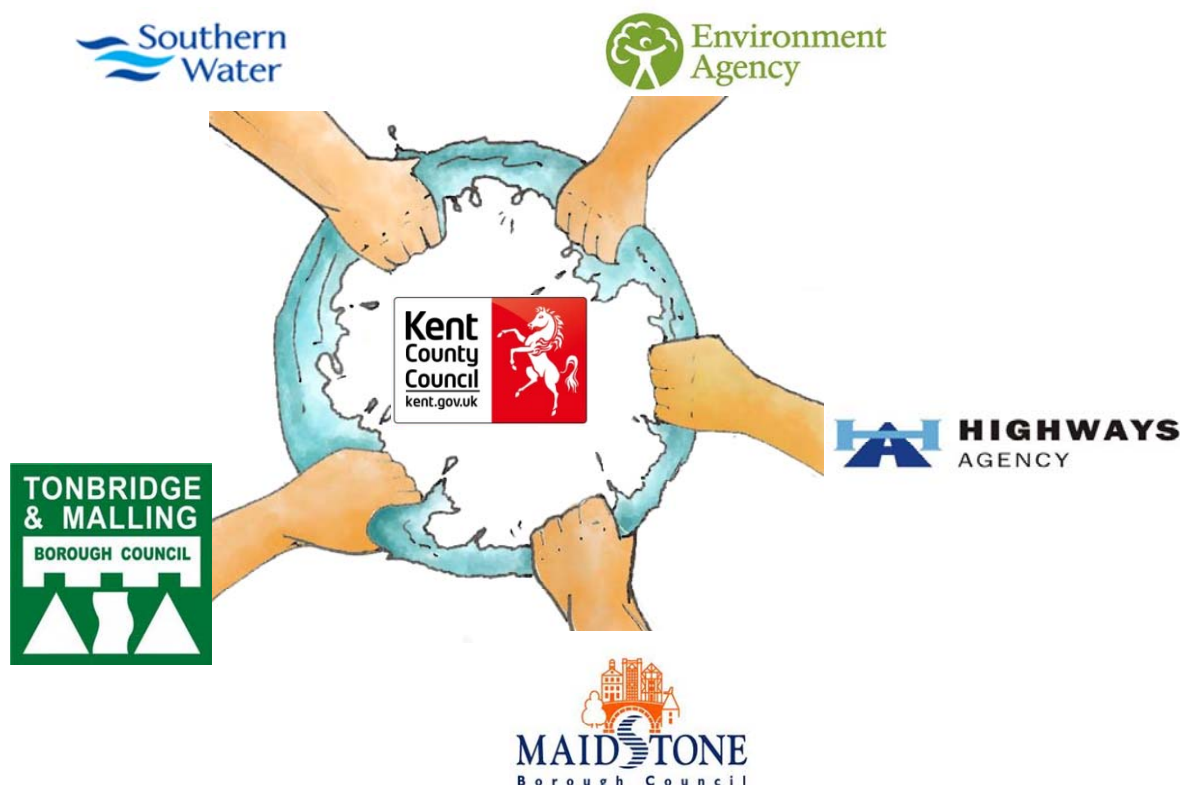


Figure 1.4 - Partnership and Main Stakeholder Schematic Diagram

1.5.2 As Lead Local Flood Authority, it is the role of Kent County Council to continue developing effective partnerships with Southern Water and the Environment Agency as well as engaging key stakeholders, such as Maidstone Borough Council, Tonbridge and Malling Borough Council, the Highways Agency and Southern Water.

1.5.3 Ideally, with the completion of the SWMP, working arrangements with the partners (and if possible with key stakeholders) should be formalised by the LLFA to ensure clear lines of communication, mutual co-operation and management through the provision of Level of Service Agreements or Memorandums of Understanding.

1.5.4 Southern Water owns and maintains all public adopted sewers which drain the study area and reports to OFWAT. The exceptions are highways drainage (Kent County Council's responsibility) and local connections.

- 1.5.5 The Environment Agency is the public body responsible for delivering the environmental priorities of central government and has an overview role of all flood and coastal erosion risk management.
- 1.5.6 The above partnership group is different to the Flood Management Group which is a higher level group that was set up in response to the Pitt Report and the FWMA 2010. It is anticipated that this group will assist in making strategic decisions in relation to the recommendations of this SWMP and its action plan.
- 1.5.7 A project organogram and communication plan for the SWMP can be found in **Appendix A**.

1.6 SWMP Objective

- 1.6.1 The objective of this study is to provide a clear strategic risk assessment of surface water flood risk and to prioritise flooding hotspots across the study area, which includes:-
- (a) Establish and consolidate partnerships between key drainage stakeholders to facilitate data sharing and exchange and closer coordination to maximise partnership working opportunities;
 - (b) A robust understanding of flood risk from all sources providing Kent County Council with a clear understanding of sources of flood risk, local flood mechanisms, potential receptors;
 - (c) Confidence that areas identified as being at risk of flooding have been correctly identified and prioritised for further work; and
 - (d) Holistic and multifunctional recommendations for flood risk management to enable better flood risk and drainage infrastructure investments.

2.0 Phase 1 – Preparation

2.1 Introduction to this chapter

2.1.1 This chapter follows the process of the SWMP guidance Preparation Phase.

2.1.2 The need for a SWMP study is explained in **Section 1.2**. The partnership, stakeholders, roles and responsibilities are identified in **Section 1.5**.

2.1.3 The following sections represent the scoping element of this Preparation Phase. **Section 2.2** covers the data collection and review of information and **Section 2.3** identifies the level of assessment of the subsequent phases of the study.

2.2 Data Collection and Review

2.2.1 A list of data was issued and developed with the key partners and stakeholders, which covered information potentially of use for the SWMP. As data was received, it was logged into an Incoming Data Register, with date of receipt, contact name and licence information details. A quality scoring of the data was determined in line with the SWMP Technical Guidance (Defra, March 2010) as follows:

1. No known deficiencies – not possible to improve in the near future.
2. Known deficiencies – best replaced as soon as new data are available.
3. Assumed – based on experience and judgement.
4. Grossly assumed – an educated guess.

2.2.2 Data was collected from each of the following organisations:

- Kent County Council
- Maidstone Borough Council
- Tonbridge and West Malling Borough Council
- Environment Agency
- Highways Agency
- Medway Internal Drainage Board
- Southern Water

2.2.3 The key datasets used for the main stages of the SWMP are:

- a) OS maps,
- b) the Southern Water public sewer network,
- c) the flood zones and the historic flood map from the Environment Agency,
- d) flood incident records,

- e) the Environment Agency national Flood Map for Surface Water (FMfSW),
- f) a digital terrain model from LiDAR data to identify catchment boundaries and terrain gradients,
- g) Southern Water records of flooding at postcode level, and
- h) the National Receptor Database

2.2.4 **Appendix B – Data Log** provides a full list of all datasets provided.

2.3 **Selecting the Level of Assessment of the Main Phases of the Study**

2.3.1 SWMPs can function at different geographical scales and, therefore, at differing levels of detail.

2.3.2 A ‘Strategic Assessment’ is at a Council wide scale providing a broad understanding of locations that are vulnerable to surface water flooding with prioritised flooding hotspots and maps to inform spatial and emergency planning (see **Appendix C**).

2.3.3 An ‘Intermediate Assessment’ is either at Council wide scale or focused on large urban areas highlighting areas which require detailed assessment and identifying possible mitigation measures which can be implemented. In the light of extensive and severe historical flooding and the results from the overarching national pluvial modelling suggesting that there are approximately 75,800 residential and commercial premises in Kent at risk of significant flooding for the 1 in 200 year rainfall event, it was considered appropriate to adopt this level of assessment to quantify the risks within the Maidstone and Malling area (see **Appendix D**).

2.3.4 A ‘Detailed Assessment’ is at a local scale of known flooding hotspots determining the causes and consequences of flooding to test mitigation measures. This study identifies areas where detailed assessments could be undertaken to better understand the flood risks.

3.0 Phase 2 – Risk Assessment

3.1 Strategic Risk Assessment

3.1.1 A strategic assessment was undertaken for the study area. This is summarised in **Appendix C** and includes a review of the following:

- the ground topography and geology (see **Sections C.1** and **C.2** respectively),
- areas of open space and urbanisation and proposed development (See **Section C.3**)
- outline assessment of different sources of surface water flood risk within Maidstone and Malling (see **Sections C.4** to **C.12**).
- historical flooding incidents (see **Section C.13**).

3.1.2 The prevalent flooding mechanism identified in the Maidstone and Malling area is overloaded local watercourses due to excessive silting (Hotspot 17) or restricted culverts resulting in overtopping and localised flooding of low-lying areas.

3.1.3 Due to the relatively steep surrounding catchment the flooding events can be flashy in nature and once out of bank utilise the highway as informal flow paths resulting in further flooding. It is important that an assessment is undertaken on how highway flooding (particularly in Hotspot 5) may impact on emergency planning and emergency access routes.

3.1.4 Through climate change higher intensity rainfall events are expected to occur which will increase the risk of this type of flooding in the Maidstone and Malling area. This associated risk needs to be clearly understood to ensure any proposed options (discussed in **Section 4**) are future proofed.

3.2 Intermediate Risk Assessment

3.2.1 An intermediate assessment has been carried out for the purpose of identifying hotspot locations based on: a) the knowledge gained as part of the strategic risk assessment, b) local knowledge from the SWMP partners (from one to one meetings and workshops) and c) flooding incident records. The main output of the intermediate risk assessment is the Hotspots Storyboard (see further details in the section below).

3.3 Selection and prioritisation of Hotspots

3.3.1 The selection and prioritisation of Hotspots were based on interpreting readily available information and as a result of many face to face meetings with stakeholders, aimed at gaining a better understanding of their local knowledge. This included:-

1. **Historic Flooding Incidents (Map 1, Appendix F)** – records collected by partners on predominately surface water flooding.
2. **Environment Agency Surface Water Mapping (Map 2, Appendix F)** –second generation predicted surface water flood risk modelled by the Environment Agency. This Flood Map for Surface Water (FMfSW) dataset indicates deep or shallow flooding for the 1 in 30 and 1 in 200 year rainfall events. This dataset is more accurate than the first generation Areas Susceptible to Surface Water Flooding (AStSWF) dataset since it has taken into consideration the influence of buildings and the sewer system.
3. **Environment Agency AStGWF map (Areas Susceptible to Ground Water Flooding) (Map 3, Appendix F)** – indicates the likelihood of groundwater emergence at a 1km square grid, this dataset was predominately used for the PFRA study.
4. **Face to face meetings and partnership workshop** – detailed information on the frequency, extent and impact of known flooding within the Maidstone & Malling area.

3.3.2 At the partnership workshop, the above information was presented in a storyboard format (see **Appendix D**) and tabled with the partners for discussion. Through the workshop additional information was collated and all relevant organisations agreed to the proposed hotspots.

3.3.3 The Hotspot Storyboard represents the results of the intermediate risk assessment which is summarised in **Figure 3.1** with a source-pathway-receptor model in Table 3.1.

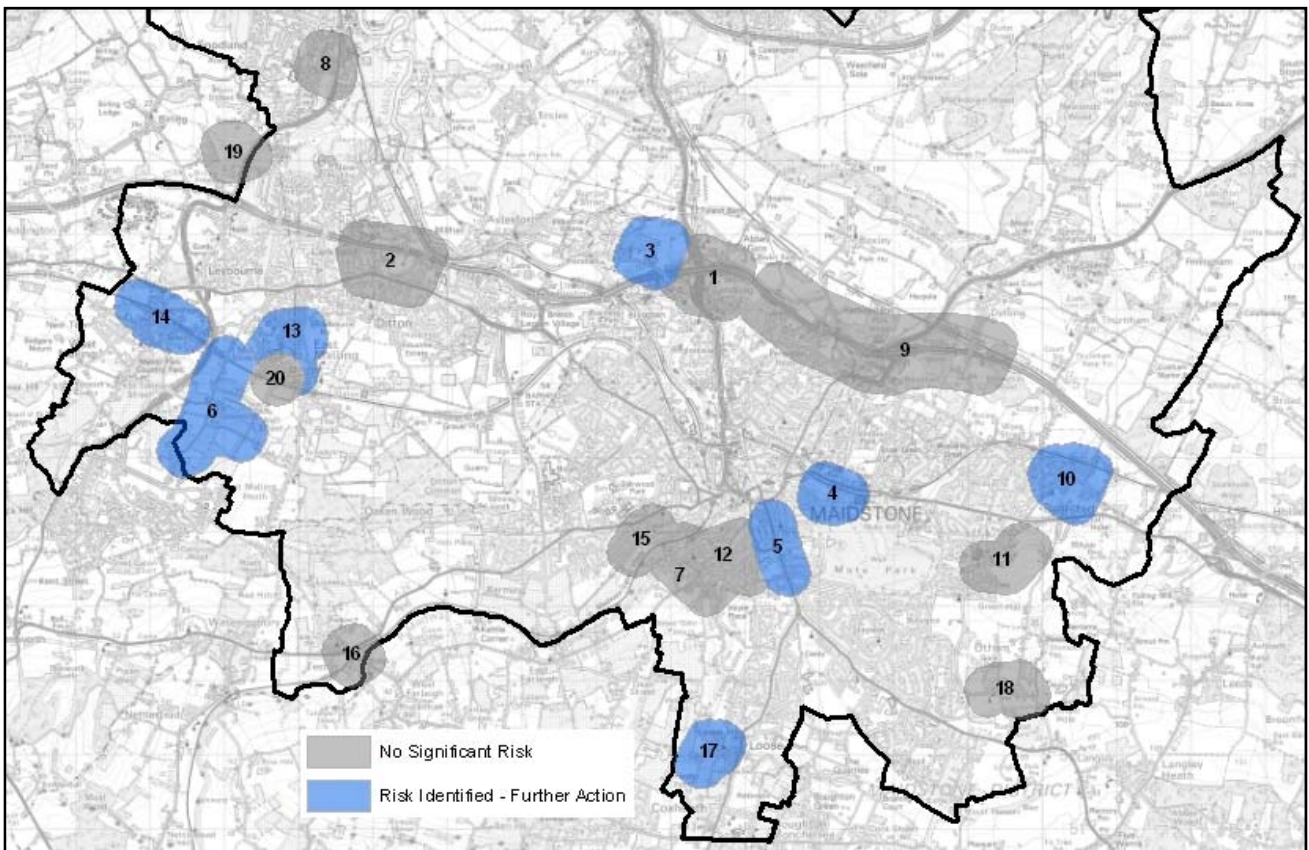


Figure 3.1 – Hotspots in Maidstone & Malling

Table 3.1 – Source-pathway-receptor model

Hotspot	Source	Pathway	Receptor	Details
03	Drainage Ditches	Overtopping ditch	Residential properties	The area is low-lying and ditches are poorly maintained, ditch improvements works have been undertaken which has resolved the flood risk.
04	Watercourse & Spring	Overtopping and overland flow	Residential properties	Possible natural spring in area which emerges approximately 60-70 yards from the mill.
05	Surface runoff	Highway & overland flow	Highway	Relatively steep contributing area along highway resulting in rapid flashy flooding of highway at a low point.
06	Surface runoff	Highway	Highway	Highway flooding occurs possibly cause by runoff from surrounding land into poorly maintained highway drainage ditches.
10	Watercourse	Overtopping	Residential properties & highway	Some changes in watercourse levels by landowners constructing features within the watercourse.
13	Watercourse & Sewerage system	Overtopping of watercourse & overland flow	Residential properties & highway	Bypass channel of local watercourse becomes overloaded resulting in overtopping and flooding of properties. Also known infiltration issue into drainage system.
14	Watercourse	Overtopping of watercourse & Highway	Residential properties, railway line & highway	Confluence of local surface water runoff with a culverted watercourse running under the railway line embankment which acts as a restriction during high intensity events.
17	Watercourse	Overtopping of watercourse & Highway	Residential properties & highway	Heavily silted Loose Stream unable to convey flows during high intensity events resulting in overtopping and flooding of residential properties.

4.0 Phase 3 & 4 – Options & Action Plan

4.1 Introduction

4.1.1 The purpose of Phase 3 is to identify a range of measures for alleviating the flood risk that has been identified. This assessment was undertaken in collaboration with the partners in a workshop environment and based on the Source, Pathway, Receptor Model.

4.1.2 Phase 4 in **Section 4.2** and **4.3** is the delivery of the resulting Action Plans providing local and generic measures to manage surface water flood risk.

4.1.3 The objectives of the action plans are to:

- identify the partners or stakeholders responsible for implementation of the actions;
- provide an indication of the priority of the actions and timescales for delivery.

4.1.4 The delivery of certain actions will require cooperation of people and organisations outside of the SWMP partnership, for instance land owners. Where third parties need to be involved it is the responsibility of the lead partner for each action to engage with them.

4.1.5 The priority given for each action in the actions plans indicates the priority for undertaking the next step to resolve the issues identified. It does not always represent the timescale for resolving the issue, as it may not be possible at this time to determine what specifically has to be done and how long it may take.

4.2 Local Action Plan

4.2.1 The range of potential measures for managing the identified flood risks at the hotspots is presented in Table 4.1 Given the low frequency of many of the flooding incidents reported in the study area, many of the actions are to monitor flooding events to ensure they are not isolated events. Actions to manage flood include structural (for example replacing a sewer) and non structural (for example new planning policies) measures.

4.2.2 The chosen measures are the most appropriate options drawn from the range of available options given in **Appendix E**, agreed by the partnership.

Table 4.1 – Local Action Plan

Area of benefit	Location of action	Action	Next Steps	Action Owner	Supporter(s)	Priority ¹	Indicative Cost (£) ²
Hotspot 3 - Aylesford	Cobtree Manor, Forstal Road	Monitor flooding and Improve awareness of ditch maintenance responsibilities	Monitor flooding	KCC/IDB	KCC/IDB	Ongoing	Up to 50k
Hotspot 4 - Maidstone	Turkey Mill	Monitor flooding from spring and advise of potential solutions	Monitor flooding	KCC	KCC & MBC	Ongoing	Up to 50k
Hotspot 5 - Maidstone	Upper A229 and adjacent playing field	Upstream attenuation of surface water runoff in open playing fields and prioritised gully maintenance.	Undertake gully maintenance and monitor future flooding	KCC	KCC & MBC	Medium Term	50-150k
Hotspot 6 - West Malling	Pikey Lane	Monitor flooding and Improve awareness of ditch maintenance responsibilities	Monitor flooding	KCC/IDB	KCC/IDB	Ongoing	Up to 50k
Hotspot 10 - Bearsted	Mallings Drive & The Street	Raise awareness to residents and possible removal of structures within watercourse. Attenuate flows upstream by throttling the railway culverts.	Monitor flooding and advise local residents of impact of structures	KCC/IDB	KCC & MBC	Medium Term	50-150k
Hotspot 13 - East Malling	Blacklands and Clare Park lake	Monitor flooding and investigate potential mitigation options if problem persists.	Monitor flooding	KCC	KCC & SW	Ongoing	Up to 50k
Hotspot 14 - West Malling	Ryarsh Lane	Monitor flooding and Southern Water sewer improvement scheme. Investigate potential mitigation options if problem persists.	Monitor flooding and sewer improvement scheme	SW	KCC	Ongoing	Up to 50k
Hotspot 17 - Loose	Mill Street	Maintenance of watercourse.	Monitor flooding and advise of maintenance responsibilities	KCC/IDB	KCC/IDB	Ongoing	Up to 50k

¹ **Priority:** Quick win = *within 12 months*. Short Term = *up to 2 years*. Medium Term = *up to 5 years*. Ongoing = regular monitoring.

² **Indicative Cost:** Up to 50k, 50-150k, 150-250k or 250+k

³ **Funding** for initial assessment through EA project mandate or by KCC or the planning authority

4.3 Generic Action Plan

4.3.1 The purpose of Phase 4 of the SWMP is to prepare a generic action plan which identifies actions and responsibilities for the ongoing management of surface water flood risk.

4.3.2 The plan has been prepared with Kent County Council and has been updated following internal and external consultation with the partners.

4.3.3 **Table 4.2** provides a full summary of the action plan.

4.4 Ongoing Monitoring

4.4.1 The partnership arrangements established as part of the SWMP process should continue beyond the completion of the SWMP in order to discuss the implementation of the proposed actions, review opportunities for operational efficiency and to review any legislative changes.

4.4.2 The SWMP Action Plan should be reviewed and updated once every six years as a minimum, but there may be circumstances which might trigger a review and/or an update of the action plan in the interim, for example:

- Occurrence of a surface water flood event;
- Additional data or modelling becoming available, which may alter the understanding of risk within the study area;
- Outcome of investment decisions by partners is different to the preferred option, which may require a revision to the action plan, and;
- Additional (major) development or other changes in the catchment which may affect the surface water flood risk.

4.4.3 It is proposed that the SWMP Action Plan is reviewed internally every 6 months by the KCC Flood Risk group.

Table 4.2 – Generic Action Plan

Action/Option (What?)	Priority Actions (How?)	Lead Action Owner	Supporting Action Owner(s)	Priority (When?) ¹	Indicative Relative Cost
Drainage from new development must not increase flood risk either on-site or elsewhere and seek "greenfield" runoff rates from "brownfield" development.	Incorporate the action suggested as a Guidance in the Local Flood Risk Management Strategy: for the relevant local authorities, for the members of the public and for the proposal developer/ individual.	KCC	TMBC, MBC	Long Term	Low
Further assessment of significant receptors including critical infrastructure	Data gathering exercise of key receptors including emergency services and critical infrastructure	KCC	MBC, TMBC, SW & EA	Short Term	Medium
Review the third generation (Improved Maps for Surface Water) EA-Flood Maps when issued.	Review the new EA-Flood Map from the Surface Water improvements process and the new dataset. Consider the impact on current approaches to managing surface water flood risk.	KCC	-	Short Term	Low
Managing runoff from rural areas onto roads	Targeted management of known flooding areas through education on land management and prioritised maintenance of highway drainage infrastructure.	KCC	MBC & TMBC	Medium Term	Low
Adopt a risk based maintenance regime approach	Create a map of priority maintenance areas, based on the current understanding of surface water flooding, to modify the existing maintenance regime to reduce the flooding risk. Identify priority maintenance areas based on the current understanding of surface water flooding.	KCC	MBC & TMBC	Medium Term	Low
Monitoring the implementation of the SWMP	Quarterly meetings with the SWMP Partners	KCC	MBC, TMBC, SW & EA	Long Term	Low
Review and update the SWMP Action Plan Investigate FDGiA options	Review and update the SWMP Action Plan	KCC	MBC, TMBC, SW & EA	Long Term	High

¹ **Priority:** Quick win = *within 12 months*. Short Term = *up to 2 years*. Medium Term = *up to 5 years*. Ongoing = regular monitoring.

Glossary

Term	Definition
AOD	Above ordnance datum
Aquifer	A source of groundwater comprising water bearing rock, sand or gravel capable of yielding significant quantities of water.
AMP	Asset Management Plan
Asset Management Plan	A plan for managing water and sewerage company (WaSC) infrastructure and other assets in order to deliver an agreed standard of service.
AStSWF	Areas Susceptible to Surface Water Flooding
Catchment Flood Management Plan	A high-level planning strategy 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.
CDA	Critical Drainage Area
Critical Drainage Area	A discrete geographic area (usually a hydrological catchment) where multiple and interlinked sources of flood risk (surface water, groundwater, sewer, Main River and/or tidal) cause flooding in one or more Local Flood Risk Zones during severe weather thereby affecting people, property or local infrastructure.
CFMP	Catchment Flood Management Plan
CIRIA	Construction Industry Research and Information Association
Civil Contingencies Act 2004	This Act delivers a single framework for civil protection in the UK. As part of the Act, Local Resilience Forums must put into place emergency plans for a range of circumstances including flooding.
CLG	Government Department for Communities and Local Government
Climate Change	Long term variations in global temperature and weather patterns caused by natural and human actions.
Culvert	A channel or pipe that carries water below the level of the ground.
Defra	Department for Environment, Food and Rural Affairs
DEM	Digital Elevation Model
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.
DTM	Digital Terrain Model
EA	Environment Agency
Indicative Flood Risk Areas	Areas determined by the Environment Agency as indicatively having a significant flood risk, based on guidance published by Defra and WAG (Wales Assembly Government) and the use of certain national datasets. These indicative areas are intended to provide a starting point for the determination of Flood Risk Areas by Lead Local Flood Authorities (LLFA, see below).
FDGiA	Flood Defence Grant in Aid
FMfSW	Flood Map for Surface Water
Flood defence	Infrastructure used to protect an area against floods, such as floodwalls and embankments; they are designed to a specific standard of protection (design standard).
Flood Risk Area	An area determined as having a significant risk of flooding in accordance with guidance published by Defra and WAG.

Term	Definition
Flood Risk Regulations 2009	Transposition of the EU Floods Directive into UK law. The EU Floods Directive is a piece of European Community (EC) legislation to specifically address flood risk by prescribing a common framework for its measurement and management.
Flood and Water Management Act 2010	Part of the UK Government's response to Sir Michael Pitt's Report on the Summer 2007 floods, the aim of which is to clarify the legislative framework for managing surface water flood risk in England.
Fluvial Flooding	Flooding resulting from water levels exceeding the bank level of a Main River
FRR	Flood Risk Regulations
IUD	Integrated Urban Drainage
LDF	Local Development Framework
LFRZ	Local Flood Risk Zone
Local Flood Risk Zone	Discrete area of flooding that does not exceed the national criteria for an indicative Flood Risk Area (iFRA see above) but affects houses, businesses and/or local infrastructure. It can also include an area where a particular local flood risk issue is identified for further investigation. The boundary is defined as the actual spatial extent of predicted flooding in a single location.
LLFA	Lead Local Flood Authority
Lead Local Flood Authority	Local Authority responsible for taking the lead on local flood risk management
LiDAR	Light Detection and Ranging (topographic data obtained using laser technologies, usually obtained from airplanes and helicopters)
Local Resilience Forum	A multi-agency forum, bringing together all the organisations that have a duty to cooperate under the Civil Contingencies Act, and those involved in responding to emergencies. They prepare emergency plans in a co-ordinated manner.
LPA	Local Planning Authority
LRF	Local Resilience Forum
MBC	Maidstone Borough Council
Main River	A watercourse shown as such on the Main River Map, and for which the Environment Agency has responsibilities and powers
NPPF	National Planning Policy Framework
NRD	National Receptor Dataset – a collection of risk receptors produced by the Environment Agency
Ordinary Watercourse	All watercourses that are not designated Main River, and which are the responsibility of Local Authorities or, where they exist, Internal Drainage Boards (IDBs)
Partner	A person or organisation with responsibility for the decision or actions that need to be taken.
PFRA	Preliminary Flood Risk Assessment
Pitt Review	Comprehensive independent review of the 2007 summer floods by Sir Michael Pitt, which provided recommendations to improve flood risk management in England.
Pluvial Flooding	Flooding from water flowing over the surface of the ground; often occurs when the soil is saturated and natural drainage channels or artificial drainage systems have insufficient capacity to cope with additional flow.
PPS25	Planning Policy Statement 25: Development and Flood Risk, superseded by the National Planning Policy Framework in March 2012.
PA	Policy Area

Term	Definition
Policy Area	One or more Critical Drainage Areas linked together to provide a planning policy tool for the end users. Primarily defined on a hydrological basis, but can also accommodate geological concerns where these significantly influence the implementation of SuDS
Resilience Measures	Measures designed to reduce the impact of water that enters property and businesses; could include measures such as raising electrical appliances.
Resistance Measures	Measures designed to keep flood water out of properties and businesses; could include flood guards for example.
Risk	In flood risk management, risk is defined as a product of the probability or likelihood of a flood occurring, and the consequence of the flood.
Risk Management Authority	As defined by the Floods and Water Management Act
RMA	Risk Management Authority
Sewer flooding	Flooding caused by a blockage or lack of capacity leading to sewer water overflowing from a sewer or urban drainage system.
SFRA	Strategic Flood Risk Assessment
SOP	Standard of Protection
Stakeholder	A person or organisation affected by the problem or solution, or interested in the problem or solution. They can be individuals or organisations, includes the public and communities.
SuDS	Sustainable Drainage Systems
Sustainable Drainage Systems	Methods of management practices and control structures that are designed to drain surface water in a more sustainable manner than some conventional techniques.
Surface water	Rainwater (including snow and other precipitation) which is on the surface of the ground (whether or not it is moving), and has not entered a watercourse, drainage system or public sewer.
SWMP	Surface Water Management Plan
TMBC	Tonbridge & Malling Borough Council