

# Coggeshall, Feering and Kelvedon Flood Alleviation Scheme



## Questions & Answers

Updated: May 2023

*Working in partnership with*  
**Blackwater Aggregates**

### **Q. Who is leading this scheme?**

A. The Environment Agency is leading the scheme.

### **Q. Why are Blackwater Aggregates involved in this scheme?**

A. The Environment Agency and Blackwater Aggregates are working in partnership to develop the flood alleviation scheme.

Working in partnership with others is essential for the sustainable long-term delivery of some of the Environment Agency's capital-intensive schemes, such as the Coggeshall, Feering and Kelvedon flood alleviation scheme. This means looking for external investment opportunities to manage the risks climate change presents, to deliver stronger infrastructure and enhanced landscapes.

The Environment Agency approached Blackwater Aggregates about a potential partnership because without this, an effective flood management scheme would be unaffordable. If the necessary permission is granted, the company would be able to quarry and remove the necessary volumes of material needed to create an extended floodplain.

### **Q. How many properties will be protected by the scheme?**

A. There are around 300 houses that sit within Flood Zone 3 that will benefit from this scheme, i.e., houses that are at risk from a 1% annual probability (1 in 100) flood from the River Blackwater. This figure excludes properties that are solely at risk from surface water flooding, such as from Robins Brook.

At least 218 properties were flooded in 2001, including 56 houses and 9 commercial premises within Coggeshall and 147 houses and 6 businesses downstream, in Feering and Kelvedon. This was caused by a combination of fluvial (river) and surface water flooding, following high intensity rainfall. Prior to that, a 1947 event flooded a larger area and was caused by prolonged rainfall and snowmelt.

Environment Agency modelling of a 1% annual probability flood, plus climate change allowance (similar to the flood of 2001), has demonstrated that houses within the

villages of Coggeshall, Feering and Kelvedon, that sit within Flood Zone 3, will have their risk reduced by the scheme.

### **Q. What is the difference between river (known as fluvial) flooding and surface water flooding?**

A. Fluvial, or river flooding, is caused when water levels in the river channel rise and overflow into the floodplain. The extent of a river flood is determined by topography and the duration and intensity (volume) of rainfall in the river's catchment area and the ability of the land to hold water. Climate change means that rainfall duration and intensity are increasing over time.

Surface water, (also known as pluvial) flooding, is caused by periods of heavy rainfall, causing water to flow over the land before reaching a river or draining into the ground. Surface water flooding is exacerbated by hard standing in urban areas, preventing natural drainage into the land. Surface water flooding is also exacerbated when the local drainage system becomes overwhelmed with the amount of water entering it.

### **Q. What is the proposed scheme?**

A. The flood alleviation scheme will reduce the impacts of flooding from the River Blackwater to the villages of Coggeshall, Feering and Kelvedon, through the creation of a dam and extended flood storage area. It will include:

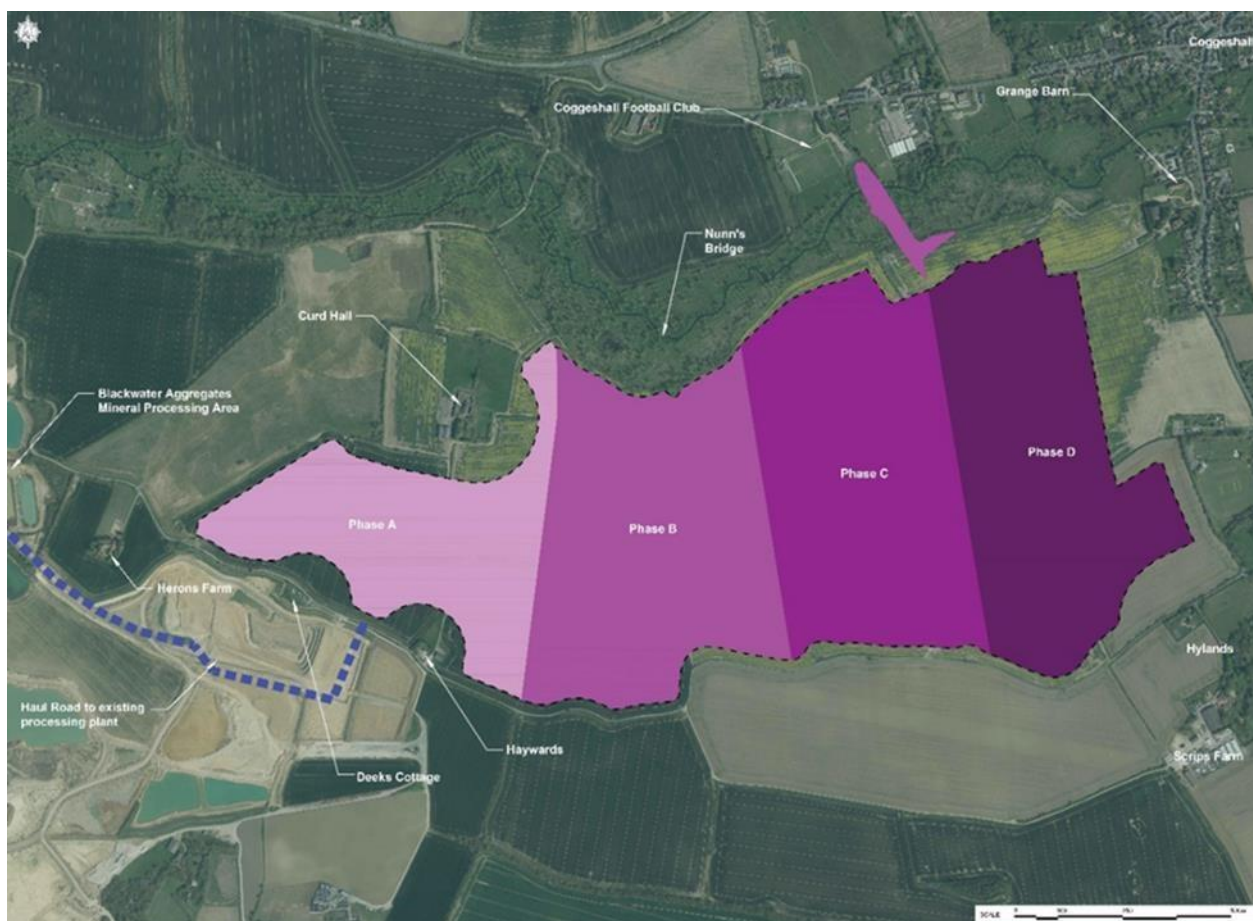
1. **Dam:** A clay embankment (or dam) will cross the valley next to the football ground. The height of the dam will be approximately 5m at its highest point, as it crosses the river and will reduce in height to taper into natural ground levels on either side.
2. **Increased upstream storage area:** Following the construction of the dam, we will be able to store more flood water upstream of its location within the valley, using the existing flood plain.
3. **Extended flood storage area:** An extended flood storage area will be created next to the river (to increase the storage capacity of the floodplain). This will be created by removing the underlying aggregates from the footprint of the site and large quantities of London Clay from the base. Once landscaped and restored, the new flood storage area will form an extension to the natural flood plain, meaning more flood water can be stored during a flood.
4. **Connection point:** The connection point between the existing floodplain and the flood storage area will run along the edge of the existing willow plantation. The ground levels across the flood storage area will match levels within the existing flood plain, which will allow flood water to naturally rise and fall as a flood occurs and subsides.

### Q. When would the works be starting and finishing?

A. The quarrying would take approximately 20 years to complete. However, each phase of extraction will be completed within 5 years, closely followed by a rolling scheme of restoration works. The entire scheme, including final restoration and landscaping works, would be completed in 22 years.

The dam itself would be constructed during year 6 (of the 20-year mineral extraction programme) and would reduce downstream flood risk immediately, becoming more effective as each main phase of quarrying is completed and additional flood storage is created.

The flood storage area will be constructed in 4 main phases, each taking 5 years to work.



### Q. Will the quarry be left open for 20 years?

A. No. As the quarrying operations progress across the site, they will be progressively restored in a phased and systematic manner, to establish a biodiverse grassland floodplain, wetland scrapes, arable fields, broadleaf woodland(s), hedgerow and wildflower field margins.

As the works progress in an easterly direction across the site, fields will continue to be farmed alongside the quarrying and restoration operations.

The progressive construction of the screening bund(s) around the quarrying operations will retain as much agricultural land in beneficial use for as long as practicably possible. As each phase is restored, the land will either be returned to farmland or biodiverse meadows at the earliest opportunity.

The works would progress in an easterly direction, across the site and views of the quarry from Coggeshall will be screened by the unexcavated phases of the works and the screening bunds.

**Q. Why does the quarry have to be dug into the side of the valley and why does it have to be that big?**

A To create the extended floodplain, the quarrying operations need to be located next to the River Blackwater.

The location and scale of the proposed works is the minimum required to create the flood alleviation scheme. The alternative of simply reshaping the side of the valley to create the flood storage area (without the benefit of Blackwater Aggregates' normal quarrying and restoration operations), would be unaffordable because of the Environment Agency's costs in exporting materials from site. This option would also result in thousands of additional lorry movements on the local road network.

**Q. Will the scheme affect property prices?**

A. The Environment Agency is not able to comment on property prices.

**Q. What will happen to Blackwater Aggregates' quarrying operations in Site A7 if work commences to create the flood alleviation scheme?**

A. In the event that planning permission is granted for the flood alleviation scheme, it is proposed that Blackwater Aggregates' mineral extraction operations shall continue and progress to the earliest point, whereby its operations within Site A7 can be satisfactorily, temporarily restored, whilst preparatory works are carried out across the flood alleviation scheme.

Mineral extraction operations shall only progress within the flood alleviation scheme when mineral extraction operations within Site A7 are brought to a temporary close, so that there is no gap in mineral extraction and processing operations within Bradwell Quarry.

**Q. What would the impacts be locally whilst the works are happening?**

A. The operational aspects of the scheme will result in a continuation of Blackwater Aggregates' existing quarrying operations at Bradwell Quarry. Noise and dust assessments will be carried out and closely monitored against baseline data as the scheme is developed.

The site will continue to be accessed via the established entrance to Bradwell Quarry from the A120. A crossing point will be established on Cuthedge Lane to allow minerals to be transported from the site to the existing mineral processing plant.

The existing mineral processing plant and transport movements to and from Bradwell Quarry will remain unchanged.

Access for heavy construction plant and equipment to the dam and flood storage area will be via Bradwell Quarry's existing access road from the A120.

Whilst the works are undertaken, there will be some areas where existing footpaths will need to be temporarily diverted. Alternative routes will be made available and fully detailed in the planning application. These routes will be clearly set out on site. Local public access will be significantly increased with the addition of over 4km of new permissive footpaths that will be created across and around the perimeter of the site.

#### **Q. Will there be a lot of noise and dust?**

A. No. The works required to construct the scheme will be controlled, managed and monitored to minimise dust and noise.

Noise and air quality assessments have considered the likely impacts that may arise from quarrying, restoration and construction operations across the site and confirm that the impacts of noise and dust on the local environment will be negligible to minor.

Noise and Dust Management Plans will be developed and implemented to monitor and mitigate against noise and dust in line with best practice. Environmental emissions resulting from the quarrying, restoration and construction operations, are not anticipated to be significant.

Routine noise monitoring surveys and dust assessments will be carried out across and around the scheme to ensure that the local environment is suitably managed and controlled. Data collected from these surveys will be made available to Essex County Council, in its role as Mineral Planning Authority, who will check that quarrying operations comply with planning conditions covering noise and dust management.

**Q. Have new developments close to the scheme been considered by the assessments?**

A. Yes. The environmental assessments consider both the existing area and other reasonably foreseeable developments that are either permitted or planned within the local area.

**Q. How much water will be stored by the scheme and what level of protection will it offer?**

A. The scheme has been designed to hold more than 3 million m<sup>3</sup> of flood water during an event. This will greatly reduce the volume of flood water reaching the villages of Coggeshall, Kelvedon and Feering during a 1% annual probability (1 in 100) flood from the River Blackwater. When the river is flowing normally, the flood storage area will be dry and maintained as a floodplain meadow.

**Q. How much water will be allowed to flow through the dam?**

A. During flood events, the river Blackwater would flow through the dam at a rate of 18.5m<sup>3</sup>/s, which is similar to flows occurring in a 5% annual probability (1 in 20) event. By allowing water to flow through the dam at this rate, the natural function of the downstream floodplain will be maintained.

This is a key feature of the design, as it means the scheme has been designed so that the impacts resulting during operation on the upstream and downstream environments will not be significantly different from the effects of flooding which already occur within the Blackwater valley. However, by controlling the flow through the dam, houses that are located within Flood Zone 3 would be at a reduced risk of flooding, because of the scheme.

**Q. How does this scheme link to Blackwater Aggregates' other sites?**

A. Blackwater Aggregates' existing quarrying operations across Bradwell Quarry provide direct full-time employment for 47 people and indirectly provide opportunities for a further 90 full-time positions within local businesses and support services. Many of these jobs are held by local people.

Therefore, whilst working in partnership with the Environment Agency in developing the flood alleviation scheme, Blackwater Aggregates has been granted planning permission to extend its existing quarrying operations into Site A7, in order to maintain continuity of operations, which, in turn, provides continued local employment.

Blackwater Aggregates will only carry out mineral extraction operations in either the flood alleviation scheme or Site A7 and not both at the same time. Therefore, if planning permission for the flood alleviation scheme were granted, the operations within Site A7 would be brought to a temporary close, so that there is no gap in mineral extraction and processing operations within Bradwell Quarry.

**Q. What will happen next with regards to applying for planning permission?**

A. All information relating to the scheme is presented on the project website. We then intend to submit our planning application to Essex County Council.

**Q. How is the scheme being funded?**

A. This project has received £1 million from central government in 'Grant in Aid' plus £0.5 million in Local Levy (via the Environment Agency), and up to £8 million in direct funding contributions through the Blackwater Aggregates partnership. Blackwater Aggregates' normal quarrying operations across the site will ultimately support the delivery of a flood alleviation scheme that would cost in excess of £25 million for the Environment Agency to deliver, without the partnership approach.

If planning is approved for the scheme, the Environment Agency has already secured a further £2 million for future cost and ongoing maintenance of the scheme.

**Q. If the scheme is completed, will it mean all properties in the village are no longer at flood risk?**

A. The scheme will provide an increased level of flood protection for communities up to and including the 1% (1 in 100) annual probability event, taking into account climate change predictions. However, if a flood event greater than the schemes design were to occur, some properties would still be at risk from fluvial flooding from the River Blackwater. Other forms of flooding, such as surface water flooding, which is not directly related to the River Blackwater, will also still occur and will need to be managed separately. With the scheme in place, the local authority would be able to consider different options to help direct surface water flows in the future, such as improvements to the local drainage network.

**Q. Do the Environment Agency maintain the river channel through the villages?**

A. Yes. The Environment Agency carry out essential annual maintenance on the main rivers.

**Q. Do you have any information on how and when this is carried out?**

A. Yes. The Environment Agency generally carry out a 'cut and clear' once a year at key locations along the river, mainly near structures or other restrictions that could affect water flows. The local Environment Agency's Asset Performance Team can provide further details, here: [Asset Information and Maintenance Programme \(data.gov.uk\)](https://data.gov.uk)

**Q. Why don't the Environment Agency do as much weed cutting and maintenance works within the river as they used to do?**

A. Our maintenance regime is tailored towards need and available money. We must demonstrate benefits in flood risk reduction for every pound we spend. This means that we are constantly reviewing our programmes of work to minimise flood risk

across England. We won't simply do what we have always done. We have to be able to show that cutting weeds in the Blackwater reduces flood risk, more than any other works we could be doing elsewhere.

Whilst the works which we are still carrying out meet this requirement, other parts of the river are not being cut this year, as resources are more urgently required elsewhere. Weed cutting is also disruptive to the ecology, so we only remove weed when it is required to reduce flood risk. This is part of a more sustainable long term management strategy.

**Q. Do you protect against erosion to banks?**

A. No. Bank erosion is the responsibility of the riparian (river) owner, Guidance on this can be found online at: [www.gov.uk/government/publications/riversideownership-rights-and-responsibilities](http://www.gov.uk/government/publications/riversideownership-rights-and-responsibilities)

**Q. Why don't the Environment Agency dredge the river and remove silt from the river channel?**

A. We do not believe that dredging and desilting would be effective at this location. Our knowledge of how rivers function is continually improving. Regular, extensive, catchment-wide dredging is very expensive and often has a relatively modest effect, if any, on reducing flood risk, particularly in impounded rivers with shallow gradients, such as the River Blackwater. Also, by speeding up the flow of water, dredging can potentially increase the risk of flooding to communities downstream.

Regular dredging can have a significantly adverse effect on the ecology within the river, reducing habitat diversity, displacing plants and animals and affecting water quality. We now take a more targeted approach to de-silting, only removing sediment locally, where it is a cost-effective solution that is necessary to reduce flood risk.

**Q. What was the primary cause of the 2001 flood event and would this scheme provide protection against a similar event?**

A. In 2001 there was a lot of rainfall over a large catchment area. This caused water levels in the River Blackwater to rise and fill the floodplain, which resulted in residential properties and businesses in Coggeshall, Feering and Kelvedon being flooded. In some areas flooding was also caused by surface water, before it reached the river or could soak into the saturated ground.





The proposed scheme is modelled based on a 1% annual probability flood (1 in 100), including an allowance for climate change. This means that, although the 2001 event was significant, we believe that the scheme's design and associated storage would have prevented the flooding of the properties and businesses from the River Blackwater, across the three communities.



**Q. What is the alternative to prevent flooding in a large storm event, for the Blackwater Valley?**

A. Currently there is no alternative that can provide a suitable amount of flood storage or property protection and which is financially viable. Flood warning and routine maintenance activities would however continue as at present.

**Q. What public engagement has been carried out?**

A. Public consultation into the flood alleviation scheme essentially began in 2001 when local news and press reports outlined the extent of the October 2001 flood event, its effects on residents and businesses and the large clear up operation required in the aftermath of the flood.



In 2015 the Environment Agency commissioned an Initial Assessment to explore whether a flood alleviation scheme would be viable for the three villages. The results of this assessment showed partnership funding was required for any significant flood protection scheme to progress.

The results of the Initial Assessment were presented at the Environment Agency's 2015 public drop-in events, where residents of the three flood affected villages supporting a scheme, stated their preference for a flood storage option.

There is a high level of general awareness within the local community of the Environment Agency's plans to develop the flood alleviation scheme. This awareness arises from the Environment Agency's stakeholder engagement activities which have included:

- a) A Scoping Workshop held at the Rivenhall Hotel on the 24 January 2019 attended by representatives of various local societies/groups and organisations
- b) Presentations to Coggeshall, Feering and Kelvedon Parish Councils
- c) Public exhibitions and drop-in events of 22 and 24 May 2019
- d) The issue of Newsletters providing updates relating to the scheme
- e) An on-line public exhibition via the Environment Agency's website, April 2020
- f) Meetings and correspondence with local stakeholder groups, representatives of Coggeshall Residents Against the Quarry (CRAQ), the community led natural flood management scheme, landowners, local residents and district councillors.
- g) The preparation of a video which provides details of the proposed flood alleviation scheme. See here; <https://www.youtube.com/watch?v=pfULOeddT-c>
- h) Meeting with Cllr Thorogood and representatives from CRAQ in February 2023
- i) Targeted leaflet and letter drops in March 2023 to residents in Flood Zone 3a (High Probability) having a 1% or greater annual probability of river flooding (who would benefit from the proposed scheme) and residents of the new Dutch Nursery Site, close to where the dam is to be constructed.

The various stakeholder engagement events and activities that have been carried out have offered stakeholders, local residents, community groups and interested members of the public the opportunity to view and comment on the flood alleviation scheme proposals.

When the planning application is submitted to Essex County Council, everyone will once again have an opportunity to comment on the scheme.

#### **Q. Who can I contact if I have further questions?**

A. If you have any further questions, please contact us at:  
[Enquiries\\_EastAnglia@environment-agency.gov.uk](mailto:Enquiries_EastAnglia@environment-agency.gov.uk)