

Scheme Operations

Grangemouth Flood Protection Scheme 2024
Falkirk Council



GRANGEMOUTH
Flood Protection Scheme
Protecting the heart of our communities

Grangemouth Flood Protection Scheme

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P01	Final	Jacobs	Falkirk Council	26/04/2024

Grangemouth Flood Protection Scheme

1 General

In exercise of the powers conferred upon them by Part 4 of the Flood Risk Management (Scotland) Act 2009, (hereinafter referred to as "the Act") Falkirk Council (hereinafter referred to as "the Council") hereby make the following Flood Protection Scheme (hereinafter referred to as "the Scheme"), the purpose of which is to reduce the risk of flooding to residential, non-residential, commercial and agricultural land in the town of Grangemouth and surrounding communities of Wholeflats, Glensburgh, Langlees, Carron, Carronshore and Camelon (Stirling Road) from the River Carron, River Avon, Grange Burn, Westquarter Burn, Polmont Burn, Chapel Burn, Millhall Burn and Firth of Forth

The intention to make this Scheme is aligned with the Forth Estuary Flood Risk Management Strategy published by the Scottish Environment Protection Agency in December 2015 and the associated Local Flood Risk Management Plan published by the City of Edinburgh Council (the Lead Local Authority) on 22 June 2016, as outlined in Section 36 of the Act.

In accordance with Section 60(2) (c) of the Act, the Scheme and its Operations contribute to achieving Objectives 10035, 10036, 10040, 10041 and the implementation of actions 100400006 and 100400017 of the Forth Estuary Local Flood Risk Management Strategy to reduce the risk of river and coastal flooding in Grangemouth and surrounding communities of Wholeflats, Glensburgh, Langlees, Carron, Carronshore and Camelon (Stirling Road).

The regulations referred to are the Flood Risk Management (Flood Protection Schemes, Potentially Vulnerable Areas and Local Plan Districts) (Scotland) Regulations 2010 (As Amended).

2 Terms of Scheme

The terms of the Scheme are as detailed in Sections 3 to 6 hereunder.

3 Location of the Scheme Operations

For the purposes of regulation 11(1)(a) and 11(1)(c) the Scheme Operations to be carried out in terms of the Scheme and the land upon which entry may be required for the purposes of carrying out the Scheme Operations (hereinafter referred to as "the Operations") and of executing temporary works is situated at Grangemouth and surrounding communities of Wholeflats, Glensburgh, Langlees, Carron, Carronshore and Camelon (Stirling Road) as shown on the said plan(s) and numbered respectively:

Plan Reference	Plan Title
B2386100-JEC-S5-ZZZ-XXX-DR-C-0013	KEY PLAN SCHEME OPERATIONS SHEET 1 OF 5
B2386100-JEC-S5-ZZZ-XXX-DR-C-0014	PLAN A SCHEME OPERATIONS SHEET 2 OF 5
B2386100-JEC-S5-ZZZ-XXX-DR-C-0015	PLAN B SCHEME OPERATIONS SHEET 3 OF 5
B2386100-JEC-S5-ZZZ-XXX-DR-C-0016	PLAN C SCHEME OPERATIONS SHEET 4 OF 5
B2386100-JEC-S5-ZZZ-XXX-DR-C-0017	PLAN D SCHEME OPERATIONS SHEET 5 OF 5
B2386100-JEC-S5-C01-XXX-DR-C-0001	CELL 1 OPERATIONS SHEET 1
B2386100-JEC-S5-C01-XXX-DR-C-0002	CELL 1 OPERATIONS SHEET 2
B2386100-JEC-S5-C01-XXX-DR-C-0003	CELL 1 OPERATIONS SHEET 3
B2386100-JEC-S5-C01-XXX-DR-C-0004	CELL 1 OPERATIONS SHEET 4
B2386100-JEC-S5-C01-XXX-DR-C-0005	CELL 1 OPERATIONS SHEET 5
B2386100-JEC-S5-C01-XXX-DR-C-0006	CELL 1 OPERATIONS SHEET 6

Grangemouth Flood Protection Scheme

Plan Reference	Plan Title
B2386100-JEC-S5-C01-XXX-DR-C-0007	CELL 1 OPERATIONS SHEET 7
B2386100-JEC-S5-C01-XXX-DR-C-0008	CELL 1 OPERATIONS SHEET 8
B2386100-JEC-S5-C01-XXX-DR-C-0009	CELL 1 OPERATIONS SHEET 9
B2386100-JEC-S5-C01-XXX-DR-C-0010	CELL 1 OPERATIONS SHEET 10
B2386100-JEC-S5-C01-XXX-DR-C-0011	CELL 1 OPERATIONS SHEET 11
B2386100-JEC-S5-C01-XXX-DR-C-0012	CELL 1 OPERATIONS SHEET 12
B2386100-JEC-S5-C01-XXX-DR-C-0013	CELL 1 OPERATIONS SHEET 13
B2386100-JEC-S5-C01-XXX-DR-C-0014	CELL 1 OPERATIONS SHEET 14
B2386100-JEC-S5-C01-XXX-DR-C-0015	CELL 1 OPERATIONS SHEET 15
B2386100-JEC-S5-C01-XXX-DR-C-0016	CELL 1 OPERATIONS SHEET 16
B2386100-JEC-S5-C01-XXX-DR-C-0017	CELL 1 OPERATIONS SHEET 17
B2386100-JEC-S5-C01-XXX-DR-C-0018	CELL 1 OPERATIONS SHEET 18
B2386100-JEC-S5-C01-XXX-DR-C-0019	CELL 1 OPERATIONS SHEET 19
B2386100-JEC-S5-C01-XXX-DR-C-0020	CELL 1 OPERATIONS SHEET 20
B2386100-JEC-S5-C01-XXX-DR-C-0021	CELL 1 OPERATIONS SHEET 21
B2386100-JEC-S5-C01-XXX-DR-C-0022	CELL 1 OPERATIONS SHEET 22
B2386100-JEC-S5-C01-XXX-DR-C-0023	CELL 1 OPERATIONS SHEET 23
B2386100-JEC-S5-C02-XXX-DR-C-0001	CELL 2 OPERATIONS SHEET 1
B2386100-JEC-S5-C02-XXX-DR-C-0002	CELL 2 OPERATIONS SHEET 2
B2386100-JEC-S5-C02-XXX-DR-C-0003	CELL 2 OPERATIONS SHEET 3
B2386100-JEC-S5-C02-XXX-DR-C-0004	CELL 2 OPERATIONS SHEET 4
B2386100-JEC-S5-C02-XXX-DR-C-0005	CELL 2 OPERATIONS SHEET 5
B2386100-JEC-S5-C02-XXX-DR-C-0006	CELL 2 OPERATIONS SHEET 6
B2386100-JEC-S5-C02-XXX-DR-C-0007	CELL 2 OPERATIONS SHEET 7
B2386100-JEC-S5-C02-XXX-DR-C-0008	CELL 2 OPERATIONS SHEET 8

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Plan Reference	Plan Title
B2386100-JEC-S5-C02-XXX-DR-C-0009	CELL 2 OPERATIONS SHEET 9
B2386100-JEC-S5-C02-XXX-DR-C-0010	CELL 2 OPERATIONS SHEET 10
B2386100-JEC-S5-C03-XXX-DR-C-0001	CELL 3 OPERATIONS SHEET 1
B2386100-JEC-S5-C03-XXX-DR-C-0002	CELL 3 OPERATIONS SHEET 2
B2386100-JEC-S5-C03-XXX-DR-C-0003	CELL 3 OPERATIONS SHEET 3
B2386100-JEC-S5-C03-XXX-DR-C-0004	CELL 3 OPERATIONS SHEET 4
B2386100-JEC-S5-C03-XXX-DR-C-0005	CELL 3 OPERATIONS SHEET 5
B2386100-JEC-S5-C03-XXX-DR-C-0006	CELL 3 OPERATIONS SHEET 6
B2386100-JEC-S5-C03-XXX-DR-C-0007	CELL 3 OPERATIONS SHEET 7
B2386100-JEC-S5-C03-XXX-DR-C-0008	CELL 3 OPERATIONS SHEET 8
B2386100-JEC-S5-C03-XXX-DR-C-0009	CELL 3 OPERATIONS SHEET 9
B2386100-JEC-S5-C03-XXX-DR-C-0010	CELL 3 OPERATIONS SHEET 10
B2386100-JEC-S5-C03-XXX-DR-C-0011	CELL 3 OPERATIONS SHEET 11
B2386100-JEC-S5-C03-XXX-DR-C-0012	CELL 3 OPERATIONS SHEET 12
B2386100-JEC-S5-C03-XXX-DR-C-0013	CELL 3 OPERATIONS SHEET 13
B2386100-JEC-S5-C03-XXX-DR-C-0014	CELL 3 OPERATIONS SHEET 14
B2386100-JEC-S5-C03-XXX-DR-C-0015	CELL 3 OPERATIONS SHEET 15
B2386100-JEC-S5-C03-XXX-DR-C-0016	CELL 3 OPERATIONS SHEET 16
B2386100-JEC-S5-C03-XXX-DR-C-0017	CELL 3 OPERATIONS SHEET 17
B2386100-JEC-S5-C03-XXX-DR-C-0018	CELL 3 OPERATIONS SHEET 18
B2386100-JEC-S5-C03-XXX-DR-C-0019	CELL 3 OPERATIONS SHEET 19
B2386100-JEC-S5-C03-XXX-DR-C-0020	CELL 3 OPERATIONS SHEET 20
B2386100-JEC-S5-C03-XXX-DR-C-0021	CELL 3 OPERATIONS SHEET 21
B2386100-JEC-S5-C03-XXX-DR-C-0022	CELL 3 OPERATIONS SHEET 22
B2386100-JEC-S5-C03-XXX-DR-C-0023	CELL 3 OPERATIONS SHEET 23

Grangemouth Flood Protection Scheme

Plan Reference	Plan Title
B2386100-JEC-S5-C03-XXX-DR-C-0024	CELL 3 OPERATIONS SHEET 24
B2386100-JEC-S5-C04-XXX-DR-C-0001	CELL 4 OPERATIONS SHEET 1
B2386100-JEC-S5-C04-XXX-DR-C-0002	CELL 4 OPERATIONS SHEET 2
B2386100-JEC-S5-C04-XXX-DR-C-0003	CELL 4 OPERATIONS SHEET 3
B2386100-JEC-S5-C04-XXX-DR-C-0004	CELL 4 OPERATIONS SHEET 4
B2386100-JEC-S5-C04-XXX-DR-C-0005	CELL 4 OPERATIONS SHEET 5
B2386100-JEC-S5-C04-XXX-DR-C-0006	CELL 4 OPERATIONS SHEET 6
B2386100-JEC-S5-C04-XXX-DR-C-0007	CELL 4 OPERATIONS SHEET 7
B2386100-JEC-S5-C04-XXX-DR-C-0008	CELL 4 OPERATIONS SHEET 8
B2386100-JEC-S5-C04-XXX-DR-C-0009	CELL 4 OPERATIONS SHEET 9
B2386100-JEC-S5-C04-XXX-DR-C-0010	CELL 4 OPERATIONS SHEET 10
B2386100-JEC-S5-C04-XXX-DR-C-0011	CELL 4 OPERATIONS SHEET 11
B2386100-JEC-S5-C04-XXX-DR-C-0012	CELL 4 OPERATIONS SHEET 12
B2386100-JEC-S5-C04-XXX-DR-C-0013	CELL 4 OPERATIONS SHEET 13
B2386100-JEC-S5-C04-XXX-DR-C-0014	CELL 4 OPERATIONS SHEET 14
B2386100-JEC-S5-C04-XXX-DR-C-0015	CELL 4 OPERATIONS SHEET 15
B2386100-JEC-S5-C04-XXX-DR-C-0016	CELL 4 OPERATIONS SHEET 16
B2386100-JEC-S5-C04-XXX-DR-C-0017	CELL 4 OPERATIONS SHEET 17
B2386100-JEC-S5-C04-XXX-DR-C-0018	CELL 4 OPERATIONS SHEET 18
B2386100-JEC-S5-C04-XXX-DR-C-0019	CELL 4 OPERATIONS SHEET 19
B2386100-JEC-S5-C04-XXX-DR-C-0020	CELL 4 OPERATIONS SHEET 20
B2386100-JEC-S5-C04-XXX-DR-C-0021	CELL 4 OPERATIONS SHEET 21
B2386100-JEC-S5-C04-XXX-DR-C-0022	CELL 4 OPERATIONS SHEET 22
B2386100-JEC-S5-C04-XXX-DR-C-0023	CELL 4 OPERATIONS SHEET 23
B2386100-JEC-S5-C04-XXX-DR-C-0024	CELL 4 OPERATIONS SHEET 24

Grangemouth Flood Protection Scheme

Plan Reference	Plan Title
B2386100-JEC-S5-C04-XXX-DR-C-0025	CELL 4 OPERATIONS SHEET 25
B2386100-JEC-S5-C04-XXX-DR-C-0026	CELL 4 OPERATIONS SHEET 26
B2386100-JEC-S5-C04-XXX-DR-C-0027	CELL 4 OPERATIONS SHEET 27
B2386100-JEC-S5-C04-XXX-DR-C-0028	CELL 4 OPERATIONS SHEET 28
B2386100-JEC-S5-C04-XXX-DR-C-0029	CELL 4 OPERATIONS SHEET 29
B2386100-JEC-S5-C04-XXX-DR-C-0030	CELL 4 OPERATIONS SHEET 30
B2386100-JEC-S5-C04-XXX-DR-C-0031	NOT USED
B2386100-JEC-S5-C04-XXX-DR-C-0032	CELL 4 OPERATIONS SHEET 32
B2386100-JEC-S5-C04-XXX-DR-C-0033	CELL 4 OPERATIONS SHEET 33
B2386100-JEC-S5-C04-XXX-DR-C-0034	CELL 4 OPERATIONS SHEET 34
B2386100-JEC-S5-C04-XXX-DR-C-0035	CELL 4 OPERATIONS SHEET 35
B2386100-JEC-S5-C04-XXX-DR-C-0036	CELL 4 OPERATIONS SHEET 36
B2386100-JEC-S5-C04-XXX-DR-C-0037	CELL 4 OPERATIONS SHEET 37
B2386100-JEC-S5-C04-XXX-DR-C-0038	CELL 4 OPERATIONS SHEET 38
B2386100-JEC-S5-C04-XXX-DR-C-0039	CELL 4 OPERATIONS SHEET 39
B2386100-JEC-S5-C04-XXX-DR-C-0040	CELL 4 OPERATIONS SHEET 40
B2386100-JEC-S5-C04-XXX-DR-C-0041	CELL 4 OPERATIONS SHEET 41
B2386100-JEC-S5-C04-XXX-DR-C-0042	CELL 4 OPERATIONS SHEET 42
B2386100-JEC-S5-C04-XXX-DR-C-0043	CELL 4 OPERATIONS SHEET 43
B2386100-JEC-S5-C04-XXX-DR-C-0044	CELL 4 OPERATIONS SHEET 44
B2386100-JEC-S5-C04-XXX-DR-C-0045	CELL 4 OPERATIONS SHEET 45
B2386100-JEC-S5-C04-XXX-DR-C-0046	CELL 4 OPERATIONS SHEET 46
B2386100-JEC-S5-C05-XXX-DR-C-0001	CELL 5 OPERATIONS SHEET 1
B2386100-JEC-S5-C05-XXX-DR-C-0002	CELL 5 OPERATIONS SHEET 2
B2386100-JEC-S5-C05-XXX-DR-C-0003	CELL 5 OPERATIONS SHEET 3

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Plan Reference	Plan Title
B2386100-JEC-S5-C05-XXX-DR-C-0004	CELL 5 OPERATIONS SHEET 4
B2386100-JEC-S5-C05-XXX-DR-C-0005	CELL 5 OPERATIONS SHEET 5
B2386100-JEC-S5-C05-XXX-DR-C-0006	CELL 5 OPERATIONS SHEET 6
B2386100-JEC-S5-C05-XXX-DR-C-0007	CELL 5 OPERATIONS SHEET 7
B2386100-JEC-S5-C05-XXX-DR-C-0008	CELL 5 OPERATIONS SHEET 8
B2386100-JEC-S5-C05-XXX-DR-C-0009	CELL 5 OPERATIONS SHEET 9
B2386100-JEC-S5-C05-XXX-DR-C-0010	CELL 5 OPERATIONS SHEET 10
B2386100-JEC-S5-C05-XXX-DR-C-0011	CELL 5 OPERATIONS SHEET 11
B2386100-JEC-S5-C05-XXX-DR-C-0012	CELL 5 OPERATIONS SHEET 12
B2386100-JEC-S5-C05-XXX-DR-C-0013	CELL 5 OPERATIONS SHEET 13
B2386100-JEC-S5-C05-XXX-DR-C-0014	CELL 5 OPERATIONS SHEET 14
B2386100-JEC-S5-C05-XXX-DR-C-0015	CELL 5 OPERATIONS SHEET 15
B2386100-JEC-S5-C05-XXX-DR-C-0016	CELL 5 OPERATIONS SHEET 16
B2386100-JEC-S5-C05-XXX-DR-C-0017	CELL 5 OPERATIONS SHEET 17
B2386100-JEC-S5-C05-XXX-DR-C-0018	CELL 5 OPERATIONS SHEET 18
B2386100-JEC-S5-C05-XXX-DR-C-0019	CELL 5 OPERATIONS SHEET 19
B2386100-JEC-S5-C06-XXX-DR-C-0001	CELL 6 OPERATIONS SHEET 1
B2386100-JEC-S5-C06-XXX-DR-C-0002	CELL 6 OPERATIONS SHEET 2
B2386100-JEC-S5-C06-XXX-DR-C-0003	CELL 6 OPERATIONS SHEET 3
B2386100-JEC-S5-C06-XXX-DR-C-0004	CELL 6 OPERATIONS SHEET 4
B2386100-JEC-S5-C06-XXX-DR-C-0005	CELL 6 OPERATIONS SHEET 5
B2386100-JEC-S5-C06-XXX-DR-C-0006	CELL 6 OPERATIONS SHEET 6
B2386100-JEC-S5-C06-XXX-DR-C-0007	CELL 6 OPERATIONS SHEET 7
B2386100-JEC-S5-C06-XXX-DR-C-0008	CELL 6 OPERATIONS SHEET 8
B2386100-JEC-S5-C06-XXX-DR-C-0009	CELL 6 OPERATIONS SHEET 9

Grangemouth Flood Protection Scheme

Plan Reference	Plan Title
B2386100-JEC-S5-C06-XXX-DR-C-0010	CELL 6 OPERATIONS SHEET 10
B2386100-JEC-S5-C06-XXX-DR-C-0011	CELL 6 OPERATIONS SHEET 11
B2386100-JEC-S5-C06-XXX-DR-C-0012	CELL 6 OPERATIONS SHEET 12
B2386100-JEC-S5-C06-XXX-DR-C-0013	CELL 6 OPERATIONS SHEET 13
B2386100-JEC-S5-C06-XXX-DR-C-0014	CELL 6 OPERATIONS SHEET 14
B2386100-JEC-S5-C06-XXX-DR-C-0015	CELL 6 OPERATIONS SHEET 15
B2386100-JEC-S5-C06-XXX-DR-C-0016	CELL 6 OPERATIONS SHEET 16
B2386100-JEC-S5-C06-XXX-DR-C-0017	CELL 6 OPERATIONS SHEET 17
B2386100-JEC-S5-C06-XXX-DR-C-0018	CELL 6 OPERATIONS SHEET 18
B2386100-JEC-S5-C06-XXX-DR-C-0019	CELL 6 OPERATIONS SHEET 19
B2386100-JEC-S5-ZZZ-XXX-DR-C-0009	PROPOSED AREAS FOR ENVIRONMENTAL COMPENSATION AND/OR MITIGATION
B2386100-JEC-S5-ZZZ-XXX-DR-C-0010	PROPOSED AREAS FOR ENVIRONMENTAL COMPENSATION AND/OR MITIGATION SHEET 1
B2386100-JEC-S5-ZZZ-XXX-DR-C-0011	PROPOSED AREAS FOR ENVIRONMENTAL COMPENSATION AND/OR MITIGATION SHEET 2
B2386100-JEC-S5-ZZZ-XXX-DR-C-0012	PROPOSED AREAS FOR ENVIRONMENTAL COMPENSATION AND/OR MITIGATION SHEET 3

4 Description of the Operations

The Operations to be carried out in terms of the Scheme are as follows.

All areas, directions, distances, lengths, widths, depths and heights as stated in the below operation descriptions or shall be construed as if the words "or thereby" were inserted after each such area, direction, distance, length, width, depth and height. All heights and depths stated in the above operation descriptions relate to existing ground levels.

Flood Cell 1

Operation Reference	Operation Description
C1-CU-01	Construct a 30m long culvert as generally shown on the plans. At the outlet of the culvert install a non-return valve or flap valve and outfall structure with erosion protection.
C1-DE-01	Demolish existing building as generally shown on the plans.
C1-DE-02	Demolish existing building as generally shown on the plans.

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Operation Reference	Operation Description
C1-DM-01	Construct 17m of new flood defences, comprising of demountable barriers and support posts, typically 0.80m above existing ground levels as generally shown on the plans. The demountable barriers will be erected when a flood event is forecast.
C1-DM-02	Construct 15m of new flood defences, comprising of demountable barriers and support posts, typically 0.60m above existing ground levels as generally shown on the plans. The demountable barriers will be erected when a flood event is forecast.
C1-FE-01	Construct 44m of new earth flood embankment with a maximum height of 2.3m and a maximum width of 40m (including ramps) as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct 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.
C1-FE-02	Construct 358m of new earth flood embankment with a maximum height of 4.3m and a maximum width of 26.25m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct 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.
C1-FE-03	Construct 43m of new earth flood embankment with a maximum height of 1.4m and a maximum width of 36.8m (including ramps) as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct 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.
C1-FG-01	Install a flood defence gate, 6m wide, a maximum of 1.5m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C1-FG-02	Install a flood defence gate, 4m wide, a maximum of 0.4m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C1-FG-03	Install a flood defence gate, 12m wide, a maximum of 1.8m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C1-FG-04	Install a flood defence gate, 3m wide, a maximum of 1.1m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.

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Operation Reference	Operation Description
C1-FG-05	Install a flood defence gate, 5m wide, a maximum of 1.2m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C1-FG-06	Install a flood defence gate, 3m wide, a maximum of 2.1m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C1-FG-07	Install a flood defence gate, 4m wide, a maximum of 0.4m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C1-FW-01	Demolish and remove existing stone wall and construct 125m of new flood defence wall with a maximum height of 1.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-02	Demolish and remove existing brick wall/ fence and construct 162m of new flood defence wall with a maximum height of 1.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-03	Demolish and remove existing stone wall/fence and construct 157m of new flood defence wall with a maximum height of 0.8m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-04	Demolish and remove existing fence and construct 215m of new flood defence wall with a maximum height of 2.1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-05	Demolish and remove existing fence and construct 136m of new flood defence wall with a maximum height of 2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-06	Demolish and remove existing brick wall and construct 158m of new flood defence wall with a maximum height of 1.8m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C1-FW-07	Construct 449m of new flood defence wall with a maximum height of 1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-08	NOT USED
C1-FW-09	Construct 28m of new flood defence wall with a maximum height of 1.1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-10	Demolish and remove existing stone wall and construct 21m of new flood defence wall with a maximum height of 1.2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-11	Demolish and remove existing stone wall/ building/ fence and construct 137m of new flood defence wall with a maximum height of 1.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-12	Demolish and remove existing fence/ brick wall and construct 109m of new flood defence wall with a maximum height of 1.8m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-13	Demolish and remove existing fence and construct 69m of new flood defence wall with a maximum height of 1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-14	Demolish and remove existing stone wall and construct 23m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-15	Construct 111m of new flood defence wall with a maximum height of 2.8m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

Grangemouth Flood Protection Scheme

Operation Reference	Operation Description
C1-FW-16	Construct 16m of new flood defence wall with a maximum height of 0.3m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-17	Construct 42m of new flood defence wall with a maximum height of 0.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-18	Demolish and remove existing boundary walls/ fences and construct 260m of new flood defence wall with a maximum height of 1.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-19	Construct 6m of new flood defence wall with a maximum height of 0.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-20	Demolish and remove existing bridge parapet and construct 18m of new flood defence parapet wall with a maximum height of 1.4m above footpath. The appearance/ finish of the wall is to be agreed with the local planning authority.
C1-FW-21	Construct 220m of new flood defence wall with a maximum height of 1.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-22	Demolish and remove existing boundary walls/ fences and construct 237m of new flood defence wall with a maximum height of 1.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-23	Demolish and remove existing boundary walls/ fences and construct 80m of new flood defence wall with a maximum height of 2.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-24	Demolish and remove existing bridge parapet/stone wall and construct 8m of new flood defence parapet wall with a maximum height of 2m above footpath as shown on the plans. The appearance/ finish of the wall is to be agreed with the local planning authority.

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Operation Reference	Operation Description
C1-FW-25	Demolish and remove existing bridge parapet/stone wall and construct 9m of new flood defence parapet wall with a maximum height of 1.4m above footpath as shown on the plans. The appearance/ finish of the wall is to be agreed with the local planning authority.
C1-FW-26	Demolish and remove existing stone wall/brick wall and construct 57m of new flood defence wall with a maximum height of 1.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-27	Construct 7m of new flood defence wall with a maximum height of 0.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-28	Construct 3m of new flood defence wall with a maximum height of 0.2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-29	Construct 3m of new flood defence wall with a maximum height of 0.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-30	Demolish and remove existing fence and construct 67m of new flood defence wall with a maximum height of 2.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-31	Demolish and remove existing fence and construct 115m of new flood defence wall with a maximum height of 1.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C1-FW-32	Construct 228m of new flood defence wall with a maximum height of 2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/finish of the wall will be agreed with the local planning authority.
C1-FW-33	Construct 65m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls

Grangemouth Flood Protection Scheme

Operation Reference	Operation Description
	where required. The appearance/finish of the wall will be agreed with the local planning authority.
C1-MI-01	NOT USED
C1-MI-02	Construct a new 145m long, 2.5m wide footpath adjacent to Nicoles Way as generally shown on the plans.
C1-MI-03	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, alter and extend any existing drainage outfalls including the installation of a non-return device and erosion protection measures where required.
C1-MI-04	Construct a buried chamber with vertical access shaft and install a non-return/flap valve within the chamber as generally shown on the plans.
C1-MI-05	Improvements to the surface water drainage system along Stirling Road, which may include installing new pipes, chambers, valves and gullies.
C1-MI-06	Diversion and protection of existing pipes, cables and other utilities to allow the construction of other Operations.
C1-MI-07	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, construct a surface water drainage system on the landward side of the flood defences, comprising of pipes, culverts, filter trenches, chambers, valves, gullies, outfalls and pumping station including control kiosks.
C1-MI-08	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, carry out a scheme of permanent reinstatement of hard and soft landscaping disturbed.
C1-MI-09	Construct a 600mm diameter outfall through flood defences on Farm Street, complete with outfall structure and non-return valve/ gate.
C1-MI-10	Install enhanced drainage system at Carron Stables, Dock Street to mitigate any impacts from secondary flooding.
C1-MI-11	Raise the carriageway and footway of 'The Avenue', by up to 0.2m. Ensure vehicle access to residential properties is maintained.
C1-MI-12	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, carry out reinstatement, habitat creation and management or other environmental mitigation or enhancement works as identified in the Environmental Impact Assessment Report and/ or as agreed with the local planning authority.
C1-NB-01	Construct a replacement road bridge with new abutments, parapets, vehicle restraint system and access ramp/ steps, in its current location generally as shown

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Operation Reference	Operation Description
	on plans.
C1-PS-01	Construct new buried automatic surface water pumping station comprising of dry and wet wells, pumps, valves, pipework, outfall, and above ground control kiosk at Park Road including the provision of incoming power supply and telemetry phone lines.
C1-RP-01	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C1-RP-02	Construct vehicular access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C1-RP-03	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C1-RP-04	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C1-RP-05	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C1-RP-06	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C1-RP-07	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C1-RP-08	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.

Flood Cell 2

Operation Reference	Operation Description
C2-DE-01	Demolish existing building as generally shown on the plans.
C2-DE-02	Demolish existing building and provide replacement building adjacent to location of original building.

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Operation Reference	Operation Description
C2-DM-01	Construct 31m of new flood defences, comprising of demountable barriers and support posts, typically 1.4m above existing ground levels as generally shown on the plans. The demountable barriers will be erected when a flood event is forecast.
C2-FE-01	Construct 290m of new earth flood embankment with a maximum height of 1.8m and a maximum width of 7m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct 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.
C2-FE-02	Construct 9m of new earth flood embankment with a maximum height of 0.7m and a maximum width of 3.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct 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.
C2-FE-03	Construct 6m of new earth flood embankment with a maximum height of 0.7m and a maximum width of 3.1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct 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.
C2-FG-01	Install a flood defence gate, 4m wide, a maximum of 1.2m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C2-FG-02	Install a flood defence gate, 13m wide, a maximum of 1.9m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C2-FG-03	Install a flood defence gate, 4m wide, a maximum of 1.3m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C2-FG-04	Install a flood defence gate, 5m wide, a maximum of 0.7m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C2-FW-01	Demolish and remove existing buildings and construct 293m of new flood defence wall with a maximum height of 1.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C2-FW-02	Demolish and remove existing wall/fence and construct 145m of new flood defence wall with a maximum height of 2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C2-FW-03	Demolish and remove existing wall/ fence and building and construct 350m of new flood defence wall with a maximum height of 2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C2-FW-04	Construct 121m of new flood defence wall with a maximum height of 1.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C2-FW-05	Demolish and remove existing building and construct 230m of new flood defence wall with a maximum height of 1.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C2-MI-01	Construct a 2.0m wide footpath, parallel to the flood embankment for 300m as generally shown on the plans.
C2-MI-02	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, alter and extend any existing drainage outfalls including the installation of a non-return device and erosion protection measures where required.
C2-MI-03	Diversion and protection of existing pipes, cables and other utilities to allow the construction and implementation of other Operations.
C2-MI-04	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, construct a surface water drainage system on the landward side of the flood defences, comprising of pipes, culverts, filter trenches, chambers, valves, gullies, outfalls and pumping stations including control kiosks.
C2-MI-05	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, carry out a scheme of reinstatement of hard and soft landscaping disturbed.
C2-MI-06	Construct a reinforced concrete retaining wall at the end of the of the flood embankment. The wall length and height will match the width and height of the embankment.

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Operation Reference	Operation Description
C2-MI-07	Construct a reinforced concrete retaining wall at the end of the of the flood embankment. The wall length and height will match the width and height of the embankment.
C2-MI-08	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, carry out reinstatement, habitat creation and management or other environmental mitigation or enhancement works as identified in the Environmental Impact Assessment Report and/ or as agreed with the local planning authority.
C2-RP-01	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C2-RP-02	Construct pedestrian and vehicular access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.

Flood Cell 3

Operation Reference	Operation Description
C3-DE-01	Demolish existing building as generally shown on the plans.
C3-DE-02	Demolish existing building as generally shown on the plans.
C3-DM-01	Construct 20m of new flood defences, comprising of demountable barriers and support posts, typically 0.8m above existing ground levels as generally shown on the plans. The demountable barriers will be erected when a flood event is forecast.
C3-DM-02	Construct 19m of new flood defences, comprising of demountable barriers and support posts, typically 0.9m above existing ground levels as generally shown on the plans. The demountable barriers will be erected when a flood event is forecast.
C3-DM-03	Construct 7m of new flood defences, comprising of demountable barriers and support posts, typically 0.7m above existing ground levels as generally shown on the plans. The demountable barriers will be erected when a flood event is forecast.
C3-FG-01	Install a flood defence gate, 7m wide, a maximum of 0.8m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C3-FG-02	Install a flood defence gate across the railway line, 5m wide, a maximum of 1m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices, and incorporate works to the railway infrastructure including

Grangemouth Flood Protection Scheme

Operation Reference	Operation Description
	signalling, signage and work to the railway tracks.
C3-FG-03	Install a flood defence gate, 4m wide, a maximum of 0.8m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C3-FG-04	Install a flood defence gate, 5m wide, a maximum of 1.4m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C3-FG-05	Install a flood defence gate, 5m wide, a maximum of 1.8m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C3-FW-01	Demolish and remove existing wall, fence and building and construct 1870m of new flood defence wall with a maximum height of 1.7m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-02	Construct 23m of new flood defence wall with a maximum height of 1.2m above the quayside and incorporate a seepage cut-off as generally shown on the plans. The appearance/finish of the wall be agreed with the local planning authority.
C3-FW-03	Construct 138m of new flood defence wall with a maximum height of 1.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-04	Demolish and remove existing fence and construct 12m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-05	Demolish and remove existing fence and construct 82m of new flood defence wall with a maximum height of 1.4m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-06	Construct 16m of new flood defence wall with a maximum height of 1m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C3-FW-07	Construct 2m of new flood defence wall with a maximum height of 0.7m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-08	Construct 25m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-09	Construct 123m of new flood defence wall with a maximum height of 1.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-10	Construct 622m of new flood defence wall with a maximum height of 2.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-11	Construct 103m of new flood defence wall with a maximum height of 1.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-12	Construct 49m of new flood defence wall with a maximum height of 1.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-13	Construct 15m of new flood defence wall with a maximum height of 1.2m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-14	Construct 12m of new flood defence wall with a maximum height of 1.1m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-15	Construct 552m of new flood defence wall with a maximum height of 2.5m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C3-FW-16	Construct 557m of new flood defence wall with a maximum height of 1.6m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-FW-17	Construct 397m of new flood defence wall with a maximum height of 1m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C3-LG-01	Construct a replacement dual purpose lock/ flood gate, 37m wide, typically 15m high as generally shown on the plans. The gate will be hinged and have appropriate seals, gaskets and locking devices, and associated mechanical and electrical control and monitoring equipment.
C3-MI-01	Undertake modification works to the existing impoundment pumps and pump infrastructure to limit the possibility of backflow during an extreme tidal event.
C3-MI-02	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, alter and extend any existing drainage outfalls including the installation of a non-return device and erosion protection measures where required.
C3-MI-03	Diversion and protection of existing pipes, cables and other utilities to allow the construction and implementation of other Operations.
C3-MI-04	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, construct a surface water drainage system on the landward side of the flood defences, comprising of pipes, culverts, filter trenches, chambers, valves, gullies, outfalls and pumping stations including control kiosks.
C3-MI-05	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, carry out a scheme of reinstatement of hard and soft landscaping disturbed.
C3-MI-06	Construct flood defences across existing overground and buried pipelines/utilities. Specific details of these crossing points will be agreed with pipeline/cable owners and operators.
C3-RP-01	Construct pedestrian and vehicular access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C3-RV-01	Construct 259m of new rock armour revetment as generally shown on the plans.
C3-RV-02	Construct 71m of new rock armour revetment as generally shown on the plans.
C3-RV-03	Construct 21m of new rock armour revetment as generally shown on the plans.

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Operation Reference	Operation Description
C3-RV-04	Construct 31m of new rock armour revetment as generally shown on the plans.
C3-RV-05	Construct 51m of new rock armour revetment as generally shown on the plans.
C3-RV-06	Construct 262m of new rock armour revetment as generally shown on the plans.
C3-RV-07	Construct 465m of new rock armour revetment as generally shown on the plans.
C3-RV-08	Construct 50m of new rock armour revetment as generally shown on the plans.

Flood Cell 4

Operation Reference	Operation Description
C4-BR-01	Raising of the existing footbridge with the construction of new abutments and access ramp/ steps in its current location generally as shown on plans.
C4-BR-02	Raising of the existing footbridge with the construction of new abutments and access ramp/ steps in its current location generally as shown on plans.
C4-BR-03	Raising of the existing footbridge with the construction of new abutments and access ramp/ steps in its current location generally as shown on plans.
C4-CL-01	Re-lining of 2025m of the flood relief channel, maintaining its existing location and shape generally as shown on plans.
C4-DE-01	NOT USED
C4-DE-02	Demolish existing building as generally shown on the plans.
C4-DE-03	Demolish existing building as generally shown on the plans.
C4-DE-04	Remove and demolish existing footbridge across the flood relief channel parallel to Inchyra Road as generally shown on the plans.
C4-DM-01	Construct 25m of new flood defences, comprising of demountable barriers and support posts, typically 0.5m above existing ground levels as generally shown on the plans. The demountable barriers will be erected and only removed when access is required.
C4-DM-02	Construct 24m of new flood defences, comprising of demountable barriers and support posts, typically 0.9m above existing ground levels as generally shown on the plans. The demountable barriers will be erected and only removed when access is required.
C4-FE-01	Construct 118m of new earth flood embankment with a maximum height of 1.1m and a maximum width of 11.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface

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Operation Reference	Operation Description
	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.
C4-FE-02	Construct 25m of new earth flood embankment with a maximum height of 1.1m and a maximum width of 8.05m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct 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.
C4-FE-03	Construct 177m of new earth flood embankment with a maximum height of 1.2m and a maximum width of 13.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct 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.
C4-FG-01	Install a flood defence gate, 5m wide, a maximum of 1.9m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C4-FG-02	Install a flood defence gate, 4m wide, a maximum of 0.4m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices. The gate will be across a railway line.
C4-FG-03	Install a flood defence gate, 4m wide, a maximum of 0.8m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices. The gate will be across a railway line.
C4-FG-04	Install a flood defence gate, 15m wide, a maximum of 0.4m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C4-FG-05	Install a flood defence gate, 14m wide, a maximum of 0.7m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C4-FG-06	Demolish and remove existing concrete wall and construct a flood defence gate, 1.6m wide, typically 1.2m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.

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Operation Reference	Operation Description
C4-FG-07	Demolish and remove existing concrete wall and construct a flood defence gate, 1.6m wide typically 0.8m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C4-FG-08	Install a flood defence gate, 1.6m wide, a maximum of 0.7m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C4-FG-09	Demolish and remove existing concrete wall and construct a flood defence gate, 1.6m wide, typically 1.3m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C4-FG-10	Install a flood defence gate, 1.6m wide, a maximum of 0.8m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C4-FG-11	Install a flood defence gate, 3m wide, a maximum of 1.9m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C4-FG-12	Install a flood defence gate, 4m wide, a maximum of 1.4m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C4-FG-13	NOT USED
C4-FG-14	Install flood defence gates, 4m wide, a maximum of 2.3m above existing ground levels to match the adjacent flood defence levels. The gates will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C4-FG-15	Install a flood defence gate, 2.5m wide, a maximum of 2.4m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C4-FW-01	Construct 78m of new flood defence wall with a maximum height of 2.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C4-FW-02	Demolish and remove existing fence and boundary wall and construct 55m of new flood defence wall with a maximum height of 2.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-03	Construct 73m of new flood defence wall with a maximum height of 1.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-04	Construct 25m of new flood defence wall with a maximum height of 1.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-05	Demolish and remove existing fence and construct 149m of new flood defence wall with a maximum height of 1.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-06	Demolish and remove existing brickwork wall and construct 94m of new flood defence wall with a maximum height of 1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-07	Demolish and remove existing bridge parapet and construct 8m of new flood defence parapet wall with a maximum height of 0.7m above footpath excluding any vehicle restraint system/barrier as generally shown on the plans. The appearance/ finish of the wall and vehicle restraint system is to be agreed with the local planning authority.
C4-FW-08	Demolish and remove existing concrete wall and railing and construct 98m of new flood defence wall with a maximum height of 1.2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. At Bo'ness Road Bridge extend the footway where required. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-09	Demolish and remove existing wall and fence and construct 202m of new flood defence wall with a maximum height of 2.2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C4-FW-10	Demolish and remove existing wall and fence and construct 311m of new flood defence wall with a maximum height of 2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-11	Demolish and remove existing bridge and fence and construct 444m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-12	Demolish and remove existing fence and construct 159m of new flood defence wall with a maximum height of 1.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-13	Demolish and remove existing fence and construct 17m of new flood defence wall with a maximum height of 0.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-14	Construct 21m of new flood defence wall with a maximum height of 1.3m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/finish of the wall will be agreed with the local planning authority.
C4-FW-15	Construct 418m of new flood defence wall with a maximum height of 1.7m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-16	Construct 18m of new flood defence wall with a maximum height of 1.7m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/finish of the wall will be agreed with the local planning authority.
C4-FW-17	Demolish and remove existing fence and construct 195m of new flood defence wall with a maximum height of 1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C4-FW-18	Demolish and remove existing fence and stone wall and construct 100m of new flood defence wall with a maximum height of 3.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-19	Demolish and remove existing fence and construct 230m of new flood defence wall with a maximum height of 2.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-20	Construct 253m of new flood defence wall with a maximum height of 1.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-21	Demolish and remove existing bridge parapet and construct 8m of new flood defence parapet wall with a maximum height of 1.9m above footpath as generally shown on the plans. The appearance/ finish of the wall is to be agreed with the local planning authority.
C4-FW-22	Demolish and remove existing stone wall and construct 87m of new flood defence wall with a maximum height of 1.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-23	NOT USED
C4-FW-24	Demolish and remove existing stone wall and construct 77m of new flood defence wall with a maximum height of 1.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-25	Demolish and remove existing concrete wall and construct 114m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-26	Construct 69m of new flood defence wall with a maximum height of 1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C4-FW-27	Demolish and remove existing concrete wall and construct 132m of new flood defence wall with a maximum height of 1.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-28	Demolish and remove existing bridge parapet and construct 10m of new flood defence parapet wall with a maximum height of 0.2m above footpath excluding any vehicle restraint system/barrier as generally shown on the plans. The appearance/ finish of the wall and vehicle restraint system is to be agreed with the local planning authority.
C4-FW-29	Demolish and remove existing concrete wall and construct 143m of new flood defence wall with a maximum height of 1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-30	Demolish and remove existing road restraint system and construct 134m of new flood defence wall with a maximum height of 0.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority. Install new road restraint system if required.
C4-FW-31	Demolish and remove existing bridge parapet and construct 12m of new flood defence parapet wall with a maximum height of 0.4m above footpath excluding any vehicle restraint system/barrier as generally shown on the plans. The appearance/ finish of the wall and vehicle restraint system is to be agreed with the local planning authority.
C4-FW-32	Construct 100m of new flood defence wall with a maximum height of 1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-33	Construct 719m of new flood defence wall with a maximum height of 1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-34	Construct 88m of new flood defence wall with a maximum height of 1.1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C4-FW-35	Construct 98m of new flood defence wall with a maximum height of 1.2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-36	Construct 682m of new flood defence wall with a maximum height of 0.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m and replace vehicle restraint system. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-37	Construct 43m of new flood defence wall with a maximum height of 0.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-38	Construct 823m of new flood defence wall with a maximum height of 2.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-39	Demolish and remove existing fence and construct 30m of new flood defence wall with a maximum height of 1.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-40	Demolish and remove existing fence and construct 3m of new flood defence wall with a maximum height of 1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-41	Construct 4m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-42	Construct 150m of new flood defence wall with a maximum height of 1.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C4-FW-43	Demolish and remove existing bridge parapet and construct 7m of new flood defence parapet wall with a maximum height of 0.1m above footpath excluding any vehicle restraint system/barrier as generally shown on the plans. The appearance/ finish of the wall and vehicle restraint system is to be agreed with the local planning authority.
C4-FW-44	Construct 21m of new flood defence wall with a maximum height of 0.1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-45	Construct 11m of new flood defence wall with a maximum height of 2.2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-46	Construct 34m of new flood defence wall with a maximum height of 1.8m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-47	Demolish and remove existing bridge parapet and construct 9m of new flood defence parapet wall with a maximum height of 0.17m above footpath excluding any vehicle restraint system/barrier as generally shown on the plans. The appearance/ finish of the wall and vehicle restraint system is to be agreed with the local planning authority.
C4-FW-48	Construct 39m of new flood defence wall with a maximum height of 0.7m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-49	NOT USED
C4-FW-50	Demolish and remove existing metal railing/wall and construct 97m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. At Bo'ness Road Bridge extend the footway where required. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C4-FW-51	Demolish and remove existing concrete wall and construct 167m of new flood defence wall with a maximum height of 1.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-52	Construct 107m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-53	Construct 159m of new flood defence wall with a maximum height of 1.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-54	Demolish and remove existing stone wall and construct 5m of new flood defence wall with a maximum height of 1.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-55	Construct 6m of new flood defence wall with a maximum height of 1.2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-56	Construct 171m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-57	Construct 252m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-58	Construct 258m of new flood defence wall with a maximum height of 0.8m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-59	Demolish and remove existing fence and construct 174m of new flood defence wall

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Operation Reference	Operation Description
	with a maximum height of 3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-60	NOT USED
C4-FW-61	NOT USED
C4-FW-62	Demolish and remove existing stone wall and construct 6m of new flood defence wall with a maximum height of 0.2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-63	Demolish and remove existing concrete wall and construct 55m of new flood defence wall with a maximum height of 0.7m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-64	Demolish and remove existing fence and construct 36m of new flood defence wall with a maximum height of 0.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-65	Construct 200m of new flood defence wall with a maximum height of 1m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-66	Construct 286m of new flood defence wall with a maximum height of 2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-67	Construct 18m of new flood defence wall with a maximum height of 1.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-68	Construct 10m of new flood defence wall with a maximum height of 0.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C4-FW-69	Construct 10m of new flood defence wall with a maximum height of 2.3m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-FW-70	Construct 5m of new flood defence wall with a maximum height of 0.2m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/finish of the wall will be agreed with the local planning authority.
C4-FW-71	Construct 168m of new flood defence wall with a maximum height of 1.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/finish of the wall will be agreed with the local planning authority.
C4-FW-72	Construct 66m of new flood defence wall with a maximum height of 2.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C4-MI-01	Infill existing underpass with concrete or similar material generally as shown on plans. Remove existing footpaths and raise ground to match adjacent field and verge.
C4-MI-02	Localised ground raising covering the existing footway parallel to Wholeflats Road over a length of 105m to create an appropriate flood defence generally as shown on plans.
C4-MI-03	NOT USED
C4-MI-04	NOT USED
C4-MI-07	Construct an 85m long seepage cut-off wall to a maximum depth below ground of 25m.
C4-MI-08	Construct pedestrian and equestrian crossing of the A9 at Beancross including new connecting footpaths and installation of all signs, traffic lights, pedestrian barriers and signage/ road markings.
C4-MI-09	Break out and remove existing footpath and fences and regrade the bank slope from the existing road embankment to the field, as generally shown on the plans.
C4-MI-10	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, alter and extend any existing drainage outfalls including the installation of a non-return device and erosion protection measures where required.
C4-MI-11	Demolish and remove a section of the existing wall between the Grange Burn and

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Operation Reference	Operation Description
	the flood relief channel and extend the opening of the existing flow control weir.
C4-MI-12	Construct replacement kiosk in Zetland Park as generally shown on the plans.
C4-MI-13	NOT USED
C4-MI-14	Diversion and protection of existing pipes, cables and other utilities to allow the construction and implementation of other Operations.
C4-MI-15	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, construct a surface water drainage system on the landward side of the flood defences, comprising of pipes, culverts, filter trenches, chambers, valves, gullies, outfalls and pumping stations including control kiosks.
C4-MI-16	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, carry out a scheme of permanent reinstatement of hard and soft landscaping disturbed.
C4-MI-17	Improvements to the surface water drainage system adjacent to Grandsable cottage comprising of pipes, culverts, filter trenches, chambers, valves, gullies, outfalls and connection to the existing drainage system.
C4-MI-18	Construct 600mm diameter outfall through flood defences at Inchyra Lodge, with outfall structure and non-return valve/ gate.
C4-MI-19	Construct outfall including pipe/culvert, headwalls and non-return valve, through the flood defence at the stables off Reddoch Road generally as shown on the plans.
C4-MI-20	NOT USED
C4-MI-21	Construct new orifice flow control structure across the Grange Burn, including trash screen and overflow weir, as generally shown on the plans.
C4-MI-22	Construct flood defences across existing overground and buried pipelines/utilities. Specific details of these crossing points will be agreed with pipeline/cable owners and operators.
C4-MI-23	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, carry out reinstatement, habitat creation and management or other environmental mitigation or enhancement works as identified in the Environmental Impact Assessment Report and/ or as agreed with the local planning authority.
C4-NB-01	Construct a replacement road bridge with new abutments, parapets, vehicle restraint system and access ramp/ steps, in its current location generally as shown on plans.
C4-NB-02	Construct a replacement road bridge with new abutments, parapets, vehicle restraint system and access ramp/ steps, in its current location generally as shown

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Operation Reference	Operation Description
	on plans.
C4-RP-01	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C4-RP-02	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C4-RP-03	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C4-RP-04	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C4-RP-05	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C4-RP-06	Construct footway/pedestrian access ramp(s) parallel to Wholeflats Road to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C4-RP-07	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C4-RP-08	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C4-RP-09	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C4-RP-10	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C4-RP-11	Construct pedestrian access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C4-RP-12	Construct vehicular access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.

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Operation Reference	Operation Description
C4-RP-13	Construct vehicular access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.

Flood Cell 5

Operation Reference	Operation Description
C5-FG-01	Install a flood defence gate, 5m wide, a maximum of 1.9m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-02	Install a flood defence gate, 11m wide, a maximum of 2.5m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-03	Construct a flood defence gate, 5m wide, typically 0.5m above existing ground levels generally as shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices. Replace existing kerbs and footpath at the gate location to form a new access into the field.
C5-FG-04	Install a flood defence gate, 6m wide, a maximum of 1.6m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-05	Install a flood defence gate, 4m wide, a maximum of 2.6m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-06	Install a flood defence gate, 1m wide, a maximum of 2m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-07	Install a flood defence gate, 3m wide, a maximum of 0.6m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-08	Install a flood defence gate, 5m wide, a maximum of 1.4m above existing ground levels as generally shown on the plans. The gate will normally be in the open position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-09	Install a flood defence gate, 3m wide, a maximum of 1.3m above existing ground levels as generally shown on the plans. The gate will normally be in the closed

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Operation Reference	Operation Description
	position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-10	Install a flood defence gate, 4m wide, a maximum of 0.6m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-11	Install a flood defence gate, 4m wide, a maximum of 1.3m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-12	Install a flood defence gate, 5m wide, a maximum of 1.5m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-13	Install a flood defence gate, 5m wide, a maximum of 1.4m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-14	Install a flood defence gate, 3m wide, a maximum of 1.7m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-15	Install a flood defence gate, 5m wide, a maximum of 1.9m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-16	Install a flood defence gate, 5m wide, a maximum of 0.4m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-17	Install a flood defence gate, 2m wide, a maximum of 2.9m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-18	Install a flood defence gate, 5m wide, a maximum of 0.2m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-19	Install a flood defence gate, 5m wide, a maximum of 2.6m above existing ground levels as generally shown on the plans. The gate will normally be in the closed

Grangemouth Flood Protection Scheme

Operation Reference	Operation Description
	position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FG-20	Install a flood defence gate, 2m wide, a maximum of 2.5m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C5-FW-01	Construct 131m of new flood defence wall with a maximum height of 1.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-02	Construct 49m of new flood defence wall with a maximum height of 2.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-03	Construct 225m of new flood defence wall with a maximum height of 2.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-04	Construct 187m of new flood defence wall with a maximum height of 2.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-05	Construct 579m of new flood defence wall with a maximum height of 3.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-06	Construct 46m of new flood defence wall with a maximum height of 2.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-07	Demolish and remove existing fence and construct 556m of new flood defence wall with a maximum height of 3.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C5-FW-08	Demolish and remove existing fence and construct 26m of new flood defence wall with a maximum height of 1.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-09	Demolish and remove existing fence and construct 103m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-10	Demolish and remove existing fence and construct 281m of new flood defence wall with a maximum height of 2.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-11	Demolish and remove existing fence and construct 30m of new flood defence wall with a maximum height of 2.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-12	Demolish and remove existing fence and construct 125m of new flood defence wall with a maximum height of 3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-13	Demolish and remove existing fence and construct 112m of new flood defence wall with a maximum height of 2.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-14	Construct 16m of new flood defence wall with a maximum height of 0.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-15	Demolish and remove existing fence and construct 195m of new flood defence wall with a maximum height of 1.8m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-16	Demolish and remove existing fence and construct 48m of new flood defence wall with a maximum height of 1.4m as generally shown on the plans incorporating a

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Operation Reference	Operation Description
	seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-17	Demolish and remove existing fence and construct 173m of new flood defence wall with a maximum height of 2.4m as generally shown on the plans. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-18	Demolish and remove existing fence and construct 81m of new flood defence wall with a maximum height of 1.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-19	Demolish and remove existing fence and construct 199m of new flood defence wall with a maximum height of 1.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-20	Demolish and remove existing fence and construct 174m of new flood defence wall with a maximum height of 3.2m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-21	Construct 18m of new flood defence wall with a maximum height of 1.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-22	Demolish and remove existing fence and construct 71m of new flood defence wall with a maximum height of 1.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-23	Demolish and remove existing fence and construct 15m of new flood defence wall with a maximum height of 1.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-24	Construct 378m of new flood defence wall with a maximum height of 1.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.

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Operation Reference	Operation Description
C5-FW-25	Construct 44m of new flood defence wall with a maximum height of 0.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-26	Construct 61m of new flood defence wall with a maximum height of 2.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-27	Demolish and remove existing fence and construct 167m of new flood defence wall with a maximum height of 1.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-28	Demolish and remove existing fence and construct 106m of new flood defence wall with a maximum height of 2.6m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-29	Construct 4m of new flood defence wall with a maximum height of 2.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-30	Construct 18m of new flood defence wall with a maximum height of 2.7m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-31	Construct 31m of new flood defence wall with a maximum height of 2.7m with embankment formed on both sides of the wall as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-32	Construct 348m of new flood defence wall with a maximum height of 2.7m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-33	Construct 55m of new flood defence wall with a maximum height of 2.4m as generally shown on the plans incorporating a seepage cut-off with a maximum depth

Grangemouth Flood Protection Scheme

Operation Reference	Operation Description
	below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-34	Construct 102m of new flood defence wall with a maximum height of 0.8m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-FW-35	Construct 93m of new flood defence wall with a maximum height of 0.9m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C5-MI-01	Construct a 30m long seepage cut-off wall to a maximum depth below ground of 25m.
C5-MI-02	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, alter and extend any existing drainage outfalls including the installation of a non-return device and erosion protection measures where required.
C5-MI-03	Diversion and protection of existing pipes, cables and other utilities to allow the construction and implementation of other Operations.
C5-MI-04	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, construct a surface water drainage system on the landward side of the flood defences, comprising of pipes, culverts, filter trenches, chambers, valves, gullies, outfalls and pumping stations including control kiosks.
C5-MI-05	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, carry out a scheme of reinstatement of hard and soft landscaping disturbed.
C5-MI-06	Construct a 3m wide access track parallel to the flood wall for 240m from Grangemouth Road (A905). Comprising of turning-head, access from Grangemouth Road, kerbing and associated drainage and local changes to ground levels.
C5-MI-07	Construct a 3m wide access track parallel to the flood wall for 120 m. Comprising of turning-head, kerbing and associated drainage and local changes to ground levels.
C5-MI-08	Install a 10m length of pipe (channel next to River Avon), not less than 1m diameter, and construct headwalls at either end of the pipe, with a non-return valve installed on the downstream side. Where required the pipe will be back filled with engineered fill as generally shown on the plans.
C5-MI-09	Construct flood defences across existing overground and buried pipelines/utilities.

Grangemouth Flood Protection Scheme

Operation Reference	Operation Description
	Specific details of these crossing points will be agreed with pipeline/cable owners and operators.
C5-MI-10	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, carry out reinstatement, habitat creation and management or other environmental mitigation or enhancement works as identified in the Environmental Impact Assessment Report and/ or as agreed with the local planning authority.
C5-RP-01	Construct pedestrian and vehicular access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C5-RP-02	Construct pedestrian and vehicular access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C5-RV-01	Construct 178m of new rock armour revetment as generally shown on the plans.

Flood Cell 6

Operation Reference	Operation Description
C6-CU-01	Construct a 10m long culvert as generally shown on the plans. At the outlet of the culvert install a non-return valve or flap valve and outfall structure with erosion protection.
C6-FG-01	Install a flood defence gate, 10m wide, a maximum of 1.8m above existing ground levels as generally shown on the plans. The gate will normally be in the closed position. The gate will be hinged and have appropriate seals, gaskets and locking devices.
C6-FW-01	Construct 695m of new flood defence wall with a maximum height of 3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Engineered fill will be placed next to the wall, to create side slopes with ~1m height of wall protruding above the slide slopes. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C6-FW-02	Construct 728m of new flood defence wall with a maximum height of 1.5m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C6-FW-03	Demolish and remove existing fence and masonry wall/slope and construct 442m of new flood defence wall with a maximum height of 3.7m as generally shown on

Grangemouth Flood Protection Scheme

Operation Reference	Operation Description
	the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority. A new security fence will be installed with agreement from the site operator.
C6-FW-04	Demolish and remove existing fence and construct 361m of new flood defence wall with a maximum height of 1.8m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority. A new security fence will be installed with agreement from the site operator.
C6-FW-05	Demolish and remove existing fence and construct 498m of new flood defence wall with a maximum height of 3.8m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C6-FW-06	Demolish and remove existing fence and construct 855m of new flood defence wall with a maximum height of 3.3m as generally shown on the plans incorporating a seepage cut-off with a maximum depth below ground of 25m. Construct a surface water drainage system including outfalls where required. The appearance/ finish of the wall will be agreed with the local planning authority.
C6-MI-01	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, alter and extend any existing drainage outfall including the installation of a non-return device and erosion protection measures where required.
C6-MI-02	Diversion and protection of existing pipes, cables and other utilities to allow the construction and implementation of other Operations.
C6-MI-03	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, construct a surface water drainage system on the landward side of the flood defences, comprising of pipes, culverts, filter trenches, chambers, valves, gullies, outfalls and pumping stations including control kiosks.
C6-MI-04	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, carry out a scheme of permanent reinstatement of hard and soft landscaping disturbed.
C6-MI-05	Construct a 3m wide access track parallel to the flood wall for 2,054m. Comprising of turning-head, kerbing and associated drainage and local changes to ground levels.
C6-MI-06	Construct a 3m wide access track parallel to the flood wall for 410m. Comprising of turning-head, kerbing and associated drainage and local changes to ground levels.
C6-MI-07	Undertake ground improvement works to a maximum depth of 10m below ground

Grangemouth Flood Protection Scheme

Operation Reference	Operation Description
	level where shown on the Scheme plans.
C6-MI-08	Construct flood defences across existing overground and buried pipelines/utilities. Specific details of these crossing points will be agreed with pipeline/cable owners and operators.
C6-MI-09	Within the limit of land upon which entry is required for the purpose of carrying out the Operations and execution of temporary works, carry out reinstatement, habitat creation and management or other environmental mitigation or enhancement works as identified in the Environmental Impact Assessment Report and/ or as agreed with the local planning authority.
C6-RP-01	Construct pedestrian and vehicular access ramp(s) to maintain access across the flood defences as generally shown on the plans. Ramps shall have a gradient no steeper than 1 in 12 and shall be surfaced in a suitable material.
C6-RV-01	Construct 449m of new rock armour revetment as generally shown on the plans.
C6-RV-02	Construct 501m of new rock armour revetment as generally shown on the plans.
C6-RV-03	Construct 58m of new rock armour revetment as generally shown on the plans.

5 Limitations

The plans showing the Operations are based on Ordnance Survey™ mapping and due to limitations in the accuracy of the mapping and date of map production not all physical features will be represented on the plans or represented correctly on the mapping. The Operations locations are based on the Ordnance Survey mapping and therefore minor discrepancies may arise due to the differences in the maps and actual physical features present.

The Operations will be subject to detailed design development and any 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 as shown on the plans referred to in Section 6 below.

The dimensions and level information contained within this document are approximate based on the best data currently available.

6 Land Affected

For the purposes of Regulation 11(1)(b), the land which the Council considers may be affected by the Operations, and, for the purposes of paragraph 1(1)(d)(ii) of Schedule 2 to the Act, the land which may be affected by any alteration in the flow of water caused by any of the Operations, is as shown on the said plan(s) and numbered respectively:

Plan Reference	Plan Title
B2386100-JEC-S5-ZZZ-XXX-DR-C-0001	Land Affected Key Plan Sheet 01
B2386100-JEC-S5-ZZZ-XXX-DR-C-0002	Land Affected Sheet 2
B2386100-JEC-S5-ZZZ-XXX-DR-C-0003	Land Affected Sheet 3
B2386100-JEC-S5-ZZZ-XXX-DR-C-0004	Land Affected Sheet 4
B2386100-JEC-S5-ZZZ-XXX-DR-C-0005	Land Affected Sheet 5

Grangemouth Flood Protection Scheme

Plan Reference	Plan Title
B2386100-JEC-S5-ZZZ-XXX-DR-C-0006	Land Affected Sheet 6
B2386100-JEC-S5-ZZZ-XXX-DR-C-0007	Land Affected Sheet 7
B2386100-JEC-S5-ZZZ-XXX-DR-C-0008	Land Affected Sheet 8

7 Powers

The Scheme is a Flood Protection Scheme for the purposes of Section 60 and Schedule 2 of the Act and shall be implemented in reliance upon the powers conferred by Section 56 and otherwise as specified in Part 4 of the Act.

Insofar as the Scheme involves development in terms of the Town and Country Planning (Scotland) Act 1997, Scottish Ministers must direct that planning permission under Section 57 of the Town and Country Planning (Scotland) Act 1997 shall be deemed to be granted, either upon their confirming the Scheme or following a request by the local authority where they have confirmed the Scheme, the deemed planning permission shall be subject to such conditions (if any) as may be specified in the direction.

8 Cost

For the purpose of regulation 11(3), the estimated cost of the Operations (including all costs incurred to date and with an estimated construction period from 2026 to 2036) at the date hereof is five hundred and fifty-six million and two hundred thousand pounds (£556.2Million) sterling.

This estimated cost reflects the mean estimate, within an overall cost range estimate of £450Million to £672Million, reflecting the risk, opportunity, scale and complexity of the Scheme.

Made by the Falkirk Council on the 9th day of May 2024.



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Malcolm Bennie
 Director of Place Services
 Falkirk Council
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