Waveney, Lower Yare and Lothingland Drainage Board

Benacre & Kessingland Flood Risk Management Scheme

Creating a sustainable flood risk solution in Benacre and Kessingland, protecting residents, properties, agricultural areas, businesses, and essential infrastructure.

Contents

About the Project

Why is the scheme required?

The Environment Agency's Benacre Pumping Station was built in 1955. The station is 70 years old, outlasting its intended lifespan and now faces structural collapse. Adding to these concerns, the Benacre Ness (sand and shingle ridge) that has historically protected the station from the forces of the sea is steadily moving north, leaving it exposed to coastal erosion and therefore tidal flooding. These factors place the entire valley at significant risk to river and tidal flooding, and breaches of the sea defences are expected to occur, without action being taken, within 2-5 years.

Above: A timeline of images showing how the coast is eroding and the need for the scheme.
(1985 and 2003 image courtesy of Mike Page / 2018 image courtesy of Edward Vere Nicoll, Benacre Estates)

If left unaddressed, coastal flooding threatens

- the A12 would be highly susceptible to flooding, to the extent it will be closed on every high tide
- 35 homes
- 46 businesses
- 600 hectares of valuable farmland

It is predicted that there would be significant costs to the county council from managing regular road closures and delivering an alternative long-term solution to protect the A12.

As a result of the ever increasing coastal erosion risk the Environment Agency has been placing rock armour around the site to provide extra protection, with the last delivery in April 2024. This aims to provide protection while our scheme is delivered.

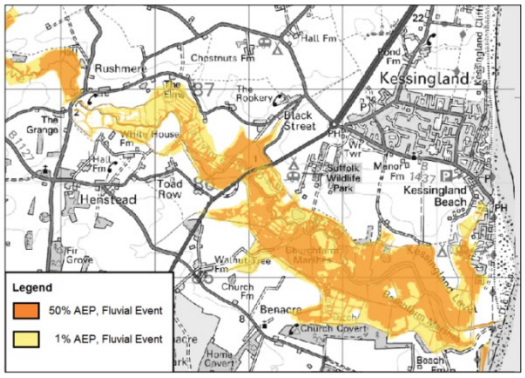


Figure 5-3 Flood extents for baseline fluvial scenario along the river Lothingland (Kessingland Levels). © Crown Copyright 100026380, 2017

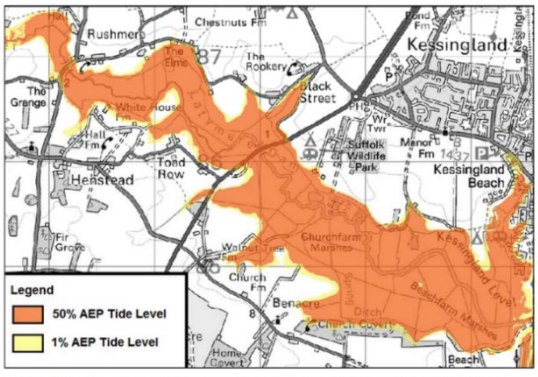


Figure 5-1 Flood extents for do-nothing scenario along the river Lothingland (Kessingland Levels). © Crown Copyright 100026380, 2017

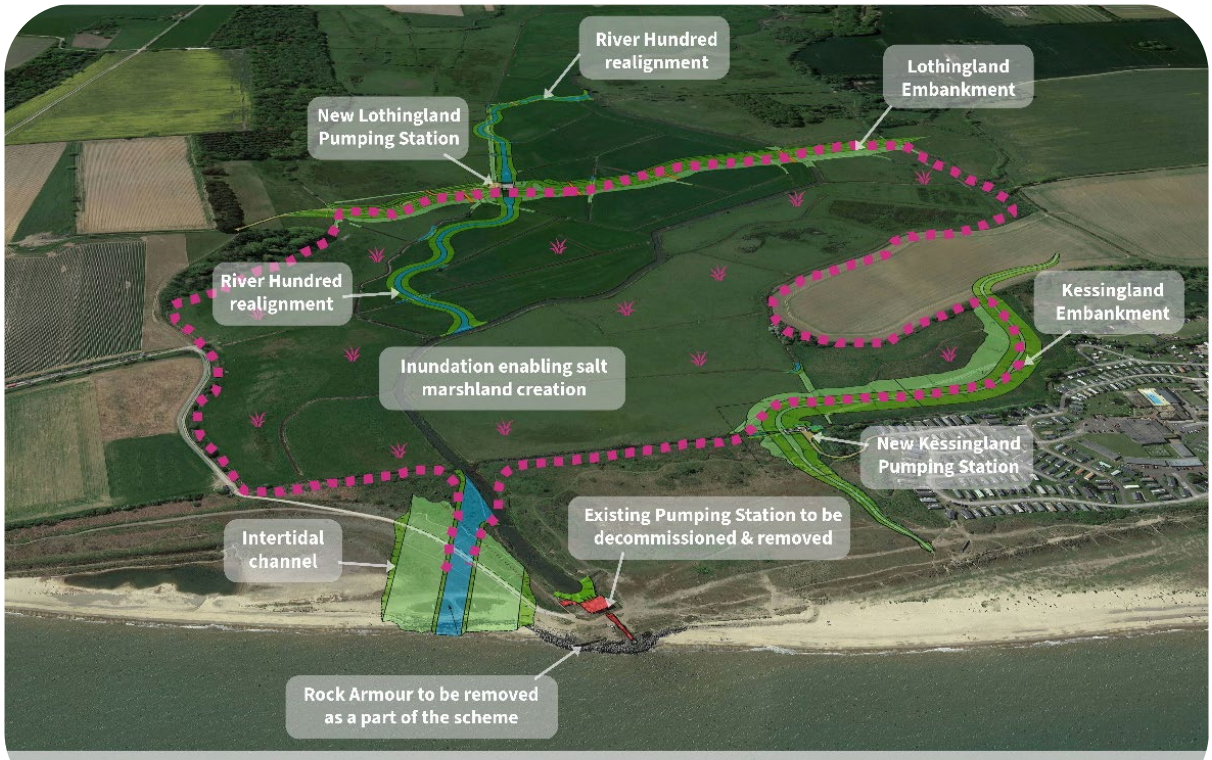
Above: Maps showing flood extent with no defences. (*AEP: Annual Exceedance Probability)
A 50% AEP* is equivalent to a return period of every 2 years. Often referred to as '1-in-2 year' event
A 1% AEP* is equivalent to a return period of every 100 years. Often referred to as '1-in-100 year' event

The Project Solution

To tackle this urgent issue, we have secured approval for a more sustainable flood risk solution. The realignment scheme will construct inland flood defences to ensure long-term protection.

The project will consist of two embankments and two pumping stations;

- An embankment spanning the Lothingland Valley to manage tidal flooding and a pumping station to manage river levels.
- An embankment around Kessingland's Parkdean Resorts to manage tidal flooding and a pumping station to manage surface water for the village.
- Creation of intertidal landforms
- An intertidal channel
- Decommissioning and the demolition of the existing Benacre PS and the removal of all the rock armour on the coastline.

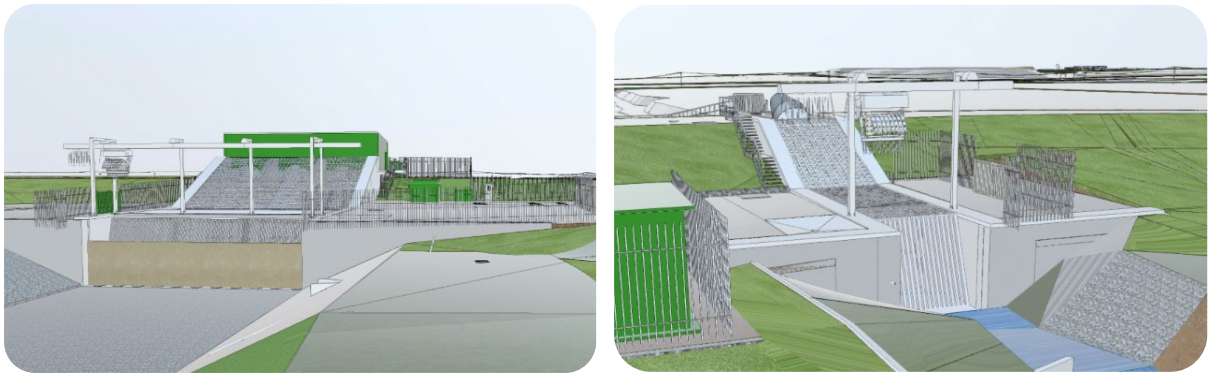


Aerial view showing Google Earth and proposed layout of embankments, new river and breach. © Edward Vere Nicoll ©Google Earth (2024)

Pumping Station Design

The pumping stations will use Archimedes screw pumps, to provide efficient, fish-friendly water management and greater capacity to manage increased water volumes, accounting for the added flood risk caused by climate change.

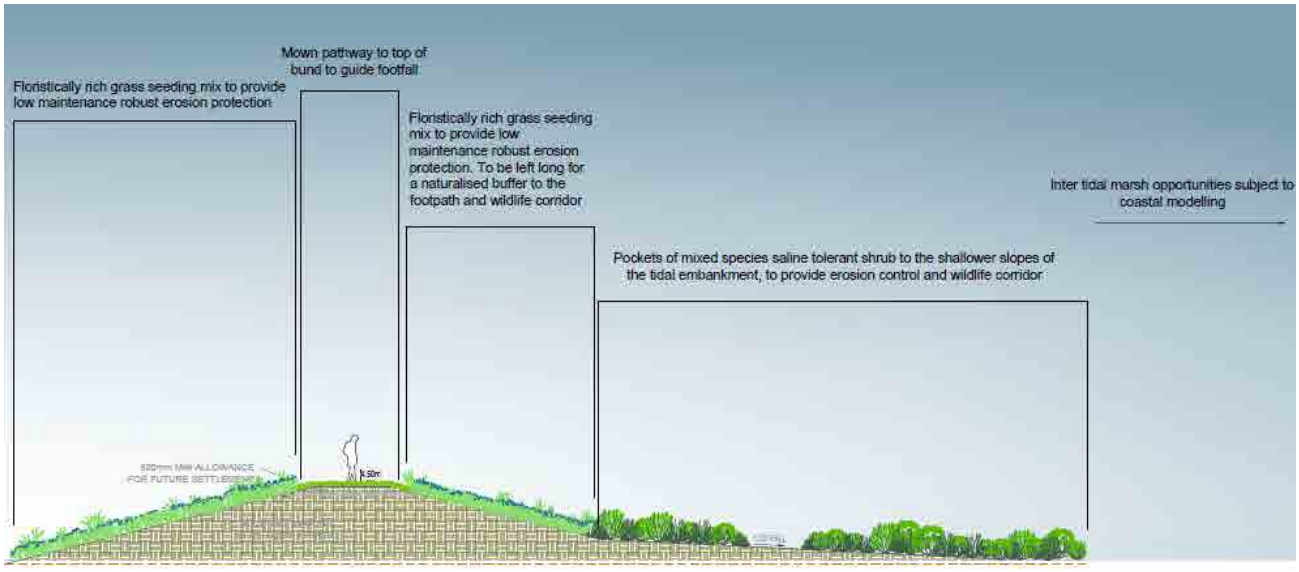
The existing pumping station has a capacity of just over 4 cumecs. The new Lothingland pumping station will have a capacity of 10.2 cumecs and the Kessingland pumping station will have a capacity of 0.75 cumecs.



Top left: Design view (looking east) of the Lothingland pumping station intake
Top Right: Design view (looking south) of the Kessingland pumping station intake

Embankment Design

The embankments will be clay with a design height of 4.5 metres. There will be a 4.5 metre wide crest and they will have 1:4 slopes, with a graduated slope of 1:20 into the Intertidal area.

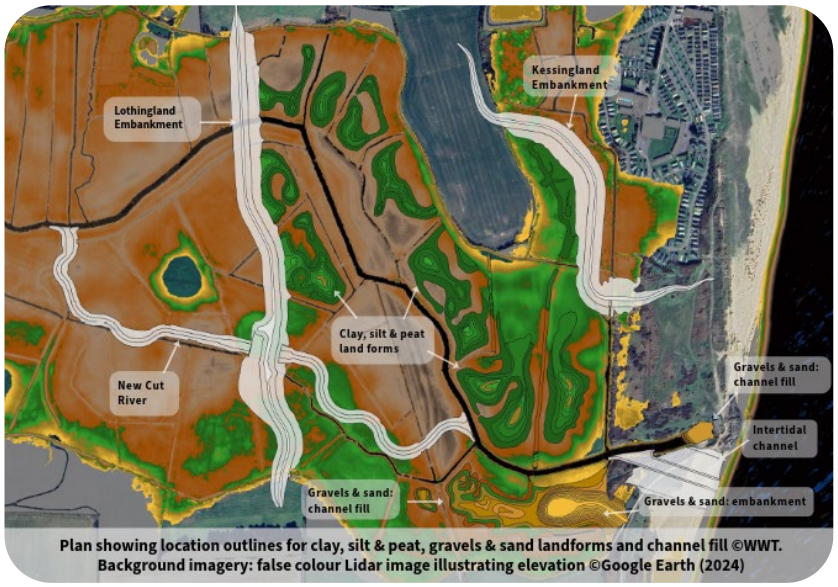


Above: A cross section of the typical embankment proposed, showing the landscape features planned for construction. Courtesy of Stantec.

Enhancing Biodiversity and creating a new Intertidal Area

A critical part of the project's approach is the creation of 82 hectares of intertidal habitat through inundation by tidal waters. This is possible following construction of an intertidal channel through the existing coastal defences and the demolition of the old Benacre pumping station.

The new islands and landforms through this area will act to further enhance the intertidal habitat. The aim is to make provision for the creation of an enhanced mosaic of intertidal and coastal habitats that will be valuable for migratory and breeding farmland birds, waterfowl and seabirds. These landforms are designed to blend in with the local landscape, tying in with higher natural ground or grading into the front slope of the new embankments. In places the landform is designed to elevate into the zone where upper saltmarsh-transitional habitat will develop creating high tide roosting areas for migratory waterfowl and seabirds. The design of this habitat has been led by Benacre Estate in association with the Wildfowl and Wetland Trust (WWT).



Plan showing location outlines for clay, silt & peat, gravels & sand landforms and channel fill ©WWT. Background imagery: false colour Lidar image illustrating elevation ©Google Earth (2024)

This intertidal habitat will foster biodiversity, providing essential support for migratory birds, fish, and various invertebrates. Saltmarshes serve as natural carbon sinks, absorbing carbon dioxide and helping mitigate climate change. These habitats will not only benefit local wildlife, but also contribute to carbon sequestration, enhancing the region's resilience to environmental changes.

Public Access

During construction both public footpaths and public access to the beach will be maintained. The public footpath along Beach Farm Road has been segregated from construction traffic.

From 2028 when the demolition of the existing pumping station and creation of the breach is planned, it is then anticipated that the King Charles III England coast path will be established along the newly created Lothingland embankment diverting the coastal path inland for this section, providing a great view across the new Intertidal area.

What has been happening & project timeline

Since 3 March 2025 our contractors Balfour Beatty have been on site ensuring we can complete the enabling works within the ecology window. This prevents delays to the project and ensures we keep to the delivery programme. These Enabling Works include:

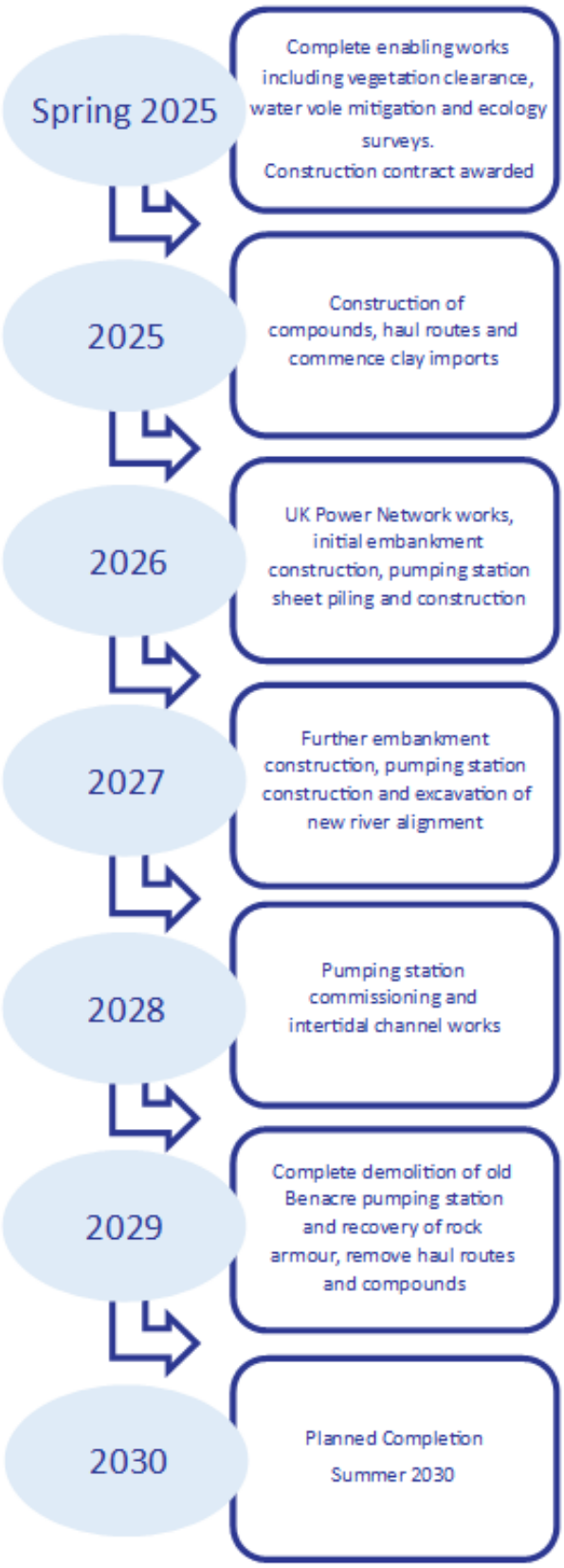
- Installing a temporary site compound and improving compound access
- Vegetation clearance
- Significant water vole mitigation
- Updated species surveys
- Badger sett relocation
- Installing culverts and river crossings
- Segregating the public footpath along Beach Farm Road
- Installing info boards around the site for public awareness

Future works in 2025

On site the full compound will go in and construction will start on the haul route. In early Autumn the import and installation of clay material for the embankments will start.

Project Timeline

The project will be completed over the next 5 years. To the right on the page is a project timeline, giving an overview of the key elements and milestones between now and 2030. Regular updates from the project team will be published throughout this period.



More Information – Get in touch

We publish quarterly newsletters and other project information to our website here;

www.wlma.org.uk/news

If you would like to subscribe to the newsletter please email;

info@wlma.org.uk

If you have specific queries relating to the project, please get in touch with our project team;

project.delivery@wlma.org.uk

Suffolk County Council website also have a dedicated page with information on the project - https://www.suffolk.gov.uk/planning-waste-and-environment/major-infrastructure-projects-including-nsips/major-infrastructure-projects-in-suffolk-non-nsip/benacre-and-kessingland-flood-risk-management-project

Suffolk County Council has published an opinion piece by Cllr Richard Rout about the project - https://www.suffolk.gov.uk/council-and-democracy/council-news/opinion-the-right-project-in-the-right-place-can-bring-benefits-to-our-economy

'If nothing is done, dozens of local homes and hundreds of acres of farmland will be under severe threat in the very near future. The A12 would flood up to twice a day with the tides, essentially cutting the east of the county in two.

Left unattended, the repercussions would be catastrophic. There would be significant costs to the county council alone, from having to manage regular road closures, to delivering an alternative long-term solution to protect the A12.

This is great news on so many levels. The new defences against flooding will protect the A12, local homes, farmland and give security to the local economy and tourism. It will also create hundreds of acres of valuable inter-tidal habitat for wildlife and people to enjoy. The area will be open to walkers, bird watchers and nature lovers, giving a boost to local tourism.

Doing nothing was simply not an option. If this scheme did not go ahead, the impacts would not bear thinking about – particular around the flooding of the A12.

If you don't have cause to travel around that northern part of the county, imagine your nearest A-road being cut off twice a day for hours at a time, with all the additional pressures and complications that would bring.'

Cllr Richard Rout
Deputy Cabinet Member for Nationally Significant Infrastructure Projects
Suffolk County Council

Funding

The project cost is expected to be circa £63m, and we are grateful for our **funding partners**;

- Suffolk County Council
- Defra
- RFCC
- Sizewell C

Our Partners

The project is led by **Waveney, Lower Yare and Lothingland IDB** supported by the following project partners;

- Environment Agency
- Water Management Alliance
- Suffolk County Council
- Defra
- RFCC
- Sizewell C
- Benacre Estate
  (in association with WWT)
- Parkdean Resorts

Design & Delivery:

- Balfour Beatty
- Stantec
- Gleeds

About the Public Consultation

Public Consultation Overview

Gisleham Village Hall | Thursday 24 July 2025 | 4pm – 7pm

The Public Consultation event is being hosted by Waveney, Lower Yare and Lothingland IDB to allow local stakeholders to find out more about the project and ask questions of the project team, including officers from the Water Management Alliance, Balfour Beatty and Mick George Ltd.

The event, supported by this document, aims to clarify the overall need for the project and impacts it will have on those in the area local to the project site and the Gisleham quarry, which has been identified for clay extraction.

Planning consent for Minerals Extraction

The material for the project's vital clay embankments is being sourced by Mick George Ltd from the Gisleham quarry. While there is planning permission an alteration to the sequence of working for the extraction of clay required to build the sea defences has been submitted to Suffolk County Council, who are the Minerals Planning Authority and so will determine this planning application. This alteration includes:

Details of the application can be found on the Suffolk County Council planning portal - https://suffolk.planning-register.co.uk/Planning/Display?applicationNumber=SCC/0072/16W/VOC . The consultation closes on **01/08/2025**.

While the outcome of the consultation is awaited, Mick George Ltd will be on site at the quarry completing preparations, including:

- Access improvements into the site
- Any provisions required to comply with planning licence conditions
- Early surveys and ecological checks
- Construction of acoustic screening mound
- Provision of welfare
- Placement of wheel wash
- Placement of Traffic management and helpful signage

Traffic Management

In order to minimise impact to all stakeholders it is the projects aspiration to complete all deliveries within an 11 month period.

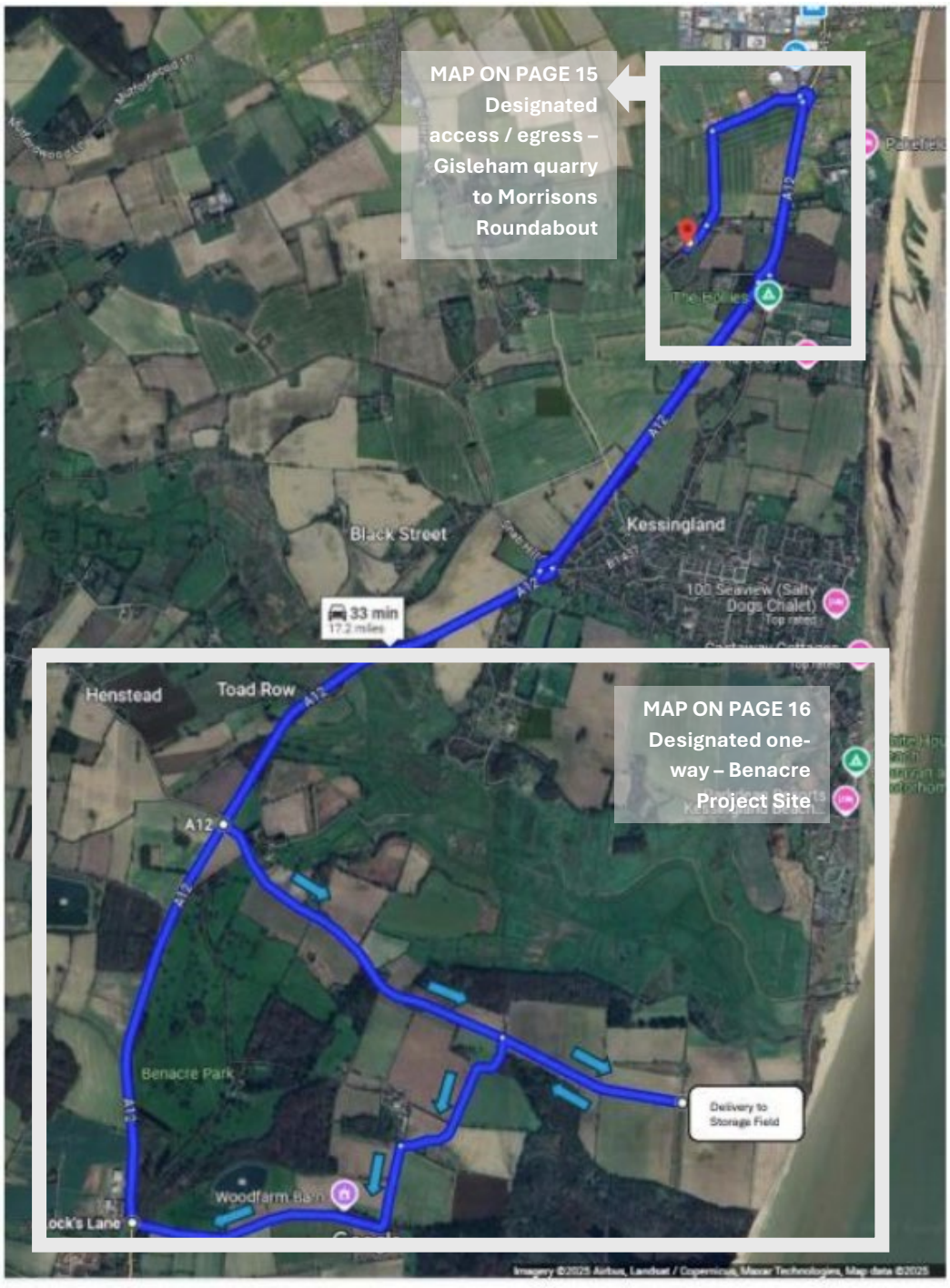
The map on page 14 shows the complete haul route for lorries (supplying embankment material) from Gisleham quarry to the Benacre project site.

The map and plan on page 15 shows the traffic management that Mick George Ltd will put in place from the the Gisleham quarry to the Morrisons roundabout, including signage and speed limits.

The map and plan on page 16 shows the temporary traffic restriction order (TTRO) already in place, which includes a one-way system and speed limits around Benacre; on The Street, Back Lane and Locks Lane, Wrentham. This can also be seen at https://one.network

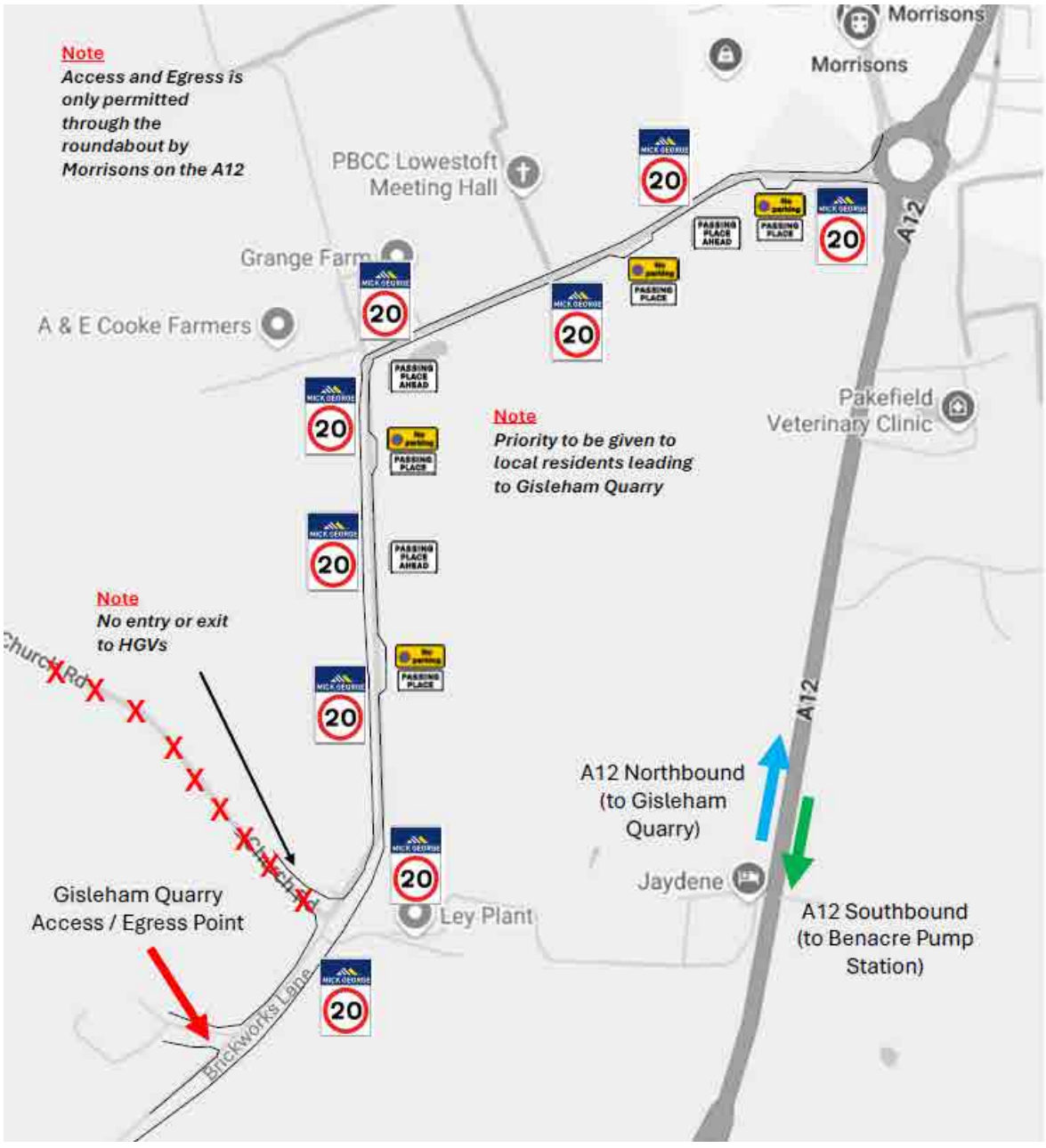
Complete haul route map - Gisleham Quarry to Project Site

The map below shows the complete haul route for lorries (supplying embankment material) from Gisleham quarry to the Benacre project site.



Designated access / egress - Gisleham Quarry to Morrisons Roundabout

The map below shows the traffic management in place from Gisleham quarry to the Morrisons roundabout.



Mick George Ltd Ltd will need to comply with planning condition C35 which states;

No operations authorised or required under this permission shall be undertaken outside the following time; other than with the prior written agreement of the Minerals Planning Authority.

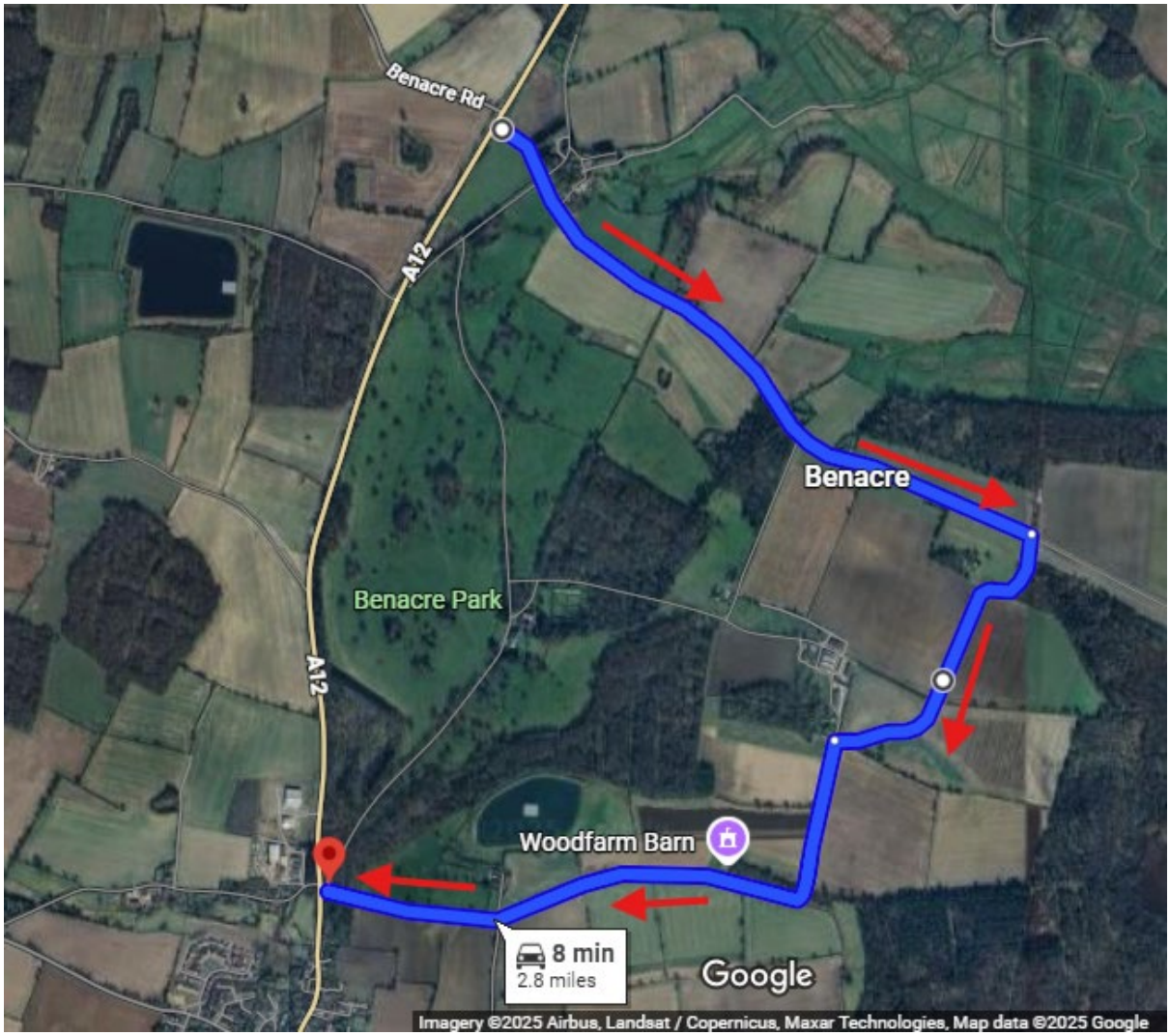
0700 to 1800 hours Monday to Friday

Designated one-way – Benacre Project Site

On the roads around the Benacre project site there will be a one-way system in place from 26 June 2025 for a duration of circa 11 months. A 20mph speed limit will be in place on The Street and Locks Lane.

Beach Farm Road will be two-way traffic with passing places. The public footpath will be segregated by fencing alongside Beach Farm Road.

There will be information boards around the site informing the public of the project and the one-way system in place. These will be positioned at all sites of public access.



Planning - Frequently asked questions

1) How has the safety of pedestrians and public road users been considered as part of the project?

Safety of road users is of upmost importance to the project. Therefore, in order to reduce risk to road users, a comprehensive Traffic Management Plan (TMP) has been prepared, with specified haulage routes, one-way system around the Benacre project, reduced speed limits, signage, and passing bays to manage lorry movements safely. Public footpaths will remain open, but segregated for safety. Information boards are being installed for public awareness. These measures will be continually reviewed to minimise risks to personnel and road users during haulage and construction. Lorry movements have been scheduled to minimise the number of months required to deliver the project.

2) How will the environmental and ecological impacts be mitigated?

Minerals consents have specific environmental and ecological conditions, to control and mitigate such impacts. An ecological consultant has already been employed to support the company to ensure the safety and well being of any species. All quarry staff are provided with toolbox talks to ensure ecological awareness.

Acoustic screening mounds will be established to limit noise to acceptable noise levels. Implementation of dust management will control fugitive dust. The entire fleet of Mick George Ltd tipper lorries run Euro 6 engines, and the Company have imposed a speed restriction of 20mph between the site and the A12 for all of their HGVs.

Environmental considerations are central to this flood defence scheme. On the Benacre construction site extensive ecological mitigation has already taken place, including water vole protection, badger sett relocation, and updated species surveys. Importantly, the project will also create 82 hectares of new intertidal habitat, led by the Benacre Estate and WWT, enhancing biodiversity for birds, invertebrates, and fish. Saltmarsh habitat also contributes to carbon sequestration, supporting climate change resilience.

3) How has the impact on people's health and quality of life been considered?

The duration of the haulage to the project will be reduced as much as possible and while construction activity may cause short-term disruption, strict controls on operating hours, dust suppression, and noise reduction measures are in place.

An acoustic screening mound is to be constructed along the northeastern boundary of Phase 4. Planning conditions are in place to limit noise levels whilst constructing this mound and for the subsequent mineral extraction.

There are planning conditions in place to control dust, but separately Mick George Ltd will prepare a Dust management plan as part of their site set procedure.

Longer-term, the project will prevent the A12 from flooding at high tides (shown on page 4), which would require daily closures and major disruptions to travel in the local area. The project will also significantly reduce the flood risk to 35 homes, 46 businesses, 600 hectares of farmland. The flood risk management project will prevent a future significant impact to local residents' quality of life and economic security.

4) What social impacts have been considered?

Disruption during construction is being carefully managed with public information boards, newsletters, and a dedicated email for community queries. Long-term, the creation of new public footpaths, nature areas, and improved flood protection will enhance access to green space, improve tourism potential, and strengthen local resilience.

In addition to the flood risk benefits the project delivers, we believe it is our responsibility to create a positive legacy from our presence, and we use Social Impact to do this. Social Impact considers the social, economic, and environmental wellbeing of the communities we work in. As a project team we have set ourselves clear targets. These include supporting a local social enterprise, employing local people on the project, engaging with local education providers, and supporting people back into work.

5) Are the plans compliant with regulatory and procedural rules?

Mick George Ltd have submitted their planning application and are working collaboratively with Suffolk County Council (as Minerals Planning Authority), Environment Agency, and relevant ecological regulators.

6) What traffic management will be utilised on the scheme?

No Traffic Management Plan (TMP) was linked to the original minerals approval. However, in recognising the impact on access to Church Road and Brickworks Lane, a detailed TMP has since been prepared and submitted as part of the variation. It includes traffic signage, speed limits and passing places, there is also a one-way system and footpath segregation at the Benacre project site to mitigate the access impact during extraction and transport.

7) At Gisleham quarry, is excavating Phase 4 first likely to negatively affect adjoining properties?

The impacts of working Phase 4 have been addressed by Suffolk County Council when granting the current planning permission (2017). Working the site in a revised sequence will not change the level of impact on the adjoining properties. There is an acoustic screening mound to be constructed and the planning permission imposes strict conditions including noise limits on all operations.

8) At Gisleham quarry, did excavation begin within the specified planning period?

The quarry has been operating for a very long period.

We do not have a commencement date, but the current planning permission was granted in 2017 under a Review of the Old Mineral Permission (ROMP) which imposed up-to-date planning conditions.

The ROMP process was introduced to allow planning permissions to be updated with modern conditions to ensure extraction operations take place inline with current environmental standards.

9) At Gisleham quarry, has the original planning now expired? Is this a new submission?

The current planning permission expires in December 2033. The current planning application is to vary a condition not applying for a new planning permission, the result of the current planning permission will not alter the end date.

10) Have risk assessments, HAZOPs, or impact assessments being carried out for Gisleham quarry?

Various environmental assessment will have been undertaken as part of the ROMP review and these are reflected in the planning conditions.

The site will be operated under the controls of the Health and Safety at quarries - Quarries Regulations 1999.