

Flood mitigation options for Hassocks								
ID	Project type	Location	Flooding hotspot (via flood maps or community mapping)	Impact	Cost (< £10k; £10k - £50k; £50k+)	Constraints	Source	Notes
SuDS Sustainable Drainage Systems								
SuDS 1 (Green)	Rain gardens, swales, rainbox planters etc	Across the village	Reduce surface water runoff across the village	Multiple small projects in all locations would have an impact on surface water flowing to the drains, which in turn flow into the nearest stream	<£10k - for rainbox planters (very low cost), small garden ponds or rain gardens (low cost); £10k-£50k - rain gardens in public spaces	Public information and support (e.g. volunteer teams to help people install rainbox planters)	HKD Floods and SuDS team	This works due to cumulative impact of multiple measures.  Examples of rainbox planters and rain gardens exist in Hassocks
SuDS 2 (Amber)	Roadside rain gardens	Either side of Keymer Rd btw Woodsland Rd and Chancellors Park	Low point on Keymer Rd around Parklands Rd and Grand Ave	A series of roadside rain gardens could hold water flowing down the road from Stonepound and prevent some from reaching the low point and flooding properties	£10k-£50k	1. Pavements are wide but car parking would require access points across rain gardens. 2. Would need a maintenance plan as WSCC will not maintain roadside rain gardens. 3. Ownership of the pavement is unclear (WSCC Highways or shops?)	Hassocks Green Infrastructure Project report	Oct 2020 flooding of shops around Keymer Rd/Parklands Rd was the result of heavy rain running down hill from Stonepound and from Keymer to low point, where apparently drains can't handle the volume
SuDS 3 (Amber)	Tree Pits	Either side of Keymer Rd btw Woodsland Rd and Chancellors Park	Low point on Keymer Rd around Parklands Rd and Grand Ave	A series of roadside tree pits could hold water flowing down the road from Stonepound and prevent some from reaching the low point and flooding properties	£10k-£50k	1. Ownership of pavements is unclear		Remove pavers as appropriate and replace with SUDS enabled trees which take water from highway before returning to existing surface water drainage system. Plenty of examples and could turn Keymer road into a tree lined "avenue". Removes parking constraints noted above and provides additional air quality benefits. Examples from Salford and London. <a href="https://www.susdrain.org/case-studies/pdfs/suds_awards/032_18_04_30_susdrain_suds_awards_east_ordsall_lane_salford.pdf">https://www.susdrain.org/case-studies/pdfs/suds_awards/032_18_04_30_susdrain_suds_awards_east_ordsall_lane_salford.pdf</a>  <a href="https://www.susdrain.org/case-studies/pdfs/suds_awards/020_18_04_30_susdrain_suds_awards_goldhawk_road_london.pdf">https://www.susdrain.org/case-studies/pdfs/suds_awards/020_18_04_30_susdrain_suds_awards_goldhawk_road_london.pdf</a>

SuDS 4 (Amber)	Roadside swale	Junction Keymer Rd and Beaconhurst	Road regularly floods when it rains	Swale could hold substantial amount of rainfall and slow flow into road	£10k-£50k	1. Careful planning needed to ensure flood water enters the swale. 2. WSCC will not continue to maintain roadside rain gardens or swales so maintenance plan needed (potential for wildflower planting, but still needs cutting at least once a year)	Hassocks Green Infrastructure Project report	Note historic maps show there was a pond at this site. The old road to Ditchling did not run this way, the road is 'relatively' recent. Opportunity for wildflower planting on swale.
SuDS 5 (Amber)	Roadside rain gardens	Dale Avenue, junction with Lodge Lane	Surface water flooding on Dale Ave/Lodge Lane	Grass verges are narrow and hold some trees and services - more detailed work needed to estimate potential size of storage area	£10k-£50k	Maintenance plan required as WSCC will not maintain.	HKD Floods and SuDS team	Historic maps may show the original route of this stream, and any additional ponds. Opportunity for wildflower planting on verges.
NFM	Natural Flood Management							
NFM 1 (Green)	Debris dams	In Ham Brook flowing through Parklands Copse	Parklands Rd and Downs View Rd, pressure on pinchpoint at Spitalford Bridge	Desynchronise peak flows from Ham Brook and Herring Stream, creating additional capacity for holding water and reducing the amount meeting Spitalford Bridge.	<£10k - minimal cost as volunteers can install debris dams, need hardwood stakes and gather debris from woodland. Will require annual maintenance by volunteers	Owned by HPC	HKD Floods and SuDS team	Constructing debris dams through this section will desynchronise the flows near to where the two channels meet (from Butchers Wood and Parklands Copse). Slowing the flow in this location will further reduce the amount of water meeting Spitalford Bridge in the centre of the village, creating additional capacity within the culvert. This should facilitate additional drainage from the road surface water drains which often back up once the level of water in the channel overtops the invert level of the pipes from the road. So we would expect this to compliment the work already done in Lag Wood in slowing the movement of water into the village centre.
NFM 2 (Green)	Tree planting to increase woodland block, bund, hedge planting on stream side	Beside Herring stream on the east side, opposite Lag Wood	Parklands Rd and Downs View Rd, pressure on pinchpoint at Spitalford Bridge	Reduce velocity of surface water flow, slow flows both in and out of the channel	< £10k (depending on area to be planted, and assuming use of volunteers for planting)	Field to east of Herring stream is owned by xxxxx	OART report Reducing Flood Risk in Hassocks	
NFM 3 (Green)	Hillside grips	In Butchers Wood	Parklands Rd and Downs View Rd, pressure on pinchpoint at Spitalford Bridge	Slow the flow of surface water into the stream by pushing it off compacted pathways into vegetated areas	< £10k - Minimal cost as volunteers can install. Will require annual maintenance by volunteers	Woodland Trust refused permission in 2016/17. Unknown whether any change of view since then.	OART report Reducing Flood Risk in Hassocks	

NFM 4 (Green)	Options to be explored for tree planting, bunds, hedge planting, debris dams East of Hassocks	East of Damian Way along two branches of the Adastra Stream flowing from east and south (under Ditchling Rd by cricket field)	Damian Way/Ockley Lane. Potentially some impact further downstream on Queens Drive/Watersmeet flood hotspot	Slow the flow	Cost to be determined	Land ownership unknown. SE Water owns works on Ditchling Rd alongside one branch of this stream, upstream from the balancing pond	HKD/OART	Need to review status of the balancing pond - unclear who is responsible for maintenance (MSDC or land owner) or whether it is being maintained.
NFM 5 (Amber)	Seasonal pond or debris dams	Along Keymer stream east of Dale Ave, north of Park Ave	Lodge Lane/Dale Ave where culvert under road can overflow	To be determined	Cost to be determined	Land ownership not known. Management of site to conserve downstream water quality should be considered	HKD Floods and SuDS team	Investigate opportunity for smaller-scale options in this area ID by SWMP
NFM 6 (Amber)	Series of small ponds/wetland area	Herring stream at Parklands play area near junction with Ham Brook	Parklands Rd and Downs View Rd, pressure on pinchpoint at Spitalford Bridge	Would reduce peak flows and reduce flood risk downstream near Spitalford Bridge	Cost to be determined	Approval by landowner MSDC required.	OART	Potential to create a more natural wetland series of ponds / retention areas rather than one big area. Depends on size of landholding but better for biodiversity and as a storage area and less intrusive during drought
NFM 7 (Amber)	Seasonal ponds	In water meadows in Butchers Wood, west of Herring stream	Parklands Rd and Downs View Rd, pressure on pinchpoint at Spitalford Bridge	Capture and hold water from surrounding landscape and slow the flow of surface water once an out of bank event has occurred from Herring Stream channel.	£10k-£50k	Woodland Trust refused permission in 2016/17. When current woodland management plan is renewed in 2023 there may be opportunity to reconsider.  Concern over impact on Bluebells in woodland	OART report Reducing Flood Risk in Hassocks	There is a memorial pond in this section of the woodland already which was located on high ground when watermain was broken and leaking. Potential to "move " the memorial pond to function as intended whilst providing NFM benefits?
NFM 8 (Amber)	Raised embankment	At driveway/ public RoW by Woodbine Cottage	Parklands Rd and Downs View Rd, pressure on pinchpoint at Spitalford Bridge	Retain water during periods of high flow	£10k-£50k	A local farmer owns the land of the driveway; The owners of Lag Wood have given permission for debris dams there.	OART report Reducing Flood Risk in Hassocks	The owners of Lagwood are reviewing options for solving flooding problems on the driveway/footpath

NFM 9 (Red)	Online storage by widening stream. SWMP proposes widening channel by 39m on both sides for 90m length of stream	Along Keymer Stream east of Dale Ave, north of Park Ave	Lodge Lane/Dale Ave where culvert under road can overflow (note additional issue for Lodge Lane/Dale Ave flooding is surface water)	SWMP calculates net storage of 4,700 m2 (option 1) or 6,500 m2 (option 2). Notes that Lodge Lane and properties near junction with Dale Ave will still flood when capacity of culvert is exceeded. Option 1 reduces some flood risk, Option 2 greatly reduces flood risk.	High. For this and offline storage on Herring stream combined SWMP est. appraisal/design £50k; construction £615k-925k. Annual maintenance cost £2k. Could a lower-cost option be developed?	1. Land ownership not known, though the stream flows north through Lodge Farm (xxxx family) before crossing New Rd and turning west to run under Lodge Lane. There is a small pond on this stream on Lodge Farm, but well upstream. 2. Location of water table in this area not known, may affect what can be done. 3. Consenting process may be complex or impossible for online storage. 4. Potential to increase erosion at exit point. 5. Management of site to conserve downstream water quality should be considered.	Hassocks SWMP Option 1a, 1b, 2a, 2b	SWMP notes their proposal would require cutting 'many trees'.  Online storage is not a usual approach as it is very difficult to get it through the consenting process. Widening the stream to allow more water storage depends on gradient of land as potential to speed up flows as the water travels from the wider to the narrower area. Would make a huge storage area but very high cost.
NFM 10 (Red)	Online storage by widening stream	Herring stream on the east side of Butchers Wood - to be widened to east only (farmland) to safeguard ancient woodland in Butchers Wood	Parklands Rd and Downs View Rd, pressure on pinchpoint at Spitalford Bridge	SWMP calculates net online storage of 1,500m2	High. SWMP est. appraisal/design at £50k and construction costs at £615k for this and Lodge Lane option above	1. Consenting of online storage is difficult to achieve. 2 Management and landscaping to consider downstream water quality risks	SWMP Options 2a, 2b	Field to east of Herring stream is owned by xxxxx
NFM 11 (Red)	Offline storage area (i.e. seasonal pond, stream bank lowered to allow it to fill during flood conditions)	Herring stream at Parklands play area near junction with Ham Brook	Parklands Rd and Downs View Rd, pressure on pinchpoint at Spitalford Bridge	SWMP est storage c 1500 m2, significantly reduces flood risk downstream near Spitalford Bridge	High. For this and online storage on Keymer stream combined SWMP est. appraisal/design £50k; construction £615k-925k. Annual maintenance cost £2k. Could a lower-cost option be developed?	1. Approval by landowner MSDC required. 2. Consideration of drought/dry periods to be considered - if this dries out as a singular pond it will be a very large hole in the ground	Hassocks SWMP Option 1a, 1b, 2a, 2b	SWMP notes their proposal would require cutting 'some trees'. This is a very large pond/lake to store 1500m3 of water.