

## Schedule of Scheme Operations

Document no: 701909-JEC-S4-ZZZ-XXX-RE-C-0001

Version: P01

East Lothian Council

Musselburgh Flood Protection Scheme

11 January 2024



## Schedule of Scheme Operations

**Client name:** East Lothian Council  
**Project name:** Musselburgh Flood Protection Scheme  
**Project no:** 701909  
**Document no:** 701909-JEC-S4-ZZZ-XXX-RE-C-0001  
**Project manager:** Kirsteen Nixon  
**Prepared by:** Ewan Miller  
**Version:** P01  
**Date:** 11 January 2024  
**File name:** 701909-JEC-S4-ZZZ-XXX-RE-C-0001 -  
Schedule of Scheme Operations

## Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
P01	11/01/2024	First Issue	Ewan Miller	Jim Baxter	Jim Baxter	Kirsteen Nixon

## Distribution of copies

Revision	Issue approved	Date issued	Issued to	Comments
P01	Kirsteen Nixon	11/01/2024	Conor Price, Ian Chalmers (ELC)	

---

### 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](http://www.jacobs.com)

---

Copyright CH2M HILL United Kingdom © 2024.

All rights reserved. The concepts and information contained in this document are the property of the Jacobs group of companies. Use or copying of this document in whole or in part without the written permission of Jacobs constitutes an infringement of copyright. Jacobs, the Jacobs logo, and all other Jacobs trademarks are the property of Jacobs.

NOTICE: This document has been prepared exclusively for the use and benefit of Jacobs' client. Jacobs accepts no liability or responsibility for any use or reliance upon this document by any third party.

## Contents

<b>1. Introduction.....</b>	<b>5</b>
<b>2. Description of the Operations .....</b>	<b>6</b>
2.1 Work Section 1 – Eskside West (Olive Bank Road Bridge to Roman Bridge).....	6
2.2 Work Section 2 – Eskside West (Roman Bridge to Rennie Bridge).....	7
2.3 Work Section 3 – Eskside West (Rennie Bridge to Shorthope Street Footbridge).....	8
2.4 Work Section 4 – Eskside West- Shorthope Street Footbridge to Electric Bridge .....	9
2.5 Work Section 5 – Loretto Playing Fields (Electric Bridge to Mouth of the Esk).....	10
2.6 Work Section 6 – Loretto Playing Fields (Mouth of the Esk to Mountjoy Terrace).....	11
2.7 Work Section 7 – Fisherrow Links .....	12
2.8 Work Section 8 – Fisherrow Promenade (Links Views to Yacht Club) .....	13
2.9 Work Section 9 – Fisherrow Promenade (Yacht Club to Harbour).....	14
2.10 Work Section 10 – Fisherrow Harbour .....	15
2.11 Work Section 11 – Back Sands Car Park.....	16
2.12 Work Section 12 – 9 to 27 Edinburgh Road .....	17
2.13 Work Section 13 – Murdoch’s Green .....	18
2.14 Work Section 14 – 29 to 35 Edinburgh Road.....	19
2.15 Work Section 15 – 37 to 59 Edinburgh Road.....	20
2.16 Work Section 16 – Brunstane Burn.....	21
2.17 Work Section 17 – Mill Lade .....	22
2.18 Work Section 18 – Eskmills Weir .....	23
2.19 Work Section 19 – The Valley.....	24
2.20 Work Section 20 – Builder’s Yard and Station Road.....	25
2.21 Work Section 21 – Eskmills Business Park.....	26
2.22 Work Section 22 – Olive Bank Road.....	27
2.23 Work Section 23 – Mall Avenue.....	28
2.24 Work Section 24 – Eskside East (Rennie Bridge to Shorthope Street Footbridge) .....	29
2.25 Work Section 25 – Eskside East (Shorthope Street Footbridge to Electric Bridge).....	30
2.26 Work Section 26 – Goosegreen Crescent.....	31
2.27 Work Section 27 – Cadet Force.....	32
2.28 Work Section 28 – Pinkie Playing Fields .....	33
2.29 Work Section 29 – Inveresk Estate .....	34
2.30 Work Section 30 – Rosebery Reservoir .....	35
2.31 Work Section 31 – Edgelaw Reservoir.....	36
2.32 Work Section 32 – Whitecraig Debris Trap.....	37
2.33 Work Section 33 – New Ivanhoe Footbridge .....	38
2.34 Work Section 34 – New Shorthope Street Footbridge.....	39
2.35 Work Section 35 – New Electric Footbridge.....	40

## Schedule of Scheme Operations

---

2.36	Work Section 36 – New Goosegreen Footbridge.....	41
2.37	Work Section 37 – Goosegreen Weir .....	42
2.38	Work Section 38 Eskmills Pumping Station.....	43
2.39	Work Section 39 – Mall Avenue Pumping Station.....	44
2.40	Work Section 40 – West Holmes Gardens Pumping Station .....	45
2.41	Work Section 41 – Eskside West Pumping Station.....	46
2.42	Work Section 42 – New Street Pumping Station.....	47
2.43	Work Section 43 – Eskside East Pumping Station .....	48
2.44	Work Section 44 – Goosegreen Pumping Station .....	49
2.45	Work Section 45 – Ash Lagoons Seawall .....	50
<b>3.</b>	<b>Limitations.....</b>	<b>51</b>
	<b>Appendix A – Scheme Operations Drawings .....</b>	<b>52</b>

## 1. Introduction

This document contains a written description of the operations which comprise Musselburgh Flood Protection Scheme ('the Scheme'), and which are contained in the outline design drawings. This document and the outline design drawings are intended to be presented to a meeting of Full Council in January 2024, where the project team will seek permission to commence stage 5 of the project. Stage 5 is the statutory approvals process for the Scheme, and the Schedule of Scheme Operations contained herein will form part of the documents published for this purpose.

## 2. Description of the Operations

### 2.1 Work Section 1 – Eskside West (Olive Bank Road Bridge to Roman Bridge)

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 1** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W01-XXX-DR-Z-0001:

- WS01-01
  - Construct 111m or thereby of new earth flood embankment with a minimum height of 0.5m and a maximum height of 1.2m above finished ground level and a maximum width of 8.5m, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Install a surface water drainage system including outfalls where required. Construct a new footpath, 2m wide or thereby, on the embankment crest. The embankment slopes shall be dressed with topsoil and seeded with grass, unless otherwise agreed with the local planning authority.
  
- WS01-02
  - Construct 142m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1m and a maximum height of 1.4m above finished ground level, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Install a surface water drainage system including outfalls where required. Reinstate existing footpath where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.
  
- WS01-03
  - At chainage WS01-217 or thereby, construct a 5m wide by 1.4m high flood gate. The gate shall consist of a hinged gate with appropriate seals, gaskets and locking devices.

## 2.2 Work Section 2 – Eskside West (Roman Bridge to Rennie Bridge)

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 2** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W02-XXX-DR-Z-0001:

- WS02-01
  - Construct 168m or thereby of new flood defence wall in reinforced concrete with a minimum height of 0.8m and a maximum height of 1.5m above finished ground level, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Eskside West to be narrowed and revised to one-way road to facilitate new flood defence wall in reinforced concrete. Construct a new footpath 2m wide or thereby. Install a surface water drainage system including outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.
- WS02-02
  - At chainage WS02-05 or thereby, construct a 2.5m wide by 1.2m high flood gate. The gate shall consist of a hinged gate with appropriate seals, gaskets and locking devices.
- WS02-03
  - At chainage WS02-150 or thereby, construct a 2.5m wide by 1.2m high flood gate. The gate shall consist of a hinged gate with appropriate seals, gaskets and locking devices.

## 2.3 Work Section 3 – Eskside West (Rennie Bridge to Shorthope Street Footbridge)

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 3** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W03-XXX-DR-Z-0001:

- WS03-01
  - Demolish and remove existing training wall and construct 30m or thereby of new flood defence wall in reinforced concrete with a minimum height of 0.5m and a maximum height of 1.2m above finished ground level, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Replace existing footpath where required. Install a surface water drainage system including outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.
  
- WS03-02
  - At chainage WS03-18 or thereby, Construct pedestrian access ramps, in reinforced concrete, to permit access onto and across the flood defences. The ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.
  
- WS03-03
  - Demolish and remove existing training wall and construct 124m or thereby of new earth flood embankment with a minimum height of 1.4m and a maximum height of 1.5m above finished ground level and a maximum width of 12m, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Install a surface water drainage system including outfalls where required. Construct a new footpath, 2m wide or thereby, on the embankment crest. The embankment slopes shall be dressed with topsoil and seeded with grass and riparian planting, unless otherwise agreed with the local planning authority.
  
- WS03-04
  - At chainage WS03-125 or thereby, construct a pedestrian access ramp to permit access onto the flood defences. The ramp shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.
  
- WS03-05
  - Demolish and remove existing training wall and construct 25m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.2m and a maximum height of 1.4m above finished ground level, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Install a surface water drainage system including outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.



## 2.4 Work Section 4 – Eskside West- Shorthope Street Footbridge to Electric Bridge

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 4** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W04-XXX-DR-Z-0001:

- WS04-01
  - Demolish and remove existing training wall and construct 41m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.2m and a maximum height of 1.4m above finished ground level, or thereby. Install a surface water drainage system including outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.
  
- WS04-02
  - At chainage WS04-40 or thereby, construct a pedestrian access ramp to permit access onto the flood defence. The ramp shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.
  
- WS04-03
  - Demolish and remove existing training wall and construct 177m or thereby of new earth flood embankment with a minimum height of 1.1m and a maximum height of 1.3m above finished ground level and a maximum width of 10.5m, or thereby. Install a surface water drainage system including outfalls where required. Construct a new footpath, 2m wide or thereby, on the embankment crest. The embankment slopes shall be dressed with topsoil and seeded with grass and riparian planting, unless otherwise agreed with the local planning authority.
  
- WS04-04
  - At chainage WS04-184 or thereby, construct a pedestrian access ramp to permit access onto the flood defence. The ramp shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.
  
- WS04-05
  - Demolish and remove existing training wall and construct 30m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.3m and a maximum height of 1.4m above finished ground level, or thereby. Install a surface water drainage system including outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.

## **2.5 Work Section 5 – Loretto Playing Fields (Electric Bridge to Mouth of the Esk)**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 5** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W05-XXX-DR-Z-0001 and 701909-JEC-S4-W05-XXX-DR-Z-0002:

- WS05-01
- Construct 384m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.3m and a maximum height of 1.8m above finished ground level, or thereby. Replace existing footpath with a new footpath 2.5m wide or thereby adjacent to the new flood defence wall in reinforced concrete. Install a surface water drainage system including outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.

## 2.6 Work Section 6 – Loretto Playing Fields (Mouth of the Esk to Mountjoy Terrace)

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 6** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W06-XXX-DR-Z-0001:

- WS06-01
- Construct 295m or thereby of new hybrid flood defence (consisting of an embankment and upstand wall) with a minimum total height of 1.7m and a maximum total height of 1.9m above existing ground level and a maximum width of 15m, or thereby. Install a surface water drainage system including swales and outfalls where required. Construct a new footpath, 5m wide or thereby, on the embankment crest to accommodate a presumed active travel route. Demolish the existing skatepark. Undertake enhanced landscaping adjacent to the new hybrid food defence. The embankment slopes shall be dressed with topsoil and seeded with grass and coastal planting, unless otherwise agreed with the local planning authority. Glass panels to be provided in the upstand wall opposite residential properties. The appearance/finish of the upstand wall will consist of formed concrete on the dry side and a wave return wall on the river side.
- WS06-02
- At chainage WS06-45 or thereby, construct pedestrian access ramps, in reinforced concrete, to permit access onto and across the flood defence. The ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.

## 2.7 Work Section 7 – Fisherrow Links

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 7** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W07-XXX-DR-Z-0001 and 701909-JEC-S4-W07-XXX-DR-Z-0002:

- WS07-01
- Construct 326m or thereby of new hybrid flood defence (consisting of an embankment and upstand wall) with a total minimum height of 1.2m and a maximum total height of 1.8m above existing ground level and a maximum width of 13m, or thereby. Install a surface water drainage system including swales and outfalls where required. Construct a new footpath, 5m wide or thereby, on the embankment crest to accommodate a presumed active travel route. Undertake enhanced landscaping adjacent to the new hybrid food defence. The embankment slopes shall be dressed with topsoil and seeded with grass, unless otherwise agreed with the local planning authority. The appearance/finish of the upstand wall will consist of formed concrete on the dry side and a wave return wall on the river side.
- WS07-02
- At chainage WS07-75 or thereby, construct pedestrian access ramps, in reinforced concrete, to permit access onto and across the flood defence. The ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.

## 2.8 Work Section 8 – Fisherrow Promenade (Links Views to Yacht Club)

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 8** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W08-XXX-DR-Z-0001 and 701909-JEC-S4-W08-XXX-DR-Z-0002:

- WS08-01
  - Construct 398m or thereby of new flood defence wall in reinforced concrete with a minimum height of 0.6m and a maximum height of 1.1m above finished ground level, or thereby. Install a surface water drainage system including swales and outfalls where required. Undertake enhanced landscaping adjacent to the new flood defence wall in reinforced concrete. The appearance/finish of the wall will consist of formed concrete on the dry side and a wave return wall on the river side.
- WS08-02
  - At chainage WS08-21 or thereby, construct pedestrian access ramps, in reinforced concrete, through the flood defence. The ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.
- WS08-03
  - At chainage WS08-133 or thereby, construct pedestrian access ramps, in reinforced concrete, through the flood defence. The ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.
- WS08-04
  - At chainage WS08-274 or thereby, construct pedestrian access ramps, in reinforced concrete, through the flood defence. The ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.

## 2.9 Work Section 9 – Fisherrow Promenade (Yacht Club to Harbour)

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 9** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W09-XXX-DR-Z-0001:

- WS09-01
  - Demolish and remove existing wall as required and construct 127m or thereby of new flood defence wall in reinforced concrete with a minimum height of 0.7m and a maximum height of 1.1m above finished ground level, or thereby. Install a surface water drainage system including swales and outfalls where required. The appearance/finish of the wall will consist of stone cladding on the dry side and a wave return wall on the river side, to be agreed with the local planning authority.
- WS09-02
  - At chainage WS09-00 or thereby, construct a flood gate, 5m wide by 1.1m high. The gate shall consist of a hinged gate with appropriate seals, gaskets and locking devices.
- WS09-03
  - At chainage WS09-99 or thereby, construct a pedestrian access ramp through the flood defence. The ramp shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.

## **2.10 Work Section 10 – Fisherrow Harbour**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 10** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W10-XXX-DR-Z-0001:

- WS10-01
- Undertake repairs to the existing harbour structure, including repointing of mortar, replacement of lost or damaged stonework, and replacement of lost or damage concrete.

## 2.11 Work Section 11 – Back Sands Car Park

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 11** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W11-XXX-DR-Z-0001:

- WS11-01
  - Demolish and remove existing wall and construct 125m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.1m and a maximum height of 1.2m above existing ground level, or thereby. Install a surface water drainage system including outfalls where required. Reinststate existing footpath where required. The appearance/finish of the wall will consist of stone cladding on the dry side and a wave return wall on the river side, to be agreed with the local planning authority.
- WS11-01
  - At chainage WS08-21 or thereby, construct a 5m wide by 1.1m high flood gate. The gate shall consist of a hinged gate with appropriate seals, gaskets and locking devices.
- WS11-01
  - At chainage WS11-63 or thereby, construct pedestrian access ramps, in reinforced concrete, through the flood defence. The ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.



## **2.12 Work Section 12 – 9 to 27 Edinburgh Road**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 12** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W12-XXX-DR-Z-0001:

- WS12-01
- Construct 126m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.3m and a maximum height of 1.4m above existing ground level, or thereby. Install a surface water drainage system including outfalls where required. The landscaping of the area between the new flood defence wall in reinforced concrete and the existing boundary walls is to be agreed with the local planning authority. The appearance/finish of the wall will consist of formed concrete on the dry side and a wave return wall on the river side.

## 2.13 Work Section 13 – Murdoch’s Green

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 13** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W13-XXX-DR-Z-0001:

- WS13-01
  - Demolish and remove existing wall and construct 153m or thereby of new flood defence wall in reinforced concrete with a minimum height of 0.7m and a maximum height of 0.9m above existing ground level, or thereby. Install a surface water drainage system including outfalls where required. Undertake enhanced landscaping of Murdoch’s Green. Reinststate existing footpath where required. The appearance/finish of the wall will consist of formed concrete on the dry side and a wave return wall on the river side.
  
- WS13-02
  - At chainage W13-67 or thereby, construct pedestrian access ramp(s) through the flood defence. The ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.

## **2.14 Work Section 14 – 29 to 35 Edinburgh Road**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 14** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W14-XXX-DR-Z-0001:

- WS14-01
- Construct 117m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.2m and a maximum height of 1.7m above existing ground level, or thereby. Install a surface water drainage system including outfalls where required. The landscaping of the area between the new flood defence wall in reinforced concrete and the existing boundary walls is to be agreed with the local planning authority. The appearance/finish of the wall will consist of formed concrete on the dry side and a wave return wall on the river side.

## **2.15 Work Section 15 – 37 to 59 Edinburgh Road**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 15** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W15-XXX-DR-Z-0001:

- WS15-01
- Demolish and replace 93m or thereby of the existing rock revetment up to 0.2m above the existing crest level or thereby with new rock revetment.

## **2.16 Work Section 16 – Brunstane Burn**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 16** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W16-XXX-DR-Z-0001:

- WS16-01
- Construct 111m or thereby of new flood defence wall in reinforced concrete with a minimum height of 0.4m and a maximum height of 1.6m above finished ground level, or thereby. Install a surface water drainage system including outfalls where required. The appearance/finish of the wall will consist of formed concrete on both faces.

## **2.17 Work Section 17 – Mill Lade**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 17** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W17-XXX-DR-Z-0001:

- WS17-01
  - Construct a 132m long culvert, or thereby within existing channel and backfill with granular material. The filled area shall be dressed with topsoil and seeded with grass, unless otherwise agreed with the local planning authority.
- WS17-02
  - At the inlet of the new culvert, construct a flow control device and concrete inlet structure.
- WS17-03
  - Undertake modifications to the existing inlet structure adjacent to the Eskmills weir to reduce siltation, retaining features of heritage value where possible.

## **2.18 Work Section 18 – Eskmills Weir**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 18** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W18-XXX-DR-Z-0001:

- WS18-01
- Undertake repairs to the existing Eskmills weir including repointing of mortar, replacement of lost or damaged stonework, and replacement of lost or damaged concrete.

## **2.19 Work Section 19 – The Valley**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 19** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W19-XXX-DR-Z-0001:

- WS19-01
- Construct 94m or thereby of new earth flood embankment with a minimum height of 1.3m and a maximum height of 1.4m above existing ground level and a maximum width of 9.5m, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Install a surface water drainage system including outfalls where required. Undertake enhanced landscaping adjacent to the new embankment to create a wetland park. The embankment slopes shall be dressed with topsoil and seeded with grass, unless otherwise agreed with the local planning authority.



## **2.20 Work Section 20 – Builder’s Yard and Station Road**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 20** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W20-XXX-DR-Z-0001:

- WS20-01
- Demolish and remove existing boundary wall and construct 314m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.5m and a maximum height of 1.9m above finished ground level, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Reinststate and/or replace existing footpath as required adjacent to the flood defence wall. Install a surface water drainage system including outfalls where required. The appearance/finish of the wall will consist of formed concrete.

## **2.21 Work Section 21 – Eskmills Business Park**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 21** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W21-XXX-DR-Z-0001:

- WS21-01
  - Construct 315m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.6m and a maximum height of 1.9m above finished ground level, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Install a surface water drainage system including outfalls where required. The appearance/finish of the wall will consist of formed concrete.
  
- WS21-02
  - At chainage WS21-237 or thereby, construct a 2.5m wide by 1.7m high flood gate. The gate shall consist of a hinged gate with appropriate seals, gaskets and locking devices.

## 2.22 Work Section 22 – Olive Bank Road

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 22** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W22-XXX-DR-Z-0001:

- WS22-01
  - Demolish and remove existing wall and construct 35m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1m and a maximum height of 1.1m above existing ground level, or thereby. Where the existing top of wall level is higher than the required flood defence level, the existing top of wall level will be maintained. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Install a surface water drainage system including swales and outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.
  
- WS22-02
  - Demolish and remove existing training wall and construct 157m or thereby of new earth flood embankment with a minimum height of 0.6m and a maximum height of 0.7m above existing ground level and a maximum width of 7.5m, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Construct a new footpath, 5m wide or thereby, on the embankment crest. Install a surface water drainage system including swales and outfalls where required. Reconfigure existing Olive Bank Car Park to facilitate the new flood embankment. Undertake reprofiling and planting on the river side of the flood embankment to create new riverbank. The embankment slopes and new riverbank shall be dressed with topsoil and seeded with grass and riparian planting, unless otherwise agreed with the local planning authority.
  
- WS22-03
  - Demolish and remove existing training wall and construct 15m or thereby of new flood defence wall in reinforced concrete with a minimum height of 0.4m and a maximum height of 0.6m above existing ground level, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Install a surface water drainage system including swales and outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.

## 2.23 Work Section 23 – Mall Avenue

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 23** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W23-XXX-DR-Z-0001:

- WS23-01
  - Construct 167m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.2m and a maximum height of 2.4m above finished ground level, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Undertake enhanced landscaping adjacent to the new flood defence wall. Install a surface water drainage system including swales and outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.
- WS23-02
  - At chainage WS23-13 or thereby, construct a 5m wide by 1.2m high flood gate. The gate shall consist of a hinged gate with appropriate seals, gaskets and locking devices.
- WS23-03
  - At chainage WS23-83 or thereby, construct pedestrian access ramps, in reinforced concrete, through the flood defence. The ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.
- WS23-04
  - At chainage WS23-83 or thereby, construct a 2.5m wide by 1.2m high flood gate. The gate shall consist of a hinged gate with appropriate seals, gaskets and locking devices.

## **2.24 Work Section 24 – Eskside East (Rennie Bridge to Shorthope Street Footbridge)**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 24** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W24-XXX-DR-Z-0001:

- WS24-01
- Demolish and remove existing training wall and construct 177m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1m and a maximum height of 1.7m above finished ground level, or thereby. To incorporate seepage cut off where required, which may include steel sheet piles, with a maximum depth below ground of 5m. Construct new riverbank with riparian planting on the river side of the new flood defence wall. Install a surface water drainage system including swales and outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.

## 2.25 Work Section 25 – Eskside East (Shorthope Street Footbridge to Electric Bridge)

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 25** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W25-XXX-DR-Z-0001:

- WS25-01
  - Demolish and remove existing training wall and construct 50m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1m and a maximum height of 1.1m above finished ground level, or thereby. Construct new riverbank with riparian planting on the river side of the new flood defence wall. Install a surface water drainage system including swales and outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.
  
- WS25-02
  - Construct 21m or thereby of new demountable flood defences, typically 1.2m above finished ground level, with foundations in reinforced concrete. Undertake enhanced landscaping of the existing Millhill Car Park area.
  
- WS25-03
  - Demolish and remove existing training wall and construct 224m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.2m and a maximum height of 1.4m above finished ground level, or thereby. Construct new riverbank with riparian planting on the river side of the new flood defence wall. Install a surface water drainage system including swales and outfalls where required. Flood defence wall to include glass panels at regular intervals. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.

## **2.26 Work Section 26 – Goosegreen Crescent**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 26** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W26-XXX-DR-Z-0001 and 701909-JEC-S4-W26-XXX-DR-Z-0002:

- WS26-01
- Construct 382m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1m and a maximum height of 1.2m above finished ground level, or thereby. Install a surface water drainage system including swales and outfalls where required. The appearance/finish of the wall will consist of formed concrete.

## **2.27 Work Section 27 – Cadet Force**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 27** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W27-XXX-DR-Z-0001:

- WS27-01
- Construct 190m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1m and a maximum height of 1.3m above finished ground level, or thereby. Install a surface water drainage system including swales and outfalls where required. The appearance/finish of the wall will consist of formed concrete.



## 2.28 Work Section 28 – Pinkie Playing Fields

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 28** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W28-XXX-DR-Z-0001, 701909-JEC-S4-W28-XXX-DR-Z-0002, 701909-JEC-S4-W28-XXX-DR-Z-0003, and 701909-JEC-S4-W28-XXX-DR-Z-0004:

- WS28-01
  - Demolish and remove existing masonry wall and construct 110m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1m and a maximum height of 2m above existing ground level, or thereby. Where the existing top of wall level is higher than the required flood defence level, the existing top of wall level will be maintained. Install a surface water drainage system including outfalls where required. Reinstate existing footpaths where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.
- WS28-02
  - At chainage WS28-100 or thereby, construct a 5m wide by 1.2m high flood gate. The gate shall consist of a hinged gate with appropriate seals, gaskets and locking devices.
- WS28-03
  - At chainage WS23-108 or thereby, construct a 2.5m wide by 1.2m high flood gate. The gate shall consist of a hinged gate with appropriate seals, gaskets and locking devices.
- WS28-04
  - Construct 214m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1m and a maximum height of 1.2m above existing ground level, or thereby. Install a surface water drainage system including outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.
- WS28-05
  - Construct 290m or thereby of new earth flood embankment with a minimum height of 1.2m and a maximum height of 1.6m above existing ground level and a maximum width of 12m, or thereby. Install a surface water drainage system including outfalls where required. Reinstate existing footpaths where required. The embankment slopes shall be dressed with topsoil and seeded with grass, unless otherwise agreed with the local planning authority.
- WS28-06
  - At chainage WS28-585 or thereby, Construct pedestrian access ramps, in reinforced concrete, to maintain access across the flood defence. The ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.
- WS28-07
  - Construct 84m or thereby of new flood defence wall in reinforced concrete with a minimum height of 1.1m and a maximum height of 1.2m above existing ground level, or thereby. Install a surface water drainage system including outfalls where required. The appearance/finish of the wall will consist of stone cladding on both sides, to be agreed with the local planning authority.
- WS28-08
  - Construct 65m or thereby of new earth flood embankment with a minimum height of 0.4m and a maximum height of 1.2m above existing ground level and a maximum width of 8m, or thereby. Install a surface water drainage system including outfalls where required. The embankment slopes shall be dressed with topsoil and seeded with grass, unless otherwise agreed with the local planning authority.
- WS28-09
  - Replace the existing inlet of the Pinkie Burn culvert with a new inlet structure and flow control device.

## **2.29 Work Section 29 – Inveresk Estate**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 29** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W29-XXX-DR-Z-0001 and 701909-JEC-S4-W29-XXX-DR-Z-0002:

- WS29-01
- Construct 420m or thereby of new flood defence wall in reinforced concrete with a minimum height of 0.6m and a maximum height of 1.3m above finished ground level, or thereby. Install a surface water drainage system including outfalls where required. Replace existing footpaths where required. The appearance/finish of the wall will consist of stone cladding on the river side, to be agreed with the local planning authority.

### **2.30 Work Section 30 – Rosebery Reservoir**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 30** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W30-XXX-DR-Z-0001:

- WS30-01
- Modify the existing reservoir to reduce normal water level by 2m or thereby. Modification works to consist of a new overflow control structure in reinforced concrete with debris screen, a new overflow pipe and an outfall into the existing stepped spillway.

### **2.31 Work Section 31 – Edgelaw Reservoir**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 31** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W31-XXX-DR-Z-0001:

- WS31-01
- Modify the existing reservoir to reduce normal water level by 2m or thereby. Modification works to consist of a new overflow control structure in reinforced concrete with debris screen, a new overflow pipe and an outfall into the existing stepped spillway.

## **2.32 Work Section 32 – Whitecraig Debris Trap**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 32** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W32-XXX-DR-Z-0001:

- WS32-01
- Construct a new coarse debris trap 25m wide or thereby, which consists of vertical columns in steel or reinforced concrete, typically 4.5m high above existing riverbed level, regularly spaced across the full width of the river and its riverbanks, with bored pile foundations in reinforced concrete below the riverbed. Construct hardstanding maintenance area on the west riverbank. Construct access track in a suitable unbound material from the nearby road.

### 2.33 Work Section 33 – New Ivanhoe Footbridge

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 33** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W33-XXX-DR-Z-0001:

- WS33-01
  - Demolish existing bridge and construct a replacement footbridge with 5m wide deck or thereby, raised above the design flood level, with associated new pier, abutments, and parapets. Existing footpaths to be reconfigured as required.
  
- WS33-02
  - Construct pedestrian access ramps, in reinforced concrete, and associated retaining structure(s) to permit access onto and across the replacement footbridge. The ramps shall be 5m wide or thereby on the left bank and right bank downstream location and 2m wide or thereby on the right bank upstream location. The ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.

## **2.34 Work Section 34 – New Shorthope Street Footbridge**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 34** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W34-XXX-DR-Z-0001:

- WS34-01
  - Demolish existing bridge and construct a replacement footbridge with 5m wide deck or thereby, raised above the design flood level, with associated new abutments and parapets. Existing footpaths to be reconfigured as required.
  
- WS34-02
  - Construct pedestrian access ramps, in reinforced concrete, and steps, in reinforced concrete, to permit access onto and across the replacement footbridge. The steps shall be 2m wide or thereby. The ramps shall be 5m wide or thereby, shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.

## **2.35 Work Section 35 – New Electric Footbridge**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 35** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W35-XXX-DR-Z-0001:

- WS35-01
  - Demolish existing bridge and construct a replacement footbridge with 5m wide deck or thereby, raised above the design flood level, with the construction of new abutments and parapets. Existing footpaths to be reconfigured as required.
  
- WS35-02
  - Construct pedestrian access ramps, in reinforced concrete, and steps, in reinforced concrete, to permit access onto and across the replacement footbridge. The steps shall be 2m wide or thereby. The ramps shall be 5m wide or thereby, shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.



## 2.36 Work Section 36 – New Goosegreen Footbridge

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 36** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W36-XXX-DR-Z-0001:

- WS36-01
  - Demolish existing bridge and construct replacement footbridge, with 5m wide deck or thereby, raised above the design flood level, with associated new abutments and parapets.
  
- WS36-02
  - Construct pedestrian access ramps, in reinforced concrete, and steps, in reinforced concrete, to permit access onto and across the replacement footbridge. The steps shall be 2m wide or thereby on the east bank and 5m wide or thereby on the west bank. The ramps shall be 5m wide or thereby, shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable bound material.

## **2.37 Work Section 37 – Goosegreen Weir**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 37** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W37-XXX-DR-Z-0001:

- WS37-01
- Undertake repairs to the existing Goosegreen weir, including replacement of lost or damaged concrete, and filling of voids.

## **2.38 Work Section 38 - Eskmills Pumping Station**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 38** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W38-XXX-DR-Z-0001:

- WS38-01
- Construct an automatically controlled pumping station to discharge excess surface water through the flood defences into the watercourse. The pumping station shall consist of a below ground wet well, valve chamber, associated pipework, and outlet headwall on the riverbank, together with an above ground kiosk to house the controls and operating equipment.

## **2.39 Work Section 39 – Mall Avenue Pumping Station**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 39** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W39-XXX-DR-Z-0001:

- WS39-01
- Construct an automatically controlled pumping station to discharge excess surface water through the flood defences into the watercourse. The pumping station shall consist of a below ground wet well, valve chamber, associated pipework, and outlet headwall on the riverbank, together with an above ground kiosk to house the controls and operating equipment.

## **2.40 Work Section 40 – West Holmes Gardens Pumping Station**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 40** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W40-XXX-DR-Z-0001:

- WS40-01
- Construct an automatically controlled pumping station to discharge excess surface water through the flood defences into the watercourse. The pumping station shall consist of a below ground wet well, valve chamber, associated pipework, and outlet headwall on the riverbank, together with an above ground kiosk to house the controls and operating equipment.

## **2.41 Work Section 41 – Eskside West Pumping Station**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 41** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W41-XXX-DR-Z-0001:

- WS41-01
- Construct an automatically controlled pumping station to discharge excess surface water through the flood defences into the watercourse. The pumping station shall consist of a below ground wet well, valve chamber, associated pipework, and outlet headwall on the riverbank, together with an above ground kiosk to house the controls and operating equipment.

## **2.42 Work Section 42 – New Street Pumping Station**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 42** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W42-XXX-DR-Z-0001:

- WS42-01
- Construct an automatically controlled pumping station to discharge excess surface water through the flood defences into the watercourse. The pumping station shall consist of a below ground wet well, valve chamber, associated pipework, and outlet headwall on the riverbank, together with an above ground kiosk to house the controls and operating equipment.

## **2.43 Work Section 43 – Eskside East Pumping Station**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 43** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W43-XXX-DR-Z-0001:

- WS43-01
- Construct an automatically controlled pumping station to discharge excess surface water through the flood defences into the watercourse. The pumping station shall consist of a below ground wet well, valve chamber, associated pipework, and outlet headwall on the riverbank, together with an above ground kiosk to house the controls and operating equipment.



## **2.44 Work Section 44 – Goosegreen Pumping Station**

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 44** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W44-XXX-DR-Z-0001:

- WS44-01
- Construct an automatically controlled pumping station to discharge excess surface water through the flood defences into the watercourse. The pumping station shall consist of a below ground wet well, valve chamber, associated pipework, and outlet headwall on the riverbank, together with an above ground kiosk to house the controls and operating equipment.

## 2.45 Work Section 45 – Ash Lagoons Seawall

The flood protection operations to be carried out in the terms of the Scheme at **Work Section 45** are as follows as generally shown on the plan(s) marked 701909-JEC-S4-W45-XXX-DR-Z-0001 / 701909-JEC-S4-W45-XXX-DR-Z-0002 / 701909-JEC-S4-W45-XXX-DR-Z-0003 / 701909-JEC-S4-W45-XXX-DR-Z-0004 / 701909-JEC-S4-W45-XXX-DR-Z-0005 / 701909-JEC-S4-W45-XXX-DR-Z-0006 / 701909-JEC-S4-W45-XXX-DR-Z-0007 / 701909-JEC-S4-W45-XXX-DR-Z-0008 / 701909-JEC-S4-W45-XXX-DR-Z-0009 / 701909-JEC-S4-W45-XXX-DR-Z-0010:

- WS45-01
- Undertake repair works to the existing seawall, consisting of a new rock revetment to encase the existing seawall. Rock revetment to consist of two layers of 3-6 tonne rock armour, or thereby. Replace the existing wave return wall with a new reinforced concrete wave return wall with a minimum height of 0.5m and a maximum height of 1.2m above existing ground level, or thereby. Install a surface water drainage system including swales and outfalls where required.

### **3. Limitations**

The plans showing the Operations are based on Ordnance Survey™ mapping and due to limitations and accuracy of the mapping not all physical features will be represented or represented correctly on the mapping. The Operations are based on more detailed topographic survey information and this may lead to discrepancies between the Operations and the Ordnance Survey mapping. The Operations will be subject to detailed design development and necessary changes arising from this will be limited to the land upon which entry is required for the purpose of carrying out the operations and execution of temporary works. The dimensions and level information contained within this document are approximate based on the best data currently available.

---

## Appendix A – Outline Design Drawings