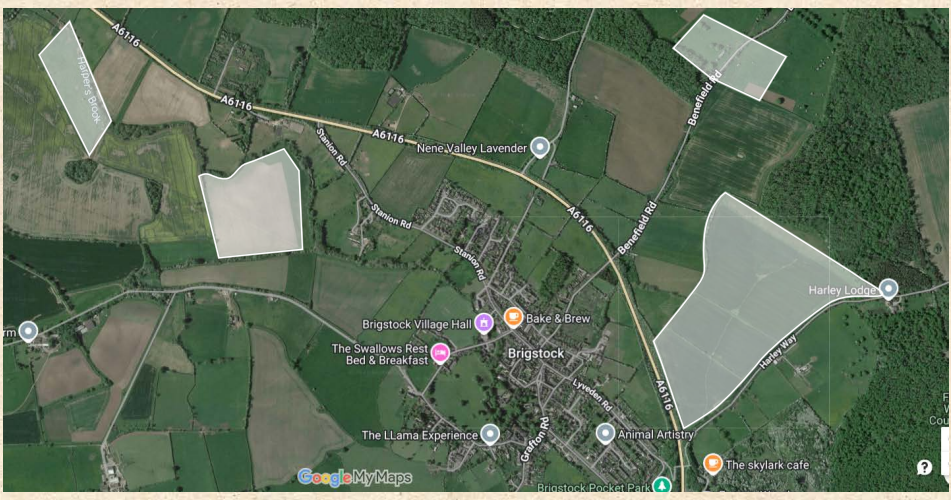
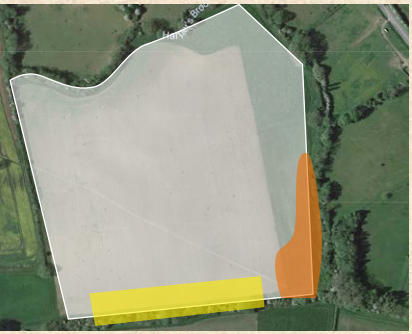
Natural Flood Management

What is NFM?

Natural Flood Management (NFM) is an approach that uses natural features and processes to reduce the risk of flooding by slowing and storing water. It focuses on restoring or enhancing natural systems like river channels, floodplains, and wetlands to help manage floodwaters. NFM complements traditional engineering solutions and can be used in various locations, from urban to rural areas, and on rivers, estuaries, and coasts.



Overview of all NFM works taking place in and around Brigstock



Wetland (orange), Leaky dams (yellow) – the field has a species rich grassland cover crop on it

Why are we creating a wetland, benefits of the species rich grassland?

There are two watercourses on Chase Farm, one originates high in woodland on a neighbouring property and the other is the Harper's Brook which has been designated a focus area for the RAIN project. During periods of high rainfall, both watercourses are at, or over, capacity. The water proceeds to flood properties in Brigstock village before eventually entering the Nene river.

The wetland has been designed to contain and slowly release flood water, increasing the flood resilience of the brook. Not only is this aimed at increasing property flood resilience, it will result in a significant ecological uplift when compared to the existing field corner.

Cover crops and a species rich grassland mix will be planted over two field parcels, totalling 13.11 hectares. The inclusion of cover crops in the scheme will help prevent soil loss, nitrate and pesticide infiltration into the Harper's Brook, as well as slowing down surface rain water run-off.

Flood modelling

Why are we putting in leaky dams, what are leaky dams?

A leaky woody dam is a type of Natural Flood Management (NFM) structure built using logs and woody debris in rivers or streams. It's designed to slow down and temporarily hold back water during flood events, mimicking the natural processes of trees and other woody materials accumulating in waterways. These structures are not solid dams meant to completely block water flow, but rather act as a partial barrier, allowing normal base flow and fish movement while reducing flood peak flow downstream.

Leaky woody dam

What is re-wiggling, how will it help?

Re-wiggling or re-meandering benefits both people and biodiversity. Reconnecting a river to its floodplain and adding meanders increase storage capacity in the river system and reduce water speed, and therefore the flooding risk. From an environmental perspective, it allows space for nature to recover and creates thriving ecosystems, allowing vegetation to re-establish and providing habitat for a range of aquatic species.

Re-meandering of straightened channel

Bund creation

What is a bund?

A "bund" in the context of Natural Flood Management (NFM) refers to a low-level, earth-built embankment, often used to hold back or divert floodwaters. Bunds can slow down and intercept surface runoff, effectively reducing the flow rate and peak flood levels. By holding back and delaying the release of floodwaters, bunds help to mitigate the impact of flooding further downstream.

How will all of this help?

The overarching aim of these measures working together is that they will slow the flow of water in periods of heavy rainfall and flood events. This will help mitigate flooding downstream, reduce the amount of sediment transported, reduce chemical run-off from nearby farms, and lead to an increase in biodiversity. These benefits will be felt not just by the Brigstock community, but communities further downstream, throughout the catchment.

How will these works affect the public right of way?

All efforts will be made to mitigate disruption to the existing public right of way during construction, once the scheme reaches maturity, it is hoped that it will represent an aesthetically pleasing addition to the local right of way.

How can you get involved?

Monitoring: We will be installing a citizen science project once the works are complete, where local residents and the public can assist with monitoring the development of the wetland, it's change in biodiversity, and the emotional impact that it delivers to the community.

RAIN Resilience and Innovation Northants

West Northamptonshire Council

NENE RIVERS TRUST

The RAIN project is funded by Defra as part of the £200 million Flood and Coastal Innovation Programmes, which is managed by the Environment Agency. The programmes will drive innovation in flood and coastal resilience and adaptation to a changing climate.

Department for Environment Food & Rural Affairs