

Frequently asked questions

Ouse Washes bank raising works

March 2021

Why are we doing this project?

The Ouse Washes Flood Storage Reservoir is recorded as a 'large raised reservoir' under the Reservoirs Act 1975. The latest Section 10 inspection report, (September 2013), identified Matters in the Interests of Safety for the Ouse Washes.

These are a legal obligation under the Reservoirs Act, and we must implement them within the timescale set by the Inspecting Engineer. A subsequent study concluded that we should raise the existing crest level of the Middle Level Barrier Bank.

We must ensure that we comply with our legal duties to maintain reservoirs in a safe condition to protect homes and the environment.

What are we doing?

We are raising the Middle Level Barrier Bank between Earith and Welmore Lake Sluice. Other associated works include:

- Decommissioning the Black Sluice culvert (near Earith).
- Building a new wall at Welches Dam Pumping Station.
- Extending a retaining wall at Sutton Gault.
- Building demountable flood barrier works at Welney.

At the Ouse Washes RSPB Reserve, we have removed the bird hides to raise the bank and we will replace the existing hides with 5 new ones. The bird hides have been in place for over 25 years and once removed, they will not be in a suitable condition to reinstate.

We have also raised a low section of the South Level Barrier Bank between Sutton Gault and Chain Corner.

How long will the work last?

We started construction works in the summer of 2017 and currently expect to finish in 2022. The detailed design work continued through the winter period 2018-19. The evolving design and material inconsistency on site has resulted in changing the intended bank profile, increasing the footprint of the Middle Level Barrier Bank and the need to import more material.

We had to extend the construction programme for another two years to 2022. We also have to allow two more years for the new grass cover to establish due to the additional work and periods of wet weather. The grass plays an important role in the stability of the bank and it needs to be well established before the Reservoir Engineer signs off the work.

When are we working?

Due to the overwintering and ground nesting bird population found on the Washes, to avoid disturbance there is a narrow timeframe to do any work on the bank. This is from mid-July to the end of October each year.

The working window is set by Natural England. We are continually working with Natural England to agree works that can be undertaken outside the working window. Normal site working hours will be from 0700 to 1800 Monday to Friday and from 0700 to 1300 Saturdays.

How is the work progressing?

We started work in 2017 whilst still finalising the detailed design. We phased the works in different locations as the detailed design became available.

Year 1 works (2017)

We found material in the bank that was different to what the ground investigation results showed. When we analysed this material over the winter period (2017/18) we found that we could reuse most of this material but not all. The material that we could use needed further treatment before it was ready and this was time consuming. The material we could not reuse we stockpiled and removed from site.

Due to these ground conditions the design changed and we needed to import more material. This additional work, along with long periods of wet weather, delayed the first section of works and extended the 3-year programme to 4 years.

Year 2 works (2018)

As we progressed through the second year of construction, the weather was favourable and we completed all the work from the first year and the second year's work without any delays.

Year 3 works (2019)

This was a challenging year. The design evolved and the bank profile changed, increasing the footprint of the Middle Level Barrier Bank. Our contractor employed more resources and used larger machinery to import and place larger quantities of material at Welney and Mepal. However, the exceptionally wet weather during September and October 2019 caused delays when the clay material we are placing on the bank became too slippery and dangerous to continue working.

Because of this, we couldn't complete the work near Welney, Welches Dam RSPB Reserve or at Mepal in 2019. We needed to return in 2020 to complete the bank works. Once the bank works were complete it was our intention to complete the demountable flood barrier works across the Wash Road in 2021 (year 5).

Year 4 works (2020)

This was another challenging year as we again experienced long periods of wet weather which prevented us from finishing the bank raising programme of 2020.

Because of this, we couldn't complete the work near Welney or at Welches Dam RSPB Reserve in 2020. We need to return in 2021 to complete the bank works. Once the bank works are complete it is our intention to complete the demountable flood barrier works across the Wash Road in 2022 (year 6).

The increased footprint on the bank has reduced the space the contractor has to work in. We have used smaller machinery to manoeuvre in the workspace safely, particularly near Welches Dam. We are importing smaller loads of material which has increased the time to complete this section.

The amount of material required to complete the project has increased from 320,000 tonnes to 487,000 tonnes. All these changes have increased the overall construction programme from 4 years to 6 years.

We are monitoring settlement on the bank works that we completed in years 1 and 2 to ensure that it is as expected. Once we have collected sufficient survey data we can determine whether any further topping up of years 1 and 2 is required as either part of these works or as part of future maintenance works.

Why is it taking longer than we expected to finish the works?

In addition to the design work, we have reviewed and extended the completion of the works due to a number of reasons beyond our control:

- Road works at the A10 and A142 has had an effect on the works where deliveries were reduced due to the delays.
- The exceptional wet weather during 2019 and 2020 has caused delays. The works cannot take place in wet weather due to the nature of the clay material that we are placing. It becomes too slippery and dangerous which means work must stop.

What are you doing to minimise the impact of the works extension?

We are taking steps to help minimise the impact of the works extension:

- We have refined the bank profile design to reduce the amount of material to be imported in certain sections by removing the need to replace a section of concrete erosion protection in between Welches Dam and the railway bridge; whilst balancing this against environmental and space constraints.

- We will be working on Saturdays to regain lost time.
- We are working with Natural England to agree an extension to the working window to start earlier in 2021.
- Where possible our contractor will employ more resources and will use larger machinery to import larger quantities of material where we can.

Who are we consulting in relation to the works extension?

We have informed local Members of Parliament Stephen Barclay MP, Elizabeth Truss MP and the Regional Flood & Coastal Committee.

We have consulted with our statutory stakeholders including Natural England, along with our local stakeholders: RSPB, Wildfowl & Wetlands Trust, Internal Drainage Boards, Future Fens and local Parish Councillors. We are also engaging with the local community, residents and businesses through newsletters and public and virtual drop-in events to ensure that everyone is aware of the changes to the construction programme.

What standard of protection does the Middle Level Barrier Bank currently provide?

The existing bank protects surrounding areas from flood water stored in the reservoir.

Our recent assessment of the bank height shows that flood water could overtop the bank at isolated locations in the equivalent of a 1% probability event.

Overtopping could lead to erosion and subsequent collapse of the bank. Under the Reservoirs Act, 1975 the Middle Level Barrier Bank needs to be safe for a 0.1% probability event.

In the places where there are communities close to the reservoir, the Middle Level Barrier Bank needs to be safe for a 0.01% probability event.

What will the new standard be?

The works will maintain the existing profile of the Middle Level Barrier Bank and raise the crest equivalent to the 0.1% or 0.01% probability water level, depending on the location.

In the areas where there are communities living near the reservoir we are raising the crest for 0.01% probability water level. This means it will have to be an extreme weather event for any overtopping of the bank to take place. The crest height includes an allowance for wind generated waves.

We carried out a capital scheme in the 1990s and surveys show that since then the Middle Level Barrier Bank has settled by approximately 300mm. Therefore, we have also allowed for future settlement in our design. In total we expect to

raise the existing bank crest by between 600mm and 800mm, depending on the location.

What about the South Level Barrier Bank?

The South Level Barrier Bank is a tidal river bank and therefore does not fall under the Reservoirs Act.

The purpose of the work on the Middle Level Barrier Bank is to satisfy the requirements of the Reservoirs Act, 1975. The Middle Level Barrier Bank and Cradge Bank are considered to be the reservoir's banks.

However, we have raised a low section of the South Level Barrier Bank between Sutton Gault and Chain Corner. The South Level Barrier Bank has not settled as much as the Middle Level Barrier Bank. It provides a standard of protection of at least 0.5% probability.

What will the bank look like once the works are complete?

While we do the work, you will notice a temporary difference in appearance as we strip the topsoil and place extra material on the crest and side slope. We will then replace the topsoil and reseed the bank. At the moment it looks a lot smoother and it will look a bit higher at some places than before. Once the grass grows, it will look like it always has.

Where will the material come from?

We are using clay from local quarries to raise the bank. To limit the impact of the lorries on the local roads, approximately 50% of clay deliveries are being made directly from the quarry to the bank using a temporary bridge at Mepal. The amount of material we need to complete the project has increased from 320,000 tonnes to 487,000 tonnes.

Why and for how long are we closing the public footpaths along the crest of the bank?

Cambridgeshire and Norfolk County Councils have granted a footpath closure for the entire length of the Middle Level Barrier Bank.

We will divert the footpath while we work along the crest of the bank and deliver material along the haul road. Where diversions are possible, we will signpost these clearly. Diversions and closures are posted on the local site noticeboards. Noticeboards are located on the bank near Earith Sluice, on the bank at Sutton Gault, at Welches Dam RSPB Reserve and near the Old Parish Hall at Welney.

We will keep the footpath diversion in place to allow for the new grass to re-establish on the bank. The grass is important on the reservoir bank. As the grass grows, the roots help to stabilise the bank and reduce erosion. We are using a mixture of different seeds to get a variety of different grass species.

We opened the South Level Barrier bank footpath between the Anchor Inn and Chain Corner in September 2019.

We opened the footpath between Welmore Lake Sluice and Welney in September 2019.

We fully opened the footpath between Earith Sluice and Sutton Gault in February 2021. There may be the need to do some remedial work in these areas during 2021, any works areas will be fenced off and the footpath will remain open.

Why can't the haul road be used as the diverted footpath whilst the public footpath is closed?

We need to separate people from the construction traffic that will use the haul road for access to the works. This will keep the public and the workforce safe.

Are there plans to raise the Welney Wash Road or the Sutton Gault causeway and/or the Old Bedford Bridge?

The local authorities, Cambridgeshire and Norfolk County Councils are leading on road improvements, not the Environment Agency. It is not within our remit to carry out any road improvements. There are no proposals as part of this project to carry out any road improvements in the area.

When will the works to the demountable flood barrier at Welney Wash road start?

We have sourced a suitable demountable flood barrier option that will be used specifically at Welney. We are planning to start construction of the demountable flood barrier walls in 2022.

Ways of working

- We will do the work as part of our permitted development rights.
- Access to the bank is along a pre-constructed haul road, within Environment Agency land.
- Our contractor imports clay material from local quarries – they determine the source of the material and transport routes to access points as they plan each phase of work.
- We have diverted the Public Right of Way whilst we carry out the work and to allow the grass to grow.
- We will apply for a 4-6 week road closure to be able to carry out the demountable flood barrier works.