

## APPENDIX D: FLOOD MITIGATION

### RIF BID OVERVIEW

#### Background Information

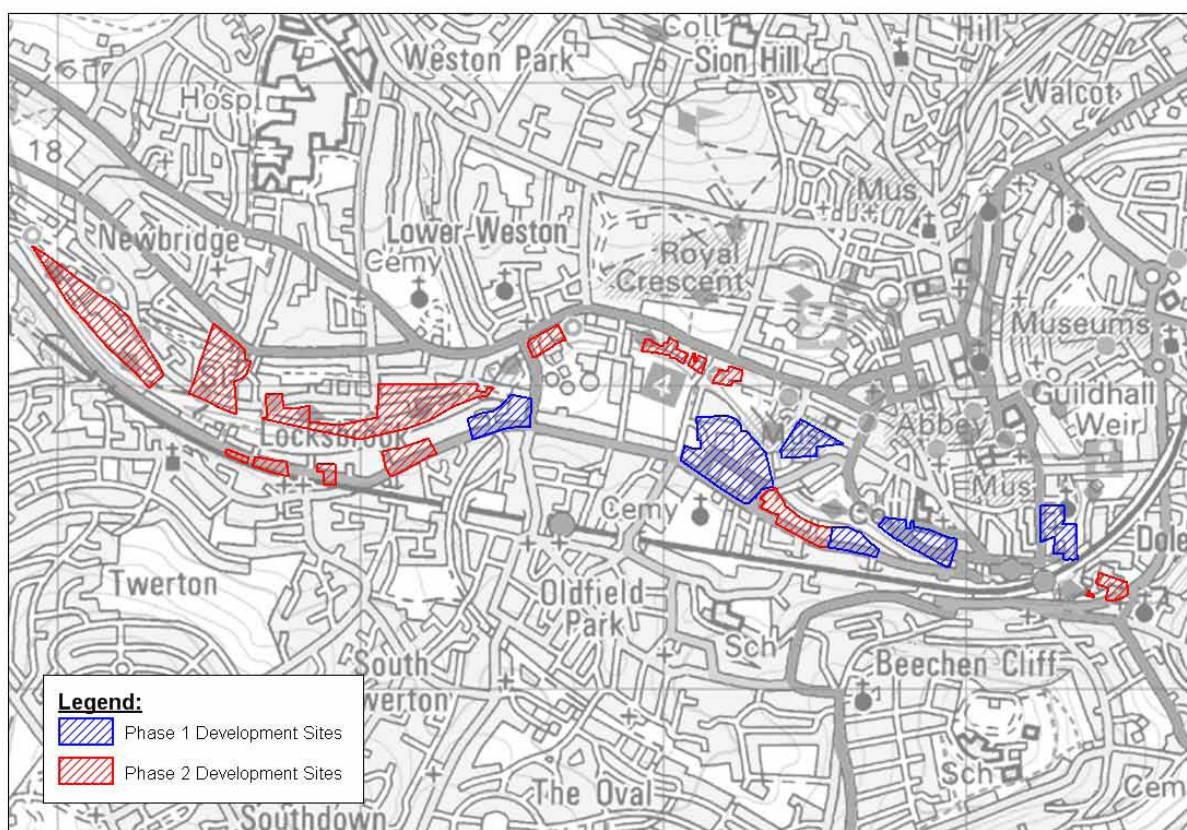
As part of the proposed Local Development Framework submission for the Bath and North East Somerset area, several new developments are proposed along the corridor of the River Avon in Bath. The proposed development sites are shown below.

In order for the developments to satisfy the requirements of the *National Planning Policy Framework (NPPF)*, they must not have an adverse impact on flood risk to third parties and must have a means of safe access/egress during flood conditions. It is proposed to, where necessary; raise all the development sites so that minimum floor levels are above the 1 in 100 (1%) annual probability flood event (with an additional allowance of 20% on peak flows for potential impacts of climate change or other uncertainties). Where possible the access/egress routes will also be raised above this level. However in certain locations this will be achieved through raising flood defence walls between the access routes and the river.

Black & Veatch Ltd (B&V) have been appointed by B&NES to consider flood mitigation measures that will be required to achieve these objectives, and to identify a scheme that will successfully mitigate any resulting increase in flood risk as a result of excluding flood water from parts of the floodplain.

The modelling concluded that the provision of compensatory flow conveyance at several locations would mitigate the increase in flood risk as a result of the loss of floodplain conveyance by excluding floodplain flow from the development sites in extreme flood events.

#### Plan of the Development Sites



## Proposed Solution

### North Quays

It is proposed to provide a conveyance strip at the level of the tow path to offset the increase in flood risk. The conveyance strip would vary in width between 8m and 15m, and will extend for approximately 300m along the River Avon. This will require the excavation of the existing grassed slope, which would be reinstated landward of the conveyance strip.

Downstream of the proposed conveyance improvements described above, the tow path level rises by approximately 2m into Green Park. It is understood that the park was used as a deposit for construction spoil from the 1960s scheme. This was landscaped to create a raised 'mound' in the centre of the park. It is proposed to locally excavate into this raised ground to introduce a flood conveyance strip at a level of approximately 18mAOD. This will not require any modification of the existing river bank

### South Quays

It is envisaged that the river frontage along South Quays would need to be replaced to facilitate construction of the development site. This presents opportunities to provide a more consistent profile bank and also a new conveyance strip, similar to that created at the new Bath Western Riverside development downstream. The conveyance strip would need to be approximately 4m wide at a level of around 18mAOD, approximately 2m below the proposed ground level in South Quays.

### Lower Bristol Road

The existing flood defence to Lower Bristol Road is provided by high ground levels (the road), flood defence walls, and buildings that are integral to the river frontage. The proposal is to raise the existing flood defence along this section. These improvements are required to reduce the flood risk to Lower Bristol Road

### Strategic Objectives

The Bath Spatial Strategy as set out in the draft B&NES Core Strategy which requires a net increase of 5,700 jobs, the development of 6,000 new homes and a net increase of 75,000-100,000 sq m of office space within the city. The BWR Enterprise Area has the capacity to deliver over 3,000 residential units, up to 9,000 jobs and 140,000 sq m of gross new office space and 52,000 sq m of retail, leisure and hospitality space.

### Drawdown and Payback

It is proposed to draw down £5100m of RIF funding in tranches between 2013/14 and 2014/15 to fund the construction of the flood compensation works.

Source of Repayment	Risk Level	Definition	Estimated Value (£k)	Total
BQS Development	2	Completion of the BQS development which will contribute towards the safe egress works and the south bank conveyance improvement (Subject to receiving an EA grant to part fund the flood defence works)	1920	1920

BQN Development	2	On completion of the BQN redevelopment and Manver St	3180	3180
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Risk Levels

- 1: Certain – Contracted Obligation or direct S106 – 100% likelihood
- 2: Probable – Secured via S106 or ability to contract obligation – 60-99% likelihood
- 3: Possible – EDIF/CIL assessment that funds would be sufficient to repay – 40-99% likelihood
- 4: Uncertain/undefined – Council may be exposed to a Capital Risk

Downside Position

Failure to invest in flood mitigation would risk;

- Significant delay to the delivery programme for new homes and employment space in Bath line with the draft Core Strategy
- Failure to achieve comprehensive regeneration of the Enterprise Area
- Reduced New Homes Bonus payments due to reduction in housing output
- Limit ability to bring other EA sites forward currently impacted by flood