

Mapping

Wyre Forest District Strategic Flood Risk Assessment Level 2 Detailed Site Summary Tables



Site details	Site Code	WFR/CB/3			
	Site Name	Land off Station Drive, Blakedown			
	Area	1.96ha			
	Current land use	Greenfield			
	Proposed site use	Mixed use (170 car parking spaces for the railway station and residential, approximately 50 units)			
Sources of flood risk	Existing drainage features	<ul style="list-style-type: none"> Tributary of the Blakedown Brook Series of small inline ponds/ pools from Broom to Blakedown 			
	Fluvial	Proportion of site at risk			
		FZ3b	FZ3a	FZ2	FZ1
		2.8%	0.4%	0.6%	96.2%
			<p>Fluvial flood risk is marginal along the site's northern boundary. There are a series of small in-line ponds or pools from Broom down to Blakedown. The unnamed watercourse linking these is open channel either side of the A456. The railway line forms an impoundment, where out of bank flooding ponds in the topographic depression, encroaching into the site at the most northern end.</p> <p>The site is represented by the EA's Flood Zone mapping. 2D generalised modelling was also undertaken for the SFRA to model FZ3b and climate change.</p>		
	Surface Water	Proportion of site at risk (uFMfSW)			
		30-year	100-year	1,000-year	
1%		3%	8%		
		<p>The uFMfSW shows negligible risk to the site, with some minor areas of 100-year and 1,000-year ponding in the south-western corner of the site, around an existing building, and in the floodplain surrounding the river channel at the northern end of the site. There is negligible risk along Station Drive in the 1,000-year event. The site is predominantly situated on high ground, except the northern quarter adjacent to the watercourse.</p>			
Reservoir	<p>The site is susceptible to flood inundation in the event of reservoir failure, at a similar extent to the Flood Zones, due to the upstream attenuation pools.</p>				
Canal	<p>There are no canals within 100m of the site.</p>				
Flood history	<p>The Environment Agency's historic flood map shows the site to not have flooded in the past. This dataset only covers the River Severn in the study area and is therefore misleading as the site may have flooded in the past. This should be further considered by the developer at the site-specific FRA stage.</p> <p>The A456 – Blakedown to Kidderminster flooded in 2003, 2004, 2005, 2006 and 2007 attributed to frequently blocked drains and gullies (Highways Agency), as well as Mill Lane (Blakedown Brook).</p>				
Flood risk management infrastructure	Defences	Defence Type	Standard of Protection	Condition	
		-	-	-	
		The site is not protected by any formal flood defences.			

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Residual risk	The floodplain is confined topographically by the A456 and the railway line embankment. It is unlikely that a blockage at either structure would impact significantly into the site, given the rise in land away from the floodplain, but a site-specific assessment may need to consider such risk.				
Emergency planning	Flood warning	The site is not within a Flood Warning area.			
	Access and egress	Safe access and egress to site is available via the A456 Birmingham Road and Stations Drive/ Mill Lane. There is flooding shown over Mill Lane at the junction with Churchill Lane is all flood events modelled. Access to the site is not impeded by fluvial or surface water flood risk.			
Climate Change	Climate change allowances for '2080s'	River Basin District	Central	Higher Central	Upper End
		River Severn	25%	35%	70%
	% increase in flood extent compared to Flood Zone 3a	0.0%	0.1%	0.7%	
Implications for the site	There is a slight increase in the extents of flooding in the site in climate change allowances, but the majority of the site remains outside the 100-year flood event, and the extents are still confined to the topographic depression between the higher ground impoundments. Climate change may increase the depths, hazard and velocity of flooding, in both fluvial and surface water events.				
Requirements for drainage control and impact mitigation	Broad scale assessment of possible SuDS	<ul style="list-style-type: none"> • Source control techniques are likely to be suitable for this site. • Mapping suggests a low risk of groundwater flooding; however, site investigations should be carried out to assess potential for drainage by infiltration. • Detention features may be feasible providing site slopes are <5% at the location of the detention feature. If groundwater flooding is a medium to high risk to the site, then a liner may be required to mitigate against potential contamination issues. • Filtration systems are probably suitable providing site slopes are <5% and the depth to the water table is >1m. If the site has contamination issues or is at medium to high risk from groundwater flooding, then a liner will be required. • All forms of conveyance features are likely to be suitable. Where slopes are >5%, features should follow contours or utilise check dams to slow flows. 			
	Groundwater Source Protection Zone	The site is located within Zone 3. Infiltration techniques are generally accepted in this zone.			

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	Historic Landfill Site	The site is not designated by the Environment Agency as previously being a landfill site.
NPPF and planning implications	Exception Test requirements	<p>The Sequential Test will need to be passed before the Exception Test is applied.</p> <p>The Exception test will be required in the following scenarios</p> <ul style="list-style-type: none"> • If More Vulnerable and Essential Infrastructure is located in FZ3a. • If Highly Vulnerable development is located in FZ2. • If Essential Infrastructure is located in Flood Zone 3b <p>Development will not be permitted in the following scenarios</p> <ul style="list-style-type: none"> • Highly Vulnerable infrastructure within FZ3a and FZ3b. • More Vulnerable and Less Vulnerable Infrastructure within FZ3b.
	Requirements and guidance for site-specific Flood Risk Assessment	<ul style="list-style-type: none"> • 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 for any development greater than one hectare in Flood Zone 1. Other sources of flooding should also be considered. • More detailed climate change modelling may need to be undertaken using the relevant allowances for the type of development and level of risk. The SFRA uses 2D generalised modelling techniques in the absence of EA models, which does not account for channel or structure topographic survey. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage. • Resilience measures will be required if buildings are situated in the flood risk area. • Onsite attenuation schemes would need to be tested against the hydrographs of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • 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. • New development must seek opportunities to reduce overall level of flood risk at the site, for example by: <ul style="list-style-type: none"> ○ Reducing volume and rate of runoff ○ Relocating development to zones with lower flood risk ○ Creating space for flooding. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space.

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Flood Zones	<p>Flood Zones 2 and 3a are based on the Environment Agency's Flood Zone 2 and 3.</p> <p>The SFRA has identified Flood Zone 3b as land which would flood with an annual probability of 1 in 20 years. Flood Zone 3b has been derived from additional 2D generalised hydraulic modelling for this SFRA.</p>	
Climate change	<p>The upper end climate change allowances for the '2080s' were modelled using generalised 2D modelling techniques for the purposes of the SFRA. Due to the generalised nature of the modelling, defences have not been accounted for and therefore mapping shows the 'undefended' scenario. The mapping provides a strategic assessment of climate change risk – developers should undertake detailed modelling of climate change allowances as part of a site-specific FRA.</p>	
Surface Water	<p>The Risk of Flooding from Surface Water has been used to define areas at risk from surface water flooding.</p>	
Depth, velocity and hazard mapping	<p>Depth, velocity and hazard mapping for the 1 in 100-year event (Flood Zone 3a) have been taken from the Environment Agency's 2011 generalised modelling as the detailed hydraulic models did not provide this information. As a result, there may be some small discrepancies between the extent of the depth, velocity and hazard grids with the extent of Flood Zone 3a.</p>	