

# Broadland Flood Alleviation Project

## Protecting



## Broadland

### Flood alleviation improvements for Barsham Marshes (Compartment 25b)

Public Consultation 2006

#### Introduction

In May 2001 Broadland Environmental Services Limited (BESL) was awarded a long-term contract by the Environment Agency to improve and maintain flood defences in Broadland. The Agency's approach to flood alleviation in Broadland was adopted in the 1990's and is based on a strategy consisting mainly of bank strengthening and erosion protection and reducing the risk of banks breaching. BESL updated this strategy and is now carrying out improvement works throughout 40 individual flood compartments in Broadland.

The major improvement works will be undertaken during the first 10 years of the Project; thereafter the banks will be subject to regular condition monitoring and maintenance works as required.



*The River Waveney*



*Floodbank, Folding and  
Soke Dyke*



*Cows grazing on the  
floodbank*

#### Consultation

This leaflet has been prepared as part of an ongoing process of consultation to inform you about BESL's proposals and to seek your views on them.

The purpose of this consultation document is to:

- Explain the range of flood defence options that BESL can consider;
- Outline our preferred flood defence proposals at this stage;
- Invite your views on these proposals, and
- Ensure, from the responses we receive, that we are aware of any specific local issues that ought to be considered as we go on to develop the proposals in greater detail.

BESL will carefully consider any comments it receives, seeking clarification and incorporating changes where necessary before finalising its plans. The results of this consultation will play an important part in BESL's planning application for the proposals. General feedback on this consultation will be contained in the planning application documents.

A questionnaire is provided with this leaflet. If you have not received one, or if you would like an electronic copy of the questionnaire by email, please contact Angela Rowe at the address given on page 4 of this document. Alternatively, all consultation documents produced by BESL can be downloaded from the BFAP project website ([www.bfap.org](http://www.bfap.org)).



## Need to improve existing flood defences

Compartment 25b is protected by earth floodbank defences along the south bank of the River Waveney between Beccles and Shipmeadow.

The banks protect approximately 268 ha of grazing marsh and arable land; several residential properties, farmland, woodland and the Waveney Meadow, a recreation area.

The standard of the floodbanks in Broadland has progressively reduced over time due to bank settlement and the combined effects of erosion and corrosion. In some areas the floodbanks are too narrow and the bank too steep, making them vulnerable to breaching during very high tides when floodwater overtops them. Floodbanks should be able to cope with a certain amount of overtopping in extreme flood events. By carrying out flood defence works BESL aims to strengthen the banks to minimise the risk of breach.

BESL has taken every effort to ensure that the solutions presented here are technically feasible, cost-effective, and environmentally sound. It is the combination of these principles for a 'sustainable' project that underpin BESL's detailed proposals here and across Broadland.



*A tree lined floodbank*

## What options did BESL consider for improvement works in this compartment?

The range of flood alleviation solutions that BESL considered for these works follows the Environment Agency's and BESL's overall strategy for flood alleviation in Broadland. Specific solutions are based on up-to-date survey data (assessing the condition of the existing floodbank and erosion protection), an evaluation of the level of flood defence provided and local issues including environmental considerations.

The options BESL considered are illustrated and explained in the enclosed flyer. A brief outline of some of the decision criteria leading to a particular option as the preferred solution is also given.

## What are BESL's specific proposals for the south bank of the River Waveney in Compartment 25b?

The plan on page 3 shows the solutions that BESL are proposing for the floodbanks in Compartment 25b. A summary of these works is as follows:

<b>Barsham Marshes (Compartment 25b)</b>	
<b>Proposed Works</b>	<b>Length (m)</b>
Setback from eroding road	278
Strengthen	3268
Strengthen and install erosion protection	627
Strengthen and retain piles	174
Strengthen and sheet pile	119
Maintain	206
Maintain and install erosion protection	58



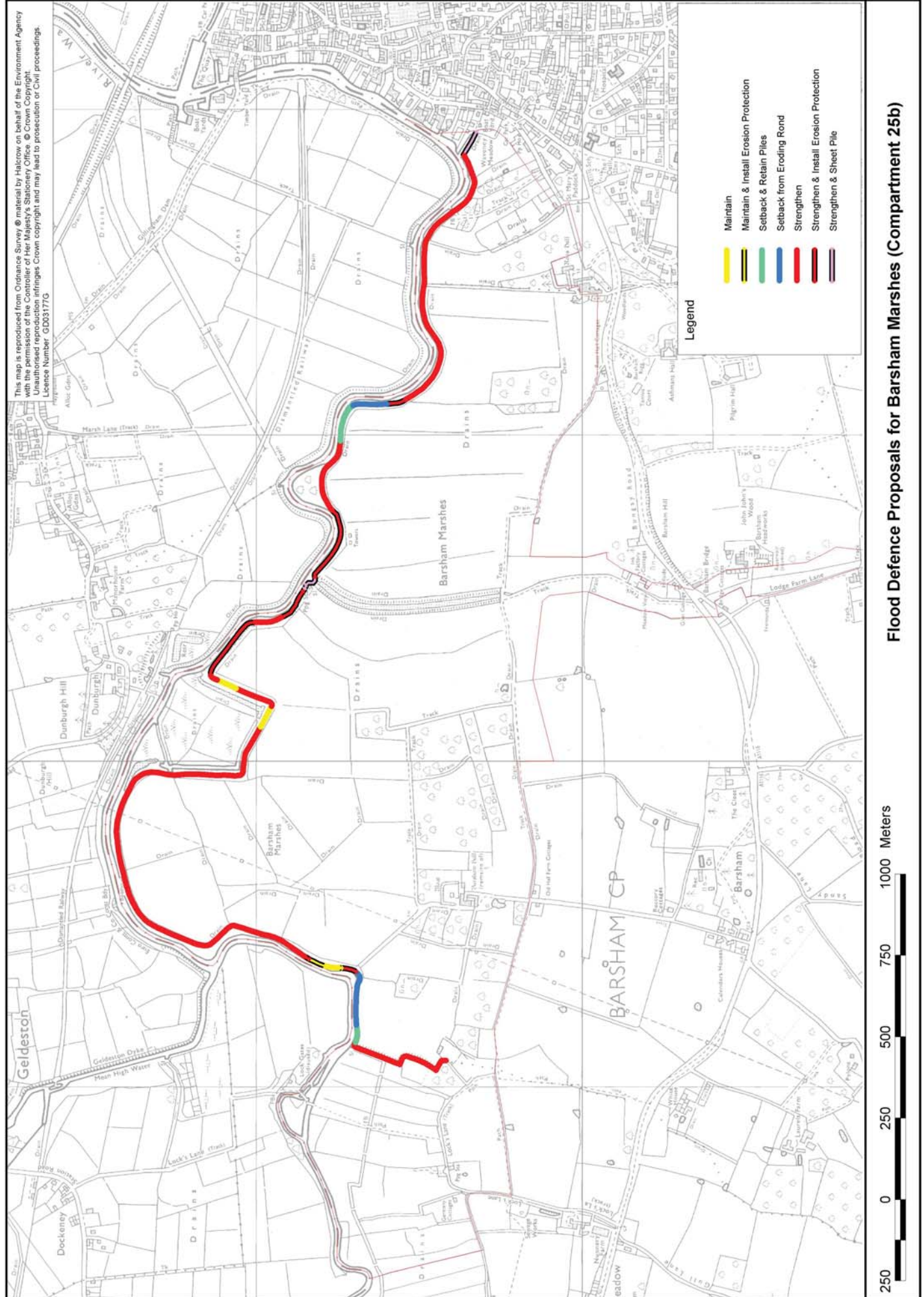
*Existing erosion protection (timber piling), River Waveney*

The proposals comprise a combination of strengthening along the existing alignment or constructing a new floodbank ("setback") on the landward side. The primary aim is to provide defences that will resist breach in the event of a high level flood event occurring (the actual standard of defence against over-topping remains that which existed in 1995 so there will be no change in flooding patterns).



*Eroding defences on the River Waveney*

# Plan of proposals



## Alternatives BESL considered and discounted

Overall, the existing flood defences need improving. Where the existing erosion protection is failing (e.g. piling is in bad condition or the road is too narrow), setback is usually the preferred solution to improve the level of flood protection. Where erosion protection is considered as adequate or adjacent land use and/or poor ground conditions and material precludes setback, then floodbank strengthening is proposed instead.

The "do minimum" alternative would involve 'maintenance only' to both the floodbank and existing erosion protection. However, large parts of the remaining floodbanks do not provide the level of protection required, as they are unstable due to narrow roads, steep slopes and poor piling. If the proposed works are not undertaken, there would be an increased risk of overtopping and a greater likelihood of breach.

BESL do not consider the consequence of this alternative acceptable.



*The River Waveney, floodbank and Barsham Marshes*

## What are the potential issues associated with this work?

The Strategic Environmental Framework (SEF) process, developed by BESL with extensive stakeholder input, sets out environmental standards for maintenance, flood defence improvements and first-time defences for undefended communities. The scheme details are consistent with these environmental standards. The table overleaf identifies some of the key issues associated with these proposals. We would welcome your comments on these and any other issues that you think should be included.

## What is the proposed timing of the works?

In order to allow access to the floodbank to commence the necessary improvement works, tree and scrub clearance is programmed for the 2006/2007 winter period. Flood alleviation works are proposed to start in spring 2007 and will be completed in 2008.

## What are the next steps?

Thank you for taking the time to read through this information leaflet and answering the associated questions in the accompanying questionnaire.

BESL is keen to find out what you think of these proposals. We will collate your replies and will then consider all comments made, these will help to inform us as we develop the proposals in more detail. If you have any queries regarding either these proposals or those elsewhere in Broadland, please phone Angela Rowe, (BESL Project Administrator) on:

**01603 226161**

If you wish to reply we would encourage you to email your reply to Angela Rowe at

**Halcrow@edmund-nuttall.co.uk**

Please mark the subject line of your email with:

**Compartment 25b Consultation**

Alternatively, our freepost address is:

**Broadland Environmental Services Limited  
Freepost ANG20504  
Norwich  
NR1 1ZW**

Both the consultation document and accompanying questionnaire can be downloaded from the project website at:

**[www.bfap.org](http://www.bfap.org)**

Please ensure that all replies are received by

**April 21<sup>st</sup> 2006**

Replies can be considered after this date but please contact us first if you need an extension.

NB. To reduce paper, BESL would like to email future consultation documents to as many stakeholders as possible. We would greatly appreciate it if you could provide us with an email address to send correspondence to in the future.



*Waveney Meadow*

<p>Will the proposals have any effect on Geldeston Meadows SSSI on the opposite side of the river?</p>	<p>Hydraulic modelling has demonstrated that there will be no significant changes in river water levels that could affect the SSSI. A separate scheme to improve the defences that protect Geldeston is currently being developed.</p>
<p>How will the proposals affect flora and fauna throughout the compartment?</p>	<p>Surveys of water voles, bats, reptiles, scarce plants and dyke vegetation will be undertaken to identify specific requirements that need to be incorporated into the detailed design and work schedule. Issues associated with ecology and nature conservation will be addressed in the Environmental Statement that accompanies the planning application.</p>
<p>What changes to the local landscape will the work cause?</p>	<p>A number of changes to the view across the landscape are anticipated as a result of the proposed works however, the majority of these are temporary, such as the view of bare ground until vegetation re-establishes on the floodbank, folding and within the soke dykes. Others are long term, such as the loss of trees and scrub in some areas, which will open up views of the marshes from the river and floodbank. Completion of the flood alleviation works will provide long-term protection of the Broads landscape and its valuable habitats from the damaging effects of flooding.</p>
<p>To what extent will the proposed work affect navigation?</p>	<p>The majority of the construction works will be land-based. Any water-based work will be completed outside of the main holiday season and on weekdays only to limit effects on navigation. Temporary channel markers will be provided where necessary to mark any hazards arising during and immediately after construction work while vegetation re-establishes. Tree and scrub clearance may improve sailing conditions in some river stretches by reducing the level of wind shading. No existing informal moorings will be lost as a result of the proposed works.</p>
<p>What impacts will there be on recreation:</p> <ul style="list-style-type: none"> <li>• Public access</li> <li>• Angling</li> <li>• Beccles Rowing club</li> <li>• Puddingmoor leisure plots</li> </ul>	<p>This compartment contains a public footpath that forms part of the Angles Way long distance route. However the path is close to the high ground, away from the works corridor and will not require closure during the works. A recreational area known as Waveney Meadow is located at the downstream end of the compartment (see enclosed map). For the duration of these improvements a works corridor will be fenced off adjacent to the meadow for safety reasons. The restrictions are of a temporary nature and BESL will make every effort to ensure minimal inconvenience to meadow users during this time. There are no sections of the riverbank that is leased by angling clubs, though anglers do informally fish sections of the River Waveney upstream of the leisure plots at Puddingmoor. The Beccles and Caxton Piscatorial Society lease the embanked section of Barsham Brook that runs through the middle of the compartment. The Beccles Rowing Club operates from a leisure point at Puddingmoor. Works will be phased to minimise impacts on access at Puddingmoor for both the rowing club and plot owners.</p>
<p>What are the implications for landowners within Compartment 25b as a result of the proposed improvement works?</p>	<p>During the works there may be some loss of access and disruption to farming activities. On completion there will be a small reduction in grazing marsh and arable land. BESL contact landowners and tenants early in the design process to ensure their views are taken into account.</p>
<p>Will flood defence works be carried out elsewhere on the River Waveney. What is the proposed timing of these works?</p>	<p>Flood defence schemes are planned to start in Compartments 23 (Short Dam Level), 24 (Long Dam Level), 26 (Beccles Marshes), 27 (Barnby and North Cove Marshes) and 28 (Share and Carlton Marshes) in 2006. A scheme is currently being developed for Geldeston Marshes (Compartment 25a) on the opposite side to Barsham, with works expected to start in 2007.</p>

## List of consultees

In addition to landowners, this consultation document is being sent to the following list of public bodies and organisations:

- Barsham and Shipmeadow Parish Council
- Beccles Amateur Sailing Club
- Beccles and Caxton Piscatorial Society
- Beccles Angling Club
- Beccles Sailing Club
- Beccles Town Council
- British Dragonfly Society
- Broadland and East Suffolk Tourism
- Broads Angling Strategy Group
- Broads Authority
- Broads Hire Boat Federation
- Broads Society
- Countryside Agency
- CPRE – Suffolk
- DEFRA
- Ellingham Parish Council
- English Nature – Norfolk Team
- English Nature – Suffolk Team
- Environment Agency
- Geldeston Parish Council
- Gillingham Parish Council
- Lower Waveney IDB
- National Association of Boat Owners
- Norfolk and Suffolk Boating Association
- Norfolk Anglers Conservation Association
- Norfolk Area Ramblers
- Norfolk County Council
- Norfolk Wildlife Trust
- Royal Norfolk and Suffolk Yacht Club
- RSPB
- South Norfolk District Council
- Suffolk Amateur Anglers Association
- Suffolk County Council
- Suffolk Wildlife Trust
- The Ramblers Association – Waveney Group
- Waveney and Oulton Broad Yacht Club
- Waveney Anglers
- Waveney District Council
- Waveney River Tours
- Waveney Valley Canoe Club

## Assorted images of completed works carried out by BESL in the Broadland area.



*Strengthened flood bank*



*Beccles Yacht Club - new Crest piling and slipway*



*New piling at Short Dyke*



*New flood bank*



*New soke dyke with vegetated margin*



*New access fencing for landowner*

## Contact details:

Broadland Environmental Services Limited  
Third Floor, Grosvenor House  
112 – 114 Prince of Wales Road  
Norwich  
NR1 1NS



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**The Broadland Flood Alleviation Project is being delivered under the Public Private Partnership Programme by Broadland Environmental Services Limited on behalf of the Environment Agency.**

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