

November 2015

CANVEY ISLAND 6-POINT PLAN

Protecting our community
Protecting our economy
Protecting our Canvey



An update report from the Multi-Agency Partnership



Over
1,800

defects found in the
drainage system.

More than
5,000 gullies and
2,500 manholes
surveyed.

 **Over £2m**

The cost to the local economy
of a future flooding incident
would be in the region of

£274m per year.



spent improving the drainage
infrastructure since 2013.

Around
£300,000

has been spent on
the jetting and CCTV
surveying of **3.6 kilometres**
of the drainage network.



Introduction

In October 2014, the Canvey Island Multi-Agency Partnership (MAP) was formed with the aim of raising awareness of flood risk, and increasing the resilience of Canvey Island's communities and businesses to flooding. In March 2015, the group published 'Protecting our Canvey' - a manifesto of the group's plans, which set out the strategic aims and ambitions of Anglian Water, Castle Point Borough Council, the Environment Agency and Essex County Council (Inc. Essex Highways). In May, this document was presented to the Secretary of State for Environment, The Rt. Hon. Elizabeth Truss MP, which received a very positive response.

Since then, work has continued on the Island and all partner agencies have continued to work closely together on a range of key strategic projects. This work has allowed the development of a 6-point plan for Canvey that, if approved by government, would see over £24m invested into the Island's infrastructure and community resilience.

This document explores what work has already been undertaken on the Island, and what projects are planned for the future. It also explains how the partners would invest the additional funding from central government to address the most pressing issues, if it is awarded.

About the Partners

The multi-agency group is formed from the four organisations that have the responsibility for drainage and flood risk management on Canvey Island. Each of these partners look after a different part of the system, but all agree that the only way to have a real impact is to work together in collaboration.

Anglian Water is the water and water recycling company serving over six million customers across the East of England. On Canvey Island, Anglian Water is the organisation responsible for the foul sewerage network. Anglian Water also own and maintain a number of surface water drainage systems on the Island.

Castle Point Borough Council owns the lake and a number of other drainage features on the Island, and is the organisation that is responsible for local planning. Castle Point Borough Council is also the authority who manages social housing on the Island, making them a riparian owner of some private drainage, and they offer advice and support on flood recovery.

The Environment Agency (EA) is the organisation with overall responsibility for strategic flood risk management in England. On the Island the EA are responsible for the management of flooding from designated main river watercourses and the sea, as well as holding regulatory powers of enforcement over tidal and main river flood defences.

Essex County Council is the Lead Local Flood Authority covering Canvey Island. They coordinate local flood risk management activities and flood response. Essex County Council Highways Department is also the authority responsible for the ownership and management of the highways drainage network. As well as these responsibilities, Essex County Council hold powers to regulate ordinary watercourses through consents and enforcement.

In addition to the organisations named above, a broad range of stakeholders continue to play a vital part in the strategic flood management activities across Canvey Island. The Essex Fire and Rescue Service provide emergency planning on behalf of the County Council and offer advice on community resilience. The Fire Service Volunteers have also carried out a number of community led ditch clearing projects.

What has the group done to date?

Over the course of the year, the Canvey MAP has invested over £2m surveying, cleaning and repairing the local drainage infrastructure. A number of back-up generators have also been installed at some of the Island's key pumping stations.

The group have also supported work on an innovative urban drainage study, which has created a sophisticated computer model of the Island's network. This model will allow the team to identify pinch points and run scenarios to test possible

solutions. The model has now been completed and options will be carefully explored over the coming months.

Another key piece of work undertaken by the group has been the mapping of privately owned elements of the drainage system. This work has, for the first time, identified and mapped over 120 privately owned drains and watercourses across Canvey. Camera surveys will shortly begin to determine the state of these drainage pipes and the multi-agency group will then work with private landowners to understand what action needs to be taken.

Essex County Council has introduced a new Property Level Protection Grant, to increase the resilience of homes that have previously been flooded. The grant is a good start, but additional funding will be vital for addressing the issues faced by more than 1,000 homes flooded in 2014.

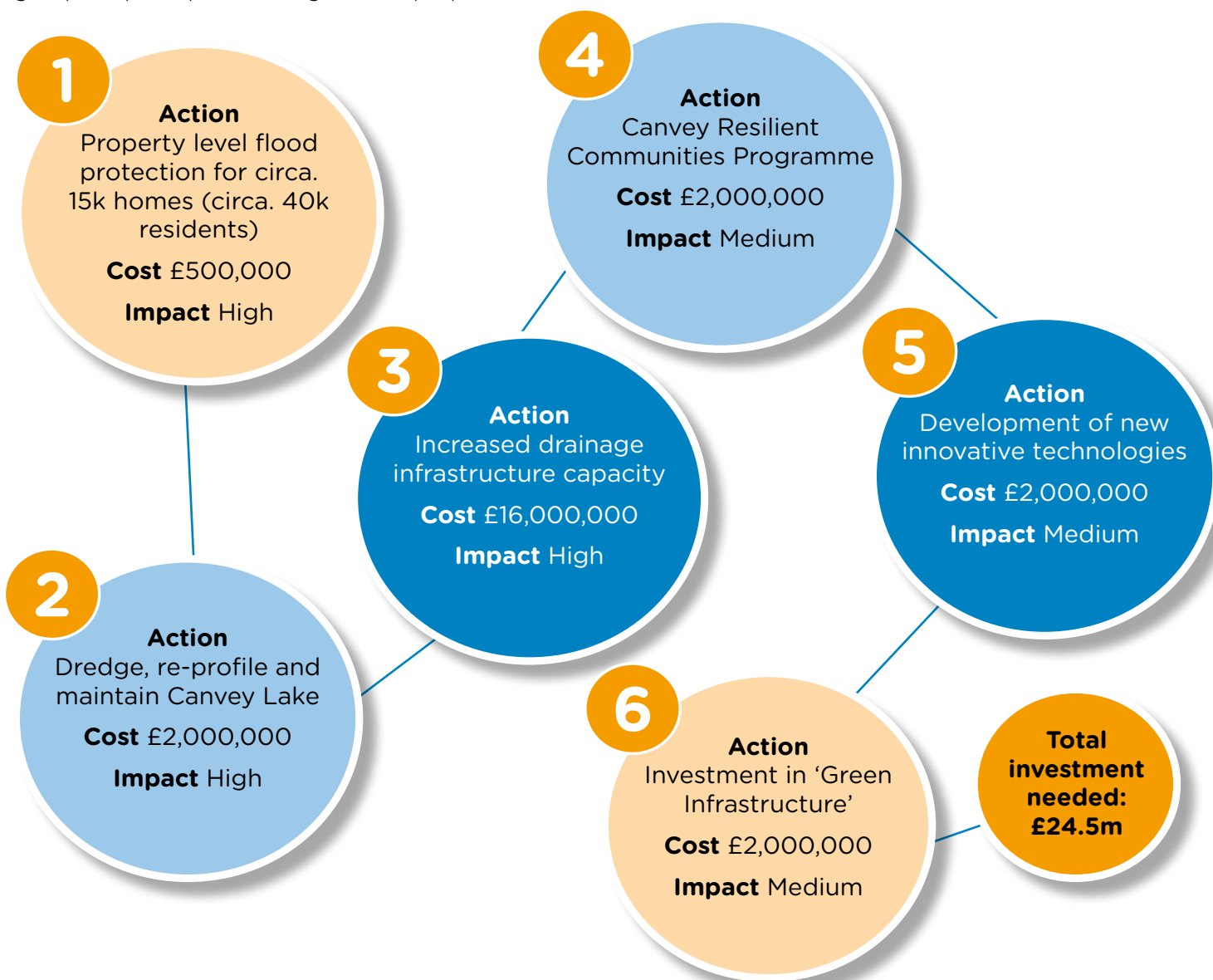
This work goes a long way in addressing recommendations made in the Section 19 flood report - endorsed by the government's Chief Scientist, Professor Sir Mark Walport.





Our 6-Point Plan for Canvey Island

For over a year the MAP has been working on a long-term plan to help Canvey Island's communities and businesses, by increasing their resilience to the risks of surface water flooding. Below is an outline of the group's 6-point plan, setting out the proposed activities on the Island, and their associated costs.



Canvey Lake

The Section 19 Flood Investigation Report, published by Essex LLFA in September 2014, recommended a thorough investigation into the capacity available in the Canvey Lake. The lake, strategically located in the centre of the Island, forms part of the Island's surface water drainage system and so ensuring it is kept in a good condition and able to receive surface water during storm events is vital.

In a further report by the government's Chief Scientist, Sir Mark Walport, it was also mentioned that capacity of this lake needed to be addressed and maintained.

Property level flood protection

Both of the detailed investigations into flooding on the Island recommended urgent action, to protect properties (both homes and businesses) from the impacts of surface water flooding.

The MAP is seeking to establish a fund that will assist homeowners by granting access to a range of products and information, that will help to mitigate the impact of any future surface water flooding events.

Following detailed investigations, the group envisages this scheme benefiting around 15,000 high risk properties - or around 40,000 residents - on the Island. It is estimated that these measures will require an additional £500,000 of allocated funding to support the PLP package, which was introduced in September of this year. This scheme will continue to be run and managed by Essex County Council in their role as Lead Local Flood Authority (LLFA).

The MAP has completed the first phase of modeling the impacts of dredging the lake, to remove large amounts of silt which have built up over time. The group has also suggested re-profiling the banks of the lake, to provide additional storage capacity in high intensity rainfall events.

This increased storage capacity could allow surface water to drain away from the network more effectively, whilst increasing the amount of water that could be held.

It has been identified that any work on the lake would need to be followed by a regular planned maintenance programme. This ongoing work would keep outfalls clear and above water level, ensure a channel is maintained through the centre of the lake, and monitor for any other blockages or issues that could impact the lake's ability to act as additional surface water storage.

It is anticipated that the initial work to dredge and re-profile the lake would require £1.5m. A further £500,000 would then be required for ongoing planned maintenance. This scheme would be run and managed by Canvey Island Town Council.

There is a great opportunity to reinvigorate the lake and the surrounding parkland to create a high quality greenspace for walking, cycling, angling and nature conservation.



3

Increasing capacity of the drainage infrastructure

Detailed work has been underway for the last two years, building an Integrated Urban Drainage (IUD) model. This sophisticated computer model has given the MAP a much greater insight into the capacity and capability of the current drainage network on Canvey Island. Now complete, the model allows the team to run complex scenarios highlighting the impact of rainfall events of differing scales.

Scenario testing of the IUD model is still ongoing but key pinch points in the drainage network are already being identified. Once complete, the MAP will have a much clearer understanding of the root causes of flooding across the Island and projects can be strategically designed to improve critical points of the system – ensuring the infrastructure is better prepared to protect against non-tidal flooding.

Whilst detailed schemes cannot be designed until further scenario testing is complete, the MAP anticipate around £12m of capital funding would be required. This funding would be split between the three organisations with the largest amount of drainage infrastructure on the Island – Anglian Water, the Environment Agency and Essex County Council (Highways).

The MAP has already undertaken an extensive mapping exercise of the privately owned parts of the drainage system. This work has, for the first time, identified and mapped over 120 privately owned drains and watercourses across Canvey. Whilst this work has helped identify where these drainage assets could possibly be, the MAP feels more needs to be done.

The group has outlined plans to provide detailed information, surveys and possible resources for the management of riparian drainage networks. Whilst

these parts of the network are owned by home and land owners, the groups acknowledges that many owners may not know of their responsibilities. Camera surveys will shortly begin to determine the state of these drainage pipes and the MAP will then work with private landowners to understand what action needs to be taken.

The group would now like to allocate an additional £4m for the conducting of these detailed surveys, and to provide detailed reports to the owners, advising on necessary actions that could be taken to rectify issues that have been identified. The group is also exploring the possibility of a financial assistance fund, which would allow riparian owners to apply for support of remedial works if they are needed.

4

Building resilient and informed communities

The MAP and other key stakeholders on Canvey Island have, for a long time, held the view that collaboration is the key to managing the risks of surface water flooding. Great strides have been taken to bring together stakeholder organisations and this has paid dividends. However, more needs to be done to inform, educate and engage local communities. The MAP would like to invest £2m to build long term resilience on the Island.

The MAP has undertaken a detailed piece of work to identify opportunities for community resilience schemes, to be rolled out to different groups on the Island. These schemes take many different forms, from raising awareness of individual riparian (landowner) responsibilities, developing a flood action plan and emergency flood kit, to volunteer projects cleaning up the local water environment.

Alongside these programmes, a community communications plan would be developed including leaflets and 'drop-in' meetings for residents.

The MAP has also engaged the National Flood Forum (NFF) and the Essex Fire and Rescue Service, who have both mobilized their local volunteer networks to raise the awareness of flood risk and the steps that individuals can make to reduce this risk.

A number of behavioral change campaigns have already been rolled out on the Island, Keep It Clear (Anglian Water), RiverCare (Keep Britain Tidy & Anglian Water) and Where Does Water Go? (Essex County Council). The Environment Agency is also preparing to launch their 'Yellow Fish' campaign, examining how water gets into watercourses.

Further to working with communities, the MAP will look at possible changes to planning policy. The partners feel that there is an opportunity for local planning authorities to implement increased source control measures in new buildings. This policy change could lead to as much as 50% of surface water runoff being attenuated before making its way to the drainage network.

5

Innovation in flood management technologies

There are many new technologies now available on the market that could be installed to help reduce the risk of surface water flooding on Canvey Island. The MAP would like to invest £2m of funding into systems that would increase early warning of flood events and speed up the response to such events.

6

Investment in green surface water storage

The MAP is keen to explore what options are available to increase the amount of 'green' surface water storage across the Island. This would provide additional storage for excess rainwater in storm events, reducing the amount of water that hits the drainage network at the same time. Some early options being explored include re-profiling the Winter Gardens Primary School playing fields to reduce their level by 1m, and the installation of attenuating water butts at properties located in the most 'at risk' areas on the Island. All public space will be reviewed for its ability to hold back rain water.

Whilst the levels of storage created would be modest, schemes like this would help to slow down the flow of rainwater to the drainage system, helping to reduce the pressure on pumps across the Island at peak times, thereby reducing the investment required elsewhere. The group would allocate £2m of funding to this scheme.



Making the economic case for Canvey

The loss and devastation caused by flooding is tremendous and multifaceted, ranging from the social distress and disruption caused, as well as the monetary losses experienced by private individuals, businesses and the government. This includes financial costs borne by the national economy in the form of school closures and work days lost; repairs to infrastructure, including utilities and roads; inability of businesses and consumers to operate during floods; and public sector emergency response costs.

The cost of a future flooding incident on the Island would be in the region of £274m per year in lost economic output, and up to £2.1bn in damage to residential property.

With over 6,100 jobs already based on the Island, plans submitted to the government through the South East LEP's Strategic Economic Plan (SEP), propose to create over 1,100 new jobs. Further development opportunities have also created the potential for the construction of over 1,500 new homes across Canvey.

The Essex Economic Growth Strategy highlights the numerous industrial opportunities located along the Thames riverside in Thurrock and on Canvey Island; recognising the strong growth potential in the area.

Investors and insurers carefully consider the risk of flooding when looking at their business ventures. As

seen last year, a single event can cause millions of pounds of damage to businesses and this can be a huge disincentive. The cost of flood damage to stock, plant, crops, livestock and premises is immediate, and the secondary burden of business continuity due to non-productive recovery can be devastating and even terminal. The work carried out by the MAP and other organisations to address the risk of flooding will need to be clearly communicated to investors and insurers to build their confidence in Canvey Island as a great place to do business.

Flood risk also places huge challenges on new development. National and local planning policies on flood risk and sustainable drainage can be seen as restrictive to the feasibility of new development in certain areas. Unless a strategic and wide reaching flood mitigation programme can be implemented, site based flood mitigation could be seen by developers as too expensive and fragmented – furthermore it may have an adverse impact on the existing network. By improving the wider local infrastructure and working in collaboration with developers on initiatives like SUDs and on-site attenuation, the MAP can help unlock areas for growth and investment that were previously constrained.

The 6-point plan has been pulled together using expertise from private enterprise and the public sector. We will work with other representative organisations, including Essex Chambers of Commerce and the South East LEP to make sure that the economic case for this plan is kept under review.

Our ask of central government

Our ask

In order to deliver this vital plan, all relevant agencies and central government need to work together and address the £24.5m funding shortfall.

Partner organisations and the local community ask that HM Treasury, Defra and DCLG make available the necessary funds to allow the implementation of this

plan; helping to ensure the huge growth potential of this area is not inhibited by the significant risks associated with flooding on Canvey Island.