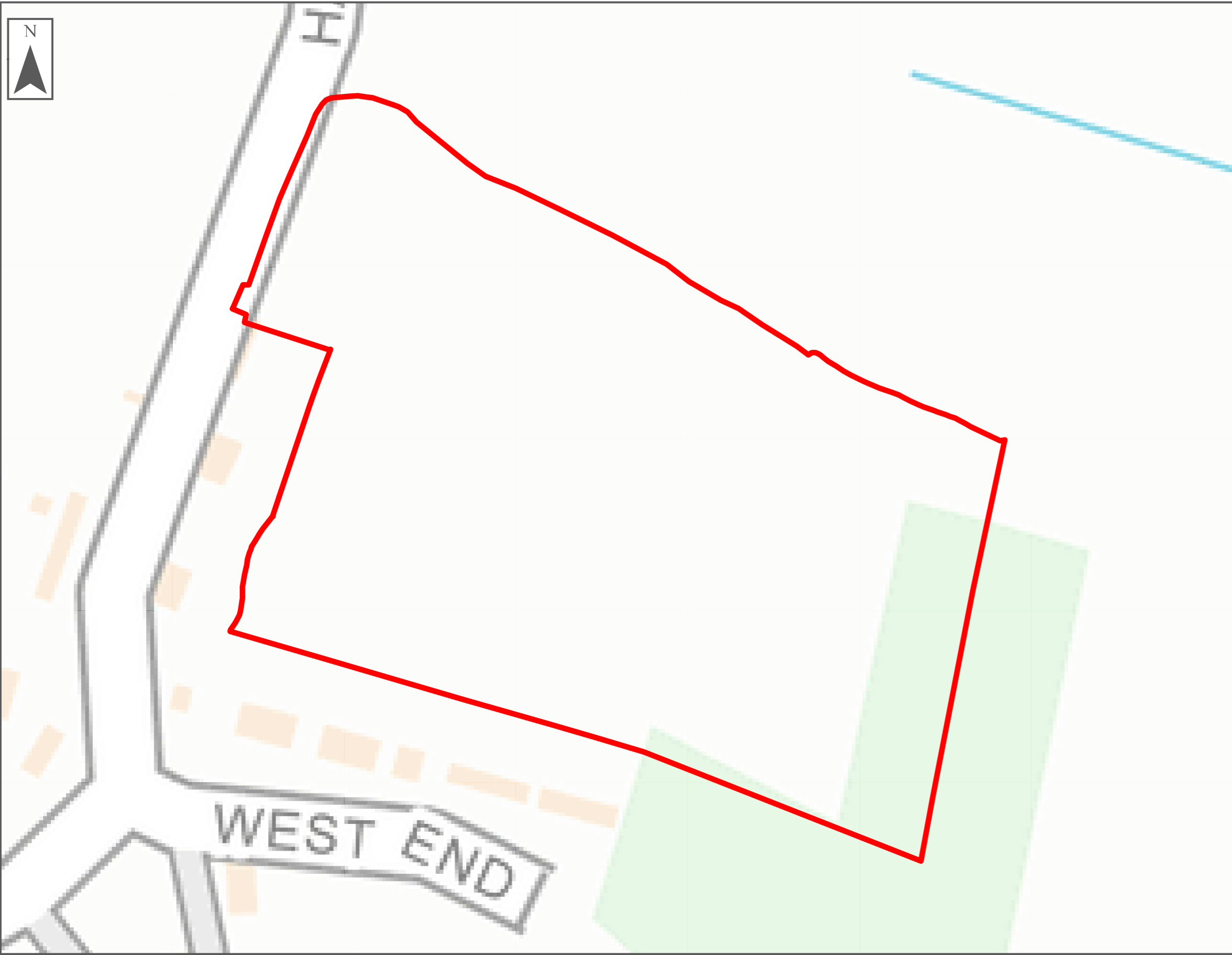


Site details	Site Number	1			
	OS Grid reference	ST 61210 92954			
	Area	2.39 hectares			
Sources of flood risk	Existing drainage features	<p>The site is located to the north of Oldbury on Severn to the east of Ham Lane. The south of the site is located on land that is considerably higher than the surrounding land, which provides it with a degree of protection from flooding.</p> <p>The Westend Rhine runs along the opposite side of Ham Lane before flowing westwards around the western boundary of the village and does not pose a risk to the site.</p>			
	Fluvial		5% AEP	1% AEP	0.1% AEP
		Proportion of site at risk (%)	0	0	0
		Range of depths (m)	-	-	-
		Maximum hazard	-	-	-
	Tidal	<b>Defended</b>			
			5% AEP	0.5% AEP	0.1% AEP
		Proportion of site at risk (%)	0	0	0
		Range of depths (m)	-	-	-
		Maximum hazard	-	-	-
		<b>undefended</b>			
			5% AEP	0.5% AEP	0.1% AEP
		Proportion of site at risk (%)	43	66	81
	Range of depths (m)	0 – 1.5	0 – 2.5	0 – 3.0	
	Maximum hazard	Not available			
	Surface Water	<b>Proportion of site at risk (RoFfSW)</b>			
		3.3% AEP	1% AEP	0.1% AEP	
0		0	0		
Flood history	The site is outside of the Environment Agency's historic flood map.				
Flood risk management infrastructure	Defences	Defence Type	Standard of Protection	Condition	
		Penstock	n/a	n/a	
		Tidal embankment	0.5% AEP	Good	
	Residual risk	Outlet failure	Oldbury Pill embankment breach	Power station embankment breach	
		Proportion at risk (%)	0	0	0
		Range of depths (m)	-	-	-
Maximum hazard	-	-	-		

Site details	Site Number	1			
	OS Grid reference	ST 61210 92954			
	Area	2.39 hectares			
Emergency planning	Flood warning	The site is partially covered by the Severn Estuary at Oldbury on Severn, Northwick and Avonmouth Flood Alert Area The site is partially covered by the Severn Estuary at Oldbury-on-Severn, Westend, Cowhill and Olveston areas Flood Warning Area			
	Access and egress	The only existing access and egress route is down Ham Lane and Camp Road to either Chapel Road or Church Road. Both Chapel Road and Church Road are at risk of flooding in fluvial, tidal and residual risk scenarios resulting in the potential for the site to become cut off in a flood event.			
Climate Change	Implications for the site		<b>1% AEP</b>		
			<b>Central</b>	<b>High Central</b>	<b>Upper End</b>
		Proportion at risk (%)	0	0	0
		Range of depths (m)	-	-	-
		Range of hazard	-	-	-
			<b>Tidal (defended) 0.5% AEP</b>		<b>Tidal (defended) 0.1% AEP</b>
		Proportion at risk (%)	47		77
		Range of depths (m)	0 – 1.5		0 – 2.5
Maximum hazard	Danger for Most		Danger for All		
NPPF and planning implications	Sequential Test	The Sequential Test will need to be passed. Only once the Sequential Test is passed should the Exception Test be applied			
	Exception Test requirements	<p>The Exception test will be required in the following scenarios</p> <ul style="list-style-type: none"> <li>• If More Vulnerable and Essential Infrastructure is proposed in FZ3a.</li> <li>• If Highly Vulnerable development is proposed in FZ2.</li> <li>• If Essential Infrastructure is proposed in Flood Zone 3b</li> </ul> <p>Development will not be permitted in the following scenarios</p> <ul style="list-style-type: none"> <li>• Highly Vulnerable infrastructure within FZ3a and FZ3b.</li> <li>• More and Less Vulnerable Infrastructure within FZ3b.</li> </ul>			

<b>Site details</b>	<b>Site Number</b>	1
	<b>OS Grid reference</b>	ST 61210 92954
	<b>Area</b>	2.39 hectares
	<p><b>Requirements for site-specific Flood Risk Assessment</b></p> <p><b>Guidance for developers</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 and 3 or for any development greater than one hectare in Flood Zone 1. Much of the risk to the site is residual tidal flood risk with the defences providing protection for both present day 0.5% and 0.1% AEP events. However, in the future, with climate change, these defences will be overtopped in both scenarios.</li> <li>The residual risk to the site both now and into the future should be investigated, for example overtopping or breach of defences. To pass the Exception Test, it needs to be demonstrated that the development can be made safe and that the residual risk has been overcome</li> <li>Safe access and egress should be demonstrated. This site is in the north of the village with only one access and egress route down Ham Lane and Camp Road to either Chapel Road or Church Road. Both Chapel Road and Church Road are at risk of flooding in fluvial, tidal and residual risk scenarios resulting in the potential for the site to become cut off in a flood event.</li> <li>Other sources of flooding should also be considered as part of a site-specific flood risk assessment</li> <li>Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage</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</li> <li>Onsite attenuation schemes would need to be tested against the hydrographs of the Rhine system to ensure flows are not exacerbated downstream within the catchment</li> <li>Assessment for runoff should include allowance for climate change effects</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> <li>Relocating development to zones with lower flood risk</li> <li>Creating space for flooding</li> </ul> </li> <li>Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zone 2 and 3 as public open space</li> </ul>



**LEVEL 2 SITE SUMMARY TABLES**

**OLDBURY ON SEVERN LEVEL 2 STRATEGIC FLOOD RISK ASSESSMENT**

**LEGEND**

<p><b>Fluvial Depth 1% AEP (Present Day)</b></p> <p>Depth (m)</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9e1f2; border: 1px solid black; margin-right: 5px;"></span> 0 - 0.10</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #99c2ff; border: 1px solid black; margin-right: 5px;"></span> 0.10 - 0.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4169e1; border: 1px solid black; margin-right: 5px;"></span> 0.50 - 1.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00008b; border: 1px solid black; margin-right: 5px;"></span> 1.00 - 1.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ced1; border: 1px solid black; margin-right: 5px;"></span> 1.50 - 2.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ff00; border: 1px solid black; margin-right: 5px;"></span> 2.00 - 2.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> 2.50 - 3.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffd700; border: 1px solid black; margin-right: 5px;"></span> 3.00 - 3.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff8c00; border: 1px solid black; margin-right: 5px;"></span> 3.50 - 4.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8b0000; border: 1px solid black; margin-right: 5px;"></span> &gt;4.00</li> </ul>	<p><b>Risk of Flooding from Surface Water (RoFfSW)</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ff00; border: 1px solid black; margin-right: 5px;"></span> 3.3% AEP</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff00ff; border: 1px solid black; margin-right: 5px;"></span> 1% AEP</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00bfff; border: 1px solid black; margin-right: 5px;"></span> 0.1% AEP</li> </ul>			
<p><b>Fluvial Depth 1% AEP (Present Day)</b></p> <p>Hazard Rating</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ced1; border: 1px solid black; margin-right: 5px;"></span> Very low hazard - caution</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black; margin-right: 5px;"></span> Danger for some</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff8c00; border: 1px solid black; margin-right: 5px;"></span> Danger for most</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff0000; border: 1px solid black; margin-right: 5px;"></span> Danger for all</li> </ul>	<p><b>Fluvial Depth 1% AEP (Present Day)</b></p> <p>Hazard Rating</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ced1; border: 1px solid black; margin-right: 5px;"></span> Very low hazard - caution</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black; margin-right: 5px;"></span> Danger for some</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff8c00; border: 1px solid black; margin-right: 5px;"></span> Danger for most</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff0000; border: 1px solid black; margin-right: 5px;"></span> Danger for all</li> </ul>			
<p><b>Tidal Depth 0.5% AEP (Present Day Defended)</b></p> <p>Depth (m)</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9e1f2; border: 1px solid black; margin-right: 5px;"></span> 0 - 0.10</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #99c2ff; border: 1px solid black; margin-right: 5px;"></span> 0.10 - 0.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4169e1; border: 1px solid black; margin-right: 5px;"></span> 0.50 - 1.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00008b; border: 1px solid black; margin-right: 5px;"></span> 1.00 - 1.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ced1; border: 1px solid black; margin-right: 5px;"></span> 1.50 - 2.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ff00; border: 1px solid black; margin-right: 5px;"></span> 2.00 - 2.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> 2.50 - 3.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffd700; border: 1px solid black; margin-right: 5px;"></span> 3.00 - 3.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff8c00; border: 1px solid black; margin-right: 5px;"></span> 3.50 - 4.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8b0000; border: 1px solid black; margin-right: 5px;"></span> &gt;4.00</li> </ul>	<p><b>Tidal Depth 0.1% AEP (Present Day Defended)</b></p> <p>Depth (m)</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9e1f2; border: 1px solid black; margin-right: 5px;"></span> 0 - 0.10</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #99c2ff; border: 1px solid black; margin-right: 5px;"></span> 0.10 - 0.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4169e1; border: 1px solid black; margin-right: 5px;"></span> 0.50 - 1.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00008b; border: 1px solid black; margin-right: 5px;"></span> 1.00 - 1.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ced1; border: 1px solid black; margin-right: 5px;"></span> 1.50 - 2.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ff00; border: 1px solid black; margin-right: 5px;"></span> 2.00 - 2.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> 2.50 - 3.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffd700; border: 1px solid black; margin-right: 5px;"></span> 3.00 - 3.50</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff8c00; border: 1px solid black; margin-right: 5px;"></span> 3.50 - 4.00</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8b0000; border: 1px solid black; margin-right: 5px;"></span> &gt;4.00</li> </ul>			
<p><b>Tidal Hazard 0.5% AEP (Present Day Defended)</b></p> <p>Hazard Rating</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ced1; border: 1px solid black; margin-right: 5px;"></span> Very low hazard - caution</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black; margin-right: 5px;"></span> Danger for some</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff8c00; border: 1px solid black; margin-right: 5px;"></span> Danger for most</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff0000; border: 1px solid black; margin-right: 5px;"></span> Danger for all</li> </ul>	<p><b>Tidal Hazard 0.1% AEP (Present Day Defended)</b></p> <p>Hazard Rating</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ced1; border: 1px solid black; margin-right: 5px;"></span> Very low hazard - caution</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black; margin-right: 5px;"></span> Danger for some</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff8c00; border: 1px solid black; margin-right: 5px;"></span> Danger for most</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff0000; border: 1px solid black; margin-right: 5px;"></span> Danger for all</li> </ul>			
<p><b>Tidal (Present Day)</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ced1; border: 1px solid black; margin-right: 5px;"></span> 0.5% AEP (defended)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8b0000; border: 1px solid black; margin-right: 5px;"></span> 0.5% AEP (undefended)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> 0.1% AEP (defended)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00008b; border: 1px solid black; margin-right: 5px;"></span> 0.1% AEP (undefended)</li> </ul>	<p><b>Tidal (Future 2117)</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black; margin-right: 5px;"></span> 0.5% AEP (defended)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ff00; border: 1px solid black; margin-right: 5px;"></span> 0.5% AEP (undefended)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff0000; border: 1px solid black; margin-right: 5px;"></span> 0.1% AEP (defended)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808080; border: 1px solid black; margin-right: 5px;"></span> 0.1% AEP (undefended)</li> </ul>			
<p><b>Authority Information</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Potential Site Location</li> <li><span style="display: inline-block; width: 15px; height: 10px; border-bottom: 1px solid blue; margin-right: 5px;"></span> Rhines</li> </ul>	<p><b>Fluvial (Present Day)</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> 5% AEP</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00bfff; border: 1px solid black; margin-right: 5px;"></span> 1% AEP</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00008b; border: 1px solid black; margin-right: 5px;"></span> 0.1% AEP</li> </ul>	<p><b>Fluvial (Future 2080s)</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff00ff; border: 1px solid black; margin-right: 5px;"></span> 1% AEP (Central)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ff00; border: 1px solid black; margin-right: 5px;"></span> 1% AEP (Higher Central)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff0000; border: 1px solid black; margin-right: 5px;"></span> 1% AEP (Upper End)</li> </ul>	<p><b>LEGEND</b></p>	<p><b>Residual risk scenarios (0.5% AEP)</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ced1; border: 1px solid black; margin-right: 5px;"></span> Oldbury Pill embankment breach</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ff00ff; border: 1px solid black; margin-right: 5px;"></span> Outfall failure</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ff00; border: 1px solid black; margin-right: 5px;"></span> Power station embankment breach</li> </ul>

0 0.02 0.04 0.08 km

**JBA consulting**

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