Appendix A: Interactive Mapping Portal User Guide

Please tick the boxes next to the dataset titles in the map legend to display the data. If data does not display, it means it is not present in that particular area.

Legend	Description	Reference
Authority Information Surrey Heath Borough Boundary	The boundary of the Surrey Heath Borough, the study area for this SFRA.	**Section 1.3** Study area
Watercourses Main Rivers All Watercourses All Watercourses 10m Buffer Canals	**Main Rivers** – the Environment Agency (EA) statutory main rivers map detailing the watercourses which are designated a Main River by the EA. **All Watercourses** – the EA Detailed River Network representing the river network based on Ordnance Survey (OS) MasterMap for surface features and EA culvert surveys for underground features (where available). **All Watercourses 10m Buffer** – this shows the area of land within 10m of a watercourse, as shown in the EA Detailed River Network. **Canals** - WFD Artificial Water Bodies – Canals Cycle 1, is a polyline Shapefile dataset containing Water Framework Directive (WFD) attributes that have been collated as defined for the implementation of the Water Framework Directive. The WFD defines an 'artificial water body' as a body of surface water created by human activity.	**Section 1.3** Study area **Section 4.4** Fluvial flood risk
Flood Zones Modelled Flood Zone 3b (Proxy) Indicative Flood Zone 3b Flood Zone 3a Flood Zone 2	The Flood Zones are for use in development planning and flood risk assessments. **Modelled Flood Zone 3b** (Proxy) – Functional Floodplain: This zone comprises land where water must flow or be stored in times of flood. Flood Zone 3b is identified as land which would flood within a 3.3% annual chance where detailed hydraulic modelling exists.	**Section 4.4** Fluvial flood risk **Appendix D** Summary of flood risk

Legend	Description	Reference
	None of the existing hydraulic models have been run for the 3.3% AEP event to delineate the functional floodplain. In agreement with the EA, Flood defences should be considered when delineating the functional floodplain. Where the 3.3% AEP output is not available, the next available output has been used as a conservative proxy. For this SFRA, the Modelled Flood Zone 3b (Proxy) shows the Blackwater (2007) 1% AEP defended extent only. **Indicative Flood Zone 3b** – Where a site is located in Flood Zone 3a, and there is no Modelled Flood Zone 3b extent identified within the SFRA, Indicative Flood Zone 3b should be used. This shows the same extent as Flood Zone 3a. Where sites lie within the Indicative Flood Zone 3b extent further work will be required in a Level 2 SFRA or site-specific FRA to refine the extent of Flood Zone 3b. **Flood Zone 3a** – High probability: greater or equal to a 1% chance of river flooding in any given year (Excludes Flood Zone 3b, which is derived as part of the SFRA). **Flood Zone 2** – Medium probability: between a 1% and 0.1% chance of river flooding in any given year. Flood Zones 2 and 3a, as shown on the interactive mapping portal, show the same extent as the online EA's Flood Map for Planning (FMfP) (which incorporates latest modelled data).	

Legend	Description	Reference
Climate Change Fluvial Extent (Modelled) Blackwater 1% AEP plus 15% Climate Change Blackwater 1% AEP plus 25% Climate Change Blackwater Tribs 1% AEP plus 20% Climate Change	These extents are from existing hydraulic models, where the 1% AEP flow is upscaled by the EA's climate change allowances for the 2080s epoch for the relevant management catchment. The defended outputs are presented in the mapping where defences are present. From the modelled outlines available, the following outputs are suitable for representing climate change: • Blackwater (2007): +15% (~Central) and +25% (~Higher Central) (defended outputs) • Blackwater Tribs Model 10 (2012): +20% (between Central and Higher Central) (undefended outputs - no defences in model) • Blackwater Tribs Model 12 (2012): +20% (between Central and Higher Central) (undefended outputs - no defences in model) Where no detailed modelling exists, Flood Zone 3a (1% AEP) can be compared against Flood Zone 2 (0.1% AEP), for an indication of areas most sensitive to climate change.	**Section 5** Impact of Climate Change
Risk of Flooding from Rivers and Sea (EA) Very Low Low Medium High	The Risk of Flooding from Rivers and Sea maps have been generated from the EA's National Flood Risk Assessment (NaFRA) and National Receptor Dataset (NRD). • Very low risk: each year there is a chance of flooding of less than 1 in 1000 (0.1%) • Low risk: each year there is a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%) • Medium risk: each year there is a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%) • High risk: each year there is a chance of flooding of greater than 1 in 30 (3.3%)	**Section 4.4** Fluvial flood risk **Appendix D** Summary of flood risk

Legend	Description	Reference
Reduction in Risk of Flooding from Rivers and Sea (EA)	The Reduction in Risk of Flooding from Rivers and Sea due to Defences is a spatial dataset that indicates where areas have reduced flood risk from rivers and sea due to the presence of flood defences.	**Section 6** Flood alleviation schemes and assets
Risk of Flooding from Surface Water (EA) 3.3% AEP 1% AEP 0.1% AEP	The EA's Risk of Flooding from Surface Water (RoFSW) flood maps give an indication of the broad areas likely to be at risk of surface water flooding. This includes flooding that takes place from the surface runoff generated by rainwater. The data includes the extent, velocity, depth, and hazard mapping for the 3.3%, 1% and 0.1% AEP events. The extent of flooding for each of the events is shown in the mapping.	**Section 4.5** Surface water flooding **Appendix D** Summary of flood risk
Climate Change Surface Water Extent (Modelled) 3.3% AEP Upper End 2070s 1% AEP Upper End 2070s	The RoFSW was uplifted to represent surface water climate change for the following events and scenarios: • 3.3% AEP with +35% uplift (2070s Upper End allowance) • 1% AEP with +40/45% uplift (2070s Upper End allowance)	**Section 4.5** Surface water flooding **Section 5** Impact of Climate Change
Reservoir Flood Extents (EA) Wet Day Dry Day Fluvial Contribution	The EA reservoir flood extents show the predicted flooding which would occur if a dam or reservoir fails. The EA provide two scenarios: • **Dry Day** – the predicted flooding which would occur if the dam or reservoir fails when rivers are at normal levels. • **Wet Day** – the predicted worsening of the flooding which would be expected if a river is already experiencing an extreme natural flood. • **Fluvial Contribution** - the extent of river flooding added to the reservoir model to determine the impacts of failure on a wet-day.	**Section 4.9** Flooding from reservoirs

Legend	Description	Reference
	This can be compared with the Risk of Flooding from Rivers and Sea dataset to see the impact the reservoir flooding has.	
Groundwater Flooding Susceptibility (EA) <25% >=25% <50% >=50% <75% >=75%	The EA's groundwater flooding susceptibility data shows the degree to which areas of England, Scotland and Wales are susceptible to groundwater flooding on the basis of geological and hydrogeological conditions. This is shown at a resolution of 50m. It does not show the likelihood of groundwater flooding occurring, i.e. it is a hazard not risk-based dataset.	**Section 4.7** Groundwater flooding **Appendix D** Summary of flood risk
Historic Flooding EA Historic Flood Map EA Recorded Flood Outlines	The EA Historic Flood Map shows areas of land that have been previously subject to fluvial flooding in the area. This includes flooding from rivers, the sea and groundwater springs but excludes surface water. The EA Recorded Flood Outlines include surface water too. If an area is not covered by the Historic Flood Map or Recorded Flood Outlines, it does not mean that it has never flooded, only that currently there are no records of flooding in this area from the EA records. Other historic information is supplemented in the Level 1 report (section 4.2).	**Section 4.2** Historical Flooding **Appendix D** Summary of flood risk
Flood Alert and Warning Areas EA Flood Alert Areas EA Flood Warning Areas	The EA issue flood warnings to designated Flood Warning Areas when a river level hits a certain threshold or when heavy rainfall or high tides and strong winds are forecast. "Flooding is expected, immediate action is required". Flood Alerts are issued when there is water out of bank for the first time anywhere in the catchment and when forecasts indicate flooding may be possible. "Flooding is possible, be prepared". Both datasets are a polygon GIS shapefile where the above are issued; they are not flood extents.	**Section 4.10** Flood alerts and flood warnings
Defences	The EA Asset Information Management System (AIMS) spatial Flood Defence	**Section 6.4**

Legend	Description	Reference
Embankment Engineered High Ground Natural High Ground Wall	dataset, shows flood defences currently owned, managed, or inspected by the EA. A defence is any asset that provides flood defence or coastal protection functions.	Major flood risk management assets in the borough **Table 6-3** Locations shown in the 'EA AIMS' data set