



# **£45m to kick start investment in York**

York Public Exhibition

Hotel 53, Piccadilly

Friday 20<sup>th</sup> May and Saturday 21<sup>st</sup> May

# Communities

Poppleton

Clifton and  
Rawcliffe

Holgate

Bishopthorpe

Naburn and  
Acaster Malbis

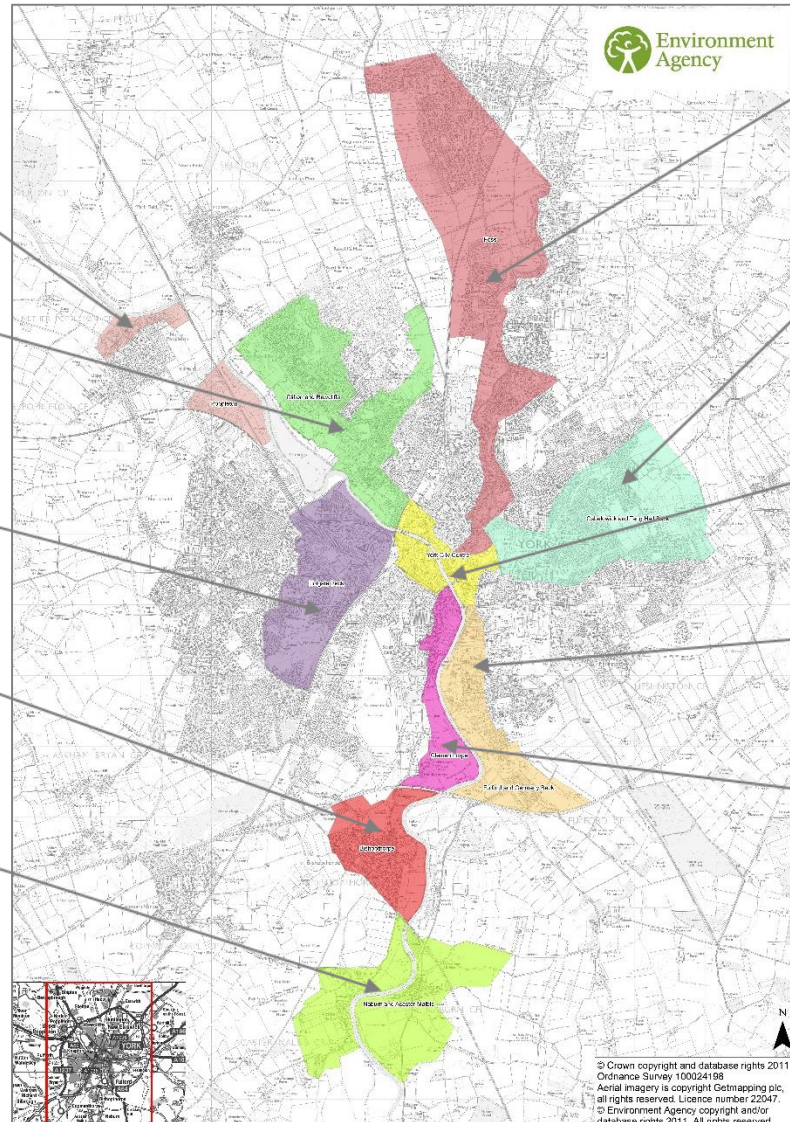
Foss

Osballdwick and  
Tang Hall

York City Centre

Fulford

Clementhorpe



# Community Profile: Bishopthorpe

The Bishopthorpe flood cell covers the right bank of the River Ouse between the A64 (York ring road) and Naburn Bridge. It includes the village of Bishopthorpe.

The only flood defence is a short overtopping flood embankment at Middlethorpe Ings to the north of the flood cell. There is no specific flood warning however Bishopthorpe is covered by the Upper Ouse flood alert. This is currently no flood warden within this community.

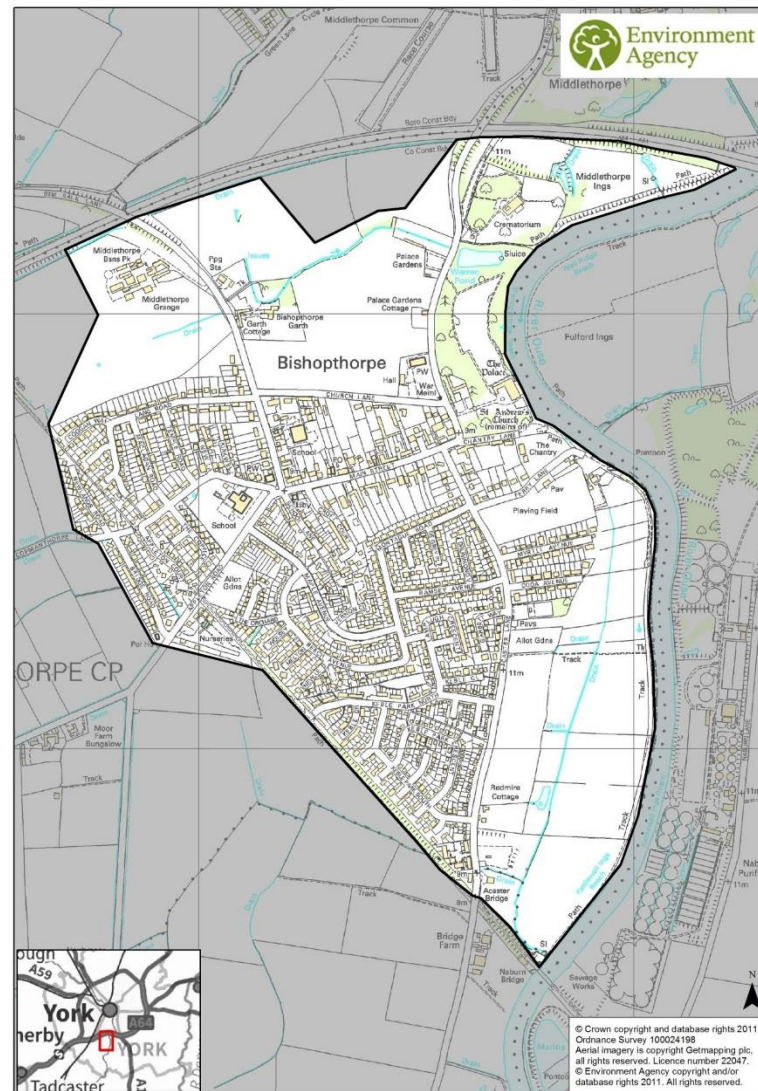
We estimate that around 10 residential properties are currently at risk of flooding from the River Ouse. This may rise to 120 due to climate change. Although flooding to properties was not reported in 2015/16 flooding did occur in 2013 and 2000.

We have looked at options for Bishopthorpe in the past. In 2005 a potential scheme was identified that would provide protection against a flood that has a 2% probability of happening each year (1 in 50 year event). This scheme would include:

- A floodwall on the riverward side of Bishopthorpe Palace, tying into a flood embankment across the end of Chantry Lane and then into high ground.
- A pumping station would be required to deal with flows from the surface water culvert.

## What work may be possible?

- ✓ New defence including pumping station
- ✓ Property level resilience
- ✓ Flood warden recruitment



# Community Profile: Clementhorpe

This area lies on the right bank of the River Ouse and spans from Skeldergate Bridge to the A64 outer ring road.

There are currently flood defences at Lower Ebor Street. A flood warning service is provided at River Street. There are two flood wardens in Clementhorpe who patrol the flood warning area covering Lower Ebor Street.

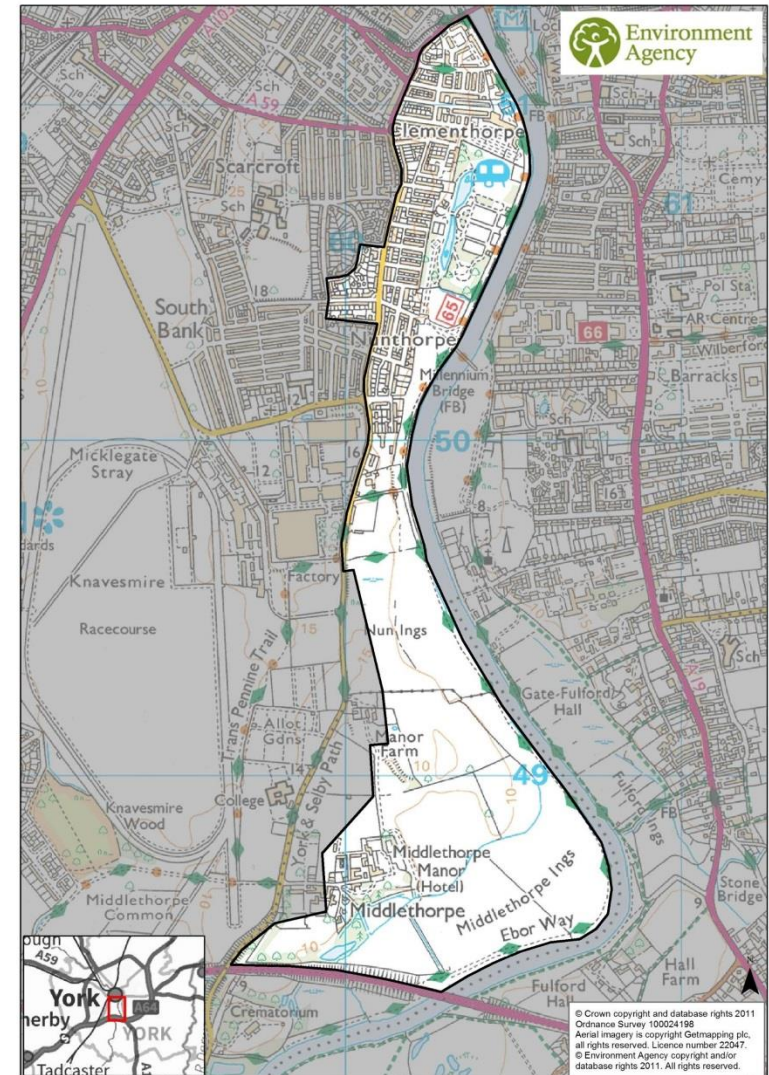
We estimate that around 190 residential properties are currently at risk of flooding from the River Ouse. This may rise to 280 due to climate change.

In 2008 an Aqua Barrier was installed at the end of Clementhorpe by City of York Council. Whilst it reduced the consequence of flooding to residents in the immediate area; water found its way under the road and came through its surface and kerb stones. As a result it has not been used since.

In 2013 we, along with City of York Council, reviewed options for Clementhorpe. This looked at the installation of a permanent flood wall along Clementhorpe, the use of a temporary barrier (such as the Aqua Barrier), increasing the height of the existing defence at Lower Ebor Street and options for property level resilience. Whilst the preferred technical solution was a combination of the above, it was not possible to secure Government funding for this work. As such property level resilience was deemed the most financial viable solution.

## What work may be possible?

- ✓ Install a permanent flood barrier at Clementhorpe
- ✓ Construct an embankment or landscaping downstream of Rowntrees Park
- ✓ Raise the flood banks in Middlethorpe Ings
- ✓ Review of operation of washlands
- ✓ Property level resilience
- ✓ Improve/ raise the existing Lower Ebor defences and replace flood gates
- ✓ Install a permanent flood wall at the end of Clementhorpe
- ✓ Raise the access ramps to Millennium Bridge



# Community Profile: Clifton and Rawcliffe

The flood cell is situated to the East of the Rawcliffe and Clifton Ings, and the left bank of the River Ouse from the Northernmost part of Rawcliffe (to the A64 ring road) down to Scarborough Bridge. It also includes Clifton from Copping Farm down to Scarborough Bridge.

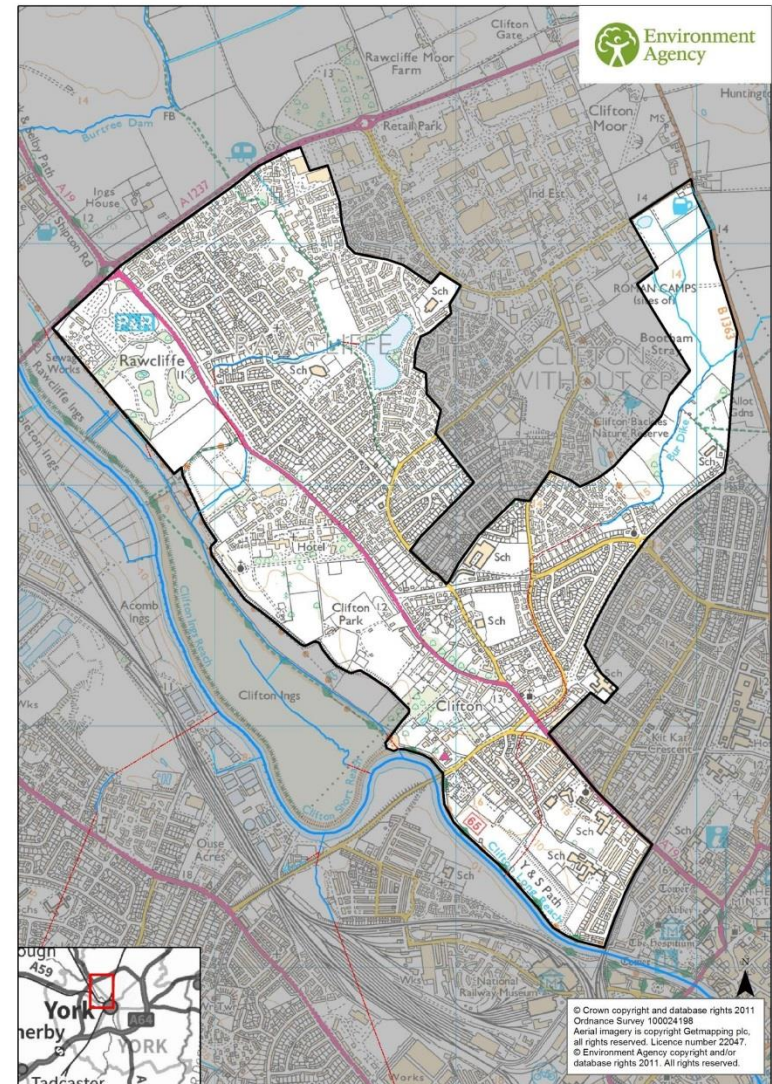
In flood risk terms the area benefits from the flood storage areas of the Rawcliffe and Clifton Ings, along with raised ground and some drainage structures also (with control mechanisms). Flood warning services are provided at Rawcliffe for the River Ouse.

There are currently no flood wardens for this area, however there are individual emergency plans in place for Clifton and Rawcliffe.

We estimate that around 280 residential properties are currently at risk of flooding from the River Ouse within this area during a 1% (1 in 100 year) flood event. This may rise to 600 due to climate change.

## What work may be possible?

- ✓ Raise the Clifton Ings Barrier Bank and extend into high ground
- ✓ Install a permanent pumping station at Blue Beck
- ✓ Raise ground adjacent to river outside of Government House Road properties
- ✓ Raise the existing embankment at St Olaves school
- ✓ Extend the flood defence from Lower Bootham
- ✓ Replace the pumping station at Burdyke Beck as well as increase the pumping capacity and install extra pumps
- ✓ Replace and raise floodwall along Almerly Terrace and install new floodgates



# Community Profile: Foss

This area covers the stretch of the River Foss from Piccadilly all the way upstream to Earswick. It also covers South Beck, and Westfield Beck up to Wigginton.

The main river extent on the River Foss reaches up to Yearsley Bridge. Upstream of this location the River Foss is designated ordinary watercourse and is located within the Foss Internal Drainage Board area. As such, it is managed by the of the Internal Drainage Board.

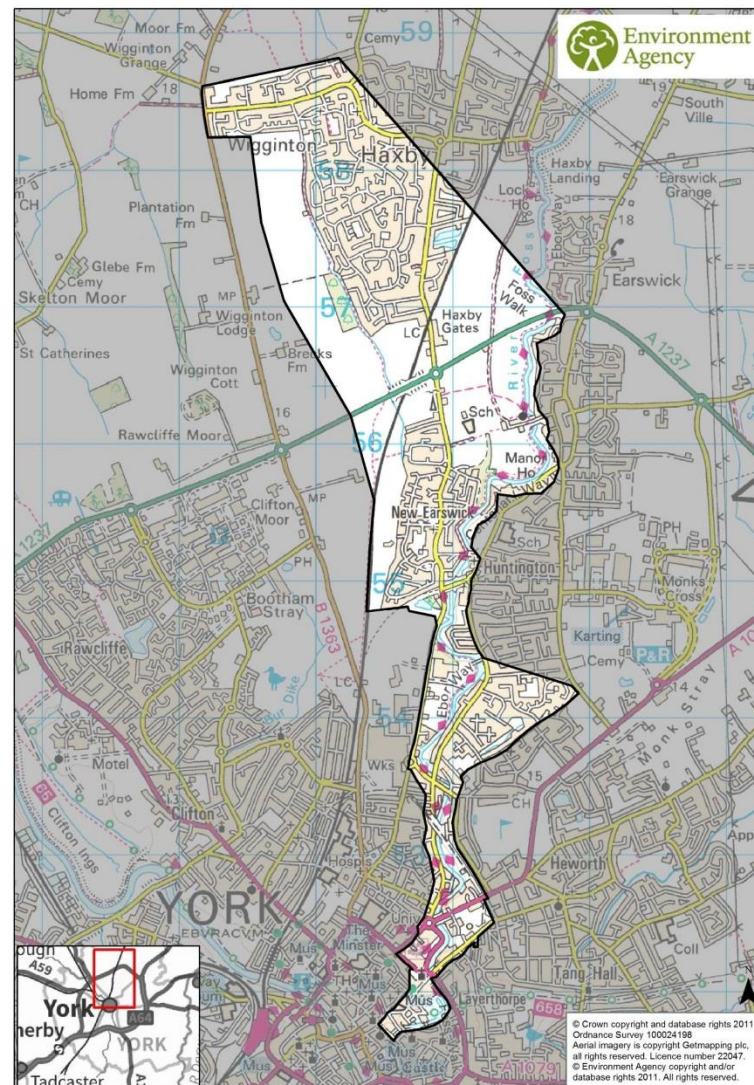
There are no flood defences in this area. Flood warning services are provided for the Foss at properties on Huntington Road, Haley's Terrace, Yearsley Crescent, The Groves, Foss Bank and properties surrounding Wormalds Cut and Foss Navigation. There are emergency plans in place for Wigginton, Haxby and New Earswick, however there are currently no flood wardens within this area.

We estimate that around 610 residential properties are currently at risk of flooding from the River Foss within this area during a 1% (1 in 100 year) flood event. This may rise to 730 due to climate change.

As part of the River Foss Model Improvements project in 2009, a study to investigate the feasibility of flood storage on Westfield Beck, primarily by utilising data from the previous study together with additional modelling. Conclusion from the report included that to prevent flooding the peak water level at the New Earswick culvert should be maintained. Furthermore, there were no sites with ground levels suitable for natural storage and it will be necessary to excavate a storage pond. A preferred site for a pond was identified on the left bank of Westfield Beck, between the York and Scarborough railway line and Haxby Road.

## What work may be possible?

- ✓ Create upstream storage, such as adjacent to Westfield Beck
- ✓ Channel maintenance
- ✓ Property level resilience
- ✓ Install a low flood wall at the end of Huntington Road



# Community Profile: Fulford and Germany Beck

This area covers the left bank of the River Ouse corridor between Blue Bridge Lane and the A64 as well the lower reaches of Germany Beck.

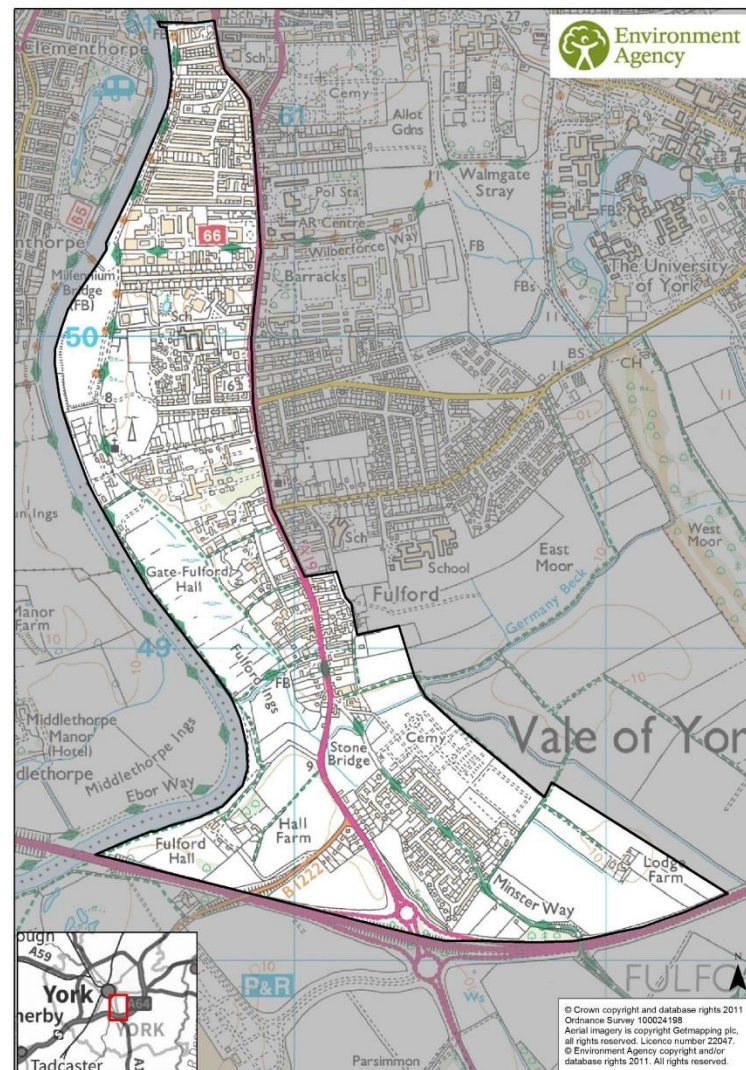
There are currently no flood defences in place. We provide flood warning service for the River Ouse and Germany Beck at Fulford. There is a flood warden for Fulford who patrols the flood warning area and liaises with our flood warning duty officer.

We estimate that around 50 residential properties are currently at risk of flooding from the River Ouse and Germany Beck. This may rise to 170 due to climate change. The Draft Ouse Flood Risk Management Strategy (2005) suggested that a new flood defence was viable at New Walk to provide a 2% (1 in 50 year event) standard of protection. This scheme would include two short walls, one along the end of Grange Garth and other around the end of Alma Terrace. These would require a floodgate to allow access to the river frontage.

In 2014, property level resilience was installed at pumping station cottages in Fulford. This was a joint scheme between the residents and the Environment Agency to minimise the impact of regular flooding.

## What work may be possible?

- ✓ Make use of the washland
- ✓ Review the operation of washlands
- ✓ Property level resilience
- ✓ New flood defence at New Walk



# Community Profile: Holgate Beck

This area lies on the right bank of the River Ouse, stretching from north of York railway station and down to Hob Moor.

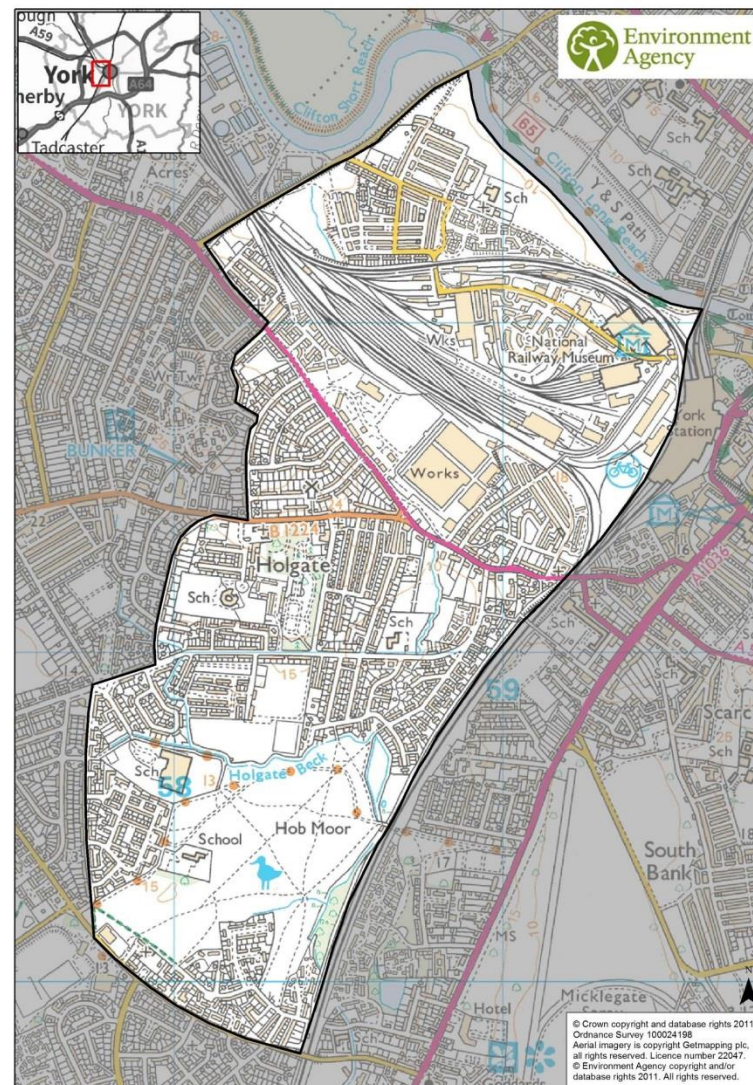
There are currently no flood defences in place. The flood assets in this area consist of high ground, screens and culverts. Flood warning services are provided for Holgate Beck at Hamilton Drive, Acomb and Poppleton Road. There are no flood wardens in this community area.

We estimate that around 420 residential properties are currently at risk of flooding from the Osbaldwick Beck, Tang Hall Beck or River Foss. This may rise to 570 due to climate change.

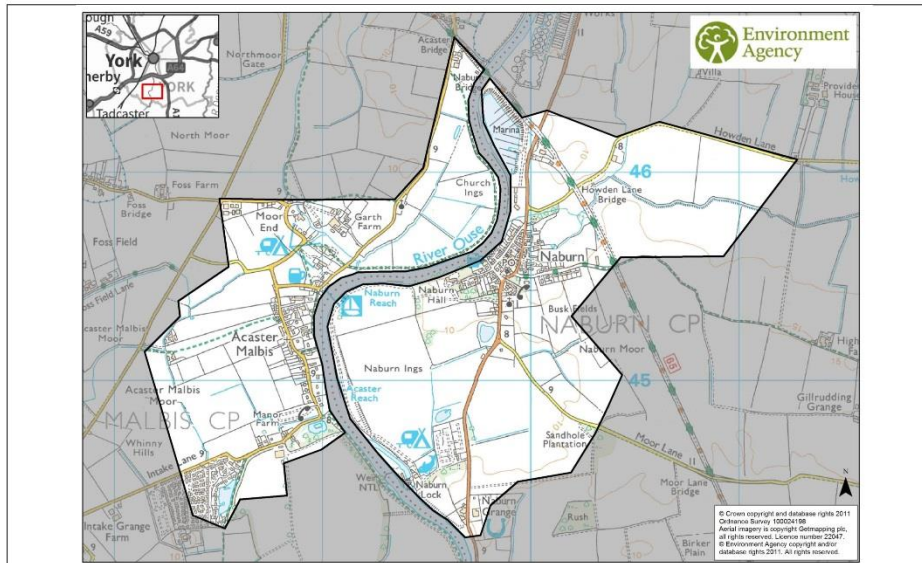
The Water End Flood Alleviation Scheme is within this community and was completed in 2014. This flood defence has a standard of protection which protects from flood events which have a 0.5% chance of occurring each year (1 in 200 year event). The defences protect around 400 homes and businesses in the area. The scheme includes a brick flood wall, temporary removable defences, and increased size and height of some of the previously existing flood embankments.

## What work may be possible?

- ✓ Relocate the Holgate Beck pumping station, increase the capacity of pumps and improve resilience
- ✓ Property level resilience



## Community Profile: Naburn and Acaster Malbis



This flood cell covers both Naburn and Acaster Malbis on the banks of the River Ouse, from Naburn Bridge down to Naburn Lock.

Naburn Ings is located on the left bank between the River Ouse and York Road as well as Naburn Weir located downstream on Naburn and Acaster Malbis. There is one flood warning area covering both Naburn and Acaster Malbis (122FWF724). There are 3 flood wardens within this area who report on the levels of the River Ouse. There is a draft emergency plan in place for Naburn.

Howden Dyke is a non-main river as such it is designated ordinary watercourse and is managed by the Lead Local Flood Authority, City of York Council.

We estimate that around 90 residential properties are currently at risk of flooding from the River Ouse in Acaster Malbis and 120 residential properties at risk in Naburn. This may rise to 140 in Acaster Malbis and 170 in Naburn due to climate change.

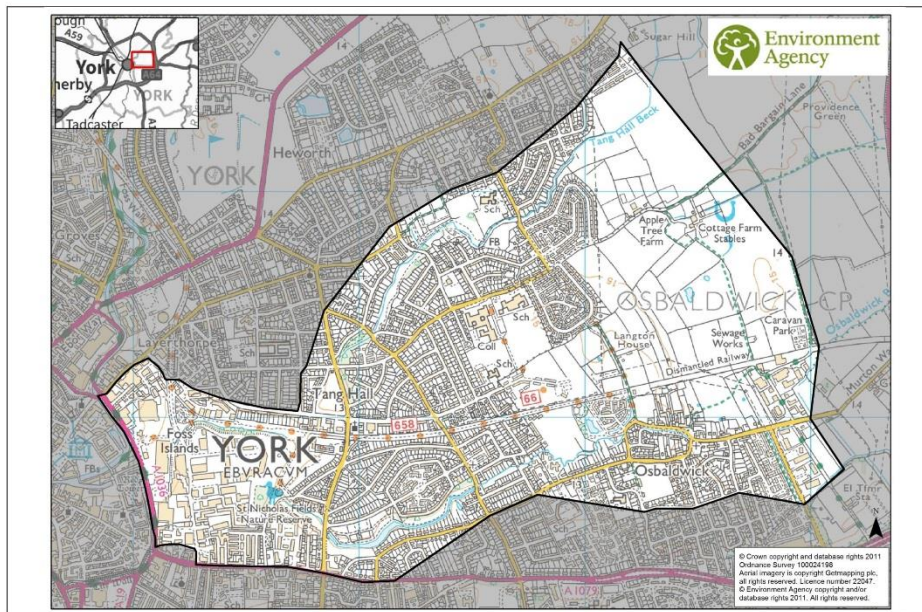
In 2005, the Ouse Strategy was published for the River Ouse. The strategy critically assessed several options for reducing flood risk in York. The strategy suggested that the best option to mitigate flood risk within York was to raised defences and/or construct new barriers.

We are currently working with City of York Council and Naburn Parish Council to develop a plan for Naburn. This includes the development of an urban drainage model which will allow us understand further how flooding occurs in the village.

### What work may be possible?

- ✓ Property level resilience
- ✓ Pumping station resilience
- ✓ Reprofiting of the road
- ✓ Install a flood storage area on Howden Dyke
- ✓ Review outfall of Howden Dyke
- ✓ Alterations to Naburn Lock and Weir
- ✓ Install new defences within Naburn village

# Community Profile: Osbaldwick and Tang Hall



This area lies on the left bank of the Foss, and includes both banks of the Osbaldwick Beck and Tang Hall Beck the Foss to Outgang Lane.

There are currently no flood defences in place. Flood warning services are provided for both Osbaldwick and Tang Hall for the east of St Nicholas fields between Melrosegate and Tang Hall Lane along Osbaldwick Beck to Osbaldwick Village; Fifth, Eighth and Wolfe Ave, Burnholme Area and Stockton Lane; Harington Ave, Abbotsford Road, Millfield Ave, Millfield Lane, Tuke Ave and Osbaldwick Village. There are no flood wardens.

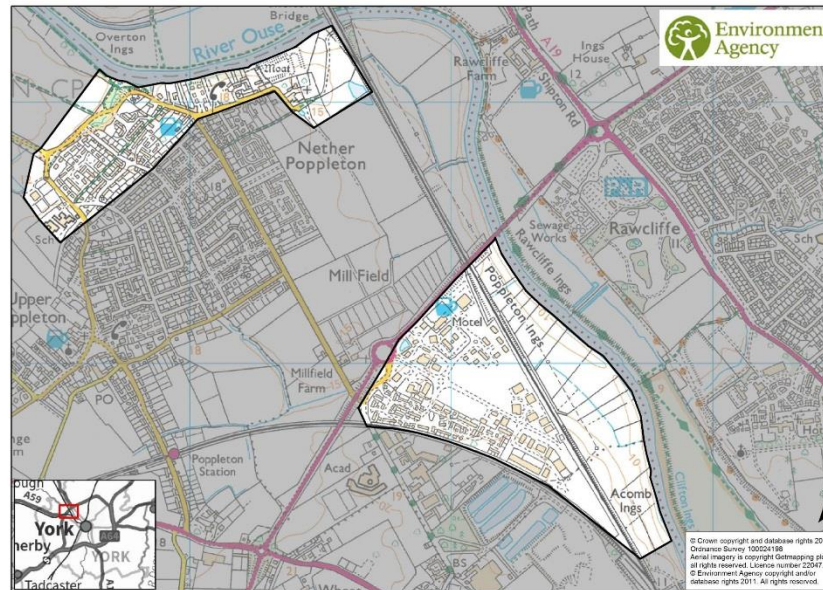
We estimate that around 320 residential properties are currently at risk of flooding from the Osbaldwick Beck, Tang Hall Beck or River Foss. This may rise to 390 due to climate change.

In 2004, a study was done after the Osbaldwick and Tang Hall Becks. This study suggested that the most important way to reduce flood risk is by ensuring bridges and culverts will not be blocked by trash. Also, close to the James Street Traveller's site, Tang Hall Beck overtops the Foss Islands disused railway. This increases the risk of flooding of properties between the railway line and Foss Islands Road. The most effective way to reduce this risk is by creating online storage in Foss Islands and St Nicholas Field.

## What work may be possible?

- ✓ Property level resilience
- ✓ Trash screens
- ✓ Install an automated system into Tang Hall sluice
- ✓ Online storage

## Community Profile: Poppleton



The flood cell lies on the right bank of the River Ouse, from just west of the war memorial along to the railway line in the east with the southern extent reaching down to include the school and then following the line of Nether Way and Church Lane. It also includes Millfield Industrial Estate South of the A1237 down to the convergence of the railway lines at Skelton Junction.

The area benefits from high ground in the north and railway embankments and flood storage capacity (Poppleton Ings) to the east. There is no flood warning area. There are currently no flood wardens within this area.

We estimate that around 5 residential properties are currently at risk of flooding from the River Ouse and River Foss within this area during a 1% (1 in 100 year) flood event. This may rise to 20 due to climate change.

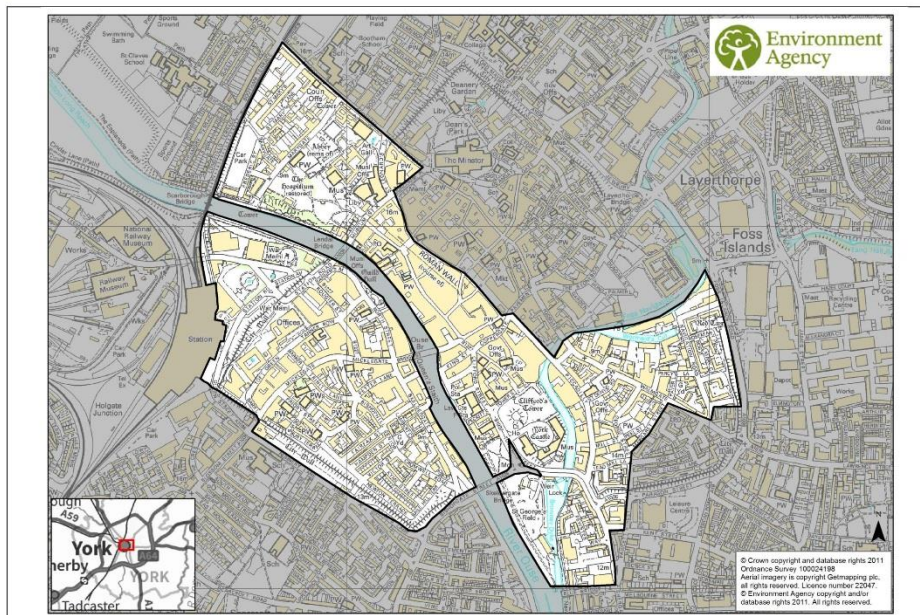
Due to the low level of flood risk no work has been done historically to identify options to reduce risk.

### What work may be possible?

✓ Road profiling

✓ Property level resilience

# Community Profile: York City Centre



This area lies over both sides of the River Ouse, between Scarborough Bridge and Skeldergate Bridge (and down to the Foss Barrier on the east side). The extent stretches from City Wall on the west side over to Marygate, Parliament Street and Foss Island Road on the east side.

The Foss Barrier is located in this community. Other assets include flood gates, high ground along the river banks and flood walls. Flood warning services are provided for York City and has significant coverage across this community. There are currently no flood wardens within this area.

We estimate that around 880 residential properties are currently at risk of flooding from the River Ouse and River Foss within this area during a 1% (1 in 100 year) flood event. This may rise to 1050 due to climate change.

In 2005, the Draft Ouse Strategy critically assessed several options for reducing flood risk in York. The strategy suggested that the best option to mitigate flood risk within York was to raise defences and/or construct new barriers.

## What work may be possible?

- ✓ Raise the walls surrounding the Foss Barrier
- ✓ Upgrade the capacity of the pumps at the Foss Barrier
- ✓ Raise defence along North Street and extend to War Memorial and Post Office
- ✓ Reinforce wall along Tower Street
- ✓ Property level resilience
- ✓ Low flood event wall along King Stalthes
- ✓ Road reprofiling on Tower Street
- ✓ Raise defences along Museum Gardens and tie into high ground and replace flood gates

# Feedback

Opportunity to give feedback on our initial proposals and the future vision for York will be available until **Monday 4<sup>th</sup> July 2016**

A link to the feedback form is provided on the same webpage as this presentation.

Please email all responses back to  
[yorkshireflooding@environment-agency.gov.uk](mailto:yorkshireflooding@environment-agency.gov.uk)

## York exhibition 20 & 21 May

Your feedback is important

20 May 2016

**We would be grateful if you could provide your opinion on the initial proposals for spending the additional £45 million funding to upgrade the defences across York**

**1 Which area does your feedback refer to? (Please circle)**

Bishophorpe    Clementhorpe    Clifton / Rawcliffe    Foss    Fulford / Germany Beck  
Holgate Beck    Naburn / Acaster Malbis    Osbaldwick / Tang Hall    Poppleton  
York City Centre

**2 Please list the top 3 proposals that you think we should pursue (in order of preference). (The attached sheet provides a summary of the work that we believe could be carried out in each of the listed areas for ease of reference). You need only put the ref. No. eg C1**

- 1.
- 2.
- 3.

**3 Given that there will be limitations of how the money must be spent and the type of work that could be carried out in your Area, is there any other proposal that you think we should consider?**

.....  
.....

**4 We will be creating a summary feedback document on the information gathered from today. If you would like to receive a copy of this, please provide your details below:**

Name:

Email or home address:

Thank you for taking the time to complete this questionnaire.



## Details of the initial proposals

Area	Ref. No.	What work may be possible
Bishopthorpe	B1	New defence including pumping station
	B2	Property level resilience
	B3	Flood warden recruitment
Clementhorpe	C1	Install a permanent flood barrier at Clementhorpe
	C2	Construct an embankment or landscaping downstream of Rowntrees Park
	C3	Raise the flood banks in Middlethorpe Ings
	C4	Review of operation of washlands
	C5	Property level resilience
	C6	Improve/ raise the existing Lower Ebor defences and replace flood gates
	C7	Install a permanent flood wall at the end of Clementhorpe
	C8	Raise the access ramps to Millennium Bridge
Clifton and Rawcliffe	CR1	Raise the Clifton Ings Barrier Bank and extend into high ground
	CR2	Install a permanent pumping station at Blue Beck
	CR3	Raise ground adjacent to river outside of Government House Road properties
	CR4	Raise the existing embankment at St Olaves school
	CR5	Extend the flood defence from Lower Bootham
	CR6	Replace the pumping station at Burdyke Beck as well as increase the pumping capacity and install extra pumps
	CR7	Replace and raise floodwall along Almerly Terrace and install new floodgates
Foss	F1	Create upstream storage, such as adjacent to Westfield Beck
	F2	Channel maintenance
	F3	Property level resilience
	F4	Install a low flood wall at the end of Huntington Road
Fulford and Germany Beck	FG1	Make use of the washland
	FG2	Review the operation of washlands
	FG3	Property level resilience
	FG4	New flood defence at New Walk
Holgate Beck	HB1	Relocate the Holgate Beck pumping station, increase the capacity of pumps and improve resilience
	HB1	Property level resilience
Naburn and Acaster Malbis	NA1	Property level resilience
	NA2	Pumping station resilience
	NA3	Reprofiling of the road
	NA4	Install a flood storage area on Howden Dyke
	NA5	Review outfall of Howden Dyke
	NA6	Alterations to Naburn Lock and Weir
	NA7	Install new defences within Naburn village

Osballdwick and Tang Hall	OT1	Property level resilience
	OT2	Trash screens
	OT3	Install an automated system into Tang Hall sluice
	OT4	Online storage
Poppleton	P1	Road profiling
	P2	Property level resilience
York City Centre	YC1	Raise the walls surrounding the Foss Barrier
	YC2	Upgrade the capacity of the pumps at the Foss Barrier
	YC3	Raise defence along North Street and extend to War Memorial and Post Office
	YC4	Reinforce wall along Tower Street
	YC5	Property level resilience
	YC6	Low flood event wall along King Staithes
	YC7	Road reprofiling on Tower Street
	YC8	Raise defences along Museum Gardens and tie into high ground and replace flood gates