

LB Merton Level 1 SFRA Online Map: Data Register

Project name
Level 1 Strategic Flood Risk Assessment

Date
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This document provides a description of the datasets that are presented on the Online Map to support the Level 1 Strategic Flood Risk Assessment for London Borough of Merton.

Data	Source	Description and limitations
Flood Zones		
Statutory Main River	Environment Agency Web Map Service	Statutory Main Rivers Map is a spatial (polyline) dataset that defines statutory watercourses in England designated as Main Rivers by Environment Agency. Watercourses designated as 'main' are generally the larger arterial watercourses. The Environment Agency has permissive powers, but not a duty, to carry out maintenance, improvement or construction work on designated main rivers.
Detailed River Network	Environment Agency	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the core geometry to incorporate critical spatial detail and attribution, such as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Crossrail II Route within LB Merton	LB Merton 2020	No known limitations.
Historic Records – Main River	LB Merton 2020	Incidents of flooding associated with main rivers that have been reported to LB Merton. As these are anecdotal reports made to LB Merton by the public, these records are unverified and are not exhaustive. These records show flooding to the land and do not necessarily indicate that properties were flooded internally. It is possible that the pattern of flooding in this area has changed and that this area would now not flood, if a flood defence has been built, or flood under different circumstances. This information is not suitable for identifying if an individual property will flood in the future.
Historic Records – Ordinary Watercourses	LB Merton 2020	Incidents of flooding associated with ordinary watercourses that have been reported to LB Merton. As these are anecdotal reports made to LB Merton by the public, these records are unverified and are not exhaustive. These records show flooding to the land and do not necessarily indicate that properties were flooded internally. It is possible that the pattern of flooding in this area has changed and that this area would now not flood, if a flood defence has been built, or flood under different circumstances. This information is not suitable for identifying if an individual property will flood in the future.
Flood Zone 2	Environment Agency Web Map Service	Land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year.
Flood Zone 3a	Environment Agency Web Map Service	Land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
Flood Zone 3b		Please use SFRA definition here.
Areas Benefitting from Defences	Environment Agency Web Map Service	This dataset shows those areas that benefit from the presence of defences in a 1 in 100 (1%) chance of flooding each year from rivers; or 1 in 200 (0.5 %) chance of flooding each year from the sea. If the defences were not there, these areas would flood in a 1 in 100 (1%)/ 1 in 200 (0.5 %) or larger flooding incident. Note that we do not show all areas that benefit from all flood defences. Some defences are designed to protect against a smaller flood with a higher chance of

		occurring in any year, for example a flood defence which protects against a 1 in 30 chance of flooding in any year. Such a defence may be overtopped in a flood with a 1 in 100 (1%)/ 1 in 200 (0.5%) chance of occurring in any year, but the defence may still reduce the affected area or delay (rather than prevent) a flood, giving people more time to act and therefore reduce the consequences of flooding.
Flood Storage Areas	Environment Agency Web Map Service	This dataset covers Flood Storage Areas. It shows those areas that act as a balancing reservoir, storage basin or balancing pond. Their purpose is to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel. It may also delay the timing of a flood peak so that its volume is discharged over a longer time interval. We have assumed that flood storage areas act perfectly and give the same level of protection as when our assessment of the area was carried out. Flood storage areas do not completely remove the chance of flooding and can be overtopped or fail in extreme weather conditions.
Flood Defence Line (Spatial Flood Defences)	Environment Agency Web Map Service	This dataset shows those defences constructed which have a standard of protection equal to or better than 1 in 100 (1%) for rivers and 1 in 200 (0.5%) from the sea.
River Modelling Outlines (Present Day)		
Statutory Main River	Environment Agency Web Map Service	Statutory Main Rivers Map is a spatial (polyline) dataset that defines statutory watercourses in England designated as Main Rivers by Environment Agency. Watercourses designated as 'main' are generally the larger arterial watercourses. The Environment Agency has permissive powers, but not a duty, to carry out maintenance, improvement or construction work on designated main rivers.
Detailed River Network	Environment Agency	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the core geometry to incorporate critical spatial detail and attribution, such as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Crossrail II Route within LB Merton	LB Merton 2020	No known limitations.
River Wandle Fluvial Structures	Environment Agency 2020	Details of structures on main river watercourses, provided by the Environment Agency.
River Wandle Fluvial Flood Defences	Environment Agency 2020	Details of flood defence type and standard of protection on main river watercourses, provided by the Environment Agency.
River Wandle Modelled Outputs 5% AEP, 1% AEP and 0.1% AEP	Environment Agency 2015	JBA Consulting on behalf of the Environment Agency, River Wandle Remodelling Study, June 2015.
Beverley Brook Modelled Outputs 5% and 1% AEP	Environment Agency 2008/2009	Royal Haskoning on behalf of the Environment Agency, Beverley Brook Flood Risk Mapping Study, 2008/2009.
River Modelling Outlines (Climate Change)		
Statutory Main River	Environment Agency Web Map Service	Statutory Main Rivers Map is a spatial (polyline) dataset that defines statutory watercourses in England designated as Main Rivers by Environment Agency. Watercourses designated as 'main' are generally the larger arterial watercourses. The Environment Agency has permissive powers, but not a duty, to carry out maintenance, improvement or construction work on designated main rivers.
Detailed River Network	Environment Agency	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the core geometry to incorporate critical spatial detail and attribution, such

		as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Crossrail II Route within LB Merton	LB Merton 2020	No known limitations.
River Wandle Fluvial Structures	Environment Agency 2020	Details of structures on main river watercourses, provided by the Environment Agency.
River Wandle Fluvial Flood Defences	Environment Agency 2020	Details of flood defence type and standard of protection on main river watercourses, provided by the Environment Agency.
River Wandle Modelled Outputs 1% AEP plus 25%, 35% and 70% climate change	Environment Agency 2017	JBA Consulting on behalf of the Environment Agency, River Wandle Climate Change Modelling, August 2017.
Beverley Brook Modelled Outputs 1% AEP plus 20% climate change	Environment Agency 2008/2009	Royal Haskoning on behalf of the Environment Agency, Beverley Brook Flood Risk Mapping Study, 2008/2009.
Flood Risk Management		
Statutory Main River	Environment Agency Web Map Service	Statutory Main Rivers Map is a spatial (polyline) dataset that defines statutory watercourses in England designated as Main Rivers by Environment Agency. Watercourses designated as 'main' are generally the larger arterial watercourses. The Environment Agency has permissive powers, but not a duty, to carry out maintenance, improvement or construction work on designated main rivers.
Detailed River Network	Environment Agency	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the core geometry to incorporate critical spatial detail and attribution, such as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Crossrail II Route within LB Merton	LB Merton 2020	No known limitations.
Working with Natural Processes (WWNP) Floodplain Reconnection Potential / Floodplain Woodland Potential / Riparian Woodland Potential / Wider Catchment Woodland Potential	Environment Agency 2015	<p>Mapping outputs from the Environment Agency led research project 'Working with Natural Processes'. Further information on the Working with Natural Processes project, including a mapping user guide, can be found in the reports published here: https://www.gov.uk/government/publications/working-with-natural-processes-to-reduce-flood-risk</p> <p>Floodplain Reconnection Potential – best estimate of locations where it may be possible to establish reconnection between a watercourse and its natural floodplain, especially during high flows. The dataset is designed to support signposting of areas where there is currently poor connectivity such that flood waters are constrained to the channel and flood waves may therefore propagate downstream rapidly.</p> <p>WWNP Floodplain Woodland Potential – best estimate of locations where tree planting on the floodplain may be possible, and effective to attenuate flooding. The dataset is designed to support signposting of areas of floodplain not already wooded.</p> <p>WWNP Riparian Woodland Potential – best estimate of locations where tree planting may be possible on smaller floodplains close to flow pathways, and effective to attenuate flooding. The dataset is designed to support signposting of riparian areas not already wooded.</p> <p>WWNP Wider Catchment Woodland Potential – best estimate of locations where there are slowly permeable soils, where scrub and tree planting may be most effective to increase infiltration and</p>

		hydrological losses. The dataset is designed to support signposting of areas not already wooded.
Flood Risk from Reservoirs: Maximum Flood Extent	Environment Agency Web Map Service	This dataset shows the largest area that might be flooded if a reservoir were to fail and release the water it holds. Since this is a prediction of a credible worst case scenario, it's unlikely that any actual flood would be this large. These data are intended for emergency planning only and are not reliable for large scale flood risk assessments.
Flood Warning Areas	Environment Agency Web Map Service	Geographical areas where we expect flooding to occur and where the Environment Agency provide a Flood Warning Service. They generally contain properties that are expected to flood from rivers or the sea and in some areas, from groundwater.
Flood Alert Areas	Environment Agency Web Map Service	Geographical areas where it is possible for flooding to occur from rivers sea, and in some locations, groundwater. A single Flood Alert Area may cover the floodplain within the Flood Warning Service Limit of multiple catchments of similar characteristics containing a number of Flood Warning Areas. A Flood Alert Area may also match that of a corresponding Flood Warning Area and warn for the possibility of flooding in that area.
Groundwater Flooding		
Statutory Main River	Environment Agency Web Map Service	Statutory Main Rivers Map is a spatial (polyline) dataset that defines statutory watercourses in England designated as Main Rivers by Environment Agency. Watercourses designated as 'main' are generally the larger arterial watercourses. The Environment Agency has permissive powers, but not a duty, to carry out maintenance, improvement or construction work on designated main rivers.
Detailed River Network	Environment Agency	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the core geometry to incorporate critical spatial detail and attribution, such as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Crossrail II Route within LB Merton	LB Merton 2020	No known limitations.
Historic Records – groundwater flooding	LB Merton 2020	Incidents of flooding associated with groundwater that have been reported to LB Merton. These records show flooding to the land and do not necessarily indicate that properties were flooded internally. It is possible that the pattern of flooding in this area has changed and that this area would now not flood. This information is not suitable for identifying if an individual property will flood in the future.
Areas at risk of perched groundwater	LB Merton	LB Merton are aware of areas at risk of perched groundwater in the north west of the Borough. The geology of this area is characterised by Black Members underlain by the London Clay. The 'Wimbledon Hill' slope, in particular, is an area with this unique geology, where below ground development has the potential to impact on groundwater flows.
Increased potential for elevated groundwater	GLA Drain London 2011	The map identifies areas that have increased potential to experience elevated groundwater levels in response to higher than average recharge from rainfall or from elevated river levels.
Groundwater emergence map	Environment Agency Web Map Service	Outputs from Defra commissioned project LDS23 in 2003 to scope the potential for groundwater emergence.
Surface Water Flooding		
Statutory Main River	Environment Agency Web Map Service	Statutory Main Rivers Map is a spatial (polyline) dataset that defines statutory watercourses in England designated as Main Rivers by Environment Agency. Watercourses designated as 'main' are generally the larger arterial watercourses. The Environment Agency

		has permissive powers, but not a duty, to carry out maintenance, improvement or construction work on designated main rivers.
Detailed River Network	Environment Agency	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the core geometry to incorporate critical spatial detail and attribution, such as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Crossrail II Route within LB Merton	LB Merton 2020	No known limitations.
Historic Records – surface water flooding	LB Merton 2020	Incidents of flooding associated with surface water that have been reported to LB Merton. These records show flooding to the land and do not necessarily indicate that properties were flooded internally. It is possible that the pattern of flooding in this area has changed and that this area would now not flood. This information is not suitable for identifying if an individual property will flood in the future.
Critical Drainage Area	LB Merton	As defined in the LN Merton Surface Water Management Plan (2011), a CDA is a discrete geographic area (usually within an urban setting) where there may be multiple and interlinked sources of flood risk and where severe weather is known to cause flooding of the area thereby affecting people, property or local infrastructure ¹ .
Drainage Catchment	LB Merton	As defined in the Level 1 SFRA. Drainage catchments outline the area of the land that drains to a certain location. The scale of a drainage catchment varies depending on the point of interest. The extent of a natural drainage catchment follows peaks in the local topography that surface water will drain from.
Risk of flooding from surface water 1 in 30 year / 1 in 100 year / 1 in 1000 year extents	Environment Agency Web Map Service	<p>The Environment Agency has undertaken modelling of surface water flood risk at a national scale and produced mapping identifying those areas at risk of surface water flooding during three annual probability events: 1 in 30 year (3.33% annual probability), 1 in 100 year (1% annual probability) and 1 in 1,000 year (0.1% annual probability). The extents of the latest version of the mapping have been made available for the Level 1 SFRA as GIS layers. This mapping is referred to as 'Risk of Flooding from Surface Water' (ROFSW) and is also available online on the Long Term Flood Risk Map¹.</p> <p>It is not suitable to be used:</p> <ul style="list-style-type: none"> - To identify if an individual property will or will not flood. - In detailed flood risk assessments. - On a map with background mapping more detailed than 1:10,000. <p>It does not:</p> <ul style="list-style-type: none"> - Show future scenarios, for example climate change. - Show flooding from other sources, including overflowing watercourses, drainage systems or public sewers, river flow, groundwater or the sea. • include the presence or effect of pumping stations in catchments with pumped drainage. • include any allowance for tide locking, high levels or fluvial levels where sewers cannot discharge. <p>This means that where these elements play a role in the way flooding happens, this information may not show what actually happens locally.</p>
Historic Flood Incidents		
Statutory Main River	Environment Agency Web Map Service	Statutory Main Rivers Map is a spatial (polyline) dataset that defines statutory watercourses in England designated as Main Rivers by Environment Agency. Watercourses designated as 'main' are generally the larger arterial watercourses. The Environment Agency has permissive powers, but not a duty, to carry out maintenance, improvement or construction work on designated main rivers.
Detailed River Network	Environment Agency	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the

¹ <https://flood-warning-information.service.gov.uk/long-term-flood-risk>

		core geometry to incorporate critical spatial detail and attribution, such as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Crossrail II Route within LB Merton	LB Merton 2020	No known limitations.
Historic Records – surface water flooding	LB Merton 2020	Incidents of flooding associated with surface water that have been reported to LB Merton. These records show flooding to the land and do not necessarily indicate that properties were flooded internally. It is possible that the pattern of flooding in this area has changed and that this area would now not flood. This information is not suitable for identifying if an individual property will flood in the future.
Historic Records – Main River	LB Merton 2020	Incidents of flooding associated with main rivers that have been reported to LB Merton. These records show flooding to the land and do not necessarily indicate that properties were flooded internally. It is possible that the pattern of flooding in this area has changed and that this area would now not flood, if a flood defence has been built, or flood under different circumstances. This information is not suitable for identifying if an individual property will flood in the future.
Historic Records – Ordinary Watercourses	LB Merton 2020	Incidents of flooding associated with ordinary watercourses that have been reported to LB Merton. These records show flooding to the land and do not necessarily indicate that properties were flooded internally. It is possible that the pattern of flooding in this area has changed and that this area would now not flood, if a flood defence has been built, or flood under different circumstances. This information is not suitable for identifying if an individual property will flood in the future.
Historic Records – groundwater flooding	LB Merton 2020	Incidents of flooding associated with groundwater that have been reported to LB Merton. These records show flooding to the land and do not necessarily indicate that properties were flooded internally. It is possible that the pattern of flooding in this area has changed and that this area would now not flood. This information is not suitable for identifying if an individual property will flood in the future.
Historic Records – sewer flooding	LB Merton 2020	Incidents of sewer flooding that have been reported to LB Merton. These records show flooding to the land and do not necessarily indicate that properties were flooded internally. It is possible that the pattern of flooding in this area has changed and that this area would now not flood. This information is not suitable for identifying if an individual property will flood in the future.
Historic Records – multiple source	LB Merton 2020	Incidents of flooding from multiple sources that have been reported to LB Merton. These records show flooding to the land and do not necessarily indicate that properties were flooded internally. It is possible that the pattern of flooding in this area has changed and that this area would now not flood. This information is not suitable for identifying if an individual property will flood in the future.
Historic Records – unknown source	LB Merton 2020	Incidents of flooding from known sources that have been reported to LB Merton. These records show flooding to the land and do not necessarily indicate that properties were flooded internally. It is possible that the pattern of flooding in this area has changed and that this area would now not flood. This information is not suitable for identifying if an individual property will flood in the future.
Historic Flood Map	Environment Agency Web Map Service	The maximum extent of all individual Recorded Flood Outlines from river, the sea and groundwater springs and shows areas of land that have previously been subject to flooding in England. Records began in 1946 when predecessor bodies to the Environment Agency started collecting detailed information about flooding incidents, although we may hold limited details about flooding incidents prior to this date. This dataset differs from the Recorded Flood Outline dataset in that it contains only those flood outlines that are 'considered and accepted' if the following criteria are met: <ul style="list-style-type: none"> - photographic/video evidence with the location referenced o

		<ul style="list-style-type: none"> - recorded flood levels with the location referenced - evidence that the outline represents the time of peak water level (for example date / time stamped photo) - evidence that the source of flooding is from rivers, the sea or groundwater and not surface water/overland runoff.
Recorded Flood Outlines	Environment Agency Web Map Service	All Environment Agency records of historic flooding from rivers, the sea, groundwater and surface water. Each individual Recorded Flood Outline contains a consistent list of information about the recorded flood. Records began in 1946 when predecessor bodies to the Environment Agency started collecting detailed information about flooding incidents, although we may hold limited details about flooding incidents prior to this date. The absence of coverage by Recorded Flood Outlines for an area does not mean that the area has never flooded, only that we do not currently have records of flooding in this area. It is also possible that the pattern of flooding in this area has changed and that this area would now flood or not flood under different circumstances.
Geology		
Statutory Main River	Environment Agency Web Map Service	Statutory Main Rivers Map is a spatial (polyline) dataset that defines statutory watercourses in England designated as Main Rivers by Environment Agency. Watercourses designated as 'main' are generally the larger arterial watercourses. The Environment Agency has permissive powers, but not a duty, to carry out maintenance, improvement or construction work on designated main rivers.
Detailed River Network	Environment Agency	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the core geometry to incorporate critical spatial detail and attribution, such as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Crossrail II Route within LB Merton	LB Merton 2020	No known limitations.
Bedrock Geology	BGS	No known limitations.
Superficial Geology	BGS	No known limitations.