

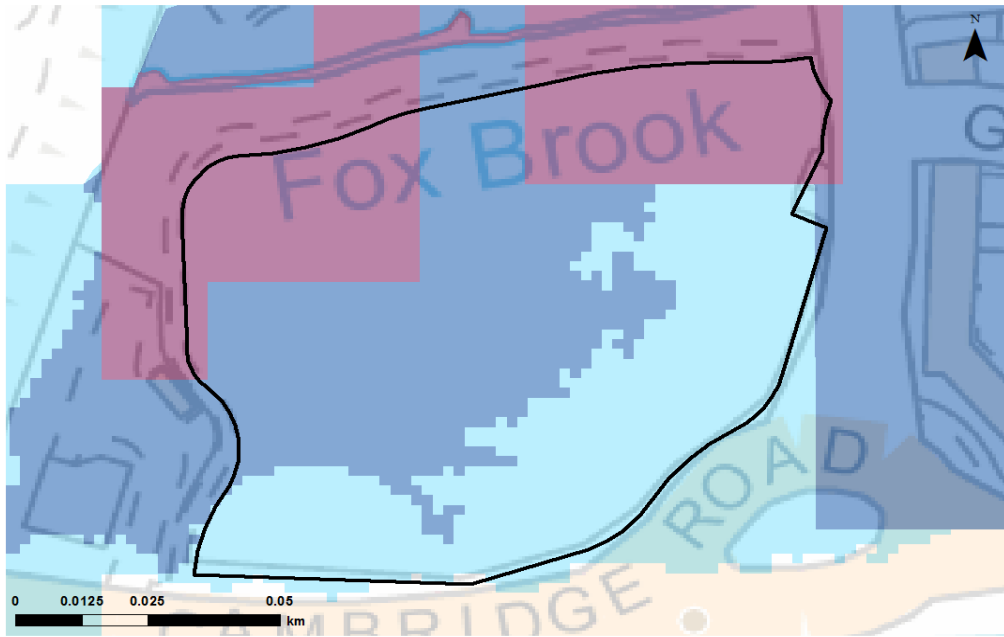
**Loves Farm Reserved Site, St Neots (SN2)**

<b>OSNGR:</b> 519804,260329	<b>Area:</b> 1.02ha		<b>Greenfield</b>	
<b>Flood Zone Coverage:</b>	<b>FZ3b</b> 26%	<b>FZ3a</b> 37%	<b>FZ2</b> 36%	<b>FZ1</b> 0%

**Sources of flood risk:**  
 The whole of the site is at risk of flooding from the Fox Brook. The River Great Ouse may also pose a risk if high levels prevent the Fox Brook from discharging into it, increasing levels in the Fox Brook.  
 Mapping shows surface water also poses a considerable risk to the site, mainly from a 0.1% AEP event.

**Exception Test Required?**  
 Yes, if More Vulnerable and Essential Infrastructure development is located in FZ3a and for Highly Vulnerable development located in FZ2.  
 Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.  
 More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.  
 Essential Infrastructure in Flood Zone 3b will require the Exception Test.

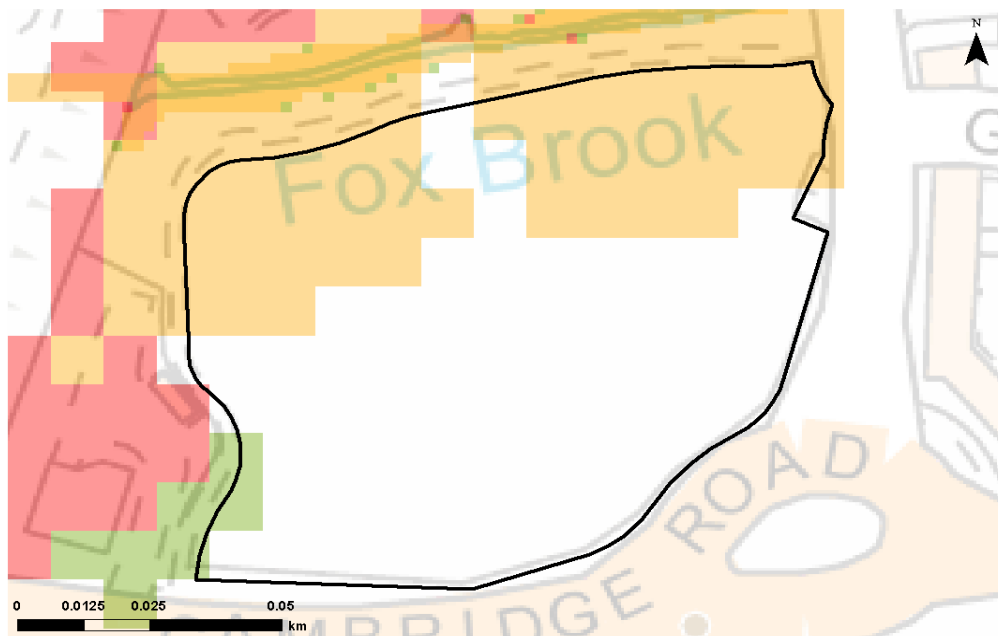
**Flood Zone Map**



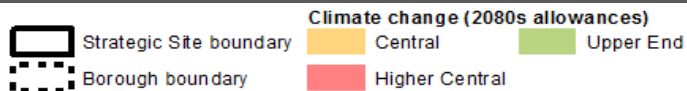
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Potential development location	Flood Zone 3b	Flood Zone 3a
Council boundary	Indicative Extent of Flood Zone 3b	Flood Zone 2

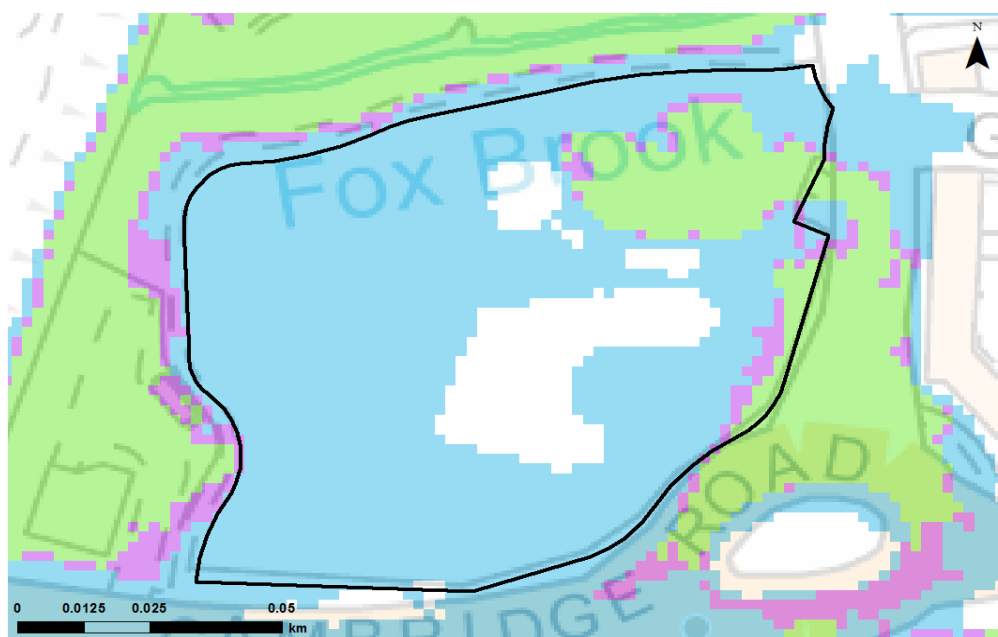
**Climate Change Map**



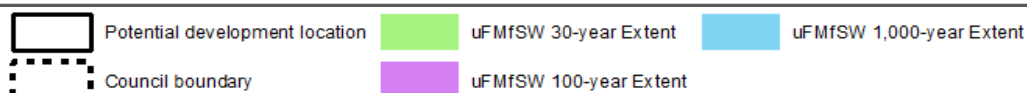
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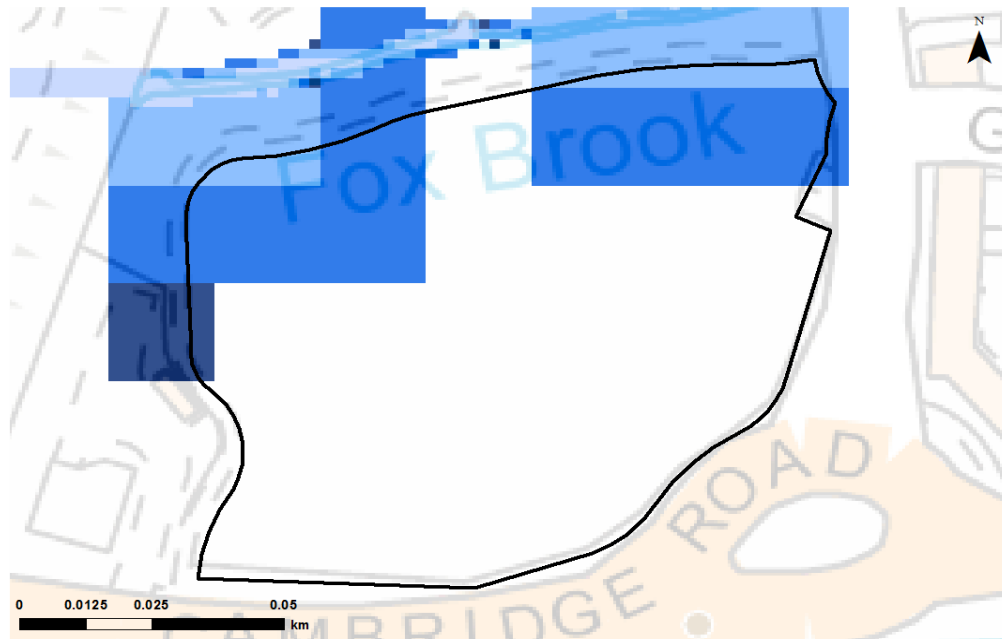
**Surface Water Map**



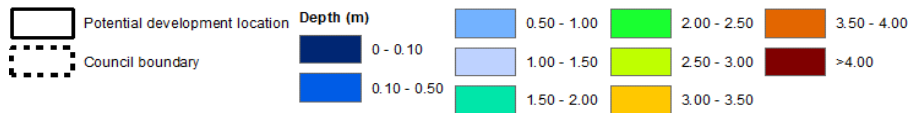
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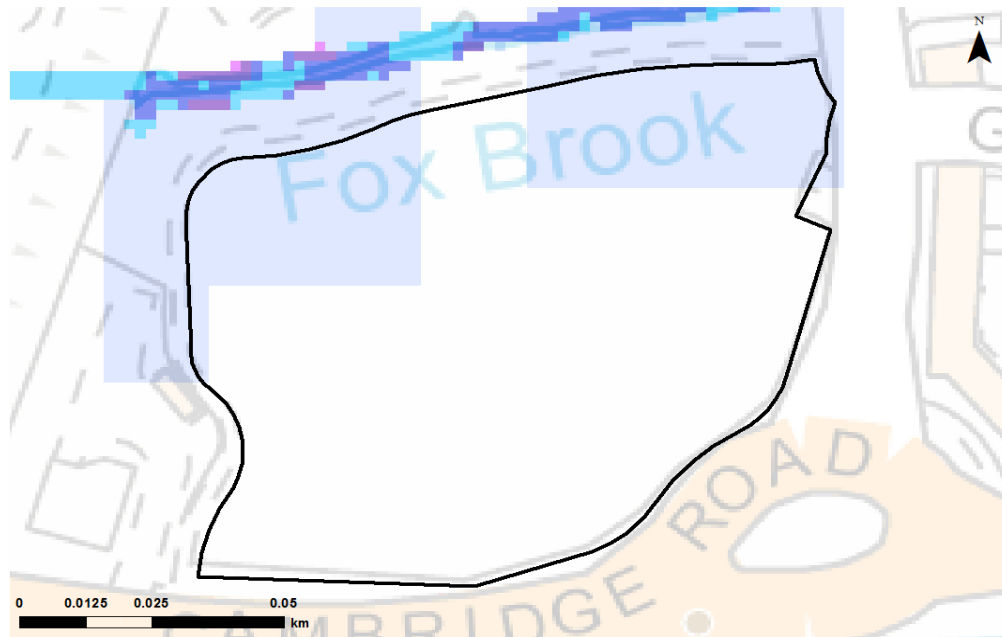
**Depth Map - fluvial flooding (1% Annual exceedance probability)**



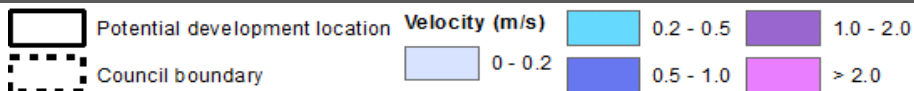
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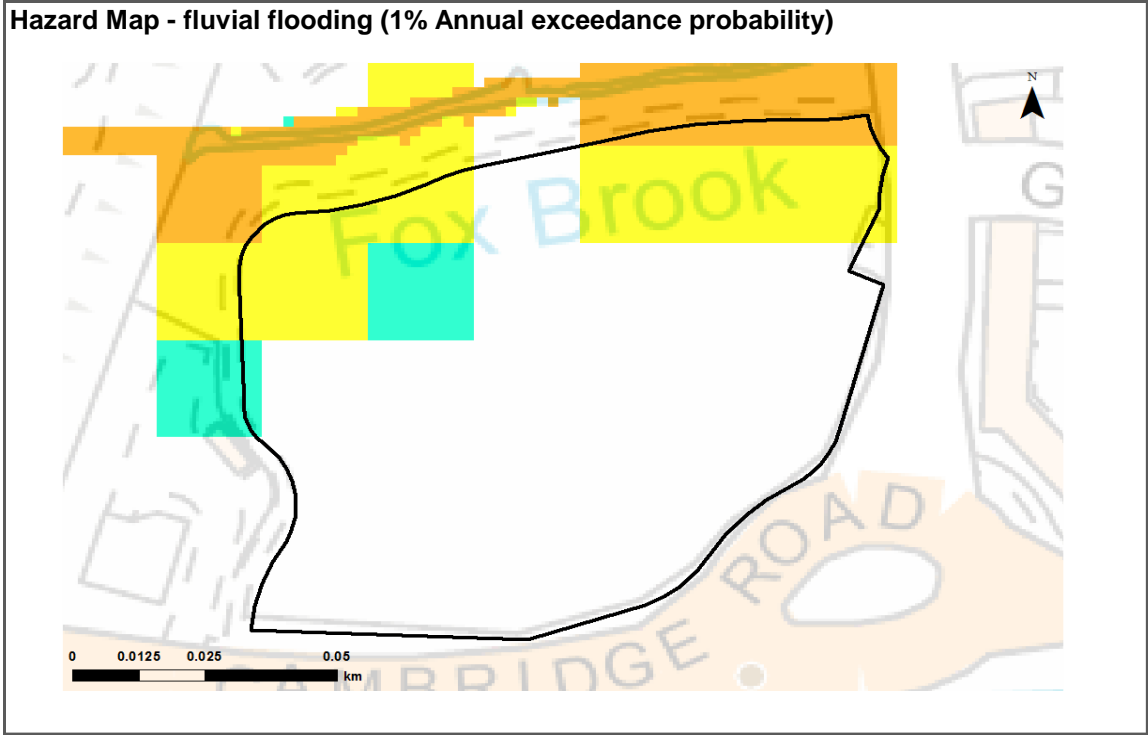


**Velocity Map - fluvial flooding (1% Annual exceedance probability)**









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	Potential development location	<b>Hazard Rating</b>		Danger for some		Danger for all
	Council boundary		Very low hazard - caution		Danger for most	

**SuDS & the development site:**

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving may have to use non-infiltrating systems given the possible risk from groundwater.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		Mapping suggests that the site slopes are suitable for all forms of detention. A liner may be required due to potential groundwater flooding.
Filtration		All filtration techniques are likely to be suitable. If the site has groundwater issues a liner will be required.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. If the site has groundwater a liner will be required.

Drainage strategies should demonstrate that an appropriate number of treatment stages have been delivered. This depends on the factors such as the type of development, primary source of runoff and likelihood of contamination. Guidance should be sought from the LLFA and other guidance documents such as the CIRIA SuDS Manual (C753).

**Flood Defences:**

There are no flood defences at this site.

**Emergency Planning:**

There are currently no flood warning areas covering this site.

**Access & Egress:**

Access and egress for the site via Dramswell Rise may be limited in a flood; it is currently shown to flood in the 1% AEP event. However, Cambridge Road is less affected by flooding and therefore may be a more appropriate access and egress route for the site.

**Climate Change:**

Climate change may mean that in the future, land currently considered Flood Zone 3a may become Functional Floodplain and land that is currently Flood Zone 2 may become Flood Zone 3. The depth and velocity of flooding from the Fox Brook may also increase, resulting in a greater hazard to people.

Climate change may increase the extent, frequency and depth of surface water flooding in the future.

**Implications for Development:**

Use of the Sequential Approach will be required to place vulnerable development outside of high risk areas.

As the whole of the site is located in the Flood Zones this may restrict the type and amount of development within the site.

Given the whole of the site is within flood zone 3 and 2 flood compensation will be required on a level for level volume for volume basis for any proposed loss of floodplain. Therefore land within the vicinity and outside the proposed site may be required for flood compensation, see section 8.3.4 of the SFRA main report. Prospects for effective mitigation would need to be established before taking the site forward.

Safe access and egress is not considered a significant issue as there are alternative routes, although climate change may increase the extent of surface water and fluvial flooding in the future and have the potential to affect routes.

Broadscale assessment of suitable SuDS has indicated a number of different types may be possible; however, given the size of the site and the proportion of the site at risk from flooding, the type of SuDS system used may be influenced by amount of land available; depending on the system used there may be an impact on the amount of land available for development and the cost of development.

The site is not covered by the Environment Agency's Flood Warning Service. The Fox Brook is classed as Ordinary Watercourse in this location and, as the Flood Warning Service is limited to Main River, it is unlikely a Flood Warning service would be offered in this area in the future.

The site is not known to benefit from any flood defences. Given the size and location of the site, it is unlikely the site itself could be used to implement strategic solutions to alleviate flood risk elsewhere in the catchment. However, the upper reaches of the Fox Brook are predominantly rural and therefore it is possible that strategic solutions could be investigated in the upper reaches which may benefit properties downstream.

**Guidance for Developers:**

[Mapping in this table is based on results from a 2D model developed for this SFRA. This model does not take into account the upstream attenuation on the Fox Brook.](#)

At the planning application stage, a site-specific flood risk assessment will be required to confirm Flood Zone 2 and 3 extents. Where a site specific FRA has produced modelling outlines which differ from the Flood Map for Planning then a full evidence based review would be required; where this is acceptable to the EA then amendments to the Flood Map for Planning may take place.

Resilience measures will be required if buildings are situated in the flood risk area.

The peak flows on the Fox Brook should be considered when considering drainage.

Assessment for runoff should include allowance for climate change effects.

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.

Onsite attenuation schemes would need to be tested against the hydrographs of the Fox Brook to ensure flows are not exacerbated downstream within the catchment.

Safe access and egress will need to be demonstrated particularly in the event of failure of flood defences; currently access and egress is affected by fluvial flooding from a 1% AEP event (undefended).

New development must seek opportunities to reduce overall level of flood risk at the site, for example by:

- o Reducing volume and rate of runoff
- o Relocating development to zones with lower flood risk
- o Creating space for flooding.
- o 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.

Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.