Musselburgh Flood Protection Scheme

Review of Public Exhibition No1

MFPS-JEC-S3-XXX-XXX-Re-Z-0001 | 0.1

24 September 2019

East Lothian Council

Musselburgh Flood Protection Scheme

Project No:	701909CH
Document Title:	Review of Public Exhibition No1
Document No.:	MFPS-JEC-S3-XXX-XXX-Re-Z-0001
Revision:	0.1
Document Status:	DRAFT
Date:	24 September 2019
Client Name:	East Lothian Council
Client No:	-
Project Manager:	Kirsteen Nixon
Author:	Kirsteen Nixon
File Name:	MFPS_Public ex No1_Report_v0.1-Updated#

CH2M HILL United Kingdom

95 Bothwell Street
Glasgow, Scotland G2 7HX
United Kingdom
T +44 (0)141 243 8000
F +44 (0)141 226 3109
www.jacobs.com

© Copyright 2019 CH2M HILL United Kingdom. The concepts and information contained in this document are the property of Jacobs. Use or copying of this document in whole or in part without the written permission of Jacobs constitutes an infringement of copyright.

Limitation: This document has been prepared on behalf of, and for the exclusive use of Jacobs' client, and is subject to, and issued in accordance with, the provisions of the contract between Jacobs and the client. Jacobs accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this document by any third party.

Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
0.1	24/09/19	DRAFT FOR REVIEW	KN	SRV	SRV	KN

Contents

Executive Summary ..... **iii**

1. Purpose **1**

2. Background **2**

3. Feedback **3**

3.1 Attendance 3

3.2 Comments 4

3.3 Potential Impacts of Feedback 6

4. Response to Feedback **8**

4.1 Response to Common Feedback Topics 8

4.2 Response to other Specific Comments 10

5. Next Steps **15**

Appendix A. FPS Display Boards

Appendix B. FAQ Handout

Appendix C. Attendance Register

Appendix D. Table of Attendees' Comments

Executive Summary

Public Exhibition No1 for the Musselburgh Flood Protection Scheme (the Scheme) was held at The Brunton Theatre, Musselburgh between Tuesday 30th July 2019 and Thursday 1st August. The exhibition was held to provide information on flood risk to Musselburgh, outline the Flood Protection Scheme process being taken forward by East Lothian Council and present the options being considered and how these are narrowed down to the final 'Preferred Scheme'. It was also an opportunity to gather feedback on the options and public opinion on key design decisions. The exhibition constitutes part of the formal consultation required for publicly funded infrastructure projects.

210 people attended the event, with the majority located in Musselburgh. From the feedback provided, 85 (94.4%) indicated their support to the scheme. Most people that responded to the questionnaire would prefer to see set-back defences on the river and lower wall heights at the coast. The main themes of the feedback relate to the visual impacts of the defences, access to the river and beach and consideration being given to the use of upstream storage.

Results from the feedback:

In favour of The Scheme	Not in favour of The Scheme
85 (94.4%)	**5 (5.6%)**

Top 3 feedback themes	
Negative visual impact	Approximately 47% of the questionnaires completed included comments on the visual impact of the proposals.
Impact on access to the river and beach	Approximately 23% of the questionnaires completed included comments on the impact of the proposals on access to the river and beach.
Utilisation of upstream measures including storage	Approximately 11% of the questionnaires completed included comments the consideration of upstream measures including storage.

River flood defence walls - voting results	
Setback river defences – 62%	In-river defences – 21%
Neither option – 8%	No preference – 8%

Coastal flood defence walls - voting results	
Lower defence height – 58%	Higher defence height – 27%
Neither option – 2%	No preference – 13%

The comments received illustrate common concerns that some people have with the proposals. These included needing more time and/or additional information to be able to understand the proposals. While those concerns could be seen as 'negative' with respect to the scheme, it should be noted that a proportion of those comments originated from attendees who also indicated that they supported the scheme. Notwithstanding this, the nature of these comments indicates that further information is necessary to inform the community as to why the proposed solutions were selected rather than alternatives and how effective the 'perceived' alternatives would be.

The awareness of the concerns the community has presents an opportunity. Equipped with knowledge of what the key concerns are, the project team has the opportunity to focus further public engagement and address those topics. Continuous engagement will make it possible to identify any potential objections to the Scheme, meaning early intervention. A further event is planned for early summer 2020 where the proposed Preferred Scheme will be presented – feedback from this event will be used ensure that another successful event is held.

1. Purpose

The purpose of this report is to provide a review of the data and feedback obtained from attendees at the public exhibition for the Musselburgh Flood Protection Scheme (the Scheme). The event was held at The Brunton Theatre, Musselburgh on Tuesday 30th July 2019 and Wednesday 31st July 2019 from 11am until 8pm each day.

A separate briefing for Councillors and the press was held on Thursday 1st August, which presented the options and answered questions from the attendees.

The exhibition was held to provide information on flood risk to Musselburgh, outline the Flood Protection Scheme process being taken forward by East Lothian Council and present the options being considered and how these are narrowed down to the final 'Preferred Scheme'. It was also an opportunity to gather feedback on the options and public opinion on key design decisions. The exhibition constitutes part of the formal consultation required for publicly funded infrastructure projects.

Specifically, the report intends to:

- Show the geographic distribution of attendees to the exhibition;
- Summarise attendees' degree of support for the scheme;
- Summarise attendees' comments made via feedback forms;
- Summarise attendees' preferences with respect to the options for flood defence walls adjacent to the River Esk;
- Summarise attendees' preferences with respect to the options for the coastal defences along Fisherrow; and
- Discuss the potential impacts (risks and opportunity) of the feedback received.

2. Background

The exhibition was staffed by the following project team members and related individuals:

Name	Organisation
Alan Stubbs	East Lothian Council
Dave Northcott	East Lothian Council
Alex Coull	East Lothian Council
Kris Hawkins	East Lothian Council
Conor Price	CPE Consultancy
Nadia Othman	Turner & Townsend
Steven Vint	Jacobs
Kirsteen Nixon	Jacobs
Elaine Hood	Jacobs
Fran Tobin	Jacobs
Gaston Latessa	Jacobs
Danny McCluskey	Jacobs
Emma McLean	Jacobs
Paul Laidlaw	Scottish Flood Forum
Audrey Meikle	Scottish Flood Forum
Sandy Baptie	ELC Emergency Response
Kevin Seawell	ELC Emergency Response
Gail Donald	Scottish Environment Protection Agency (SEPA) Floodline

Table 1: Table of Exhibition Staff

The main scheme exhibit comprised:

- 23no. A1 size display boards which depicted various aspects of the proposed flood protection scheme, including: historical flooding and flood risk, consultation, timescales and the options appraisal including proposed short-listed options. Copies of these display boards are included in Appendix A.
- An A0 size map of Musselburgh, displaying proposed and rejected options;
- An A1 sheet showing River Esk (Town Centre) Direct Defence Options, including typical cross sections;
- An animation of the 1 in 200 year plus climate change (CC) fluvial and coastal flood events for Musselburgh, available to view on a projection screen throughout the event;

Additional supporting information included:

- A frequently asked questions and glossary information sheet. A copy of this sheet is included in Appendix B.

3. Feedback

3.1 Attendance

Attendees were asked to provide contact information and postcode upon entry. The postcodes have been used to establish the distribution of attendees from across Musselburgh and beyond. A list of the postcodes provided is included in Appendix C.

Official Attendance at Public Exhibition No1

210 people (0.93% of population)

This information will enable the project team to identify areas of lower attendance and prepare more focused public engagement in the lead up to publication of the scheme.

The percentage of population who attended was calculated based on the latest census data (from 2011).

The following figures show the distribution of postcodes in Musselburgh (Figure 1) and in the Edinburgh and Lothians area (Figure 2).

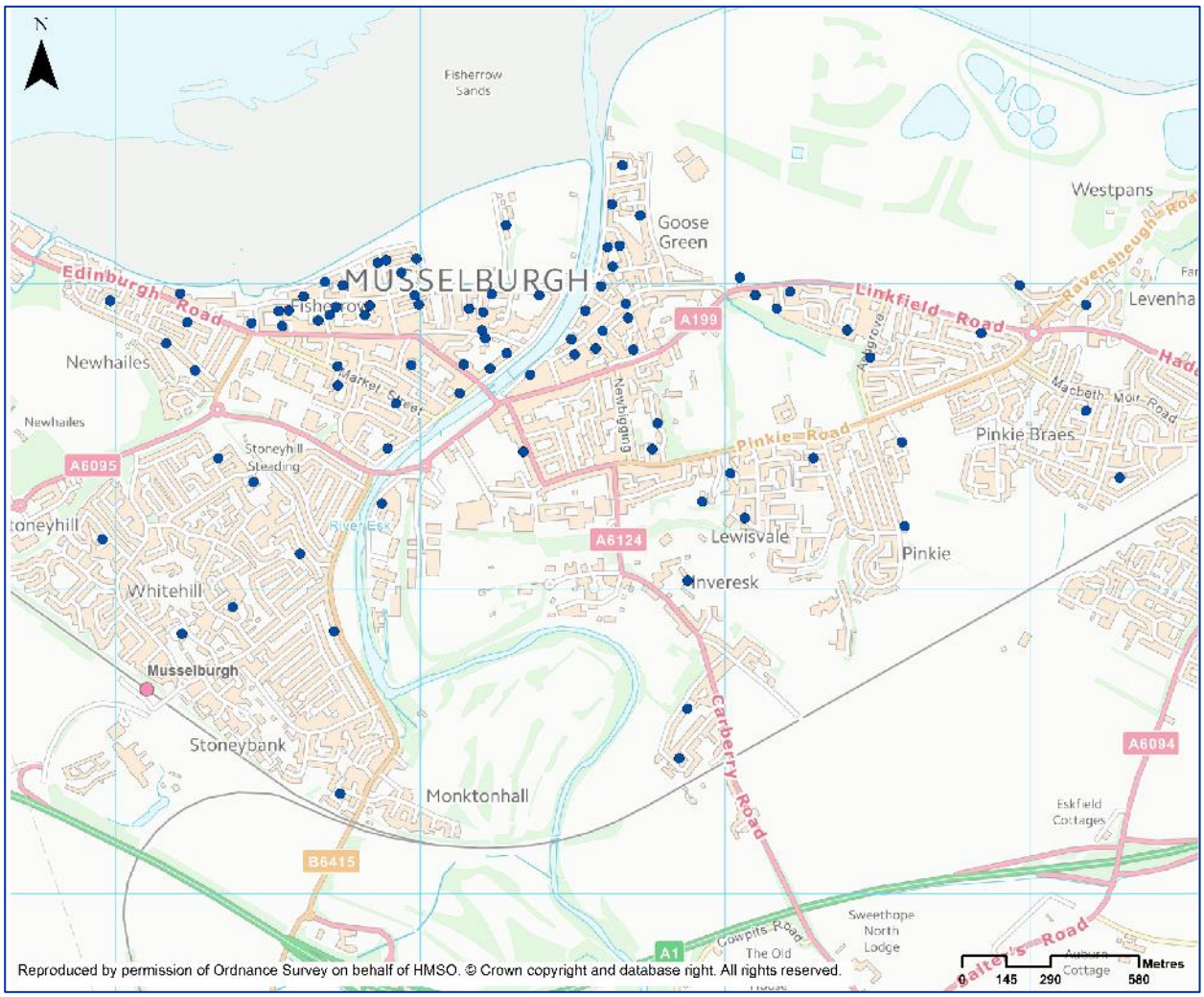


Figure 1: Distribution of Attendees within Musselburgh



Figure 2: Distribution of with the Edinburgh and Lothians area

Note, in addition to the above there were also 3 attendees from the Grangemouth area, 1 from Croy, 1 from Glasgow and 1 from Reading.

3.2 Comments

Attendees were given the opportunity to complete a feedback form / questionnaire once they had viewed the exhibition and spoken to the project team. 93 questionnaires were returned. The comments provided were tabulated and are included in Appendix D. As can be seen below, the majority of the responses provided are in favour of the Scheme. The questionnaire included the following questions.

Q1 – Please indicated if you are in support of a Flood Protection Scheme for Musselburgh (Yes/No).

In favour of The Scheme	Not in favour of The Scheme
85 (94.4%)	5 (5.6%)

Q2 – If No, please identify the reasons for your choice.

The responses to this question included concerns regarding the visual impact and disruption plus consideration of upstream storage and more natural flood management.

Q3 – Please identify which of the options you would prefer for flood defence walls adjacent to the River Esk.

A summary of the responses is provided below.

Options	Response	Percentage
Option A - In-river	20	21%
Option B - Set-back defences	59	62%
Neither option	8	8%
No preference	8	8%
Totals	**95**	**100%**
Note: 4 responses were in favour of Option A and B. Two questionnaires were returned with no response to Q3.		

Reasons for selecting the different defence locations are summarised below:

- Option A – potentially better access, maintain amenity of river and town, lack of space for set-back defences in certain locations, retention of trees, set-back defences may be intrusive for home-owners, preservation of land, less diversion of existing infrastructure, strengthen river banks, perception of less environmental damage.
- Option B – retention of the natural river including ecology, options for river access, visually better, protection of visual amenity, better for the environment, aesthetically less intrusive. Within the comments related to Option B, there was a desire to see embankments and landscaped areas with additional amenity features such as cycle paths.
- Where both Option A and B were selected there was a recognition that both would be suitable on different parts of the river, and that a combination would be providing the defences appropriate for the landscape and views.
- Neither Option – embankments instead of walls, use of existing reservoirs, concerns at the loss of views, concerns re the impact on birds and other habitats, natural defences and the consideration of maintenance to prevent flooding.
- No preference – insufficient information or technical knowledge to be able to make a decision.
- Where no response was provided, this was due to finding the information technically demanding and frustration at a lack of maintenance and prior work.

Q5 – Please identify which of the options you would prefer for the coastal defences along Fisherrow, along with any comments you wish to add.

A summary of the responses is provided below.

Options	Response	Percentage
Option A - Lower defence height, accept wave over-topping	52	58%
Option B – Higher defence height, no wave over-topping	24	27%
Neither option	2	2%
No preference	12	13%
Totals	**90**	**100%**
Note: 3 responses were in favour of Option A and B. Six questionnaires were returned with no response to Q5.		

Reasons for selecting the different defence locations are summarised below:

- Option A – greener option, better access to the beach/waterfront, maintain views of sea, balance between providing protection and maintaining views/access, wave overtopping is likely to be a limited occurrence.
- Option B – safety, home insurance, balance of capital v's revenue costs, visibility maintained whilst having no overtopping. It was noted that this option was selected as there was a concern local drainage may not cope with overtopping.
- Where both Option A and B were selected there was a recognition that both would be suitable depending on location, and that a combination would be providing the defences appropriate for the landscape and views.
- Neither Option – No details of alignment were provided.
- No preference – insufficient technical knowledge to be able to make a decision. Preference of an embankment with walkway.
- Where no response was provided, this was due to finding the information technically demanding and frustration at a lack of maintenance and prior work. In addition, it was difficult to make a decision (as there was insufficient information in context) and lack of engagement at this stage.

Q6 – Please provide further comment and feedback on any of the proposed options for the Musselburgh FPS.

The following is a summary of the general comments provided:

- More understanding of what the "Do Nothing" option would mean.
- Provide a comprehensive scheme utilising other means such as a lagoon on playing fields or other small reservoirs to hold flood water.
- Consideration of utilisation of upstream storage.
- Opportunity to optimise amenity value via incorporation of a trail, varied land-use and by making it visually pleasing
- Concerns related to the impact walls will have on the landscape and views, with a desire that the defences are proportionate and in keeping with the landscape / character of the town. Landscaping proposals and material choices will be key. Glass panels suggested.
- It is important that wildlife habitats are protected.
- Access to the river and the beach is important, in particular to local groups/associations.
- Better maintenance of existing infrastructure should be part of a wider solution. Comments were provided in relation to clearing/cleaning of drains.
- Protection (retention) of Roman Bridge and removal of Electric Bridge.
- No dredging.
- Clearing of Pinkie Burn suggested to minimise flood effect.
- There were a few comments indicating that people are happy that something is being done, although not fast enough.

3.3 Potential Impacts of Feedback

The comments received illustrate a number of common concerns that some people have with the proposals. These included needing more time and/or additional information to be able to understand the proposals.

The potential impact is that objections are raised when the scheme is published, delaying the scheme, and Musselburgh is subject to continued risk of flooding before it can be fully implemented. The delay may be exacerbated if, during the course of resolving those objections, Scottish Government funding is diverted to other

flood protection schemes. In the most extreme scenario, the scheme would fail to secure statutory approval and/or funding and Musselburgh would continue to be at risk of flooding.

While those concerns could be seen as ‘negative’ with respect to the scheme, it should be noted that a proportion of those comments originated from attendees who also indicated that they supported the scheme. Notwithstanding this, the nature of these comments indicates that further information is necessary to inform the community as to why the proposed solutions were selected rather than alternatives and how effective the ‘perceived’ alternatives would be.

While the above represents a risk to the scheme, the awareness of those risks presents an opportunity. Equipped with knowledge of what the key concerns are, the project team has the opportunity to focus further public engagement and address those topics.

4. Response to Feedback

4.1 Response to Common Feedback Topics

Further analysis of comments provided on the questionnaires identified a number of common themes, as follows.

General opinion: there will be a negative visual Impact – the majority of the responses indicate a preference for set-back defences on the river and the lower defence height on the coast. Reasons for this are apparent in the additional comments provided where attendees are concerned with the visual impact the defences will have. A number of responses make reference to the use of embankments rather than walls, again with a concern that walls will have a more detrimental visual impact compared to an embankment. There is a desire for a more "natural" appearance in order to maintain the current landscape and for the view of the river/coast to be maintained. More information was requested on the impact of each option in particular the appearance.

Response: this is acknowledged, and further work is required during the outline design phase to determine the appropriate location and style of defences to be used. Flood defence embankments are generally considered preferable to using hard engineering structures and where space permits will be considered. Embankments occupy a much larger land footprint than walls and require significant quantities of material to be imported for their construction. Provision of embankments would very likely result in change to the function of the grass amenity areas adjacent to the River Esk through the town centre. Refer to Figures 3 and 4 below with extracts from Boards 16 and 17 presented at the exhibition.

General opinion: there will be an impact on the access available to the river and the beach – the comments provided indicate that access to both the river and beach is important, particularly for events that are held in the town. There is a perceived risk that the introduction of walls will cut off the river from the town. More information was requested on the impact of each option in particular regarding access.

Response: this is recognised by the Project Team, and as with the concerns regarding visual impact, consideration will be given to the position of walls / gates and current available access. Refer to Figures below with extracts from Boards 16 and 17 presented at the exhibition.

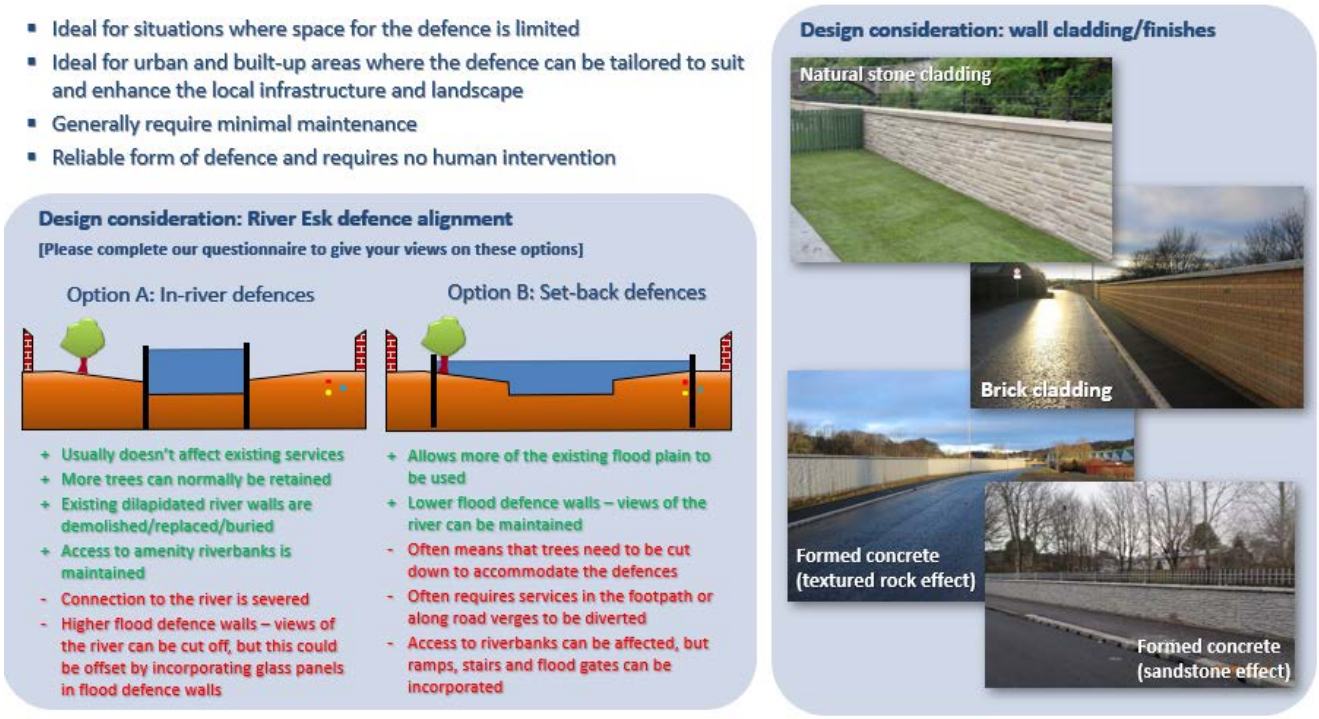


Figure 3: Extract from Exhibition Board 16

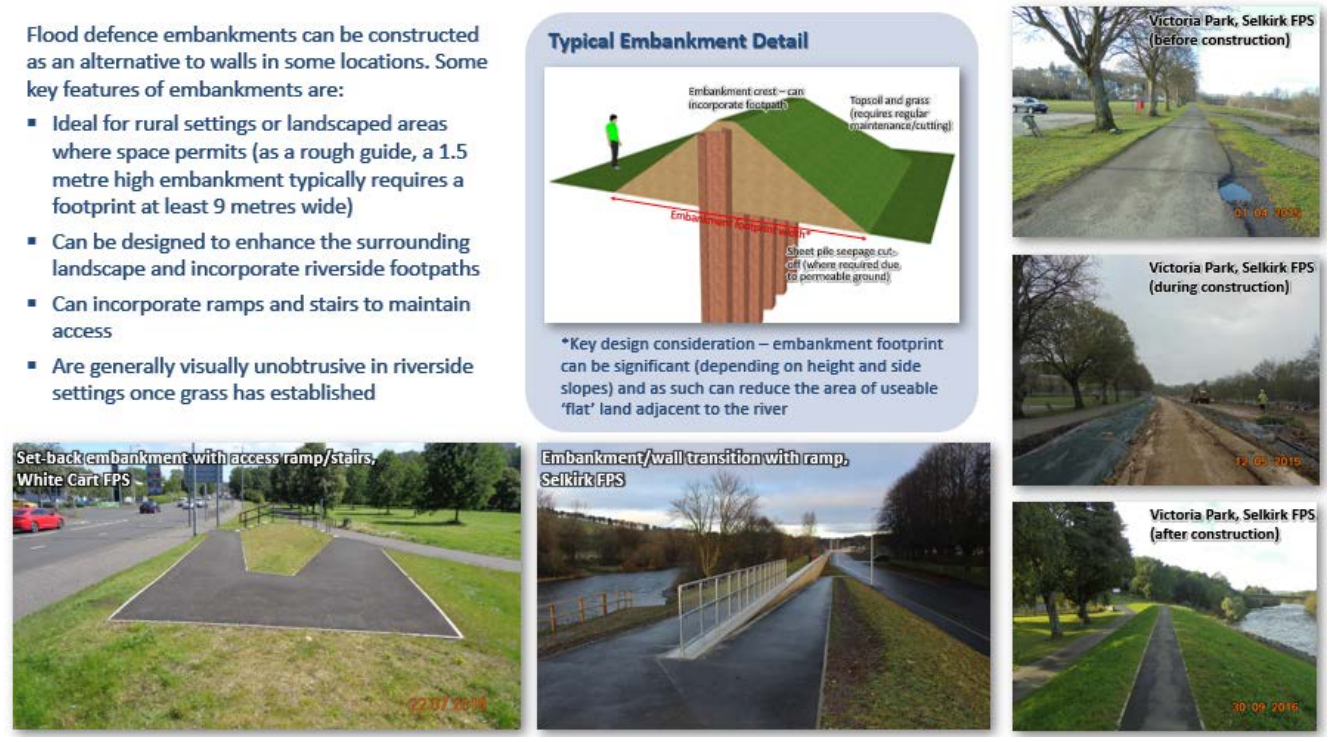


Figure 4: Extract from Exhibition Board 17

General opinion: consideration should be given to utilisation of upstream measures, including storage, to avoid defences in the town – the comments provided include suggestions/queries in relation to the provision of upstream storage or other measures (such as natural flood plains) to reduce the impact of downstream defences on the town.

Response: Flood storage offers a method of reducing flood levels in downstream areas by attenuating flow within specially constructed upstream storage areas (dams). Flood storage areas upstream of the town are designed to temporarily hold back much of the floodwater during extreme weather. The storage area controls the release of water passing downstream through the town to an acceptable level. As part of the current option appraisal potential sites for flood storage are being considered, including modification of existing reservoirs. In Musselburgh however, the lack of suitable storage sites upstream means that flood storage alone will not entirely protect the town from flooding, but it may help to reduce the height of direct defences throughout the town.

Table 2 below outlines the key advantages and disadvantages associated with providing flood storage areas.

Advantages	Disadvantages
Potential reduction in the height of flood defences, decreasing the social impact.	Very high capital cost for new engineered flood storage areas, with long, wide and potentially high dam structures. Much more moderate costs for adaption of existing Scottish Water reservoirs.
Potential reduction in the overall length of flood defences, reducing social/environmental impact.	Still requires defences to be constructed (higher cost than if only full height defences are constructed).
Provides an opportunity to increase the standard of protection when implemented in addition to full-height flood defences (long term measure).	Where new flood storage areas are provided there is potential for significant objection from the farming community in terms of adverse impacts on land.
Offers flood risk benefits to all areas downstream of the storage area, not just Musselburgh.	Where new flood storage areas are provided, difficult access to some sites and lack of local availability of suitable material for dam construction.
	Potential for significant environmental impact at the dam site.

Table 2: Advantages and disadvantages of flood storage

4.2 Response to other Specific Comments

Other queries and comments received:

1. More understanding of what the “Do Nothing” option would mean. **Response:** the “Do Nothing” option would mean no intervention at any time. This would mean no maintenance activities or temporary barriers etc.

2. Why keep the 'big' weir’? **Response:** removal of the weir was considered during the option appraisal. Removal is considered to have an adverse impact on established river ecology and the potential to increase flood risk downstream. Removal will also have adverse geomorphological impacts; sediment moves from upstream to downstream, creating potential erosion risks and undermining of existing structures. The flood risk benefit is not significant when compared to the adverse impacts. However, weir modification may be considered as part of Forth Catchment wide initiative to improve fish passage.

3. No further housing to be approved within the flood area now that it’s been identified. **Response:** this sits with the Council as the planning authority who are required to assess any proposed development and the impact of flooding.

4. Any flooding will ultimately depend on high tide timetable. **Response:** tidal influence is only part of the flood risk for the town.

5. More visual aids required to make it more real, including videos. **Response:** this is noted and will be considered for further consultation events.

6. Helpful to see what difference the options would make/ More info on what impact each option will have (specifically on appearance and access). Provide more information on the percentage contributions of the different options – more easily understand the mix of measures needed. **Response:** as the Scheme is developed and more work is undertaken, we will be able to provide more certainty to what the Scheme will look like.

7. Clearing of Pinkie Burn to minimise flood effect. **Response:** CCTV surveys of both the Pinkie Burn and the Mill Lade will indicate if removal of debris is required. Clearing the debris will not be a long term solution although will assist in the performance of both assets.

8. Don't understand why dredging is not an option. **Response:** Whilst dredging may appear effective in reducing flood risk, it is not sustainable and provides only limited benefit. Each successive rainfall event deposits more material (see Figure 5), requiring further dredging, and leading to an endless costly cycle of work. Also, whilst dredging may increase capacity during normal conditions, the increase is insignificant during a flood event because the capacity of the floodplain is far greater than that of the watercourse itself. Dredging therefore provides a relatively minor reduction in flood risk. Figure 6 illustrates the minor effect dredging of a watercourse has on flood capacity. In addition, dredging can create significant adverse impacts on river morphology (erosion and deposition) and the flora and fauna which inhabit the river and its bed and banks.

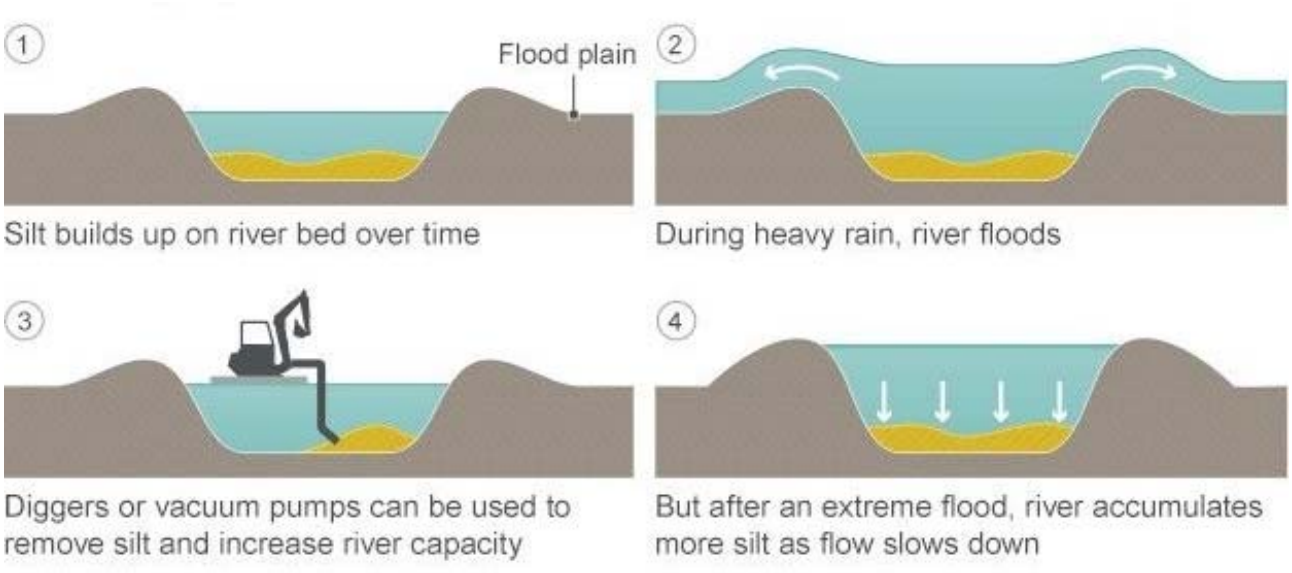


Figure 5: River dredging process (image courtesy of BBC News)

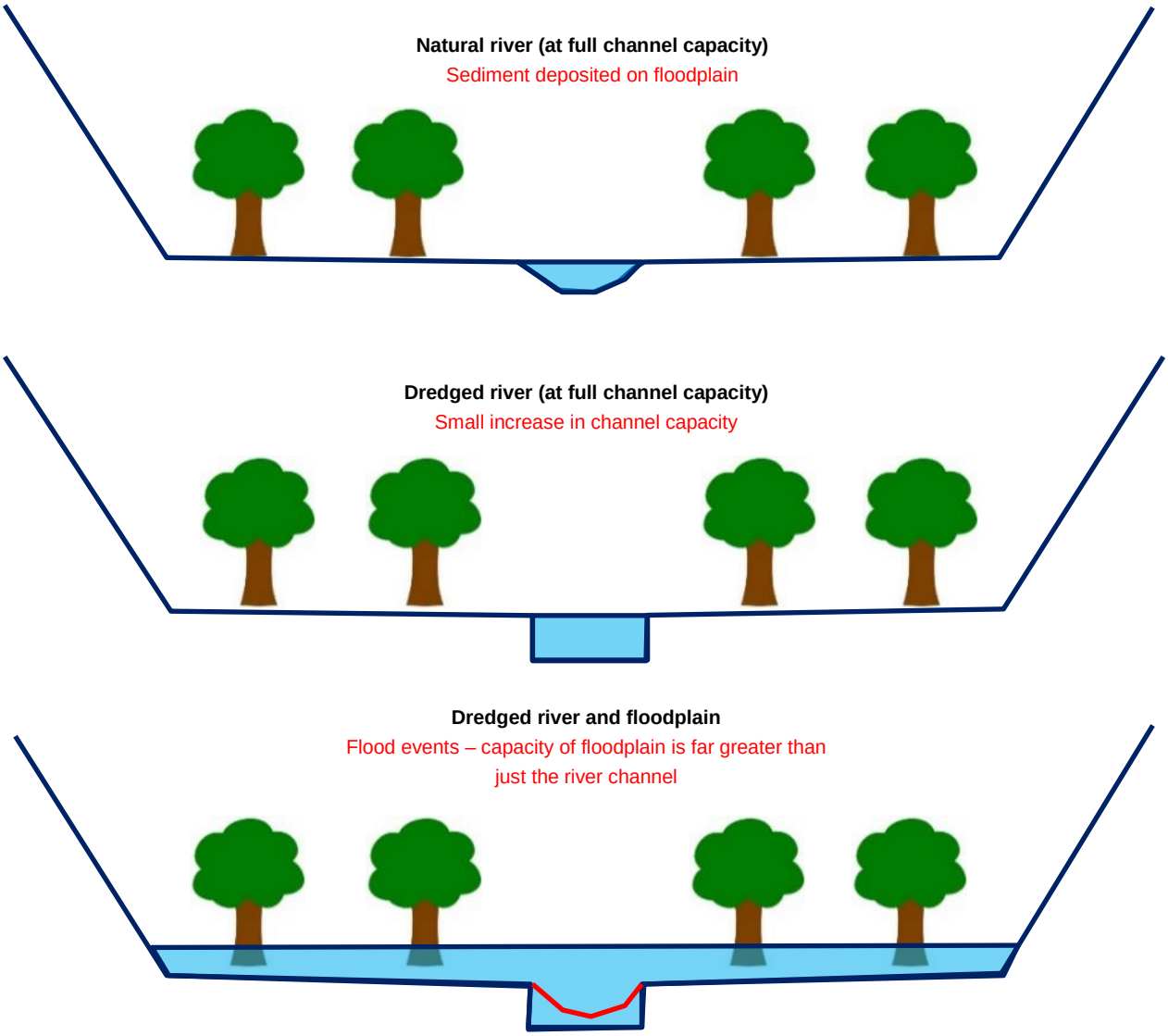


Figure 6: Illustration of dredging effect on floodplain

Increased downstream flood risk

Dredging a watercourse will temporarily increase its conveyance potential while that increased capacity is maintained. This has the effect of increasing the velocity of the river, which can lead to an increase in flood risk and sediment supply downstream.

Erosion

The natural form of a watercourse is linked to the energy contained within the flow of water. This dictates the erosive power of the flow and the river's capacity to transport sediment. In simple terms, when a watercourse has been dredged, the energy that the river would be using to transport sediment (which has been removed) is now dissipated by the riverbanks and riverbed, causing erosion. Refer to example in Figure 7 below.



Figure 7: Erosion downstream of dredged section (showing deposits of gravel from upstream)

Damage to wildlife and river ecosystems

Dredging can have significant impacts on protected ecosystems such as aquatic plants and fish. Removing gravels can damage vital spawning grounds for species of conservation concern such as Atlantic salmon, trout and lampreys. There is the potential that all fish in a river can be eliminated for significant periods of time following dredging activities.

9. Non-return valve/cap on Pinkie Burn outlet required. **Response:** The final detail for flood protection works associated with the Pinkie Burn (backing up from high tides or high flows within the burn) will be determined as part of the Stage 4 Outline Design. This may or may not involve the provision of a non-return or flap valve on the Pinkie Burn outlet and the public will have another opportunity to comment on the proposals in mid-2020.

10. Movement of wall splitting field at Esk Mills to be put around field to allow future expansion of retirement village currently going through planning. **Response:** The final alignment of the flood defences in this location will be subject to consultation with the landowner and analysis of the impact on flood levels for all possible options for tying into high ground.

11. Information on number of persons and buildings that benefit. **Response:** as the Scheme is developed and more work is undertaken, we will be able to provide more detail on the reduction of flood risk, in particular the number of people and buildings being protected.

12. Have material available online. **Response:** it is acknowledged by the project team that access to information and updates regarding the Scheme is needed and an action to setup a temporary page on the Council website is being addressed, along with design and implementation of a project specific website.

13. With plastic pollution in the seas it might be worth considering river filtering to prevent plastic litter making it to the sea. **Response:** Such a measure is unfortunately beyond the scope of this project, but your comment has been passed on the relevant department within the council.

14. It is felt that that the decision has already been made. Any objection by the locals affected by the proposals will be brushed aside. **Response:** although proposals have been rejected as part of the option appraisal, the final components of the flood protection scheme are not decided until the details are published by East Lothian Council as part of the process under the Flood Risk Management (Scotland) Act, after which objections to the proposals can be raised. The Council are very keen to engage with the public and

stakeholders to reduce the risk of objection and further consultation on the proposals will be ongoing throughout 2020 and 2021. The way in which the legislation is written means that it is not possible for East Lothian Council to brush aside a valid objection. A direction of travel is becoming clear where options are not viable for a variety of reasons meaning that efforts are focussed on those that are viable.

15. Programme constraints – can the Scheme be delivered more quickly? **Response:** for the Scheme to progress the option appraisal and outline design must be undertaken in a logical manner, with inputs and consultation for the public and stakeholders, to produce the Scheme documents that will be used to seek confirmation under the Flood Risk Management (Scotland) Act 2009. Assuming the scheme is confirmed, detailed design will take place (with further public consultation) leading to the procurement of a contractor to construct the project. Finally, with a project of this size, a significant construction period will be required. There is a complex statutory process which must be followed before the Flood Protection Scheme can be confirmed, giving the authority legal powers to carry out the work. A local authority must advertise the scheme in the locality. Any person may object in writing to the local authority within a 28 day period from the date of the advertisement. If an objection is considered to be a valid objection and is not withdrawn, the scheme will be considered by Scottish Ministers and may be referred for consideration at a Public Local Inquiry. After a local inquiry, the Scottish Ministers will then consider the scheme for confirmation. This is a lengthy process, lasting up to 24 months, which, by law, must be carried out before the Scheme can be taken forward.

5. Next Steps

Whilst the first public exhibition has passed, the project team will continue to engage with the public using the information gathered and discussed in this report to provide more focussed follow-up events to discuss key issues. As work progresses and further consultation takes place it will be possible to identify any potential objections to the Scheme.

A further public exhibition is planned for early summer 2020 where the proposed Preferred Scheme will be presented.

Appendix A. FPS Display Boards

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.

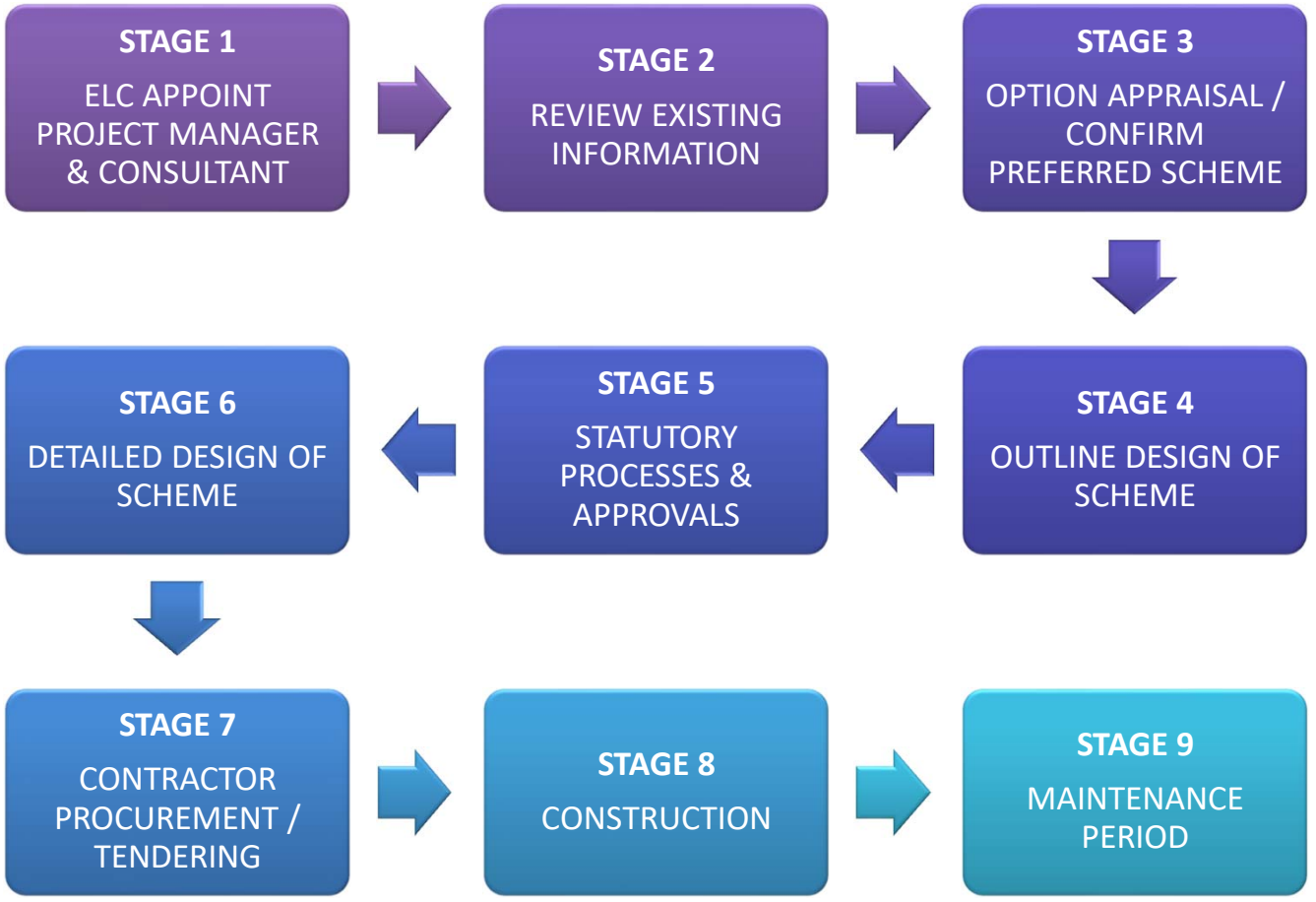
MUSSELBURGH FLOOD PROTECTION SCHEME

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



MUSSELBURGH FLOOD PROTECTION SCHEME

Consultation Strategy

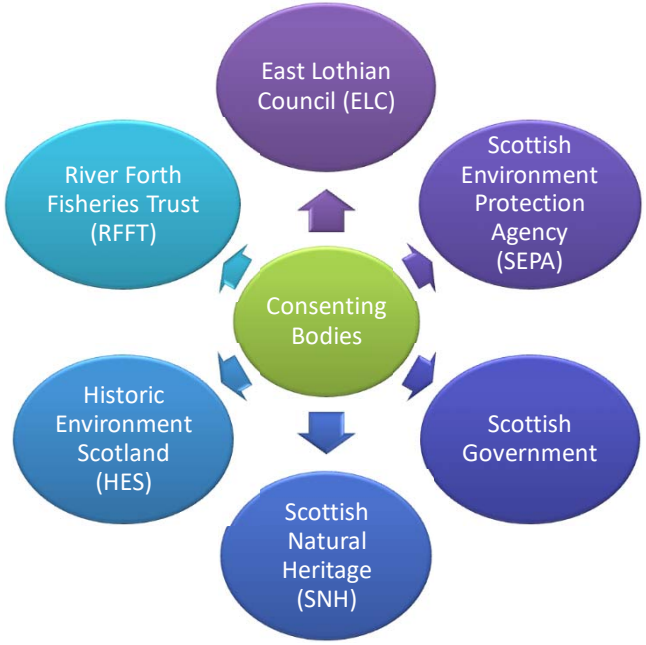
Consultation and community engagement is a vital part of the FPS process. Our aim is to provide those affected by the Scheme the opportunity to:

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









Public Consultation Event
Information Gathering
26th February 2019

Public Exhibition No. 1
Presenting the Options
30th and 31st July 2019

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

MUSSELBURGH FLOOD PROTECTION SCHEME

A History of Flooding









24th July 1888: pluvial flooding, several shops in the High Street flooded

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

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

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

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

6th October 1990: Flooding from River Esk after debris retained water at structures

4th January 2014: Cycle path and Eskside West flooded

1888 → 2014

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

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

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

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









All historic images provided courtesy of John Gray Centre, Haddington

East Lothian Council JACOBS CPE CONSULTANCY Turner & Townsend

MUSSELBURGH FLOOD PROTECTION SCHEME

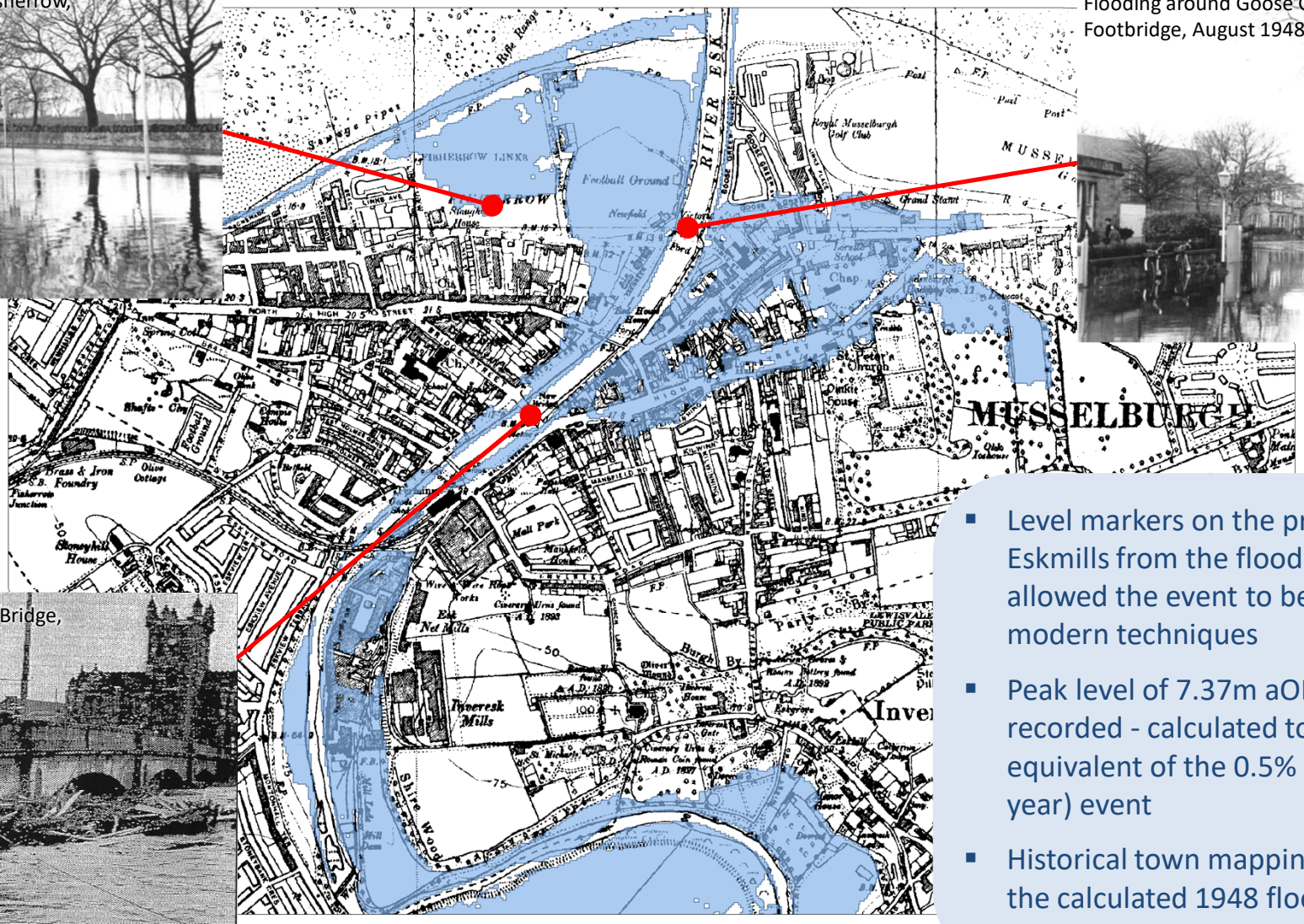
August 1948 Flood Event

New Street looking towards Fisherrow, August 1948



Flooding around Goose Green (Victoria) Footbridge, August 1948





Debris build up at the Rennie Bridge, August 1948

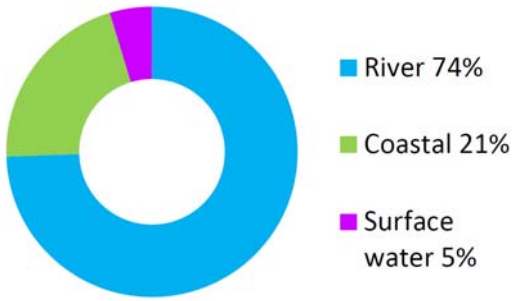


- Level markers on the properties at Eskmills from the flood event have allowed the event to be analysed using modern techniques
- Peak level of 7.37m aOD at Eskmills was recorded - calculated to be the equivalent of the 0.5% AEP (1 in 200 year) event
- Historical town mapping overlain with the calculated 1948 flood event shows the probable extent of flooding

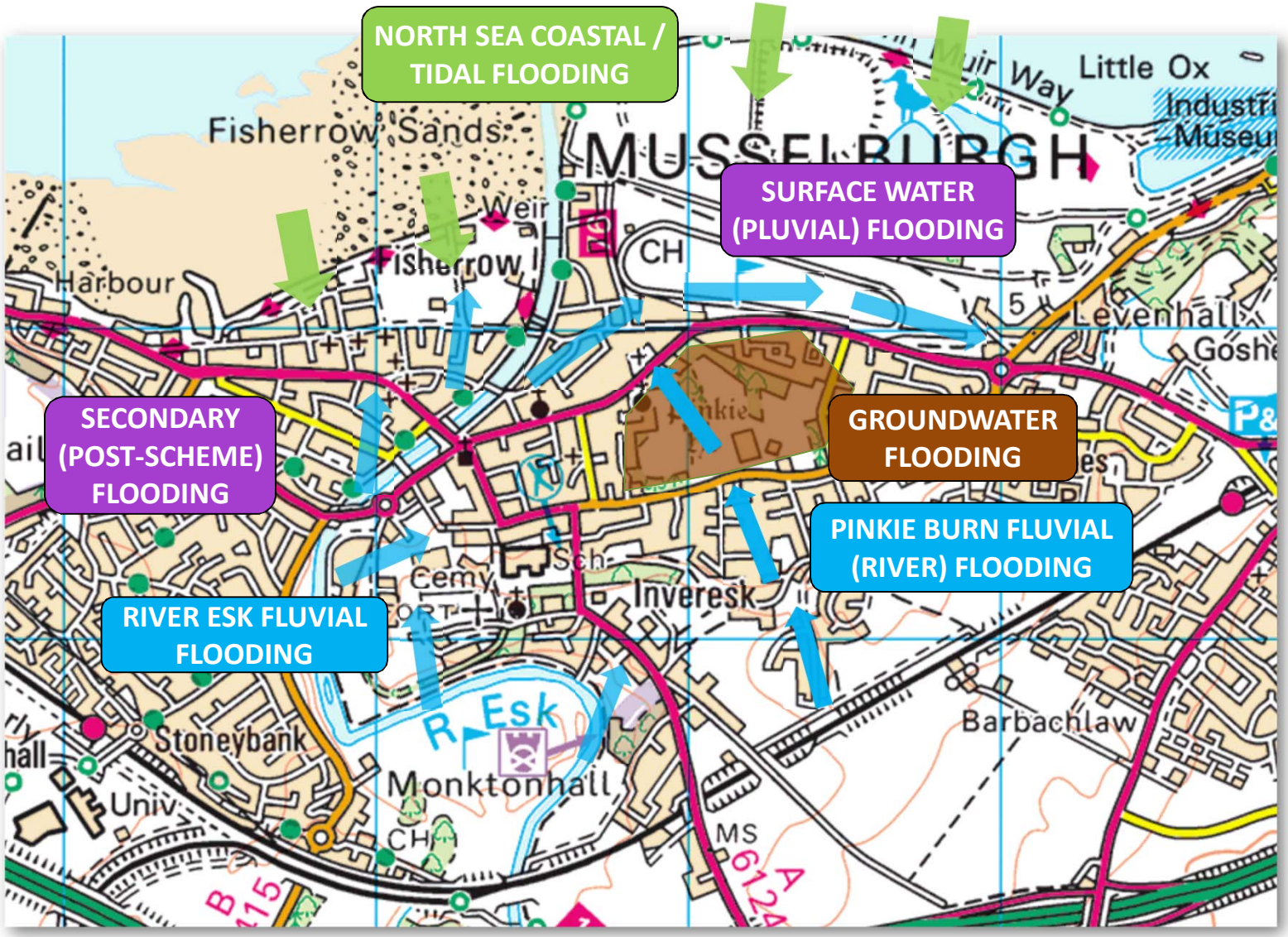
Rennie Bridge image provided as extract from local history publication, author unknown, all other historic images provided courtesy of John Gray Centre, Haddington

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)



MUSSELBURGH FLOOD PROTECTION SCHEME

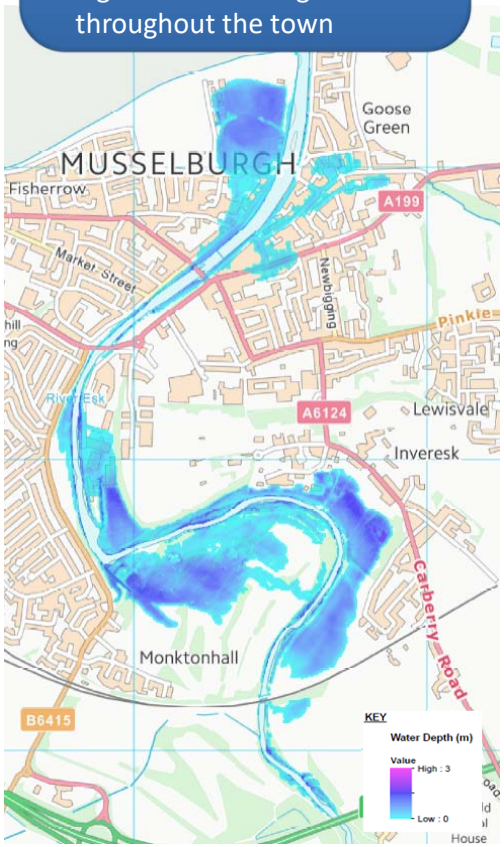
Flood Risk to Musselburgh – Onset of Flooding (Present Day)

River Esk (Fluvial) Flooding

- **Minor tidal** (coastal) event: 50% AEP / 1 in 2 year occurring at same time as **minor fluvial** (river) event: 10% AEP / 1 in 10 year
- Minor property flooding begins to occurs

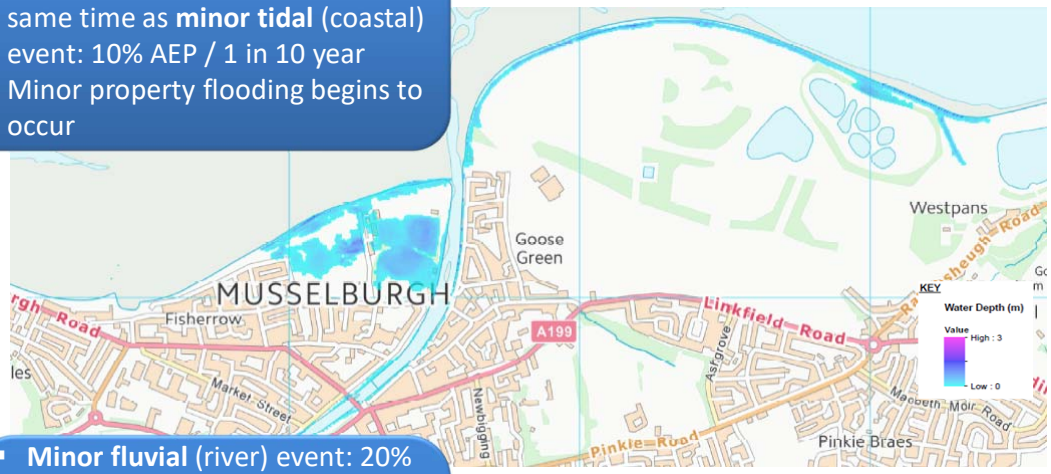


- **Minor tidal** (coastal) event: 50% AEP / 1 in 2 year occurring at same time as **moderate fluvial** (river) event: 1.3% AEP / 1 in 75 year
- Significant flooding occurs throughout the town

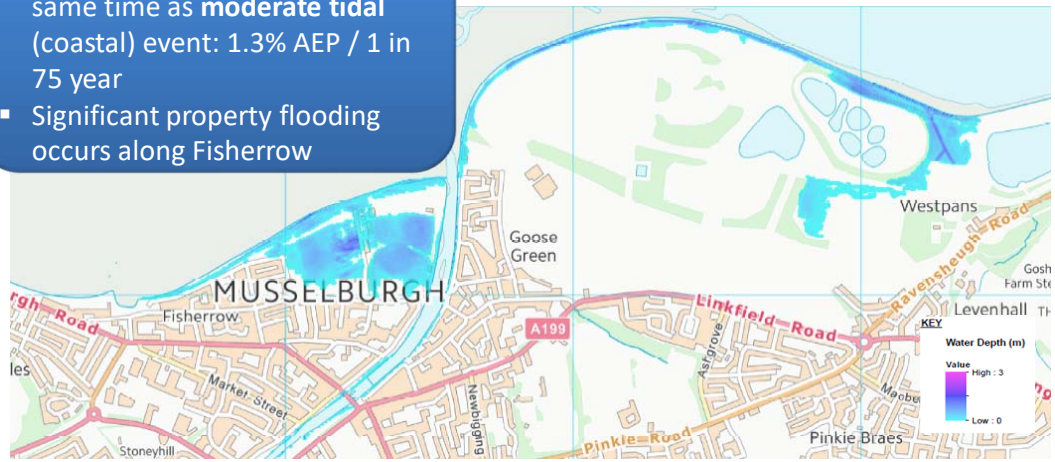


North Sea Tidal (Coastal) Flooding

- **Minor fluvial** (river) event: 20% AEP / 1 in 5 year occurring at same time as **minor tidal** (coastal) event: 10% AEP / 1 in 10 year
- Minor property flooding begins to occur



- **Minor fluvial** (river) event: 20% AEP / 1 in 5 year occurring at same time as **moderate tidal** (coastal) event: 1.3% AEP / 1 in 75 year
- Significant property flooding occurs along Fisherrow

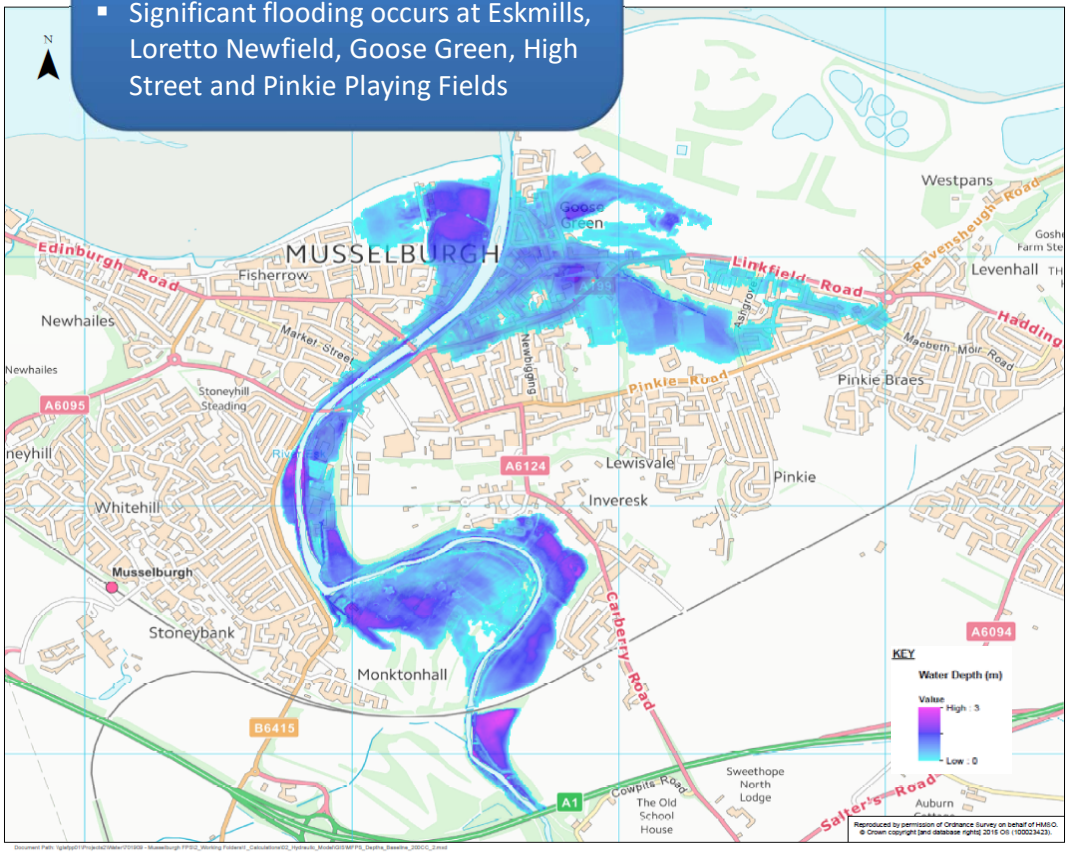


MUSSELBURGH FLOOD PROTECTION SCHEME

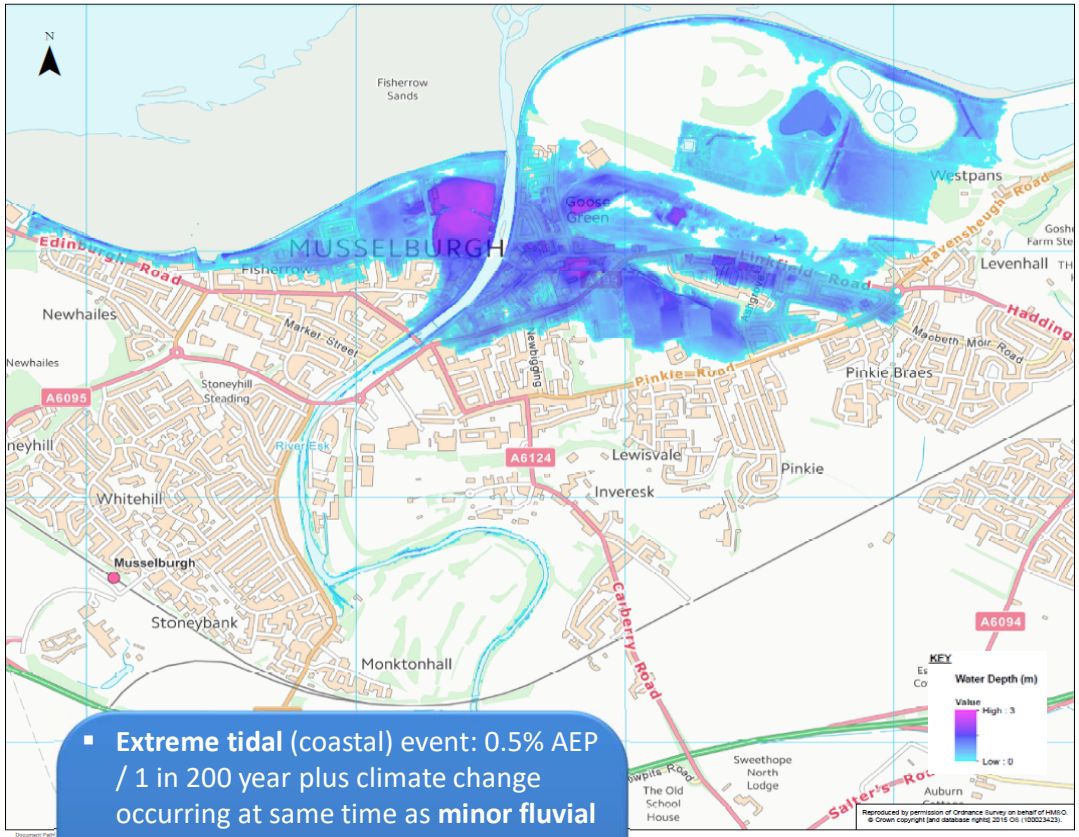
Flood Risk to Musselburgh – Extreme Flood Events

River Esk (Fluvial) Flooding

- **Extreme fluvial** (river) event: 0.5% AEP / 1 in 200 year plus climate change occurring at same time as **minor tidal** (coastal) event: 50% AEP / 1 in 2 year plus climate change
- Significant flooding occurs at Eskmills, Loretto Newfield, Goose Green, High Street and Pinkie Playing Fields



North Sea Tidal (Coastal) Flooding

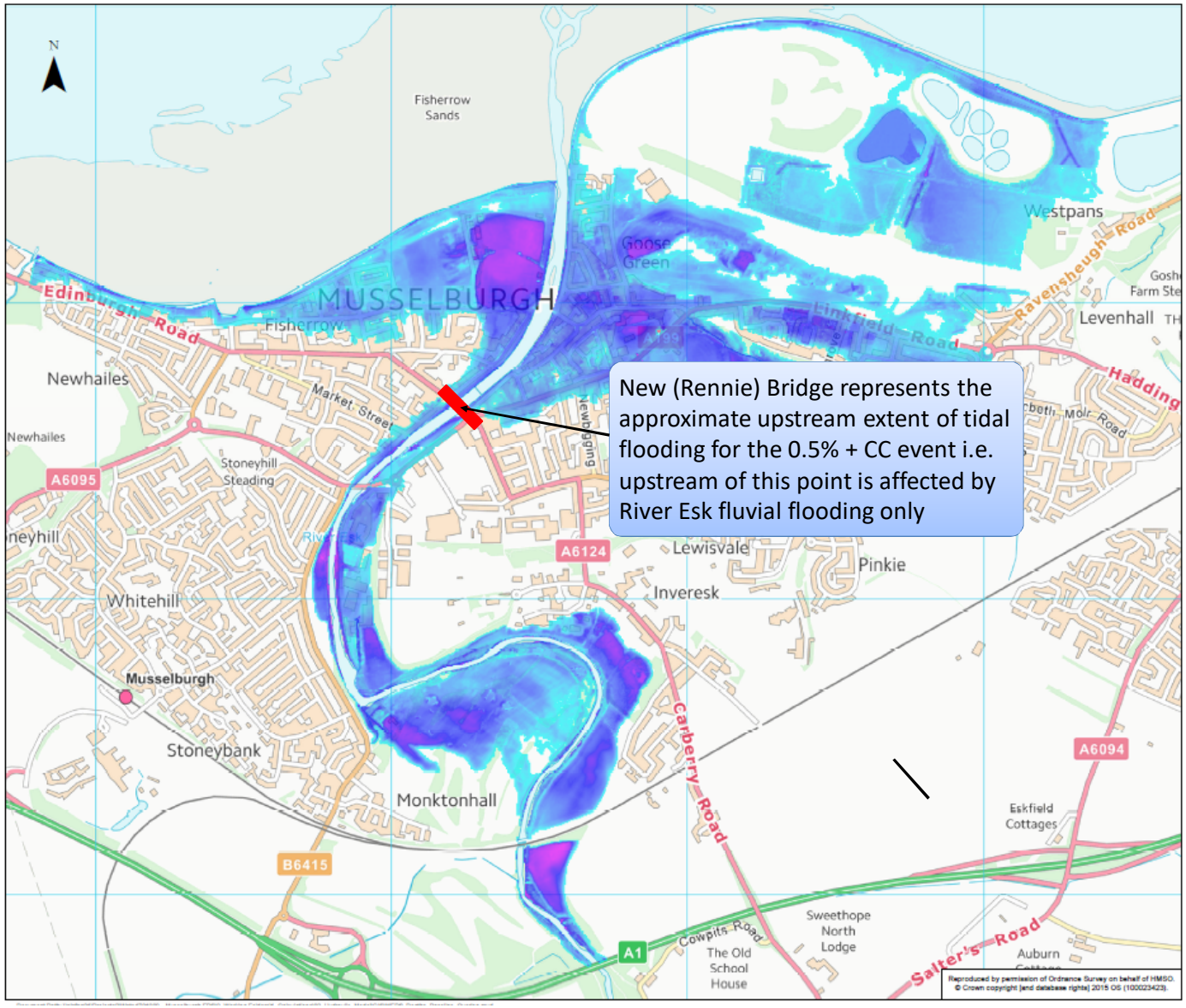


- **Extreme tidal** (coastal) event: 0.5% AEP / 1 in 200 year plus climate change occurring at same time as **minor fluvial** (river) event: 20% AEP / 1 in 5 year plus climate change
- Significant flooding occurs in a number of areas including Loretto Newfield, Goose Green, High Street, Fisherrow and Pinkie Playing Fields

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



MUSSELBURGH FLOOD PROTECTION SCHEME

Impacts of Climate Change

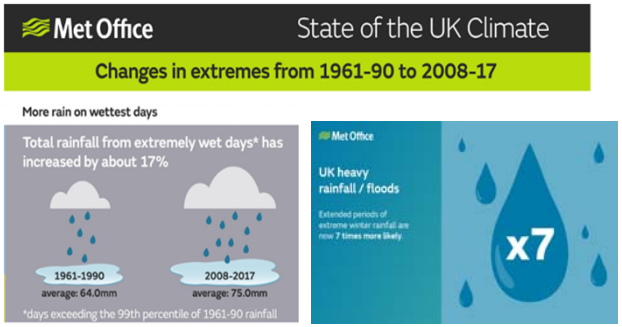
The UK's climate is becoming wetter; UKCP18* shows a trend towards wetter winters and drier summers.

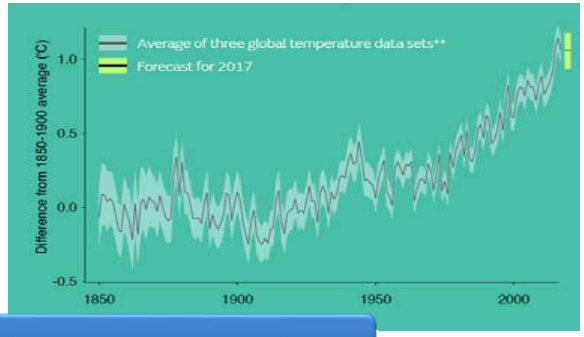
There are impacts on coastal and fluvial flooding from the effects of climate change.

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.]

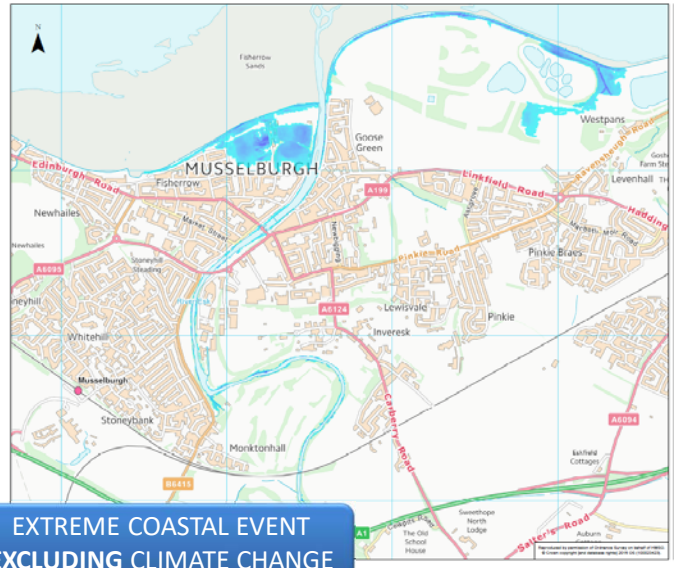




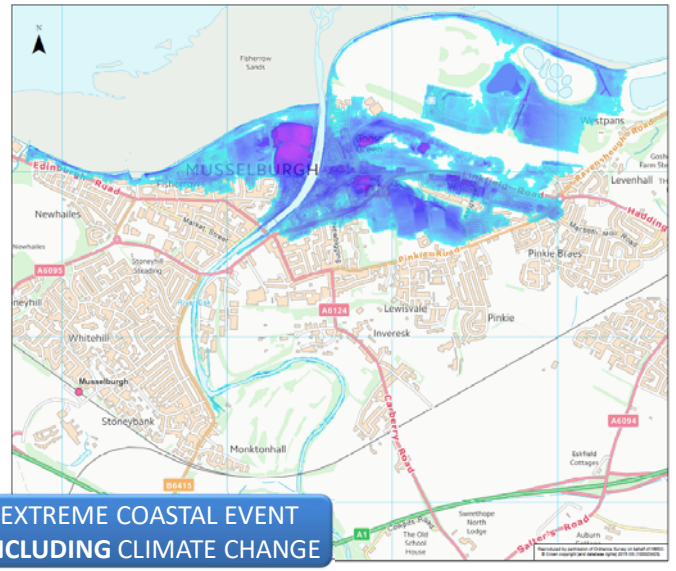
GLOBAL TEMPERATURE INCREASE



GLOBAL SEA LEVEL INCREASE



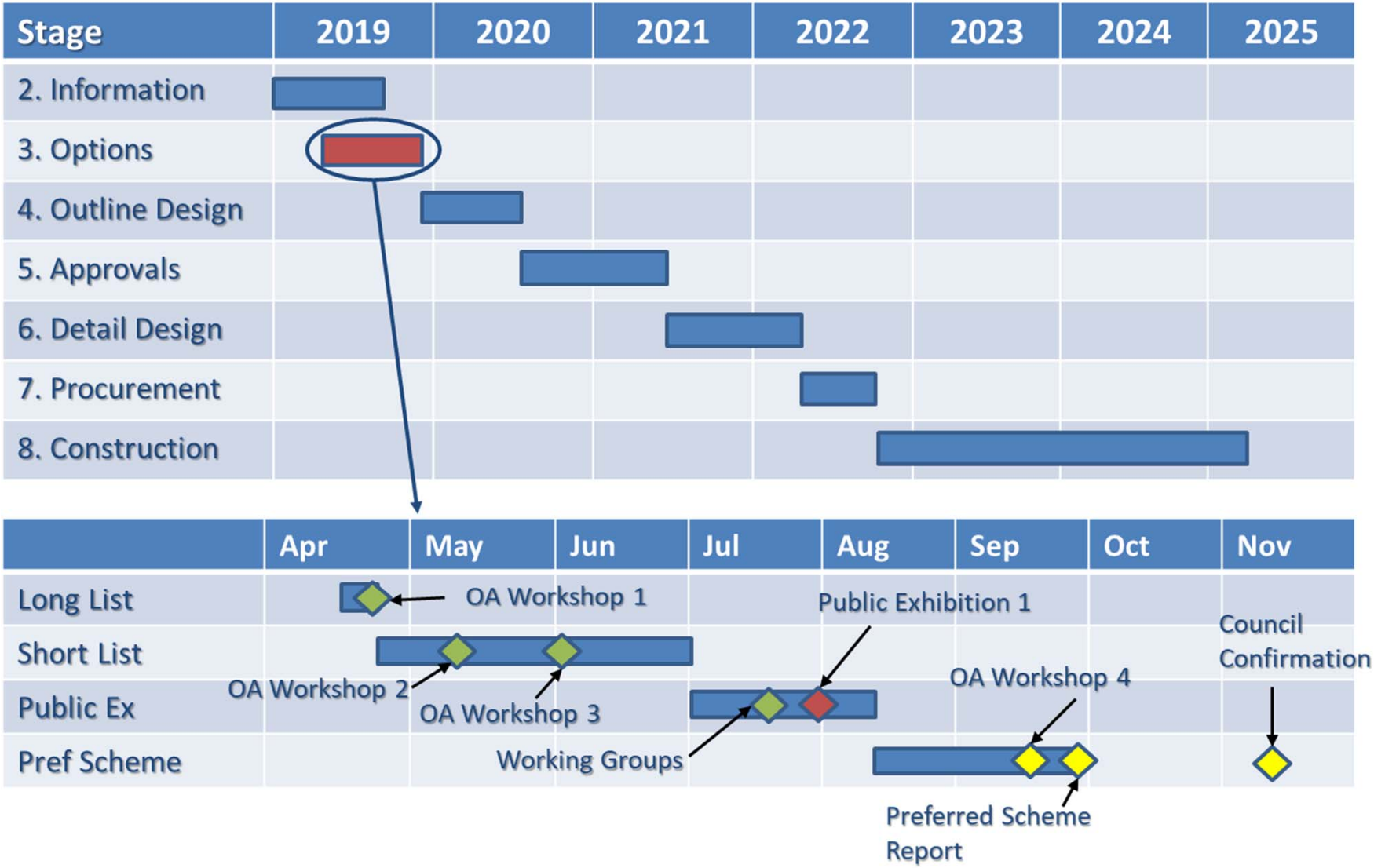
EXTREME COASTAL EVENT **EXCLUDING** CLIMATE CHANGE



EXTREME COASTAL EVENT **INCLUDING** CLIMATE CHANGE

MUSSELBURGH FLOOD PROTECTION SCHEME

Where are we now? – Options Appraisal Process



MUSSELBURGH FLOOD PROTECTION SCHEME

Developing and Appraising the Options

Developing the Long List

- **Option Appraisal Workshop No. 1 – 25th April 2019** ⇒ key project team members
- Initial brainstorming to identify possible options, including those that seem obviously unfeasible

Appraising the Long List

- **Option Appraisal Workshop No. 2 – 22nd May 2019** ⇒ key project team members
- Each option is assessed against specific criteria in line with Scottish Government guidance and baseline flood risk
- Propose to reject options that are clearly unfeasible (early discounting)
- First pass appraisal for the wider group of stakeholders to review/challenge/ratify

Developing the Short List

- **Option Appraisal Workshop No. 3 – 4th June 2019** ⇒ key project team members plus representatives from SEPA, SNH, RFFT, ELC, etc
- Review and agree on the method for assessing the options (RAG)
- Attendees review all options and identify any possible new ones
- Agree on the options deemed to be unfeasible
- Agree on shortlisted options for more detailed consideration
- Full review of the proposed 'rejected' options

Appraisal Criteria

- Economics
- Technical
- Environment
- Social & Stakeholder
- Health & safety

Each option assessed against above appraisal criteria using Red, Amber, Green **(RAG)** analysis

- CONSIDER
- CAN'T DECIDE YET
- REJECT

MUSSELBURGH FLOOD PROTECTION SCHEME

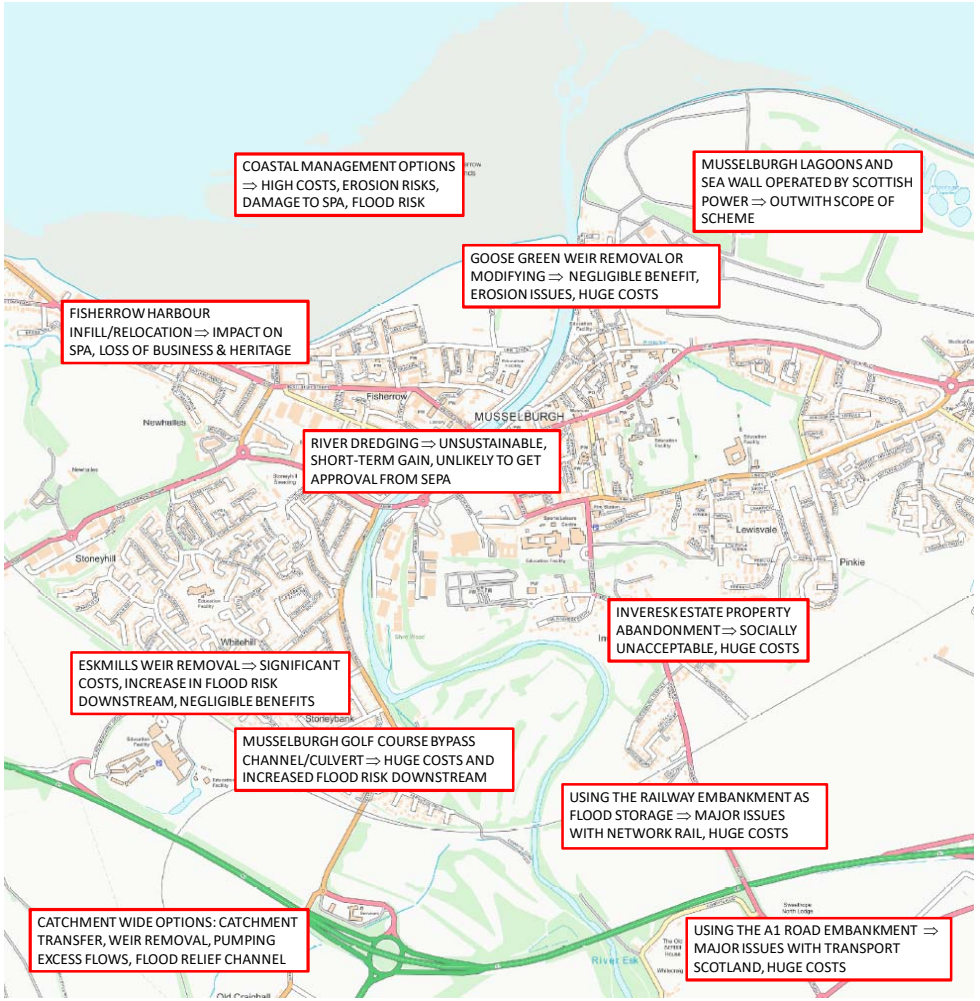
Long List - Early Discounted Options

General REJECTION Assessment Guidelines

Economics	Capital cost likely to significantly exceed ELC budget, very low BCA by inspection, unlikely to qualify for SG grant funding (and no likely alternative funding source)
Technical	Clearly unfeasible from a technical or construction perspective or likely to have little impact on reducing flood risk
Environment	Significant likely impact on the environment, with high chance of not being able to accept or mitigate, or unsustainable
Social & Stakeholders	Proposal which is likely to result in insurmountable objections, or will result in significant residual risks which cannot be adequately mitigated (e.g. flood risk increase)
Health & Safety	Implementation results in unacceptable risk to construction, maintenance or demolition workers or to the public

***NOTE: Please speak to a member of the project team if you would like to view the full long list RAG analysis showing all options identified, appraised and rejected.**

Summary of Proposed REJECTED Options*

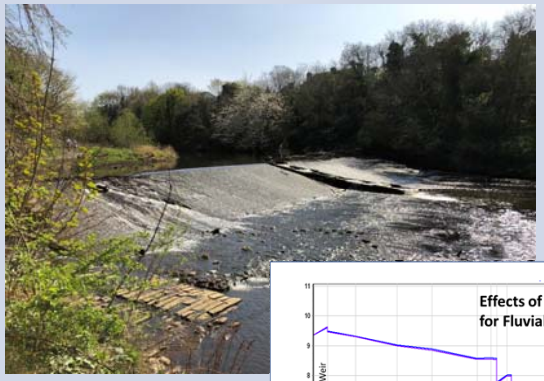


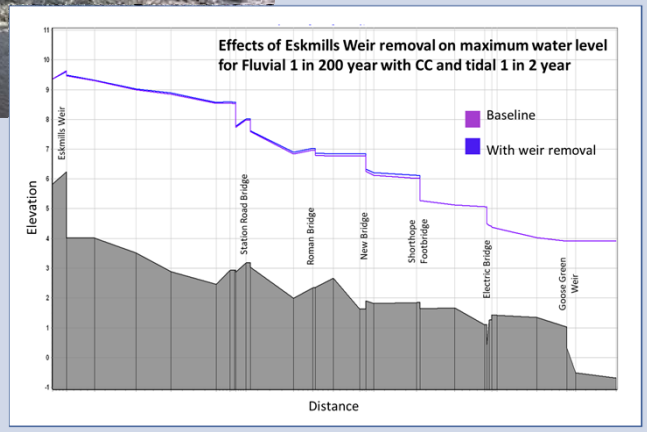
MUSSELBURGH FLOOD PROTECTION SCHEME

Long List - Early Discounted Options

Weir Removal

- Adverse impact on established river ecology
- Potential increase in flood risk downstream
- Adverse geomorphological impacts – sediment moves from upstream to downstream, potential erosion and undermining of existing structures
- Flood risk benefit not significant
- However, **weir modification** may be considered as part of Forth Catchment wide initiative to improve fish passage

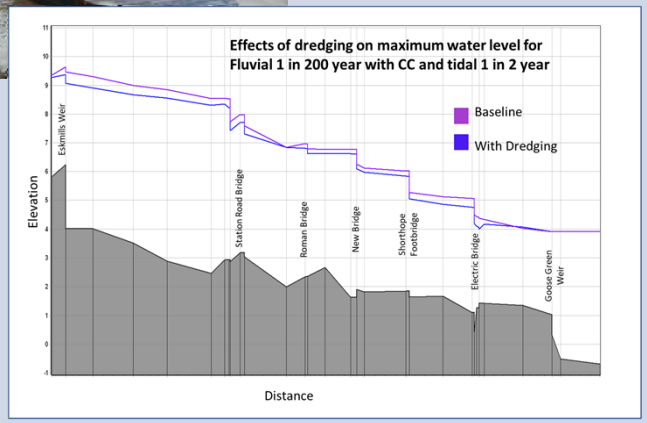




Fluvial Dredging

- Unsustainable – requires constant maintenance
- Access can be difficult – requires low flows
- Devastating ecological impacts – destroys riverbed habitats
- Adverse geomorphological impacts – can cause sediment deposition and erosion elsewhere (risk of undermining existing structures)
- Flood risk benefit not significant – negligible reduction in water levels





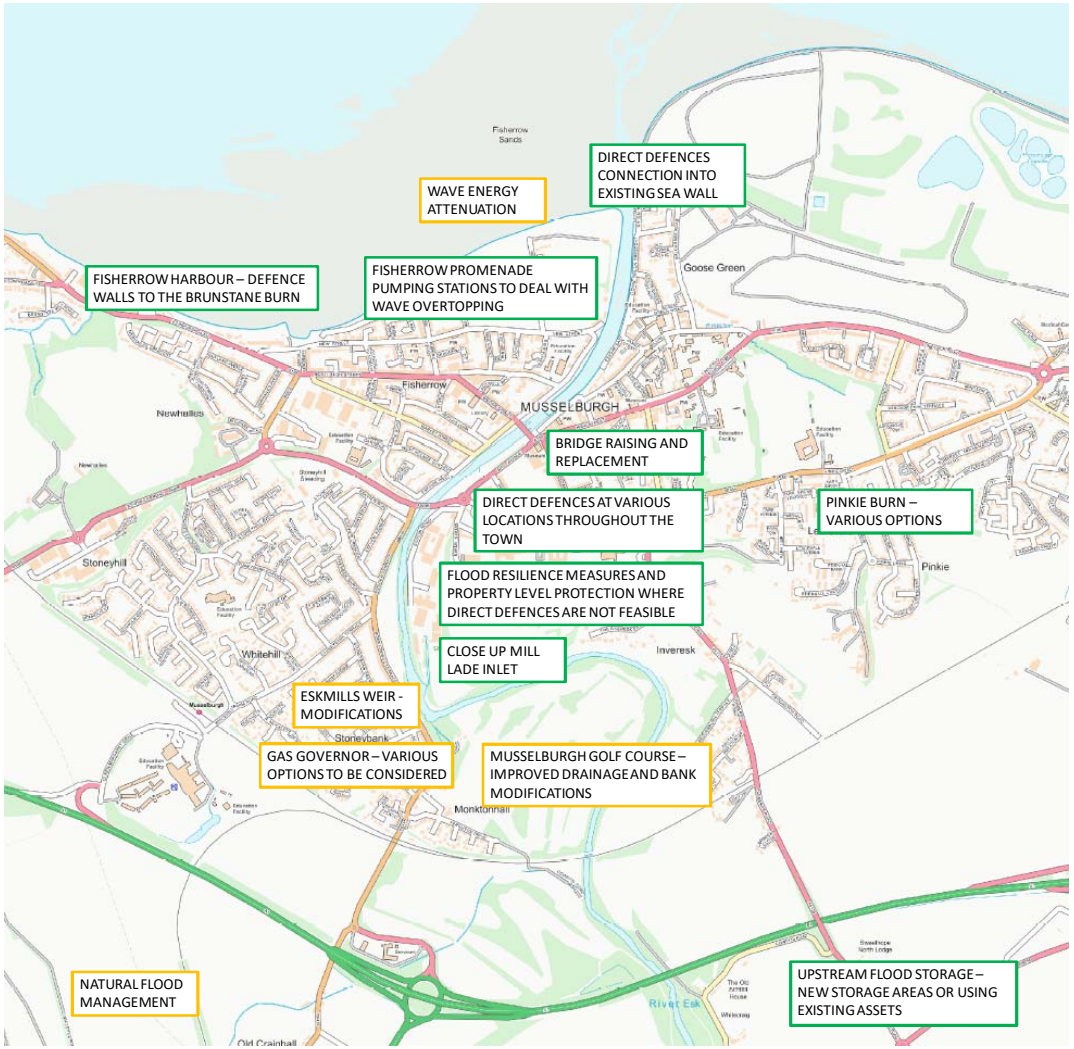
MUSSELBURGH FLOOD PROTECTION SCHEME

Short-listed Options

- Direct defences – either walls or embankment depending on location
- Bridge raising and replacement
- Upstream flood storage
- Underground pumping stations
- Pinkie Burn – various options
- Coastal defences

***NOTE: Please speak to a member of the project team if you would like to view the full long list RAG analysis showing details of all options identified, appraised and considered for further assessment.**

Summary of Short-listed Options*



MUSSELBURGH FLOOD PROTECTION SCHEME

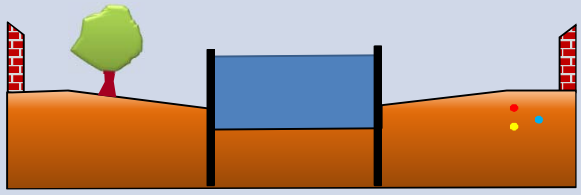
Proposed Short-list: Direct Defences (Walls)

- Ideal for situations where space for the defence is limited
- Ideal for urban and built-up areas where the defence can be tailored to suit and enhance the local infrastructure and landscape
- Generally require minimal maintenance
- Reliable form of defence and requires no human intervention

Design consideration: River Esk defence alignment

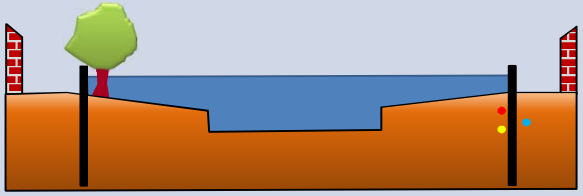
[Please complete our questionnaire to give your views on these options]

Option A: In-river defences



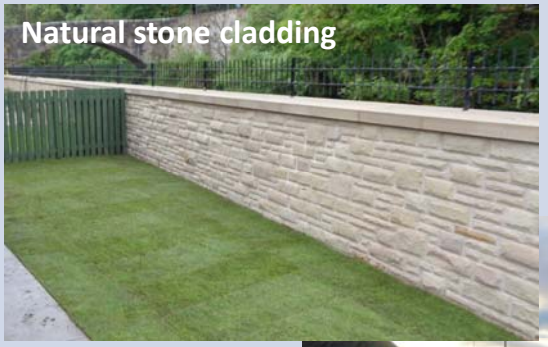
+ Usually doesn't affect existing services
+ More trees can normally be retained
+ Existing dilapidated river walls are demolished/replaced/buried
+ Access to amenity riverbanks is maintained
- Connection to the river is severed
- Higher flood defence walls – views of the river can be cut off, but this could be offset by incorporating glass panels in flood defence walls

Option B: Set-back defences



+ Allows more of the existing flood plain to be used
+ Lower flood defence walls – views of the river can be maintained
- Often means that trees need to be cut down to accommodate the defences
- Often requires services in the footpath or along road verges to be diverted
- Access to riverbanks can be affected, but ramps, stairs and flood gates can be incorporated

Design consideration: wall cladding/finishes









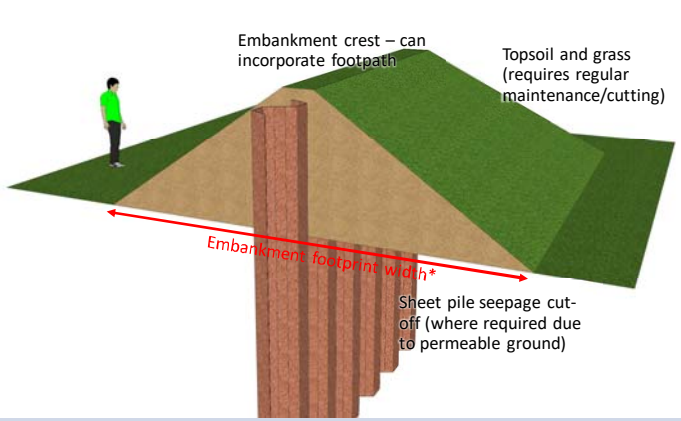
MUSSELBURGH FLOOD PROTECTION SCHEME

Proposed Short-list: Direct Defences (Embankments)

Flood defence embankments can be constructed as an alternative to walls in some locations. Some key features of embankments are:

- Ideal for rural settings or landscaped areas where space permits (as a rough guide, a 1.5 metre high embankment typically requires a footprint at least 9 metres wide)
- Can be designed to enhance the surrounding landscape and incorporate riverside footpaths
- Can incorporate ramps and stairs to maintain access
- Are generally visually unobtrusive in riverside settings once grass has established

Typical Embankment Detail



*Key design consideration – embankment footprint can be significant (depending on height and side slopes) and as such can reduce the area of useable 'flat' land adjacent to the river











MUSSELBURGH FLOOD PROTECTION SCHEME

Proposed Short-list: Bridge Raising and Replacement

In Musselburgh, there are seven bridges along the River Esk between Musselburgh Golf Course and the estuary. Each bridge must be assessed carefully to determine the most appropriate flood risk option, which could include:

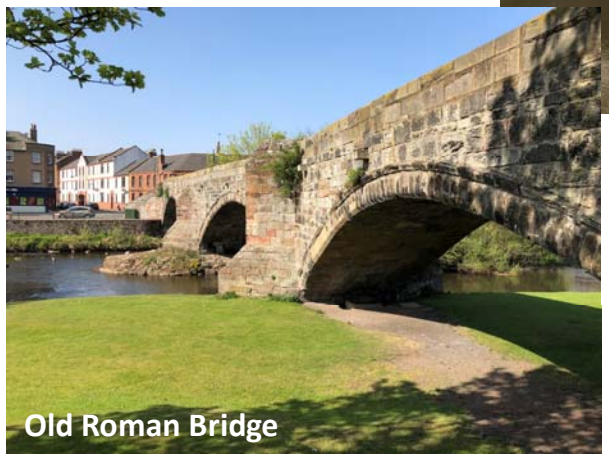
- **Do nothing –** where the existing bridge does not significantly affect flood risk impact upstream or downstream
- **Removal** of the existing bridge – only feasible where a suitable alternative route is available
- **Raising** the existing bridge by modifying the supports to allow more flow through
- **Replacement** of the bridge – at a higher level, new location or with a single span (no central supports)


New (Rennie) Bridge


Goose Green (New Street) Footbridge


Ivanhoe (Cotton Mills) Footbridge


SSEB (Electric) Bridge


Old Roman Bridge


Shorthope Street Footbridge


Station Road (Olive Bank) Bridge

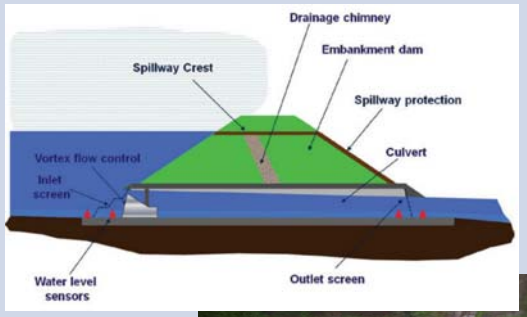
MUSSELBURGH FLOOD PROTECTION SCHEME

Proposed Short-list: Upstream Flood Storage

New Flood Storage Areas

Flood storage areas upstream of the town are designed to temporarily hold back much of the floodwater during extreme weather. The storage area controls the release of water passing downstream through the town to an acceptable level.

In Musselburgh however, the lack of suitable storage sites upstream means that flood storage alone will not protect the town from flooding, but it may help to reduce the height of direct defences throughout the town.



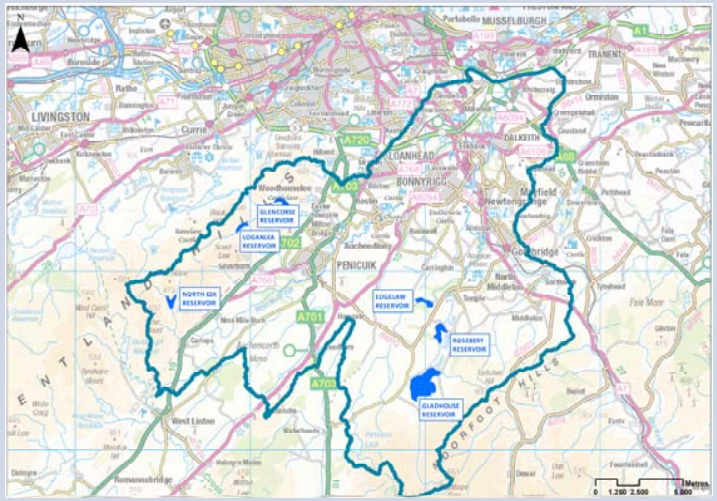
Typical cross-section through flood storage area



Kirkland Bridge Flood Storage Area, White Cart Flood Prevention Scheme, Glasgow

Flood Storage using Existing Assets

It is also possible to **modify existing reservoirs** to store more water upstream. There are six existing reservoirs in the catchment upstream of Musselburgh that could be considered and will be assessed for suitability.



St Mary's Loch in Selkirk is an example of a natural reservoir that has been engineered to store flood water. The new water management system allows the loch to store the equivalent of 620 Olympic swimming pools' worth of water, which helped protect properties downstream during Storm Desmond in December 2015.



Spillway at St. Mary's Loch



St. Mary's Loch, Selkirk, Scottish Borders

East Lothian Council JACOBS CPE CONSULTANCY Turner & Townsend

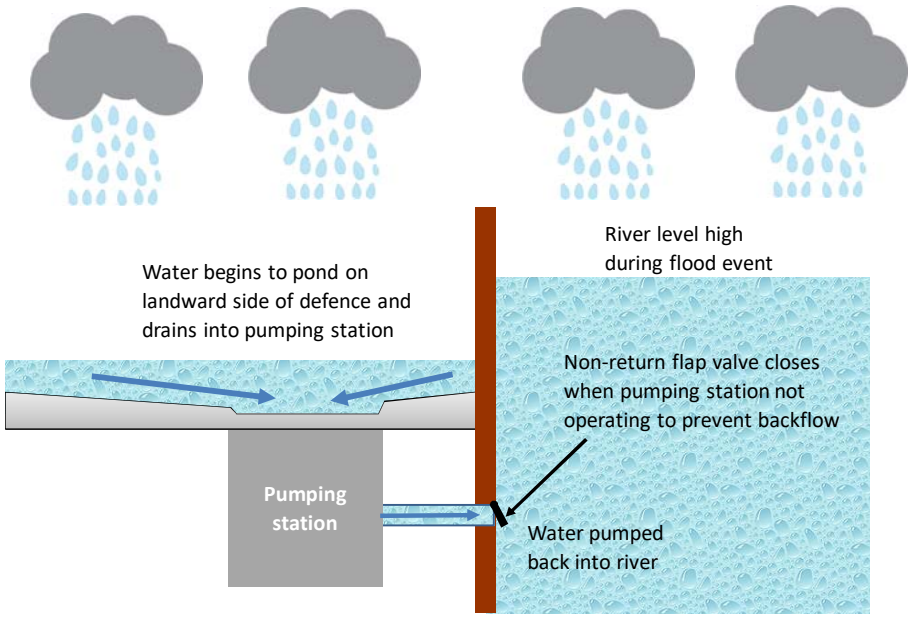
MUSSELBURGH FLOOD PROTECTION SCHEME

Proposed Short-list: Pumping Stations

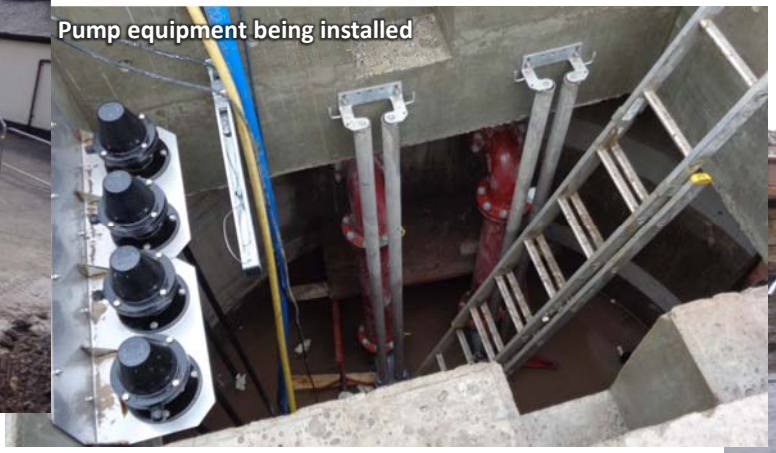
When flood defences are constructed, existing overland drainage paths to the river become blocked, and so it is necessary to provide alternative drainage arrangements. Where required, surface water pumping stations can be installed at low points along the direct defences. This helps to discharge excess surface water that could potentially become trapped behind the new flood defence.

Key features of pumping stations are:

- All equipment is below ground making pumping stations completely unobtrusive
- They are fitted with automatic level sensors and monitoring systems so that no manual intervention is required to deploy the pumps when required
- Also applicable to coastal environments to deal with wave overtopping




Pumping station under construction


Pump equipment being installed


Finished pumping station, White Cart FPS, Glasgow

MUSSELBURGH FLOOD PROTECTION SCHEME

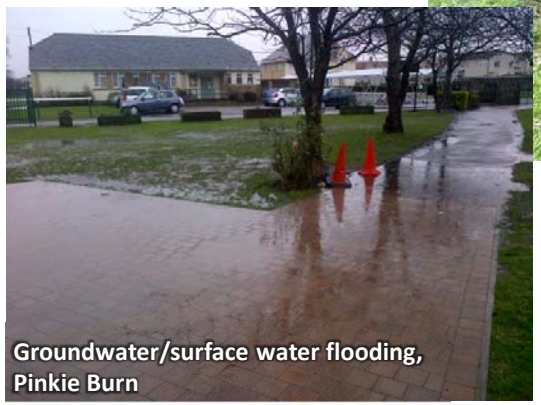
Proposed Short-list: Pinkie Burn Options

Options for the Pinkie Burn include:

- Increasing the capacity or cleaning out / maintenance of the existing culvert
- Maintenance to the outlet on the Esk, including a non-return flap valve to prevent backflow
- Regrading/reprofiling the land within Pinkie St. Peter's play fields to reduce flood risk to the sports pitches
- Pumping stations to deal with surface water and groundwater issues

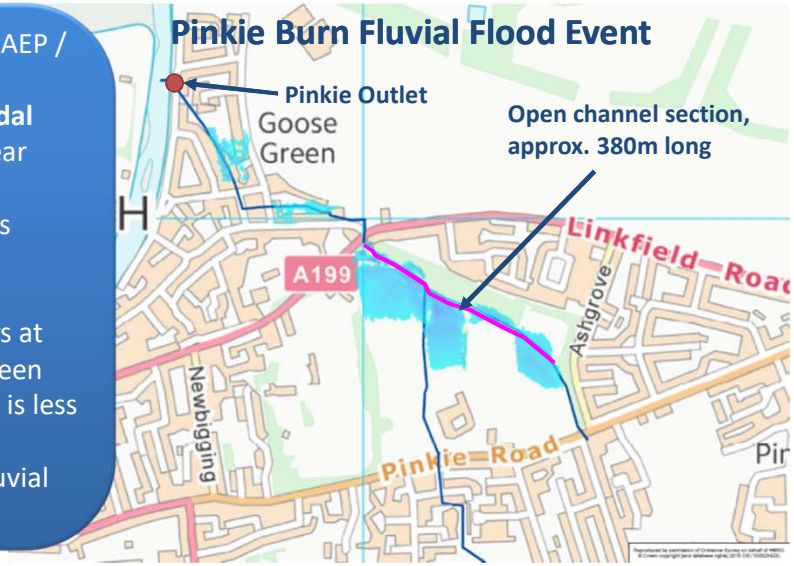


High flows on the Pinkie Burn

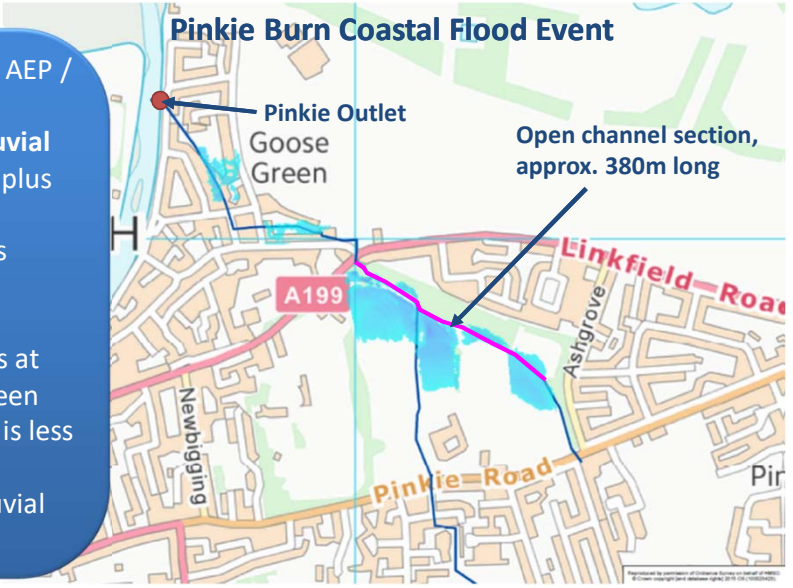


Groundwater/surface water flooding, Pinkie Burn

- **Extreme fluvial** (river) event: 0.5% AEP / 1 in 200 year plus climate change occurring at same time as **minor tidal** (coastal) event: 50% AEP / 1 in 2 year plus climate change
- Floodwater spills onto playing fields upstream of Linkfield Rd culvert to depths of less than 1 metre
- Culvert manhole surcharging occurs at racecourse buildings and Goose Green
- Pinkie Burn flood event inundation is less than that experienced during the extreme coastal (North Sea) and fluvial (River Esk) events

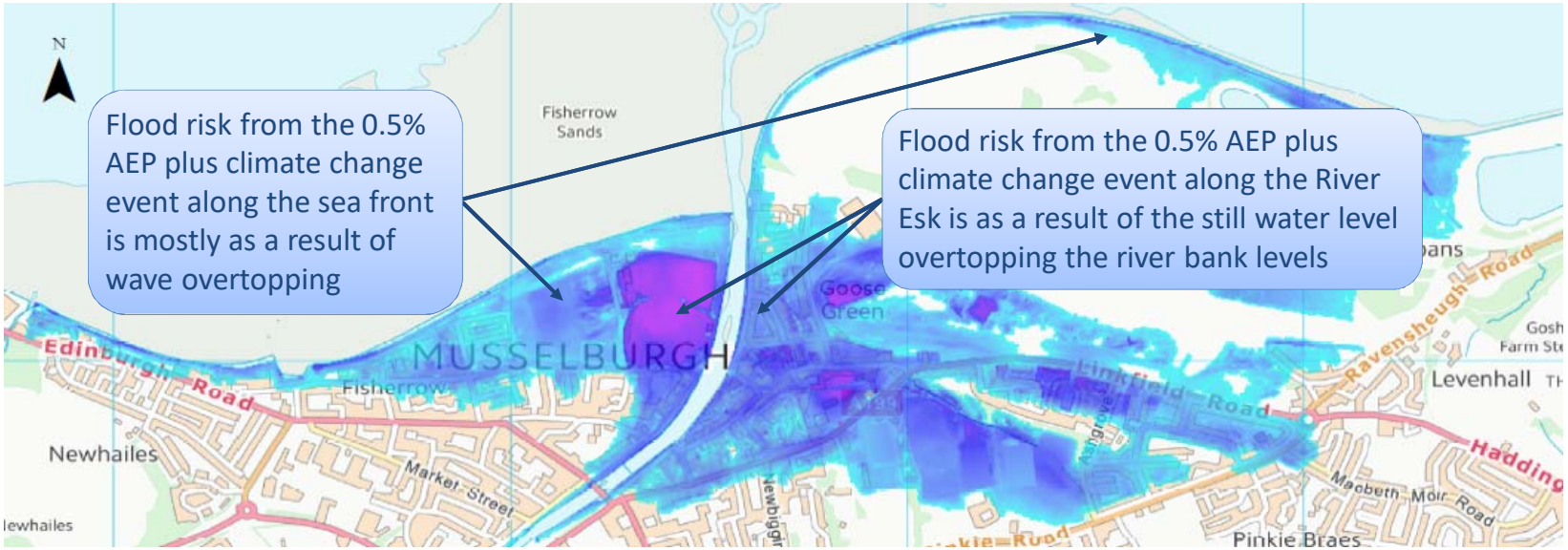


- **Extreme tidal** (coastal) event: 0.5% AEP / 1 in 200 year plus climate change occurring at same time as **minor fluvial** (river) event: 50% AEP / 1 in 2 year plus climate change
- Floodwater spills onto playing fields upstream of Linkfield Rd culvert to depths of less than 1 metre
- Culvert manhole surcharging occurs at racecourse buildings and Goose Green
- Pinkie Burn flood event inundation is less than that experienced during the extreme coastal (North Sea) and fluvial (River Esk) events



MUSSELBURGH FLOOD PROTECTION SCHEME

Proposed Short-list: Coastal Defences



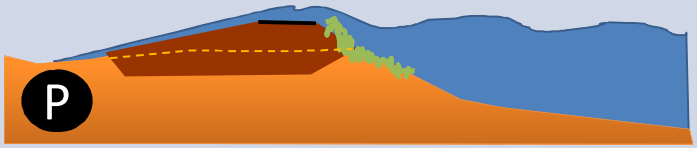
Musselburgh Lagoons old sea wall is not owned by East Lothian Council and does not form part of the scope for the FPS. Our ecology team have identified that the wall must be preserved in the future to protect important links and lagoon habitats.

Design consideration: coastal flood defence options (west of the River Esk estuary)

[Please complete our questionnaire to give your views on these options]

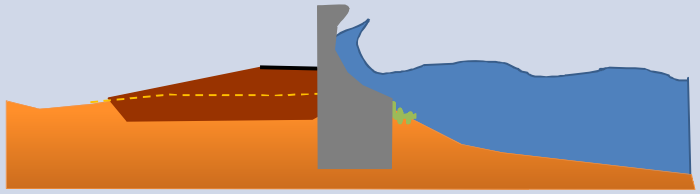
Option A: Lower defence, some wave overtopping

+ Lower defence height allows access to the beach to be maintained and minimises visual impact
- Small amount of wave overtopping occurs, but this can be pumped back into the sea



Option B: Higher defence, no wave overtopping

+ Wave overtopping restricted and no requirement for pumping
- Higher defence reduces visibility of the beach and impacts on accessibility




Example coastal defence wall, Blackpool


Example low height coastal defence, North Wales

MUSSELBURGH FLOOD PROTECTION SCHEME

Next steps

Gather feedback from public exhibition and review comments, concerns and suggestions → Prepare feedback report summarising project team's responses to feedback → Focussed follow-up events to discuss key issues → Identify any potential objections to the Scheme → Finalise the options, taking into account feedback from all consultation events → Select the proposed 'Preferred Scheme'

Feedback Questionnaires

We would really appreciate if you could take the time to complete a questionnaire to provide your views and comments on the options presented today – your feedback will be taken into account in determining the Preferred Scheme for Musselburgh.



Thank you

Public Exhibition No. 2

A further public exhibition is planned for **Spring/Summer 2020** where we will present the proposed Preferred Scheme for Musselburgh – look out for event adverts nearer the time.

Further Information

If you would like to discuss anything in more detail, please speak to one of the project team.

We are also pleased to have representatives from the following at the exhibition today:

- Scottish Environment Protection Agency (SEPA) Floodline
- Scottish Flood Forum
- East Lothian Council Emergency Planning Team

FAQs

Please pick up one of our FAQ sheets as you leave the exhibition which includes some common FPS questions and project team contact details.



East Lothian Council JACOBS CPE CONSULTANCY Turner & Townsend

Appendix B. FAQ Handout

MUSSELBURGH FLOOD PROTECTION SCHEME

FREQUENTLY ASKED QUESTIONS

Consultation such as this costs a lot of time, money and resources that could be put towards the Scheme, so why do it?

As well as being a statutory requirement within the process of developing a Flood Protection Scheme, it is essential that the project remains visible to the local community and stakeholders. This ensures that we gather as much feedback as we can to assist the development of the project and make sure we take your views on board.

Why does the FPS process take so long?

There are statutory steps and a complex consultation process which must be completed before the Flood Protection Scheme can be confirmed. Confirmation of a scheme allows the authority to proceed to carry out the work, but the authority may also require other statutory consents, such as planning. A local authority must advertise the scheme in the locality. Any person may object in writing to Scottish Ministers within a three-month period from the date of the advertisement. If an objection from any person whose land may be adversely affected by the scheme is not withdrawn, it will be considered at a Public Local Inquiry. After all objections have been withdrawn, and after any local inquiry has been reported, the Scottish Government will consider the scheme for confirmation. Ministers may confirm a scheme, with or without modifications, or refuse to confirm a scheme.

Has funding been secured for construction of the Scheme?

Not yet. The FPS process involves applying for funding from the Scottish Government once the Scheme is confirmed. Funding grants of 80 percent of the eligible costs are available from the Scottish Government for confirmed schemes which meet specific technical, environmental and economic criteria. East Lothian Council would then fund the remaining 20 percent of the total cost.

Will the Scheme stop all flooding in the town?

No, there always remains a risk with every Flood Protection Scheme that there will be a storm event which delivers a flood greater than the Scheme is designed to protect against. However, the Scheme will be designed to protect against extreme events and therefore, once complete, the risk of flooding in Musselburgh will be greatly reduced.

Who do I contact if I want to find out more information about the Scheme or ask a question?

Project Manager: Conor Price
Tel: 01620 827263
Email: cprice@eastlothian.gov.uk

Assistant Project Manager: Nadia Othman
Tel: 01620 828766
Email: nothman@eastlothian.gov.uk

Flood Risk Management Glossary

Annual Exceedance Probability (AEP)	The probability that a particular size/severity of flood will occur in any given year (also see 'likelihood of flooding' and 'return period').
Coastal flooding	Flooding that results from high sea levels or a combination of high sea levels and stormy conditions. Also referred to as tidal flooding and covers areas such as estuaries and river channels that are influenced by tidal flows.
Conveyance	Conveyance is a measure of the carrying capacity of a watercourse. Increasing conveyance enables flow to pass more rapidly and reducing conveyance slows flow down. Both actions can be effective in managing flood risk depending on local conditions.
Flood extent	The area that has been affected by flooding, or is at risk of flooding from one or more sources for a particular likelihood.
Floodplain	Area of land that borders a watercourse, an estuary or the sea, over which water flows in time of flood, or would naturally flow if not for the presence of flood defences and other structures where they exist.
Fluvial flooding	Fluvial, or river flooding, occurs when excessive rainfall over an extended period of time causes a river to exceed its capacity and flow out of bank causing flooding of adjacent land.
Freeboard	Freeboard is a factor of safety usually expressed in metres above a flood defence level to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated. For example, wave action, bridge openings, ground settlement, and the effect of urbanisation in a river catchment.
Groundwater flooding	This type of flooding is caused by water rising up from underlying rocks or flowing from springs. In Scotland groundwater is generally a contributing factor to flooding rather than the primary source.
Likelihood of flooding	The chance of flooding occurring. **High likelihood**: A flood is likely to occur in the defined area on average once in every ten years (1:10). Or a 10% chance of happening in any one year. **Medium likelihood**: A flood is likely to occur in the defined area on average once in every two hundred years (1:200). Or a 0.5% chance of happening in any one year. **Low likelihood:** A flood is likely to occur in the defined area on average once in every thousand years (1:1000). Or a 0.1% chance of happening in any one year.
Return period	A measure of the rarity of a flood event. It is the statistical average length of time separating flood events of a similar size. (see also likelihood of flooding)
Surface water (pluvial) flooding	Flooding that occurs when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead
Wave overtopping	Wave overtopping occurs when water passes over a flood wall or other structure as a result of wave action. Wave overtopping may lead to flooding particularly in exposed coastal locations.

Appendix C. Attendance Register

Musselburgh Flood Protection Scheme - Public Exhibition No.1 - Postcode Entrants

Count	Postcode
166	
1	EH217LD
1	EH21GPL
1	EH216LL
1	EH216DS
1	EH217RJ
1	EH216JP
1	EH216BY
1	EH216BY
1	EH216PT
1	EH216BY
1	EH216DG
1	EH216DP
1	EH216DP
1	EH216DP
1	EH144AP
1	EH216BE
1	EH217ER
1	EH217HB
1	EH216JT
1	EH216BQ
1	EH217LH
1	EH217PX
1	EH32OEA
1	EH217SJ
1	EH21GAT
1	EH216PL
1	EH141BL
1	R672QA
1	EH216NW
1	EH217SJ
1	EH216EL
1	EH216EL
1	EH26HZ
1	EH217RD
1	EH217RD
1	G659BL
1	EH217TU
1	EH217SL
1	EH216JQ
1	EH217RP
1	EH217PW
1	EH216DP
1	G1205A
1	EH22
1	EH216PP
1	EH217QU
1	EH216PP
1	EH216PL
1	EH111SX
1	EH217E2
1	EH217LQ
1	EH217LQ
1	EH216DN
1	EH217RP
1	EH217JY
1	EH217JY

Musselburgh Flood Protection Scheme - Public Exhibition No.1 - Postcode Entrants

Count	Postcode
1	EH329HX
1	EH217RS
1	EH217TJ
1	EH217SN
1	EH216NW
1	EH217SH
1	EH217SH
1	EH216SD
1	EH52GJ
1	EH216PY
1	EH216BE
1	EH217NF
1	EH216PL
1	EH217RW
1	EH216DB
1	EH217RP
1	EH217JX
1	EH217DJ
1	EH217RD
1	EH216BZ
1	EH216BZ
1	EH217RB
1	FK39UB
1	FK39UB
1	FK39UB
1	EH42
1	EH42
1	EH21
1	EH217QZ
1	EH217QE
1	EH217QY
1	EH217LX
1	EH222NJ
1	EH218HN
1	EH217SL
1	EH217SL
1	EH212TD
1	EH212TD
1	EH216DE
1	EH216UW
1	EH217SD
1	EH217SD
1	EH217RP
1	EH216AW
1	EH216JW
1	EH216PT
1	EH216BG
1	EH216QE
1	EH217HB
1	EH152NA
1	EH216DQ
1	EH216JR
1	EH217RW
1	EH217RR
1	EH217AD
1	EH38AN
1	EH414QN

Musselburgh Flood Protection Scheme - Public Exhibition No.1 - Postcode Entrants

Count	Postcode
1	EH216PY
1	EH216DE
1	EH216PL
1	EH218DT
1	EH216PH
1	EH216PH
1	EH217RP
1	EH216JA
1	EH217LL
1	EH218JT
1	EH216RR
1	EH216DQ
1	EH106NW
1	WH216RA
1	EH217RX
1	EH217RW
1	EH216EA
1	EH216DE
1	EH216LB
1	EH216JW
1	EH217LG
1	EH217PG
1	EH217RS
1	EH217RS
1	EH216DG
1	EH216JD
1	EH216DG
1	EH216BE
1	EH216RA
1	EH21
1	EH216DZ
1	EH216RP
1	EH216ER
1	EH216EG
1	EH217AD
1	EH217AD
1	EH216JY
1	EH216LJ
1	EH44GY
1	EH216JX
1	EH217RU
1	EH413FA
1	EH75EU
1	EH332QJ
1	EH216OE
1	EH151RJ
1	EH411WJ
1	TD145MT
1	EH355NN
1	EH414DD
1	EH64LP
1	EH413JA

Appendix D. Table of Attendees' Comments

Musselburgh Flood Protection Scheme

Public Exhibition No.1 - Public Consultation

Public Feedback Analysis

Project Code	3211
Revision Date	05/09/2019
Completed By	Nadia Othman

Response ID	Scheme Support (Q1 & Q2)			River Esk Defence Alignment (Q3 & Q4)					Fisherrow Coastal Defences (Q5)					General comments on proposed options (Q6)	General event feedback (Q7)
	Support	Against	Comments	Option A (in-river)	Option B (set-back)	Neither option	No Preference	Comments	Option A (Low defence)	Option B (High Defence)	Neither option	No Preference	Comments		
	85	5		20	59	8	8		52	24	2	12			
90															
PE1FF-0001	1				1			Where walls are necessary, it is better to retain as much of the natural river as possible, especially regarding ecology	1				May last for longer, greener option		While I fully support flood prevention when necessary, I feel that concrete walls are not the answer. The natural flood plain should be utilised where possible.
PE1FF-0002	1		Although yes, why do the main options have such huge visual impact on the town, and not focus on what is happening upstream?				1	This is a very difficult choice to make, as both will have a significant visual impact and the riverbank, which is a huge amenity, will be drastically altered - need to see more details	1				Again balancing visual/access impact all the time against one off risk	More understanding of what the 'Do Nothing' option would mean for the town	More info on what impact each option will have specifically on the appearance of the river/coast and people's access to it
PE1FF-0003	1						1	Don't have the technical knowledge to assess				1	Don't have the technical knowledge to assess		It was fine
PE1FF-0004	1				1					1			Human [public] safety Building insurance - massive opportunity	Possible freshwater lake lagoon on Loretto Newfield not shown - part of comprehensive scheme? Opportunity to optimise amenity trail/use/visual	[a] Why not have plans and information online? For all to see and digest? It's not secret! [b] Does not mention number of persons and buildings that benefit
PE1FF-0005	1				1			It appears to provide options for river access to make it easier to maintain activities which utilise the river	1				I believe that option A would maintain better access and usage to the beach and waterfront and maintain the visual aspect		Good information and easily presented in chronological board format
PE1FF-0006	1				1							1			
PE1FF-0007	1				1			Could look better		1			Better defence		
PE1FF-0008	1			1				Because it allows more people to access the river??		1			Because we can still get to the beach and we can enjoy it and more people get to??		More videos
PE1FF-0009	1				1					1					Very well presented with very helpful comments from staff
PE1FF-0010	1					1		Embankment option (instead of walls)	1				It I had to choose it would be Option A. Option B would mean no sea view.	Very concerned on the impact of walls on the landscape and the 'natural' environment as it is now. I live on the promenade by the harbour, a wall would ruin my view.	A lot of effort has been put in but it's still a rather depressing future for the town re. walls and impact.
PE1FF-0011	1					1		Embankments (instead of walls) - nicer to look at		1					Yes I have enjoyed the exhibition. Could understand everything that was explained.

Musselburgh Flood Protection Scheme

Public Exhibition No.1 - Public Consultation

Public Feedback Analysis

Project Code	3211
Revision Date	05/09/2019
Completed By	Nadia Othman

Response ID	Scheme Support (Q1 & Q2)			River Esk Defence Alignment (Q3 & Q4)					Fisherrow Coastal Defences (Q5)					General comments on proposed options (Q6)	General event feedback (Q7)
	Support	Against	Comments	Option A (in-river)	Option B (set-back)	Neither option	No Preference	Comments	Option A (Low defence)	Option B (High Defence)	Neither option	No Preference	Comments		
	85	5		20	59	8	8		52	24	2	12			
90															
PE1FF-0012	1			1				Happy with whatever is more effective		1					Very pleased to see proactive process in motion, keep up the good work!
PE1FF-0013	1		Yes, but not "over the top" (every little helps!)		1				1						Yes. Is technical of course and requires experienced people.
PE1FF-0014	1						1		1				There is already a wall in place but is presently covered with sand and weeds.		Most interesting
PE1FF-0015	1				1			Lower wall = views maintained, balanced with strong defence	1				This appears a good balance between maintaining attraction of beach with adequate coastal defences		It is very reassuring that these proposals are so detailed and comprehensive. I feel they must be pursued as a matter of urgency.
PE1FF-0016	1				1			Because a wall would block my view and therefore lower the value of my property				1			
PE1FF-0017			More options using upstream slowing of flow, storage (temporary)			1		Selkirk - embankments	1						Yes very helpful
PE1FF-0018	1				1			Protection of visual amenity	1				Less visual intrusion, protect access to beach	The upper part of the river is an important amenity to the town, which hosts importance wildlife that need to be protected. Any building above the upper weir would be detrimental.	
PE1FF-0019	1				1			Reduced visual impact of walls, etc. Easier public access to amenity areas.			1		No details re. alignment. Recent history of beach gaining - REFER OVERLEAF FOR SKETCH	Why keep 'big' weir - Victorian device to send water to mills and through centre of town	Enjoyed visual and explanation from staff
PE1FF-0020	1			1	1			Both options - in-river and set-back options in combination i.e. defences appropriate for landscape and views.	1					As an Association (Musselburgh Festival) we are very keen to ensure access to the ford at the Roman Bridge for two of our festival events	Yes, clear and easily understood in appropriate order to support our understanding. Visuals extremely helpful
PE1FF-0021	1				1			I think it would be better for the environment		1				The possibility of small reservoirs to hold flood water, but was told that had been thought of, the need for flood defences in the town would still be needed	Very informative, more information from the February meeting
PE1FF-0022	1			1				Think it is the best option		1					Very informative

Musselburgh Flood Protection Scheme

Public Exhibition No.1 - Public Consultation

Public Feedback Analysis

Project Code	3211
Revision Date	05/09/2019
Completed By	Nadia Othman

Response ID	Scheme Support (Q1 & Q2)			River Esk Defence Alignment (Q3 & Q4)					Fisherrow Coastal Defences (Q5)					General comments on proposed options (Q6)	General event feedback (Q7)
	Support	Against	Comments	Option A (in-river)	Option B (set-back)	Neither option	No Preference	Comments	Option A (Low defence)	Option B (High Defence)	Neither option	No Preference	Comments		
	85	5		20	59	8	8		52	24	2	12			
90															
PE1FF-0023	1				1			I would hope that the defences would allow access to the river when not in flood	1					Key issues are that: 1) defences are proportionate and don't overly impact on character of the river or the coast 2) allows reasonable access to the river	Thanks for organising so could come after work
PE1FF-0024	1				1			Embankments preferable - lower visual impact, embankment with paths best	1				Lower visual impact		Yes, very informative
PE1FF-0025	1				1				1						Thank you
PE1FF-0026	1		I am concerned that there is minimal disruption to the amenity of the green spaces and trees in the town	1				Maintain the amenity of the river and town	1						All good thank you
PE1FF-0027	1				1			To retain a greater link with the river. Loss of some mature trees would be a great pity, but new ones could be planted.	1				Again, retains better connection with and views of the beach	Enhancing and developing natural defences/solutions should be a priority. E.g. using existing lochs/reservoirs upstream to store flood water. Will better maintenance of existing drainage etc. also be part of the wider solution?	Yes - very much appreciated. *Some impenetrable initialisations on panel 13??*
PE1FF-0028	1			1						1				Need more time to absorb all the information	
PE1FF-0029	1				1			Less extreme - better and safer for wildlife and people. We don't want to create unsightly fortifications and spoil the town that we are trying to save. Everyday life is everyday. Flooding is not very often.	1				As above - if these options would protect us for long enough.	Our riverside and promenade are quite rural in character. A big sea wall structure is ok in Weston-Super Mare (and probably Blackpool, I haven't been there) because it's a built up seaside resort - row of big hotels / big seafront road / big promenade + wall high above the beach. Musselburgh isn't like that. These areas are and important part of our lives and the town's character. It might be better if the low coastal banks are stabilised with wildflowers (A1 roadside) rather than mown grass	Yes, thank you

Musselburgh Flood Protection Scheme

Public Exhibition No.1 - Public Consultation

Public Feedback Analysis

Project Code	3211
Revision Date	05/09/2019
Completed By	Nadia Othman

Response ID	Scheme Support (Q1 & Q2)			River Esk Defence Alignment (Q3 & Q4)					Fisherrow Coastal Defences (Q5)					General comments on proposed options (Q6)	General event feedback (Q7)
	Support	Against	Comments	Option A (in-river)	Option B (set-back)	Neither option	No Preference	Comments	Option A (Low defence)	Option B (High Defence)	Neither option	No Preference	Comments		
	85	5		20	59	8	8		52	24	2	12			
90															
PE1FF-0030	1				1			So they aren't so high - don't need to be	1					Hopefully no further housing will be approved within the flood area now that it's been identified	
PE1FF-0031	1			1				Where I reside there is no space for set-back defences. Upstream measures in the catchment area such as reforestation, new reservoirs, carry the risk of aesthetic and environmental degradation in areas that do not benefit		1			Balance of capital vs. revenue costs in the long run. Favour this option.		Yes, very informative and well laid out. Nothing to improve. A big thank you to all the staff that personed the exhibition up to (and beyond!) 20:00 hrs
PE1FF-0032	1				1			Aesthetically less intrusive	1					Any flooding will ultimately depend on high tide timetable	Very informative board displays
PE1FF-0033	1							No option selected					No option selected		I found it very difficult as it's in terms that are quite technical. Models / interactive displays would have been easier to understand (for me anyway). No single use plastic/paper cups please!
PE1FF-0034	1				1			To maintain view of river and retia connection to river					No option selected Difficult to decide - not enough information in context	Really useful but hard to imagine visually without seeing something a bit more real or interactive.	Yes, enjoyed - think sketches showing option in actual geography would help
PE1FF-0035	1			1				Must retain river view Wish to retain trees	1					Would like to see Electric Bridge raised	Yes, most informative
PE1FF-0036	1				1				1				To preserve views and access to the beach	I am very much in favour of flood storage upstream. The lower finished set beach wall would be preferred	Very much enjoyed seeing the options and having the ability to feedback. What will be the fate of the Roman Bridge?
PE1FF-0037	1				1			Visually more acceptable. Retains character of amenities	1				Maintains beach and sea views	Retention of Roman Bridge essential	Very well presented and easily understood. Good explanations to any questions raised
PE1FF-0038	1			1				Set back defences may be intrusive for house owners	1					Very interesting and problematic. Helpful people on hand.	Yes very informative. A complicated issue.
PE1FF-0039	1			1				Preserves more land, may cost less in rerouting infrastructure.	1				Less visually intrusive, seems ok provided pumps function reliably.		Well structured, clear. I had wondered whether some definition on maps could be increased, but concluded I was being picky.
PE1FF-0040	1			1				Strengthen river banks		1				No dredging, loss of habitat	Very interesting. Close the lade.

Musselburgh Flood Protection Scheme

Public Exhibition No.1 - Public Consultation

Public Feedback Analysis

Project Code	3211
Revision Date	05/09/2019
Completed By	Nadia Othman

Response ID	Scheme Support (Q1 & Q2)			River Esk Defence Alignment (Q3 & Q4)					Fisherrow Coastal Defences (Q5)					General comments on proposed options (Q6)	General event feedback (Q7)
	Support	Against	Comments	Option A (in-river)	Option B (set-back)	Neither option	No Preference	Comments	Option A (Low defence)	Option B (High Defence)	Neither option	No Preference	Comments		
	85	5		20	59	8	8		52	24	2	12			
90															
PE1FF-0041			No response		1			Set back and into the landscape is more natural. Better access to the river for people and wildlife, especially anglers.				1			
PE1FF-0042	1				1			River views maintained	1				Less impact on views	It would be helpful to see what difference the options would make	I hope the river walls would be repaired e.g. near river mouth. Like the idea of pumping stations.
PE1FF-0043	1				1			Option A may be needed in some places. Nice river, nice birds.		1			Good if not so high as to block view from walking along the prom.	Clearing the Fisherrow drains would help against flash flooding (I saw one recently at crossing of New St with Fishers Wynd). If Option A were followed you'd need e.g. another wall between swing park and bowling green on New St. - the grass slopes down southwards	Very good and thank you
PE1FF-0044	1					1		Modify existing reservoirs instead like St. Mary's Loch in Selkirk		1				The exhibition slides were very self explanatory for Layman	Very interesting and informative. Much needed in this climate change era.
PE1FF-0045	1				1			In river defences in Spain causes major problems.	1						Yes very informative
PE1FF-0046	1			1				Less obtrusive onto existing banking	1						
PE1FF-0047	1						1		1						Very interesting. With plastic pollution in the seas it might be worth considering river filtering to prevent plastic litter making it to the sea.
PE1FF-0048	1				1			The levee idea is more aesthetic and practical				1			Just get on and do the job this time!
PE1FF-0049	1				1			Protect trees!					No response provided to Q5		
PE1FF-0050	1				1				1				High defence would destroy purpose of area and views		It was very informative and I look forward to future exhibitions
PE1FF-0051	1				1							1		Use of embankment with walkway favoured	
PE1FF-0052	1				1			Preserve look of river and access	1						Provide online version for those not able to be here or to provide opportunity to study further

Musselburgh Flood Protection Scheme

Public Exhibition No.1 - Public Consultation

Public Feedback Analysis

Project Code	3211
Revision Date	05/09/2019
Completed By	Nadia Othman

Response ID	Scheme Support (Q1 & Q2)			River Esk Defence Alignment (Q3 & Q4)					Fisherrow Coastal Defences (Q5)					General comments on proposed options (Q6)	General event feedback (Q7)
	Support	Against	Comments	Option A (in-river)	Option B (set-back)	Neither option	No Preference	Comments	Option A (Low defence)	Option B (High Defence)	Neither option	No Preference	Comments		
	85	5		20	59	8	8		52	24	2	12			
90															
PE1FF-0053	1				1			Tourism is important and leisure for community	1				High defence ugly	Would pumping stations actually work here?	Useful, informative and coffee/tea great idea. Plenty of friendly folk to chat with
PE1FF-0054	1				1			To allow access to the riverside and maintain a view of the Esk - the prime feature of the town	1					I can see that a high standard of construction and landscaping will be an aim of the Scheme	It is excellent - could not be better
PE1FF-0055	1				1			Although both options would radically alter the river 'landscape', option B seems to me to offer better possibilities for the new landscape	1					The beach here is (almost) a 'wild' area, and it would be good to retain access to it	Greatly enjoyed the exhibition - some abbreviations are not explained e.g. SPA
PE1FF-0056	1				1			I prefer grass mounds to a wall, as these will be less visually intrusive and maintain open green aspect.	1					I think lower defences will be less 'urban' in appearance and maintain views of the sea. Higher structures will alter the open vista more and impact on one of Musselburgh's great assets. I would favour upstream management options.	I would have liked to have had the % contributions of different options clearly explained, so I could more easily understand the ix of measures needed.
PE1FF-0057	1				1			Prefer grass mounds wherever possible to a wall - walk/cycle path on mounds?	1					Option B will look unattractive/ detract from open aspect across the Forth. Wave overtopping does not affect properties. Maximise usage of upstream storage.	Less technical jargon. Still not sure what the design event means in terms of risk per number of years.
PE1FF-0058	1						1	I'd rather have the best option for the environment made by experts in the field				1	Leave it to the experts	I'm just happy that flood prevention and its solutions are being addressed	Don't change anything, the info boards are excellent. I appreciate being left alone to read at my own pace. Lovely staff.
PE1FF-0059	1				1			Keeps us closer to nature	1				As above, keeps facility (beach available)	Something appears to be getting done. That must be a good thing!	Yes, good information
PE1FF-0060	1		I believe that it is urgent to safeguard my property, its value, the town as a whole		1			It is more natural looking, could be a real beauty spot. Environmental benefit and pleasure enhancement as well as serving its purpose.	1				More aesthetically appealing	Is urgent, needs to be done immediately starting with area (cell?) 1 where levels are higher. Long, long overdue. Even 2025 is too late.	Yes it was very informative, helpful and the opportunity to get explanations and individual responses was so beneficial.

Musselburgh Flood Protection Scheme

Public Exhibition No.1 - Public Consultation

Public Feedback Analysis

Project Code	3211
Revision Date	05/09/2019
Completed By	Nadia Othman

Response ID	Scheme Support (Q1 & Q2)			River Esk Defence Alignment (Q3 & Q4)					Fisherrow Coastal Defences (Q5)					General comments on proposed options (Q6)	General event feedback (Q7)
	Support	Against	Comments	Option A (in-river)	Option B (set-back)	Neither option	No Preference	Comments	Option A (Low defence)	Option B (High Defence)	Neither option	No Preference	Comments		
	85	5		20	59	8	8		52	24	2	12			
90															
PE1FF-0061	1				1			To minimise the height of defence walls/visibility - and to maximise the flood water capacity	1	1			Combination of A + B depending on location	1) Bridges - Remove Electric Bridge, replace pedestrian bridge only. 2) Consider new major road access from bypass through Eskmills 3) Material choices for defence walls to be sympathetic to existing surroundings. 4) Consider vision panels on walls	Yes, very informative and reassuring (at moment!)
PE1FF-0062	1				1			Want to keep river views	1					Maintain access to beach	Very informative. Attending staff very helpful.
PE1FF-0063	1			1				It seems to suggest there will be less environmental damage to the present surroundings	1				For the same reason as no.4. However the west beach is the most used - but will that all be eroded in future years?		I wish there were more pictures available, but no mobile phones years and years ago to record as they do today. I liked the explanations and the wealth of information to help protect the area and ourselves!

Musselburgh Flood Protection Scheme

Public Exhibition No.1 - Public Consultation

Public Feedback Analysis

Project Code	3211
Revision Date	05/09/2019
Completed By	Nadia Othman

Response ID	Scheme Support (Q1 & Q2)			River Esk Defence Alignment (Q3 & Q4)					Fisherrow Coastal Defences (Q5)					General comments on proposed options (Q6)	General event feedback (Q7)
	Support	Against	Comments	Option A (in-river)	Option B (set-back)	Neither option	No Preference	Comments	Option A (Low defence)	Option B (High Defence)	Neither option	No Preference	Comments		
	85	5		20	59	8	8		52	24	2	12			
90															
PE1FF-0064	1				1			I reside in Goose Green Crescent directly in front of the River Esk. I fully appreciate the need for flood defence systems in Musselburgh. I am aware that my home is at direct risk of flooding and I welcome the prospect of having flood defence systems put in place. I get immense pleasure from walking along the river - it's a beautiful natural asset and is rich with birdlife. It is enjoyed by so many people. Whilst fully appreciating the need for flood defence systems, I am scared that a hard wall will cut off the river from the town. It will create a 'Berlin Wall effect'. I hope that solutions will allow for soft landscaping of all kinds, not just a grassy embankment but something providing a variety - grass, shrubs and trees. There are several mature trees along Goose Green, which if removed, I hope would be substituted by something else. Ideally the trees would remain if possible.	1					I have chosen Option A as visually it will be the least obtrusive between the two options	It was very informative and reassuring.
PE1FF-0065	1				1			Less obstruction of access to and views of river	1					Pinkie Burn could be cleaned out now. To minimise flood effect. Natural finishes to defences to be preferred e.g. grass banks, natural stone	Very well presented and comprehensible. Excellent help from staff.
PE1FF-0066	1				1			Looks better as view of river can be enjoyed	1				Beach is one of Musselburgh's assets		Yes, interesting
PE1FF-0067	1			1	1			They should be part of an integrated scheme of measures	1	1				It would be useful if local council would clean out the street drains on a more regular basis	Very informative and interesting
PE1FF-0068	1						1	I think it would be worth investigating an upland flow land that could also be a carbon sink?				1	Not sure	Can more salt marshes be created. Sometimes building walls only shifts the problem. Salt marshes very effective and carbon sinks	Very good

Musselburgh Flood Protection Scheme

Public Exhibition No.1 - Public Consultation

Public Feedback Analysis

Project Code	3211
Revision Date	05/09/2019
Completed By	Nadia Othman

Response ID	Scheme Support (Q1 & Q2)			River Esk Defence Alignment (Q3 & Q4)					Fisherrow Coastal Defences (Q5)					General comments on proposed options (Q6)	General event feedback (Q7)
	Support	Against	Comments	Option A (in-river)	Option B (set-back)	Neither option	No Preference	Comments	Option A (Low defence)	Option B (High Defence)	Neither option	No Preference	Comments		
	85	5		20	59	8	8		52	24	2	12			
90															
PE1FF-0069	1				1			Will still provide access to the river	1	1			A mix of the two along the coast		
PE1FF-0070	1				1			To prevent the flow of water from upper river	1				It would help in certain areas	The dredging on every remaining gravel bank at mouth of Esk would widen the river mouth	I enjoyed the visit to the exhibition. The staff very informative and friendly.
PE1FF-0071	1			1				The sand at the bottom of the Esk practically meeting		1					Being unable to stand around (the slides??)
PE1FF-0072	1			1				Frequently walk along the river. Important to see life on river.	1						Enjoyed, interesting to see development of plans
PE1FF-0073	1				1			The river is a great asset to the town. It would be a great loss if it became hidden behind walls	1				Wave overtopping is likely to be a limited occurrence	I believe a non return valve/cap on the Pinkie Burn outlet is definitely required	The exhibition was very good and informative
PE1FF-0074	1				1			Pinkie Burn to river		1					Enjoyed a great deal
PE1FF-0075	1			1				Higher flood defence walls seem to hold back more water		1			Visibility is still maintained while having no wave overtopping		It was very well laid out and extremely informative
PE1FF-0076	1				1			Set-back defences could provide the opportunity to incorporate leisure amenities which could offset reduction of any negative visual impact.		1			Depends on whether local drainage system could handle overtopping		Very informative. There is however a huge amount of information to take in. Making this all available online would be appreciated.
PE1FF-0077	1				1			Less intrusive lower wall height. Cycle path can be created.	1					Movement of wall splitting field at Esk Mills to be put around field to allow future expansion of retirement village currently going through planning	Very informative
PE1FF-0078	1				1			Less intrusive and can accommodate cycles, etc.	1				More use of Golf Course land for attenuation of water in order that other areas are more useable		Informative as to all options that are available
PE1FF-0079	1			1	1			Both suitable on different parts of the river		1					Very interesting - gives a better understanding of what is proposed

Musselburgh Flood Protection Scheme

Public Exhibition No.1 - Public Consultation

Public Feedback Analysis

Project Code	3211
Revision Date	05/09/2019
Completed By	Nadia Othman

Response ID	Scheme Support (Q1 & Q2)			River Esk Defence Alignment (Q3 & Q4)					Fisherrow Coastal Defences (Q5)					General comments on proposed options (Q6)	General event feedback (Q7)
	Support	Against	Comments	Option A (in-river)	Option B (set-back)	Neither option	No Preference	Comments	Option A (Low defence)	Option B (High Defence)	Neither option	No Preference	Comments		
	85	5		20	59	8	8		52	24	2	12			
90															
PE1FF-0080			Yes to a degree, but focus on high risk areas that have flooded e.g. beside Loretto			1		My house is corner of Shorthope Street - much of the value of the house is visual view of the Esk. Very concerned about losing river scenic visual	1					If flood walls do go up, maintaining visual of Esk from (my) house is essential to retain house value. Good glass panels instead of hard wall at line of sight. Also area where people of Musselburgh enjoy amenity of wildlife and would lose one of attractions of Musselburgh.	
PE1FF-0081	1						1	Leave to experts	1						Informative and well presented. Thank you
PE1FF-0082	1			1	1							1			Very interesting and thought provoking! Good stuff
PE1FF-0083	1				1				1						Pictorial and very explanatory. Don't understand why dredging not an option.
PE1FF-0084	1			1				Option B would have negative visual impact		1					I enjoyed the exhibition - especially the high standard of display boards. Well done!
PE1FF-0085	1				1			We live next to the river, not far from the coast		1				There will be local people who will object to the Scheme. There are limited resources within the community.	Very informative and long overdue
PE1FF-0086		1	East Lothian Council has neglected Musselburgh for years. They have done no maintenance work on the riverside walls or clearing blockages and fallen trees. Why start now!												
PE1FF-0087		1	To costly, won't necessarily work		1			Use of embankment				1	Use of embankment with walkway preferred		
PE1FF-0088		1				1		Walls horrendous - embankment Very concerned about the impact on birds etc. The character of the river would change						I'm very concerned about the impact on the beauty of the Fisherrow coastline	I'm appalled and feel depressed about the flood defence proposals

Musselburgh Flood Protection Scheme

Public Exhibition No.1 - Public Consultation

Public Feedback Analysis

Project Code	3211
Revision Date	05/09/2019
Completed By	Nadia Othman

Response ID	Scheme Support (Q1 & Q2)			River Esk Defence Alignment (Q3 & Q4)					Fisherrow Coastal Defences (Q5)					General comments on proposed options (Q6)	General event feedback (Q7)
	Support	Against	Comments	Option A (in-river)	Option B (set-back)	Neither option	No Preference	Comments	Option A (Low defence)	Option B (High Defence)	Neither option	No Preference	Comments		
	85	5		20	59	8	8		52	24	2	12			
90															
PE1FF-0089		1	Not options proposed. No consideration given to realistic natural solutions. I have no doubt Option B has already been chosen. An insensitive solution that destroys what it aims to save.			1		Natural defences					Not engaged with the coastal defence yet, perhaps later I will do		No doubt the exhibition is well organised. Alas it is clear to me that the decision has already been made. Any objection by the locals affected by the proposals will be brushed aside.
PE1FF-0090		1	I believe that flood management can be achieved through flood plain, countryside and riverbank management. I would like to see a full and accurate assessment of likely events			1		A fully detailed assessment will mitigate risk. With recent major flooding elsewhere, Musselburgh has not been affected. With maintenance flooding can be prevented			1				Information as displayed should be fully available online and a feedback option available
PE1FF-0091	1						1	Don't have the technical knowledge to assess				1	As above		It was fine
PE1FF-0092	1				1			I live on the river and need to see it. Please ensure that mature trees are replanted not saplings.				1		I realise this needs to be done, but I hope it will be with minimum disruption to residents and the environment. Low wall with stone cladding preferred - or graded banking.	Excellent exhibition, knowledgeable staff who didn't tire of explaining the science in plain English!
PE1FF-0093	1				1			River maintenance more often may help e.g. reduce islands, choked drains never cleared		1			3 feet high wall? Lower sand on west beach and clear greenery	Regarding beach, clear weeds and more maintenance needed - beach a disgrace.	Missed the exhibition, but very interested in what is happening on seashore and river.