FLOOD RISK GUIDANCE FOR DISTRICT COUNCILS

Environment Agency
Tuesday 6th November 2018

Charlotte Scales
Partnership & Strategic Overview

Martin Barrell & Eleanor Stewart
Sustainable Places

WHAT WE WILL COVER

1. What is flood risk?
2. The Environment Agency's role & how we manage flood risk
3. The role of other organisations in flood risk
4. The role of the Local Planning Authority
5. Specific flood risk mitigation measures
6. The Broadlands Futures Initiative

WHAT IS FLOOD RISK?

- Multiple sources of flood risk
  - Rivers (fluvial)
  - Estuaries and the sea (tidal)
  - Surface water (pluvial)
  - Groundwater
  - Sewer

THE ENVIRONMENT AGENCY'S ROLE IN FLOOD RISK

- Strategic overview of the management of all sources of flooding and coastal erosion.
- Operational responsibility/directly manages the risk of flooding from main rivers, the sea and reservoirs.
- Advise planning authorities on implications of development on flood risk.

THE ENVIRONMENT AGENCY'S ROLE IN FLOOD RISK

- Provide evidence and advice to support others - national flood and coastal erosion risk information, data and tools.

- Under the Environmental Permitting (England and Wales) Regulations 2016 - permit works on or near a main river, flood defence or in a flood plain which could impact on flood risk.

THE ENVIRONMENT AGENCY'S ROLE IN FLOOD RISK

- Provide and operate flood warning systems
- Manage/allocate national Government funding to projects to manage flood and coastal erosion risks from all sources
- Deliver projects to manage flood risks from main rivers and the sea

LLFA ROLE IN FLOOD RISK

- **Lead Local Flood Authorities** (unitary authorities or county councils)

- Norfolk County Council
  - Develop, maintain and applying a strategy for local flood risk management
  - Maintain a register of flood risk assets
  - Lead responsibility for managing the risk of flooding from surface water, groundwater and ordinary watercourses.

DISTRICT COUNCILS ROLE IN FLOOD RISK

- District and Borough Councils are Risk Management Authorities and key partners in planning local flood risk management.
- Work with others to take flood risk into account when making decisions on development in their area
- Can carry out flood risk management works on ordinary watercourses outside of IDB areas

ROLE OF THE INTERNAL DRAINAGE BOARDS (IDBs)

- The Norfolk Rivers IDB covers most of the non-Broads part of the District, with the Broads part covered by the Broads IDB and the Waveney, Lower Yare and Lothingland IDB.
- IDBs have permissive powers to manage non-main river and non-coastal flood defence infrastructure
- Undertake routine maintenance and capital works
- IDB consent required to discharge surface water or treated effluent into, or to alter an ordinary watercourse

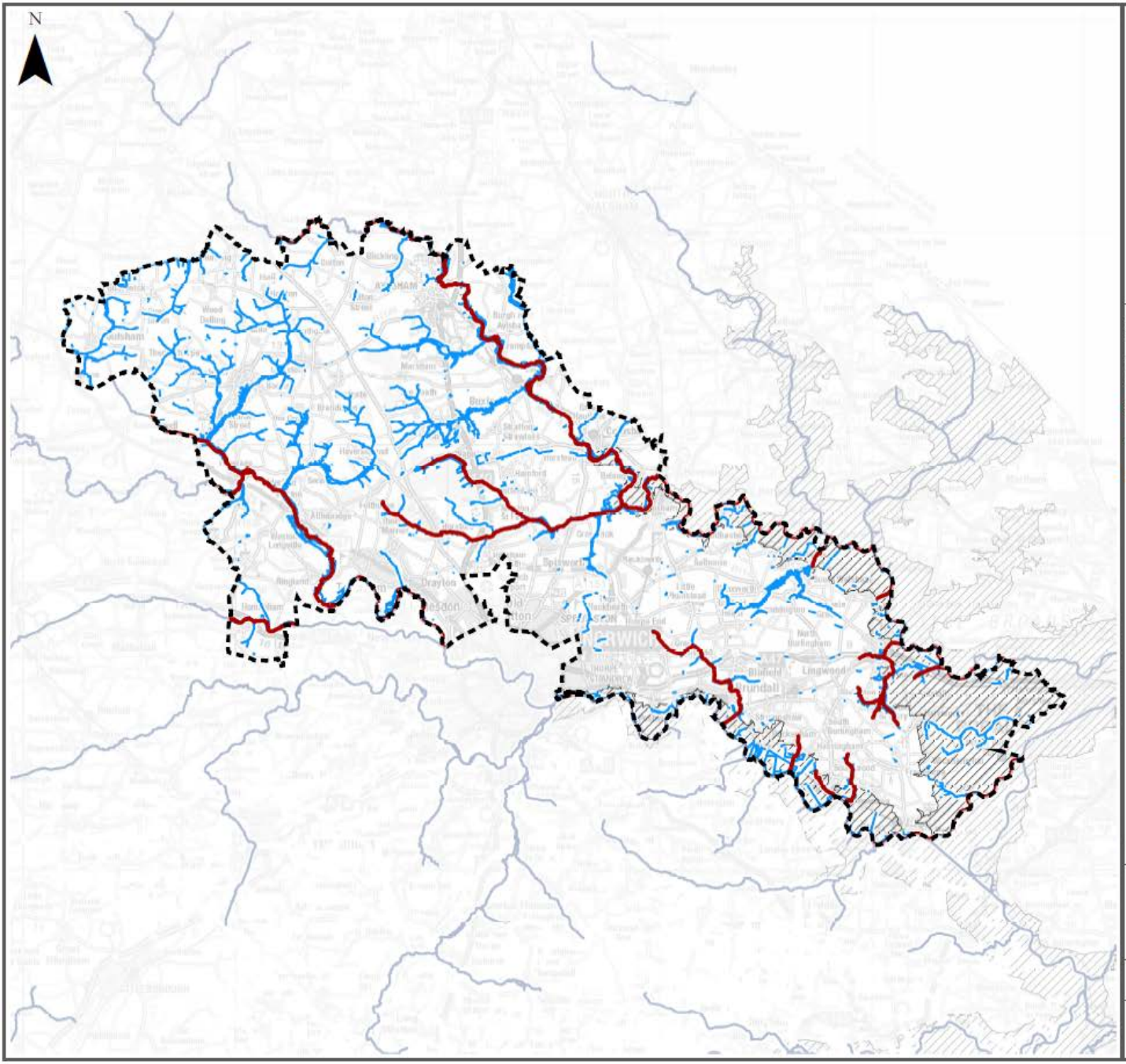
ROLE OF THE WATER COMPANY

- Anglian Water is a Risk Management Authority and key partner in planning local flood risk management.
- Ensure that their systems have the appropriate level of resilience to flooding, and maintain essential services during emergencies
- Work with developers, landowners and LLFAs to understand and manage risks
- Work with the Environment Agency, LLFAs and district councils to coordinate the management of water supply and sewerage systems with other flood risk management work.

DISTRICT COUNCILS ROLE IN FLOOD RISK

As a Local Planning Authority when preparing a Local Plan:

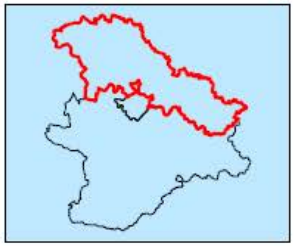
- Undertake a Strategic Flood Risk Assessment (SFRA) to fully understand the flood risk in the area (from all sources) to inform Local Plan preparation
- Apply a sequential, risk based approach to the location of development – taking into account climate change
- Prepare strategic policies based on the SFRA to manage flood risk from all sources



Notes

Watercourse information displayed in this map is taken from Norfolk County Council's version of the Environment Agency's Detailed River Network dataset.

Key Plan



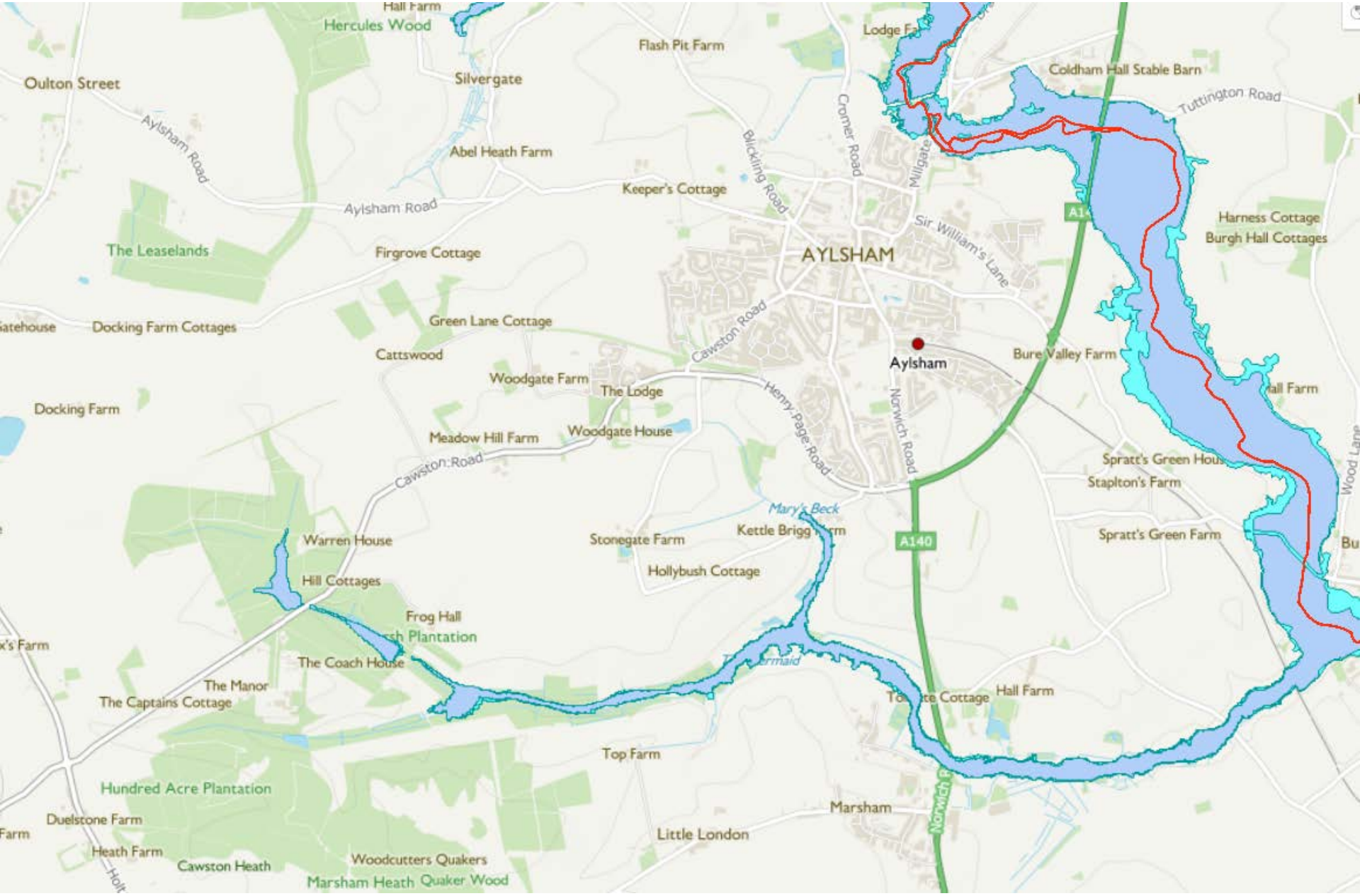
Legend

- Administrative area
- Broads Authority
- Main Rivers within Broadland
- Main Rivers outside Broadland
- Ordinary watercourses

0 5 10 20 30 40 50 km

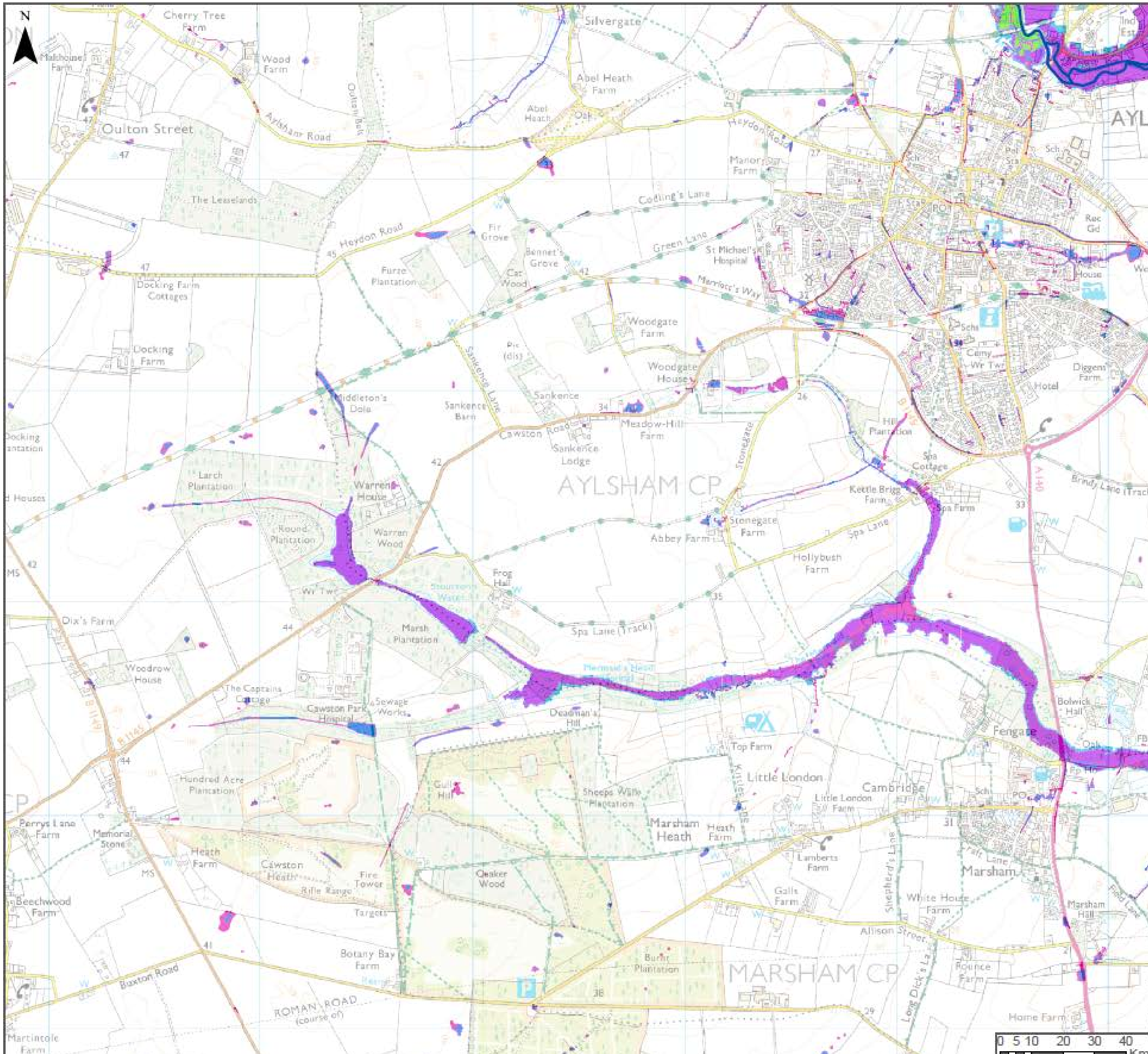
STRATEGIC FLOOD RISK ASSESSMENT LEVEL 1

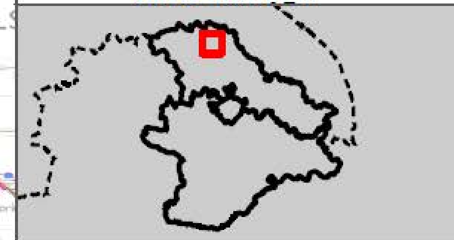
APPENDIX B - WATERCOURSES
ORDINARY WATERCOURSES, BROADLAND


Hall Farm
Hercules Wood
Flash Pit Farm
Lodge Farm
Coldham Hall Stable Barn
Oulton Street
Silvergate
Tuttington Road
Aylsham Road
Abel Heath Farm
Blicking Road
Cromer Road
Millgate
Keeper's Cottage
Aylsham Road
A140
Harness Cottage
Burgh Hall Cottages
Sir William's Lane
The Leaselands
Firgrove Cottage
AYLSHAM
Docking Farm Cottages
Green Lane Cottage
Cawston Road
Cattswood
Aylsham
Bure Valley Farm
Woodgate Farm
The Lodge
Henry Page Road
Norwich Road
Docking Farm
Meadow Hill Farm
Woodgate House
Spratt's Green House
Staplton's Farm
Cawston Road
Mary's Beck
Warren House
Stonegate Farm
Kettle Brigg Farm
A140
Spratt's Green Farm
Hollybush Cottage
Hill Cottages
Frog Hall
The Coach House
The Manor
The Captains Cottage
Hall Farm
Top Farm
Hundred Acre Plantation
Duelstone Farm
Marsham
Little London
Heath Farm
Cawston Heath
Woodcutters Quakers
Marsham Heath Quaker Wood

GREATER NORWICH
STRATEGIC FLOOD RISK ASSESSMENT

APPENDIX A: FLOOD RISK MAPPING
INDEX GRID:GN_11





LEGEND

Note: All layers are turned off by default. Click the box next to the layer of interest to turn on.

Authority Information

- ☑ Administrative Area
- ☑ Study Area
- ☑ Main Rivers
- ☐ Detailed River Network
- ☐ The Broads

Flood Zones

- ☑ Flood Zones 3b
- ☐ Indicative Flood Zones 3b
- ☑ Flood Zones 3a
- ☑ Flood Zones 2

Surface Water

- ☑ RoFfSW 3.3% AEP
- ☑ RoFfSW 1% AEP
- ☐ RoFfSW 0.1% AEP

Reservoir Flooding

- ☐ Reservoir Flooding

Fluvial Climate Change

- ☐ 1% AEP with 35% Climate Change
- ☐ 1% AEP with 65% Climate Change
- ☐ 0.1% AEP with 25% Climate Change

Tidal Climate Change

- ☐ 0.5% AEP Climate Change
- ☐ 0.1% AEP Climate Change

Surface Water Climate Change

- ☐ 1% AEP with 40% Climate Change

Areas Susceptible to Groundwater Flooding

- ☐ >= 75%
- >= 50% <75%
- >= 25% <50%
- < 25%

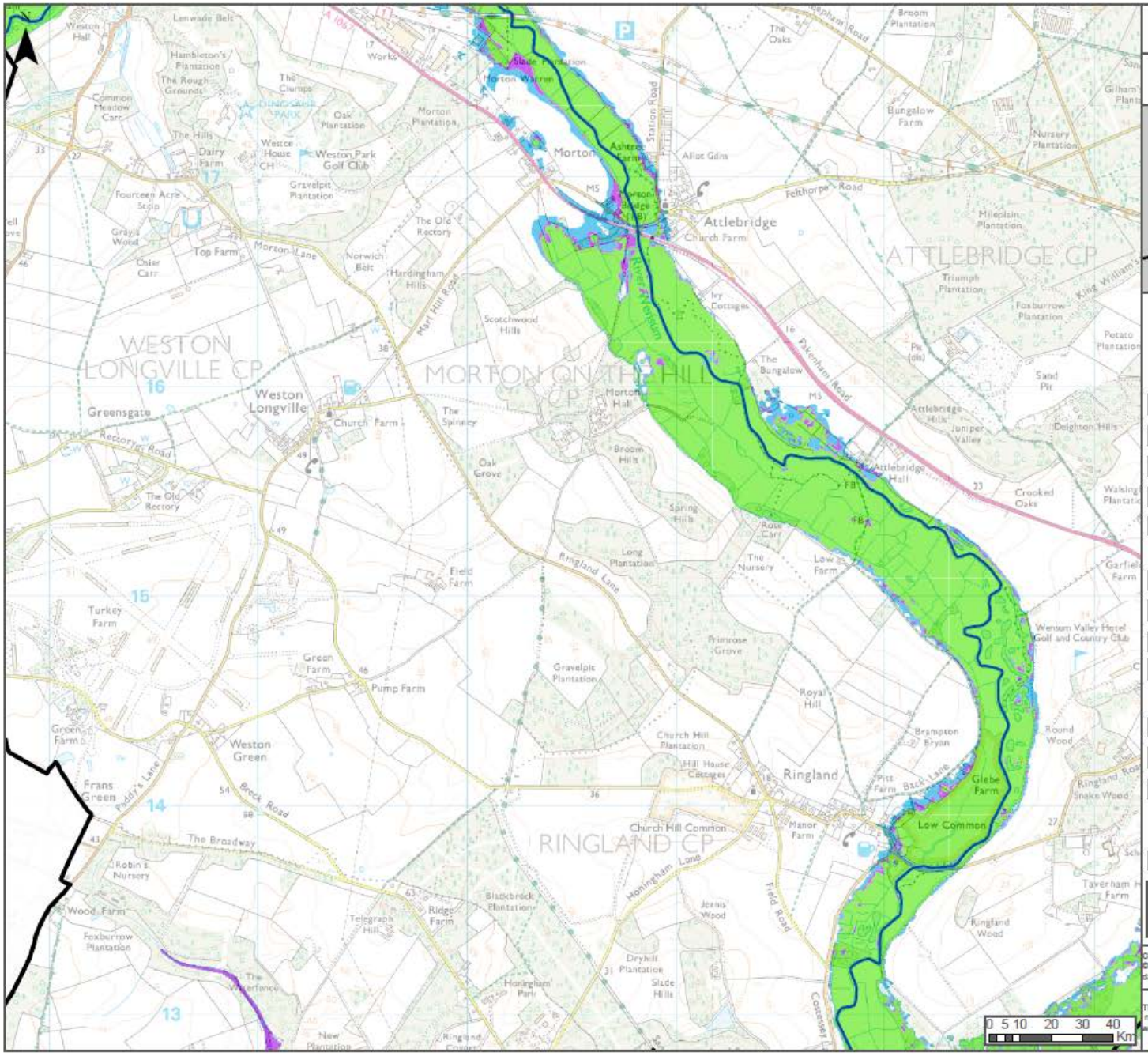
Other

- ☐ Dry Islands>0.5Ha

Return to Index Map

Mapping Supporting Information


West Lodge
Hall Cottages
Norwich Road
The Marems
The Kennels
Fairfield House
B1535
Morton Lane
Morton
Station Road
The Station
Breck Farm
Upgate Common
The Oaks
Upgate House
Cherry Tree Farm
Gilham's Heath Plantation
Swannington Bottom Plantation
Winston House
Felthorpe Manor
Big Plantation
Mileplain Plantation
Reepham Road
Grove Farm
Hill Farm
Marl Hill Road
Old Thatch Cottage
Ivy Cottages
Triumph Plantation
Foxburrow Plantation
River Wensum
The Bungalow
Keepers Cottage
Spring Farm
The Lodge
Old Hall Cottages
Two Hoots
Greensgate Cottages
Weston Longville
Home Farm
Glebe Farm
Ringland Lane
Long Plantation
Low Farm
Lady Charlottes Cottage
Turkey Farm
Field Farm
Primrose Grove
Keeper's Cottage
Green Farm
Weston Green
Royal Hill
Gravelpit Plantation
The Old Rectory
Round Wood
Beech Avenue
Breck Barn Cottages
Ringland
Poplar Farm
The Broadway
Breck Road
Blackbreck Plantation
Field House
West Lodge
Wood Farm
Ridge Farm
Taverham Hall Farm
Poets Breck Farm
Ebony Hall
Honingham Lane
Field Road



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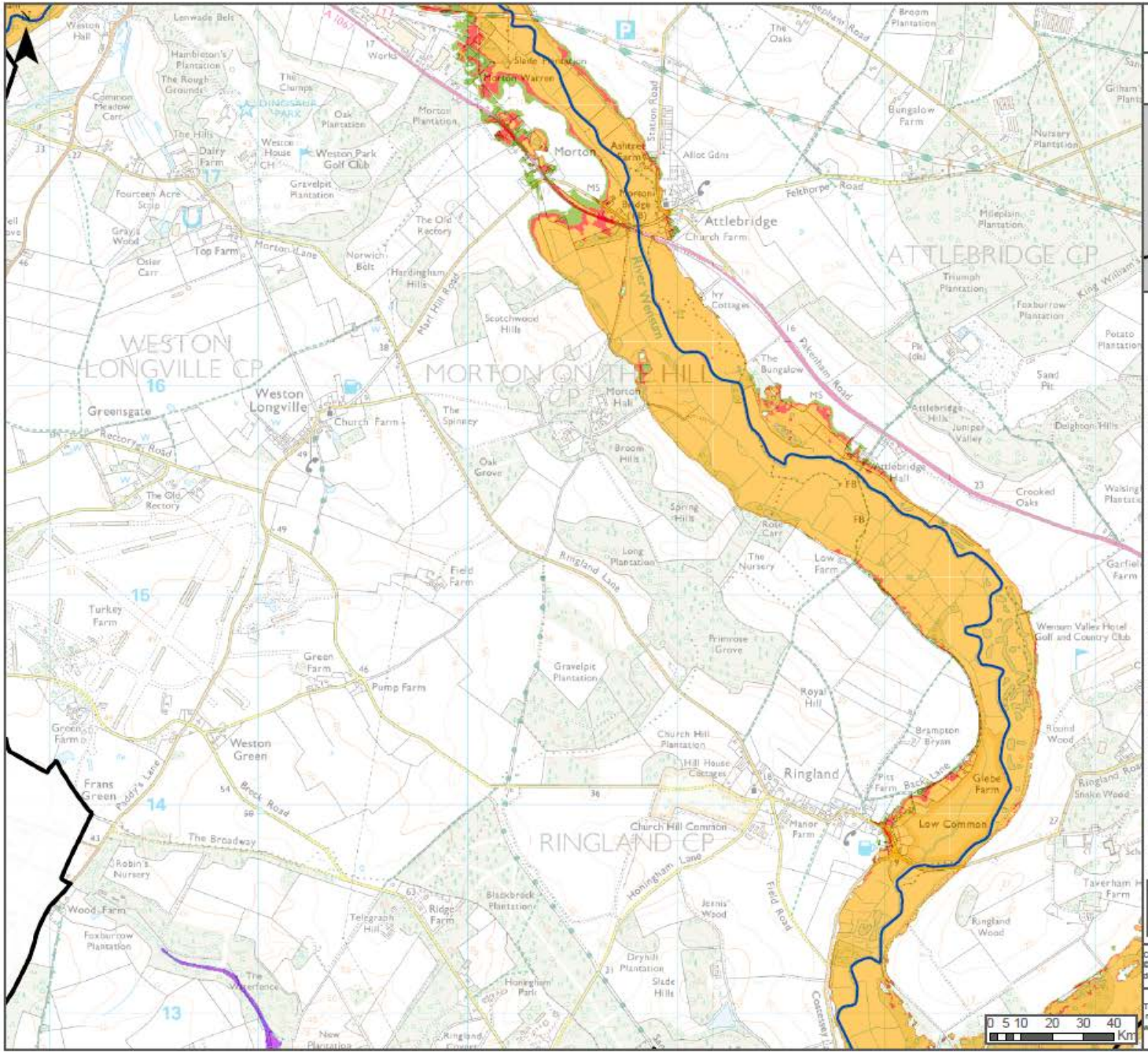

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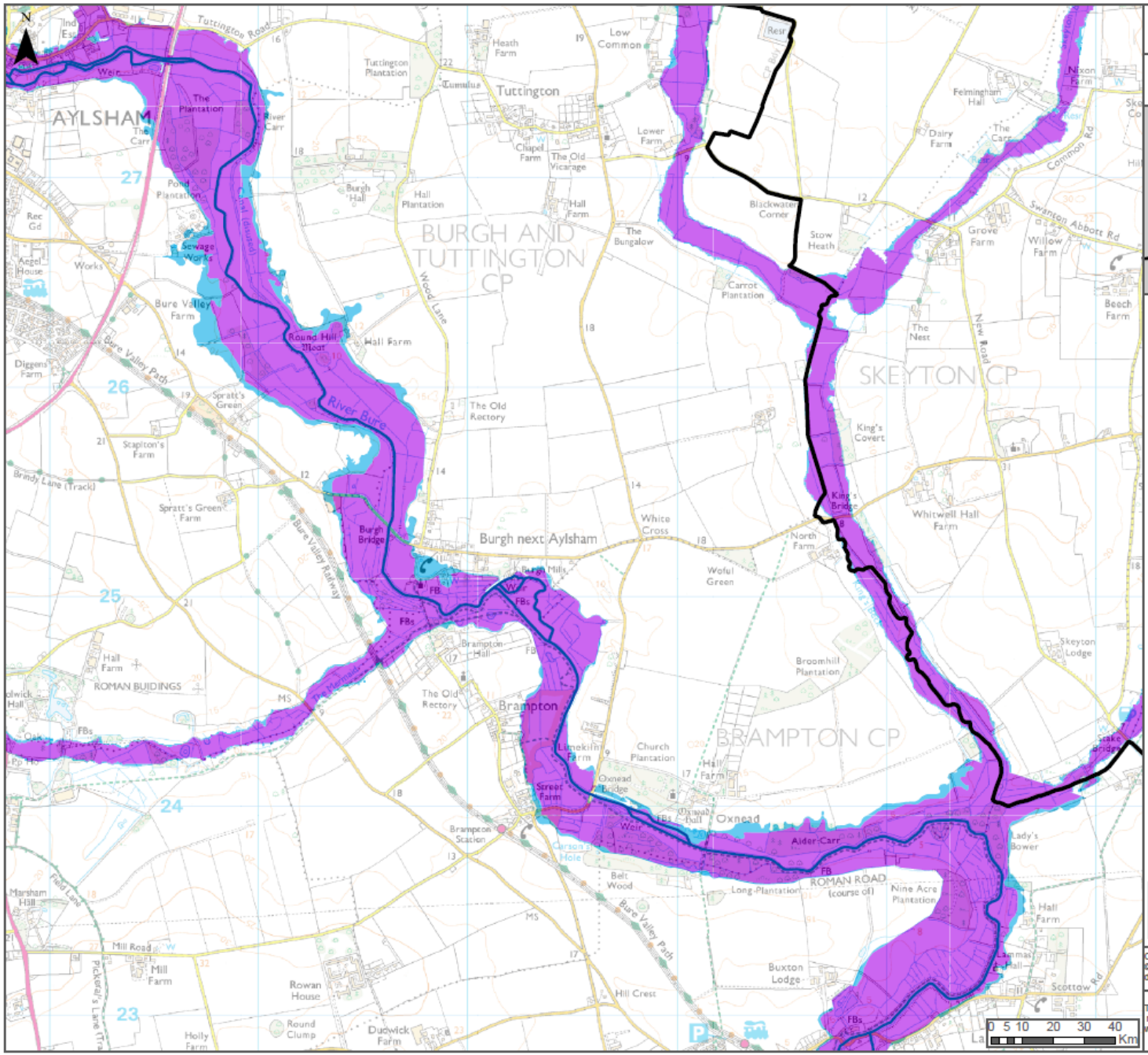

GREATER NORWICH STRATEGIC FLOOD RISK ASSESSMENT

APPENDIX A: FLOOD RISK MAPPING

INDEX GRID: GN_12

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Other

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Return to Index Map

Mapping Supporting Information

DISTRICT COUNCILS ROLE IN FLOOD RISK

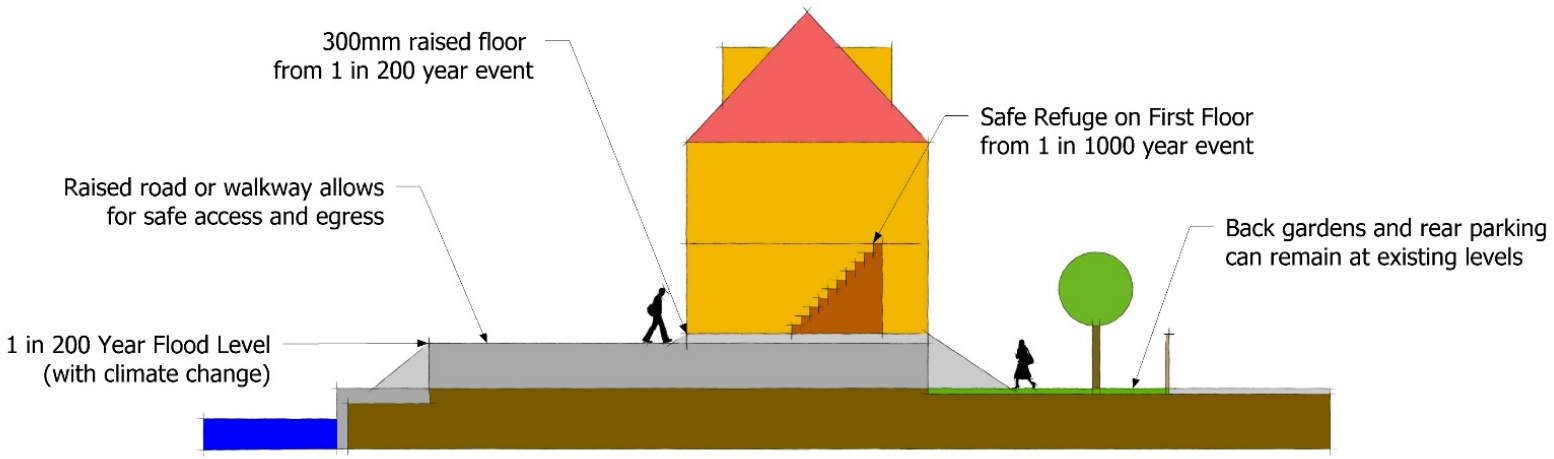
As a Local Planning Authority when determining applications:

- Ensure that the Sequential test is applied to non-allocated sites, and if necessary the Exception test
- Appropriately consult EA and/or LLFA; or apply Flood Risk Standing Advice
- Review consultation responses and prior to making a decision consider:
  - Sustainability of the development
  - Safety of People
  - Safety of Building
  - Flood recovery measures

FLOOD RISK MITIGATION MEASURES

- **Sequentially site development in the areas of lowest risk**

- Raise finished floor levels
- Raise ground levels (compensatory storage)

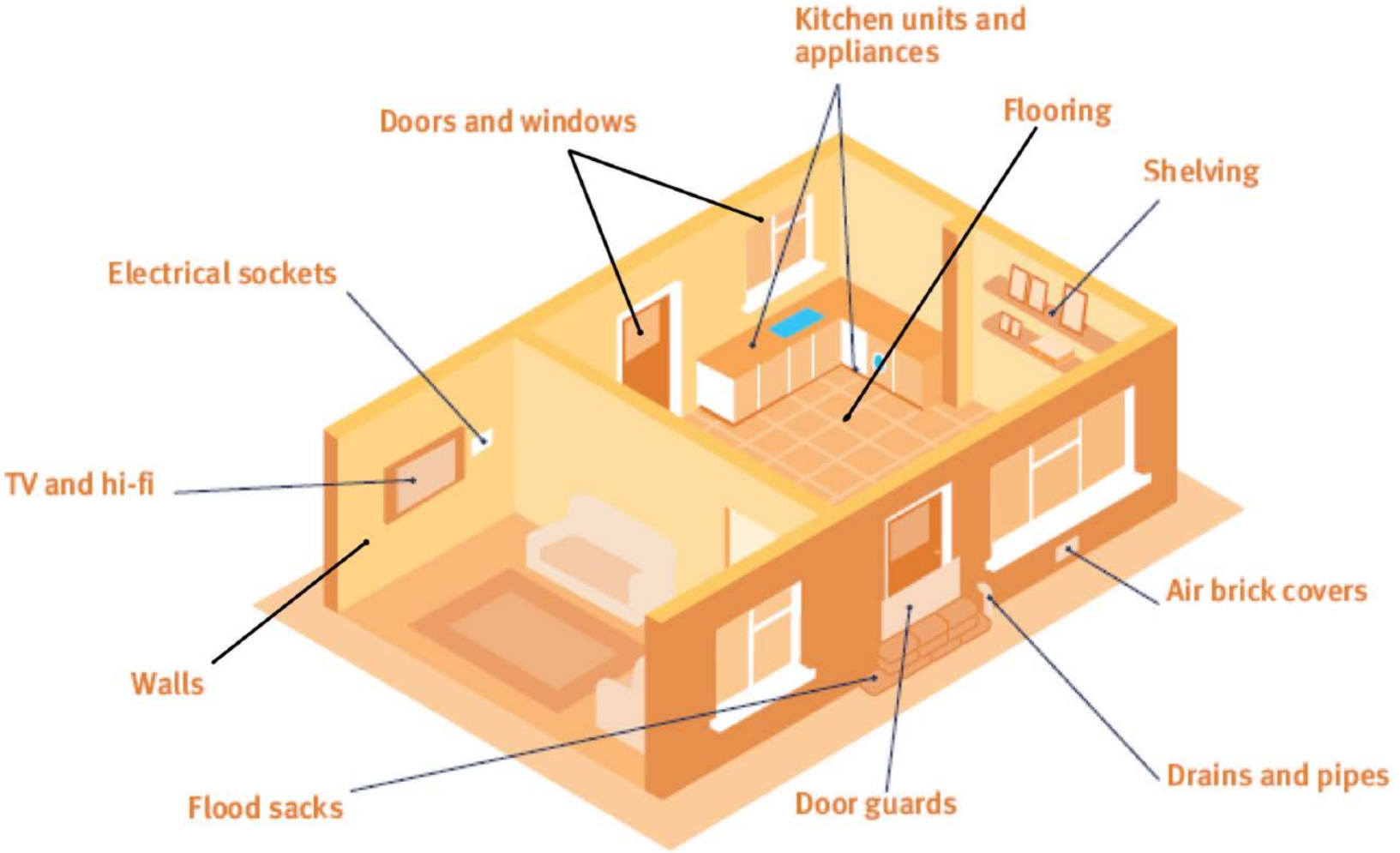


FLOOD RISK MITIGATION MEASURES

- Site more vulnerable development on upper floors
- Defences – residual risk needs to be managed
- Safe access and egress
- Flood warning and evacuation
- Refuge

FLOOD RISK MITIGATION MEASURES

- Resilience and resistance measures

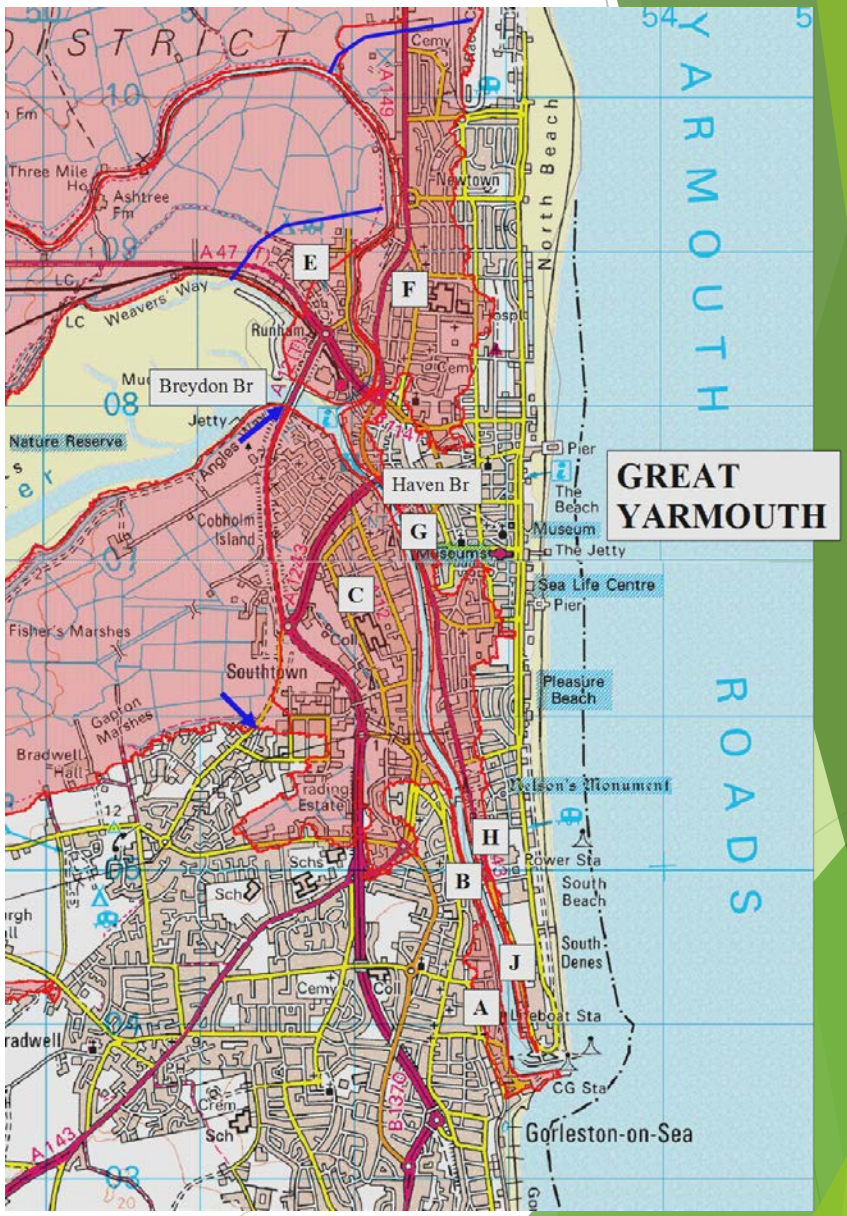


Broadland Futures Initiative

Kellie Fisher
FCRM Senior Advisor
Environment Agency

North Norfolk Coast

Great Yarmouth



Broadland

BFAP: 20-year programme of flood defence improvement and maintenance works in the Norfolk and Suffolk Broads. The Project began in 2001 and is being undertaken by Broadland Environmental Services Limited (BESL) on behalf of the Environment Agency.

Progress:
235 km upgraded over the first 13 years – around 20 km of flood banks per year . Now in maintenance phase.

Current Approaches

- Flood risk management across this area has up until now been covered by three separate strategies.
  - Eccles to Winterton, Great Yarmouth, and Broadland.
- Artificial boundaries with fundamental interrelationships. Certain decisions in one area can affect outcomes and choices in another.
- Remains an ongoing requirement to manage flood risk over the decades to come.

The Broadland Futures Initiative

- The Broadland Climate Partnership (formerly Adaptation Panel):
  - Initiative to manage flood risk in the 3 interrelated areas with focus on the long term.
  - Recognise the links that flood risk has with other aspects of community life.
  - Democracy at heart of decision making.
    - Shoreline Management Plan type governance structure.

The Challenges?

- Partnership Funding
- Sustainability
- Conflicting aspirations

£ Economic benefit of protecting land and properties from flood risk in the area is currently estimated at between **£900m and £1200m**.

£ Total cost of continuing to protect these assets over the next **50 years** could be around **£500m**.

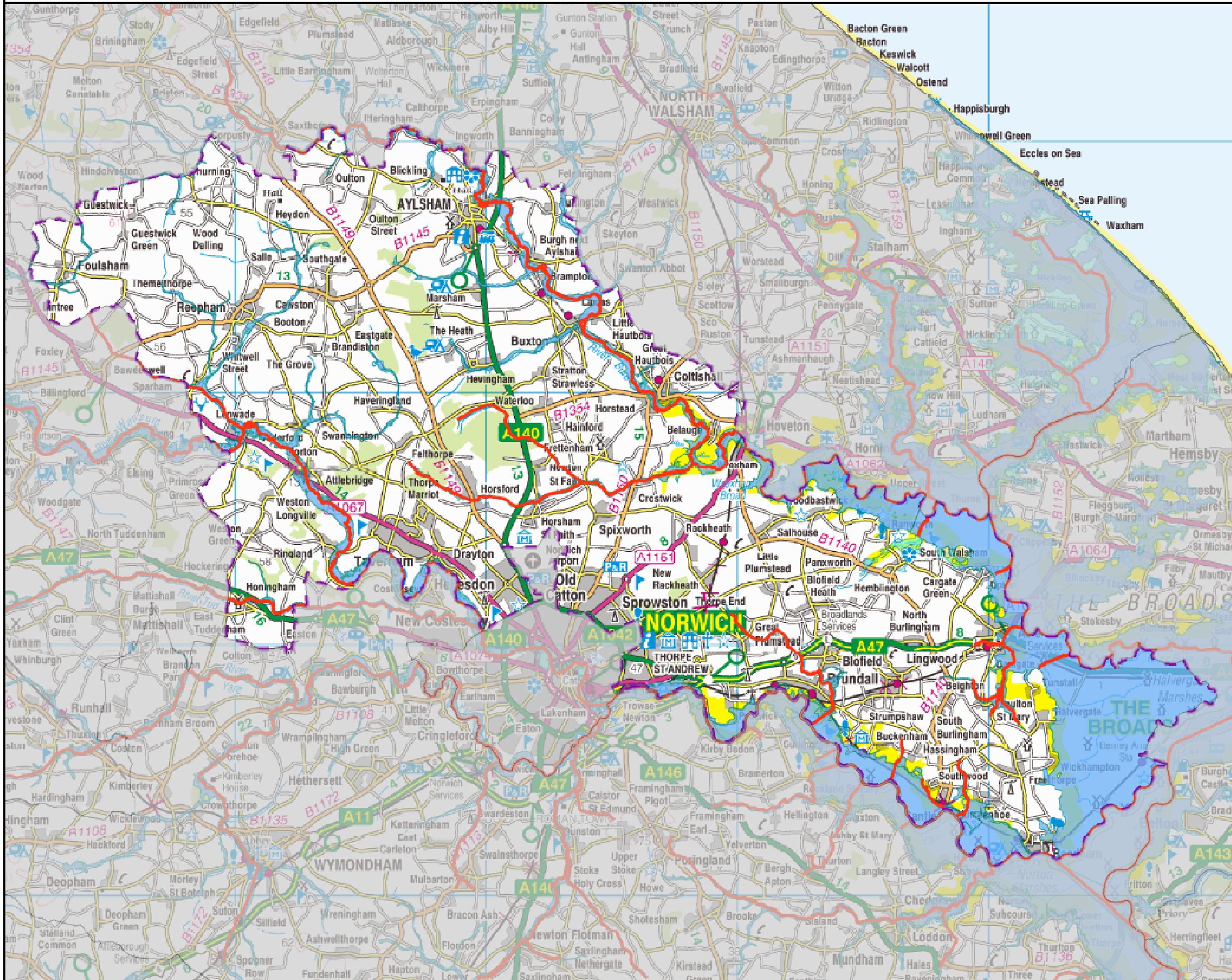
£ It is possible that up to **50-60%** of this amount would need to be found through local contributions.

Proposed Next steps

- Broadland Climate Partnership meetings
- Funding Bid for Initiative
- Business Case approval
- Project Team formally appointed
  - Raising awareness
  - Collate technical information
- MP Briefings
- Implement Communications and Engagement Plan
  - Stakeholder events

Community Involvement

Flood Map for Planning centred on Broadland District
Created 29/10/2018



Environment Agency
Iceni House
Cobham Road
Ipswich
Suffolk
IP3 9JD

N

0 2,500 5,000 10,000
Metres

1:220,000

Legend

- Broadland District
- Main Rivers
- Flood Zone 3
- Flood Zone 2

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

Produced by: Partnership & Strategic Overview
East Anglia: Essex, Norfolk & Suffolk

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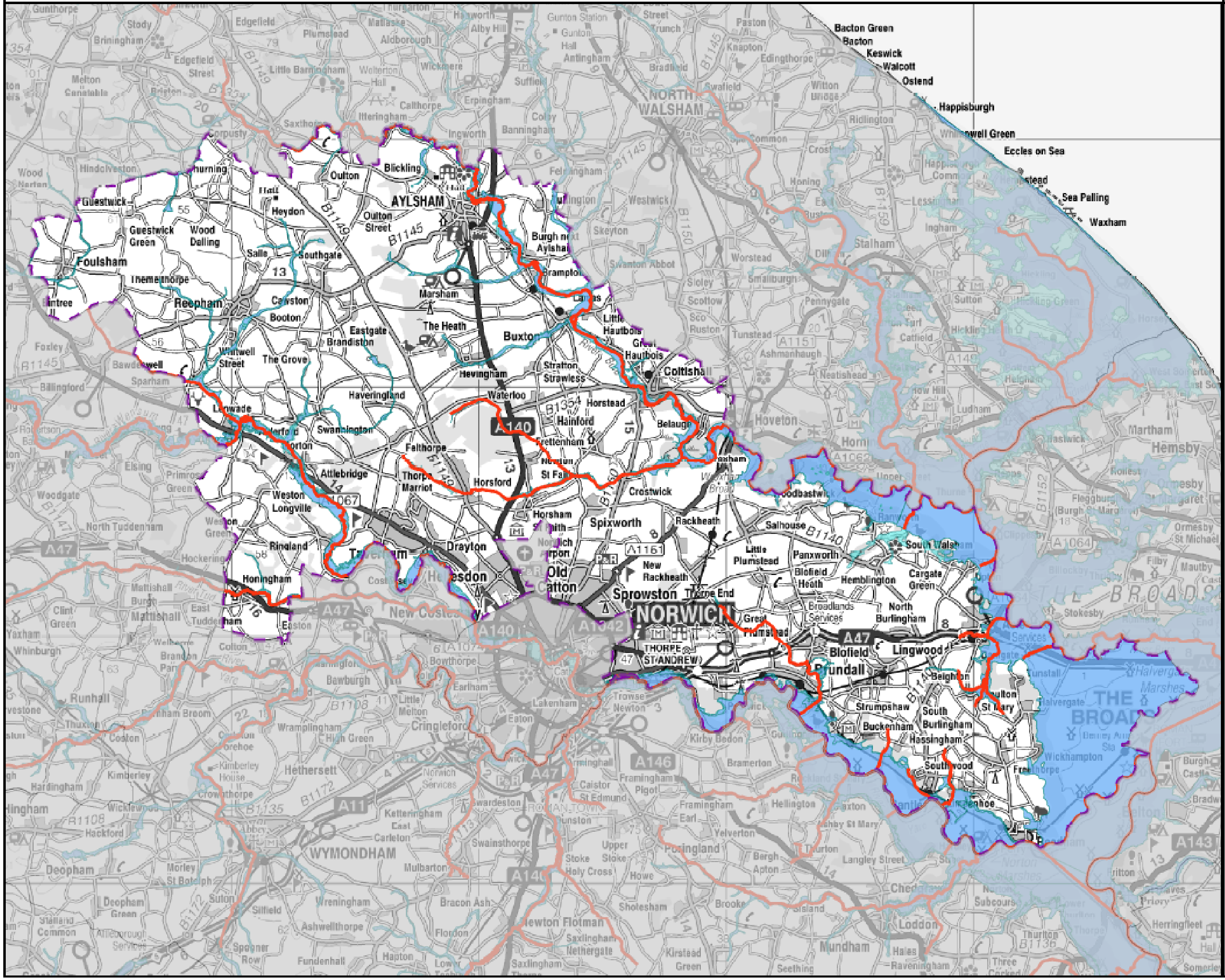

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CONTACT DETAILS

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- PSO Team: PSOENS@environment-agency.gov.uk
- Customers & Engagement: enquiries_eastanglia@environment-agency.gov.uk