

River Little Ouse Waterspace Study



Extract 'Water, Land & Sky' weaving by Louise Oppenheimer

Thetford to Brandon - The 'Braided River'

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September 2016

DRAFT

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Thetford to Brandon

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On behalf of



Draft September 2016

Prepared by

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1.0 Partners to the Study

Thetford Town Council and its local authority partners commissioned Richard Glen Associates to prepare this high level Waterspace Study for the River Little Ouse between Thetford Mill and Brandon Lock in February 2016. The Client partnership wish to encourage the sustainable development of the River Little Ouse Corridor for the benefit of the widest possible range of people.

The study is intended to provide the partner organisations, potential funders and other interested parties with a framework for promoting river related projects, which will help stimulate long-term regeneration of the river corridor within the Thetford area.

The Study has engaged with a range of partners, including Breckland District Council, the Environment Agency and Breckland New Ground in order to create an integrated approach to promoting Thetford as a riverside destination. The study maintains the uniqueness of the cultural heritage and the international importance of wildlife to the rich Brecks landscape through which the valley of the River Little Ouse flows.

1.1 Study Area

The study area of 10 miles has been defined to include the river corridor of the River Little Ouse from Thetford Mill (on the River Thet) downstream through Thetford Town Centre, westwards through Thetford Forest and Santon Downham to Brandon Lock, just downstream of Brandon Bridge.

1.2 Study aims

1. To help redefine Thetford as a 'riverside destination' and develop water and land based activities along the River Little Ouse
2. To inform and complement Thetford Town Council's and other key partners' vision for the regeneration of the river in both the short and long terms
3. To identify opportunities to promote access to new or enhanced water-based activities.

1.3 Key objectives

- To integrate existing and proposed land uses along the river corridor with existing and proposed water based activities and facilities.
- To recognise 'Access for All' and the importance of open space in enhancing the river by the promotion of sport, healthy outdoor recreation and amenity.
- To capitalise on the river corridor as a linear recreation, tourism and transport resource and identify further physical, environmental and recreational improvements, which will sustain and provide new jobs and economic opportunities.
- To identify improvements in the provision for paddle sports, slipways, canoe portages and, in the long-term, boaters' facilities and moorings.
- To protect and enhance the river and adjoining watercourses as wildlife corridors, to manage the implications of increased recreational pressure and to protect sensitive areas in accordance with relevant environmental legislation
- To produce high-level design guidelines together with a programme of achievable actions.

1.4 Study Context – River Little Ouse

The client partnership recognises the river as a catalyst for regeneration, vital for the town's future. The partnership wishes to encourage the development of the river corridor for the benefit of the widest possible range of people, to improve their quality of life and enhance Thetford's status as a regional centre. The imminent development of the Sustainable Urban Extension (SUE) to the north of the town strengthens these requirements.

This study will provide the partner organisations and other interested parties with a framework for promoting sustainable river-related development along the River Little Ouse. Making this happen will require the combined efforts of all those with an interest in the river, its unique environment, its heritage, its wildlife and local communities.

Within East Anglia the river catchment approach to the Rivers Lark and Little Ouse presents opportunities for waterway regeneration. These proposed waterway connections will revitalise communities along their route and increase tourism to the region.

1.5 The Brief

The Study will form a strategic document to assist in planning and related discussions with partner organisations, developers, funding agencies and local communities. It is high level, concise and illustrates outputs with indicative spatial masterplans. It takes into account existing and emerging studies and policies which are relevant to the broad scope of regeneration of the River Little Ouse and its riversides.

1.6 Key issues

Potential issues identified which could illustrate constraints and opportunities include:

- Existing river infrastructure, constraints and activity
- Reference to other relevant emerging plans for Thetford, Brandon and the wider catchment area.
- Potential development hub sites along the river
- Relationship with existing river users
- Access to the river and public transport links – including paddlesports, footpaths and cycleways etc
- Information on funding opportunities available, including Local Enterprise Partnership, Lottery and Government funding
- Links with green infrastructure to include:
 - Leisure, tourism, historical/cultural attractions and recreational facilities
 - Biodiversity & environmental legislation
 - Water Framework Directive
 - Flood Risk Management
- Landscape value and built heritage issues
- Associated river festivals, events and marketing.

1.7 Potential opportunities

The Study will identify and assess potential opportunities, to include:

- The existing waterspace experience, the potential new waterspace proposals and how different water experiences can be accommodated.
- Enhancing the river corridor by creating a sustainable, attractive and active river environment with links to river based and other nearby visitor destinations.
- Engaging with the arts community, sporting and recreational sector, tourism industry, education and key employment areas.
- Strengthening strategic green infrastructure linkages and networks within the wider area.

1.8 Outputs of the Study

A high level strategic plan, with outline site layout maps where appropriate including a broad survey of the river corridor covering historical context, river character and development plans and regeneration initiatives. There are a series of recommendations and identified actions.

1.9 Use and Status of the Study

The Study is a non-statutory document, which the client partnership hope will:

- Provide a vision to inform future policy formulation.
- Highlight the potential of the river corridor by identifying and promoting opportunities in a co-ordinated approach to regeneration.
- Influence future development briefs and designs for

waterside sites, to capitalise on the unique assets of the river corridor.

- Act as a discussion document to stimulate interest and promote consensus amongst stakeholders.
- Inform the Local Development Framework.
- Provide a sound evidence base to help maximise funding opportunities and potential benefits to the natural environment and society as a whole.
- Inspire local businesses, community groups and the wider public to take forward improvement projects to enhance the waterway corridor.

All of the proposals suggested in this document will need to compete for resources in a challenging economic climate.

Please note that any works in, on, under or over a designated main river will require application for a flood defence consent, irrespective and independent from any planning permissions required (Section 109 of the Water Resources Act 1991). Similarly, any works within 9.0 metres of the top of the bank of a main river will require an application for consent under the Anglian Byelaws.

The Environment Agency would encourage pre-application consultation where possible on any of the relevant development proposals suggested within the study.

1.10 Methodology

Background research for the study was started in March 2016, with the principle research being undertaken between April and May 2016.

This research included:

- Site survey & appraisal of the river corridor within the study area.
- A review of published strategies, research material and planning policy documents relating to the river corridor, supplied by the client partnership and other organisations.
- Consultation with key stakeholder groups and organisations.
- An appraisal of the environmental assets, community use and proposed developments along the river.
- An exploration of the current role of the river corridor as a linear recreation, tourism and transport resource; and consideration of how this resource could be enhanced by a variety of physical, environmental and recreational improvements.
- Identification of opportunities and constraints.
- Discussions with the client bodies in structured interviews and feedback on work in progress.
- This final study document was produced in September 2016, after preliminary drafts had been commented on by the client partnership.

1.11 Report Format

The report is divided into four sections, with the core outputs of the study comprising of a series of strategic masterplan maps, accompanied by a schedule of actions.

Section 1: gives an introduction to the document, including the reasons the study was undertaken by the client partnership, study context and a historical overview of the study area as well as overview of relevant planning policy.

Section 2: presents the main findings of the Waterspace Study, describing the three key stages identified in consultation with the client partnership. These stages capture an assessment of the key opportunities of Thetford's waterspace:

Stage 1: Thetford's Riverside Core

Stage 2: Improve access to the river corridor

Stage 3: Re-establish full navigation to Thetford

Section 3: Thetford's Waterspace Proposals, presents six priority themes to advance Thetford's riverside core. These are further illustrated by a strategic masterplan focused on the town centre.

The plans depict existing spatial features alongside potential improvements. Key strategic proposals are described in accompanying text with photographs further illustrating key opportunities. The section concludes with a summary of the 'Transformational Milestones,' needed to develop the River Little Ouse as Thetford's primary tourist attraction.

Section 4, Study Proposals and Waterspace Maps, provides more detail by dividing the study area into geographic sections along the river corridor, representing each with a map describing current features and possible improvements. The detailed maps are accompanied by a schedule of actions corresponding to the identified improvements.

The Study concludes with a review of the potential economic benefits of river-related projects, which will help, stimulate long-term regeneration in the river corridor.

1.12 The River Little Ouse

The River Little Ouse rises near Thelnetham and flows westwards to join the River Thet in the centre of Thetford. The river flows for 37 miles through the centre of Thetford, Thetford Forest and the landscape of the Brecks, forming the boundary between Norfolk and Suffolk for much of its length before joining the River Great Ouse at Brandon Creek.

The river is currently navigable for leisure craft from its confluence with the Great River Ouse for 16 miles upstream as far as Brandon. Brandon Lock, located just downstream of Brandon Bridge limits the length of craft to 39', which can pass up stream to the Environment Agency moorings. These EA moorings are the formal limit of the EA's navigation authority. The Great Ouse Boating Association (GOBA) have established a right of navigation to Santon Downham, two miles upstream of Brandon where there is a small mooring just downstream of the bridge. However, it is understood it is rarely used. A right to navigate upstream from Brandon to Thetford still remains and these rights are held by Breckland District Council.



The Little River Ouse, canalised within Thetford's Town Centre below the confluence with the River Thet.

There have been initiatives towards re-establishing navigation on the nine miles of river from Brandon to Thetford, and establish Thetford as a new waterway destination together with the associated benefits to the local economy. Notably, a 'pre-feasibility' study was commissioned by the Environment Agency in 2003¹. This concluded that restoration to navigation was technically possible. Although restoration would bring many benefits to the town and surrounding areas, there are concerns that the sensitive landscape of Thetford Forest, internationally important for wildlife conservation and of great heritage value, should not be disturbed. Since the publication of the Babbie, Brown and Root 2003 report, the Water Framework Directive and additional environmental legislation require a 'softer' engineering solution in restoring the river to full navigation.



The re-connection of the river with its floodplain as part of a habitat rehabilitation project undertaken by the Environment Agency & Forestry Commission.



Environment Agency's navigational limit at Brandon moorings, just upstream from Brandon Bridge.

River Little Ouse (Brandon to Thetford Navigation) Pre-Feasibility Study, Stage 2 Report. Babbie Brown & Root for Environment Agency 2003

1.13 Historical Overview

The town of Thetford grew at the confluence of the Rivers Little Ouse and Thet. Its history can be traced back to prehistoric occupation. The nearby Grimes Graves was the site of a Neolithic flint mine over 5,000 years ago. The town has associations with the Iceni tribe and Boudica's revolt against the Romans. It became the Saxon capital of East Anglia and by the time of the Norman Conquest was the sixth largest town in the country. It was an important religious centre in the mediaeval period with the construction of a priory in the 12th Century, although after the dissolution of the monasteries in 1537 the town's economic importance declined.

For centuries the River Little Ouse has traditionally been Thetford's principal transport artery. Viking longships navigated the tidal waters, with stone for the construction of Thetford Priory being transported by river during the Medieval Period. There are records from the 13th Century of barges travelling to Thetford linking the Hanseatic port of King's Lynn to the town via the Great River Ouse.

It was not until an Act of Parliament was passed in 1670 that improvements to the navigation commenced. By 1751 Thetford Corporation made improvements to the river constructing staunches at Thetford, Thetford Middle, Turfpool, Croxton, Santon, Brandon and Sheepwash. The advent of the railways to the region by the mid 1840's started a rapid decline in the prosperity of the navigation and by the turn of the 20th century the navigation had fallen into a poor state of repair.

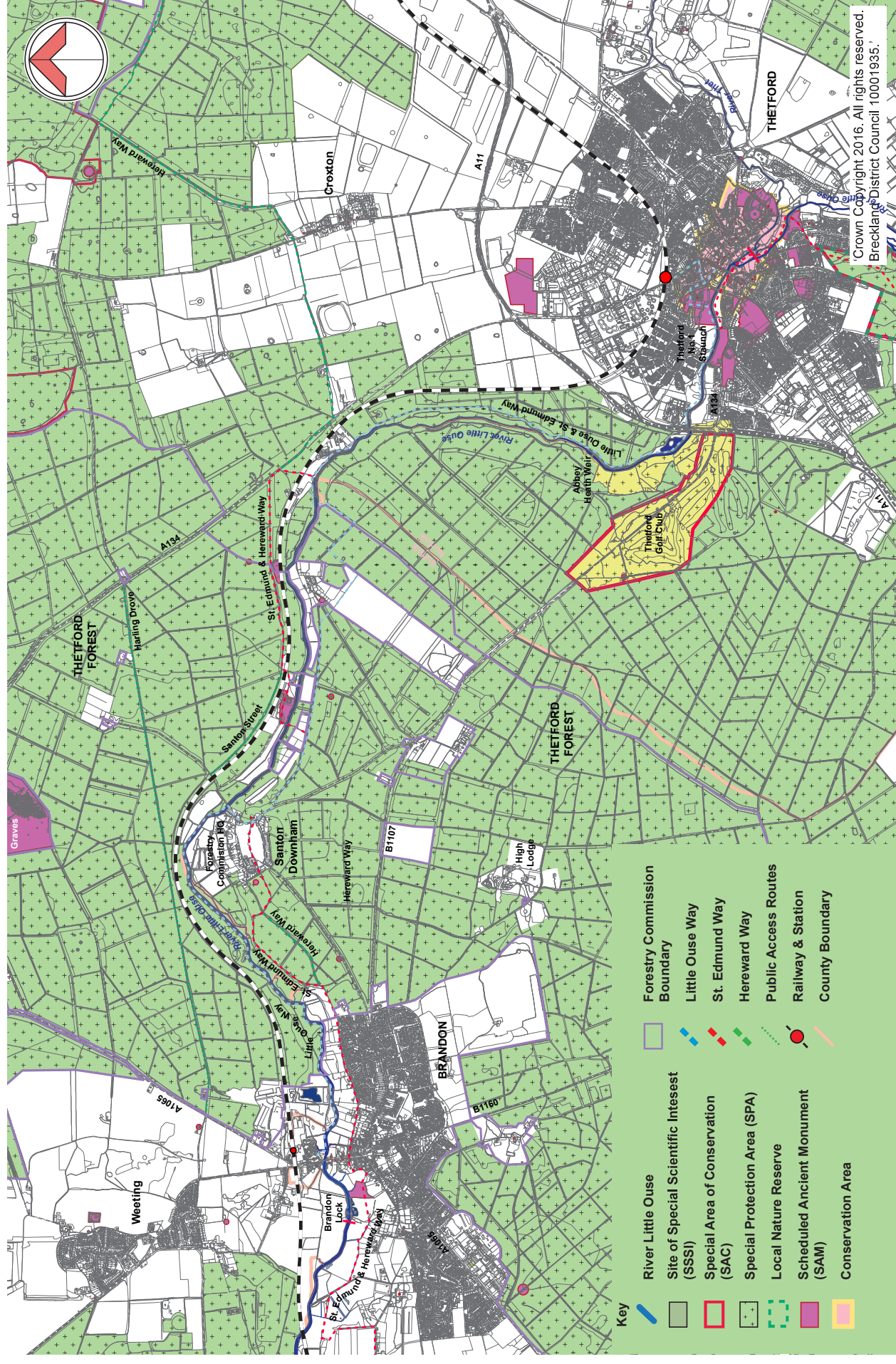


Thetford's Norman castle 'Motte' incorporated within the Iron Age earthworks

Fisons ran a tug to tow lighters between Two Mile Bottom to King's Lynn, however, by the beginning of the First World War all commercial traffic had ceased. It was not until the powers of the Land Drainage Act (1930) were used to create the Great Ouse Catchment Board that effective action could be taken. The Board removed the staunches replacing those at Brandon and Thetford with sluices to maintain water levels.

The Industrial Revolution saw a revival in the town's fortunes; the manufacture of steam engines was particularly important in the late 19th and early 20th centuries. With the downturn of this industry came another economic decline with high unemployment. Thetford became an area for London overspill in the 1950s with the relocation of jobs, businesses and an influx of new residents housed in estates in the north and west of the town.

Thetford's historic core consists of an ancient street pattern emanating from the town's Norman Castle Motte and Iron Age earthworks. The town has over 180 listed buildings and a number of sites of archaeological importance including: the prehistoric trackway of the Icknield Way which crosses the river at Nunn's Bridges, the remains of Thetford's Cluniac Priory, Gallows Hill an Iceni ceremonial site and the Saxon Red Castle site.



1.14 The Brecks and surrounding landscape

Thetford lies on the eastern edge of Thetford Forest, planted following the First World War on the heathland of The Brecks. The Brecks is a unique landscape, important for its natural, cultural and archaeological heritage. It has sites of European importance for nature conservation including the Breckland Special Protection Area (SPA) and Special Area of Conservation (SAC). The SPA's designation reflects the presence of internationally significant populations of rare bird species such as Woodlark, Nightjar and Stone Curlew. The SAC protects the extensive tracts of lowland heath, semi-natural dry grasslands, marshes, bogs and ancient woodland. This makes the Brecks an important area for its landscape and natural heritage and for its recreation and tourism value. In addition to the SPA and SCA designations the majority of Thetford Forest is designated a Site of Special Scientific Interest (SSSI) and is under the management of the Forestry Commission.

The historic fundamental relationship between town and river has resulted in a number of Scheduled Ancient Monuments sited along the river corridor, these signify the location of the Saxon town.

Although Thetford is on the edge of this unique landscape, the town is in many ways cut off from it. Safe walking and cycling links are limited due to the physical barrier presented by the A11 and there is a strong view that the local population does not make the best use of the green spaces which surrounds the town.



The Little Ouse Trail within the heart of Thetford Forest to the west of Santon Downham

Thetford is located on a number of regional recreational trails, but these trails are poorly maintained and promoted. The Thetford Green Infrastructure Strategy advocates that the local population use the Forest amenities on the doorstep of the town. These trails are:

- The Little Ouse Trail
- St. Edmund's Way
- Hereward Way

The river valley could be a most effective route to connect with the surrounding Breckland countryside and to access the network of trails and rides within Thetford Forest, with the potential benefits for health, well-being and reduction in car use. However, walking and cycling links from the town centre require significant improvement. They are currently poorly promoted, signed or surfaced with interpretation little used.

1.15 Thetford

Thetford has an enviable waterside setting with a substantial south facing river frontage, which brings the greenspace of the river corridor into the heart of the town's historic centre. However, the impression of the waterfront area is one of missed opportunities, neglect, and lack of confidence.

A series of small car parks are located along the north bank together with the 1960's commercial development of Riverside Walk. This development attempted to stimulate riverside activity by creating units which addressed the river and provided space for a south facing promenade. Unfortunately the current businesses are inward focusing and do nothing to stimulate riverside activity.



The south facing 1960's development of Riverside Walk forms the focus for Thetford's current waterspace activity.



The existing uses of the Riverside Walk area are all inward facing and do nothing to animate the riversides.



A series of dominant car parks are located along the north bank of the river, they present a missed opportunity for riverside development.

1.16 Regeneration and Growth

Thetford attained Growth Point Status in 2006. Growth Points are locations which pursue sustainable housing growth through a partnership between local organisations and central government. The Sustainable Urban Extension (SUE) of 5,000 new dwellings will be built in the north of the town in phases over a twenty year period.

The Thetford Area Action Plan was adopted in 2012 as a response to the likely impacts of the town's proposed growth.

1.17 Population and community

The current population of Thetford is 24,000. The SUE is likely to add around 15,000 to this figure. It has a significant proportion of young people with approaching a quarter of the population being under 16. This proportion is likely to rise with SUE.

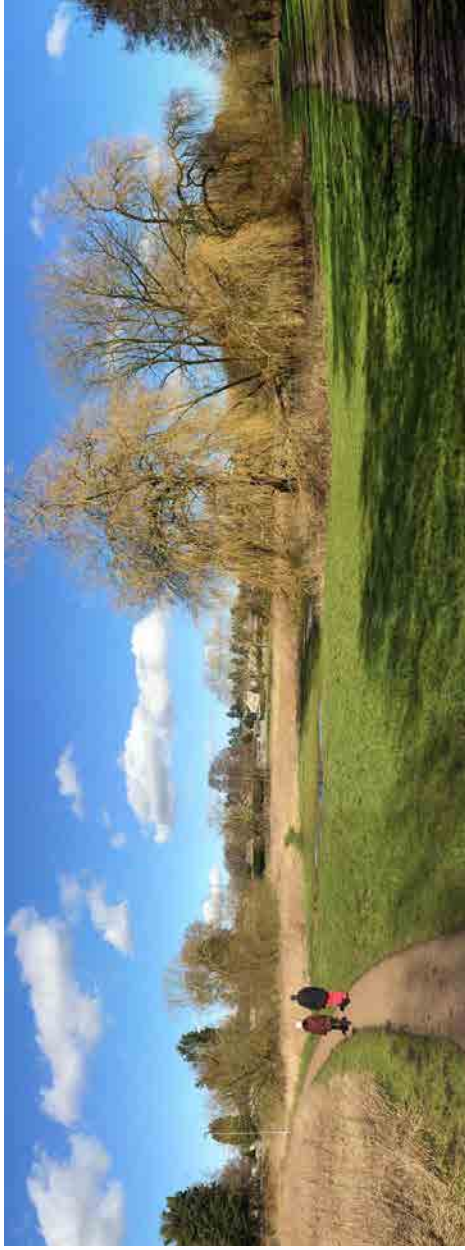
In terms of deprivation, one of the town's wards, Thetford Abbey, is in the most deprived 10 per cent nationally according to the 2010 Index of Multiple Deprivation.

The town was given Healthy Town Status in 2008 in recognition of high adult obesity rates, receiving £900,000 in funding from the Department of Health for projects to encourage healthy lifestyles. Child health is also a major concern and there is a high rate of teenage pregnancy and problems associated with substance abuse.

The town has attracted many migrants to the area; there is a strong population of Portuguese origin and many from Eastern Europe.



The new mixed use Anchor development is nearing completion, hopefully this will act as a catalyst for further riverside regeneration.



Priors Meadows is a large area of greenspace which brings the landscape into the town. This presents a fantastic opportunity for people to enjoy the blue/green space of the river corridor.

1.18 Brandon

Brandon is in Suffolk and located on the River Little Ouse on the western side of The Brecks. The town does not have a public waterfront area and the river is very much a hidden asset of the town. On the outskirts of the town is Brandon Country Park, an important and popular gateway into Thetford Forest.

The Little Ouse is fully navigable to Brandon although the length of Brandon Lock which lies to the west of the Brandon Bridge limits the size of the boats to 39' which are able to reach the town itself. The importance of the river as an historic trade route is signified by the presence of Brandon Lode, an old wharf which is currently silted up. It could be restored as a convenient mooring for visiting boats.



View from Brandon Bridge looking upstream to the EA moorings and limit to navigation.



Brandon Lock & Weir limits the length of craft to 39' which are able to pass upstream to Brandon.



The approach to Brandon Bridge with private gardens fronting the riverside.



Brandon Lode, an old wharf which has now silted up.

2.0 Local Planning

The length of the River Little Ouse in the study area forms the border of Norfolk and Suffolk and primarily involves two district planning authorities: Breckland District Council in Norfolk and Forest Heath District Council in Suffolk. Policies relevant to the river corridor and regeneration of the two main towns on the river, Thetford and Brandon, are reviewed below.

2.1 Breckland District Council

Breckland Council has an emerging local plan as part of its Core Strategy together with a series of Development Plan Documents (DPDs). The Thetford Area Action Plan is the Development Plan Document which provides a policy framework for Thetford, its growth and land allocations.

2.2 Thetford Area Action Plan

The Thetford Area Action Plan (TAAP) was adopted in 2012 as a Development Plan Document in response to the proposed growth of the town and its potential impact. It was prepared according to the Breckland Local Development Framework Core Strategy and covers the period to 2026. It provides a policy framework for the Sustainable Urban Extension (SUE) of 5000 dwellings on greenfield land to the north of the town, additional employment, regeneration of the town centre, a shift to more sustainable modes of transport and, ultimately, an improvement in the reputation of the town.

Its theme is 'Historic Past, Healthy Future', seeking to emphasise the importance of the town's heritage and its potential for a healthy future.

The importance of integrating the SUE with the existing town and its residents is fully recognised and a phased approach to development is planned. The vision for the SUE is that of a sustainable approach, an 'organic feel' and that it should be 'of Thetford.' The importance of physical links and the need for good walking, cycling and public transport networks is emphasised. A series of multi-purpose high quality pedestrian and cycling routes, the Thetford Loops, are proposed for both utility and leisure trips. This includes a riverside route.

In terms of the existing town centre, priority is given to creating 'vibrant high street activity' and ensuring good pedestrian and cycling permeability. A clearer sense of place and improvement of the public realm are needed, including riverside areas. Car parking and traffic circulation are also items which need to be addressed.

A green infrastructure project is proposed, benefiting the town and its setting in the Brecks - 'The River Valley Project.' This includes river and wetland habitat restoration, landscape enhancement and multi-functional routes connecting the town to the wider green infrastructure of the region. The river valley would become a focus for recreation; contribute to the health of the town by providing a 'green lung' and help to integrate existing and new communities.

The understanding of impacts from recreational disturbance is, however, not complete and a precautionary approach is required of managed access and provision of alternative areas of green space to reduce impacts on sensitive areas.

2.3 Thetford Neighbourhood Plan

Thetford Town Council is leading the production of the town's Neighbourhood Plan. The 2011 Localism Act introduced Neighbourhood Plans as community-led frameworks for guiding future development, regeneration and conservation of an area. They are part of the statutory development plan for an area, with which they have to comply. A Neighbourhood Plan is subject to extensive community engagement and evidence gathering. This ensures it is based on a proper understanding of the local area and the opinions, requirements and aspirations of local people. The Neighbourhood Plan is in the early stages of this process at the time of the preparation of this Waterspace Study. It is hoped this study will be able to feed into the Neighbourhood Planning exercise.

2.4 Thetford Green Infrastructure Study

Land Use Consultants. 2007

The Thetford Green Infrastructure (GI) Study sets out a series of opportunities and priorities for GI planning in Thetford for the next 20 years. It also identifies what is likely to be required in GI terms for the town to support its regeneration and Sustainable Urban Extension. It sets down principles for developers in terms of providing the GI required for the growth of the town. The study addresses a broad range of functions including biodiversity, landscape, cultural assets, recreation, ecosystems functions such as alleviation of air pollution, flood risk management, climate change mitigation and maintenance of water quality.

Fundamental to the Study is the understanding of the area's significant international biodiversity interest and the need to alleviate pressure on local nature conservation sites. It also emphasises the importance of providing better access from the town to the surrounding countryside, in particular Thetford Forest, through making more effective green links. Thetford has been cut off from its countryside assets, primarily by the A11 and overcoming these barriers is essential. This will be particularly important to the north of the town, the location of the Sustainable Urban Extension. In addition, semi-natural green space is deficient in the town in terms of both quantity and quality. The potential growth in the town needs to provide accessible and well-designed greenspace.

The study emphasises the lack of awareness by the population of both the surrounding countryside and the heritage assets of the town. Interpretation is poor and opportunities for education have not been taken. The benefits to health and well-being of Green Infrastructure are now well-recognised and good accessibility is essential. High levels of informal recreation provision will be of increasing importance to the relatively young population which the SUE will bring.

The river corridors of both the Rivers Little Ouse and Thet provide opportunities for the town's green corridors to link to the surrounding countryside. These include trails in Thetford Forest, the wider rights of way network, and long distance routes such as Peddars Way, Hereward Way and St Edmunds Way. Access, which respects sensitive habitats, should be encouraged. Riverine species can be very tolerant of human activity provided mitigation measures are taken, such as diverting paths away from the river at sensitive places, planting shelter belts and taking opportunities for offline habitat enhancement.

The study acknowledges that the Little Ouse Trail is in need of improvement along most of its length.

An important component of the Green Infrastructure Strategy is the proposal to establish a Thetford River Valley Park, following the course of the Rivers Little Ouse and Thet. This would fulfil many of the recreational functions of a country park. Its features would include:

- River and wetland habitat restoration
- Landscape enhancement
- Multi-functional routes connecting Thetford to the wider GI of the area
- Links to Forestry Commission lands and projects
- A venue for water sports
- A proposed visitor centre.

The proposed Thetford River Valley Park would provide a focus for recreation within Thetford and access out to surrounding countryside. A new bridging point at St Helen's and provision for equal accessibility at Santon Downham are proposed.

2.5 Thetford Town Centre Masterplan

Allies & Morrison. May 2013

As a supplement to the Thetford Area Action Plan Breckland District Council commissioned the Thetford Town Centre Masterplan. Its purpose was to explore how to strengthen the appeal of the town centre in retail and leisure terms, improvement of movement and parking and the effective integration of the urban extension to the north.

Important strands in the strategy include:

- The need to bring forward catalysts for change, such as the Anchor Site (currently nearing completion), refurbishment of Riverside Walk, creating new street markets and cultural activity.
- Making small scale improvements such as improving Button Island Bridge, enhancing shop fronts and public buildings, improving the public realm, creating better pedestrian routes and making cosmetic improvements to lighting and street furniture.
- The need to resist inappropriate opportunistic development.
- Orientate leisure use towards the river and develop restaurant and café venues to increase footfall along the riverside.
- Repairing the historic fabric of the town to provide a positive visitor experience as retail is no longer sufficient to attract people to town.



King Street Square, opportunity to develop a more compact commercial centre with strong leisure links to the river.

- Create a compact town centre and provide a geographical focus for retail based on King Street.
- Improve links and connections to the wider area, through improving the current incoherent road network, giving buses priority, walking links including, the railway station. Good walking, cycling and bus links with the Sustainable Urban Extension will be essential.
- A suggested interceptor car park north west of the London Road/Brandon Road junction which would reduce traffic in the town centre and allow the replacement of riverside car parks with additional development and public spaces.

2.6 A Landscape Conservation Action Plan for The Brecks, Breaking New Ground

The Breaking New Ground (BNG) Landscape Partnership Scheme, funded by the Heritage Lottery Fund is based at Brandon Country Park. The partnership covers the unique Breckland landscape with its highly rich, but overlooked heritage and biodiversity, whose qualities and are poorly signposted, interpreted and marketed.

BNG's over-arching aim is to improve understanding of the area's natural and cultural heritage. Extensive survey, research and consultation has led to an agreed set of priorities for the long term conservation and restoration of the area. BNG aims to connect communities to their landscape (many are unaware of the Brecks special qualities) through practical conservation projects to engage, to inform and training local people. These projects are delivered through a range of partners with BNG developing new partnerships to sustain projects for the long term.

The project develops what is known, establishes best practice through research, and ensures its continuation by informing landowners together with a skilled and enthusiastic volunteer force to make a sustainable difference on the ground.

The Landscape Conservation Action Plan sets out a costed programme of activities under the headings of:

- Conserving or restoring built and natural features
- Increasing community participation
- Increasing access and learning
- Increasing training opportunities

2.7 Engagement & Legacy Development Report Breaking New Ground, 2016

The current BNG Landscape Partnership Scheme is due to complete its delivery in March 2017. Following extensive consultations and workshop sessions in the Spring of 2016, the Partnership took the decision to support a new proposal to the HLF for a reinvigorated Landscape Partnership Scheme. This proposal would centre on the distinctive 'Wet Brecks', i.e. the river corridors and their adjacent species rich heathland areas, lakes and pingos. The river valleys form corridors which link habitats and communities (such as Thetford) with new audiences. The bid will be led by Suffolk County Council.

With a strong emphasis on the need to strengthen engagement of the local population, the business community and potential visitors with the Brecks, the future programme would respond to new agendas which have become apparent:

- Further wildlife decline and climate change impact
- Improving access to and learning about nature and encouraging care for it
- Collaborative and inclusive community engagement, integrating new heritage audiences by strengthening civil society groups
- Cohesion with health and wellbeing objectives.

There remains huge untapped potential to engage many more people in the locality with the rich biodiversity, landscape and built heritage of the Brecks. Thetford is perceived as an 'unrevealed town' with a wealth of heritage treasures and potential which the Landscape Partnership is only beginning to explore. Thetford Town Council with its key partners the Keystone Development Trust, Anglia Water, the Environment Agency and Breckland District Council are promoting the River Little Ouse as a location for a sustainable regeneration initiative. This takes an integrated approach to promoting Thetford as a waterway destination via improved accessibility to walking, cycling and canoeing together with other water-based activities, land-based recreational and sustainable travel routes into the forest.

2.8 Forest Heath District Council Core Strategy

2001-2016

Forest Heath District is in Suffolk, with both Santon Downham and Brandon lying within the District.

Forest Heath Core Strategy 2001-2026 was adopted in May 2010 and provides the overall strategic vision for the District's future. Site specific allocations are set out in separate Development Plan Documents.

Forest Heath is a predominantly rural district and is committed to maintaining and protecting the quality of its unique environment. Breckland is recognised for its importance for nature conservation at both national and European level.

Spatial Objectives in the Plan include:

- To support the growth of the visitor economy and strengthen the sustainable development of Brandon, the Brecks and the great outdoors.
- To promote an improvement in health by providing quality open spaces and better access to the countryside.
- To promote Forest Heath as a quality visitor destination for sustainable tourism, building upon its high quality environment and cultural heritage.
- To improve the rich biodiversity of the District.
- To mitigate climate change and the risk of flooding.
- To increase sustainable, affordable, frequent and safe travel choices.

2.9 Joint Development Management Policies

Document. Forest Heath and St Edmundsbury Borough Councils. February 2015

The two councils under the banner of 'West Suffolk Working Together' produced the Joint Development Management Policies Document. The Local Plans for both authorities are the policy backgrounds for planning decisions whereas the Management Policies Document will be used in day to day planning decisions across both authorities. It will eventually replace their Local Plans.

It includes detailed policies for Creating Places, the need for Master Plans for development proposals and Development Briefs for larger proposals. Topics include:

- Development in the Countryside
- Biodiversity and Geodiversity
- Protected Species
- Landscape Features
- Listed Buildings
- Heritage Assets
- Conservation Areas
- Tourism Development
- Town Centre Development
- Open Space and Rights of Way

Policies relating specifically to Brandon (Policy CS1) include:

- To promote Brandon as a tourist destination within a proposed Brecks Regional Park and recreational opportunities along the River Little Ouse.
- promotion of the Little Ouse River To protect the Special Protection Area.

Santon Downham is categorised as a small settlement where any development will be small scale and be restricted to supporting the rural economy.

Policy CS2 - Protection of the natural environment. This includes the protection of the SPA and SAC areas, to promote Green Infrastructure enhancement, to minimise the fragmentation of habitats, and the connection of existing areas to create an ecological network.

Policy CS3 - Protection of the quality, character, diversity of the landscape and historic environment.

Policy CS6 - Development of sustainable tourism. The tourist industry will be supported by encouraging new accommodation and attractions which have no significant detrimental effect on the environment. Brandon is seen as an important location in terms of sustainable tourism.

Policy CS11 - The maintenance, vitality and viability of the Districts market towns. This includes Brandon, the role of providing the retail and leisure needs of the area.

Policy CS12 - Sustainable Transport. To support improvements in the rail infrastructure, the development of the National Cycle Network (Route 51), and improvements to rights of way, including consideration of cross boundary issues.

2.10 St Edmundsbury Green Infrastructure Strategy

Land Use Consultants. 2009

The Borough of St Edmundsbury includes the southern part of the Brecks and, south of Thetford, the River Little Ouse forms the northern boundary of the authority. The Strategy has policies for river valleys complementing those of Thetford GI Study:

Little Ouse Valley 7.12. - *'In line with the Little Ouse Headwaters Project and Thetford Green Infrastructure Study, the vision is for enhanced landscape character, access and habitat provision along the Little Ouse Valley to improve wildlife diversity and provide an important east-west conduit for the movement of wildlife and people via existing routes (Anglers Way and Icknield Way) between Barnham Camp and Thelnetham Fen, with access extended along a new Little Ouse Green Corridor.'*

2.11 Norfolk Rights of Way Improvement Plan

2007-2017 Strategic Review

The Rights of Way Improvement Plan (ROWIP) is a strategic document and action plan intended to guide how the rights of way network is managed and improved. The Norfolk Local Access Forum acknowledges that the ROWIP is now out of date and the Strategic Review provides the framework for development of a new Countryside Access Improvement Plan (CAIP) effective from 2017. It identifies development needs not covered by the current ROWIP.

The CAIP will explore better opportunities for working with stakeholders in realms such as public health, business and community organisations. It will effectively integrate topics such as green infrastructure, access for all, the historic environment, biodiversity, cycling, riding, young people and with economic development partnerships.

2.12 Suffolk Rights of Way Improvement Plan

2006-2016

Suffolk County Council is currently in the process of assessing its ROWIP. Public consultation closed at the end of June 2016.

2.13 The Little Ouse Trail

Improving access to Thetford Forest

A number of strategic documents, notably the Thetford Area Action Plan (TAAP), the Thetford Green Infrastructure (GI) Study and the Breaking New Ground Landscape Conservation Action Plan (LCAP) stress the importance of improving access to Thetford Forest and the Brecks, particularly from Thetford itself. There is a recognition that many townspeople do not relate well or use of the outstanding countryside which lies on their doorstep. For example the Breaking New Ground LCAP states:

'Consultation during the preparation of this LCAP has shown that even the concept of the Brecks as a geographical entity is little recognised, with many residents and visitors unsure of its location and characteristics. There is limited local engagement with the landscape and surprisingly little access made to information in the public domain about the landscape of the Brecks...'

This is partly due to lack of awareness and availability of promotion, information and interpretation and partly due to the physical barrier formed by the A11 ring road which effectively cuts the town off from the Forest.

2.14 The benefits of improved access

Access to green space can provide a fun, traffic free experience for both adults and young people. It contributes to a number of government and local agendas including improving health and well-being, building stronger communities and sustainable transport provision, thus contributing to carbon reduction. Increased interaction with the natural world results in greater awareness and contact with wildlife and the likelihood of people respecting it and becoming involved in its appreciation. It can also have economic benefits to the local area through increased spend from both local users and visitors.

Numerous studies have discussed the clear link between access to greenspace, an improvement in health and wellbeing and a healthier lifestyle. Thetford demonstrates relatively high incidences of diabetes, coronary heart disease and mental health problems associated with higher levels of social deprivation. The town has been recognised as an area of relatively poor health by its successful bid for inclusion in the national Healthy Towns programme aimed at tackling high levels of obesity through improvements to the planned environment and promotion of physical activity. Parts of Thetford are also deficient in local access to greenspace.

Unless suitable provision is made the Sustainable Urban Extension (SUE) will exacerbate the problem of limited access to green space, particularly with the younger population.

2.15 The River Little Ouse corridor

The river corridor currently forms the only walking route from town to forest, passing as it does under the A11. The Little Ouse Trail is a public footpath between Thetford and Brandon. Both the St Edmund Way and Hereward Way recreational paths use sections of the trail. The importance of the Little Ouse Trail is recognised in the GI Study with a River Valley Park Proposal and TAAP with a similar River Valley Project as a 'linear country park'. The river route is an essential part of the Thetford Loops proposal for walking and cycling routes, and is given the highest priority. Breaking New Ground proposes a Brecks Forest Way and Brecks Heritage Rivers Trail along the river corridor, linking with High Lodge in Thetford Forest. However, the poor condition in many stretches of the Little Ouse Trail limits its current use.

Natural England has welcomed the Thetford Loops concept stating that although many access proposals are located in the Special Protection Area, they encourage access into the natural environment, an aspiration shared by Breaking New Ground. (BNG:LCAP: Appendix C1 Brecks Forest Way)

The route linking Thetford and Brandon has railway stations at both ends and can therefore make a significant contribution to encouraging the use of sustainable transport to access the countryside.

Additional safe means of crossing the A11 from the SUE to link to the river corridor will have to be considered due to the distance of the current A11 bridge over the river.

2.16 Recreation provision in Thetford Forest

The Forestry Commission currently has a number of marked and promoted trails based on High Lodge Visitor Centre. There are four walking and four cycling routes, with HLF funding recently securing the development of a fifth trail to interpret the history of the Forest, its wildlife and its management. High Lodge has a Go Ape forest adventure centre together with Segway trails. The Commission also manages St Helens car park and picnic area on the north bank of the river, east of Santon Downham. All of these activities take place within the SSSI and SPA, demonstrating recognition by Forest managers of the importance and potential of recreational activities and their compatibility with SSSI and SPA conservation objectives.

An improved walking route from Thetford using the river and linking to High Lodge could result in increased usage of the forest centre and its facilities, an aspiration which should be shared by all recreation providers.

2.17 Potential disturbance to wildlife

The Breckland landscape is internationally important for its heritage and biodiversity. In addition to many Sites of Scientific Interest, it has European Special Protection Area status and Special Area of Conservation designation. These designations relate particularly to the importance of the Brecks for rare breeding birds such as Nightjar, Woodlark and Stone Curlew. All are ground-nesting species and therefore particularly subject to disturbance. There is general agreement that disturbance of these birds should be minimised and a precautionary approach to increasing recreation

in vulnerable areas is necessary. There is concern amongst those responsible for the Forest and ensuring good management of the SPA that increased use of the river and its associated trails would result in increased disturbance of these vulnerable species. However, there is little or no information on the current level of usage and the level of disturbance which may result from any increase in use.

Studies relating to the disturbance of breeding Nightjars vary in their conclusions, although there is no doubt that human presence can result in birds leaving their nests and being subject to predation by corvids. The presence of dogs can be particularly disturbing. However, the 'safe' distance cited in studies varies from 70 to 250 metres and there is an argument that as the Nightjar depends on its cryptic plumage for defence it is unlikely to leave the nest until a potential predator is very close. A University of East Anglia study on Woodlark suggested that an increase of numbers of visitors is not necessarily more disturbing to Woodlark, rather that a wider spatial distribution of visitors would cause increased disturbance. The GI Study suggests mitigation measures such as buffer zones in vulnerable areas, creating shelter belts and rerouting paths in sensitive areas. Control of dogs would also be important. Breaking New Ground has discussed the idea of downgrading publicity for the walks during the breeding period of April to September. However, this may be difficult to achieve and would cover the period when most people are likely to prefer to use the river trails and walk in the Forest.

The Little Ouse corridor already has areas where disturbance is inevitable including the power station, Scout Camp, the Forestry Commission's St Helens car park and Santon Downham village.

The question is how much actual additional disturbance would be caused to breeding rare birds by the increased recreational use that improving and promoting this route would bring? The Green Infrastructure study puts forward a strong argument that:

By encouraging human recreation along the riverine habitat, access and movement are naturally focused and the likelihood of people diverting into sensitive adjacent areas is reduced.

2.18 Summary

The arguments for improving the River Little Ouse corridor as a walking route into Thetford Forest are compelling and have been strongly made in many strategic documents over a number of years. They include: improved health and well-being, much needed access to green space and the natural environment, encouragement of sustainable modes of transport and building stronger communities. Thetford is currently largely cut off from its surrounding exceptional landscape and these benefits are not being realised by many people who live in the town.

However little progress has been made, at least in part due to the equally important arguments about disturbance of rare breeding birds. There is a need for more information and baseline data to be gathered to give an indication of what would be the likely disturbance and the effect of increased use of the River Little Ouse recreational corridor. This needs to take account of current areas of disturbance in the Forest, specifically along the river corridor, and whether increase in use is likely to have any additional effect. Consideration also needs to be given to how any potential increase in disturbance might be mitigated through design of the route, its management and the information which is made available.

In 2008, the Thetford Green Infrastructure Study stated:

Thetford Forest Park is a significant recreational resource which should be managed to maximise its recreational benefits to the population of Thetford. Barriers to accessing this important site must be overcome as a strategic priority, and links to existing routes and the town enhanced.

Little would appear to have happened since then. It is a clear recommendation from this Waterspace Study that the necessary information and baseline data should be gathered as soon as possible. There must be a swift resolution of these issues if any progress is to be made.



Waterspace Study

3.0 Design Philosophy

This section presents the design philosophy for developing the overarching waterspace study for the River Little Ouse between Thetford and Brandon.

Four delivery themes set the context for the Study.

Active Environment:

The creation of an interconnected succession of routes to provide easy access from population centres and established corridors.

Informative Environment:

The development of a legible, well signed and cohesive environment, providing an education and learning for all.

Inclusive Environment:

The involvement of the whole community in providing access for all whilst safe guarding wildlife and enhancing the natural environment.

Sustainable Environment:

Develop an environmental, social and economic framework which is responsive to the needs of users and the environment.

3.1 The 'Braided River'

The River Little Ouse and associated back channels act as 'ribbons' on which to thread public access, navigation and creation of semi-natural habitats. Enhancing green linkages within the river corridors will help to diversify the landscape's potential capacity and further development of the 'braided river' concept.

In developing navigation proposals discussions with the Environment Agency's Fisheries, Biodiversity & Geomorphology will assist in researching opportunities for creating a 'braided river' corridor. Here the navigable channel runs in conjunction with a number of backwater channels. This allows the navigation to be incorporated within a programme of restoring the natural features of the river, which would increase the variety of habitats across a range of water depths.

The Environment Agency in partnership with the Forestry Commission are currently planning works to give the river a more varied form in width and depth using locally resourced river substrate and woody material. The project aims to introduce more 'natural' features which have been removed through historical modification, a more varied channel where natural processes will increase the quality of species living within the river.



The River Nene, an example of a Braided River

3.2 The Waterspace Study

The study provides a response to the opportunities and challenges posed by the existing usage and facilities of the River Little Ouse. This section presents the main high-level findings of the Waterspace Study and describes the three key stages identified in consultation with the client partnership. Thetford Town Council and Breckland District Council wish to develop the river's economic, environmental and the social benefits of water-related recreation in advance of the long-term aspiration of extending the navigation from Brandon to Thetford. This requires the waterspace study to present a flexible approach in addressing major issues and evolving opportunities, which the development of Thetford and its relationship with the River Little Ouse will present.

The Study's approach therefore seeks:

- To act as a catalyst and focus for area regeneration
- To achieve public access and activity on the river in a well designed and stimulating environment. This will create tourism opportunities with associated employment, contributing to an increase in the quality of life along the river and the promotion of Thetford as a vibrant riverside town.
- To reflect the value of waterside sites to water based, recreation, tourism and businesses
- To promote activity on the river and access to the river corridor for canoeists, walkers, cyclists and equestrians.

3.3 Three key stages for Waterspace Development

Following consultation with the client partnership three key stages for waterspace development were identified.

Stage 1: Thetford's River Core

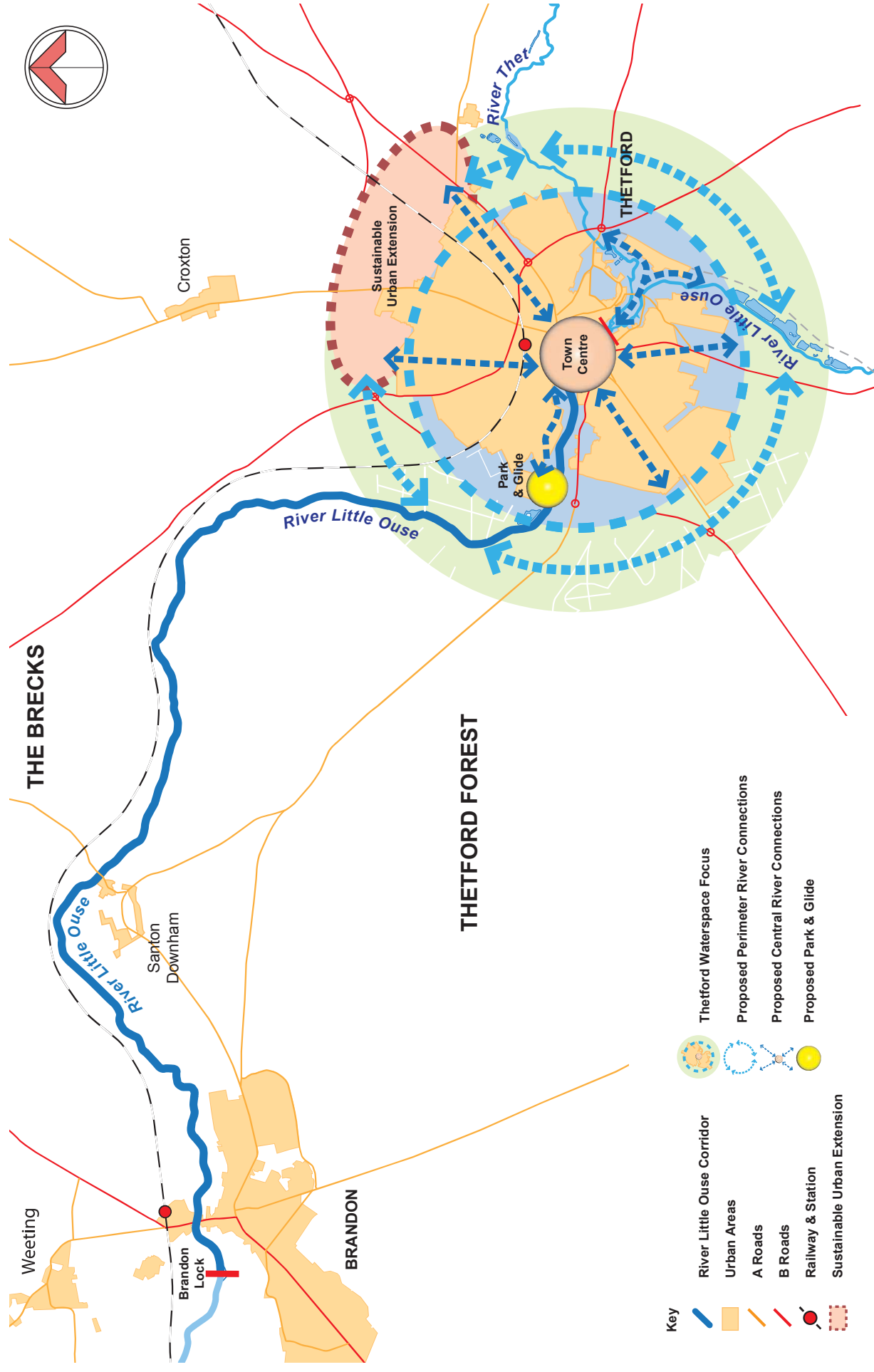
To take full advantage of the town's riverside core and promote greater connectivity and activity, both on and off the water. To capitalise on the investment in the Anchor Hotel Site by rejuvenating the town's riverside setting.

Stage 2: Improve access to the river corridor

Improve accessibility along the river corridor by setting up a dialogue with the Forestry Commission and other land owners to improve the existing footpath network together with canoe trails as part of the area's wider growth and connectivity. Encourage the themed trails and connections devised by BNG along existing public rights of way.

Stage 3: Re-establish full navigation to Thetford

At present the River Little Ouse is navigable upstream as far as Brandon. A prefeasibility engineering study of the navigation route was undertaken by Babbie, Brown & Root on behalf of the Environment Agency in 2003. This study concluded that extending the navigation upstream to Thetford was technically feasible. Since 2003, the Water Framework Directive and additional environmental legislation will require a 'softer' engineering solution in order to restore the river to full navigation. The three stages are now elaborated on.



3.4 Stage 1: Thetford's Riverside Core

The Rivers Little Ouse and Thet are at the core of Thetford, with their corridors bringing the landscape into the heart of the town from both up and downstream. At present the riverside spaces within the town appear forgotten, neglected and disconnected from the pedestrian and commercial centre, presenting a harsh and unforgiving waterfront in need of revitalisation.

These riverside spaces could be transformed into a thriving, dynamic destination through enhancement of land-based attractions together with water-based recreation and accompanying services. This would restore the town's confidence by providing a vibrant destination within the town to act as a catalyst for regenerating the wider town centre.

3.5 Waterspace for Everyone

The river corridor would be managed as a series of multi-functional spaces available for a wide variety of uses. Initially development of waterspace activities could widen the appeal of the Rivers Little Ouse and Thet as Thetford's primary tourist destination.

As activity grows there will be a number of competing demands placed upon the waterspace. These are:

- Navigational needs of craft using the river, including: punting, canoeing, skiffs, the water taxi, trip boats, day hire and private leisure craft
- Access to the river for events, water festivals, watersports and informal recreation is required. This will once again attract a variety of craft, which will add colour, interest and diversity to the river. These issues are fundamental in developing water activity.

3.6 1. Land Based Attractions & Accessibility

To develop the river as Thetford's primary visitor destination. Visitors to the Town Centre should be attracted to the river. The north bank of the river between the Town Bridge and Thetford Mill should become Thetford's focus for waterspace development. This could be done by improving visual and physical connections from King Street and the Market Square to the river and by providing a stimulating river frontage with cafés, restaurants and seating.

The Riverside Walk area on the north bank together with Butten Island and the Anchor Hotel Site are critical in the development of Thetford's riverside as an attractive public space. This area should be developed as a first phase riverside park which could be extended to restore the parkland setting upstream to Nunn's Bridges and downstream to connect with Priory Meadows.

3.7 2. Water Based Recreation

Unpowered punt and skiff hire together with electric boat provision could be quickly established in the town centre. These activities would operate between the town centre and Thetford No.1 Staunch. Canoeing could also be based at the School Lane car park site with improved access to the water. Canoeing could take place within the town or with longer trails downstream to Brandon and beyond.

Good communication amongst user groups will be required to minimise conflicts as the numbers and variety of river craft increases.

- Develop punt, skiff hire and electric boats within the town centre.

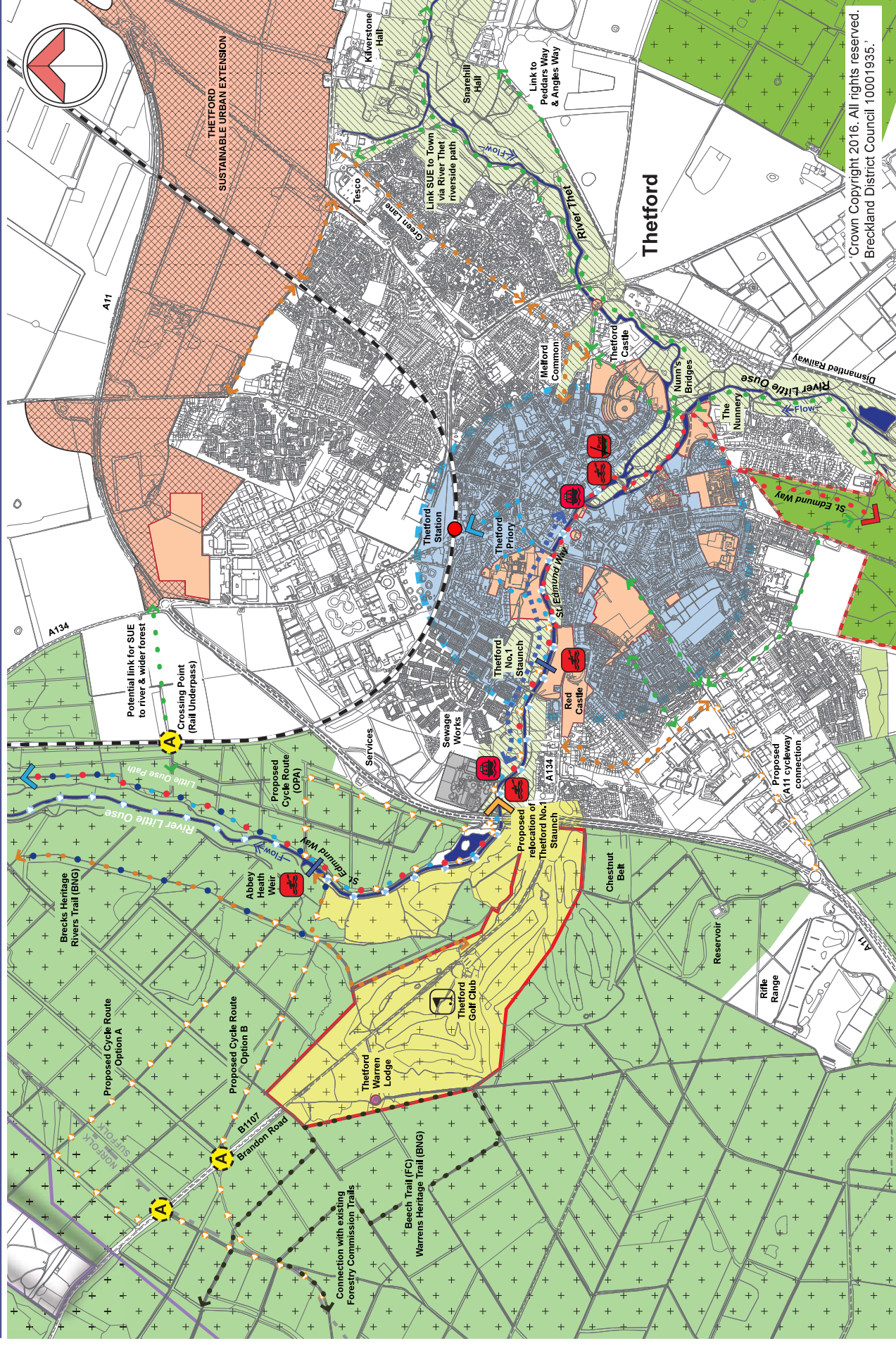
3.8 3. Water Based Services

This could include trip boat moorings and a water taxi service to the potential out of town car parking locations.

- Maintaining and developing trip/restaurant boat.
- Developing water taxi and park & glide services

Good waterside facilities are essential in supporting waterspace activities. Information about the town's amenities; shopping, leisure, visitor attractions and transport links should be well promoted. Significant attention should be given to way finding.

In the long term visitor moorings and boater's facilities should be provided in safe & secure locations within easy reach of the town centre and local amenities.



Key		
	River Little Ouse	
	Site of Special Scientific Interest	
	1. Breckland Forest	
	2. Thetford Golf Club & Marsh	
	3. Breckland Farmland	
	4. Elm Road Field	
	Special Area of Conservation	
	Special Protection Area	
	Local Nature Reserve	
	Scheduled Ancient Monument	
	Forestry Commission Boundary	
	County Boundary	
	Railway & Station	
	Sustainable Urban Extension	
	Little Ouse Way	
	St Edmund Way	
	Existing Public Access Routes	
	Proposals	
	Thetford River Valley Park	
	Thetford Waterspace Focus	
	Warren Heritage Trail (BNG)	
	Brecks Heritage Rivers Trail (BNG)	
	Cycleway Connections (Sustrans)	
	Access Point Enhancement	
	Multi-user Connections	
	Park & Glide Car Park	
	Water Taxi Stop	
	Water Taxi Route	
	Punting Station	
	Canoe Access & Portage	
	Canoe Trail	
	Relocation of Thetford No.1 Staunch	

3.9 The River as a Green Corridor

The Rivers Little Ouse and Thet form an important and attractive green corridor for people and wildlife. However, there is little reference made to the river's presence and the corridor is currently narrow and hemmed in on both banks to give the appearance of a canal. The existing car parks restrict visibility of the river and where access points exist they are often poorly marked. The blank facades of the 1960's development together with inappropriate uses of these building types present an under utilised and austere riverside.

Improved integration with the town's public realm will encourage increased levels of pedestrian activity. People respond to a visibly active and stimulating environment. The activity, colour and animation of a busy riverside are an essential part of any river experience and will be a draw for the town. Suggested green corridor improvements include:

- Support for the Green Infrastructure's Strategy proposal for a 'Thetford River Valley Park' and the creation of a river parkland setting within the town.
- 1st phase - Thetford Mill to Town Bridge, including Button Island and both the Rivers Little Ouse and Thet.
- 2nd phase - Town Bridge to London Road Bridge, including public access to Priory Meadows and vegetation management.
- 3rd phase - Priory Meadows, improving surfacing to footpaths and vegetation management.
- 4th phase Thetford Mill to Nunn's Bridges, restore river parkland setting and access to upstream footpath connections.

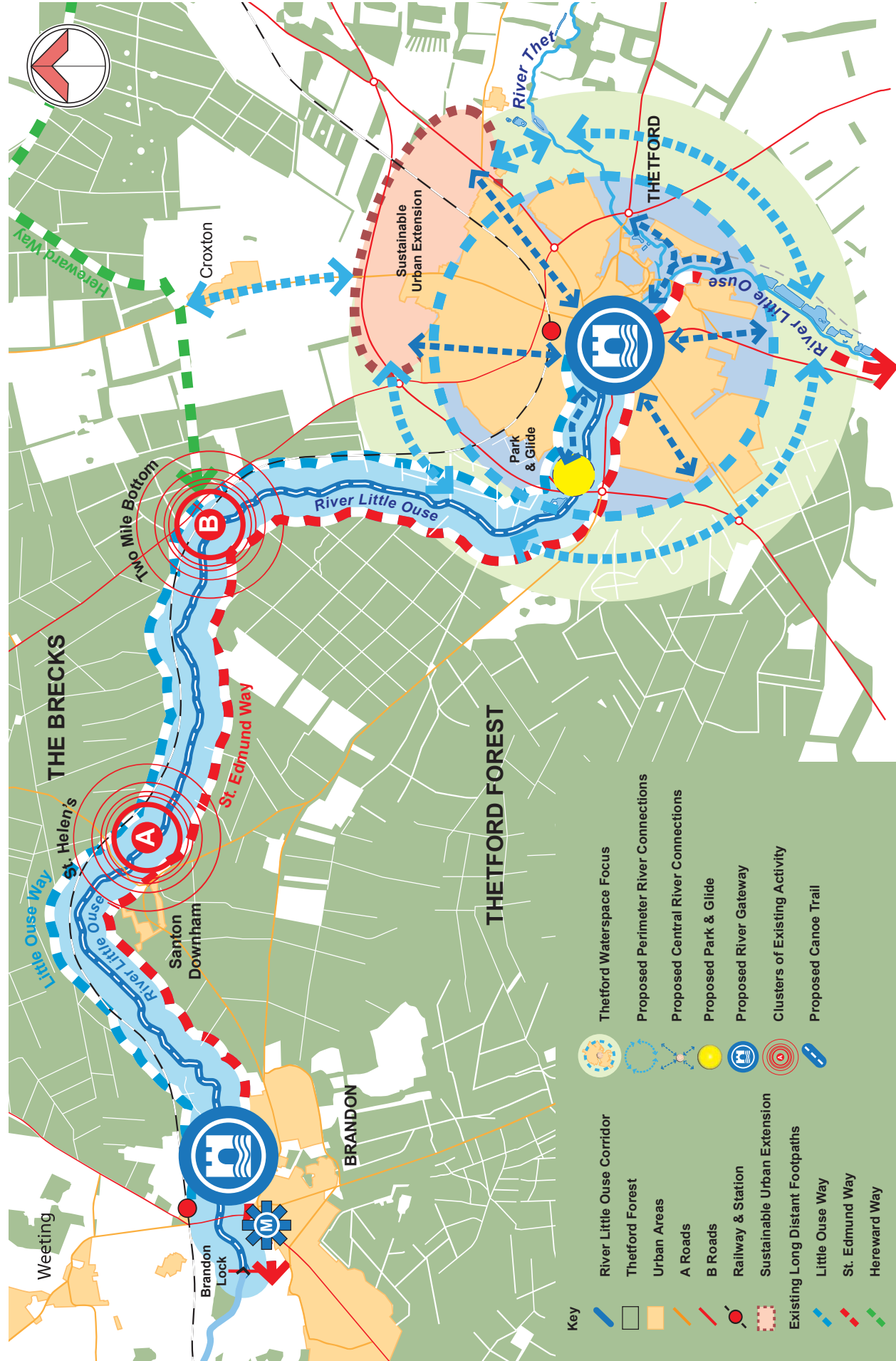
3.10 Sustainable Urban Extension (SUE)

Improve accessibility and connectivity both up and downstream of the town centre, linking the Sustainable Urban Extension via the river corridor. These proposed connections and riverside routes should encourage existing and new communities to engage with the river, by creating new connections between footpaths, cycleways, canoe touring locations.

3.11 Park & Glide Service

As part of the SUE proposals and town's overall parking provision, a park and glide water taxi service could be established to run from a new car park located to the west of the town. The current environmental designations limit the area of possibility to a narrow gap to the east of the A11 Bridge.

An initial proposal would investigate the potential of the sewage works to cater for the a park and ride site. Thetford No1 Staunch would also require relocating downstream to the A11 bridge in order to give a constant water level, allowing a park and glide service to run into the centre of the town.



3.12 Improve access along the river corridor

The Green Infrastructure Strategy and other studies point to a lack of connectivity between Thetford and Thetford Forest. This has resulted in the town having a significant lack of accessible natural greenspace. Improving the existing long distant trails, BNG's proposed themed trails and landscape enhancements will make an important contribution to developing the Green Infrastructure network for the river valley.

However, before the promotion of the existing long distance footpaths a baseline survey needs to be conducted to assess the impact of increased numbers and to safe guard the area's wildlife and natural environment.

3.13 Accessible Natural Greenspace

Natural England has devised a set of benchmarks for ensuring access to areas of greenspace near to where people live. The Accessible Natural Green Space Standards (ANGSt) recommend that people living in towns and cities should have:

- An accessible natural green space of at least 2 hectares (ha) in size, no more than 300 metres (5 minutes walk) from home.
- At least one accessible 20ha site within 2 kilometres of home.
- One accessible 100ha site within 5km of home.
- One accessible 500ha site within 10km of home.
- 1 ha of statutory Local Nature Reserves per thousand population.

Some areas of Thetford fall short of these standards

As previously highlighted walking routes along the river corridor are not promoted and have limited integration or connectivity with centres of population. Footpaths are in themselves important cultural heritage assets providing an educational resource and a focus for tourism. Breaking New Ground (BNG) have done much to propose the development of themed routes and improve connectivity along the river corridor. However, as yet their proposals have not been realised due to the lack of baseline data to assess any future impact.

In promoting the existing trails, a key determinant is to complement existing centres of activity, infrastructure and future usage suggested by the Green Infrastructure Strategy. The provision of identifiable focal points, with their own character assist orientation within the forest landscape. At these locations there will be opportunities to explore and connect with other routes and obtain information about local attractions. The establishment of a comprehensive network of land and water-based recreation, will make a significant contribution to the area's green infrastructure, contribute to the health agenda and programme of cultural tourism.

3.14 Access Opportunities

The river corridor should be supported as a multi-functional part of the Green Infrastructure Plan, improving land-based public access, particularly linear access along the river corridor. This could be achieved by:

- Improving connections with existing long distant footpaths and BNG's proposed themed trails.
- Improving safety at access points, signage and way marking to key destinations.
- Access proposals should not obstruct forestry operation or maintenance vehicles.
- Improving and managing the river corridor as a wildlife corridor with the development of opportunities for offline habitat creation as public access to the river increases.
- Develop the concept of the 'braided river' which combines public access, biodiversity and navigation.

3.15 'River Gateways'

The concept of the River Gateways develops the initiative of Thetford and Brandon becoming river destinations supported by a marketing and tourism strategy.

Each 'Gateway' acts as a place to explore and connect with the town's riverside, activities, other forms of transport and obtain information about other attractions within Brecklands. They provide concentrations of activity to ensure that major centres such as Thetford are developed, and not diluted by spreading resources too thinly along the corridor.

3.16 Clusters of Activity

Two clusters of activity are suggested at Two Mile Bottom and St.Helen's picnic site which build on the existing infrastructure and usage at these locations.

Clusters of activity provide access to the river corridor, building on the established footpath network and introduce a rhythm to the corridor by providing facilities at regular intervals. They provide identifiable focal points which develop their own local character, assist in orientation and celebrate the river's heritage and landscape within the forest.



St. Helen's Picnic Site is an established Forestry Commission run facility, which includes car parking and toilets. It connects with a 5 mile circular trail through the forest nature reserve to the north of the railway and south of the river.

3.17 The River as a Narrative

Thetford has a rich and diverse heritage which extends back to prehistoric occupation of the river valley and its environs. Surprisingly this has created a problem in marketing the town's heritage and cultural offer due to the multiplicity of opportunities which could be developed and taken forward. One element which provides a broad constant to the town's location and historic development is the river.

The Neolithic flint mines of Grime's Graves are located close to the river and there are a number of burial mounds located along the river corridor. The river was used for transport and trade, Viking raiders attacked the town and a major Anglo-Scandinavian town grew up at the confluence of the Rivers Little Ouse and Thet. Stone was transported to construct the priory and both the Iron Age and Norman castles were located to guard the river crossing of the ancient Icknield Way which crossed the river at Nunn's Bridges.

A project could be devised to use the river as a narrative, telling not only the river's historic and cultural associations but of the changing landscape and wildlife development.

3.18 Landscape and Environment

Wildlife, heritage and ecology are primary factors in the attractiveness of the Breckland landscape. The intervention of the proposed increase in the multi-user routes will need to minimise disturbance to wildlife. The detailed planning of these areas and their future maintenance should aim to make a positive contribution to the ecology of the area. Development proposals which aim to encourage greater accessibility for leisure and recreation to Thetford Forest and the wider landscape need to complement measures which ensure the protection and enhancement of the environmental resource. This will include:

- Identifying opportunities for habitat enhancement.
- Screening may be necessary in order to mitigate possible disturbance to birds at sensitive locations.
- Encourage adjacent land use practices to enhance biodiversity.

Access along the river corridor via walking and canoeing, etc. has the potential to disturb wildlife (eg wildfowl). This must be effectively assessed and planned to avoid disturbance or effectively mitigated through the provision of online and offline habitat creation to offer areas of sanctuary.

The principle of braiding the river, developing gateways and defined routes around areas of new leisure activity, will help to limit the impacts on the environment. All new access proposals should be subject to a rigorous assessment of environmental impact, to include habitat surveys and species audits.

3.19 River Little Ouse, Thetford Forest.

Proposal by the Wild Trout Trust. July 2016

Currently the River Little Ouse is the subject of a programme of habitat rehabilitation. These works have been led by the EA in order to restore favourable ecological conditions to the river channel, which has been subject of extensive modification for land drainage purposes. Several phases of work have been undertaken, assisted by the late Dr Nigel Holmes, creating 'pool and run' features by redistributing river bed materials leading to a diverse river environment where a favourable biological response can be expected.



Habitat rehabilitation is currently being led by the EA with additional sites at Abbey Heath Reach & Two Mile Bottom.

In maintaining the momentum the EA wish to deliver further habitat improvements. Two sites have been identified both approx 500m in length: Abbey Heath downstream of the weir and Two Mile Bottom. Both sites involve the use of on-site woody materials and redistribution of river bed materials

3.20 Abbey Heath Reach

Upstream of the weir habitat quality is degraded due to impounding. Downstream of the weir there are reasonable quality in-channel habitats reliant on brisk flow, shallow bed profile and a narrow channel. Wider sections have poorer habitat quality and uniform glide. There is scope to hinge and secure more trees to add to those already fallen into the channel, in order to pinch the channel width.

3.21 Two Mile Bottom

In an area of widened and deepened channel there is the opportunity to use woody materials from the nearby poplar plantation. 5 or 6 'pool and run' features will be created (could include imported gravel). The use of tree trunks which would be partially submerged will reduce the amount of material needed.

3.22 Angling

Angling is currently located at two offline fishing lakes at Thetford and Brandon Lock. Angling could become an important activity along the river corridor. An increase in walking, cycling and canoeing will help improve both river and bank maintenance, although the potential for user conflict will need to be addressed. This underlines the importance of signage and responsible use and sharing by different users groups.



3.23 Canoe/Paddle Boarding

Canoeing is an excellent, sustainable and healthy way of exploring the river. Guided canoe camping trails and safaris are popular excursions with examples on the River Nene, River Wye River Stour and at Wicken Fen. Canoe hire centres should be developed at Thetford and Brandon with access points at the Scout & Guide Centre at Two Mile Bank and St. Helen's picnic site.



An example of canoe touring on the River Chenwell



The popularity of wild swimming has increased significantly in recent years. The St. Helen's picnic site and the Scout Activity Centre would be locations where this activity could take place.

3.24 Wild Swimming

Wild swimming has attracted significant media attention in the last few years. This is as much about reconnecting with nature and experiencing the world from a unique and unusual perspective as with the increasing popularity of triathlons, of which outdoor swimming is usually an intrinsic part.

The potential for wild swimming should be investigated with suggested locations at St. Helen's picnic site and at the Scout & Guide Centre at Two Mile Bottom.

If access to the river corridor is to be encouraged and canoe trails developed then the use of fallen tree material needs to be used carefully and sensitively. There is a potential danger of entanglement and entrapment within the woody material plus the degradation of water quality due to the collection of debris and vegetation.



The tree shown above has been pruned to permit navigation of the EA's weed cutting boat.

3.25 Stride and Glide

Thetford, Santon Downham and Brandon could offer 'Stride and Glide' connections utilising the permissive extension of navigation upstream from Brandon to Santon Downham. A water taxi/education boat linking with the long distances footpaths provides the opportunity for part of the route to be taken on foot and part by boat. This would be similar to the Boots, Bikes & Boats initiative along the Great Glen Way in Scotland.

3.26 Access for All

There is an increasing expectation that safe, well designed access will be provided for all users. The Disability Discrimination Acts (DDA) and the Equality Act require service providers to make all reasonable efforts for this to be achieved. However, access points at key locations which maintains the integrity of the trails should be available to everyone. Here detailing should be of highest quality materials with signage and interpretation effective for walkers and those with physical impairment.

Provision of access for all should be viewed in a strategic context, as part of the overall management of the Breckland environment. Detailed audits should be undertaken on key stretches of paths. This will determine opportunities to create easier access and prioritise improvement schemes.

Where possible, good surfacing, shallow gradients and the replacement of barriers will facilitate access for people with disabilities, older people and families with pushchairs. It is important to appreciate the needs of blind and partially sighted people, particularly at clusters of activity adjacent to the river. Recognised design standards can be found in the Fieldfare Trust's Countryside Access for All Standards and Guidelines.

3.27 Signage and Interpretation

Good, clear signage is necessary to ensure the safe, responsible and informed use of the routes together with the connections with circular forest trails. Effective signage can instil a sense of reassurance and familiarity with interpretation adding considerably to the enjoyment and educational values of a ride or walk. However, signage should not become intrusive. Levels of information need to be carefully balanced, highlighting opportunities rather than conveying purely negative and warning messages.

There should be a co-ordinated river signage strategy, with a review of existing signage on existing paths and trails. The strategy should aim to rationalise signage and develop a regional style for all trails and routes throughout Brecklands.

Types of signage

- Waymarker signage to indicate designated routes, trails and connections.
- Interpretative tactile signage at places of interest, gateways and resting places.
- Informative signage, providing recommendations to users on safety and consideration for other users.

3.28 Identity

In order to provide the study area with a clear identity, it is necessary to create a 'brand' for the River Little Ouse and the rivers of the Brecks. Existing linear routes should be upgraded with the circular trails proposed by BNG developed, creating a hierarchy of routes.

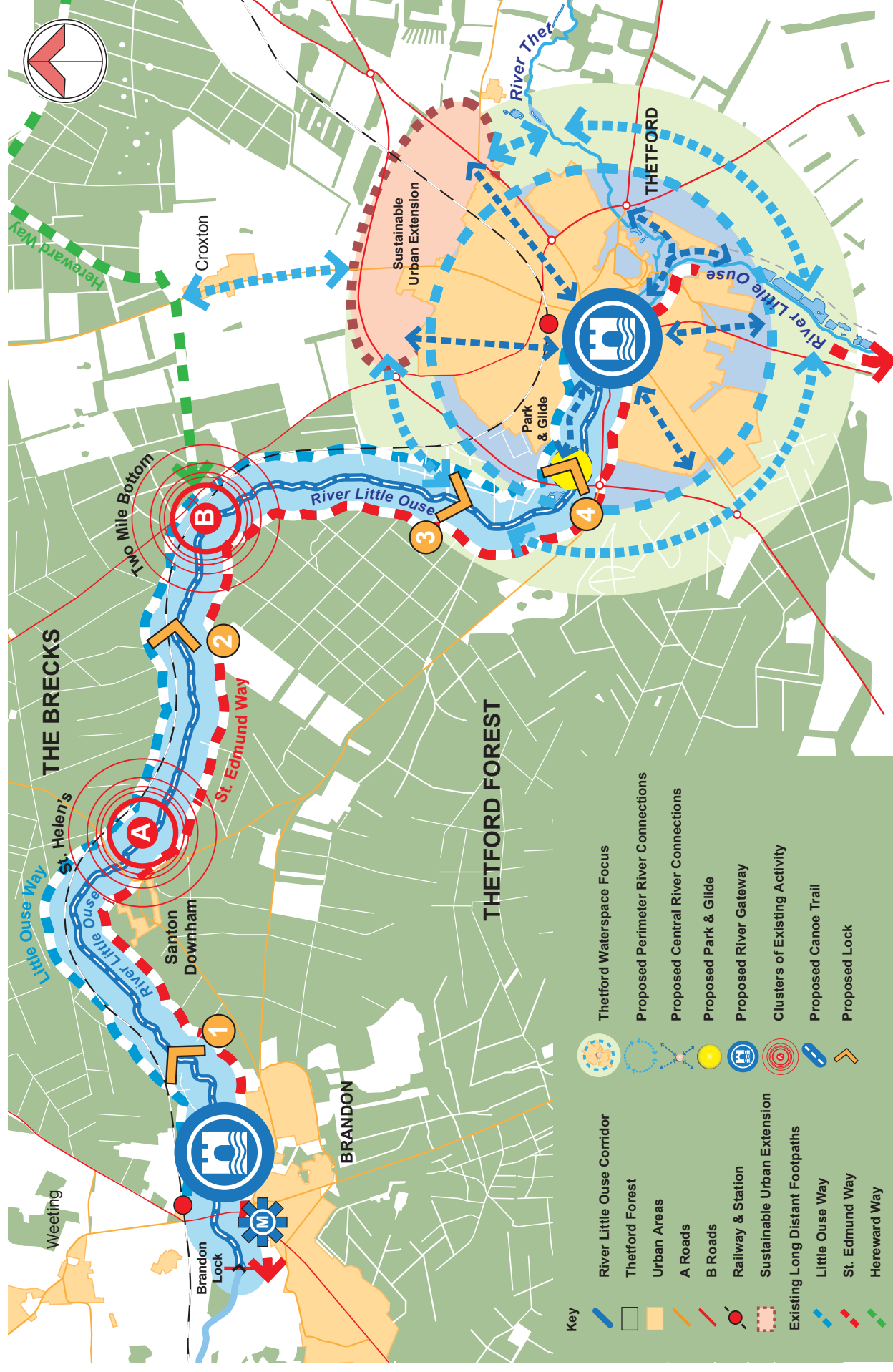
3.29 Public Art

The forest landscape of the river corridor provides a fantastic opportunity to create punctuation points of diversity and interest through public art, developing an integral thread of works through the area.

Artwork should be diverse, created by artists working with communities to engender a sense of ownership. Artworks can act as entrances, beacons, shelters, resting places or trailside features providing legibility, direction and interpretation. Art installations would highlight the area's natural and cultural heritage, community identity, local distinctiveness and reinforce the narrative of the river's rich and diverse heritage.

The Lincolnshire Waterways Partnership has established a programme of public art along the Water Rail Way on the River Witham. Sculptures have included indigenous breeds of cattle, sheep and pigs together with associations with Tennyson.

Grizedale Forest in the Lake District is owned and managed by the Forestry Commission, which attracts international artists to create site specific sculptures.



3.30 Restoration to full Navigation

The 2003 Pre-Feasibility Study commissioned by the Environment Agency examined the potential for restoring full navigation from Brandon to Thetford. The River Little Ouse is currently navigable by small boats up to Brandon. There is a history of navigation up to Thetford (a further 9 miles) but this has not been possible since the early 20th Century. Five historical staunches used to impound water and have been replaced by two weirs, Thetford No.1 Saunch and Abbey Heath Weirs.

The Study concluded that it would be feasible to extend navigation upstream to Thetford. This would necessitate the building of four locks and the raising of two pedestrian bridges. The proposed limit of navigation would be immediately downstream of the Town Bridge in Thetford town centre. The adoption of a lower headroom option at the Town Bridge would allow craft with reduced draft to reach the confluence with the River Thet with moorings just downstream of Thetford Mill. Since 2003, the Water Framework Directive and additional environmental legislation will require a 'softer' engineering solution in order to restore the river to full navigation.

Restoration of navigation would allow access for boats from Thetford to the Great Ouse and the Fenland waterways and future proposed Fens Waterways Link.

The study highlights a number of potential environmental benefits resulting from the raised water level including environmental enhancement along the river corridor through increasing areas of wetland habitat. There is potential for flood plain restoration between Santon Downham and Two Mile Bottom.

An Environmental Report was included as an appendix to the main report. The main points of this are:

- The river flows through Breckland Forest, Thetford Golf Course and Marsh SSSIs and a designated Special Protection Area. The heath areas are Special Areas of Conservation. Some of these areas have suffered from change and reduction in water levels. The proposals could benefit conservation by raising water levels. However, the close proximity of the sewage works just upstream of the A11 could potentially increase the nitrate content of the water supply which would be detrimental to the fenland restoration proposals.

- Further survey and consultation is needed to identify impacts on nature conservation areas and designated areas, especially changes in hydrology and the impact of boating.

- Mitigation through habitat improvement is required to counter possible hydrological and disturbance effects. This would be achieved by raising the water level of the river, although some areas such as Thetford Heath require the current conditions to be maintained.

3.31 'Welcome Ashore'

In the long term, if the extension of navigation is permitted, mooring provision and facilities will need to be accessible for visiting craft.

The welcome for visiting boaters needs to:

- Provide mooring facilities which are safe & secure, with good access to activities, shops, cafes, pubs etc. Brandon Lode could be developed as a future mooring or marina opportunity.
- Creating visitor moorings at Priory Meadows and along the current Wilkinson's site.
- As demand increases develop a marina close to Thetford town centre.

Economic benefits would include additional business and tourism generated by navigation up to Thetford and positive effect on Thetford's structure plan. Up to 16 full time equivalent jobs could be supported by the spending from users of private craft, hire boats, and riverside paths. The potential construction of a marina at Brandon would yield further benefits.



Thetford's Waterspace Proposals

4.0 Thetford's River Core

Following from the opportunities identified the study summarises six priority themes to advance Thetford's River Core.



Punting on the River Cam

4.1 Waterspace Activity

Thetford's waterspace activity should be developed in advance of further regeneration proposals, animating the river through the town centre. An initial proposal is to establish a punting and canoeing culture, which could be quickly implemented. Improvements to river access would be needed together with pontoons located at strategic locations to give access to riverside cafés, these would be pop-up seasonal facilities.

The location for a punting hire fleet pontoon would be close to School Lane car park. In the redevelopment of the car park some bays should be allocated as canoe drop off parking. Pontoon access would be required together with enhancement of the existing slipway and kiosk. Kayak canoes would be close to the white water of the mill stream and for water polo locations could be negotiated.

Canoe hire and trails for downstream exploration to Brandon and beyond would start from Thetford with canoe portages located at Thetford No.1 Staunch and Abbey Heath Weir.

As part of the Anchor development the slipway close to the Courthouse should be maintained and accessibility to launch and recover canoes and small craft with trailers.

As boating increases a boathouse would be required to provide storage and maintenance facilities. The suggested location would be between the Riverside Centre and School Lane car park. This would provide an accessible location to the river together with car parking, additional facilities of a café and cycle hire could also be included with in proposals.



Punting station, central Cambridge



Requirement to improve existing river access

4.2 Riverside Park

The creation and enhancement of the public realm will help the town see itself in a new future light. To improve the attractiveness and appeal of Thetford core riverside area, a holistic river landscape scheme should be developed. As a first phase this would build on the existing Anchor Development proposals to establish a river park. This would include, the north bank of the river (Riverside Walk to School Lane car park), the Anchor Site, Butten Island and both the Little River Ouse and River Thet.

The river parkland setting would promote access along the northern bank and establish improved connections with King Street and the Market Square to the north. The corridor would be enhanced by the creation and improvement of walkways, cycleways and linkages to greenspaces. Additional habitat creation for wildlife would further enhance the river corridor and soften the engineered structure of the watercourse.

The centrally located Riverside Walk section would become Thetford's town quay. The area needs to be designed as an attractive riverside destination to attract people from the town. Connections with the market place should be developed together with existing waterside businesses and the potential for creating a waterside market space should be investigated.



An example of a regenerated riverside development, Cox's Yard, Stratford upon Avon.

Phase 1

The design and quality of materials must complement the prominent examples of elegant architecture within the town. Consideration should be given to permitting café, pavilions within the park and support given to existing businesses to enhance their external spaces close to the river in order to attract people to the riverside.

An attractive destination within the town will form Thetford's centrepiece and provide mutual support to further development of the town centre. The creation of attractive river spaces will providing a venue for people to meet, play and enjoy, both on and off the water, inviting a broad demographic to participate in the riverside environment.

Phase 2

This would extend the park downstream to connect with the riversides between Town Bridge and the London Road Bridge. This would include a proposal for pedestrian access along the north bank to connect with Priory Meadows and a programme of tree management.

Phase 3

Enhancements to the parkland setting of Priory Meadows would include resurfacing footpaths along the north of the river, vegetation management to enhance views between the River and the Priory ruins and the creation of a pedestrian access route beneath the London Road Bridge to link Priory Meadows via the riverside without the need of using the Minstergate underpass.

Phase 4

This would develop the connections upstream of Theftord Mill to rejuvenate the 19th Century Parkland setting to Nunn's Bridges, extending the blue/green corridor to Kilverstone Hall will create potential connections with Theftord's Sustainable Urban Extension.

4.3 Tree Management Strategy

The existing dense tree planting is mainly on the south bank of the river corridors within the town. This has resulted in the mature trees overshadowing the rivers and creating a gloomy and uninviting environment. A tree management strategy should be implemented to bring light and vitality to the waterspace, improving visibility and safety of water users and ensure a succession for tree planting along the corridor.



Explore opportunity of creating a public access to Priory Meadows along the north bank as part of the long term redevelopment of the Wilkinson site.



Priory Meadows, surface existing footpath along north bank.



Extend river park upstream of Theftord Mill to connect with the existing parkland setting of Nunn's Bridges.

4.4 Connectivity to the Riverside

King Street is Thetford's principle historic pedestrian street, which runs to the north of the river terminating at its eastern end in the Market Square.

In developing proposals for the Riverside Core, connectivity to the main thoroughfares within the Town Centre is vital to draw people to the riverside.

4.5 King Street Courtyard Development

At the western end of King Street is a large service yard. It is bounded to the west by the historic Bell Inn, to the north by a number of listed buildings which front onto King Street and along its southern and eastern boundary the 1960's mixed use development of Riverside Walk.

To reinforce the connection between the river and town centre this courtyard should provide both a physical and visual connection between King's House, King Street and the riverside and help establish Thetford's riverside as a focus for growth and investment.

This service yard provides an excellent opportunity to develop a mixed use public courtyard right in the heart of the town. Its location assists in creating a more compact town centre with the main commercial core relating more closely to the riverside and the proposed leisure aspirations.



King Street service yard is a large forgotten area in a prime location within the town's commercial core. Its redevelopment will provide a visual and physical link between King Street and the river.



King Street service yard would be transformed to create a green oasis linking the town to the river.



An example of a retail development which positively addresses its exterior space.

4.6 Legibility

Additional improvements to connections need to be made

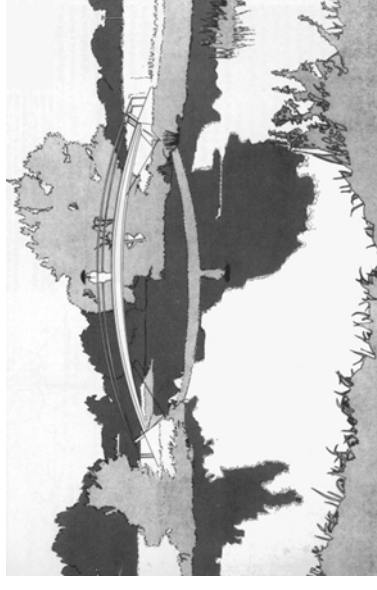
- Improve river's identity from King Street Square leading to Riverside Walks and Tanner Street.
- At St. Cuthbert's Church passageway linking to Tanner Street car-park.
- Improved connections between Tanner Street and the riverside together with potential development proposals.
- Improve the connections and legibility between the Market Square and the riverside via Well Street to the School Lane car park.
- Improve connectivity and environment between Bridges Walk and Mill Lane to create a southern gateway into the riverside park.
- Enhance legibility of the river from Old Bury Road to the Courthouse riverside, providing access to the Anchor development and Butten Island.



New building uses and small scale refurbishments would help change perceptions and act as a catalyst to define the legibility and connectivity to King Street Square.



Requirement to improve the safety, legibility, connectivity and the environment of St. Cuthbert's passage, connecting King Street with Tanner Street car park.



'Bloomers Hole' footbridge is an example of an elegant design to span the Thames Path by Cezary Bednarski.

4.7 Footbridge Replacement

The current pedestrian bridge over the river is too low and will potentially hinder waterspace activity. As part of improving connectivity the existing tricorn footbridge should be replaced with an elegant modern alternative. Three single span footbridges are proposed to connect the north and south riversides and Butten Island. By dispersing the river crossings along the riverside a circular walk is developed.

These bridges could either be of the same design which would provide a unifying element to the riverside proposals or strikingly different which adds an interest and variety highlighting the experience of crossing over the water.

4.8 'Greening' the Riverside & Townscape

Thetford's relationship with its river corridor needs to be re-imagined with an all encompassing project tackling the challenges of urban design, economic development, climate change and biodiversity.

The proposal seeks to 'Green' the town centre by retrofitting SuDS systems within the townscape, adopting existing urban spaces as links to a series of 'green chains' which connect to the wider urban framework, creating a multi-functional blue/green infrastructure.

The flat roofs of the 1960's developments, particularly, Riverside Walk, Tanner Street Car Park, Well Street and the Carnegie Hall etc could be converted for green roofs.

Investigations should be made of the potential of creating roof and rain harvesting gardens together with natural green walls on the blank facades of these building types.

This will present a transformational and radically different aesthetic for Thetford's urban public realm, which is dramatic, cost effective and multi-beneficial.

SuDS systems slow the rate of surface water run-off and improve infiltration, which reduces the risk of 'flash-flooding.' By controlling surface water flows and volumes SuDS contributes to improve local amenity, increased biodiversity, water quality, air quality as well as improving health and well being.



An example of a retro fitted 'green wall'. Investigate the potential of developing a green -wall and rain harvesting strategy for the town centre.



The Barbican Centre, Central London has recently undergone a pioneering example of climate-change adaptation. A sustainable 'green roof' planting scheme has brought a cost-effective and multi-beneficial exuberance to the 1960's/70's architecture.



The Carnegie Hall, there is huge potential to reinvigorate the current dull grey spaces by creating a succession of green links 'to connect the Market Square to the riverides.

4.9 Waterspace Development

As part of Thetford's expansion and development the river should play its part in addressing some of the congestion issues which an expanding population will create. In particular, the issue of car parking. Thetford's medieval street pattern makes in town parking an issue and a solution needs to be sought to relieve the parking pressure. As part of a number of initiatives the river could provide a 'park & glide' service from an out of town car park location into the town centre.

An investigation of potential sites should be undertaken, but a car park on or near the sewage works would provide a large screened area with ease of access from the A11 through the existing southbound services.

The 'park & glide' service should be developed in conjunction with three potential modes of transport to connect to the town centre.

1. Bus Service to Minstergate Bus Station
2. Water Taxi to proposed River Walks pontoon
3. Walk along northern river bank (20 minutes)

River improvements which would be required, include:

- The downstream relocation of Thetford No.1 Staunch to just upstream of the A11 bridge. This allows a continuous water level which has the potential to facilitate the 'park & glide' service.
- As part of the relocation of Thetford No.1 Staunch a fish pass must be included together with a lock chamber as part of the long term aspiration of bringing full navigation to Thetford.



An example of a trip boat beating the congestion on Clopton Bridge, Stratford upon Avon.



Small car parks dominate the town centre's river corridor.



Relocate Thetford No.1 Staunch upstream of the A11 Road Bridge.

4.10 Development Sites

In reviewing riverside development proposals the following criteria should be considered:

- Proposals should seek to enhance the conservation area and the setting of listed and historic buildings.
- Riverside proposals should improve or create pedestrian access, address the riverfront and create opportunities for new leisure uses and activity.
- Proposals should take into account improvements to the movement strategy and seek to link to the wider river corridor.
- Car parking should be allocated away from the river.

1. Wilkinson's Site

The long-term redevelopment should:

- Develop a new river frontage in-conjunction with the new bus station, riverside walks, visitor moorings (as part of navigation) and park and glide strategy.
- The south facing location should provide active uses which address the river.
- A river walkway should provide a clear legible pedestrian link to connect the town centre.
- Public toilet facilities should be included with development proposals which could be expanded to cater for boaters requirements at proposed visitor moorings.
- Manage vegetation to open up attractive river views.

2. Bell Inn & Car Park

The 1970's extension and car park fails to positively address its privileged south facing riverside location.

- A building on this site should be one of Thetford's key landmark buildings and provides a link between King Street and the river.
- The south facing ground floor function rooms should capitalise on their location to create an active frontage along the riverside.
- The car parking area should be developed to connect the site to the river frontage.

3. Anchor Development

To capitalise on the current investment and its riverside location the exterior space of the new Travelodge and cinema complex should be considered as part of a holistic scheme for Thetford's Core Riverside area and setting the foundation for:

- Improving connectivity with King Street and the Market Place.
- Stimulating and active riverside.
- Creating a beautiful riverside park
- Encouraging riverside development
- Rationalising car parking along the riverside

4. Riverside Walks & King Street Courtyard

The south facing riverside location should be capitalised upon to create an active riverfront, including cafés, bars and restaurants which positively address the river.

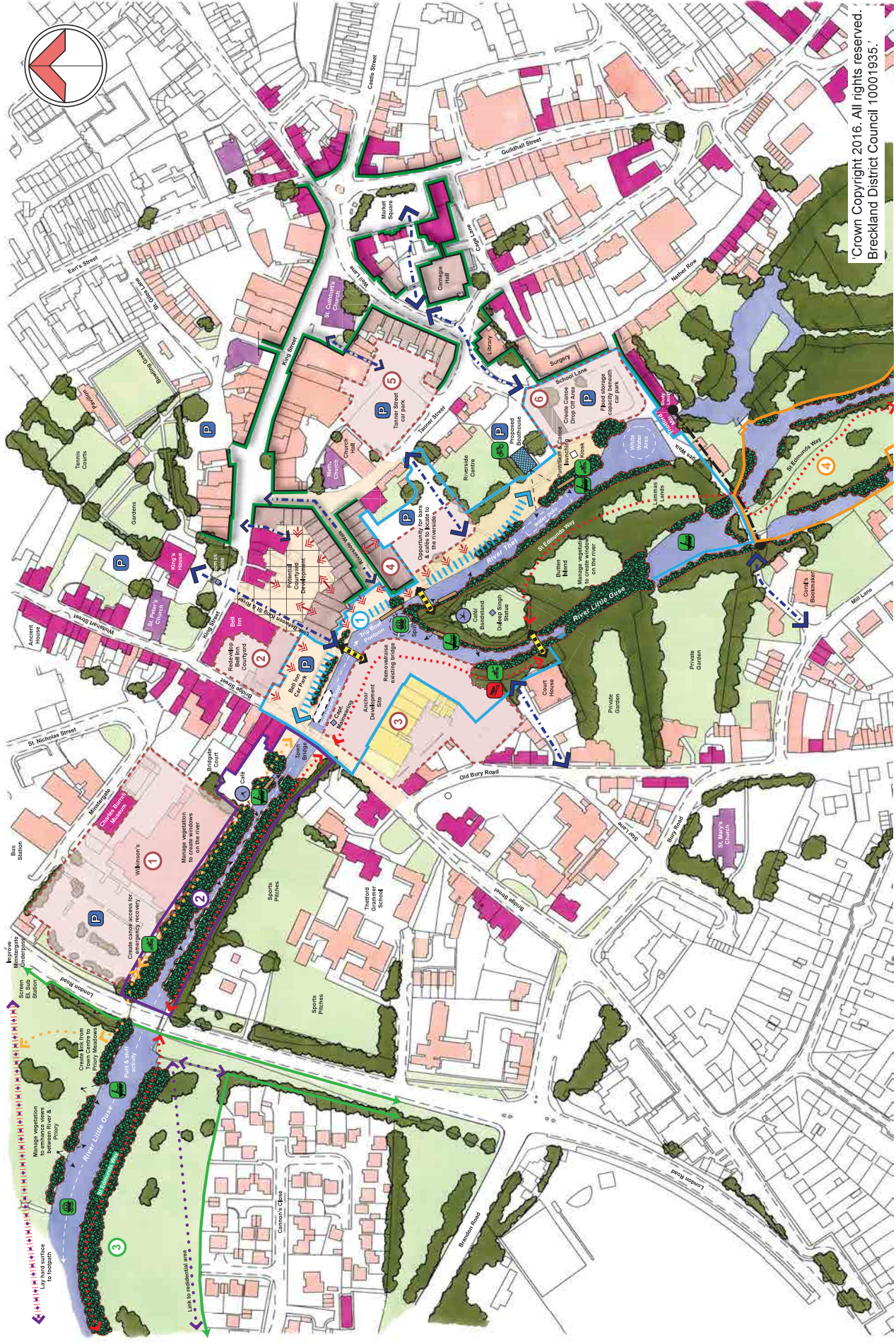
- Development potential should be extended along the riverside to include the Argos car park
- Townscape improvements to link river to King Street.
- Comprehensive landscape scheme to encompass River Walks, Anchor Site, the Town Bridge and the Bell Inn Car Park.
- New river frontage to include water taxi pontoon for park and glide strategy.
- Manage vegetation to open up attractive river views.

5. Tanner Street Car Park

- Potential for multi-storey car park
- Improving connectivity with King Street and the river.

6. School Lane Car Park

- Improve linkages and legibility of the car park to the Market Square and wider town centre.
- Develop as waterspace activity area.



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Key

Existing Features

- River Little Ouse
- Existing Forestry/Vegetation
- Existing Agricultural/Open Land
- Little Ouse Trail
- St. Edmund Way
- Public Footpath
- Car Park

Proposals

- Riverside Park Phases
- 3. London Road Bridge - Canterbury Road Bridge
- Relocate Thetford No.1 Staunch
- Canoe Trail
- Cycle Route (OPA)
- Access Point Enhancement
- River Signage Strategy
- Lay hard surface to footpath
- Create views over of the river
- Screen EL. Sub Station
- Environment Agency Hot Spot



Manage self sown saplings along the north bank to open up the river corridor and frame views of Thetford Priory.



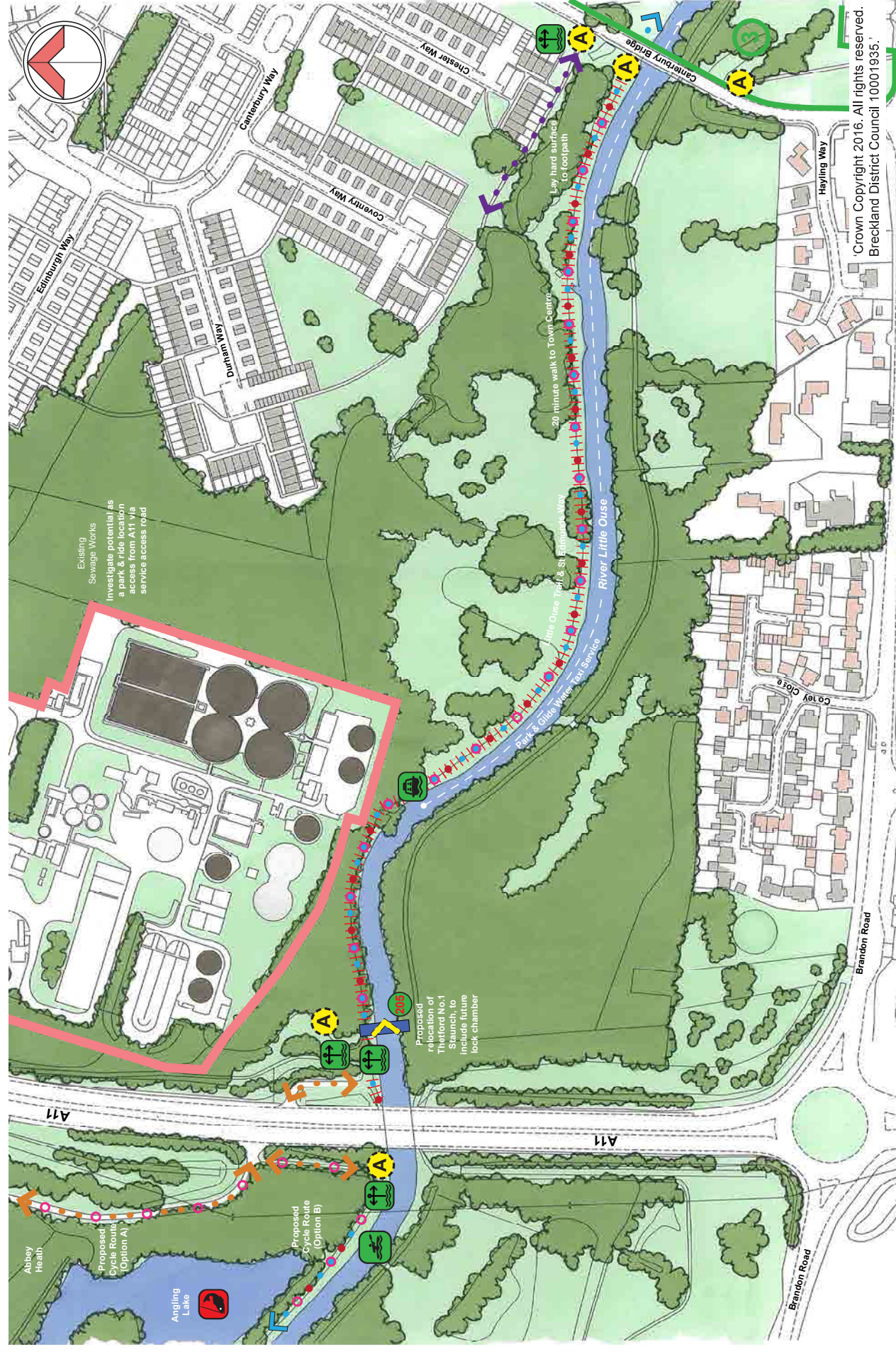
Create access point beneath London Road Bridge to link the Wilkinson Site with Priory Meadows .



Canoe portage required at Thetford No.1 Staunch.



Blaydon Footbridge will need to be raised if the river is restored to full navigation.



Key

Existing Features

- River Little Ouse
- Existing Forestry/Vegetation
- Existing Agricultural/Open Land
- Little Ouse Trail
- St. Edmund Way
- Public Footpath
- Forest Trails
- Angling Lake

Proposals

- Riverside Park Phases
- 3. London Road Bridge - Canterbury Road Bridge
- Investigate Park & Ride facility on sewage works site
- Relocate Thetford No.1 Staunch
- Construct future lock chamber
- 'Park & Glide' Water Taxi Service
- Canoe Trail
- Cycle Coute (OPA)
- Access Point Enhancement
- River Signage Strategy
- Lay hard surface to footpath
- Environment Agency Hot Spot



Existing slip road off the A11 provides good access to the re-located stanch and potential future lock structure.



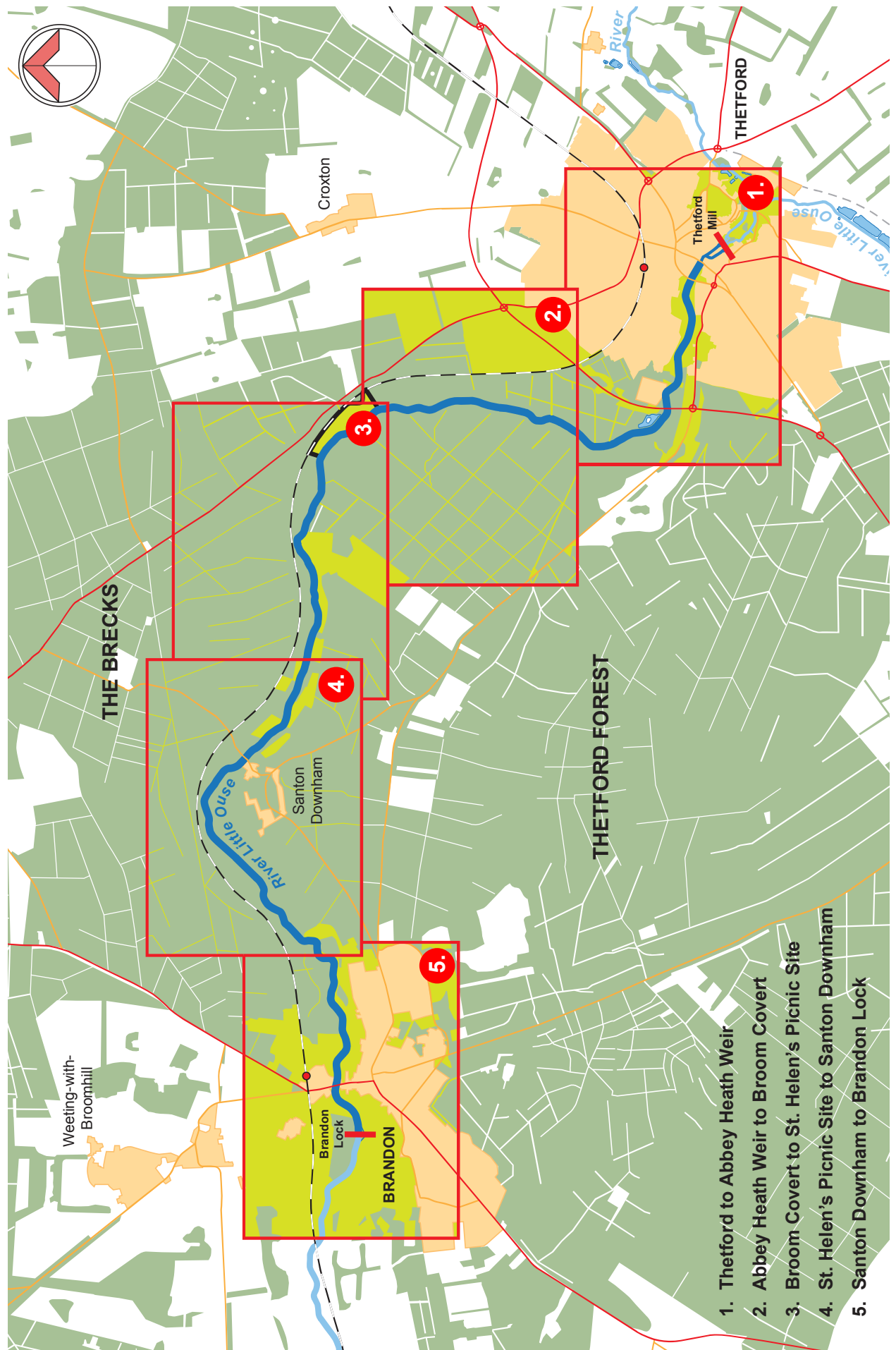
The Canterbury Way Road Bridge acts as a gateway to the Thetford Forest. Signage and surfacing needs to be improved to create an inviting environment to access the Little Ouse Trail.

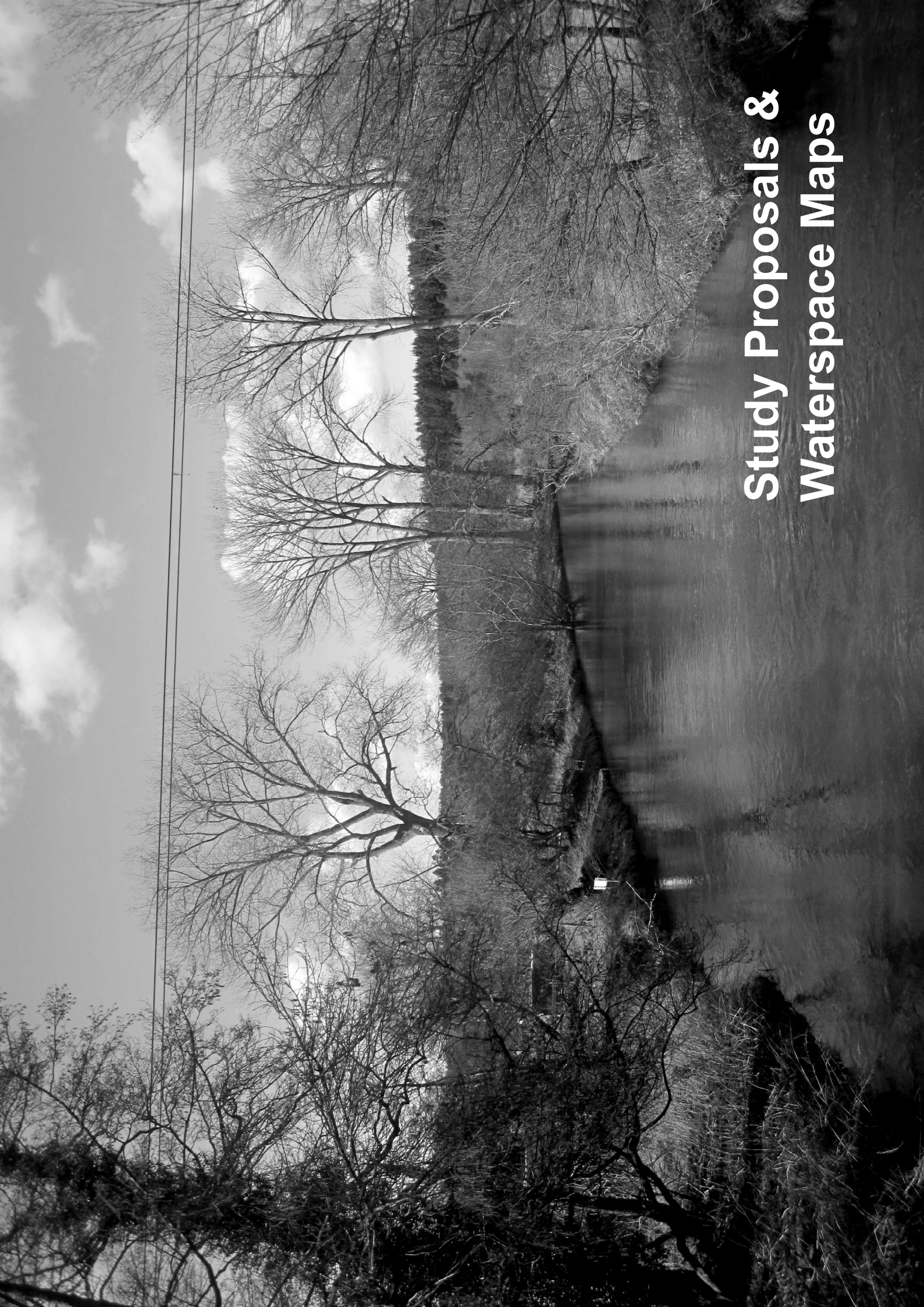


Investigate opportunity for relocating Thetford No.1 Staunch to just upstream of the A11 Road Bridge. This will extend Thetford's retained water level and allow for the development of a 'Park & Glide' service.

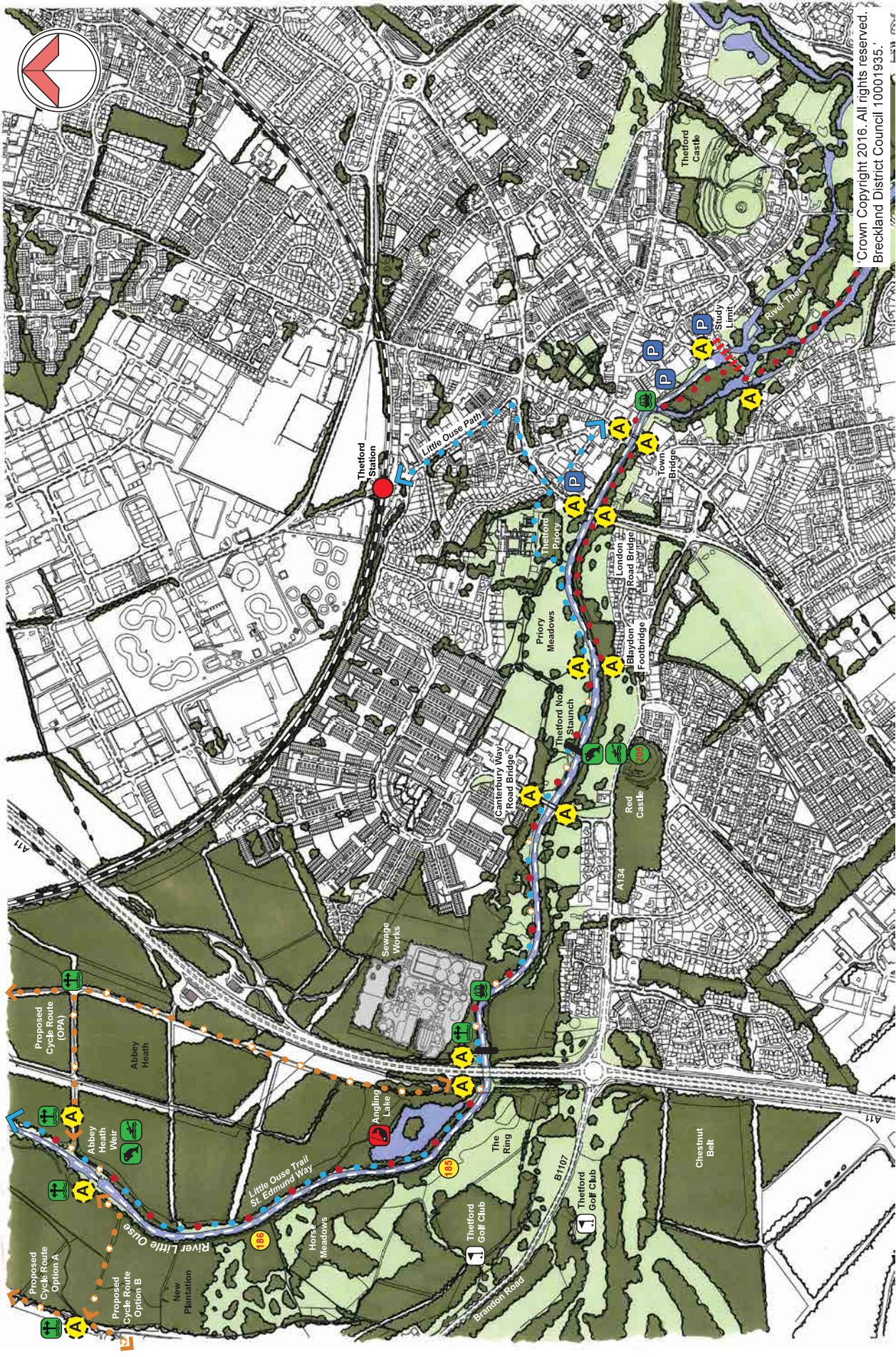


Create a multi-user path between Canterbury Way Road Bridge and the A11 Road Bridge.



A black and white photograph of a river scene. The river flows from the foreground towards the background, reflecting the sky and the surrounding trees. The banks are lined with bare, leafless trees, their intricate branches reaching out. In the distance, a small bridge or structure is visible across the river. The sky is filled with soft, white clouds. The overall mood is quiet and somewhat somber due to the lack of foliage.

Study Proposals & Waterspace Maps



- Key

 - River Little Ouse
 - Existing Forestry/Vegetation
 - Existing Agricultural/Open Land
 - Brandon Station & Railway
 - Little Ouse Trail
 - St. Edmund Way
 - Public Footpath
 - Slipway
 - Car Park
 - Angling Lake
- Proposals

 - Cycle Coute (OPA)
 - Access Point Enhancement
 - River Signage Strategy
 - Canoe Access & Portage
 - Canoe Trail
 - 'Park & Glide' Service
 - Fish Pass
 - Environment Agency Hot Spot

- Key
- River Little Ouse
 - Site of Special Scientific Interest
 - 1. Breckland Forest
 - 2. Thetford Golf Club & Marsh
 - 3. Breckland Farmland
 - 4. Elm Road Field
 - Special Area of Conservation
 - Special Protection Area
 - Local Nature Reserve
 - Scheduled Ancient Monument
 - Forestry Commission Boundary
 - County Boundary
 - Railway & Station
 - Sustainable Urban Extension
 - Little Ouse Way
 - St. Edmund Way
 - Existing Public Access Routes
- Proposals
- Warren Heritage Trail (BNG)
 - Brecks Heritage Rivers Trail (BNG)
 - Cycleway Connections (Sustrans)
 - Access Point Enhancement
 - Multi-user Connections
 - Park & Glide Car Park
 - Water Taxi Stop
 - Water Taxi Route
 - Punting Station
 - Canoe Access & Portage
 - Canoe Trail
 - Relocation of Thetford No.1 Staunch
 - Study Area Limits



Tree Management Strategy is required in order to develop waterspace activity.



Maintain and publicise existing slipway at the Courthouse, include parking spaces for the unloading of canoes and launching of craft.

	Location Thetford Town Centre Thetford Mill to Abbey Heath Weir	Existing Situation/Provision	Action: Description/Recommendation
	Thetford Mill	Existing Footpaths • Bridges Walk • St. Edmund Way	Connections to the River • Improve connectivity and environment between Bridges Walk and Mill Lane to create a southern gateway into the riverside park. • Improve surfacing and detailing to riverside footpath.
	School Lane Car Park	One of the principal in town car parks, but difficult to find if not local. Current regeneration proposals include the creation of a flood storage area beneath the car park.	Waterspace Activity • Investigate potential to develop punt/skiff/canoe hire base from a new boathouse development. A new pontoon and improved river access will be required. The proposed boathouse for boat storage and maintenance could also serve as a cycle hire base, café and riverside information point. • Create canoe access point and refurbishment of the existing slipway and kiosk.
	Argos Car Park		• Improve surfacing, detailing and access between the car path and riverside path • Potential development site.
	Butten Island/ Lammas Lands	Existing Footpaths • St. Edmund Way Duleep Singh Statue	Waterspace Activity • Investigate potential for bandstand/café together with pontoon to be located on the island. • Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment.
	Riverside Walk		Waterspace Activity • As part of the 'Park & Glide' Strategy a pontoon will be required for the water taxi service or trip boat. Connections to the River • Improve connectivity with King Street and the Market Place. • Rationalising car parking along the riverside • Replace existing tricom footbridge with a new modern footbridges to link the north and south banks and Butten Island. By dispersing the river crossings along the riverside a circular walk is developed • The current bridge is too low and would hinder waterspace activity.

Location	Thetford Town Centre Thetford Mill to Abbey Heath Weir	Existing Situation/Provision	Action: Description/Recommendation
Bell Inn		Historic Grade II* hotel, pub & restaurant. The 1970's extension and car park fails to positively address its privileged south facing riverside location.	Connections to the River - A building on this site should be one of Thetford's key landmark buildings and provides a link between King Street and the river. - The south facing ground floor function rooms should capitalise on their location to create an active frontage along the riverside. The car parking area should be developed to connect the site to the river.
Anchor Hotel Development		Currently under construction is a new Travelodge, cinema and mixed use development. The development includes the redesign of the riverside area to include increased flood storage capacity. Capt. Mainwaring Statue	Waterspace Activity - Improve slipway detailing for canoe access and recovery Connections to the River - Stimulating and active riverside. - Creating a beautiful riverside park - Encouraging riverside development
Town Bridge		Existing Structure Town bridge	Connections to the River Comprehensive landscape scheme to encompass River Walks, Anchor Site, the Town Bridge and the Bell Inn Car Park.
London Road Bridge		Existing Structure - London Road Bridge - Electricity Sub Station Existing Footpaths - St. Edmund Way	Waterspace Activity - Create canoe access and recovery point in case of emergencies. - Investigate potential café together with pontoon. - Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River - Create river walkway to provide a pedestrian link between Priory Meadows and the town centre.
			Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) Headroom OK - No modification required

Location	Thetford Town Centre Thetford Mill to Abbey Heath Weir	Existing Situation/Provision	Action: Description/Recommendation
	Blaydon Footbridge	Existing Structure • Blaydon Footbridge Existing Footpaths • Little Ouse Trail • St. Edmund Way • Public footpaths	Waterspace Activity • Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River • Improve access, surfacing and detailing to riverside footpath. • Proposed cycle route (OPA) connecting the town to the existing Forestry Commission trails. • Develop river signage strategy to link the river to the movement network.
			Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) • Footbridge to be raised
	Thetford No. 1 Staunch	Existing Structure • Thetford No.1 Weir Existing Footpaths • Little Ouse Trail • St. Edmund Way • Public footpaths	Waterspace Activity • Install canoe portages at Thetford No.1 Staunch. • Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River • Improve surfacing and detailing to riverside footpath. • Proposed cycle route (OPA) connecting the town to the existing Forestry Commission trails. • Develop river signage strategy to link the river to the movement network.
			Environment Agency River Mitigation Measures Management to allow fish access to waters upstream and downstream 205 - Fish pass structure
			• New lock & Weir to be constructed + fish pass as part of 'Park & Ride' Strategy Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) • New lock & Weir to be constructed + fish pass • Dredging required for approx. 600m downstream of Thetford No.1 Staunch, average depth 0.5m.

Location	Thetford Town Centre Thetford Mill to Abbey Heath Weir	Existing Situation/Provision	Action: Description/Recommendation
	Canterbury Way Road Bridge	Existing Structure - Canterbury Way Road Bridge Existing Footpaths - Little Ouse Trail - St. Edmund Way - Public footpaths	Waterspace Activity - Install canoe portages at Abbey Heath Weir. - Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. - Reported fallen trees below Abbey Heath Weir makes river impassible (July 16), prohibiting canoeing. Connections to the River - Improve access, surfacing and detailing to riverside footpath. - Proposed cycle route (OPA) connecting the town to the existing Forestry Commission trails. - Develop river signage strategy to link the river to the Forestry Commission trails.
			Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) Headroom OK - No modification required
	Sewage Works		Waterspace Activity As part of the 'Park & Glide' Strategy investigate developing a car park on the sewage works and developing a water taxi service into the town centre.
	A11 Road Bridge	Existing Structures - Access ramps to A11 Existing Footpaths - Little Ouse Trail - St. Edmund Way - Public footpaths	Waterspace Activity - Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River - Improve access, surfacing and detailing to riverside footpath. - Proposed cycle route (OPA) connecting the town to the existing Forestry Commission trails. - Develop river signage strategy to link the river to the Forestry Commission trails.
			- New lock & Weir to be constructed + fish pass as part of 'Park & Ride' Strategy Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) - Headroom OK - No modification required

	Location Thetford Town Centre Thetford Mill to Abbey Heath Weir	Existing Situation/Provision	Action: Description/Recommendation
	Thetford Golf Club		Environment Agency River mitigation Measures Increase in-channel morphological diversity. 185 - Management & use of large wood at Thetford Golf Club
	Abbey Heath	Existing Footpaths • Little Ouse Trail • St. Edmund Way • Public footpaths	Waterspace Activity • Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River • Improve surfacing and detailing to riverside footpath. • Develop river signage strategy to link the river to the Forestry Commission trails.
			Environment Agency River mitigation Measures Increase in-channel morphological diversity. 186 - Management & use of large wood at Abbey Heath



Re surface Little Ouse Trail at the entrance to the fishing lake west of the A11.



Create Views between Thetford Priory and the river corridor.



Screen electricity sub station opposite entrance to Thetford Priory.



Develop connections between King's House and riverside.



Improve The Bell Inn Car Park, terraces and ground floor function rooms as part of a wider programme of riverside enhancements.



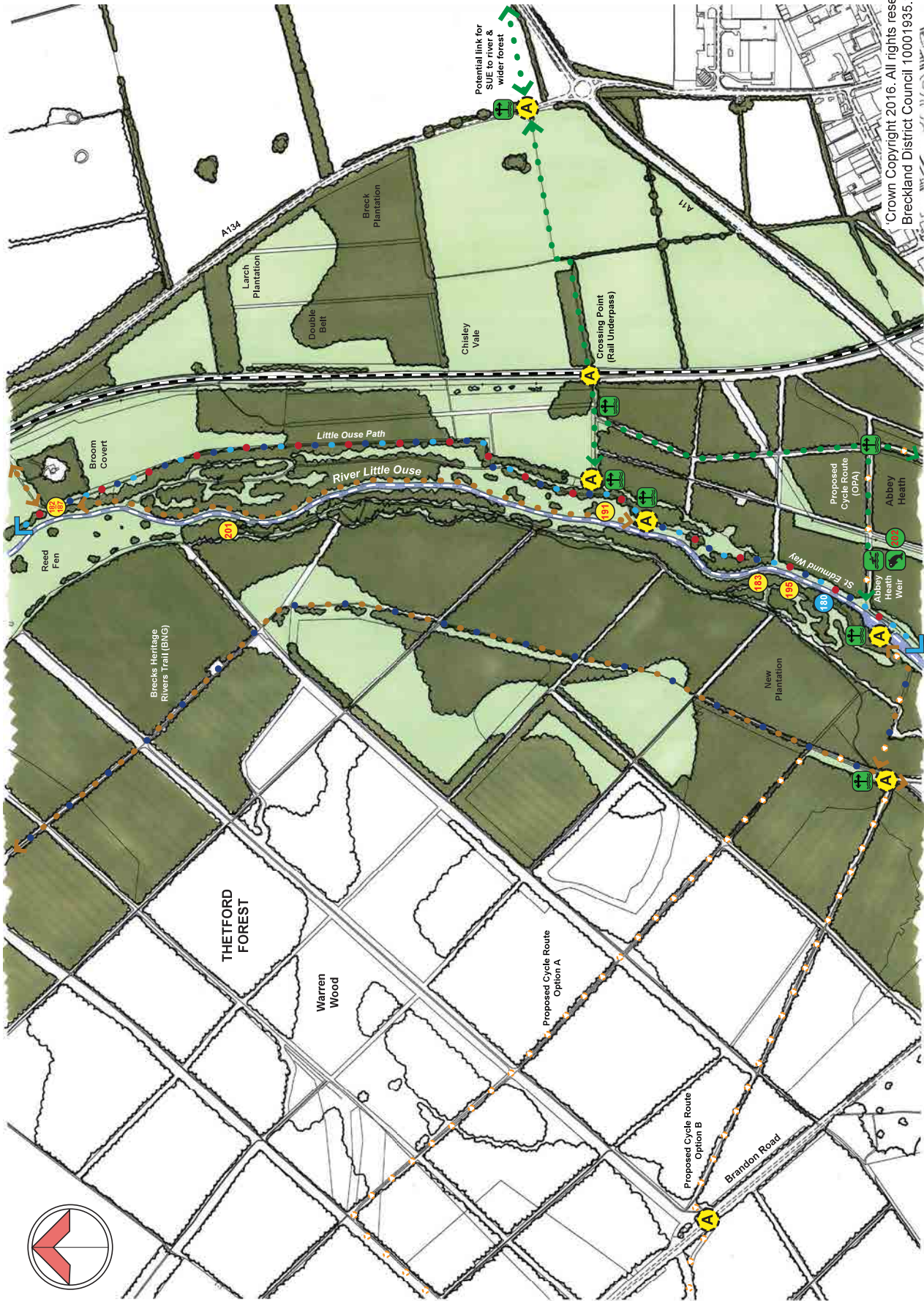
Develop connections between the Market Square and riverside.



Improve access to the river corridor between Bridges Walk and Mill Street.



Extend corridor access improvements upstream from the Town Centre to Nunn's Bridges.



Key

-  River Little Ouse
-  Existing Forestry/Vegetation
-  Existing Agricultural/Open Land
-  Railway
-  Little Ouse Way
-  St. Edmund Way
-  Existing Public Access Routes
- Proposals**
 -  Warren Heritage Trail (BNG)
 -  Brecks Heritage Rivers Trail (BNG)
 -  Cycleway Connections (Sustrans)
 -  Access Point Enhancement
 -  Multi-user Connections
 -  River Signage Strategy
 -  Canoe Access & Portage
 -  Canoe Trail
 -  Environment Agency Hot Spot



Abbey Heath Weir, the boom would appear to be broken. The weir is very dangerous and should never be attempted by canoeists due to the low headroom beneath the footbridge.



The Environment Agency plan to develop habitat rehabilitation projects downstream of Abbey Heath Weir. These should be planned as part of an overall project of restoring to full navigation, as part of the 'Braided River.'



Canoe portages are required both up and downstream at Abbey Heath Weir.



Improve way marking downstream of the weir as the Little Ouse Trail diverts away from the river bank.

	Location Abbey Heath Weir to Broom Covert	Existing Situation/Provision	Action: Description/Recommendation
	Abbey Heath Weir 	Existing Structures - Abbey Heath Weir Existing Footpaths - Little Ouse Trail - St. Edmund Way - Public footpaths	Waterspace Activity - Install canoe portages at Abbey Heath Weir. - Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. - Reported fallen trees below Abbey Heath Weir makes river impassible (July 16), prohibiting canoeing. Connections to the River - Improve surfacing and detailing to riverside footpath. - Proposed cycle route (OPA) to cross Abbey Heath Weir connecting the town to the existing Forestry Commission trails. - Develop river signage strategy to link the river to the Forestry Commission trails. - Brecks Heritage Rivers Trail proposed by BNG utilising the existing footpaths.
			Environment Agency River Mitigation Measures Improve floodplain connectivity 180 - Remove raised embankment downstream of Abbey Heath Increase in-channel morphological diversity 183 - Management & use of large Wood downstream of Abbey Heath 195 - Reconnect & restore historic Aquatic habitats at Abbey Heath Management to allow fish access to waters upstream and downstream 202 - Fish pass structure
			Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) - New lock & Weir to be constructed + fish pass - Dredging required for approx. 1.0km downstream of Abbey Heath Weir, average depth 0.4m. - Section of bank to be raised - Left hand bank downstream of Abbey weir to be raised

Location Abbey Heath Weir to Broom Covert	Existing Situation/Provision	Action: Description/Recommendation
Chisley Vale	Existing Footpaths • Little Ouse Trail • St. Edmund Way • Public footpaths	Connections to the River • Improve surfacing and detailing to riverside footpath. • Investigate access strategy to link river to SUE • Develop river signage strategy to link to the river to SUE. • Brecks Heritage Rivers Trail proposed by BNG utilising the existing footpaths.
		Environment Agency River Mitigation Measures Increase in-channel morphological diversity 191 - Narrow overwide channel downstream of Abbey Heath
Broom Covert	Existing Footpaths • Little Ouse Trail • St. Edmund Way • Public footpaths	Connections to the River • Improve surfacing and detailing to riverside footpath. • Develop river signage strategy. • Brecks Heritage Rivers Trail proposed by BNG utilising the existing footpaths.
		Environment Agency River mitigation Measures Increase in-channel morphological diversity. 182 - Remove raised embankment upstream of Power Station 187 - Management & use of large wood upstream of power station 201 - Reconnect & restore historic aquatic habitats upstream of the power station



Key

-  River Little Ouse
-  Scheduled Ancient Monument
-  Existing Forestry/Vegetation
-  Forestry Commission Boundary
-  Existing Agricultural/Open Land
-  Railway
-  Little Ouse Way
-  St. Edmund Way
-  Hereward Way
-  Existing Public Access Routes
-  Orange Trail (FC)
-  Interpretation Board
-  Site of Historic Interest
-  Car Park
-  Toilet
-  Picnic Site
-  Slipway
-  Horse Paddock
-  Scout & Guide Centre
-  Canoe Access
-  County Boundary
- Proposals

 Brecks Heritage Rivers Trail (BNG)

 Forest Heritage Trail (BNG)

 Access Point Enhancement

 River Signage Strategy

 Canoe Access & Portage/Trail

 Wild Swimming

 Environment Agency Hot Spot



Two Mile Bottom power station situated within the forest.



Existing canoe slide and access point as part of the Scout and Guide Centre.



Weed management is an issue which needs to be addressed to maintain navigation.



Environment Agency habitat rehabilitation project - the towpath has been raised with the river bank lowered to reconnect the floodplain with the river.

	Location Abbey Heath Weir to Broom Covert	Existing Situation/Provision	Action: Description/Recommendation
	Power Station	Existing Footpaths • St. Edmund Way • Little Ouse Trail • Public footpaths	Waterspace Activity • Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River • Improve surfacing and detailing to riverside footpath. • Brecks Heritage Rivers Trail proposed by BNG utilising the existing footpaths.
		Habitat Rehabilitation Project, Sept. 2014 • Creation of 12 'Pool & Run' pounds	Environment Agency River Mitigation Measures Improve floodplain connectivity 181 - Remove raised embankment downstream of the power station (Completed)
	Two Mile Bottom	Thetford Model Area Club • Scout & Guide Activity Centre • Car Park • Camp & Picnic Site • Canoe access point Little Lodge Farm (Equestrian) • Forest Lodge Chalets Existing Structures • Two Mile Bottom Footbridge Existing Footpaths • Little Ouse Trail • St. Edmund Way • Hereward Way • Orange Trail (Forestry Com.) • Santon Street • Public footpaths St. Helen's Well Site of St. Helen's Oratory Blood Hill Tumulus	Waterspace Activity • Improve slipway detailing for canoe access and recovery - Scouts & Guide Centre - Little Lodge Farm - St Helen's Well • Investigate opportunity for wild swimming • Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River • Improve surfacing and detailing to riverside footpath. • Improve signage of Little Ouse Trail along the south bank of the river and through Little Lodge Farm. • Develop river signage strategy to link the river to Santon Street, the Hereward Way and the Santon Road Plantation Car Park. • Brecks Heritage Rivers Trail proposed by BNG utilising the existing footpaths. • Forest Heritage Trail proposed by BNG utilising the Forestry Commission's Orange Trail.

	Location Abbey Heath Weir to Broom Covert	Existing Situation/Provision	Action: Description/Recommendation
	Two Mile Bottom (Cont.)		Define potential navigable channel as part of the Braided river approach in-conjunction with the Environment Agency and Forestry Commission's Habit Rehabilitation Project. Environment Agency River mitigation Measures Increase in-channel morphological diversity. 188 - Narrow over-wide channels downstream of Two Mile Bottom Scout Activity Centre 200 - Reconnect and restore historic aquatic habitats at 2 mile bottom Liaison with landowners to inform on sensitive rural management practices 174 - Introduce stock-proof fencing to reduce erosion downstream of Two Mile Bottom 176 - Introduce stock-proof fencing to reduce erosion at Little Lodge Farm
			Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) • New lock & Weir to be constructed + fish pass • Two Mile Bottom footbridge - Headroom OK at centre, but becomes restrictive near the banks due to bridge profile. • Dredging required for approx. 350m downstream of Two Mile Bottom footbridge average depth 0.3m. • Section of bank to be raised - Left hand bank immediately upstream of Two Mile Bottom footbridge. - Right Hand bank near Little Lodge Farm.

Location Abbey Heath Weir to Broom Covert	Existing Situation/Provision	Action: Description/Recommendation
St Helens Picnic Site	Existing Structures - Santon Park Footbridge Existing Footpaths - Little Ouse Trail - St. Edmund Way - Hereward Way - Orange Trail (Forestry Com.) - Santon Street - Public footpaths St Helen's Car Park - Picnic Site - Toilets - Slipway Medieval 'Moated' enclosure	Waterspace Activity - Improve slipway detailing for canoe access and recovery. - Investigate opportunity for wild swimming. - Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River - Improve surfacing and detailing to riverside footpath. - Improve signage to the river from the Little Ouse Trail and connections with the St Edmund & Hereward Ways. - Develop river signage strategy to link the river paths with the Forestry Commission Trails. - Improve signage and interpretation to connect river corridor with Santon Street and the wider forest trails to the north of the railway. - Forest Heritage Trail proposed by BNG utilising the Forestry Commission's Orange Trail. - The existing St. Helen's footbridge is in a poor state of repair and needs to be replaced. A replacement bridge should be raised to allow future navigation.
	Habitat Rehabilitation Project	Environment Agency River Mitigation Measure Increase in-channel morphological diversity. 194 - Narrow overwide channels.
		Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) Santon Park Footbridge - Requires replacement and raising.



The remains of the historic staunch at Two Mile Bottom.



Opportunity to tell the story of St. Helen's Well and historic dock created with access beneath the railway.



The Environment Agency's policy of placing fallen trees and vegetation within the river needs to be reviewed, due to impeding navigation and health and safety issues.



Example of the Environment Agencies habitat rehabilitation 'pool and run project,' where the gravel berms create a narrow and shallower channel.



St Helen's Car Park and toilet facilities would act as a principal location for activity along the river corridor.



Existing St. Helen's Footbridge carrying the St. Edmund's Way and slipway. The bridge deck requires replacement due to rotten planks.



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Key

- River Little Ouse
- Scheduled Ancient Monument
- Existing Forestry/Vegetation
- Forestry Commission Boundary
- Existing Agricultural/Open Land
- Railway
- Little Ouse Way
- St. Edmund Way
- Hereward Way
- Existing Public Access Routes
- Orange Trail (FC)
- Interpretation Board
- Site of Historic Interest
- Car Park
- Toilet
- Picnic Site
- Slipway
- Shop
- County Boundary
- Proposals
 - Brecks Heritage Rivers Trail (BNG)
 - Forest Heritage Trail (BNG)
 - Access Point Enhancement
 - 'Glide & Stride' Mooring
 - River Signage Strategy
 - Canoe Access & Portage
 - Canoe Trail
 - Wild Swimming
 - Environment Agency Hot Spot



Forestry Commission, East of England Head office at Santon Downham.



Santon Downham Road Bridge.



Santon Downham's local shop .



Walkers to let block within the car park of the Forestry Commission Head Offices.

	Location Abbey Heath Weir to Broom Covert	Existing Situation/Provision	Action: Description/Recommendation
	Santon Downham	Forestry Commission East of England HQ • Toilets • Parking • Information Shop Existing structures • Santon Downham Road Bridge St. Mary's Church Existing Footpaths • Little Ouse Trail • St. Edmund Way • Hereward Way • Orange Trail (Forestry Com.) • Santon Street • Harling Drove • Public footpaths Great Ouse Boating Association (GOBA) • Permissive Navigation from Brandon to Santon Downham • Permissive Mooring	Waterspace Activity • Create access for canoe launch and recovery as part of the GOBA mooring. • Investigate potential for 'Stride & Glide' initiative between Brandon and Santon Downham. A water taxi/education boat linking with the long distances footpaths provides the opportunity for part of the route to be taken on foot and part by boat. • Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River • Improve surfacing and detailing to riverside footpath. • Improve access points at Santon Downham Road Bridge in line with 'Access for All' best practice. • Improve signage to the river from the Harling Drove. • Develop river signage strategy to link the river paths with the Forestry Commission Trails. • Forest Heritage Trail proposed by BNG utilising the Forestry Commission's Orange Trail. • Circular Cycle Route proposed by BNG utilising the Harling Drove.
		Habitat Rehabilitation Project	Environment Agency River Mitigation Measure Increase in-channel morphological diversity. 170 - Narrow overwide channels. 172 - Introduce stock-proof fencing to reduce bank erosion downstream of Santon Downham. Liaise with landowners to inform on sensitive rural management practices 189 - Narrow over-wide channels downstream of Santon Downham 192 - Narrow over-wide channels at Forestry Commission office

Location	Existing Situation/Provision	Action: Description/Recommendation
Abbey Heath Weir to Broom Covert		
Santon Downham (Cont.)		Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) - Santon Downham Road Bridge - Airdraft sufficient - Dredging required for approx. 2.2km downstream of Santon Downham Road Bridge, average depth 0.5m - Left hand bank immediately upstream of Santon downham Road Bridge and proposed lock location.



The existing Santon Downham access point onto the Little Ouse Trail should be redesigned to ensure it is DDA compliant.



Existing examples of signage and way finding are tired and need to be renewed. A river signage strategy should be undertaken to link the river to the wider network of trails.



Access point onto the Little Ouse path to St. Helen's picnic area should be redesigned to ensure it is DDA compliant.

	Location Abbey Heath Weir to Broom Covert	Existing Situation/Provision	Action: Description/Recommendation
	Santon Downham to Brandon Bridge (Little Ouse Trail)	Existing Footpaths • Little Ouse Trail • St. Edmund Way • Hereward Way • Public footpaths Great Ouse Boating Association (GOBA) • Permissive Navigation from Brandon to Santon Downham	Waterspace Activity • Investigate potential for 'Stride & Glide' initiative between Brandon and Santon Downham. A water taxi/education boat linking with the long distances footpaths provides the opportunity for part of the route to be taken on foot and part by boat. • Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River • Remove fallen branches, improve surfacing and detailing to riverside footpath. • Improve signage at Santon Downham & Brandon.
			Define potential navigable channel as part of the Braided river approach in-conjunction with the Environment Agency and Forestry Commission's Habit Rehabilitation Project. Environment Agency River Mitigation Measure Liaise with landowners to inform on sensitive rural management practices 173 - Introduce stock-proof fencing to reduce bankside erosion. 177 - Introduce stock-proof fencing to reduce bankside erosion upstream of Brandon. 199 - Reconnect and restore historic aquatic habitats. Improve Floodplain Connectivity 179 - Remove or reprofile existing Bank at Brandon. Increase in-channel morphological diversity 184 - Reconnect and restore historic aquatic habitats. 190 - Narrow over-wide channels. 197 - Reconnect and restore historic aquatic habitats. 198 - Management and use of Large Wood.
			Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) • New lock & Weir to be constructed + fish pass • Dredging required for approx. 2.2km downstream of Santon Downham Road Bridge, average depth 0.5m • Left hand bank immediately upstream of Santon downham Road Bridge and proposed lock location.



Great Ouse boating Association (GOBA) mooring at Santon Downham.



Improve surfacing and way marking to the Little Ouse Trail downstream of Santon Downham



Placed tree debris needs to be reviewed due to health & safety concerns, water quality and the impediment to navigation .



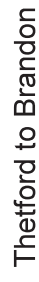
Low overhanging vegetation needs to be reviewed in order not to impede sight lines.



Opportunity to create improved connections to Santon Street and the wider forest trails.



Vegetation needs to the kept clear of footpaths as debris creates trip hazards



Key

River Little Ouse

Existing Forestry/Vegetation

Forestry Commission Boundary

Existing Agricultural/Open Land

Brandon Station & Railway

Little Ouse Trail

St. Edmund Way

Hereward Way

Public Footpath

Public Bridleway

Visitor Moorings

Slipway

Car Park

Rowing Boat Hire

Hotel, Pub & Restaurant

Brandon District Angling Club

Brandon Remembrance Playing Fields

County Boundary

Proposals

Circular Cycle Route (BNG)

Prehistoric Heritage Trail (BNG)

Access Point Enhancement

River Signage Strategy

Canoe Access & Canoe Trail

'Glide & Stride' Mooring

Visitor Moorings

Slipway

Fish Pass

Marina Development

Environment Agency Hot Spot



Investigate creating visitor moorings along the riverside of the Bridge Hotel



Improve connections to Brandon Station.



Improve connection with Brandon's Town Centre.

Location Abbey Heath Weir to Broom Covert	Existing Situation/Provision	Action: Description/Recommendation
Brandon Bridge	Brandon Station - Brandon Station is a short distance to the north of Brandon Bridge. Existing Amenities - The Bridge Hotel - Riverside Lodge - The Ram Hotel - Brandon House - Aldi Supermarket Existing structures - Brandon Road Bridge Existing Long Distance Footpaths - Little Ouse Trail - St Edmund Way - Hereward Way - Brandon Riverside Path - Public footpaths & bridleways Environment Agency - Statutory Navigation - Moorings Existing Facilities - Rowing Boat Hire - Slipway	Waterspace Activity - Promotion and marketing campaign to develop Brandon as a waterway destination and encourage boats moored on the River Great Ouse and other Fenland waterways to come to Brandon. - Investigate potential for moorings or a full marina development at Brandon Lode. This location provides easy access to the town centre, an adjacent Aldi store and builds on Brandon's historic relationship with the river. - Improve slipway on north bank for canoe launch and recovery. - Potential for visitor moorings downstream of Brandon Bridge on north bank. - Investigate potential for 'Stride & Glide' initiative between Brandon and Santon Downham. A water taxi/education boat linking with the long distances footpaths provides the opportunity for part of the route to be taken on foot and part by boat. - Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River - Remove fallen branches, improve surfacing and detailing to riverside footpath. - Improve access point at Ram Hotel to link to Brandon's Riverside Path. - Improve access and legibility to the Little Ouse Trail from Riverside Way. - Improve signage of river within Brandon as part of a overall river signage strategy. - Circular Cycle Route proposed by BNG along Brandon Road. - Pre-historic Heritage Trail proposed by BNG linking to Weeting Heath Nature Reserve Environment Agency River Mitigation Measure Liaise with landowners to inform on sensitive rural management practices 169 - Introduce Stock Proof Fencing to reduce bankside erosion downstream of Brandon Bridge. Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) - Brandon Road Bridge - Airdraft sufficient 4.5m at centre of arch. Arch springing heights below minimum headroom level.

Location Abbey Heath Weir to Broom Covert	Existing Situation/Provision	Action: Description/Recommendation
Brandon Lock & Weir	Existing Amenities • Brandon Remembrance Playing Fields • Brandon District Angling Club & car park Existing structures • Brandon Lock & Weir Existing Long Distance Footpaths • St Edmund Way • Hereward Way • Brandon Riverside Path • Public footpaths & bridleways Environment Agency • Statutory Navigation • Moorings Existing Facilities • Slipway	Waterspace Activity • Promotion and marketing campaign to develop Brandon as a waterway destination and encourage boats moored on the River Great Ouse and other Fenland waterways to come to Brandon. • Investigate potential for moorings or a full marina development downstream of the lock on the south bank. If the Brandon Lock is not lengthened to cater for full length narrow boats then this location would provide an alternative to Brandon Lode and would build on the local recreational facilities. • Construct canoe portage point. • Investigate potential for 'Stride & Glide' initiative between Brandon and Santon Downham. A water taxi/education boat linking with the long distances footpaths provides the opportunity for part of the route to be taken on foot and part by boat. • Manage and maintain vegetation in order not to impede river activities, improve visibility of the river, access, safety and the environment. Connections to the River • Improve surfacing and detailing to riverside footpath. • Improve access and legibility to the St. Edmund Way from Brandon Lock. • Improve signage of river within Brandon as part of a overall river signage strategy. • Develop river signage strategy Define potential navigable channel as part of the Braided river approach in-conjunction with the Environment Agency and Forestry Commission's Habit Rehabilitation Project. Environment Agency River mitigation Measures Increase in-channel morphological diversity. 196 - Reconnect and restore historic aquatic habitats at Brandon Lock & recreation centre. Management to allow fish access to waters upstream and downstream 203 - Construct fish pass at Brandon Lock & Weir. Navigation requirements - long term (Prefeasibility Study, Stage 1 Report, 2003) • The existing Brandon Lock would need to be reconstructed to meet EA or Denver standard + fish pass. This would permit full length narrow boats to reach Brandon and would be the first step in restoring the navigation to Thetford.



Create canoe portage and fish pass and Brandon Lock and Weir..



Existing moorings downstream of Brandon Bridge.



Existing Environment Agency moorings upstream of Brandon Bridge.



Surface Riverside Path between the Ram Hotel and Brandon Lock.



Improve slipway access to the river at Brandon Bridge to allow for the launch and recovery of canoes.



Improve legibility and way marking to the start of the Little Ouse Trail



Economic benefits of
moving away

Introduction

Regeneration and improvement of Thetford and its riverside together with an increase in waterspace activity could result in considerable economic benefit, through:

- Recreation both on and off the water
- The promotion of tourism
- The benefit to waterside businesses and wider business throughout the town
- An uplift in property values
- Indirect economic benefits through improvements in health and well-being from increased activity.

As discussed, Thetford does not make the best use of its riverside setting. The town and its buildings have largely ignored its river. The riverside is not well signposted from the town and permeability between the town centre and riverside is, in general, poor. Access along the river corridor from the town to Thetford Forest is limited due to the poor condition of the pathways, poor signage together with poor awareness and promotion. There is considerable scope to increase the range and quality of activities and the number of people, both local and visitors, who make use of the Town's Waterfront, leading to an increase in economic benefit. Improving the attraction of a waterway can have a considerable economic impact. For example the restoration of the canal through Droitwich in Worcestershire resulted in an estimated 20% increase in visitors, a £1.1 million visitor spend and a hugely positive effect on local business.¹

1. *Water Adds Value, University of Northampton for CRT & IWA. 2015*

Economic impact of water based activities

There is no doubt that the presence of water attracts people. A 2005 survey showed that 25% of England's population who visit the countryside visit inland waterways.² A study for the Environment Agency in 2009 found that 53% of people living within 15 kilometres of an EA waterway use their local river for angling, water sports, boating or informal recreation.³

There have been a number of studies which have evaluated the economic impact of waterway activity and of waterway corridor regeneration. In 2010 the Environment Agency commissioned an economic evaluation of the River Great Ouse.⁴ This estimated the economic impact of the navigable Great Ouse at £250,000 per mile per annum (£302,000 at current values). It suggested that the Great Ouse had significant potential to increase its use in recreation terms and therefore increase its economic impact. (This is relatively modest compared with the Thames at £575,000 per mile per annum, at current values £695,000).

The 2009 Community Use and Appreciation Study⁵ gave estimates on a national basis of how much different users spent on their visit. A powered boat party spent £102 per day (£123 at today's values); water sports users spent £10.80 per visit (£13.00); anglers spent £14-18 per visit (£16-£21).

2. *England Leisure Visits Survey 2005, Natural England et al.*
3. *Community Use and Appreciation of Environment Agency Waterways. 100% Cotton. 2009*
4. *An Economic Evaluation of the River Great Ouse. Halcrow 2010 for Environment Agency*
5. *100% Cotton. . Op cit*

Economic impact of land-based recreation & leisure

Water is also a great attractor for a wide range of land-based recreation and leisure activities. These include walking, cycling, horse riding, environmental awareness and informal use of the waterside environment, including eating and drinking. Improvements to the waterside environment, to footpaths and cycle routes would further enhance this environment for the leisure user. Apart from clear benefits to the participant such as improved health and well-being associated with the rich river environment, there will be economic benefits where visitors are given additional opportunities for spend... Varying figures have been put forward for the daily spend of different groups of users. A report for the Inland Waterways Advisory Council in 2007 suggested the daily average spend of an informal visitor to waterside towpaths was £4.57 at 2007 values, £5.97 at today's values.⁶ A figure of £5.63 for visits to the natural environment is estimated in the 2013-14 Monitor of Engagement with the Natural Environment.⁷

Tourism can result in a higher economic benefit. For example, trips taken from a holiday base to towns and cities resulted in an expenditure of £48.50 per trip at 2005 prices, equivalent to £67 today.⁸

6. *Initial Review of the Economic Case and Other Benefits of Inland Waterways. Sheffield Hallam University for IWAAC. 2007*
7. *Monitor of Engagement with the Natural Environment 2013/14 TNS*
8. *Natural England. Op cit*

Indirect economic impact

In addition to the direct economic impact associated with improvements to the riverside offer, there will be an indirect impact from shops and providers of hospitality requiring more goods from their suppliers. Clearly not all of this will be sourced locally but a multiplier of 1:4 for visitor spend for the local economy is suggested.⁹

Place shaping

The development of high quality riverside assets and associated activity will attract investment by providing leisure and recreation opportunities. Valuing or estimating place shaping itself is difficult but it can contribute substantially to the economic life and well-being of an area by engendering confidence and changing attitudes to the riverside environment. The availability of high quality facilities, amenities and destinations is important in attracting visitors and encouraging local people to the riverside. In relation to improvements in the canalside environment of the Bridgwater and Taunton Canal:

‘Restoration positively supported business start-ups and business development and canal related investments often acted as a catalyst for investment and regeneration.’¹⁰

9. Bedford to Milton Keynes Waterway: Economic Impact Assessment. . SQW. 2009

10. Water Adds Value. Op cit

Uplift in property value

It is recognised that the presence of water results in uplift in the value of property and an improvement in the quality of the riverside environment would only enhance these values. There have been various estimates of the uplift effect of water in residential property of 15-25%.¹¹ Earlier work for the Environment Agency examined land values close to the River Great Ouse and found that land for residential purposes had a 7% uplift. For business premises directly related to waterway business this can be considerably higher: up to 70% for retail units, bars and restaurants, even 80% for hotels.¹²

It may generally be a third party who derives most of the benefits of development near a waterway and it is therefore essential that benefits are derived for the public purse through planning gain to be used for infrastructure and facilities.

The Community Infrastructure Levy will support both provision of local infrastructure and its maintenance.

11. Water Adds Value. Op cit

12. Halcrow. Op cit

Community benefits, health and well-being

The riverside environment is important for a number of benefits it offers to people and communities. There is now considerable evidence which recognises the value of a range of further benefits including social, community, recreational and health and well-being. Waterways offer a natural environment attractive to people and available to all, including inclusive opportunities for minority and disadvantaged groups and those with diverse abilities. They also offer opportunities for education and training, in particular in heritage and wildlife. Riverside businesses can give employment opportunities suitable for a wide range of skills and educational backgrounds.

In terms of health and well-being, research by Sustrans suggested a cost benefit ratio of up to 20:1 for walkers and cyclists from cycleways in terms of health services. This compares with a typical figure of between 3:1 and 10:1 for road and public transport projects. Adding in reduction of pollution and CO2 emissions would give a still more favourable ratio.¹³

A study on the Lowland Canals in Scotland found the use of canalside paths contributed to reductions in road casualties, in absenteeism through illness and in exposure to poor air quality. People visited the outdoors more frequently and took more exercise. The report suggests that for every £1 invested in the canal towpath there is a return of £7 in health benefits.¹⁴

13. Economic Appraisal of Local Walks and Cycling Routes, Sustrans 2006

14. Measuring the Health Impacts of Scotland's Canals. Scottish Canals 2012

Evidence from the Scottish Index of Multiple Deprivation (SIMD) stated that:

*"Investment in canal-side communities, as in North Glasgow, has led to a relative improvement in their SIMD ranking. The evidence does suggest that the activities of Scottish Canals are helping to reduce deprivation in some of Scotland's most disadvantaged communities. Making communities more attractive, engaging with them & fostering civic pride. Positive impact on communities. Engagement with 3rd sector organisations and more than 40,000 people actively engaged in the Lowland canals."*¹⁵

Ecosystems services and the natural environment

Ecosystems services which the natural environment provides have an economic value. They form the basis for all human activity whether social or economic and without them we and our systems could not function. A healthy environment provides raw materials and absorbs and recycles human outputs, delivering services such as the production of clear air and water, decomposition of wastes, recycling of nutrients and pollutants.

A healthy and resilient river provides a wide range of ecosystems services including:

- Water supply
- Water quality
- Flood control
- Pollution control
- Landscape creation and protection
- Biodiversity and habitat provision
- Contribution to the amelioration of the effects of climate change.

15. *Water Adds Value. Op cit.*

These functions are fundamental to economic development and social and community well-being. There is now a substantial body of literature on valuing ecosystems services which is currently outside the scope of this study.¹⁶

Potential additional benefits from the restoration of navigation

General improvements to the river and riverside environment can result in the types of economic benefit described. Improving the environment of the River Little Ouse will result in such benefits for both Thetford and Brandon.

There is no doubt that investment in restoring or improving the River Little Ouse for navigation would achieve further economic benefits. The figure quoted above for a visit by a powered boat party is £123 at today's prices.¹⁷ There would be improved opportunities for trip boats and water taxi operators and restaurant boats.

A waterway animated by the presence of boats is a more attractive proposition for land based visitors, so footfall from riverside users would increase.

Restoration to continue navigation upstream to Thetford from the current effective limit at Brandon is technically feasible with the construction of new locks and infrastructure together with environmental improvements. Economic benefits would be derived from bringing more visitors to the area which would help Brandon and Thetford to develop as tourist destinations. Up to 16 full time jobs have been suggested as being supported through the spending from boaters, hire boats and other river and riverside users.¹⁸

This Study suggests that Brandon could be a suitable site for a marina development. Brandon would need to promote itself as a waterway destination in order to drive up the demand for boating and moorings. A marina would result in the presence of more boats on the river, acting as a catalyst for the development of the river as a waterway destination, benefitting both Brandon and Thetford. Clearly a marina would require significant investment but would generate significant economic benefit for the area and support additional employment. It is estimated that a 150 berth marina and its ancillary facilities could generate £325,000 per annum and support 4 full time jobs.¹⁹ It could also offer the opportunity for a hire boat base.

18. *River Little Ouse Pre Feasibility Study Babtie Brown & Root 2003/5*

19. *SQW Op cit*

16. See: *Guidance for policy and decision makers on using an ecosystems approach and valuing ecosystem services. Defra 2014* www.gov.uk/guidance/ecosystems-service.

17. *100% Cotton Op cit*