

### East of Brookside Sawtry (SY1)

|                             |                        |                     |                   |                   |
|-----------------------------|------------------------|---------------------|-------------------|-------------------|
| <b>OSNGR:</b>               | 516826,284263          | <b>Area:</b> 4.00ha | <b>Greenfield</b> |                   |
| <b>Flood Zone Coverage:</b> | <b>FZ3b</b><br>Unknown | <b>FZ3a</b><br>15%  | <b>FZ2</b><br>7%  | <b>FZ1</b><br>78% |

#### Sources of flood risk:

The site is at risk from Sawtry Brook. Surface water flood risk is more significant with over half the site affected by surface water.

#### Exception Test Required?

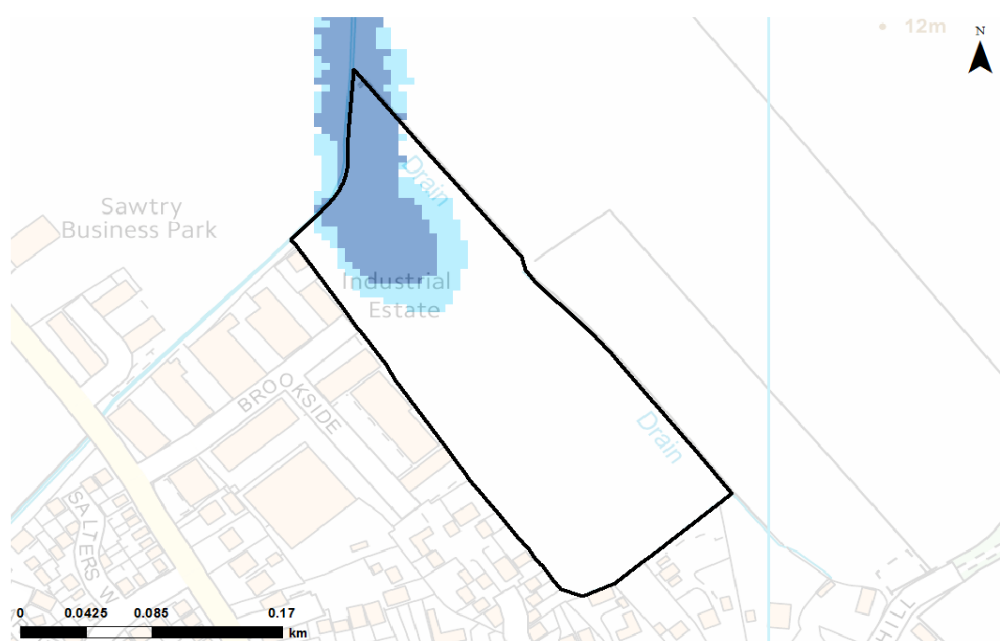
Yes, if More Vulnerable and Essential Infrastructure development is located in FZ3a and for Highly Vulnerable development located in FZ2.

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



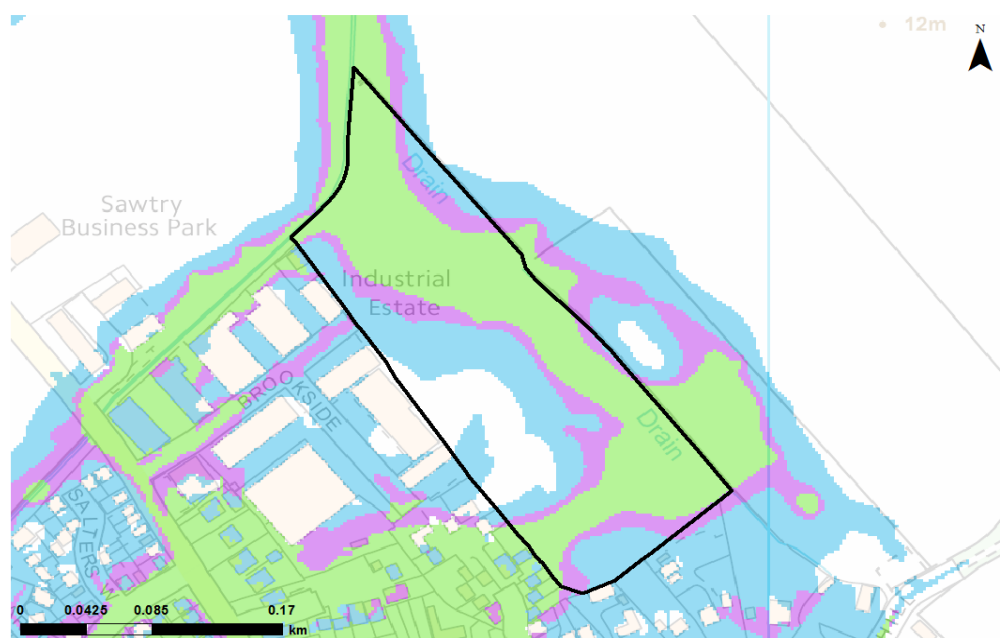
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|  |                                |  |                                    |  |               |
|--|--------------------------------|--|------------------------------------|--|---------------|
|  | Potential development location |  | Flood Zone 3b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

## Climate Change Map

No climate change mapping available as there is no detailed hydraulic model available for this watercourse. A hydraulic model should be developed as part of a site-specific flood risk assessment.

## Surface Water Map



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|  |                                |  |                        |  |                          |
|--|--------------------------------|--|------------------------|--|--------------------------|
|  | Potential development location |  | uFMfSW 30-year Extent  |  | uFMfSW 1,000-year Extent |
|  | Council boundary               |  | uFMfSW 100-year Extent |  |                          |

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## SuDS & the development site:

| SuDS Type | Suitability | Comments |
|-----------|-------------|----------|
|-----------|-------------|----------|

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Source Control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | All forms of source control are likely to be suitable.                                                                                                                                                           |
| Infiltration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | 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.                   |
| Detention                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Mapping suggests that the site slopes are suitable for all forms of detention.                                                                                                                                   |
| Filtration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | All filtration techniques are likely to be suitable. If the site has contamination 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 contamination issues; a liner will be required. |
| <p>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).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                                                                                                                                                  |
| <p><b>Flood Defences:</b><br/>There are no flood defences at this site.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                  |
| <p><b>Emergency Planning:</b><br/>This site is partially covered by the Middle Level Commissioner Area Flood Warning Area</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                  |
| <p><b>Access &amp; Egress:</b><br/>The main access and egress route, Brookside, is not affected by fluvial flooding. However, it is affected by surface</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                  |
| <p><b>Climate Change:</b><br/>Climate change may mean that in the future, what is currently considered Flood Zone 2 may become Flood Zone 3 and the extent of Functional Floodplain may also increase. The depth of flooding may also increase.<br/>Climate change may increase the extent and depth of surface water flooding in the future to the extent that it may affect the site.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                  |
| <p><b>Implications for Development:</b><br/>Use of the Sequential Approach means development can be placed away from Flood Zones 2 and 3, with the area affected by flood risk left undeveloped - approximately 3.2 hectares of land is available for development outside of Flood Zone 2 and 3.<br/>Safe access and egress is potentially an issue for this site. Although the route is unaffected by fluvial flooding, the route is significantly affected by surface water flooding. Development will need to ensure that safe access and egress can be provided for the lifetime of the development. Development should also ensure that there is no increase in flood risk that may exacerbate safe access and egress.<br/>Broad-scale assessment of suitable SuDS has indicated a number of different types may be possible; given the size of the site, the type of SuDS system used is likely to be limited by the amount of land available for development.<br/>The site is partially covered by the Environment Agency's Flood Warning Service. However, if development is placed outside of the Flood Zones, then access to the Flood Warning Service would not be required.<br/>The site is not known to benefit from any flood defences. Given the size and location of the site, it is unlikely the site could be used to implement strategic solutions to alleviate flood risk elsewhere in the catchment given the land requirement that any strategic storage solution would require.</p> |  |                                                                                                                                                                                                                  |

### Guidance for Developers:

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. Other sources of flooding should also be considered.

Mapping in this table is based on the Flood Map for Planning. A detailed model will be required of Sawtry Brook to assess the extent of flood risk to the site. 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 Sawtry 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 Sawtry Brook to ensure flows are not exacerbated downstream within the catchment.

Safe access and egress will need to be demonstrated; currently access and egress is affected by surface water flooding from a 30-year event.

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, The Commissioners, Sawtry IDB and the Environment Agency should be undertaken at an early stage.