# **MUSSELBURGH FLOOD PROTECTION SCHEME Public Exhibition No. 1**

#### Welcome to the Musselburgh Flood Protection **Scheme Public Exhibition No. 1**

The purpose of this event is to:

- Provide information on flood risk to Musselburgh
- Outline the Flood Protection Scheme process being taken forward by East Lothian Council
- Present the options being considered and how these are narrowed down to the final 'Preferred Scheme'
- Gather feedback on the options and public opinion on key design decisions







At this stage, no final decision has been made on the design of the Scheme.

Please complete one of our comment cards or **questionnaires** at the end of your visit – your feedback is important and will be considered as the Scheme develops.

If you have any questions, concerns or comments, please speak to any of the project team.







# **MUSSELBURGH FLOOD PROTECTION SCHEME** Scheme Objectives and the FPS Process

### **Scheme Objectives**

- To reduce the risk to people in Musselburgh from flooding
- To reduce economic damages to residential and non-residential properties in Musselburgh caused by all sources of flooding in Musselburgh
- To investigate and develop design solutions for a flood protection scheme (FPS) that are technically sound and the most fit for purpose
- To ensure the solutions are environmentally acceptable and sustainable
- To ensure the solutions include appropriate catchment and natural flood management measures
- To ensure the solution represents the best value for money
- To consult with stakeholders within and around the FPS area to establish the issues of concern with the local population
- To undertake this scheme in accordance with the **best available industry practices** for the environment



### **Flood Protection Scheme Process**

**STAGE 1** ELC APPOINT **PROJECT MANAGER** & CONSULTANT



STAGE 2 **REVIEW EXISTING** INFORMATION

**STAGE 6** DETAILED DESIGN OF SCHEME



STAGE 5 STATUTORY **PROCESSES & APPROVALS** 



**STAGE 7** CONTRACTOR **PROCUREMENT** / TENDERING



**STAGE 8** CONSTRUCTION







#### **STAGE 3 OPTION APPRAISAL /** CONFIRM PREFERRED SCHEME





**STAGE 4** OUTLINE DESIGN OF SCHEME



**STAGE 9** MAINTENANCE PERIOD



# **MUSSELBURGH FLOOD PROTECTION SCHEME Consultation Strategy**

**Consultation and community engagement** is a vital part of the FPS process. Our aim is to provide those affected by the Scheme the opportunity to:

- understand what is being proposed  $\checkmark$
- help explore ways in which the Scheme can bring value  $\checkmark$ to the town
- identify which options would work best within a local  $\checkmark$ context
- help shape solutions and to have their say on the final  $\checkmark$ Scheme













**Public Consultation Event** Information Gathering 26<sup>th</sup> February 2019



**Public Exhibition No. 1** Presenting the Options 30<sup>th</sup> and 31<sup>st</sup> July 2019

**Public Exhibition No. 2** Presenting the Proposed Scheme Late Spring / Early Summer 2020

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## **MUSSELBURGH FLOOD PROTECTION SCHEME** A History of Flooding





24<sup>th</sup> July 1888: pluvial flooding, several shops in the High Street flooded

12<sup>th</sup> Feb 1894: Beuccleugh House in Fisherrow flooded to 0.45m, rail track submerged

11<sup>th</sup> August 1901: pluvial flooding of shops in High Street, New Street and Millhill

#### 1888

Sept 1891: River Esk flooded the Paper Mills and other factories, as well as nearby houses

July 1897: pluvial flooding, High Street and Shorthope Streets flooded

October 1907: pluvial flooding on High Street and Newbigging to 0.6m. Streets and railway flooded near Newhails Station



All historic images provided courtesy of John Gray Centre, Haddington



East Lothian Council JACOBS



17<sup>th</sup> August 1920: River Esk flooded fields; one tier of iron bridge knocked down by a tree

13<sup>th</sup> August 1948: Worst event on record. River Esk flooded Shorthope Street, Millhill, James Street, Eskside East & Eskside West. Many houses flooded to two feet

6<sup>th</sup> October 1990: Flooding from River Esk after debris retained water at structures

Sept 1927: River Esk flooded Shirehaugh and other areas upstream. Footbridge at Shirehaugh swept away.

14<sup>th</sup> August 1966: Major flooding of Eskside West, Eskside East, Shorthope Street & Millhill









4<sup>th</sup> January 2014: Cycle path and Eskside West flooded

#### 2014

7<sup>th</sup> July 2012: Fields along River Esk flooded to depth of 2-3m



## **MUSSELBURGH FLOOD PROTECTION SCHEME** August 1948 Flood Event



Rennie Bridge image provided as extract from local history publication, author unknown, all other historic images provided courtesy of John Gray Centre, Haddington





the probable extent of flooding



CONSULTANCY



# **MUSSELBURGH FLOOD PROTECTION SCHEME** Sources of Flood Risk to Musselburgh



Approximately 2,500 properties at risk of flooding from the design flood event (refer to board 9 for further details)

![](_page_5_Figure_3.jpeg)

![](_page_5_Picture_4.jpeg)

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![](_page_5_Picture_9.jpeg)

# **MUSSELBURGH FLOOD PROTECTION SCHEME** Flood Risk to Musselburgh – Onset of Flooding (Present Day)

### **River Esk (Fluvial) Flooding**

![](_page_6_Picture_2.jpeg)

East Lothian Council JACOBS<sup>®</sup> CPE

![](_page_6_Picture_4.jpeg)

### North Sea Tidal (Coastal) Flooding

![](_page_6_Picture_6.jpeg)

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![](_page_6_Picture_7.jpeg)

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#### Turner & Townsend

## **MUSSELBURGH FLOOD PROTECTION SCHEME** Flood Risk to Musselburgh – Extreme Flood Events

### **River Esk (Fluvial) Flooding**

![](_page_7_Picture_2.jpeg)

![](_page_7_Picture_3.jpeg)

![](_page_7_Picture_4.jpeg)

### North Sea Tidal (Coastal) Flooding

![](_page_7_Picture_9.jpeg)

Turner & Townsend

## **MUSSELBURGH FLOOD PROTECTION SCHEME** Flood Risk to Musselburgh – Design Flood Event

- The design flood event is a 'blended' flood map and represents the extreme River Esk (fluvial) flood extent overlain with the extreme North Sea tidal (coastal) flood extent refer to board 8
- It is NOT the two extreme events occurring simultaneously
- Approximately 2,500 properties within the flooding boundary
- The design flood event is adopted as the basis for determining the extent/alignment/height of defences and other scheme components

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![](_page_8_Picture_11.jpeg)

# **MUSSELBURGH FLOOD PROTECTION SCHEME** Impacts of Climate Change

The UK's climate is becoming wetter; UKCP18\* shows a trend towards wetter winters and drier summers.

There are impacts on coastal and fluvial flooding from the effects of climate change.

In Musselburgh, coastal impacts are more significant and include:

- Increase in flood depth and extent in all areas downstream of the Rennie Bridge (note that areas upstream of the Rennie Bridge are impacted by **River Esk flooding only**)
- Inundation near the racecourse
- Risk to life flood depths occur at a number of locations
- Flooding occurs over 1.5km from the channel
- Flooding of A199 Edinburgh Road near Newhailes Burn is observed

[\*UKCP18 – UK Climate Projections 2018 is a climate analysis tool that forms part of the Met Office Climate Programme and uses cutting-edge climate science to provide updated observations and climate change projections out to 2100 in the UK and globally.]

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MUSSELBURGH