

Application for Determination

Parishes: Great Yarmouth

Reference: BA/2012/0383/FUL **Target Date:** 8 March 2013

Location: Compartment 11 - Left Bank of The River Yare, Breydon Water

Proposal: Flood defence works to left bank of the River Yare consisting bank strengthening, footpath surfacing and the creation of a wildlife scrape to source material.

Applicant: Environment Agency

Reason for referral: Major application

Recommendation: Approve with conditions.

1 Description of Site and Proposal

- 1.1 The application site extends along a 1.2 kilometre length of floodbank along the northern bank of Breydon Water from Breydon Bridge (the A12 crossing) in a westerly direction to Railway Marsh. The application site also includes an area of land to the north of Breydon Water where material for bank strengthening will be sourced. Attached as Appendix 1 is a plan showing the extent of the planning application site.
- 1.2 The application is accompanied by an Environmental Statement. The non technical summary, required to be attached to the Statement, summarising the environmental impact of the proposal, is attached as Appendix 2.
- 1.3 The existing defences comprise earth floodbanks where in places the front face has been reinforced by concrete revetment blocks. In front of the flood defences is a combination of saltmarsh and mudflat. BESL have identified that no major improvement work or maintenance have been undertaken in this area for several decades and the height of defences is variable with a narrow crest in places. Only the highest spring tides / surge events bring the water right up the bank.
- 1.4 The existing defences provide important protection, notably for the Norwich to Great Yarmouth rail line and the A47. The floodbank crest is a public right of way forming part of the Weavers Way and Wherryman's Way long distance paths. Breydon Water itself has significant nature conservation value and is designated as a Special Protection Area (SPA) and Ramsar

Site.

- 1.5 The proposed flood defence improvements consist of:
 - 875 metres front face floodbank strengthening; and
 - 342 metres of rear face floodbank strengthening.
- 1.6 The front face strengthening is proposed parallel to the rail line where insufficient space is available to accommodate rear face strengthening.
- 1.7 Material for flood defence improvements (some 7,800 cubic metres) is to be sourced from Railway Marsh, an area of grazing marsh (owned by the RSPB). This land is isolated from other areas of grazing marsh as it is bounded by the floodbank and rail line. There is an existing dyke / pond within this area (which BESL have indicated has been used previously to source material) and as part of the scheme, BESL propose to enhance the area for wildlife through the creation of 1.6 ha of additional open water, islands and marginal vegetation.
- 1.8 The proposals will have limited impact on existing habitat, with the loss of
 - 0.02 ha of saltmarsh;
 - 0.03 ha of reedbed; and
 - 0.1 ha of tall grassland.
- 1.9 Notwithstanding this limited impact, BESL have confirmed that replacement habitat for that lost will be provided as part of the Environment Agency Regional Habitat Creation Programme.
- 1.10 The existing floodbank footpath will need to be closed during (and for a period after) the completion of works until vegetation has successfully established. This will include the provision of grass protection mesh which will be laid on the new floodbank crest to reduce erosion caused by walkers. Whilst Breydon Water is extensively used by boats, this is in the central area, away from the saltmarsh and mudflats adjacent to the site. No mooring, or mooring opportunities, exist associated with the defences affected by the proposal.
- 1.11 The works are proposed to commence in spring 2013 (subject to the grant of planning permission) and are planned to be completed in a 4 – 5 month period, outside the most important period of use by migratory and wintering birds. A small site compound is proposed on an area formerly used as railway storage depot.

2 Planning History

- 2.1 None directly relevant.

3 Consultations

- 3.1 Broads Society – No objection, but request a condition that there should be no work on the scheme on Sundays or Public Holidays.

NCC Highways – Awaited.

NCC PROW – Awaited.

Environment Agency – No objection. The crest level of the defence is not being raised as part of the works.

Breydon Water is a LNR, SSSI, SPA and RAMSAR. We have seen the response of the RSPB and we are supportive of their comments regarding the timing of the works, vegetation clearance and mitigation measures. Migratory fish species such as eel, smelt, lamprey and trout utilize this location during their various life stages therefore disturbance/removal of substrate (potentially causing de-oxygenation of the waterbody) for the provision of materials needs to be carefully timed.

Advice to applicant: The site compound is located within flood zone 3. We recommend that prior to the commencement of any development; a flood response plan should be produced so staff and contactors are aware of how to act in the event of a flood warning. Under the terms of the Water Resources Act 1991, prior written consent of the Environment Agency is required for any proposed works or structures, in, under, over or within nine metres of the top of the bank/foreshore of a designated main river and or sea defence. Excavated material arising from site remediation or land development works can sometimes be classified as waste. If any waste is to be used on site, the applicant will be required to obtain the appropriate waste exemption or permit from us.

Broads IDB – Awaited.

Natural England – No objection. The application site is at Breydon Water Special Protection Area (SPA), Ramsar. Natural England advises your authority that, providing the works are undertaken in strict accordance with the details as submitted, we do not consider that adverse effects to the SPA are likely. However as this is an extremely sensitive area we consider it prudent to carry out an appropriate assessment as proposed in the submitted documentation. In our view appropriate mitigation has been included for breeding and wintering birds associated with Breydon Water SPA. Whilst we note that works will take place in March, at the start of the bird breeding season, we appreciate that entirely avoiding both the wintering and breeding bird seasons would be impractical. We also consider that, since monitoring for bird disturbance is proposed throughout the works, with an Environmental Clerk of Works overseeing the works, any work patterns can be quickly changed to accommodate breeding birds found on site during works.

The application site is next to Breydon Water Site of Special Scientific interest (SSSI) and will involve loss of 292m² saltmarsh, 292m² reedbed and 1,063m of tall grassland. However, in our view the loss of habitat will be fairly minor when considered in the context of the ecological gains associated with the habitat enhancements proposed on the terrestrial part of the SSSI. We are pleased that the material to strengthen the bank is from the RSPB site Railway Marsh, and that the RSPB have been consulted throughout this process.

All surveys have been conducted according to good practice guidelines and contain appropriate recommendations for mitigation where necessary. Providing all mitigation for water voles, reptiles and breeding birds are carried out in accordance with the details as submitted; we have no concerns to raise regarding protected species.

RSPB – The RSPB recognises the benefits that the works will deliver (flood defence and habitat improvements), but these should accord with the nature conservation objectives for the area. Having reviewed the Environmental Statement the RSPB supports the proposed works.

Timings for the proposed works - Having reviewed the Environmental Statement the RSPB supports the proposal that works take place between April and August, as we consider this will minimise impacts on the designated features of the site. Whilst we recognise that common tern breed on tern rafts located near the north east bank of Breydon Water, the RSPB accepts that the distance to the tern rafts and the foraging patterns of this species will limit disturbance on this designated feature. However, the information contained in Table 8.3 (p.46) of the Environmental Statement suggests minimal impact as *“in recent years Black-headed gulls have started using the nesting platforms so have displaced most of the terns.”* Whilst a significant number of pairs have been displaced from the rafts, 93 pairs bred in 2012. Any works that could further act to reduce numbers of pairs of common terns from the site could still constitute an adverse effect on the SPA breeding interest features and would not be acceptable. By undertaking works during April and August, the large numbers of wintering waterfowl that use the estuary from mid-September through to March will not be affected by the works. Avoidance of the winter period is important, as waterfowl can be vulnerable to disturbance when foraging, especially when cold weather can reduce feeding opportunities. Disturbance during the winter and migration periods can affect the length of time that birds forage and can also increase the amount of energy used whilst foraging. These two factors combined can act to reduce the physical condition of the birds, which can reduce overwintering survival. Poor feeding on wintering grounds also means that migratory species have fewer energy reserves when they reach their breeding grounds, and this can reduce breeding success. Thus, disturbance at an important site such as Breydon Water could result in significant population effects on the bird species that winter on the estuary.

The RSPB notes that Table 8.3 (p.46) of the Environmental Statement

states that works should avoid the core winter period of November to March. However, bird numbers build on the estuary from mid- September, thus by October there are significant numbers of designated features present on the estuary. Consequently, the information should be amended for future reference to state that no works occur on the estuary between October and March.

With regard to vegetation clearance, this must clearly avoid impacts on wintering interest features on Breydon Water. Consequently, it may be advisable to start vegetation clearance from late February, dependent on ground conditions and impacts on waterfowl using the estuary. The RSPB would be happy to provide further advice on this issue.

Monitoring of the works - The RSPB understands that an ecological clerk of works will be appointed to oversee this project. We support this approach. As works will take place on RSPB land, we request that the ecological clerk of works regularly updates the RSPB's Site Manager for Berney Marshes and Breydon Water. This should include notice of vegetation clearance, when machinery will be brought to site, progress of works and when machinery will be removed from site.

NCC Historic Environment Service – Awaited.

4 Representations

- 4.1 No correspondence has been received on this application.
- 4.2 This matter has not been presented to Navigation Committee. It should be noted that the test in the Broads Act 2009 regarding consultation with the Navigation Committee stipulates that consultation should take place before *“the determination of any planning application which may significantly affect the use or enjoyment of the whole or any part of the navigation area and which materially conflicts with any policy, plan, strategy or procedure of the Authority”*. In this case, no element of the proposed works affects the navigation area.

5 Planning Policy

5.1 Broads Core Strategy

[Core Strategy \(Adopted Sept 2007\).pdf](#)

Policy CS3 – Navigation

Policy CS4 – Creation of New Resources

Policy CS6 – Historic and Cultural Environment

5.2 Broads Authority Development Management Policies DPD

[DMP DPD - Adoption version.pdf](#)

Policy DP1 – Natural environment

Policy DP5 – Historic Environment

6 Assessment

- 6.1 Based on the application proposals, site specific considerations and planning policy principles, it is considered that the main issues relate to:
- impact on habitat and ecological interest
 - impact on recreation
 - impact on other considerations, including heritage, highway and amenity

6.2 Impact on Ecology and Biodiversity

- 6.2.1 The proposal is located at the northern edge of the Breydon Water SPA and Ramsar site. This is part of the larger area which is recognised as being of significant value for breeding and wintering birds. Therefore any changes to the floodbank and encroachment into an area of saltmarsh with its associated disturbance to bird populations need to be carefully assessed.
- 6.2.2 In this context, BESL have sought to devise a sustainable form of flood defence using established soft engineering techniques (as promoted in development plan Policy DP13), limiting disturbance to bird populations, using the limited space available close to the rail line to restrict encroachment into an area of saltmarsh.
- 6.2.3 An Appropriate Assessment (AA) is yet to be completed. However, based on the Environmental Statement evidence submitted with the planning application and the views expressed by relevant consultees, it is considered that the proposal is not likely to have a significant effect on the designated SPA site as a consequence of the small change in habitat nor that it will affect the conservation objectives of the site. This will, however, need to be formally confirmed through the AA process.
- 6.2.4 In view of the value Breydon Water has all year for breeding and wintering birds, the proposal has identified a window for works to seek to limit disturbance to both breeding and wintering birds. Therefore BESL proposed that works should be limited to the period between April and August. This approach has been supported by both Natural England and the RSPB and it is considered that the approach to timing proposed in this application should limit impact to bird populations to an acceptable extent.
- 6.2.5 In most BESL schemes, flood defence works result in a loss of important habitat, such as grassland / grazing marsh (as a result of the creation of new floodbanks, folding and soke dykes to source material). However in this case, material for floodbank strengthening is to be sourced from Railway Marsh (at the western end of the application site) not immediately adjacent to the main floodbank. This is an area of grassland and 'borrow' dyke/pond', detached from the main Breydon Water area with somewhat limited nature conservation value at present. Within Railway Marsh the increase in

open water and marginal vegetation (replacing existing grassland) represents a habitat enhancement, which is welcomed (and supported by Natural England and the RSPB). There will be a very limited loss of important habitat, in this case 0.02ha of saltmarsh in the designated site. Whilst this loss of habitat is very small in comparison to most other flood defence applications approved by this Committee, BESL recognise that the saltmarsh is important (fallings within a designated site), so the loss should be addressed by the creation of replacement habitat (as part of the regional habitat creation programme target). This approach is welcomed.

- 6.2.6 The proposal to source material at Railway Marsh will increase the extent of open water in the area (providing a more attractive location for breeding and wintering birds). This approach is supported by the RSPB and is welcomed.
- 6.2.7 In view of the above, in nature conservation terms, it is considered that the scheme will accord with the conservation management and sustainable development aims of Policies DP1 and DP13 of the Development Management Policies DPD and Core Strategy Policy CS4.

6.3 Impact on recreation

- 6.3.1 The proposed flood defence forms part of the Wherryman's Way and Weavers Way public footpath. The proposed works will require the closure of this public right of way on the existing floodbank whilst construction is undertaken and the bank re-vegetates. In several compartments in the Broads area, BESL have been able to identify alternative routes for walkers to use. However, this is not the case here in view of the proximity of the floodbank to the rail line. Whilst this is regrettable, this will only have a short term impact on walking interests. Following completion of works, a more consistent width of floodbank crest will be provided which should be a long-term benefit for walkers using the floodbank footpath. It is considered that any short-term inconvenience is outweighed by the longer term benefits including a wider crest for walkers and most importantly the enhanced flood defences for the area and the Great Yarmouth to Norwich rail line. Notwithstanding this, it is considered that a planning condition should be imposed to limit the duration and timing of the floodbank footpath closure and require the provision of signage for walkers (to detail closure and show alternative routes in the surrounding areas). Based on the above factors, it is considered that the proposal does not conflict with the long term rights of way aims of Policy DP11 of the Development Management Policies DPD.
- 6.3.2 The temporary closure of the floodbank whilst flood defence works are undertaken will not have any impact on angling interests as this area is not used for angling.
- 6.3.3 Whilst Breydon Water is heavily used by boats, this is concentrated into the central navigable areas and boats do not use the saltmarsh area or use the bank for mooring. Unusually, the proposed works will have no impact on navigation interests, access to water or navigable water space avoiding conflict with Policy DP13 of the Development Management Policies DPD.

and Policy CS3 of the Core Strategy DPD.

6.4. Impact on other considerations, including heritage, highway and amenity

6.4.1 The application site contains no Listed Building and the Environmental Statement only identifies very limited finds of historic interest. Whilst limited interest has been identified by previous works in the area, should NCC Historic Environment Service consider archaeological / heritage interest should be recorded (despite the limited interest identified to date), a planning condition should be imposed to protect and record archaeological interest. This approach would accord with the aims of Policy DP5 of the Development Management Policies DPD and Core Strategy Policy CS6.

6.4.2 The application shows two access routes to the application site from the east and west. BESL have confirmed that their established practice will be followed and the condition of all routes to be used by construction traffic will be recorded before works commence and any damage which takes place during use by construction traffic will be made good at the end of the construction period.

6.4.3 The proposed works will have an impact on the landscape as a result of the construction activities and the appearance of bare floodbanks. However, it is considered that this will only be short term and experience has demonstrated that banks re-vegetate during the first growing season after BESL complete works and there will be no long term unacceptable impact on the landscape appearance of the area as a result of completed works.

6.4.4 The application site is detached from any residential properties in a location where traffic and rail noise are features of the area. Whilst the Broads Society consider an hours of working condition should be imposed, in this case in view of the sites' detached position away from properties and also away from areas used for boating, it is not considered that a planning condition is necessary or reasonable to impose.

7 Conclusion

7.1 The application will provide enhanced flood defence including protecting the Great Yarmouth to Norwich rail line, A47 plus business beyond. The proposals will limit impact on the Breydon Water SPA and Ramsar site as a result of the timing of works and mitigation proposed. Whilst resulting in a short term impact on walking interests, it is considered that the long term benefit of a wider crest for walking (plus the benefit of flood defences) outweighs the short term effect. It is considered that subject to the conditions outlined below, the scheme is acceptable and meets the key tests of 'saved' policies in the Broads Core Strategy and the Development Management Policies DPD.

8 Recommendation

8.1 Subject to no substantive representation/comment being raised from any outstanding consultees, this planning application be approved subject to the following conditions:

- Standard time limit condition
- Approved plans
- Landscape/planting
- Archaeological investigation (if required by NCC Historic Environment Service)
- Temporary footpath closure/signage
- Site access/delivery route
- Works restricted to period of April to August

8.2 The following informative be specified on the decision notice of the planning application:

- The permission shall be granted in the context of the Memorandum of Understanding between the Broads Authority and the Environment Agency on 25 April 2003.
- As the site compound is located within flood zone 3, prior to the commencement of any development a flood response plan should be produced so staff and contractors are aware of how to act in the event of a flood warning.
- Under the terms of the Water Resources Act 1991, prior written consent of the Environment Agency is required for any proposed works or structures, in, under, over or within nine metres of the top of the bank/foreshore of a designated main river and or sea defence.
- Excavated material arising from site remediation or land development works may be classified as waste, and if so, the applicant will be required to obtain the appropriate waste exemption or permit from us.

9 Reasons for Recommendation

9.1 The proposal is accompanied by an Environmental Statement which outlines the proposal and the impacts on the area.

9.2 The application is accompanied by evidence which demonstrates that the proposal will not have a significant impact on habitat, recreation or other interests.

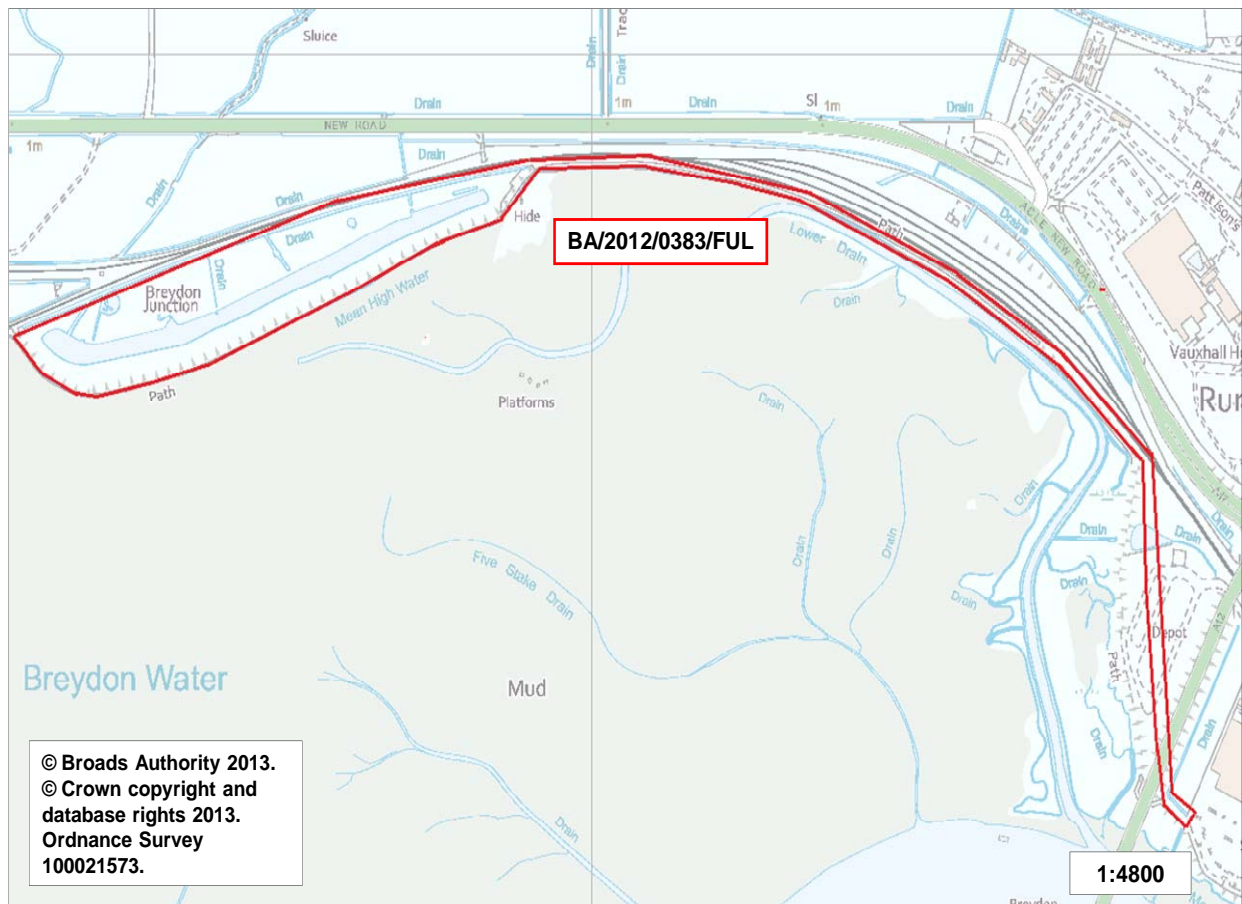
9.3 The proposals will limit impact on the Breydon Water SPA and Ramsar site as a result of the timing of works and mitigation proposed including the commitment of the applicant to provide compensatory replacement habitat, meeting the tests of DP1 of the Development Management Policies DPD and Core Strategy Policy CS4.

- 9.4 The recreational interest of the area will be satisfactorily safeguarded by proposals. Subject to planning conditions, the recreational interest will be protected as required by Policies DP11 and DP13 of the Development Management Policies DPD or Core Strategy Policy CS3.
- 9.5 Heritage interests will be safeguarded by design in the scheme and monitoring of works meeting the aims of development plan policy including Core Strategy CS6 and Policy DP5 of the Development Management Policies DPD.
- 9.6 Visual and residential amenity will be safeguarded as a result of sympathetic design and re-vegetation as required by planning condition.
- 9.7 Therefore the application is considered to meet the requirements of the Broads Core Strategy DPD and Development Management Policies DPD policies, and would not materially conflict with other policies in the Development Plan Documents. The proposal is considered to represent an appropriate design of development associated with flood defence work in this location subject to the imposition of suitable planning conditions.

Background Papers:	Planning Application File BA 2012/0383/FUL
Author:	Andy Scales
Date of report:	13 February 2013
Appendices:	APPENDIX 1 – Local Plan APPENDIX 2 - Environmental Statement – Non technical summary

APPENDIX 1

BA/2012/0383/FUL – Compartment 11, Left Bank Of The River Yare, Breydon Water
Flood defence works to left bank of the River Yare consisting bank strengthening, footpath surfacing and the creation of a wildlife scrape to source material.



Broadland Environmental Services Limited

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Broadland Flood Alleviation Project Compartment 11 (River Yare)

Flood alleviation improvements for North Breydon

Environmental Statement Non-Technical Summary

November 2012



Broadland Environmental Services Ltd
Compartment 11 Yare

Flood alleviation improvements on North
Breydon

Environmental Statement
Non-Technical Summary

November 2012

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Contents Amendment Record

Report Number: WNCYBR/ NTS/001

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Final	05/12/12	J M Halls

Introduction

Broadland Environmental Services Limited (BESL) is working on behalf of the Environment Agency (EA) to carry out a programme of improvement and maintenance works to the flood defences in Broadland. This work forms part of the Broadland Flood Alleviation Project (BFAP), a long-term 20-year programme of sustainable flood defence improvements in the area.

As part of this project BESL has prepared a scheme for flood defence improvements along a 1.2km stretch of floodbank along the north side of Breydon Water, immediately upstream of the A12 Breydon Bridge (Figures 1 and 2). This length is part of "Compartment 11 Yare" of the BFAP, an extensive area of low-lying marshes between Great Yarmouth, Reedham and Acle. The compartment is notable for both its environmental (landscape, built heritage and biodiversity) and economic value (agricultural land and important communication routes in the form of the A47 and railway line).

The proposed improvement works need planning permission from the Broads Authority. To comply with planning legislation BESL has prepared an Environmental Statement in order to inform the public and decision-makers of the likely environmental effects of this scheme. This shorter report has been prepared as part of the Environmental Statement as a non-technical summary.

Need for the scheme

The standard of protection provided by floodbanks along the Broadland rivers is continually reducing because of settlement, deterioration over time, insufficient maintenance in the past and sea level rise. This makes the banks more vulnerable to erosion, overtopping and at risk of breaching at times of high level flood events. This section of bank has not had any major improvement works undertaken for decades leaving parts of it relatively low and with a narrow crest width

The site is located wholly within the Broads Authority Executive Area, part of a nationally important landscape that is valuable for wildlife, agriculture, cultural heritage, the local economy and people's recreational enjoyment of the area.

Public consultation

As part of the planning and design process for these proposed works, BESL carried out a pre-application consultation exercise with key stakeholders, local interest groups and landowners. A consultation document describing the proposals and a questionnaire for gathering responses were distributed in February 2012.

During the consultation a wide range of issues were raised in relation to the proposed scheme. Most of the responses were supportive of the proposals. However, concerns

were raised about the need to close the floodbank footpath, which forms part of the Weavers' Way and Wherryman's Way long distance paths, and the potential disturbance impacts on the birds that use the estuary. Full details of the issues raised by the consultation exercise are reported in the Environmental Statement that has been submitted with the planning application. All consultees have been sent a copy of the BESL response together with notification that the planning application has been submitted.

The proposed scheme

The proposals (Figure 2) comprise:

- 875m of floodbank strengthening along the front-face (i.e. on the estuary side);
- 342m of floodbank strengthening along the rear face

Strengthening involves widening the crest of the bank and placing additional material on the rear or front slope to create a stable profile. Front-face strengthening is necessary along most of this length because the railway line is located immediately behind the bank at this point.

A small site compound with offices, welfare facilities (toilets and mess huts) and material storage will be located on the old railway storage depot between the floodbank, railway line and A12 road embankment.

Material to strengthen the banks will be sourced from Railway Marsh, an area of land owned by the RSPB. We have worked closely with the RSPB to produce a design that will enhance the area for wildlife through the creation of more areas of open water, islands and marginal vegetation.

Programme

The works are planned to commence in spring 2013, subject to the receipt of planning permission, and will take between four and five months to complete. Advance vegetation clearance along the bank and at Railway Marshes will be undertaken in early March.

Land use

Material sourcing will result in a loss of grassland within Railway Marsh and this will become a combination of open water, islands and marginal vegetation. This outcome has been devised in partnership with the RSPB as landowner so it is not considered to be a negative impact. The relatively small loss of grazing is not considered significant in either agricultural or commercial terms given the huge expanse of grazing marsh available throughout Halvergate and the rest of Broadland. Furthermore, the works are only cost effective if the material is sourced locally from

the adjoining marshes. There would also be a significant environmental impact of having to import huge quantities of clay to site via the local road network.

Following completion of the scheme there will be long-term benefits for land use through the reduced risk of widespread, uncontrolled flooding that would occur if the banks were not maintained.

Biodiversity

The Broads is considered one of Europe's finest wetlands, supporting a wide range of habitats and species. The whole area has a status equivalent to that of a National Park within which over 6,700ha is formally designated for its nature conservation importance. The estuary at Breydon Water and extensive areas of grazing marsh to the north of it are designated at both the national and international levels because of their value, especially for birds. Large numbers of wildfowl and waders are present during the winter months while many species also use the estuary as an important stepping stone on their spring and autumn migrations. There are fewer birds present in the summer months but there is a large colony of Common Terns that use artificial nesting platforms in the north-east corner of the site, approximately 200m from the proposed working corridor.

The potential impacts of the construction works on habitats and species are:

- risk of killing or injuring protected species including Water Vole and Common Lizard;
- Reduction in nectar plants and possibility of destroying nesting habitat of a rare mining bee (*Colletes halophilus*)
- disturbance to breeding birds or destruction of active nests;
- disturbance to populations of birds on migration; and
- changes in habitat, including loss of vegetation due to an increase in the footprint of the bank.

These impacts will be avoided or reduced through scheme design and adoption of mitigation measures that have been successfully used on previous schemes e.g. discouraging nesting birds within the working corridor by cutting vegetation before the bird breeding season begins; vegetation cutting and sustained water-drawn down to displace water voles. However, there is some uncertainty about how significant the visual and/or noise disturbance caused by the work may be to birds using the nearby mudflats and saltmarsh especially as this is likely to change at different states of the tide. Consequently the effects of disturbance will be monitored by an ecologist and the observations shared with Natural England and the RSPB. If it is considered that

there is excessive disturbance to species for which the site is designated (e.g. Avocet) at certain states of tide then working patterns will be changed.

Because Breydon Water is a Special Protection Area and the works are likely to have a significant effect on some of the species for which it is designated, the Broads Authority will need to undertake an “appropriate assessment” in order to decide whether the proposals are acceptable and what conditions may be required on any planning consent.

The permanent changes in habitat area will be:

- Loss of 200m² of saltmarsh due to front-face strengthening
- Loss of 292m² of reedbed on the edge of a pond due to rear face strengthening
- Loss of 1,063m² of tall grassland with occasional bramble due to rear face strengthening
- Increase in open water and marginal vegetation (reeds, rushes and similar) of 15,818m² at the expense of grassland as a result of material sourcing

The saltmarsh that will be lost consists mainly of dense Sea Couch which, together with its proximity to the floodbank, means that it is not used by waders and wildfowl. Nevertheless it is a habitat within a designated site so the 200m² will be added to the EA's Regional Habitat Creation Programme, which aims to provide replacement habitat for that which is lost due to flood defence management activities.

The loss of a small proportion of reed around the pond plus the 1,063m² of tall grassland is not considered significant given the location and value of these habitats and the enhancements that will be delivered through the material sourcing. The creation of a substantial area of open water, of varying depths, together with blocks of marginal vegetation is considered to be a biodiversity benefit.

Landscape and visual effects

There will be no significant long-term changes in local views or on the overall landscape character. The proposals will result in an increase in the extent of water as a result of the much wider soke dykes. The ongoing protection of a nationally valued and sensitive landscape from the effects of flooding is considered to be a major benefit of the works.

The most significant visual intrusion will be during the construction stage when there will be large areas of bare ground and working machinery next to the estuary and railway line. This will be visible to people on boats, train passengers and those using

the A47 and A12. However, none of these are considered as sensitive receptors and working machinery on the floodbanks in Broadland has become commonplace in the last 11 years.

The material sourcing area will be open and bare until vegetation establishes but this will happen quickly, certainly within one growing season. The banks will be seeded in the expectation that grass will establish in late summer and autumn. The crest will have grass protection mesh laid onto it to help protect the vegetation and allow people to access the bank at the earliest opportunity.

Archaeology

There is the potential for previously unrecorded remains to be uncovered during material sourcing works. An archaeological watching brief, to be agreed with Norfolk Landscape Archaeology, will therefore be implemented to record any features uncovered during the proposed works and minimise the effect of disturbance. BESL engage a local archaeologist to undertake pre-start surveys, to observe topsoil stripping and investigate any finds reported by the site team.

Recreation and navigation

Broadland provides valuable opportunities for recreation and it is estimated that the area attracts more than 7 million visitors each year (Broads Plan 2011). Many of the recreational opportunities are water-based such as sailing and boating but land-based activities, including angling, walking and cycling, are also popular.

The River Yare forms a navigable channel through the middle of Breydon Water, flanked by mudflats and saltmarsh to the north. It forms a link between Norwich and the North Sea and northern Broads via Great Yarmouth, and is used extensively by private boat owners as well as hire boats and holidaymakers. There are no moorings along the floodbank and the navigation channel is a considerable distance away so there will be no impacts on boat users.

Walking is a popular activity throughout Broadland. A public footpath runs along the floodbank crest forming part of the Weavers' Way and Wherryman's Way long distance routes. The footpath is popular with local dog walkers as well as birdwatchers. It will be necessary to close the floodbank footpath during the works and for a period afterwards until vegetation has successfully established. Due to the proximity of the railway and estuary it will not be possible to install a temporary diversion as has been done on other schemes. There is an alternative route available using existing footpaths but this is a relatively long diversion and also involves crossing the A47. The only other practicable solution is to use the train between Great Yarmouth and either Berney Arms or Reedham.

Warning signage will be erected in advance of the proposed works to advise users of the closure. Footpath closure and information signs will be provided at all access points including distant ones such as Reedham Ferry. The closure will also be publicised via the BFAP, Broads Authority and Norfolk County Council websites plus through local Ramblers groups.

Once the works are completed and the footpath re-opened walkers will benefit from a much wider (2-3m), level crest that will have grass protection mesh incorporated into it. The mesh will provide a better long term surface as it will reduce localised erosion. It will also allow the footpath to be reopened earlier following the completion of the earthworks. An allowance has also been made to replace some of the existing concrete path adjacent to the Asda car park with a tarmac surface. This will hopefully be linked to a new ramp that Norfolk County Council are hoping to install to provide better access for the less mobile including those in wheelchairs.

Conclusions

Flood defence improvement works are urgently required along this section of bank which provides direct protection to the railway line, A47, Vauxhall Holiday Park and businesses at Runham. Strengthening the floodbank is the only practicable solution at this location given the proximity of the railway line and the estuary.

There will be some adverse impacts caused by the construction activity notably the restrictions on public access along the footpath and those on protected species and habitats. These impacts need to be considered against the long-term benefits that there will be to the protection of agricultural land, businesses, the railway line and A47. There will also be an improvement in the quality of the floodbank footpath and the opportunity for the Project to assist with other initiatives such as installing an access ramp in the Asda car park and replacing the bird hide.

Further information

The Environmental Statement and associated planning drawings will be available to view, by prior arrangement, at the Broads Authority Offices, Yare House, 62-64 Thorpe Road, Norwich. Tel. 01603 610734.

Alternatively, for those with access to the Internet, visit the Broads Authority's planning web pages <http://www.broads-authority.gov.uk/planning/public-access.html> from where a link can be selected to the "Application Search" page. Select the "Advanced" tab and enter PP-02253979 under Planning Portal reference. All of the documentation including consultation responses will be available under the "Documents" tab.