# Appendix F Minutes of meetings with LLFA and Cambridge City Council

# Meeting Note

| Meeting Details | | | |
|---|---|---|---|
| **Project Title:** | Cambridge North | **Date:** | 13/12/2121 |
| **Project No:** | 05425/A | **Time:** | 1400 |
| **Subject:** | Surface Water Drainage Strategy | **Venue:** | Teams |
| **Present:** | Malcolm Crowther (PJA), Greg Dobbins (PJA), Fiona Bradley (Greater Cambridge Shared Planning), David Long (Brookgate), Harry Pickford (Cambridgeshire County Council), Luisa Nunes (Cambridge City Council), Alison Wright (Bidwells) | | |
| **Apologies:** | | | |

| Matters Arising | | Action |
|---|---|---|
| 1 | MC explained both drainage layouts with the difference being surface water attenuation under either the Network Rail depot or within a pond north of Cowley Road. | |
| 2 | HP stated the First Public Drain overflow culvert is an awarded watercourse and permissions for diversion may be required from both DEFRA and the EA. MC requested confirmation of the procedure from HP after the meeting by email. | |
| 3 | The pond was preferred by the LLFA, even as a temporary measure. | |
| 4 | MC and DL asked LN and HP to consider raising the final discharge rate from 2.0 to 3.3 l/s/ha as was agreed for the previous planning application between Motts and Cambridge City Council. LN stated 2.0 l/s/ha is the standard. MC explained the issues with fitting in sufficient attenuation to meet that discharge rate. It was discussed that the receiving culvert is an overflow from an open drain network so is typically empty in low return period events and that the site was historically brownfield discharging to ground (now discounted as a solution due to the high groundwater). LN and HP said they would consider raising the final discharge rate. | LN/HP |
| 5 | Phasing of the works was discussed with regards to whether the attenuation provision could be offset to the end of the construction period. HP said that this was not ideal as both the site and off-site areas would not be protected in the interim. | |
| 6 | Options for discharge from the temporary car park north of Cowley Rd were discussed. | |
| 7 | MC issued the pond option pdf to the councils by email and feedback on both options is expected. | LN/HP |
| 8 | | |
| 9 | | |
| 10 | | |

| | |
|---|---|
| **Distribution:** | Malcolm Crowther (PJA), Greg Dobbins (PJA), David Long (Brookgate), Alison Wright (Bidwells), Ivan Bennett (Brookgate), Mike Barker (RPS), Mike Derbyshire (Bidwells), Harriet Wooler (Bidwells), Fiona Bradley (Greater Cambridge Shared Planning), Harry Pickford (Cambridgeshire County Council), Luisa Nunes (Cambridge City Council) |

LOCATION The Aquarium
King Street
Reading
RG1 2AN

TELEPHONE 0118 956 0909
EMAIL reading@pja.co.uk

WEBSITE pja.co.uk

# Meeting Note

| Meeting Details | | | |
|---|---|---|---|
| **Project Title:** | Cambridge North | **Date:** | 09/02/2022 |
| **Project No:** | 05425/A | **Time:** | 1000 |
| **Subject:** | Surface and Foul Water Drainage Strategy | **Venue:** | Teams |
| **Present:** | Malcolm Crowther (PJA), Luisa Nunes (Cambridge City Council), | | |
| **Apologies:** | Harry Pickford (Cambridgeshire County Council), | | |
| **cc** | Greg Dobbins (PJA), Fiona Bradley (Greater Cambridge Shared Planning), David Long (Brookgate), Alison Wright (Bidwells), Harry Pickford (Cambridgeshire County Council), Jennifer Berry (Robert Myers Associates), Lizy Huyghe (acme) | | |

| Matters Arising | | Action |
|---|---|---|
| 1 | MC explained the foul water drainage strategy. LN requested that evidence be provided within the planning submission that the foul water discharge location and flow rate are acceptable to Anglian Water (AW). MC said the relevant correspondence with AW will be appended to the Foul Water Drainage Strategy report. | |
| 2 | LN requested that the Foul Water Drainage Strategy include a detail for the final connection from the rising main discharge chamber on the cycle path south of Cowley Road. This section to show the pipe route underneath the First Public Drain (FPD) open channel then underneath Cowley Road to the AW connection manhole. | MC |
| 3 | MC outlined what he had discussed with Harry Pickford regarding the Surface Water Drainage Strategy on the telephone on 12th January 2022, as follows:<br>• The overflow culvert to the FPD is under riperian ownership;<br>• As part of the new diversion to the FPD culvert an Ordinary Watercourse Consent from Cambridgeshire County Council must be submitted;<br>• The easement around the culvert to be 5m total width from the centreline of the culvert; and<br>• Providing every effort has been made to maximise the surface water attenuation on the site then the LLFA will considering raising the final discharge rate above the 2.0 l/s/ha stated in the local legislation. | |
| 4 | MC explained the reasons why Catchment 1 was added to the existing surface water pumping station, namely that there were concerns that the full attenuation for the residential area (Catchment 2) could be provided within the residential area central courtyard (or elsewhere in Catchment 2) and then drain by gravity to Swale Street swale and the FPD. | |
| 5 | LN questioned the location of the red line boundary and whether the swale/tank on the busway hard shoulder was within the application area.<br><br>***Post-Meeting Note:*** MC forwarded the current acme red line boundary drawing to LN showing the hard shoulder to be within the planning boundary. | |
| 6 | MC explained the additional SuDs benefits now shown in Catchments 1, 3 and 4 in the form of green/brown roofs, raingardens and tree pit root cell attenuation.<br><br>***Post-Meeting Note:*** Details on tree root cell attenuation product can be found on the page link ArborCell - GreenBlue Urban. | |

LOCATION The Aquarium
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RG1 2AN

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EMAIL reading@pja.co.uk

WEBSITE pja.co.uk

| Matters Arising | | Action |
|---|---|---|
| 7 | MC explained the difficulties within Catchments 3, 4 and 6 with providing the required attenuation volume to limit the final surface water discharge rate to 2.0 l/s/ha.<br><br>The tank within Catchment 6 is constrained by the adjacent FPD culvert and conflicts with the following:<br><br>• The proposed multi-utility trench (MUT) of 3m width within the highway to serve Buildings S7 and S9/10<br>• The proposed tree pits and rain gardens (above or adjacent to tank)<br><br>The tank within Catchment 3 beneath Chesterton Square which is constrained by the need to drain into Swale St swale by gravity and clashes with the following:<br><br>• The pipe network required to feed the fountain feature<br>• The tree features within the Square<br><br>LN stated there could be some flexibility regarding the discharge rate from the existing development i.e. Catchment 6 but not from the new development i.e. Catchment 3 (which should remain limited to 2.0 l/s/ha).<br><br>MC to look at the tanks within Catchments 3 and 6 again in light of this discussion. | MC |
| 8 | LN requested MC look at water quality treatment options for the temporary car park runoff adjacent to the basin north of Cowley Rd. | MC |
| 9 | LN requested the drainage strategy report/drawing make it clearer that Catchment 5 has been developed already and the raingardens draining Milton Avenue highway runoff are existing. | MC |
| 10 | LN requested MC look at any remaining footprint within Catchments 3, 4 and 7 where permeable paving surfaces could be provided. | MC |
| | | |
| | | |
| | | |

# Appendix G Environment Agency Flood Data

creating a better place

Environment Agency

Paul Bacchus
Paul.bacchus@pja.co.uk

**Our ref** EAn/2021/232588
**Date** 30 September 2021

Dear Paul,

**Enquiry regarding Product 4 for Milton Avenue (cycleway), Barnwell, Milton, (North) Cambridge, Cambridgeshire, East of England, England, CB4 0AE**

Thank you for your enquiry which was received on 3rd September 2021.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

**Flood Map for Planning (Rivers and Sea)**
The Flood Map for Planning (Rivers and Sea) can be viewed and downloaded as a PDF file on GOV.UK by following this link: **https://flood-map-for-planning.service.gov.uk**

**Long Term Flood Risk Information**
Long term flood risk mapping including: ***Risk of Flooding from Rivers or the Sea***, ***Flood Risk from Surface Water*** and ***Flood Risk from Reservoirs*** can be viewed on GOV.UK: **https://flood-warning-information.service.gov.uk/long-term-flood-risk/map**

The information we hold and a copy of the Flood Risk Assessment (FRA) advisory note is attached to my email.

Further Asset Management Data and Information can be found online using this link: https://environment.data.gov.uk/asset-management/index.html

| | |
|---|---|
| Name | Product 4 |
| Description | Detailed Flood Risk Assessment Map for Milton Avenue (cycleway), Barnwell, Milton, (North) Cambridge, Cambridgeshire, East of England, England, CB4 0AE |
| Licence | Open Government Licence |
| Information Warnings | The maps provided are to be used in conjunction with the **Datasheet**. Please read the Datasheet and take note of information contained within the **'Important Information'** section. |
| Information Warning - OS background mapping | *The mapping of features provided as a background in this product is © Ordnance Survey. It is provided to give context to this product. The Open Government Licence does not apply to this background mapping. You are granted a non-exclusive, royalty free, revocable licence solely to view the Licensed Data for non-commercial purposes for the period during which the Environment Agency makes it available. You are not permitted to copy, sub-license, distribute, sell or otherwise make available the Licensed Data to third parties in any form. Third party rights to enforce the terms of this licence shall be reserved to OS.* |

| | |
|---|---|
| Attribution | Contains Environment Agency information © Environment Agency and/or database rights.<br>Contains Ordnance Survey data © Crown copyright 2017 Ordnance Survey 100024198. |

**Data Available Online**
Many of our flood datasets are available online:

- Flood Map For Planning (Flood Zone 2, Flood Zone 3 ,Flood Storage Areas, Flood Defences, Areas Benefiting from Defences)
- Risk of Flooding from Rivers and Sea
- Historic Flood Map
- Current Flood Warnings

**What's In Your BackYard (WIYBY) is no longer available**
Most of the data is still available via other sharing services such as DATA.GOV.UK, MAGIC map and new GOV.UK digital services. Where the datasets are no longer available as maps, you will be able to download and use within specialist applications.

To find out all the services the Environment Agency have available, please click here.

For any other enquiries please send your request to us at:
Enquiries_EastAnglia@environment-agency.gov.uk.

Additional information

Please be aware that we now charge for planning advice provided to developers, agents and landowners. If you would like advice to inform a future planning application for this site then please complete our https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion and email it to our Sustainable Places team at: planning.brampton@environment-agency.gov.uk. They will initially provide you with a free response identifying the following:

- the environmental constraints affecting the proposal;
- the environmental issues raised by the proposal;
- the information we need for the subsequent planning application to address the issues identified and demonstrate an acceptable development;
- any required environmental permits.

If you require any further information from them (for example, a meeting or the detailed review of a technical document) they will need to set up a charging agreement. Further information can be found on our website.

Please note we have published revised climate change allowances, which are available online. These new allowances will need to be reflected in your Flood Risk Assessment. If you want to discuss this please call our Sustainable Places team on 020 8474 5242 (West).

Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Yours sincerely

*L. Ecclestone*

**Lisa Ecclestone**

**Customers and Engagement Officer**

Direct dial: 02030 255472

# Flood risk assessments: Climate change allowances

## *Application of the allowances and local considerations*

*East Anglia; Essex, Norfolk, Suffolk, Cambridgeshire and Bedfordshire*

## 1) The climate change allowances

The National Planning Practice Guidance refers planners, developers and advisors to the Environment Agency guidance on considering climate change in Flood Risk Assessments (FRAs). This guidance was updated in February 2016 and is available on Gov.uk. The guidance can be used for planning applications, local plans, neighbourhood plans and other projects. It provides climate change allowances for peak river flow, peak rainfall, sea level rise, wind speed and wave height. The guidance provides a range of allowances to assess fluvial flooding, rather than a single national allowance. It advises on what allowances to use for assessment based on vulnerability classification, flood zone and development lifetime.

## 2) Assessment of climate change impacts on fluvial flooding

**Table A** below indicates the level of technical assessment of climate change impacts on fluvial flooding appropriate for new developments depending on their scale and location. This should be used as **a guide only**. Ultimately, the agreed approach should be based on expert local knowledge of flood risk conditions, local sensitivities and other influences. **For these reasons we recommend that applicants and / or their consultants should contact the Environment Agency at the pre-planning application stage to confirm the assessment approach, on a case by case basis**. **Table A** defines three possible approaches to account for flood risk impacts due to climate change, in new development proposals:

- **Basic:** Developer can add an allowance to the 'design flood' (i.e. 1% annual probability) peak levels to account for potential climate change impacts. The allowance should be derived and agreed locally by Environment Agency teams.
- **Intermediate:** Developer can use existing modelled flood and flow data to construct a stage-discharge rating curve, which can be used to interpolate a flood level based on the required peak flow allowance to apply to the 'design flood' flow.
- **Detailed:** Perform detailed hydraulic modelling, through either re-running Environment Agency hydraulic models (if available) or construction of a new model by the developer.

### Table A – Indicative guide to assessment approach

| VULNERABILITY CLASSIFICATION | FLOOD ZONE | DEVELOPMENT TYPE | | |
|---|---|---|---|---|
| | | MINOR | SMALL-MAJOR | LARGE-MAJOR |
| ESSENTIAL INFRASTRUCTURE | Zone 2 | Detailed | | |
| | Zone 3a | Detailed | | |
| | Zone 3b | Detailed | | |
| HIGHLY VULNERABLE | Zone 2 | Intermediate/ Basic | Intermediate/ Basic | Detailed |
| | Zone 3a | Not appropriate development | | |
| | Zone 3b | Not appropriate development | | |
| MORE VULNERABLE | Zone 2 | Basic | Basic | Intermediate/ Basic |
| | Zone 3a | Intermediate/ Basic | Detailed | Detailed |
| | Zone 3b | Not appropriate development | | |
| LESS VULNERABLE | Zone 2 | Basic | Basic | Intermediate/ Basic |
| | Zone 3a | Basic | Basic | Detailed |
| | Zone 3b | Not appropriate development | | |
| WATER COMPATIBLE | Zone 2 | None | | |
| | Zone 3a | Intermediate/ Basic | | |
| | Zone 3b | Detailed | | |

Note: Where the table states 'not appropriate development', this is in line with national planning policy. If in exceptional circumstances such development types are proposed in these locations, we would expect a detailed modelling approach to be used.

**NOTES:**

- Minor: 1-9 dwellings/ less than 0.5 ha | Office / light industrial under 1ha | General industrial under 1 ha | Retail under 1 ha | Gypsy/traveller site between 0 and 9 pitches
- Small-Major: 10 to 30 dwellings | Office / light industrial 1ha to 5ha | General industrial 1ha to 5ha | Retail over 1ha to 5ha | Gypsy/traveller site over 10 to 30 pitches
- Large-Major: 30+ dwellings | Office / light industrial 5ha+ | General industrial 5ha+ | Retail 5ha+ | Gypsy/traveller site over 30+ pitches | any other development that creates a non residential building or development over 1000 sq m.

**The assessment approach should be agreed with the Environment Agency as part of pre-planning application discussions to avoid abortive work**.

## 3) Specific local considerations

Where the Environment Agency and the applicant and / or their consultant has agreed that a '**basic**´ level of assessment is appropriate the figures in Table B below can be used as a precautionary allowance for potential climate change impacts on peak 'design' (i.e. 1% annual probability) fluvial flood level rather than undertaking detailed modelling.

**Table B – Local precautionary allowances for potential climate change impacts**

Essex, Norfolk and Suffolk

| Hydraulic Model (Watercourse) | Central | Higher Central | Upper |
|---|---|---|---|
| Blackwater & Brain -<br>Blackwater between TL7520925623 and TL7820324314<br>Brain between TL7373323312 and TL7683821321 | 500mm | 600mm | 900mm |
| Chelmer - between TL6872107082 and TL7161609422 and TL7436306592 | 350mm | 450mm | 750mm |
| Colne (Model Extent) | 450mm | 600mm | 950mm |
| Gipping – Downstream of Needham Market | 400mm | 500mm | 850mm |
| Gipping – Needham Market and upstream including Somersham W/C | 200mm | 250mm | 400mm |
| Norwich Downstream of TG2332009072 | 450mm | 600mm | 950mm |
| Norwich Upstream of TG2332009072 | 600mm | 800mm | 1200mm |
| Wensum (Model Extent) | 400mm | 500mm | 800mm |
| Yare (Model Extent) | 200mm | 250mm | 450mm |
| Broads (2008 Model Extent)<br>Bure and Ant (2012 Model Extent) | Please use the current 1 in 1000 (0.1%) annual probability including climate change allowance | | |
| Other main rivers, tributaries and ordinary watercourses | For other main rivers, tributaries and ordinary watercourses that are not stated above, basic allowances have not been calculated. In this instance you can either:<br>• If flow data is available you can request this data from us and can conduct an intermediate assessment yourself<br>• Or alternatively, you can choose to undertake a Detailed Assessment and "perform detailed hydraulic modelling, through either re-running our hydraulic models (if available) or constructing a new model | | |

Cambridgeshire and Bedfordshire

| Watercourse / Model | Central | Higher Central | Upper End |
|---|---|---|---|
| Alconbury Brook | 600mm | 700mm | 900mm |
| River Kym | | | |
| Lower Ouse (Model Extent) | 700mm | 800mm | 1100mm |
| Mid Ouse (Cold Brayfield to Bromham – between SP9156852223 and TL0132950919) | 700mm | 800mm | 1100mm |
| Mid Ouse (East of Bedford to Roxton – between TL0791848903 and TL1618854543) | 700mm | 850mm | 1200mm |
| River Hiz and River Purwell | 400mm | 450mm | 550mm |
| River Ivel | 500mm | 600mm | 750mm |
| Pix Brook | 450mm | 500mm | 600mm |
| Potton Brook | 500mm | 600mm | 700mm |
| River Cam and tributaries (excluding the Cam Lodes and the Slade System) | 600mm | 700mm | 950mm |
| Great Barford (ordinary watercourses) | 500mm | 550mm | 650mm |
| Bromham (ordinary watercourse) | 550mm | 650mm | 850mm |

**NOTES:**

*Urban areas excluded from the 'basic' approach: St Ives, Holywell, Godmanchester, Swavesey, Over, Bedford, Newport Pagnell, Buckingham and Leighton Buzzard. More detailed assessment of climate change allowances will need to be undertaken in these locations.*

Use of these allowances will only be accepted after discussion with the Environment Agency.

## 4) Fluvial food risk mitigation

For planning consultations where we are a statutory consultee and our Flood risk standing advice **does not** apply we use the following benchmarks to inform flood risk mitigation for different vulnerability classifications. **These are a guide only**. **We strongly recommend you contact us at the pre-planning application stage to confirm this on a case by case basis.** For planning consultations where we are not a statutory consultee or our Flood risk Standing advice applies we recommend local planning authorities and developers use these benchmarks but we do not expect to be consulted.

- For development classed as '**Essential Infrastructure**' our benchmark for flood risk mitigation is for it to be designed to the '**upper end**' climate change allowance for the epoch that most closely represents the lifetime of the development, including decommissioning.

- For **highly vulnerable** or **more vulnerable developments** in flood zone 2, the '**central**' climate change allowance is our minimum benchmark for flood risk mitigation, and in flood zone 3 the '**higher central**' climate change allowance is our minimum benchmark for flood risk mitigation. In sensitive locations it may be necessary to use the **higher central** (in flood zone 2) and the **upper end** allowance (in flood zone 3).

- For **water compatible** or **less vulnerable** development (e.g. commercial), the '**central**' climate change allowance for the epoch that most closely represents the lifetime of the development is our minimum benchmark for flood risk mitigation. In sensitive locations it may be necessary to use the **higher central** (particularly in flood zone 3) to inform built in resilience.

***For a visual representation of the above, please see Tables 1 and 2 overleaf.***

## 5) Development in Tidal Areas

There is no change to the way we respond to sites affected solely by tidal flood risk as the sea level allowances are unchanged.

## 6) Our Service

### Non-chargeable service

We will give a free opinion on:

- What climate change allowance to apply to a particular development type
- Which technical approach is suitable in the FRA

### Chargeable service:

- Review of climate change impacts using intermediate and detailed technical approaches (i.e. modelling review)
- Assessment and review of proposals for managed adaptation.

| **Table 1 peak river flow allowances by river basin district (use 1961 to 1990 baseline)** | | | | |
|---|---|---|---|---|
| **River basin district** | **Allowance category** | **Total potential change anticipated for '2020s'** **(2015 to 39)** | **Total potential change anticipated for '2050s'** **(2040 to 2069)** | **Total potential change anticipated for '2080s'** **(2070 to 2115)** |
| **Anglian** | **Upper end** | 25% | 35% | 65% |
| | **Higher central** | 15% | 20% | 35% |
| | **Central** | 10% | 15% | 25% |
| **Thames** | **Upper end** | 25% | 35% | 70% |
| | **Higher central** | 15% | 25% | 35% |
| | **Central** | 10% | 15% | 25% |

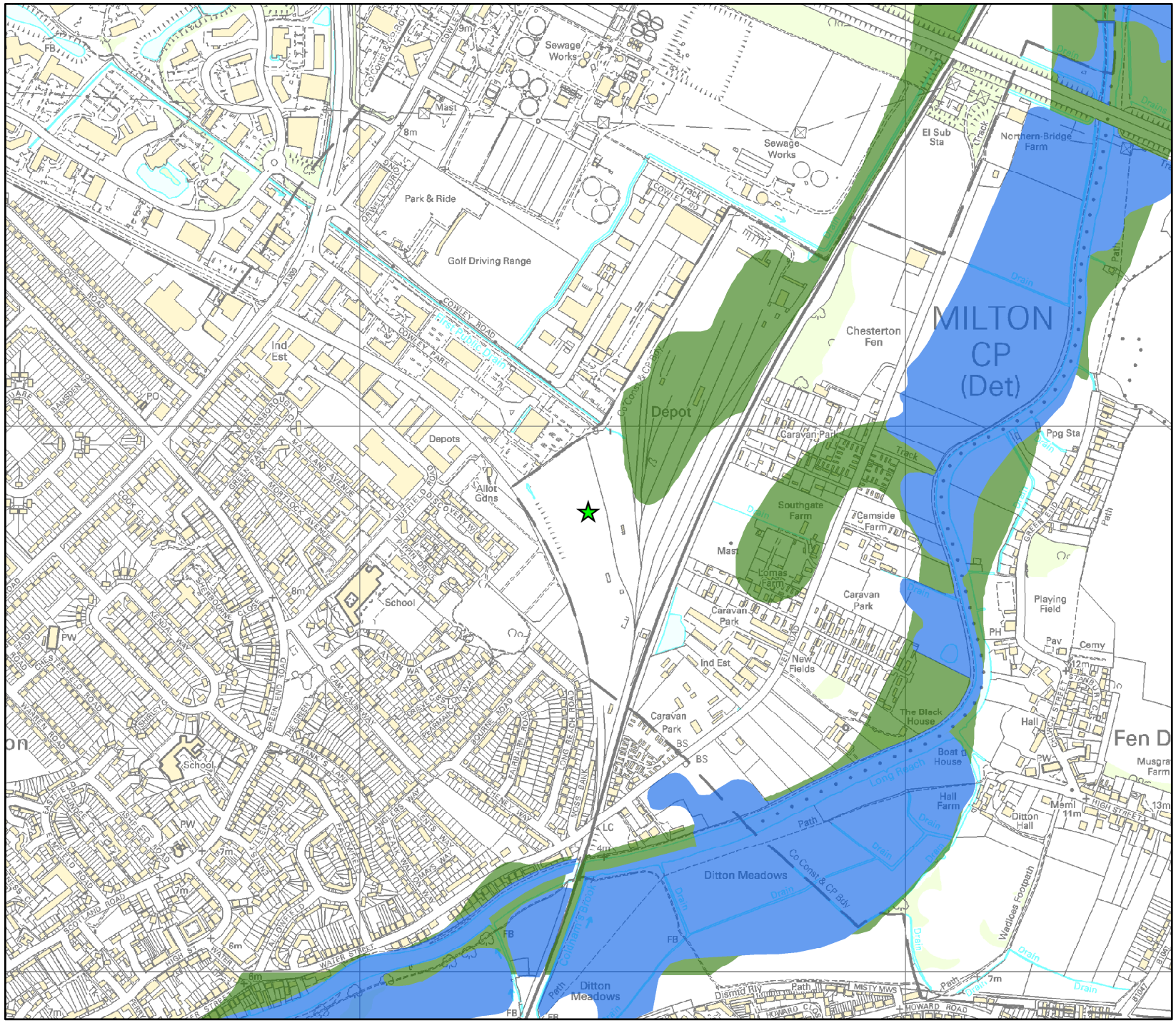
| **Table 2: Using peak river flow allowances for flood risk assessments** | | | | | |
|---|---|---|---|---|---|
| **Flood Zone** | **Essential Infrastructure** | **Highly Vulnerable** | **More Vulnerable** | **Less Vulnerable** | **Water Compatible** |
| **2** | higher central and upper end allowances | higher central and upper end allowances | central and higher central allowances | central allowance | none of the allowances |
| **3a** | upper end allowance | **X** | higher central and upper end | central and higher central | central allowance |
| **3b** | upper end allowance | **X** | **X** | **X** | central allowance |

**X** – Development should not be permitted
If (exceptionally) development is considered appropriate when not in accordance with flood zone vulnerability categories, then it would be appropriate to use the upper end allowance.

There may be circumstances where local evidence supports the use of other data or allowances. Where you think this is the case we may want to check this data and how you propose to use it.

# Recorded Flood Event Outlines
# centred on Milton Avenue (cycleway), Barnwell, Milton, (North) Cambridge, CB4 0AE

**NGR TL4741960842**
**Ref 232588**
**Created 10/09/2021**





Environment Agency
Bromholme Lane,
Brampton,
Cambridgeshire
PE28 4NE


Environment Agency

## Legend

- Site
- October 2001
- March 1947

0 0.125 0.25 0.5 km

## Information

Recorded Outlines - The recorded flood outlines provided are only indicative and may not accurately represent the area that flooded in the named events. Our historic flood event outlines do not provide a definitive record of flooding. It is possible that there will be an absence of datail in places where we have not been able to record the extent of flooding. It is also possible for errors occur in the digitisation of historic records of flooding.

Recorded Outlines - There may be other flood events that have occurred that we have not been able to produce an outline for.

Recorded Outlines - The historic flood event outlines are based on a combination of anecdotal evidence, Environment Agency staff observations and survey.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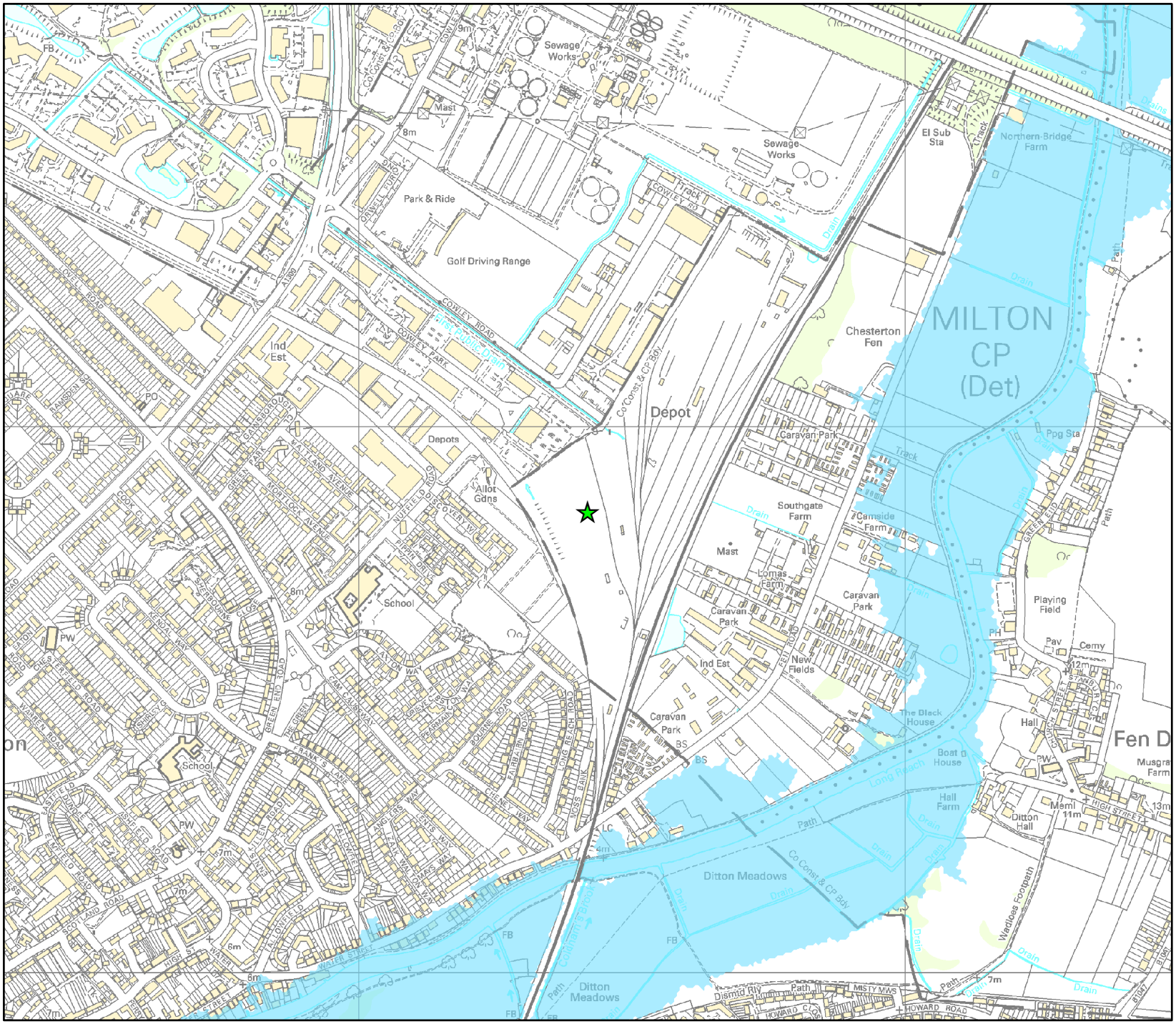
**Contact Us:** National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY Tel: 03708 506 506 (Mon-Fri 8-6).
Email: enquiries@environment-agency.gov.uk

# Defended Climate Change Model Flood Outlines centred on Milton Avenue (cycleway), Barnwell, Milton, (North) Cambridge, CB4 0AE

**NGR TL4741960842**
**Ref 232588**
**Created 10/09/2021**




Environment Agency
Bromholme Lane,
Brampton,
Cambridgeshire
PE28 4NE

Environment Agency

## Legend

- Site
- 1% AEP + 20CC

0 0.125 0.25 0.5 km

## Information

Model Tolerance - Any data included in this product is subject to a standard modelling tollerance of +/- 150mm.The fluvial models used to produce these results are intended for strategic scale use only.

Flood Risk Assessments - The Environment Agency recommends any Flood Risk Assessment should only consider these results in the context of a site specific assessment.

AEP - Annual Exceedance Probability - The probability of a given event occurring in any one year. Please note this is not a return period.

Strategic Scale Model - This model has been designed for catchment wide flood risk mapping. It should be noted that it was not created to produce flood levels for specific development sites within the catchment. Modelled outlines take into account catchment wide defences if present.

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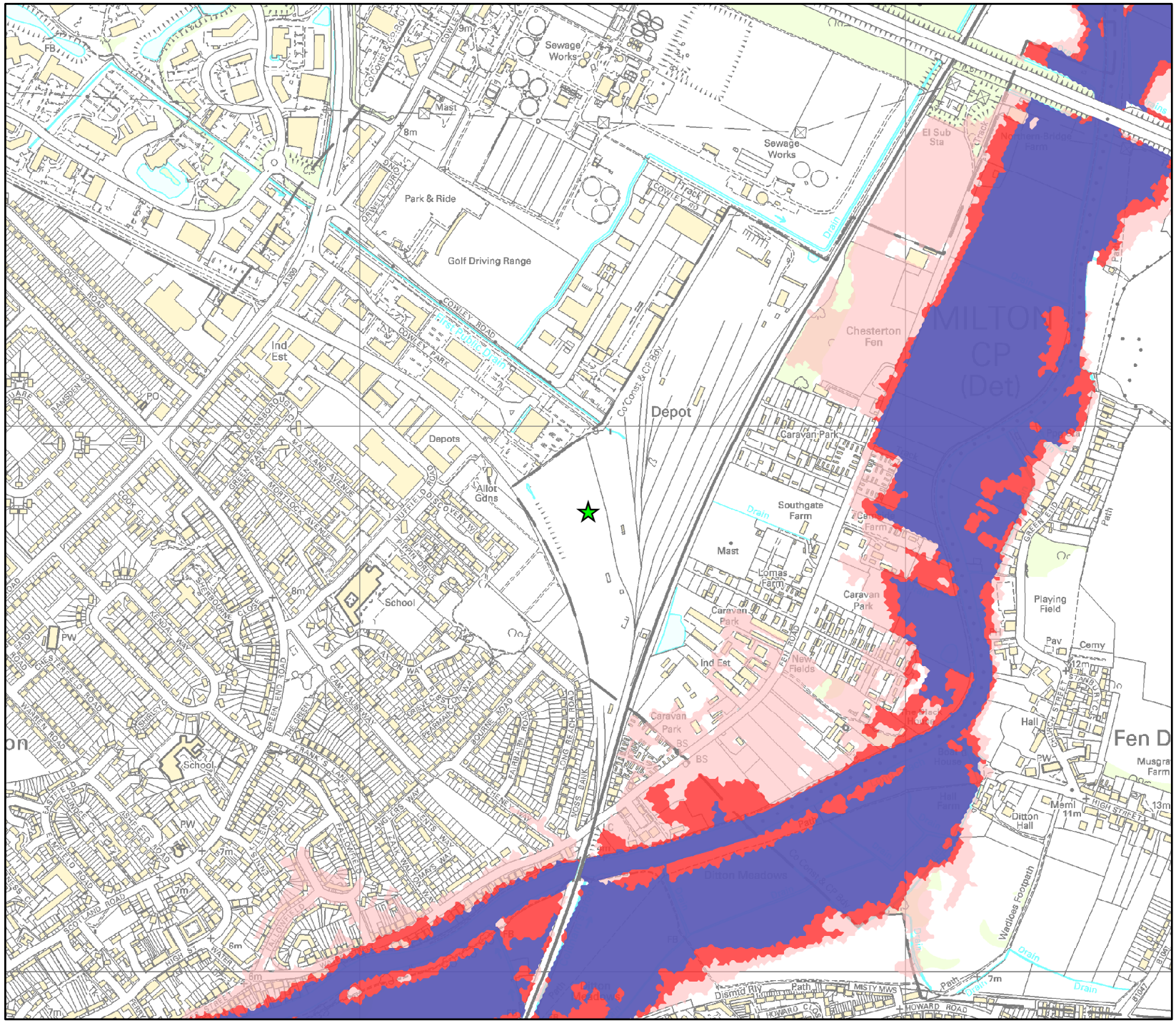
**Contact Us:** National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY Tel: 03708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

# Defended Model Flood Outlines
# centred on Milton Avenue (cycleway), Barnwell, Milton, (North) Cambridge, CB4 0AE

**NGR TL4741960842**
**Ref 232588**
**Created 10/09/2021**





Environment Agency
Bromholme Lane,
Brampton,
Cambridgeshire
PE28 4NE


Environment Agency

## Legend

- Site
- 5% AEP
- 1% AEP
- 0.1% AEP

0 0.125 0.25 0.5 km

## Information

Model Tolerance - Any data included in this product is subject to a standard modelling tollerance of +/- 150mm.The fluvial models used to produce these results are intended for strategic scale use only.

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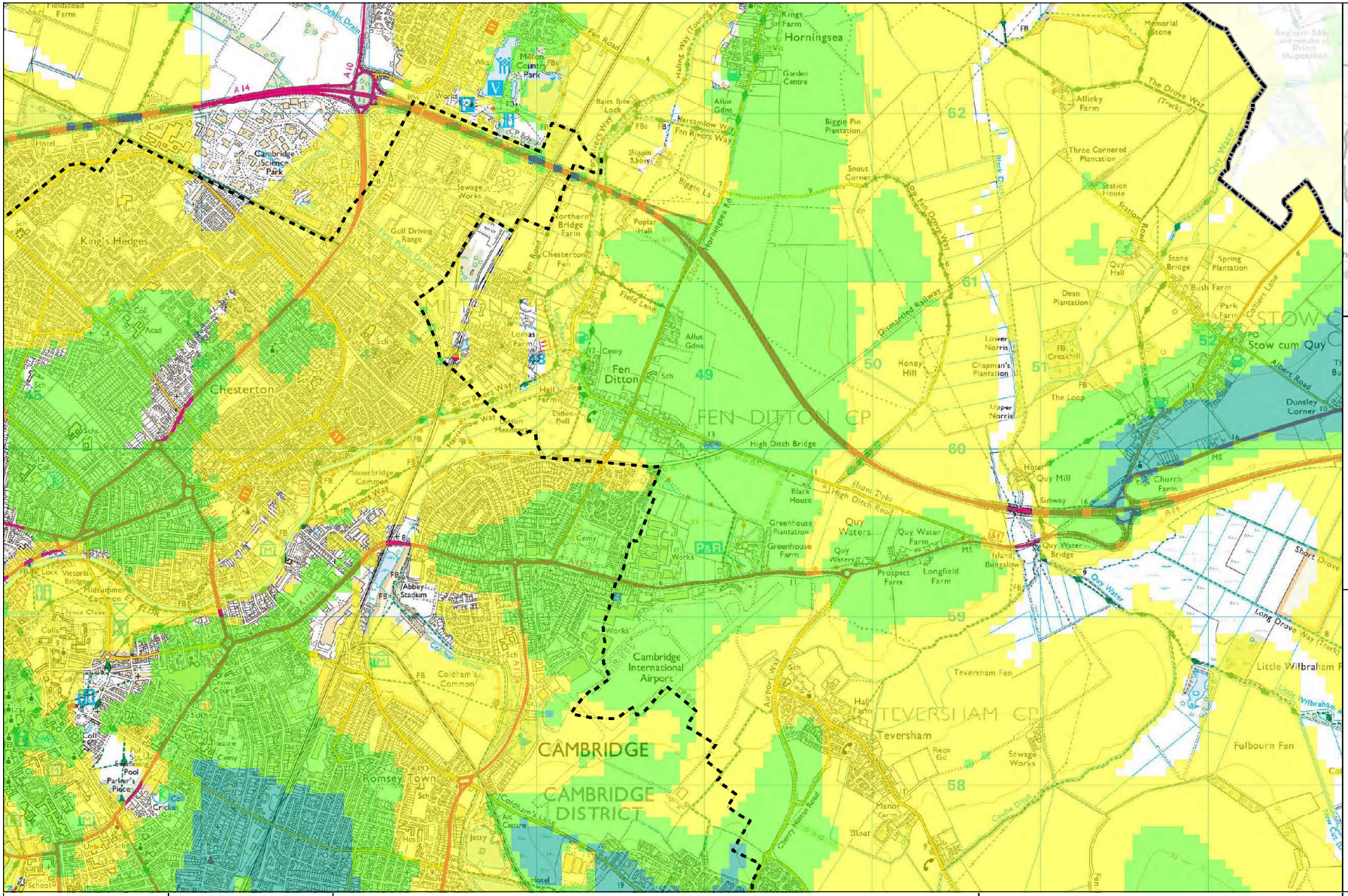
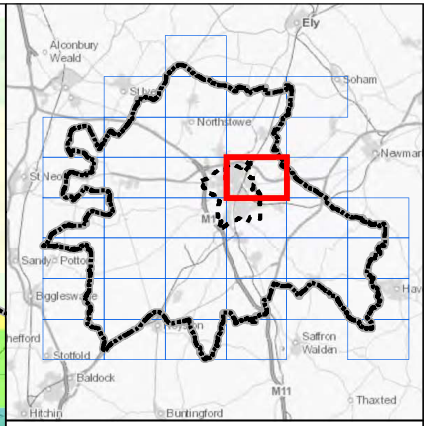
**Contact Us:** National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY Tel: 03708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

# Appendix H SFRA Flood Mapping Images




## Legend

**Study Area**

- Cambridge City Boundary
- South Cambridgeshire Boundary

**Groundwater Flooding Potential**

- Limited potential for groundwater flooding to occur
- Potential for groundwater flooding of property situated below ground level
- Potential for groundwater flooding to occur at surface

## Notes

The Susceptibility to Groundwater Flooding dataset indicates areas where geological conditions could enable groundwater flooding to occur, whether that be close to the ground surface or at the surface. It has been produced by the British Geological Survey (BGS) and classifies the potential of groundwater flooding, based on geological and hydrogeological information, into three classes:

'Limited potential for groundwater flooding to occur';
'Potential for groundwater flooding of property situated below ground level';
'Potential for groundwater flooding to occur at surface'.

Areas not classified as any of these are not considered to be prone to groundwater flooding.

It should be noted that the data indicates susceptibility to groundwater flooding and not illustrate hazard or risk; therefore should not be used on its own to inform planning decisions at any scale.

Stantec

Client: GREATER CAMBRIDGE SHARED PLANNING

# Greater Cambridge Integrated Water Management Study

Susceptibility to Groundwater Flooding

0 1 2 km

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| Figure: 48444/4005/GIS024 | Rev A |

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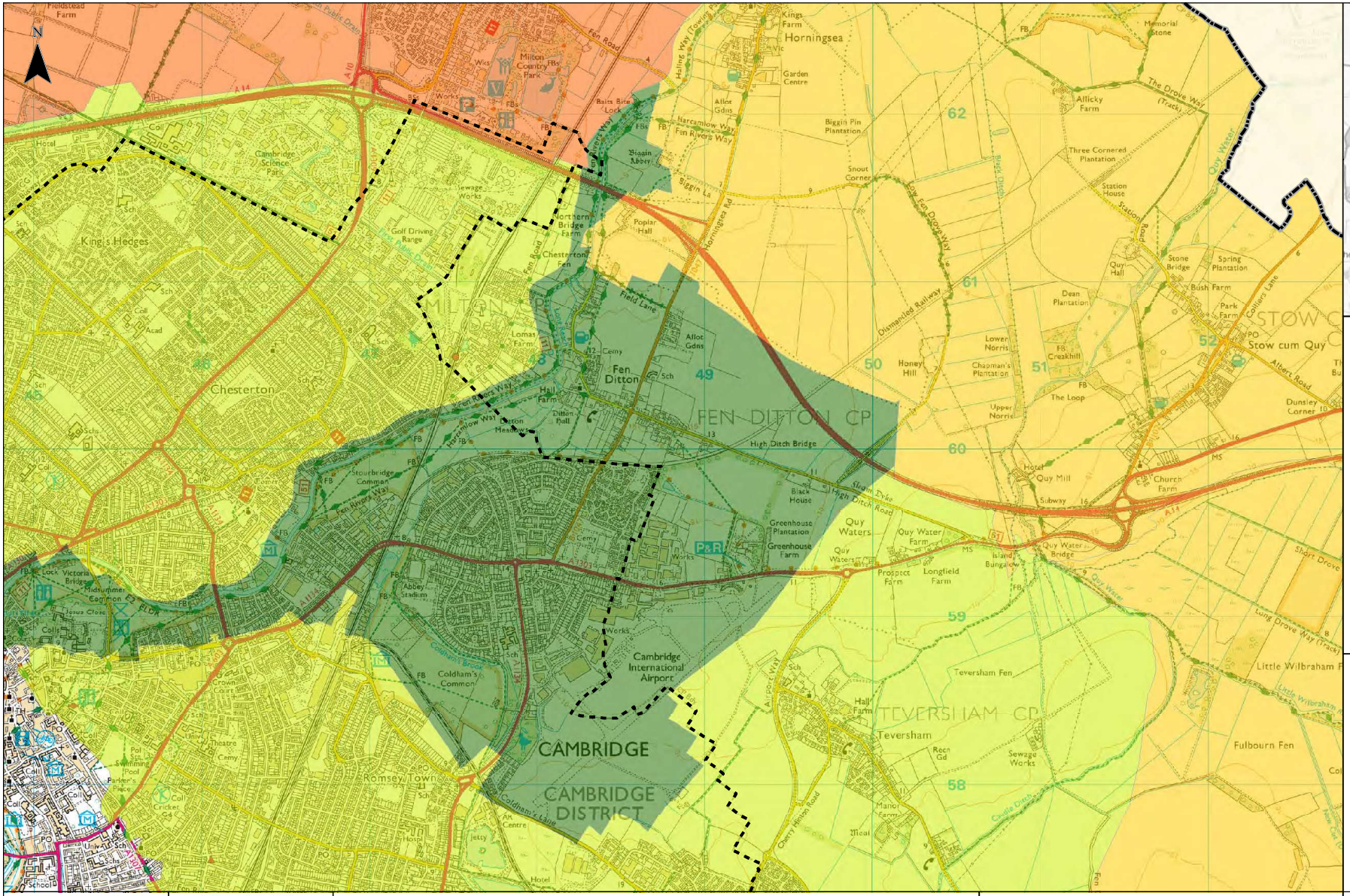


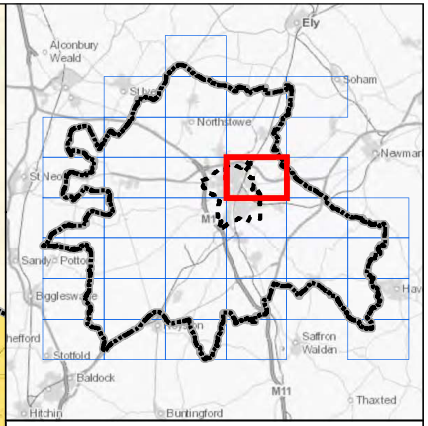


## Legend

**Study Area**

- Cambridge City Boundary
- South Cambridgeshire Boundary

**Total Number of Incidents**

- 0
- 1
- 2 - 5
- 6 - 10
- 11 - 15
- > 15

## Notes

The Historic Sewer Flooding map uses the DG5 register provided by the sewerage company, Anglian Water, which is a record of all reported sewer flooding indicents.

The incidents are recorded on a postcode basis, therefore each coloured area represents the total number of reported incidents, both internal and external, within that postcode. The greatest number of incidents reported was 21 in the CB23 area.

Stantec

Client: GREATER CAMBRIDGE SHARED PLANNING

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Historic Sewer Flooding

0 1 2 km

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# Appendix I Surface and Foul Water Drainage Strategy Drawings