

Riverbank protection works

A guide for riparian landowners

The rules and regulations governing planning permission can seem like a minefield to the uninitiated. We have produced this series of leaflets to help everyone living and running businesses within the Broads Authority area. We aim to set out the basic rules and principles of planning permission in easy-to-understand terms.

Regulations governing building work in the Broads are different because the area is designated a National Park. That means planning rules are sometimes stricter to help us all preserve our unique environment and keep it special. Proposals needing planning permission are judged against all the policies of the Local Plan which is available from your local planning office.

We hope that these leaflets will help you to develop plans which will be accepted - this saves you, and us, time and money. But leaflets cannot cover everything and are no substitute for personal advice on your individual circumstances, so it is vital that you check with your local planning office well in advance of starting work.

Introduction

The careful design of new or replacement bank edging is crucial to protect the special landscape character of the Broads. New piling and quayheading, or replacement of existing piling generally requires planning permission. A works licence is required for any works to riverbanks in the public navigation. This leaflet is intended to give landowners guidance on the most appropriate method to use.

Types of bank protection

Traditionally, riverbanks have been protected using timber or steel piling driven into the riverbed at the bank edge. However, this damages riverbank habitats and can create a very urban feel to an otherwise rural area, and may also encourage boat mooring in inappropriate areas. Many alternative methods of bank protection have been tried, and the Environment Agency and Broads Authority continue to work together to find new methods which are acceptable visually and in conservation terms. The most useful methods of bank protection are described in this leaflet.

Objectives of bank protection

With the wide range of bank protection methods available, and a corresponding wide variation in cost, it is important to decide why the bank protection is required at all.

If the purpose is to provide boat mooring, and if mooring is acceptable to the Broads Authority at that location in principle, then timber piling is usually the most effective method. However, even lightweight timber piling should be seen as a last resort in rural locations, particularly where there is no history of hard edging or boat mooring, as the piling destroys the bank edge habitat and may encourage unwanted mooring. Alternative methods can help to protect the character of the area.

If the purpose is simply to protect an eroding riverbank from the natural effects of wave or other action, then many other alternatives are available. For example, bundles of brushwood faggots are a low-cost alternative for sensitive sites which can prove very effective where mooring is not required. The erosion may even be caused by livestock action on the bank, in which case simple fencing might solve the problem.

Determination and design of possible solutions

When deciding which method of bank protection to use, the following factors should be taken into account:

Is boat mooring required?

Check with the Planning Officers for the Broads Authority to see if boat mooring is acceptable in principle at your site. If it is, then timber piling may be acceptable. If not, then alternative methods should be used to protect the riverbank whilst deterring unwanted mooring.

Tidal range?

If the site has a high tidal range, such as on the River Yare or on lower reaches of the Ant, Bure and Waveney, then 'softer' methods of bank protection may be less effective. However, dykes running off the main channel will be subject to lower wave action and softer methods may be used except where the tidal range is particularly high. The map (overleaf) broadly shows the tidal range throughout the Broads.

Is the site within a built-up area, or in the countryside, and has the site been piled previously?

If the site has been piled in the recent past, then replacement piling may be acceptable. Similarly, if the site is within a town or village settlement boundary, timber piling may be part of the character of the area.

Are mature or semi-mature trees overhanging the riverbank or even falling into the water?

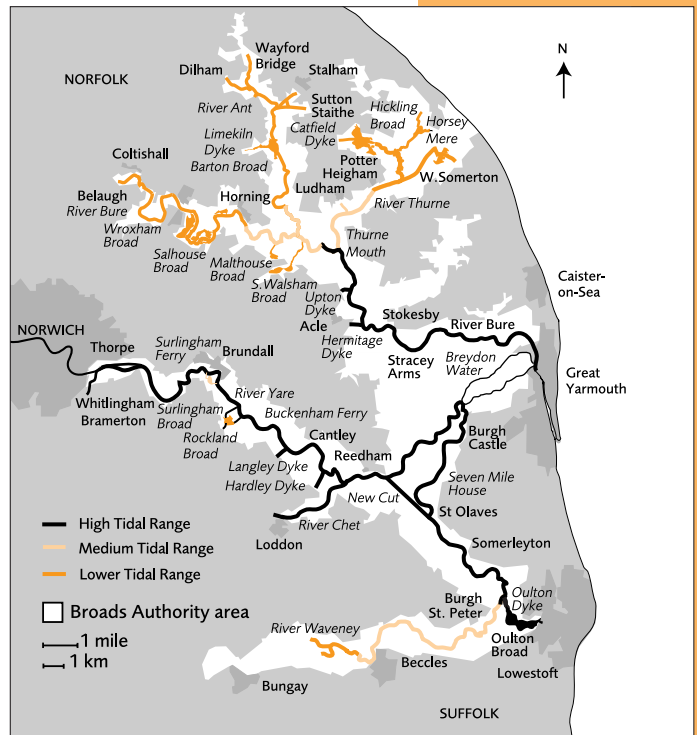
If so, then they may be shading out the natural vegetation which would help stabilise the bank.

Each site is different

Each site is different and sometimes the solutions have to be tailored to suit. The options shown here can all have mixed success and you may need professional advice.

Do I need Broads Authority consents?

Waterside development being carried out by private individuals or businesses usually requires planning permission. This includes new and replacement works such as piling and bank protection works, quay headings, boardwalks/decking and moorings. A works licence is needed for the construction or renewal of works or any dredging within or adjacent to the navigation area. Telephone 01692 678034 for an application.



Selection and implementation of the best solution

The following designs indicate some alternative methods of bank protection suitable for the Broads. The precise design will depend on site conditions, and applicants should provide their own plans of the proposals with dimensions of timber to be used according to the needs of the site.

Timber Piling

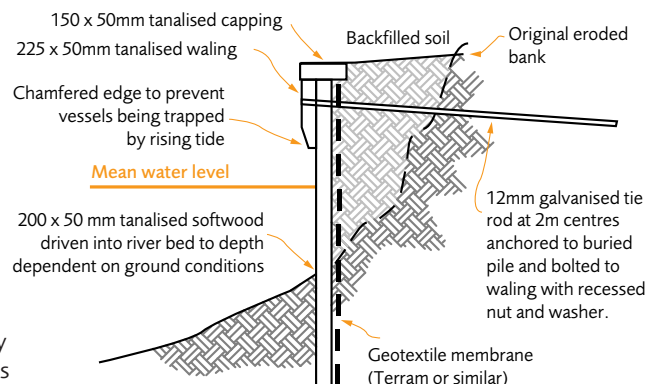
This is the traditional method of bank protection, but creates a hard edge and destroys the bank habitat. Unsuitable for open rural locations or where mooring is not desired. Suitable for all tidal ranges.

+ points

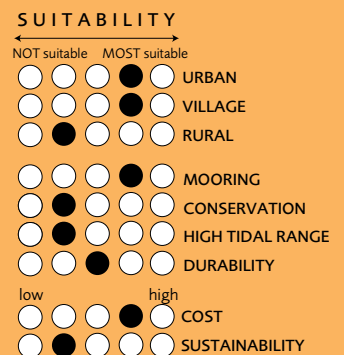
- Good protection against medium levels of boat wash
- Suitable for mooring of smaller craft
- Timber is more natural in appearance than steel, and when weathered blends in with adjacent vegetation
- Minimal navigation hazard.

- points

- Creates a canalised appearance unsuitable for natural areas, and may encourage mooring in sensitive areas
- Eliminates natural bank edge habitat and tie rod extends damage into adjacent bankside vegetation.



NB. All drawings are intended for guidance only. Precise specification will depend on site conditions and agreement of the Environment Agency and the Broads Authority.



SUITABILITY

← NOT suitable MOST suitable →

URBAN	○	○	○	○	○
VILLAGE	○	○	○	○	○
RURAL	○	●	○	○	○
MOORING	○	○	○	○	○
CONSERVATION	○	○	○	○	○
HIGH TIDAL RANGE	○	○	○	○	○
DURABILITY	○	○	○	○	○
COST	low	○	○	○	high
SUSTAINABILITY	○	○	○	○	○

Timber Decking

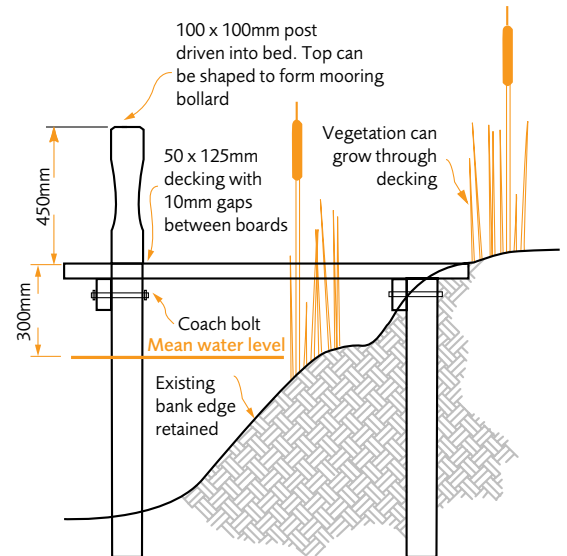
This can be used to provide light mooring, without removing the existing bank edge. Not suitable in open rural areas. Can be used in all tidal ranges.

+ points

- Existing riverbank remains relatively intact
- Protects existing bank edge habitat from erosion
- Some vegetation can grow through the decking.

- points

- Not suitable where mooring is discouraged
- May encourage mooring in sensitive areas
- Not suitable where vulnerable plant species may be shaded by the decking.



Alder Pole Piling

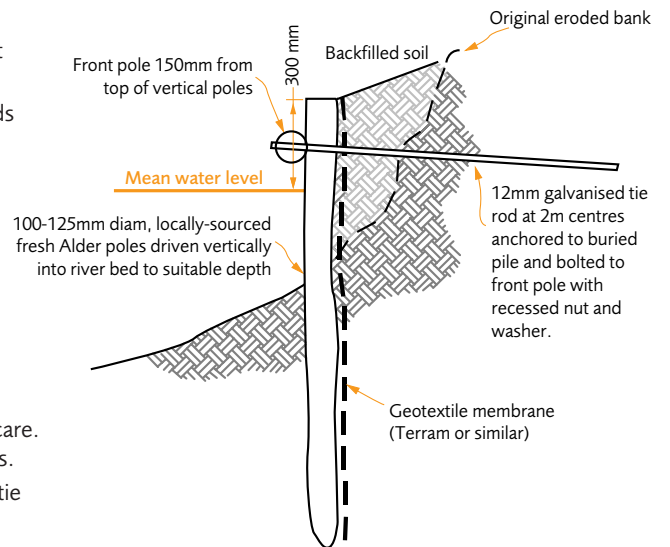
This method uses locally-sourced green Alder poles. Creates a 'softer' effect than traditional timber piling. Suitable only for emergency mooring. Suitable for Low to Medium tidal ranges.

+ points

- Uses an abundant source of local timber, which can encourage future management of valuable Alder Carr woodland
- Creates a 'softer' edge than other methods of timber piling, natural vegetation may grow through gaps in the timber
- Minimal navigation hazard.

- points

- Difficulty in obtaining and harvesting good straight timber at a reasonable cost.
- Installation difficult, and relatively high costs if installed by contractor
- Not suitable for mooring, although acceptable for emergency mooring with care. May encourage mooring in sensitive areas.
- Eliminates natural bank edge habitat and tie rod can disturb bankside vegetation.



SUITABILITY

← NOT suitable MOST suitable →

URBAN	○	○	○	○	○
VILLAGE	○	○	○	○	○
RURAL	○	○	○	○	○
MOORING	○	○	○	○	○
CONSERVATION	○	○	○	○	○
HIGH TIDAL RANGE	○	○	○	○	○
DURABILITY	○	○	○	○	○
COST	low	○	○	○	high
SUSTAINABILITY	○	○	○	○	○

Faggots

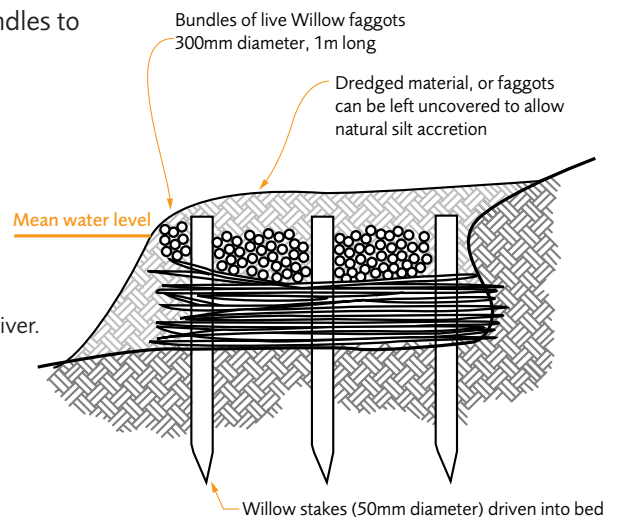
A low-cost method using live willow bundles to create living bank protection with high conservation benefits. Low tidal ranges.

+ points

- Uses locally-sourced byproduct of woodland and fen management
- Faggots trap silt and plant seed, encouraging natural riverbank protection
- Faggots made from live willow will grow, producing natural willow shrub edge to the river.

- points

- Not suitable for mooring or use in main navigation channel.
- Not suitable for areas with a high tidal range.



SUITABILITY

← NOT suitable MOST suitable →

URBAN	○	○	○	○	○
VILLAGE	○	○	○	○	○
RURAL	○	○	○	○	○
MOORING	○	○	○	○	○
CONSERVATION	○	○	○	○	○
HIGH TIDAL RANGE	○	○	○	○	○
DURABILITY	○	○	○	○	○
COST	low	○	○	○	high
SUSTAINABILITY	○	○	○	○	○

Willow Spiling

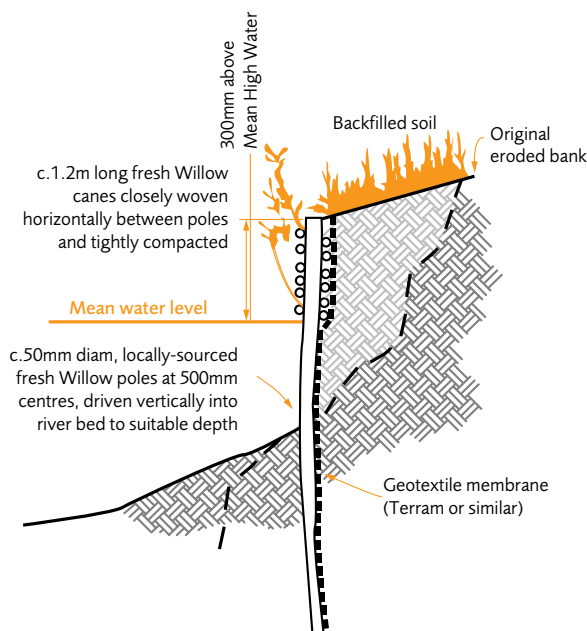
A low-cost method of protection using locally-sourced natural material. Not suitable for mooring. Low to Medium tidal ranges.

+ points

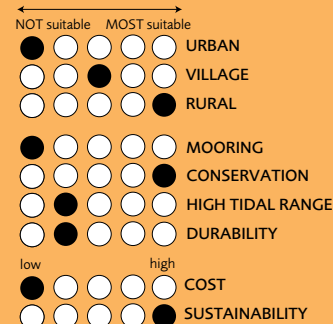
- Low cost, with experience
- Uses an abundant source of local material
- Creates a soft edge, with the willow poles sprouting and developing a living bank edge.

- points

- Unsuitable for mooring
- Not suitable in areas with a high tidal range, or steep banks
- Requires regular coppicing of growth to ensure fresh young shoots and reduce hazard to navigation.



SUITABILITY



Contact your local planning office at:

Planning Control

Broadland District Council

Thorpe Lodge, 1 Yarmouth Road,
Thorpe St Andrew, Norwich NR7 0DU
Tel 01603-431133

Email

planning.controleast@broadland.gov.uk

Website www.broadland.gov.uk

Planning and Development Department

Great Yarmouth Borough Council

Maltings House, Malthouse Lane,
Gorleston NR31 0GY
Tel 01493-856100

Email plan@great-yarmouth.gov.uk

Website www.great-yarmouth.gov.uk

Planning Department

North Norfolk District Council

PO Box 5, Council Offices, Holt Road,
Cromer NR27 9DZ
Tel 01263-516150

Email planning@north-norfolk.gov.uk

Website www.north-norfolk.gov.uk

Planning and Architectural Services

Norwich City Council

City Hall, Norwich NR2 1NH
Tel 01603-513811

Email stuartorin@norwich.gov.uk

Website www.norwich.gov.uk

Planning Department

South Norfolk Council

South Norfolk House, Swan Lane,
Long Stratton, Norwich NR15 2XE
Tel 01508-533846

Email planning@s-norfolk.gov.uk

Website www.south-norfolk.gov.uk

Planning Department

Waveney District Council

Rectory Road, Lowestoft,
Suffolk NR33 0BX
Tel 01502-523050

Email pbc@waveney.gov.uk

Website www.waveney.gov.uk

Please contact the planning office local

to you for all advice and information

you require in relation to the Broads.

It will help if you make it clear your

property is in the Broads.

Other useful leaflets:

Design Guidance Leaflets

Do I need planning permission?

You are welcome to photocopy individual information leaflets in this series. For all other queries on reproduction of these information leaflets please contact:

Director of Planning and Development

Broads Authority,
18 Colegate, Norwich. NR3 1BQ
Tel 01603-610734

Fax 01603-765710

Email planning@broads-authority.gov.uk

www.broads-authority.gov.uk

We want your views on these information leaflets. Please let us know what you think by April 2004. Send your comments to the address above.

These information leaflets are also available in large print. To obtain copies please telephone 01603-610734.