Appendix D – Summary of Intermediate Risk Assessment (Hotspots Storyboard)

Swale Surface Water Management Plan – Hotspots Storyboard

Notes:

- 1. Each Hotspot reviewed has been taken from a combination of individual stakeholder meetings, historic and EA FMfSW datasets.
- 2. Each Hotspot area has been amended marginally to conform to the higher level of detail required for this analysis.
- 3. All historic flooding incidents comprise of a combination of SWMP anecdotal data which has not been fully filtered so should only be used as a guide.
- A brief economic assessment has been undertaken for each hotspot area by determining how many address points fall within a 5m buffered zone of the shallow 1 in 30yr EA FMfSW.

LEGEND for Flooding Data Figures:

- EA Main River
 - EA 1 in 30yr FMfSW (0.1m 0.3m)

EA 1 in 30yr FMfSW (>0.3m)

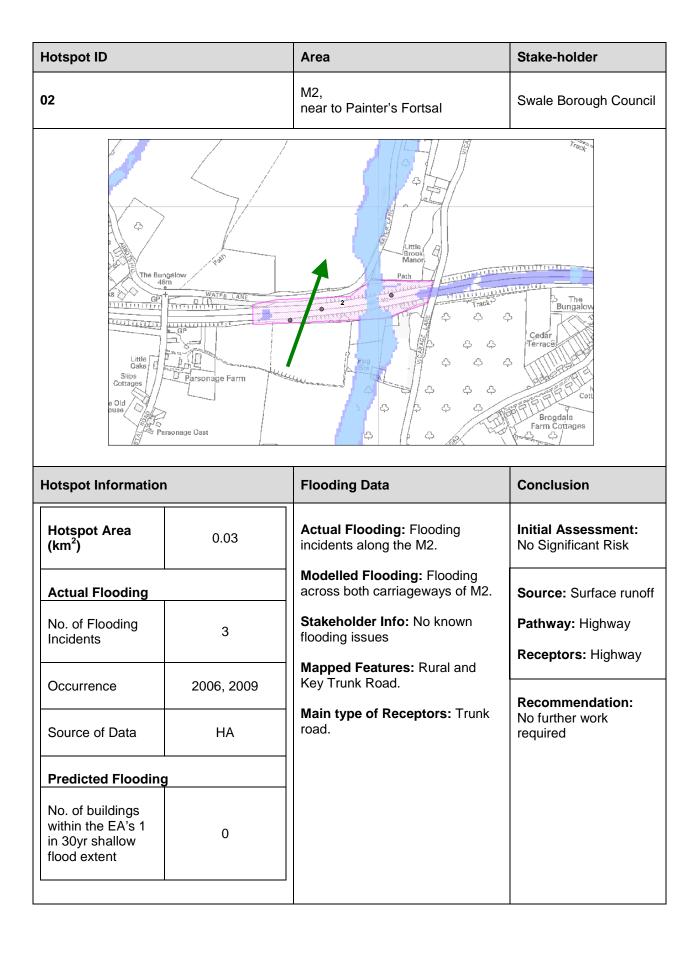
Historic Flooding



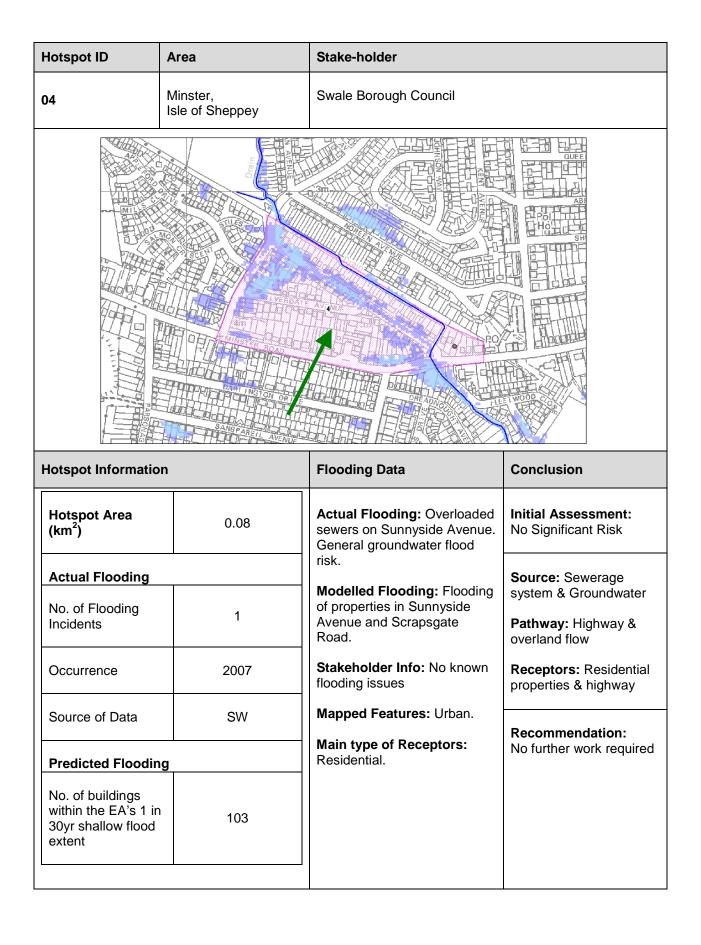
Abbreviations: KCC – Kent County Council SBC – Swale Borough Council SW – Southern Water EA – Environment Agency HA – Highways Agency

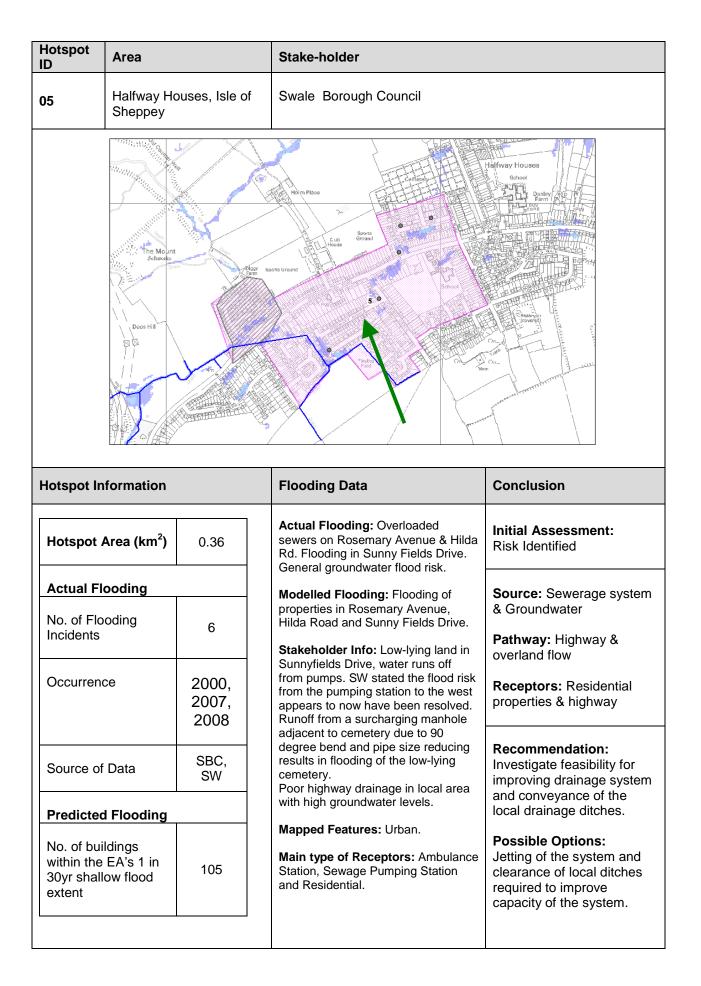
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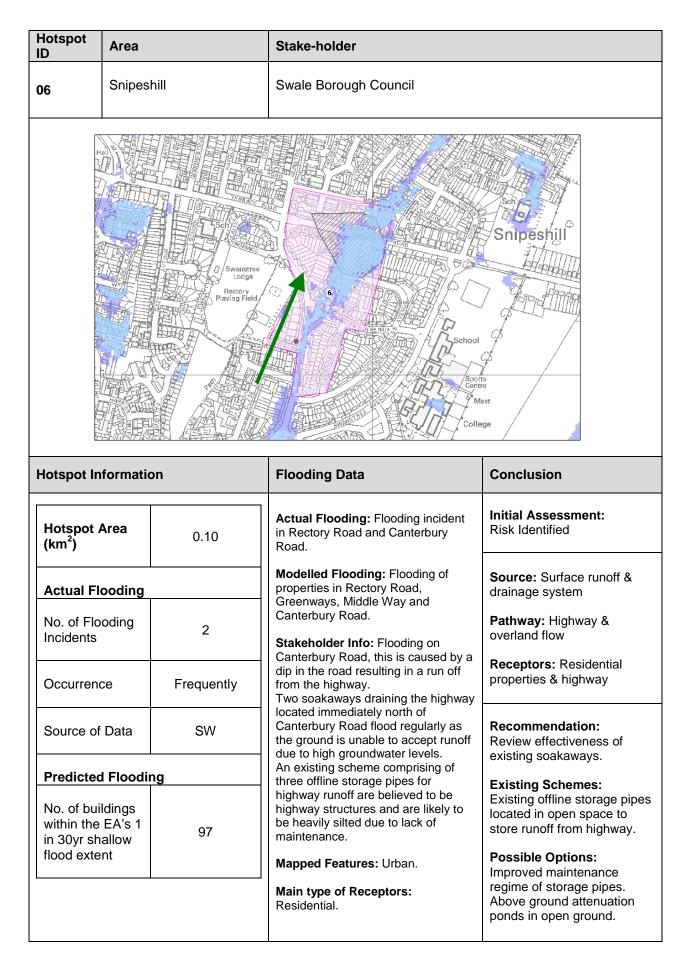
Hotspot ID	Area	Stake-holder	
01	Warden, Isle of Sheppey	Swale Borough Council	
- top	Water Court	Sm Daravan Park Warden om Hill Warden b Mustards Farm Mustards Farm	
Hotspot Infor	mation	Flooding Data	Conclusion
Hotspot Are (km²)	a 0.34	Actual Flooding: Overloaded sewers on Waterside View and Jetty Road. Groundwater flood risk.	
Actual Floor	ding		
No. of Flooding Incidents	4	Modelled Flooding: Flooding of watercourse to the rear of Sea View Gardens and properties in Jetty Road, Sea View Gardens and Leicester Gardens.Source: Sewerage system & GroundwaterPathway: Highway & overland flow	
Occurrence	2004, 2006, 2008	Stakeholder Info: SW stated there has been failure of the local pumping station in the past, however the pumps	Receptors: Residential properties & highway
Source of Data	SW	have since been refurbished. The tidal flapped gate has been known to be have been blocked and unable to Maintenance of the	
Predicted Flooding		operate effectively. Known groundwater flood risk in the area.	outfall required to prevent failure of the flapped gate
No. of buildings within the EA 1 in 30yr shallow flood extent	36	Mapped Features: Urban. Main type of Receptors: Residential and Sewage Pumping Station.	Possible Options: Maintenance of the tidal outfall required to prevent failure of the flapped gate
L			

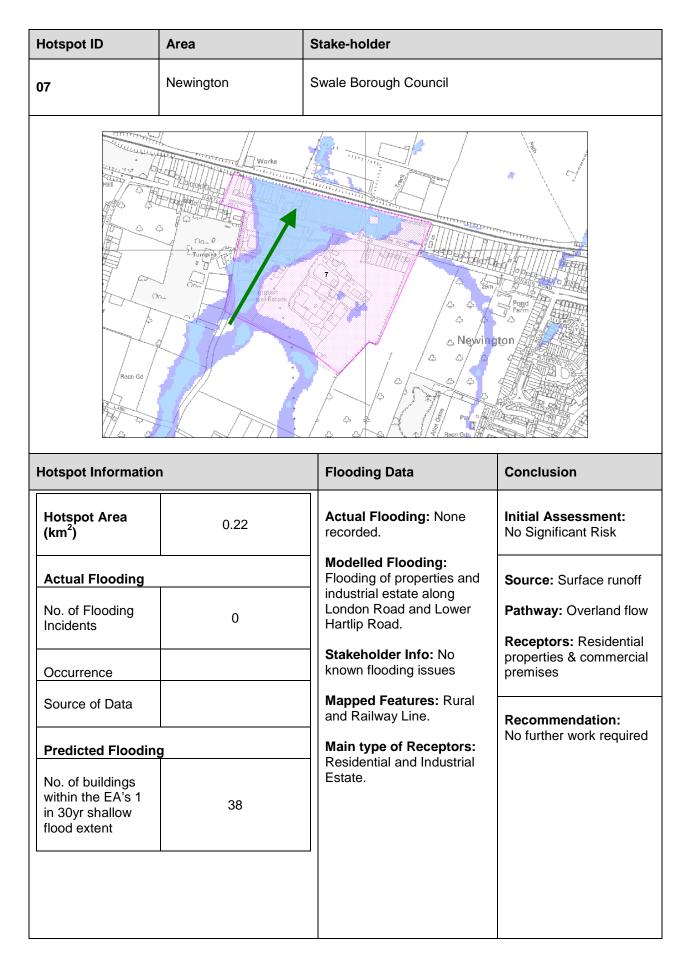


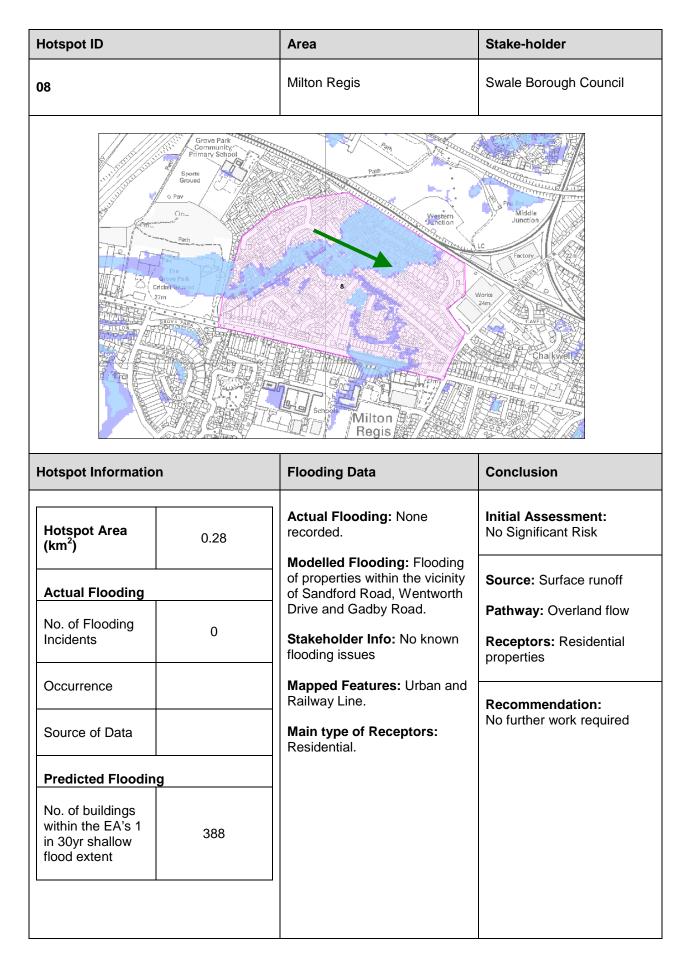
Hotspot ID	Area		Stake-holder
03	M2 Junction 7		Swale Borough Council
Aliniatu Rifle Rar 20 Hill			
Hotspot Information		Flooding Data	Conclusion
Hotspot Area (km²)	0.05	Actual Flooding: Flooding incidents along the M2.	Initial Assessment: No Significant Risk
Actual Flooding		Modelled Flooding: Flooding across both carriageways of M2.	Source: Surface runoff
No. of Flooding Incidents	1	Stakeholder Info: No known flooding issues Mapped Features: Rural and Key	Pathway: Highway Receptors: Highway
Occurrence	2004	Trunk Road. Main type of Receptors: Trunk	Recommendation: No further work required
Source of Data	НА	road.	
Predicted Flooding			
No. of buildings within the EA's 1 in 30yr shallow flood extent	3		



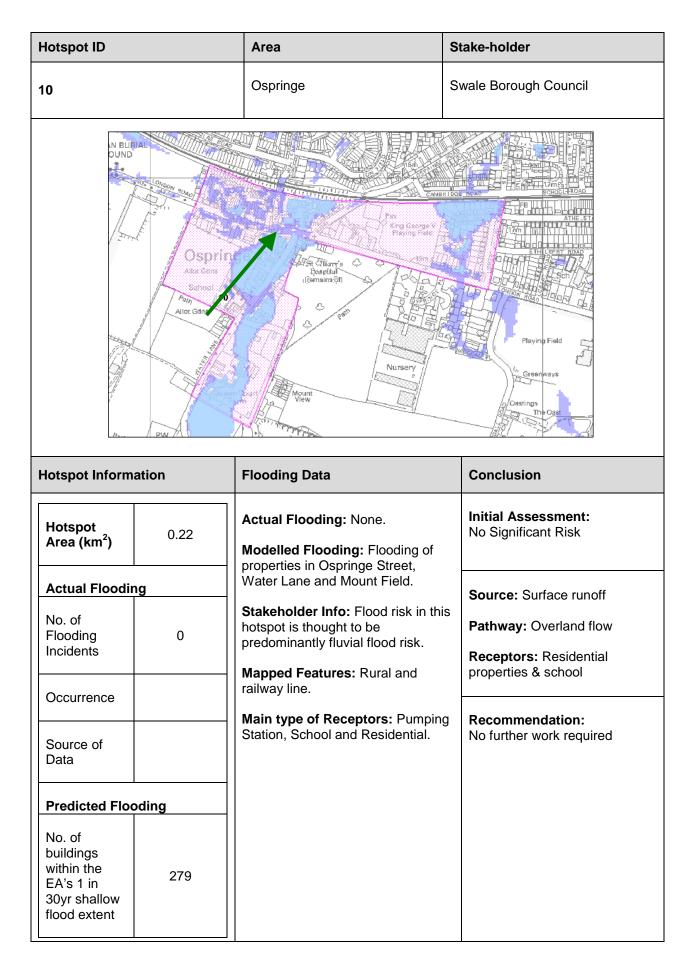




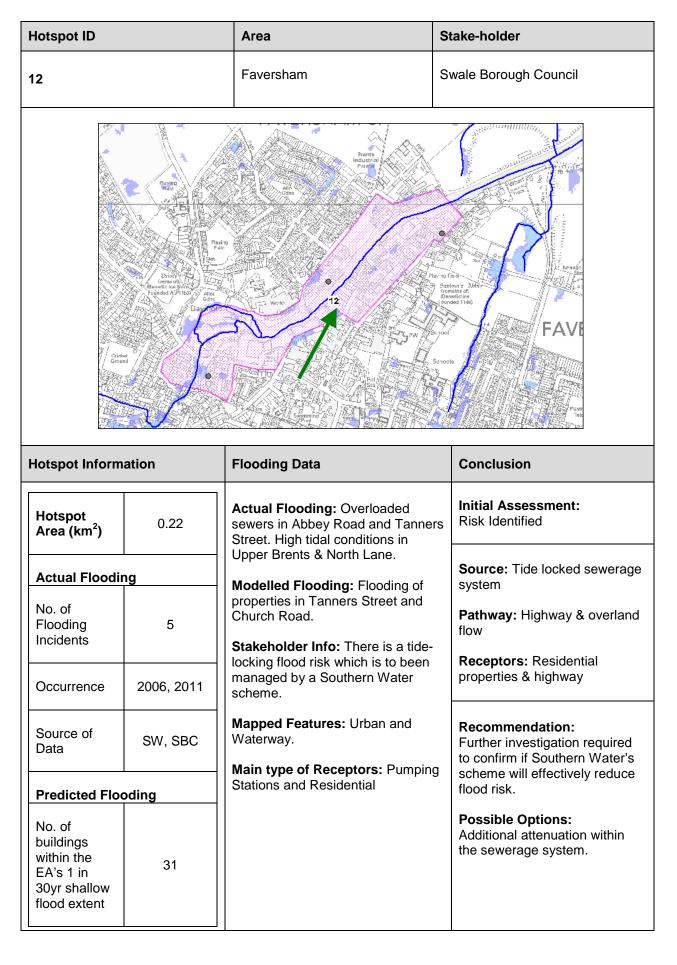




Hotspot ID Ar		rea	Stake-holder
)9		vade	Swale Borough Council
	Recn Gd		
Hotspot Information		Flooding Data	Conclusion
Hotspot Area (km²)	0.05	Actual Flooding: Flooding incidents in Ferry Road (We	est). No Significant Risk
Actual Flooding		 Modelled Flooding: Floodin properties in Springvale, Sheerstone and Ferry Road 	Source: Watercourse
No. of Flooding Incidents	1	Stakeholder Info: Green adjacent to WPS floods, has developed in the last 15 yea MT stated the EA are planni	Pathway: OvertoppingSReceptors: Residential properties
Occurrence	Couple of years ago	on undertaking fluvial model of the EA Main River in this under the MTP.	lling
Source of Data	SW	Mapped Features: Rural.	
Predicted Flooding		Main type of Receptors: Sewage Pumping Station and	
No. of buildings within the EA's 1 in 30yr shallow	74	Residential.	



lotspot ID		Area	Stake-holder	
11		A2, near to Dunkirk	Swale Borough Council	
Provide grand of the second se				
Hotspot Information		Flooding Data	Conclusion	
Hotspot Area (km²)	0.97	Actual Flooding: Flooding incidents along the A2.	Initial Assessment: Risk Identified	
Actual Floodi	na	Modelled Flooding: Flooding across both carriageways of A2.	0	
No. of Flooding Incidents	3	Stakeholder Info: Known highway flooding problem, highway is managed by KCC Highways department.	 Source: Surface runoff & highway drainage Pathway: Highway & overland flow 	
Occurrence	2008, 2011	Mapped Features: Rural and Key Trunk Road.	Receptors: Highway	
Source of Data	НА	Main type of Receptors: Trunk road.	Recommendation: Further investigation required	
Predicted Flooding			Possible Options: Construction of additional highway gullies to improve	
No. of buildings within the EA's 1 in 30yr shallow flood extent	27		conveyance of flows with prioritised gully clearance.	



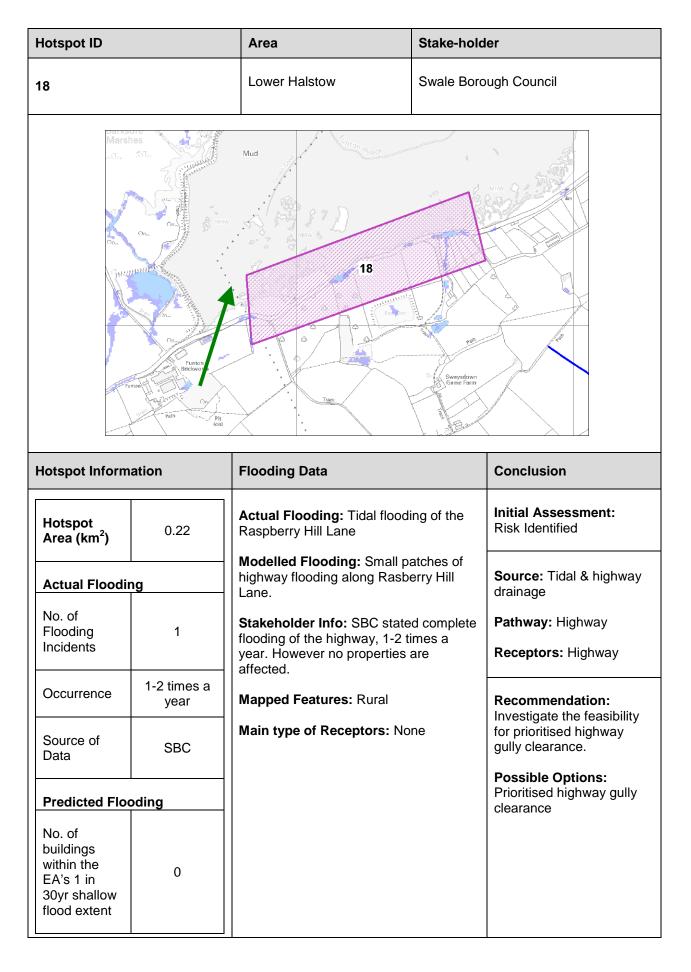
Hotspot ID		Area	Stake-holder	
13		Minster, Isle of Sheppey	Swale Borough Council	
Playing Field Tack Tr Compared to the Compared				
Hotspot Information		Flooding Data	Conclusion	
Hotspot Area (km ²)	0.04	Actual Flooding: Poor convey and low lying properties in Scrapsgate Road. General groundwater flood risk.	ance Initial Assessment: Risk Identified	
Actual Floodin		Modelled Flooding: Flooding	of Source: Sewerage system, surface runoff & groundwater	
No. of Flooding Incidents	1	properties in The Broadway an Glen. Stakeholder Info: Two proper now have sealed manholes to	d The Pathway: Highway & overland flow Receptors: Residential	
Occurrence		 prevent surcharging manholes and curtilage flooding of properties on Scrapsgate Road. The Road experiences heavy surface water runoff which runs along the camber of the road and floods the low-lying properties. There also appears to be some infiltration into sewers which Recommendation: Further investigation requirements of the some infiltration into sewers which 		
Source of Data	SW			
Predicted Flooding		are thought to be in good cond The area to the west of the hot	ition. Management of overland flow	
No. of buildings within the EA's 1 in 30yr shallow	30	very marshy with poor drainage Mapped Features: Urban. Main type of Receptors: Residential.		

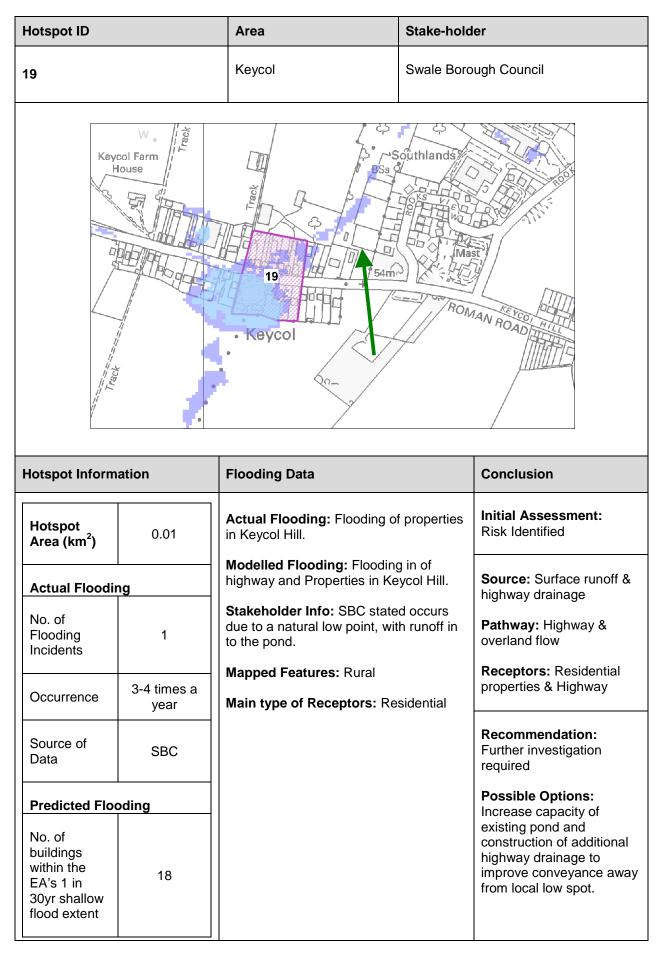
Hotspot ID		Area	Stake-holder
14		Chalkwell	Swale Borough Council
	Chalkwell		
Hotspot Information		Flooding Data	Conclusion
Hotspot Area (km²)	0.01	Actual Flooding: Highway flo Chalkwell.	boding in Initial Assessment: Risk Identified
Actual Floodi	ng	Modelled Flooding: Flooding highway and properties in Ch	
No. of Flooding Incidents	1	Stakeholder Info: SBC state highway flooding, due to a na point. Mapped Features: Urban & F	tural low overland flow Receptors: Residential
Occurrence	Frequently	Line	
Source of Data	SBC	Main type of Receptors: Rea	sidential Recommendation: Further investigation required
Predicted Flooding			Possible Options: Construction of additional highway gullies to improve
No. of buildings within the EA's 1 in 30yr shallow flood extent	12		conveyance of flows with prioritised gully clearance.

Hotspot ID		Area	Stake-holder
15		Fernleigh	Swale Borough Council
A MARCE	marks PW Bactory Tunstall	King George's Field (Reon Gd)	Pav Pav und
Hotspot Information		Flooding Data	Conclusion
Hotspot Area (km²)	0.03	Actual Flooding: Groundwat problems in Chegworth Garde	
Actual Floodin	ng	Modelled Flooding: Flooding highway and properties in Ch Gardens.	
No. of Flooding Incidents	1	Stakeholder Info: SBC state soakaway is unable to remove sufficiently.	d
Occurrence	Twice a year	Mapped Features: Urban Main type of Receptors: Re	Receptors: Residential properties & highway sidential
Source of Data	SBC		Recommendation: Further investigation required
Predicted Floo	oding		Existing Schemes:
No. of buildings within the EA's 1 in 30yr shallow flood extent	24		Possible Options: Construction of attenuation tanks/pond and with prioritised gully and soakaway maintenance.

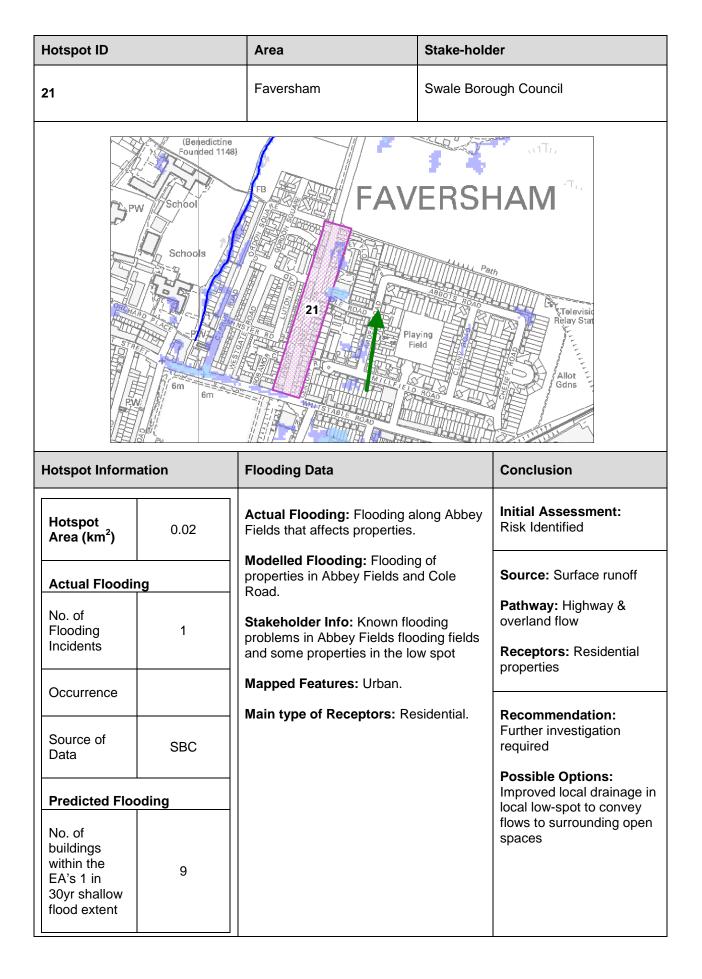
Hotspot ID		Area	Stake-holder
16		Milton Regis	Swale Borough Council
Hotspot Information		Flooding Data	Conclusion
Hotspot Area (km²)	0.001	Actual Flooding: Highway flo Windmill Road	Risk Identified
Actual Floodir	ng	Modelled Flooding: Highway in Windmill Road	Source: Highway drainage
No. of Flooding Incidents	1	Stakeholder Info: SBC stated highway floods 3-4 times a year, however it does not affect any properties. Mapped Features: Urban and Railway Line Receptors: Highway Recommendation:	ver it does Pathway: Highway Receptors: Highway
Occurrence	3-4 times a year		Recommendation:
Source of Data	SBC		for prioritised highway gully clearance.
Predicted Floo	oding		Possible Options: Prioritised highway gully clearance.
No. of buildings within the EA's 1 in 30yr shallow flood extent	0		

Hotspot ID		Area	Stake-holder
17		Babchild	Swale Borough Council
		Bapchild St Chomas a Becket's Spring Hempster Farm Ashmes (Hotel)	
Hotspot Information		Flooding Data	Conclusion
Hotspot Area (km²)	0.02	Actual Flooding: Flooding of along The Street.	f highway Initial Assessment: Risk Identified
Actual Floodir	ng	Modelled Flooding: Small pa highway flooding along The S	Street. Source: Highway drainage
No. of Flooding Incidents	1	Stakeholder Info: SBC state arisen many times, floods app half of the highway. Mapped Features: Rural	
Occurrence	1-2 times a year	Main type of Receptors: Re	sidential Recommendation: Investigate the feasibility
Source of Data	SBC		for prioritised highway gully clearance.
Predicted Flooding			Possible Options: Prioritised highway gully clearance.
No. of buildings within the EA's 1 in 30yr shallow flood extent	0		





Hotspot ID		Area	Stake-hold	er
20		A2, near Junction 7	Swale Boro	ugh Council
N ROAD N ROAD Parts 20 Chellspit Hill Chellspit Hill Che				
Hotspot Information		Flooding Data		Conclusion
Hotspot Area (km²)		Actual Flooding: Large amount of flooding occurs at Quarry House. Initial Assessment: Risk Identified		Initial Assessment: Risk Identified
Actual Floodin				Source: Surface runoff & highway drainage
No. of Flooding Incidents	1	Stakeholder Info: MK stated there has been known highway flooding of the A2 carriageway which is dangerous due to high speed vehicles.Pathway: Highway & overland flow		
Occurrence		Mapped Features: Rural.		
Source of Data	SBC			Investigate the feasibility for prioritised highway
Predicted Flooding				Possible Options: Improve existing highway
No. of buildings within the EA's 1 in 30yr shallow flood extent	1			drainage and bunding to prevent runoff from surrounding land to enter the highway.



Hotspot ID		Area	Stake-holder
22		Queensborough	Swale Borough Council
		Works FIRST AVENUE FIRST AVENUE	
Hotspot Information		Flooding Data	Conclusion
Hotspot Area (km ²)	0.56	Actual Flooding: Highway rularge car park to draining to the site. Surface water unable	he east of Risk Identified e to
Actual Floodin	Ig	discharge along watercourse blocked culvert	due to Source: Surface runoff
No. of Flooding Incidents	1	Modelled Flooding: Flooding properties along Rushenden Stakeholder Info: IDB stated	Road. overland flow d known Receptors: Residential
Occurrence	2000	surface water flooding occurr lack of maintenance of existin ditch	ng drainage
Source of Data	IDB	Mapped Features: Urban. Main type of Receptors: Co and residential.	Recommendation:Investigate the feasibilityfor prioritised ditchclearance.
Predicted Floc No. of buildings within the EA's 1 in 30yr shallow flood extent	oding 2		Possible Options: Maintenance of existing drainage ditch

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