Appendix A: GeoPDF 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. For the tickbox functionality to work, the GeoPDFs must be downloaded locally to your PC and opened with Adobe.

Legend	Description	Reference
Authority Information Tamworth Borough Boundary	The boundary of Tamworth Borough, the study area for this SFRA.	**Section 1.3** Study Area
Watercourses Main Rivers All Watercourses 8m Watercourse 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). **8m Watercourse Buffer** - this shows the area of land within 8m 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 WFD. 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
Defences Bridge Abutment Embankment Engineered High Ground Flood Gate	The EA Asset Information Management System (AIMS) spatial Flood Defence dataset, which shows flood defences currently owned, managed, or inspected by the EA.	**Section 6.4** Major flood risk management assets in the borough **Table 6-3** Locations shown in the

Legend	Description	Reference
Natural High Ground Wall		'EA AIMS' data set
Modelled Flood Zones (Fluvial) Modelled Flood Zone 3a Modelled Flood Zone 2	**Modelled Flood Zone 3a** – High risk: between a 3.3% and 1% chance of river flooding in any given year. This layer shows the 1% AEP undefended extents for the EA's River Tame (2023) and model which have not been incorporated into the EA Flood Map for Planning but should be used in preference in these areas. **Modelled Flood Zone 2** – Medium risk: between a 1% and 0.1% chance of river flooding in any given year. This layer shows the 0.1% AEP undefended extents for the EA's River Tame (2023) model which have not been incorporated into the EA Flood Map for Planning but should be used in preference in these areas.	**Section 4.4** Fluvial flood risk **Appendix B** – for model details
EA Flood Map for Planning 3.3% AEP Defended Flood Zone 3a Flood Zone 2	**3.3% AEP Defended** – This layer is based on the New National Model (NNM) released as part of NaFRA2, while at present there are no suitable outputs from detailed hydraulic models to represent Flood Zone 3b, more data may be made available in future updates to NaFRA2 data, as the EA are currently undertaking detailed modelling of the River Tame. **Flood Zone 3a**: High risk: between a 3.3% and 1% chance of river flooding in any given year. **Flood Zone 2**: Medium risk: between a 1% and 0.1% chance of river flooding in any given year.	**Section 4.4** Fluvial flood risk **Appendix B** – for model details

Legend	Description	Reference
Climate Change Extents (Modelled) 1% AEP Central 1% AEP Higher Central	**1% AEP Central**: 1% AEP plus 20% climate change extents for the River Anker and the 1% AEP plus 22% climate change extents for the River Tame were used. **1% AEP Higher Central**: 1% AEP plus 30% climate change extents for the River Anker and River Tame were used.	**Section 5** Impact of Climate Change **Appendix B** – for model details
Climate Change Extents (NaFRA2) 3.3% AEP Central 1% AEP Central 0.1% AEP Central	3.3% AEP Central: This layer is from the EA's New National Model (NNM) and has been used to represent the functional floodplain plus climate change. 1% AEP Central: This layer is from the EA's New National Model (NNM) and has been used to represent climate change in areas not covered by the modelled climate change extents for the same return period. 0.1% AEP Central: This layer is from the EA's New National Model (NNM) and has been used to represent the defended 0.1% AEP plus climate change scenario.	**Section 5** Impact of Climate Change **Appendix B** – for model details
Reservoir Flood Extents (EA) Dry Day Extent Wet Day Extent Fluvial Contribution	The EA reservoir flood extents show the predicted flooding which would occur if a dam or reservoir fails. **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. This can be compared with the Risk of Flooding from Rivers and Sea dataset to see the impact the reservoir flooding has.	**Section 4.8** Flooding from reservoirs
Risk of Flood from Rivers and Sea (EA)	The Risk of Flooding from Rivers and Sea maps have been generated from the EA's National Flood Risk Assessment (NaFRA)	**Section 4.4** Fluvial flood risk

Legend	Description	Reference
High Medium Low Very Low	taking account of flood defences and the condition they are in. Each 50m x 50m cell is allocated one of four flood risk likelihood categories: • High risk: each year there is a chance of flooding of greater than 1 in 30 (3.3%) • Medium risk: each year there is a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%) • Low risk: each year there is a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%) • Very low risk: each year there is a chance of flooding of less than 1 in 1000 (0.1%)	**Appendix D** Summary of flood risk
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. The RoFSW dataset displayed was produced as part of NaFRA2. While no appropriate climate change uplifts to this data exist yet, the 0.1% AEP outputs can be used a proxy for the 1% AEP plus climate change scenario.	**Section 4.5** Surface water flooding **Appendix D** Summary of flood risk
Groundwater Emergence Mapping (JBA) Less than 0.025m below surface Between 0.025-0.5m below surface	JBA's Groundwater Flood emergence map shows the predicted level of groundwater below the surface, at a resolution of 5m. Flood risk could increase when groundwater is already high or emerged, causing additional overland flow paths or areas of still ponding, which may occur at sites other than those shown in the emergence mapping.	**Section 4.7** Groundwater flooding **Appendix D** Summary of flood risk

Legend	Description	Reference
Between 0.5-5m below surface At least 5m below surface No risk.		
Groundwater Flooding Susceptibility (EA) <25% >=25% <50% >=50% <75% >=75%	The EA's groundwater flooding susceptibility data shows the degree to which areas 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 Recorded Flood Outlines Historic Flood Map	The EA Recorded Flood Outlines show all the EA records of historic flooding from rivers, the sea, groundwater and surface water. 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. If an area in not covered by the Recorded Flood Outlines or Historic Flood Map, 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.	**Section 4.2** Historical flooding **Appendix D** Summary of flood risk

Legend	Description	Reference
EA Flood Alert and Warning Areas Flood Warning Areas Flood Alert 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