

**Welwyn Hatfield Council Strategic Flood Risk Assessment Level 2 Detailed Site Summary Tables**



<b>Site details</b>	<b>Site Code</b>	SB1			
	<b>Address</b>	Swanley Park			
	<b>Area</b>	7.8ha			
	<b>Current land use</b>	Greenfield			
	<b>Proposed land use</b>	Residential			
<b>Sources of flood risk</b>	<b>Existing drainage features</b>	Small, unnamed watercourse flows northwards along the eastern boundary.			
	<b>Fluvial</b>	<b>Proportion of site at risk</b>			
		<b>FZ3b</b>	<b>FZ3a</b>	<b>FZ2</b>	<b>FZ1</b>
		0%	0%	0%	100%
		The site is not located within the Environment Agency's Flood Zones 2 or 3 as the catchment is <3km <sup>2</sup> ; however, the unnamed drain which flows along the eastern site boundary could pose a fluvial flood risk to the site and may need to be considered in a site-specific assessment.			
	<b>Surface Water</b>	<b>Proportion of site at risk (RoFfSW)</b>			
		<b>30-year</b>	<b>100-year</b>	<b>1,000-year</b>	
		<1%	3%	18%	
		<b>Max depths (m) (out of bank)</b>			
		0.30-0.60	0.30-0.60	0.60-0.90	
		<b>Max velocity (m/s) (out of bank)</b>			
		0.50-1.00 (negligible)	1.00-2.00	>2.00	
		<b>Max hazard rating (out of bank)</b>			
Danger for most		Danger for most	Danger for all		
The % SW extents quoted show the % of the site at surface water risk from that particular event, including the percentage of the site at flood risk at a higher risk zone (e.g. 100-year includes the 30-year %). The % given are indicative only and more detailed work to refine this at a site-specific scale may be required.					

# Welwyn Hatfield Council Strategic Flood Risk Assessment Level 2 Detailed Site Summary Tables



Site details	Site Code	SB1		
	Address	Swanley Park		
	Area	7.8ha		
	Current land use	Greenfield		
	Proposed land use	Residential		
		<p><b>Description of surface water flow paths:</b></p> <p>The surface water flood risk in this site is from various flow paths from the south-west: through the middle of the site, along the eastern boundary and along the northern boundary at Swanley Bar Lane. These flow paths follow the topography/ depressions in the land and converge at the very north-eastern corner of the site. The 1,000-year event has the most pronounced flow paths through the site. Where the flow path converges, this forms part of a wider more significant surface water flow path from the Gobions Wood area to the north to the drains east of Great North Road, which is present in all surface water flood events.</p> <p>The areas of highest depth, velocity and hazard are immediately surrounding the drain along the eastern site boundary. Velocities along the surface water flow path in the west of the site and the south-east of the site in the 1,000-year event are mainly 1.00-2.00m/s, with some isolated areas &gt;2.00m/s; however, depths are low in these area, mostly 0.00-0.15m. In the 100-year event on the interactive mapping, depths are very low away from the unnamed drain (0.00-0.15m), with velocities mainly around 0.50-1.00m/s. The risk is highest to the north and east of the site, on Swanley Bar Lane and around Great North Road.</p>		
	Reservoir	The site is not shown to be at risk of reservoir flooding from the available <a href="#">online</a> maps.		
	Flood history	The EA's historic flood map shows no history of flooding at the site.		
Flood risk management infrastructure	Defences	Defence Type	Standard of Protection	Condition
		-	-	-
	This site is not protected by any formal flood defences.			
Residual risk	-			
Flood warning	The site is not covered by the EA's Flood Warning Service.			

# Welwyn Hatfield Council Strategic Flood Risk Assessment Level 2 Detailed Site Summary Tables



<b>Site details</b>	<b>Site Code</b>	SB1
	<b>Address</b>	Swanley Park
	<b>Area</b>	7.8ha
	<b>Current land use</b>	Greenfield
	<b>Proposed land use</b>	Residential
<b>Emergency planning</b>	<b>Access and egress</b>	<p>Safe access and egress will need to be demonstrated in the 1 in 100-year plus climate change fluvial and rainfall events, using the depth, velocity and hazard outputs.</p> <p>The centre of the site is potentially cut off from access and egress routes along Swanley Bar Lane in the 1,000-year surface water event. However, safe access and egress is possible for the north-western corner of the site, as the depth and velocity of the 1,000-year flood event shows as low risk. The north-eastern corner of the site/ Swanley Bar Lane is at risk of surface water flooding and wider flow path mentioned above, where surface water flows over the road.</p> <p>The depths of surface water flooding along access/ egress routes should be investigated in a site-specific assessment, to confirm whether access for emergency vehicles could still be obtained.</p>
<b>Climate Change</b>	<b>Implications for the site</b>	<ul style="list-style-type: none"> <li>Increased storm intensities due to climate change may increase the extent, depth, velocity, hazard and frequency of surface water flooding.</li> <li>Climate change needs to be considered for surface water events; at the site-specific stage, the 100-year +40% event is considered as part of surface water drainage strategies, or surface water modelling.</li> <li>The current day 1,000-year extent provides an indication of the likely increase in extent of the more frequent events. This would require a detailed FRA to assess the site layout and design.</li> <li>Developers should consider SuDS strategies to reduce the impacts of climate change from surface water in a detailed site-specific FRA.</li> <li>Fluvial flood risk is not shown to be an issue at the site, but small localised drains may need to be considered.</li> </ul>

# Welwyn Hatfield Council Strategic Flood Risk Assessment Level 2 Detailed Site Summary Tables



<b>Site details</b>	<b>Site Code</b>	<b>SB1</b>
	<b>Address</b>	Swanley Park
	<b>Area</b>	7.8ha
	<b>Current land use</b>	Greenfield
	<b>Proposed land use</b>	Residential
<b>Requirements for drainage control and impact mitigation</b>	<b>Broad scale assessment of possible SuDS</b>	<ul style="list-style-type: none"> <li>• Geology at the site consists of: <ul style="list-style-type: none"> <li>○ Bedrock – Thames Group: Clay, Gravel, Sand and Silt.</li> <li>○ Superficial – No superficial deposits in this area.</li> </ul> </li> <li>• The site is not located within a Groundwater Source Protection Zone.</li> <li>• Source control techniques are likely to be suitable for this site.</li> <li>• Infiltration likely to be suitable. Mapping suggests a low risk of ground water flooding however, site investigations should be carried out to assess potential for drainage by infiltration.</li> <li>• Detention features are unlikely to be feasible as mapping suggests mean site slopes are &gt; 5%. Feasibility of such options should be assessed as part of a site-specific assessment. If this feature is feasible a liner maybe required to prevent the egress of groundwater.</li> <li>• Filtration systems are unlikely to be feasible as mapping suggests mean site slopes are &gt; 5%. Feasibility of such options should be assessed as part of a site-specific assessment. If this feature is feasible it should be located where the depth to the water table is &gt;1m.</li> <li>• All forms of conveyance features are likely to be suitable. Where slopes are &gt;5%, features should follow contours or utilise check dams to slow flows.</li> <li>• The site is not designated by the Environment Agency as previously being a landfill site.</li> <li>• Developers should refer to Hertfordshire County Council's <a href="#">SuDS Design Guidance</a>, <a href="#">SuDS Policy Statement</a> and the Level 1 SFRA for information on SuDS.</li> </ul>
<b>NPPF and planning implications</b>	<b>Exception Test requirements</b>	<p>The Local Authority have carried out the Sequential Test in line with national guidance. The Sequential and Exception Test document (November 2019) provides the detail on how this has been undertaken and can be found on the Local Authority website.</p> <p>The Sequential Test will need to be passed before the Exception Test is applied. Residential development is classified as 'More Vulnerable'. It is anticipated that proposed development will be sequentially located within Flood Zone 1.</p> <p>The Exception test will need to be applied if:</p> <ul style="list-style-type: none"> <li>• More Vulnerable and Essential Infrastructure development is located in FZ3a and for Highly Vulnerable development located in FZ2.</li> <li>• Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.</li> <li>• More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.</li> </ul>

	<p><b>Requirements and guidance for site-specific Flood Risk Assessment</b></p>	<p><b>Flood Risk Assessment:</b></p> <ul style="list-style-type: none"> <li>• At the planning application stage, a site-specific Flood Risk Assessment will be required if any development is located within Flood Zones 2 or 3 or is greater than one hectare. Other sources of flooding should also be considered.</li> <li>• All sources of flooding, particularly the risk of surface water and groundwater flooding, should be considered as part of a site-specific flood risk assessment.</li> <li>• Any FRA should be carried out in line with the National Planning Policy Framework; Flood Risk and Coastal Change Planning Practice Guidance; Welwyn Hatfield Council's Local Plan policies, and the LLFA's SUDS guidance and Policy Statement.</li> <li>• Consultation with the Local Authority, Local Lead Flood Authority and the Environment Agency should be undertaken at an early stage.</li> <li>• The development should be designed using a sequential approach. Development should be steered away from areas of fluvial flood risk and surface water flow routes, preserving these spaces as green infrastructure. Development must be in line with Table 3: flood risk vulnerability and flood zone compatibility of the NPPG.</li> </ul> <p><b>Guidance for site design and making development safe:</b></p> <ul style="list-style-type: none"> <li>• The developer will need to show, through an FRA, that future users of the development will not be placed in danger from flood hazards throughout its lifetime. It is for the applicant to show that the development meets the objectives of the NPPF's policy on flood risk. For example, how the operation of any mitigation measures can be safeguarded and maintained effectively through the lifetime of the development. (Para 048 Flood Risk and Coastal Change PPG).</li> <li>• Safe access and egress will need to be demonstrated in the 1 in 100-year plus climate change fluvial and rainfall events, using the depth, velocity and hazard outputs. Raising of access routes must not impact on surface water flow routes. Consideration should be given to the siting of access points with respect to areas of surface water flood risk.</li> <li>• Resilience measures will be required if buildings are situated in the flood risk area. Raising Finished Floor Levels above the design event may remove the need for resilience measures.</li> <li>• The risk from surface water flow routes should be quantified as part of a site-specific FRA, including a drainage strategy, to ensure that runoff from the development is not increased by placing development across any ephemeral surface water flow routes. A drainage strategy should help inform site layout and design to ensure there is no increase in runoff beyond the current greenfield rates.</li> <li>• New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. Assessment for runoff should include allowance for climate change effects.</li> <li>• Betterment on the existing site runoff rate should be sought to ensure that there is no increase in surface water flood risk elsewhere. Ideally, surface water runoff should be fully attenuated to the greenfield rate.</li> <li>• The depression in the site which encourages surface water flooding may need to be considered in a site-specific assessment.</li> <li>• Developers should refer to Hertfordshire County Council's <a href="#">SuDS Design Guidance</a>, <a href="#">SuDS Policy Statement</a> and the Level 1 SFRA for information on SuDS.</li> <li>• Safe access and egress will need to be demonstrated, and if it cannot be demonstrated an emergency evacuation plan will need to be completed.</li> <li>• New development must seek opportunities to reduce overall level of flood risk at the site, for example by: <ul style="list-style-type: none"> <li>○ Reducing volume and rate of runoff</li> </ul> </li> </ul>
--	---	--

# Welwyn Hatfield Council Strategic Flood Risk Assessment Level 2 Detailed Site Summary Tables



<b>Site details</b>	<b>Site Code</b>	SB1
	<b>Address</b>	Swanley Park
	<b>Area</b>	7.8ha
	<b>Current land use</b>	Greenfield
	<b>Proposed land use</b>	Residential
		<ul style="list-style-type: none"> <li>○ Relocating development to zones with lower flood risk</li> <li>○ Creating space for flooding.</li> <li>• Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using surface water flooding risk areas as public open space.</li> </ul>
<b>Mapping Information</b>		
<b>Flood Zones</b>	There are no Flood Zones at this site, only a couple of smaller drains. The impact of these drains may need to be assessed at site-specific assessment stage to confirm if any risk.	
<b>Climate change</b>	No fluvial risk at the site, hence no climate change outputs. Climate change for surface water should be considered at the site-specific assessment stage.	
<b>Fluvial depth, velocity and hazard mapping</b>	The impact of these drains may need to be assessed at site-specific assessment stage to confirm if any risk.	
<b>Surface Water</b>	The Risk of Flooding from Surface Water has been used to define areas at risk from surface water flooding. This dataset is not suitable for identifying whether an individual property will flood. It is based on the confidence in the modelling at that location; because of the way the mapping has been produced and is indicative, the maps are not appropriate to act as the 'sole evidence' for any specific planning or regulatory decision or assessment of risk in relation to flooding without further supporting studies or evidence. Please consult all layers and outputs provided on the RoFfSW mapping for further details.	
<b>Surface water depth, velocity and hazard mapping</b>	The surface water depth, velocity and hazard mapping for the 1 in 100-year event (considered to be medium risk) is taken Environment Agency's Risk of Flooding from Surface Water.	