

Frequently Asked Questions

Updated: March 2020

Marchington Flood Risk Management Project

Marchington village has flooded on several occasions resulting in internal property flooding and properties becoming cut off by flood waters from a combination of river, surface water and sewer flooding. This has resulted in significant damage to residential and non-residential properties. To reduce the likelihood of this happening again, funding was made available to investigate flood risk reduction options in this area. This project has been officially named as the 'Marchington Brook Flood Risk Alleviation Scheme' and it is being led by the Environment Agency who are working closely with Marchington Parish Council, Staffordshire County Council, Severn Trent Water and Staffordshire Wildlife Trust.

Following a recent Community Information Event, the Environment Agency has produced this Frequently Asked Questions document to help answer common questions and queries that local residents may have regarding our proposals to reduce flood risk to the village of Marchington.

If you have a question or concern that is not addressed here, or if you have any suggestions, then please contact us via Marchington Parish Council or by using the Enquiry Form.

Why did you hold a Community Information Event in January 2020?

A flood risk management project was originally established by Staffordshire County Council in 2014. However, due to the main source of flooding in Marchington occurring on 'Main River', in 2018 the Environment Agency took the lead to further investigate the options to reduce flood risk and increase community resilience. Due to the multiple sources of flood risk, gaining a clear understanding of the timings and flow routes involved during different sized flood events has been difficult and time-consuming to accurately model, however we felt it was important to take this time to enable us to use the model to explore and test multiple different options and potential solutions and also because this is required for any future business cases. We completed this modelling work towards the end of 2019 and were able to share the results of this with the community. The event was therefore an opportunity for the community to ask questions and talk to those involved in the work.

In summary, this event was an opportunity for residents to:

1. Understand that the complexity of the flooding issues in Marchington requires a multi-agency response to reduce flood risk
2. Understand what the Environment Agency has done to date to reduce flooding issues in the area
3. Understand what we are seeking to do to further reduce flood risk in the area, including the use of Natural Flood Management
4. Understand what you, as individuals and as a community, can do to become more resilient to different sources of flooding and the impacts of climate change
5. Tell us more about your experiences of flooding and share your detailed knowledge of where flooding occurs
6. Ask questions of the project team and find out how you could get involved with different aspects the project

What works have you done so far?

- **Hydraulic Flood Modelling**

Over the last 2 years the Environment Agency has gathered additional information, including data on property thresholds, to update the Marchington Brook hydraulic model and gain a more representative model of the flood volumes and extents that have been witnessed. We have then used this to test different options to understand which ones could provide the most reduction in flood risk in Marchington. Further work has been done to understand the costs and benefits of each option which resulted in a number of options being discounted due to limited flood risk reduction, technical complexity or excessive costs, including a large flood storage area (see below). We are now looking for your support to progress a combination of flood risk reduction and resilience measures.

- **Maintenance**

In May 2019 the Environment Agency exercised its powers to undertake de-silting and cleared the overflow culvert under Church Lane Bridge. Within the hydraulic modelling we undertook some sensitivity analysis to better understand the level at which a blockage increases flood risk to the village – this level is when the overflow culvert is more than half blocked. The culvert will be visually inspected on an annual basis and internally inspected with a camera every 6 years by the Environment Agency who are responsible for managing flood risk associated with this section of the river. These inspections will help inform when de-silting may be required, however as the bridge structure itself is owned, operated and maintained by the Local Authority Highways Department, it would be something that they would need to lead on if the inspections suggested de-silting was required.

- **Flood Warning Gauge**

The Environment Agency have been doing additional modelling, testing and calibration work that has allowed us to upgrade the river level gauge at the Church Lane Bridge to a forecastable gauge. This now enables increased time when it comes to the issuing of flood alerts and warnings, allowing residents more time to prepare if property flooding is predicted.

- **Road Closure Scheme**

One of the causes of property flooding in Marchington is due to vehicles driving through flood water on Church Lane and causing a bow wave that results in water entering roadside properties. To address this issue a Road Closure Scheme was recommended by Staffordshire County Council. The Environment Agency have been supporting Staffordshire County Council and the Civil Contingencies Unit in progressing this scheme, which is currently awaiting sign off. The Environment Agency will continue to provide support by utilising and sharing the best available information from the forecastable gauge to help determine if and when the Road Closure Scheme could be implemented to best effect during high or prolonged rainfall events.

What will you be doing next?

- The Environment Agency is taking on board the questions and comments received during the Community Information Event held in January 2020 and incorporating these into the project proposals as appropriate.
- The Environment Agency is progressing the business case to justify the public money we will be spending and confirm funding commitments. We will be working with consultants to test a mechanism that could help prevent river water from exiting the Marchington Brook through the gap adjacent to Church Lane Bridge in lower order events and to fully understand the impacts this may have on other properties. We will also be investigating the potential for Property Flood Resilience measures and will contact relevant property owners seeking co-operation to allow us to undertake feasibility surveys where appropriate in due course.
- The Environment Agency is working closely with Staffordshire Wildlife Trust to look at the potential for Natural Flood Management work across the catchment. Engagement began in autumn when letters were sent out to landowners and this will continue. Where landowner permission is granted, the Environment Agency and Staffordshire Wildlife Trust will undertake walkover surveys to assess what type of and where Natural Flood Management features could be installed.
- The Environment Agency and the Civil Contingencies Unit will continue to support and work with Marchington Parish Council to formalise a Flood Action Group and develop a Flood/Emergency Action Plan to help residents be as prepared as possible for any future flooding events.

Why has it taken this long for this project to be developed?

Before a project can be developed, work has to be undertaken to understand the flood risk mechanisms and to ensure the correct flood risk management measures or combination of measures will be put in place. This is inevitably a complex piece of work, given the interactions and variability in the natural environment. This work must confirm that any new measures do not increase the risk of flooding to other properties or pass on the flood risk to downstream properties or communities. All projects need to be justified and need to meet the governments and other funding provider's requirements for funding to be released, and this requires robust cost benefit analyses to be undertaken. Finally, there are

many communities in the UK at flood risk who are looking for support to take forward projects, and we therefore need to ensure we are using public money where it provides the greatest benefit.

What are the timescales for the project?

We are hopeful that the following can be achieved:

- Short Term
 - Flood Action Plan (Marchington Parish Council leading)
 - Road Closure Scheme (Staffordshire County Council leading)
 - Option development
 - NFM farm scoping (Staffordshire Wildlife Trust leading)
- Medium Term
 - Natural Flood Management (walkover surveys and scoping, potential for pilot/demonstration sites if additional funding is secured and landowner permission is granted)
 - Community action
- Long Term
 - Property Flood Resilience (surveys and installation)
 - Any viable minor works
 - Any viable larger scale works
 - Planning control
- Ongoing
 - Business Case progression
 - Inspections and maintenance
 - Reporting of issues by residents
 - Engagement with landowners and stakeholders

How is the project being funded?

Funding is available from the government to reduce flooding through Flood Defence Grant in Aid (FDGiA). The amount of funding available to the project currently depends on the amount of benefit it provides and this is mostly influenced by the number of properties which have their flood risk reduced by the proposals. With this in mind, areas where hundreds of houses can be protected can attract larger sums than areas with fewer houses at risk. For example if we could reduce risk to 24 properties in Marchington we could attract around £400k FDGiA. In Burton, where we can reduce risk to 4,500 properties we can attract around £25m FDGiA. This amount is subject to change as the project progresses dependent upon the final measures we install at Marchington, the amount of reduction in risk that they are able to contribute to and potential changes to funding rules.

There are also other sources of funding available. Regional Flood and Coastal Committees (RFCC's) have funds from Local Authority Council

Tax which they can award to flood risk projects. The Trent RFCC have allocated £195k to the Marchington scheme to help make the current proposals affordable. Contributions can also be made to schemes by Local Authorities and property and business owners that benefit from the proposals. For example, at Rugeley, the Local Enterprise Partnership contributed over £1m because the scheme enabled regeneration of the town centre by reducing the flood risk. The Natural Flood Management aspect of the project is being funded through a separate pot of money from the RFCC that currently needs to be secured on an annual basis.

Will there be any potential impacts to the environment from the project?

Before undertaking any ground works we will do environmental surveys to ensure we minimise any impact to the area and take opportunity for enhancements where possible. There will possibly be some impact on the environment, however, this will be limited and the intention is for some of the measures we implement to provide multiple benefits, including enhancement of the environment by creating new habitats and improving water quality.

What is Property Flood Resilience?

Property Flood Resilience, also known as Property Level Protection, is a term used to describe measures that can be taken in order to make properties at risk of flooding more resistant and resilient. An assessment is undertaken to understand how water can enter the property and suggest ways to mitigate potential flooding. As well as resistance methods (preventing water entering the property), the survey will also include the investigation of resilience measures (adapting inside the property), to limit the damage and disruption that occurs when water enters. There is no guarantee that any flood protection system will stop all flooding or damage. However, Property Flood Resilience measures are tested to meet specific leakage rates and pumps can also be considered to remove any residual water ingress.

Where can I find more information on Property Flood Resilience?

You can find more information on Property Flood Resilience measures at www.nationalfloodforum.org.uk.

What is Natural Flood Management?

Natural Flood Management (NFM) is an approach to flood risk management that works with natural processes and can provide multiple benefits to the environment and to a community. Working with Natural Processes (WWNP) to reduce flood risk involves implementing measures that help to protect, restore and emulate the natural functions of the river, its floodplain and the wider catchment. Examples include restoring bends in rivers, changing the way land is managed so soil can absorb more water, creating barriers to deflect and hold back flood flows both in rivers and on land, and planting trees to increase rainfall interception and assist infiltration to soils. It can be a cost-effective and sustainable way to manage flood risk alongside traditional engineering, while creating habitat for wildlife and increasing amenity within the local community. NFM measures can also increase the resilience of an environment to other effects of climate change such as prolonged periods of dry weather as they help to restore the natural functioning of ecosystems.

How effective are Natural Flood Management measures?

It is often difficult to quantify the benefits of Natural Flood Management as the cost of modelling can often outweigh the cost of delivering the works. However, we can draw on other examples where research has taken place to give an indication of the potential difference it can make. The Environment Agency has published data, case studies and evidence about the role of NFM in reducing flood risk. 'Working with natural processes to reduce flood risk' contains more than 60 case studies from across England and explores how successful the approach is, how it could be used elsewhere and what research may still be needed. For example, benefits such as reductions in flood peaks or increased time to flood peak have been observed following the installation of NFM measures across catchments including tree planting, changes in land/soil management and the installation of features within watercourses.

Where can I find more information on Natural Flood Management?

Defra and the Environment Agency have completed and published research on NFM. These research papers, short summaries on the types of NFM measures and associated case studies are available at: <https://www.gov.uk/government/publications/working-with-natural-processes-to-reduce-flood-risk>

What impact does Marchington Industrial Estate have on flooding in the village?

The size and impermeable surfaces of Marchington Industrial Estate will result in more surface water runoff than if the same area was naturally vegetated, however it only represents a small area of the total catchment size. In terms of contribution, our modelling suggests that up to 5% of the volume of water that enters the village comes from the Industrial Estate, and so targeting this area would not resolve the flooding issues in the village by itself, although it could help contribute. As part of a joint approach, the Environment Agency and Staffordshire County Council are working with the Industrial Estate to help manage the drainage network in this area to ensure it operates efficiently.

Why has a large flood storage area solution been rejected for the area?

The catchment upstream of Marchington is relatively small, predominately rural and sits on a mudstone bedrock with clay soils. These factors contribute to the catchments fast-reacting response to rainfall and therefore methods to provide upstream storage were considered the most likely to provide a strategic reduction in flood risk. Options for flood storage upstream of Marchington were therefore investigated through hydraulic modelling.

The modelling indicated that a very large volume of flood storage (375,000m³) would be required. Whilst this reduced the risk of flooding to 18 of the at risk residential properties in Marchington, it did not eliminate the risk of flooding to all, with 2 residential properties still remaining at risk of surface water flooding in an event that has a 1.33% chance of occurring each year. The conclusion of the review was that this option is not economically viable as it would cost circa £15 - £20 million, and the funding currently secured is £200k. Although the project will be eligible for more funding from Flood Defence Grant in Aid, due to current funding rules it will not be enough due to the number of properties that would

benefit. However, we are still progressing an option that could help prevent the Marchington Brook from coming out of bank so early in the area adjacent to Church Lane Bridge, along with Property Flood Resilience, Natural Flood Management and increased community resilience.

Why are you not going to dredge the Marchington Brook?

There are multiple reasons as to why we have not considered dredging the Marchington Brook to date. Dredging of rivers generally has a limited impact on the capacity of the river and floodplain to store more water during flood conditions as effectively it would only remove a small proportion of sediment from the system as a whole. As rivers naturally move this sediment around, it has been found in the past that areas that have been dredged often silt up again and return to their pre-dredged state. Dredging can also result in water moving down a river channel at a faster rate and can therefore increase the risk of flooding to towns and villages further downstream. In addition, dredging is known to have negative environmental impacts, damaging riverine ecosystems and leading to direct losses of habitats and species. We understand that members of the community would still like dredging to be considered and based on these comments we will review the impact that dredging could have with our modelling consultants to enable a bespoke understanding of the situation in Marchington, however based on past experience it is unlikely that any benefits would outweigh the dis-benefits or potential costs. We will also be considering the management of sediment across the catchment as well as the management of other ditches and watercourses in the Marchington area as part of the Natural Flood Management project. For more impartial information on dredging you can visit <https://www.ciwem.org/policy-reports/floods-and-dredging-a-reality-check>.

What are you doing about planning and development in the catchment?

We are highlighting the flood risk situation in Marchington to the Local Planning Authority, East Staffordshire Borough Council, and local Councillors in order to increase their awareness and discuss the support the planning process could provide to reduce all sources of flood risk in the catchment.

Will this affect my home insurance against flooding?

The project may have an impact on home insurance, however this will depend on the final standard of protection that is provided by the project, which is still to be determined. We would suggest speaking to your insurer following implementation of the project to ensure they can take this in to account when pricing your insurance. Further information on home insurance cover for flooding can be found by visiting the National Flood Forum website, <https://nationalfloodforum.org.uk/about-flooding/insurance/household-insurance/>. Government also have an agreement in place with insurance companies to ensure home insurance is affordable to everyone at risk from flooding. This scheme is known as FloodRe. To find out more information about FloodRe you can visit <https://www.floodre.co.uk/>

Where can I report flooding?

To report flooding, please follow the advice on this website: <https://www.gov.uk/report-flood-cause>. You can also call Floodline on 0845 850 3518 or the Environment Agency Incident Line on 0800 80 70 60.

