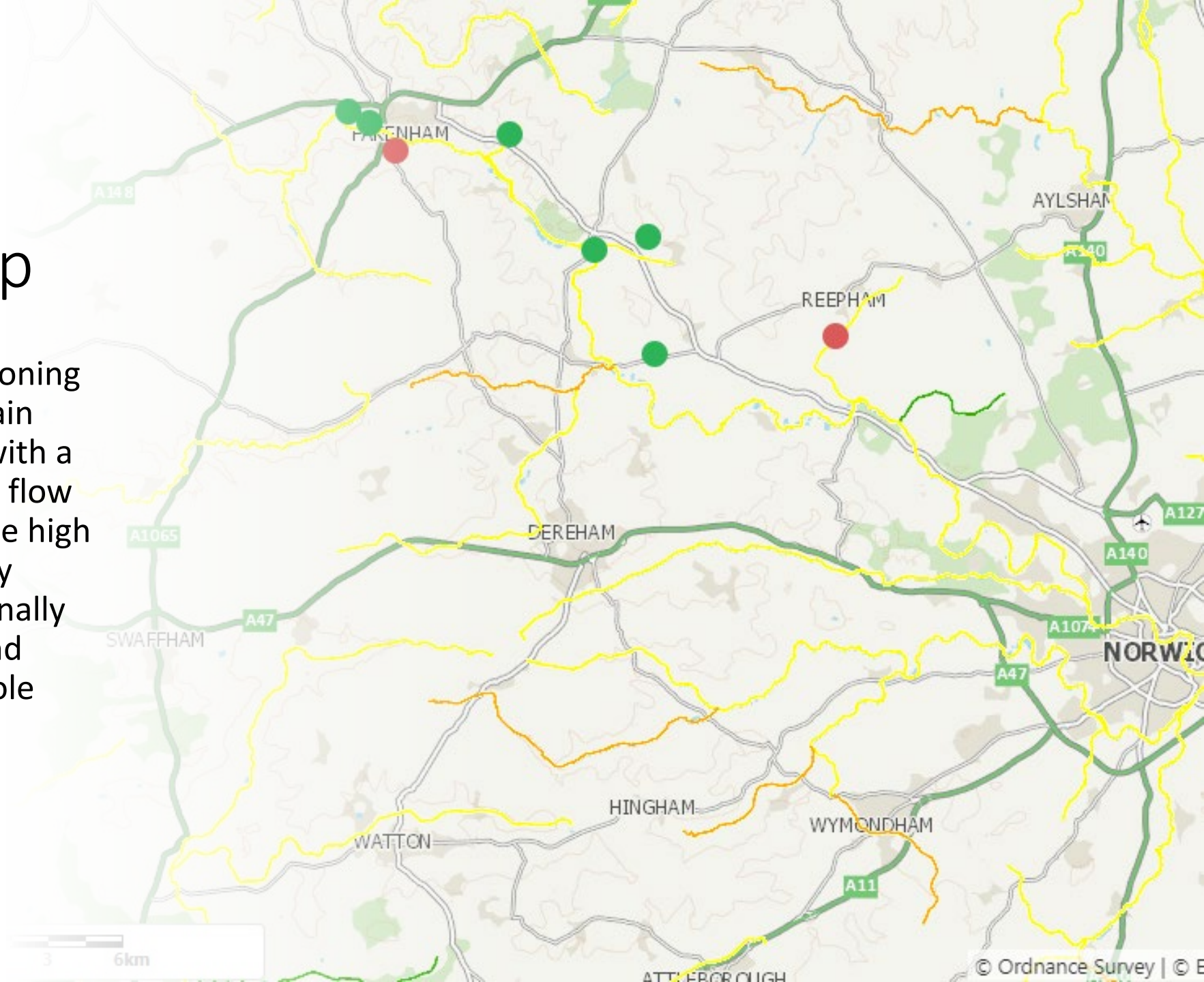


WCP - Morphology Working Group

- **Vision** - A naturally functioning chalk stream and floodplain from source to Norwich with a restored morphology and flow regime which supports the high quality wildlife and fishery expected of an internationally protected river habitat and maintains its important role within Norfolk heritage.



WCP - Morphology Working Group

- **Objective 1** - To enable natural river restoration by removing or by-passing impoundments to improve longitudinal connectivity and reintroducing more appropriate channel dimensions and planform.



WCP - Morphology Working Group

- **Objective 2** - To re-establish appropriate connection with the floodplain to improve lateral connectivity of wetland habitats and hold water in the catchment for the benefit of water resources and flood management.



WCP - Morphology Working Group

- **Objective 3** - To work towards a sustainable flow regime within the river that supports the ecological flow targets for the SSSI.



WCP - Morphology Working Group

- **Objective 4** - To promote a wider understanding of the vision and benefits of natural river form and function within the wider Wensum community (*and ensure a shared set of objectives throughout the working groups*).



River Wensum restoration strategy

First published 26 June 2009

www.naturalengland.org.uk



2009 Natural England Report

- Publicly available
- Morphology – physical character of river
- Conclusions:
 - Water Mills
 - Land drainage activities
- Recommendations:
 - Lower water levels at mills (open gates)
 - Bed raising, woody debris etc.
 - Re-meandering and reinstate old channel
 - Physical modification of mills



SAC designation

- Annex I habitat reason for designation: water courses of plain to montane levels with *R. fluitantis* (stream water crowfoot)
- Annex II species reason for designation: white clawed crayfish
- Annex II species qualifying features: Desmoulin's Whorl Snail, Brook Lamprey & Bullhead



SSSI designation

- An example of an enriched, calcareous lowland river with traditionally managed surrounding floodplain.

enhancing... improving... cleaning... restoring.
changing... tackling... protecting... reducing...
create a better place... influencing... inspiring.
advising... managing... adapting...

River Wensum Restoration Strategy

Implementation River Unit 52 Elsing Mill to
Lenwade Mill

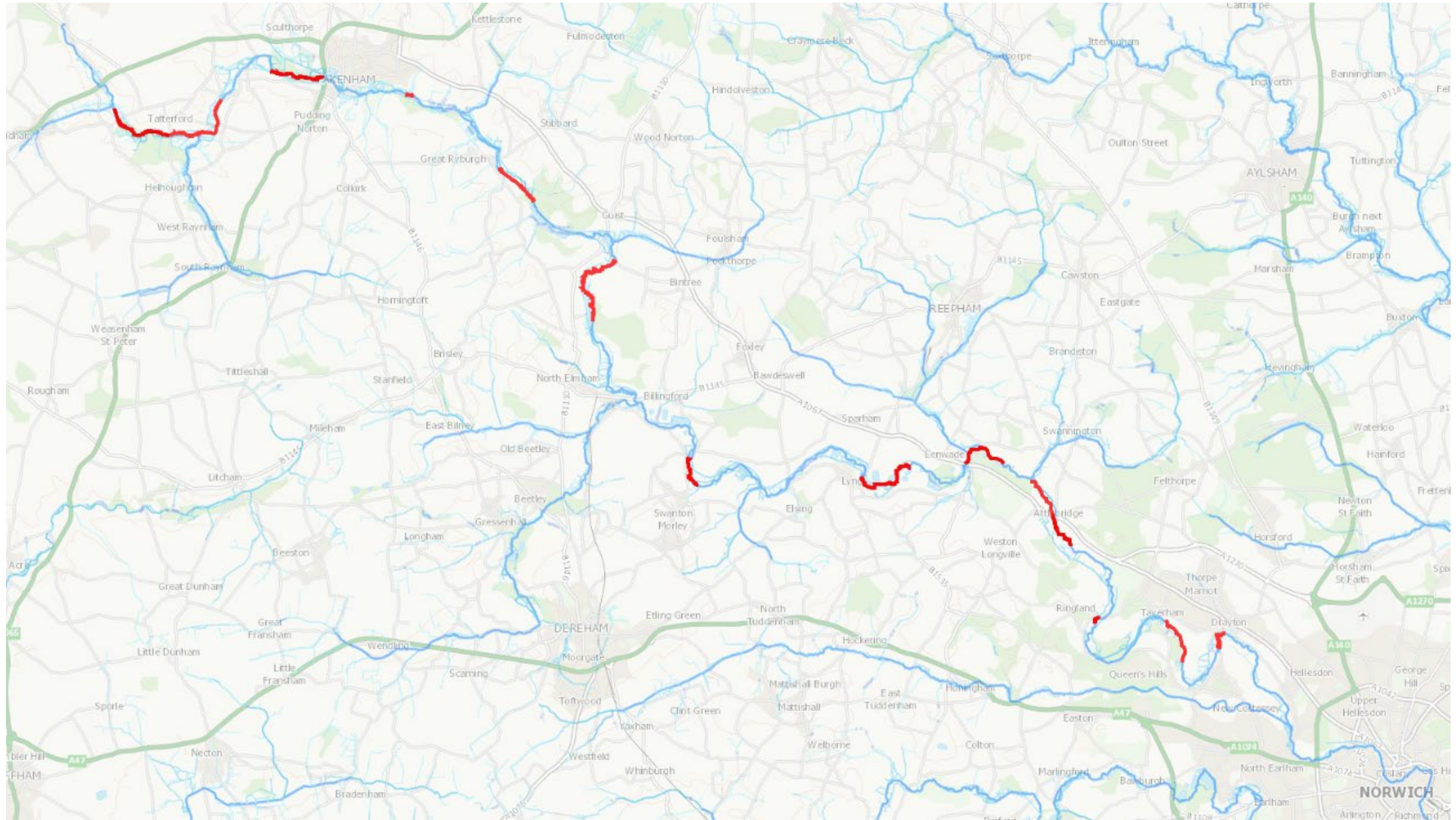
FEASIBILITY & ENVIRONMENTAL SCOPING ASSESSMENT

December 2009

2009 EA Feasibility Reports

- One per SSSI unit
- Split unit into reaches
- Walkover by engineers, ecologists and morphology experts
- Suggests suitable measures
- Form basis of restoration designs

• Approx. 28km restored...





Great Ryburgh 2011-2012

Google



River Tat 2016



Swanton Morley spillway 2015



Costessey 2018



Attlebridge 2021



Costessey 2007



- **Tree planting**
 - **Alder**
 - **Oak**
 - **Willow**
 - **Hawthorn**
 - **Black Poplar**
 - **Guelder Rose**
 - **Field Maple**

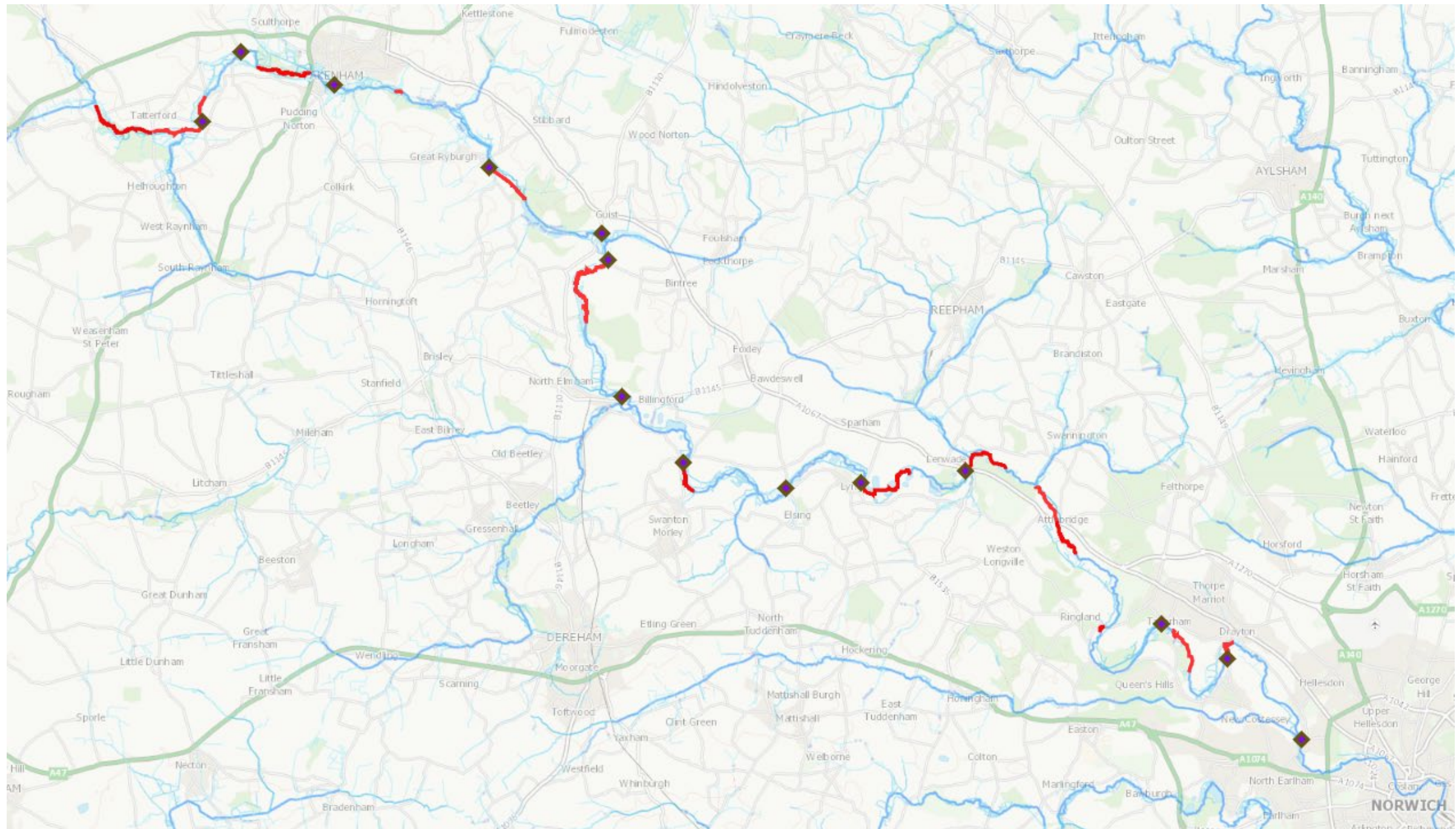


- **Approx. 28km restored**
- **SSSI designated length is ~78km**
- **So... ~50km left to do restore**
- **BUT approx. 67% of the river is impounded or 'backed up' behind mill structures**
- **Restoration measures will not work until the obstruction is addressed**

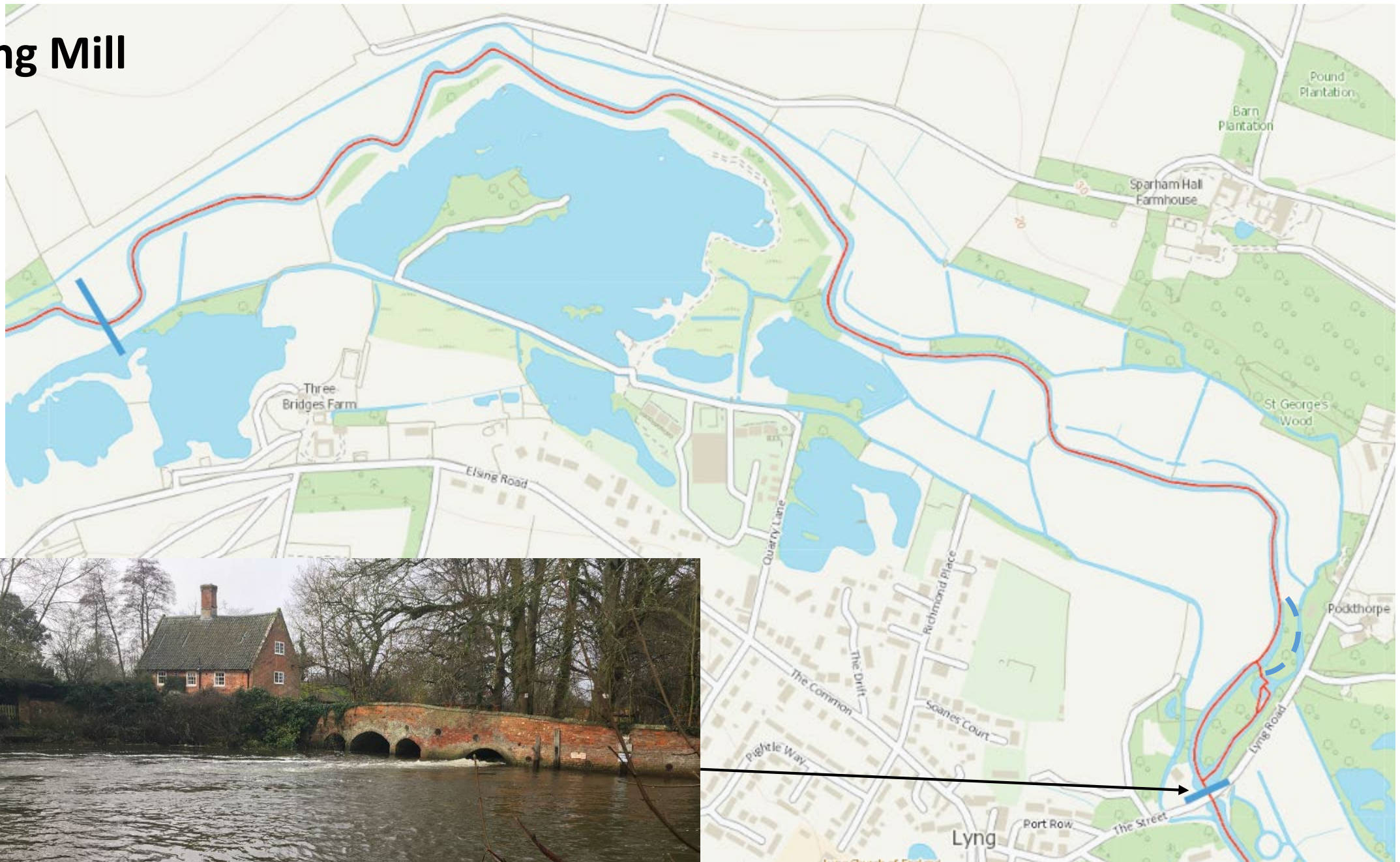


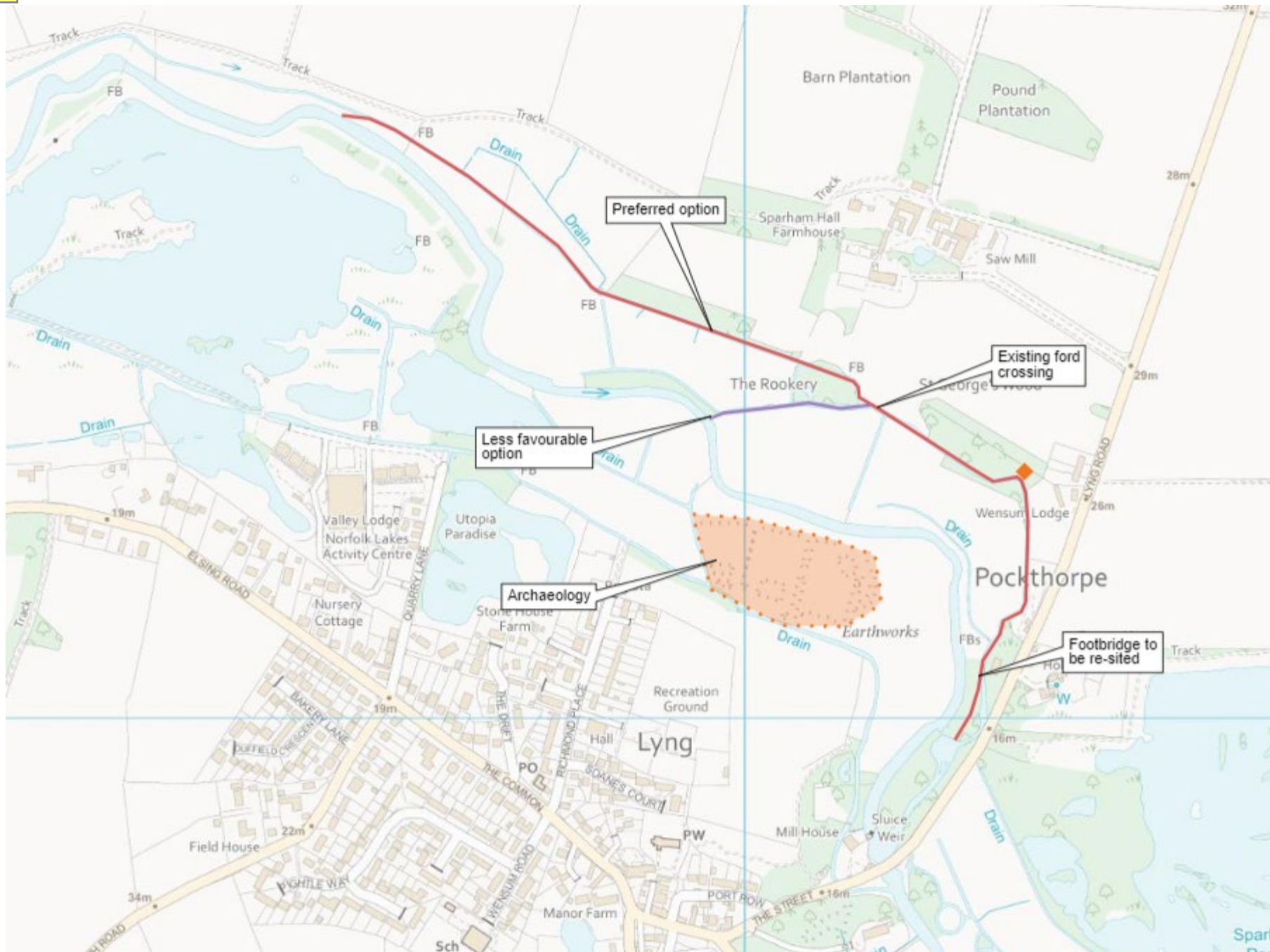


Site Name	Water Control Level (mAOD)	Drop (m)	Structure type	Structure Owner	Water Rights	Listed?
Hellesdon Mill	3.85	1.2	3 No. Stop logs 1 No. Manual vertical lift gate	EA	EA	No
Costessey Mill	5.38	1.1	1 No. tilting gate. 1 No. side weir. 1 No. fixed weir.	EA	EA	No
Taverham Mill	7.6	1.41	2 No. vertical lift gates. 2 No. wheel rails timber boards to be refurbished.	Private	Private	No
Lenwade Mill	13.6	1.5	4 No. vertical gates 1 No. lifting weir gate.	Private	Unknown	Grade II
Lyng Mill	15.85	1.5	3 No. vertical lift gates.	Private	Private	Grade II
Elsing Mill	17.5	1.85	4 No. vertical lift gates.	Private	Private	Grade II
Swanton Morley Mill				EA	EA	No
North Elmham Mill	21.8	1.2		Private	Private	No
Bintree Mill	25.95	1.88	2 No. vertical lift gates. Bypass Sluice is automated and on telemetry.	Private	EA	Grade II
Guist Mill			Fixed weir			
Great Ryburgh Mill	30.2	2.91	2 No. vertical lift gates	Private	Private	No
Fakenham Mill	34.1	1.22	1 No. variable weir, 1 No. fixed weir	Private	EA	Grade II
Sculthorpe Mill	36.8	1.16	1 No. fixed weir	Private	EA	Grade II
South Mill			Fixed weirs	Private	Private	No

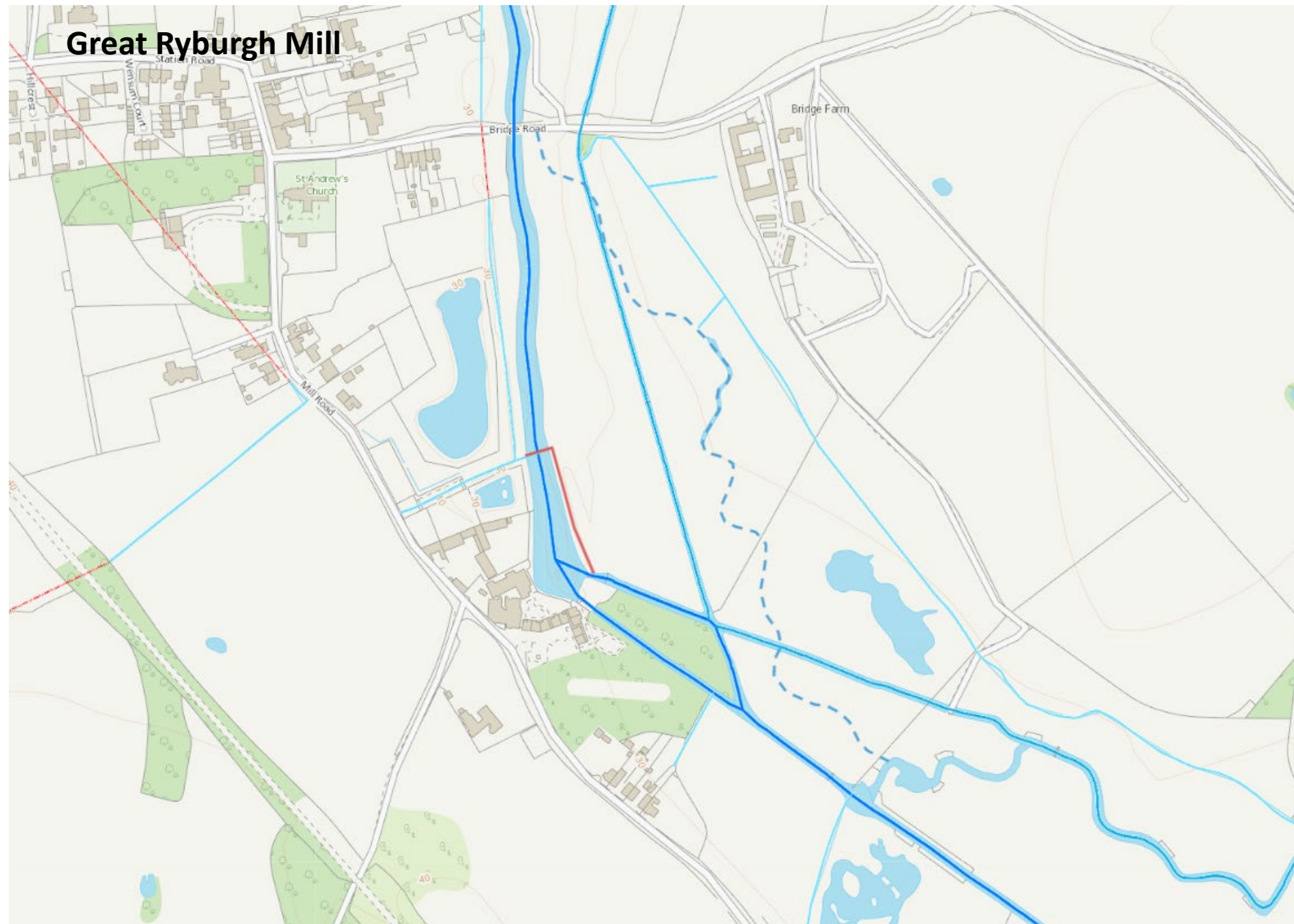


Lyng Mill





- Flow split over long distance
- Drain is un-natural straight channel
- Original channel starved of full flow
- Other landowners have right to water
- Archaeology
- Planning permission
- Protected species licences



- Enquiries from landowner about re-wetting floodplain
- Complex land drainage infrastructure
- Impact on both immediate landowners and upstream system

Questions & Discussion

