

Report of Director of City Development

Report to Executive Board

Date: 20 April 2016

Subject: Leeds (River Aire) Flood Alleviation Scheme – Upstream of the City Centre

Capital Scheme Number: 32500 / 000 / 000

Are specific electoral Wards affected?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If relevant, name(s) of Ward(s): City & Hunslet, Kirkstall, Armley, Bramley & Stanningley, Horsforth, Calverley & Farsley		
Are there implications for equality and diversity and cohesion and integration?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Is the decision eligible for Call-In?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the report contain confidential or exempt information?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If relevant, Access to Information Procedure Rule number:		
Appendix number:		

Summary of main issues

1. Storm Eva that struck Leeds and the wider city region during the Christmas period of 2015 has been graded as being in excess of a 1:200 year event. Much of the destructive flooding that subsequently occurred to homes, businesses and infrastructure was caused as water overwhelmed the river channel, upstream of the city centre, and travelled east through the Kirkstall corridor toward the city. With such significant consequences from the flood event the Council is determined to progress a second flood alleviation scheme for the River Aire.
2. The ongoing River Aire Flood Alleviation Scheme is a crucial project for Leeds, which had the original aim of defending the City Centre against a 1 in 75 year river flood event, and the significant physical and economic damage that results from such a flood. Since becoming the Lead Local Flood Authority in Autumn 2010, the Council has continued to work with partners to develop proposals, secure external funding, drive down costs and improve the standard of protection offered by the ongoing works
3. In line with the Council's Best City ambitions the new defences support and solidify further growth and regeneration of the Leeds economy with particular emphasis on the South Bank of the city.
4. The mechanical weirs at Crown Point and Knostrop place Leeds are at the cutting edge of national flood defence schemes. The use of pioneering technology is the first of its

kind in the UK, and with regard to a flood defended city will raise the profile of Leeds both nationally and internationally. Works on site are approximately forty-percent complete and the current programme sees operational completion in March 2017, it is now anticipated that the finished scheme will provide a 1 in 100 year protection from the City Centre and Holbeck area, downstream to Knostrop.

5. Recent events triggered by the extended period of rainfall during November and December 2015, culminating with Storm Eva and the Boxing Day floods, has led to the government announcement of monies available to the city through the Environment Agency's Flood Defence Grant in Aid (FDGiA) to swiftly progress with an investigation into a potential extension of ongoing flood protection measures, upstream of Leeds City Centre.
6. The Environment Agency has developed an initial paper for the Secretary of State Department for Environment, Food & Rural Affairs (Defra) to inform of preliminary considerations and indicate primary scope of the feasibility/investigation study.

Recommendations

The Executive Board is requested to:

- 1) Agree that Leeds City Council, as Lead Local Flood Authority, working with the Environment Agency and partners, will direct and procure further work to develop proposals in efforts to secure funding to advance an upstream flood alleviation scheme and programme of flood defence measures.
- 2) Authorise spend of £3m, to be funded from the Environment Agency's Flood Defence Grant in Aid allocation to progress the recommendations of this report, including resourcing of technical staff, further feasibility design and river modelling work, undertake ecological surveys, legal work, securing of planning permission and procurement (Authority to Tender) of consultants and contractors for these purposes.
- 3) Agree the scope of the feasibility study and investigation covered under point 3.1.8 of this report.
- 4) Authorise the Director of City Development to negotiate the detailed terms of the acquisition of land required to facilitate the construction of the flood defences.
- 5) Give authority to negotiate the detailed terms and subsequently enter legal agreements with third parties for the incorporation of flood defence solutions.
- 6) Note that a working group representing the upper and lower reaches of the catchment outside of the Leeds boundary is to be established.
- 7) Note that the Chief Officer (Highways and Transportation) shall be responsible for the implementation of actions 1-6.

- 8) Note the intention to bring forward a Regeneration Strategy for the Kirkstall Corridor that will ensure integration of future flood alleviation works with any land use changes, development proposals and property improvements that will safeguard and promote the sustainable environmental, economic and social future of the area

1.0 Purpose of this report

- 1.1 This report seeks approval for the Council to lead, and develop with partners, a feasibility study to define the extent, standard of protection and subsequently engineer suitable solutions for a flood alleviation scheme upstream of the city centre.
- 1.2 This report seeks approval to incur expenditure for the resourcing of technical staff, feasibility design, river modelling, ecological surveys, legal and business case work, securing of planning permission and procuring of consultants and contractors for these purposes.

2.0 Background information

- 2.1 There is a clear emphasis from central government on integrated planning and scheme development. This can be seen by the formation of the National Infrastructure Commission, its links with the Flood Resilience Review, and the continued promotion of a Catchment Based Approach to engineer solutions for flood defence within cities and their localised communities.
- 2.2 The Northern Powerhouse concept has an increasing amount of governance and formality around it, with a focus on transport and connectivity as a key enabler to achieving a step change in economic growth across the north, there is a growing recognition and awareness that this needs to be complemented by targeted investments in key places.
- 2.3 Leeds City Region Local Enterprise Partnership (LEP) is refreshing its Strategic Economic Plan. In the current draft, the third Headline Initiative is to “develop an integrated flood prevention programme incorporating flood defences; green infrastructure and sustainable drainage measures; resilient development and preventive measures in existing businesses”.
- 2.4 Within the City Region, the West Yorkshire Combined Authority is aligned to the ambitions of the Northern Powerhouse with a focus on connectivity, and political commitment to ensuring the economic benefit of investments are maximised through integrated schemes. Leeds City Council is similarly ambitious to become the Best City in the United Kingdom and is keen to be HS2 ready as soon as possible.
- 2.5 During the last two months of 2015 northern Britain received some of the highest recorded rainfall on record, culminating with Storm Eva which, during the Christmas period, led to significant urban and rural flooding across Yorkshire, Cumbria and southern Scotland.

- 2.6 Initial evidence gathered from sites in Kirkstall indicate the flood event that began in Leeds on Boxing Day saw flood water levels rise higher than those in 1866, when a number of lives were lost to flooding in the city.
- 2.7 Multiple agencies are assessing the cost of damages caused by the flood waters, and over the coming months the Council is leading on the production of a formal publication, which will form part of the comprehensive report on recent flood events in the region for government consideration.
- 2.8 The preliminary finding of the impact of flooding on businesses and residential properties in the city is some 672 commercial properties and 2683 residential buildings suffering damage. In addition highway and rail infrastructure assets and properties including a museum, nature reserve and a professional sports training facility also experienced substantial loss.
- 2.9 Currently there are no formal flood defences along the River Aire upstream of those under construction in the city centre, where in Kirkstall alone businesses employing around 2000 people were significantly affected. Should the recent event have occurred outside the festive holiday period it is estimated that approximately 27,000 people would have been isolated in the city centre without road or rail exit to the west.

3 Main Issues

3.1 Overview

- 3.1.1 The option to provide a comprehensive flood defence scheme to protect both up and down stream of the city centre against a 1 in 200 flood event was not deemed as viable in 2010.
- 3.1.2 An alternative options study was undertaken in November 2011 and the Executive Board acknowledged and gave approval for an alternative approach by Leeds City Council to provide a 1 in 75 year Standard of Protection for the City Centre area from Leeds Station, downstream to Knostrop Weir by the end of 2016/17.
- 3.1.3 Funding to design and implement this £45.5m project was secured in 2014 and to date the scheme is progressing positively on time and within budget. The funding to deliver this scheme has principally come from Central Government and its agencies, recognising that Leeds City Council is not funded for the delivery of large scale flood alleviation schemes. The partnership approach adopted has secured the funding from the following:

- DEFRA Growth Fund £23.7m
- Flood Defence Grant in Aid £8.45m
- Regional Growth Fund £3.36m
- Leeds City Council Capital Funding £10m

- 3.1.4 The ongoing scheme has a positive impact on numerous downstream stakeholders, the high quality public services they support and secures associated key transportation infrastructure.
- 3.1.5 During the detailed design and construction phase of the works, refinement of the river modelling and consequent amendments from the tendered proposals have seen standard of protection levels increase from 1 in 75 to a 1 in 100 year event.
- 3.1.6 It is estimated that over 3,500 residential and commercial properties will be defended by the scheme together with key access routes to the train station area, telecommunications, broadband facilities, and south bank electricity sub-stations that all fall within the 2017 flood plain.
- 3.1.7 In anticipation of the city centre scheme, flood defence mitigation works in Woodlesford were completed in summer 2014. The construction of these new defences protected 74 homes from flooding in the recent event.
- 3.1.8 Set out below are the key areas to now be investigated as part of the feasibility study and development of a business case to propose an extension of the ongoing scheme:
- A review of all relevant prior studies and information relating to the former study area and its extents - providing the project with the ability to utilise previous work and information to offer both efficiencies and to highlight where additional studies and any fundamental broadening of catchment extent investigations are needed.
 - A review and update the development of hydraulic/hydrological models alongside data collected since Boxing Day to inform an options appraisal, and fully assess the extent of a proposed scheme area.
 - Investigate opportunities for the utilisation of informal and formal flood storage within the city boundaries, linking in to the master planning of High Speed 2, south bank regeneration, A65 corridor development sites and existing flood plain, and further tie this to integrating planned and potential interventions in the built environment (including both green and blue infrastructure).
 - Investigation of storage options and natural flood risk measures (run-off reduction, sediment control and landscape management) in the upper reaches of the catchment outside of the Leeds boundary.
 - Ensure any future work to reduce flood risk upstream is compatible with the ongoing scheme and downstream communities, and any other related water infrastructure, such as highway drainage, canal system and sewer networks.
 - Taking into account an integrated catchment approach, develop and implement a funding strategy for both the capital investment and long term maintenance of new assets. This will include levy based funding and engagement of the third sector.

- Develop the initial strategy for operation and maintenance of the scheme and integration with warning and informing options for the area affected.
- Develop a Catchment Partnership approach to reducing flood risk in Leeds and the River Aire Catchment. Early engagement with communities and stakeholders shall be essential.
- Investigate any potential “quick win” mitigation measures in advance of the main programme of project deliverables.
- Consider where possible suitable community and public/youth engagement work can assist in providing part solutions and initiatives within communities.
- Investigate with particular regard to upper Aire catchment the viability and benefit of land management and natural upstream water storage attenuation initiatives.

- 3.1.9 Where any upstream/catchment initiatives or defence proposals are defined from the feasibility study, these will be appropriately subject to the statutory planning process. This legislative route provides a rigorous Environment Agency overview to ensure that any upstream proposition of flood protection measures have no impact on downstream river levels without appropriate mitigation to accommodate even the slightest of potential or subsequent effects, thus affording appropriate assurance to downstream communities along the Aire that their level of flood risk is not increased.
- 3.1.10 To ensure that right and proper input from the wider catchment area is sought and considered, it is intended that during the feasibility stage a suitable working group be established to represent interested stakeholders and safeguard that appropriately comprehensive consultation is undertaken.
- 3.1.11 In addition it will be important to ensure that the feasibility and any emerging scope of works are co-ordinated with the regeneration strategy for the Kirkstall Road corridor, so that future works form an integrated part of any future land use changes and development proposals that support good place-shaping and economic success for the area.
- 3.1.12 The regeneration strategy is still being drafted and will be subject to discussion and consultation with ward members, residents and businesses but as a draft proposal will comprise:
- Review of land ownerships, property conditions and opportunities for land assembly to create new flood resilient development and investment opportunities aligned with flood alleviation measures;
 - Targeted improvements to vacant, derelict and flood-hit properties to support re-use with appropriate flood mitigation and protection;
 - Co-ordination of public and private sector investments in land and assets in and around Kirkstall District Centre to support the economic and social

heart of the area and ensure this remains vital and viable;

- The establishment of a business forum, with cross-sector working principles following the 'town team' approach used elsewhere in the city, through which flood alleviation proposals can be discussed;
- Co-ordination of development proposals around the gateway to the city centre and ensuring integration with Kirkstall, the canal and river waterfront and any works coming forward through the flood alleviation scheme;
- Work with existing businesses and supporting the environment for investment around local retail and key sectors such as the media cluster west of the city centre gateway so that the area remains open for business and great place for investment.

4 Corporate Considerations

4.1 Consultation and Engagement

4.1.1 With regard to progression of a feasibility study Members of Wards directly affected by the current corridor of interest were written to on the 14th of March 2016.

4.1.2 It is intended that during 2016, as details from the feasibility exercise begin to suggest potential initiatives and solutions to upstream flood defence protection measures, an inclusive and comprehensive consultation process will take place.

4.2 Equality and Diversity / Cohesion and Integration

4.2.1 Future proposals to mitigate the risk and effects of flooding across the city will be subject to detailed Equality Impact Assessments to ensure that the most disadvantaged are not adversely impacted and that individual needs and the requirement to make reasonable adjustments where necessary are recognised.

4.3 Council policies and Best Council Plan

4.3.1 The investigation and feasibility study is consistent with the objectives in the Best Council Plan 2013-17, notably, 'Supporting communities and tackling poverty', 'Promoting sustainable and inclusive economic growth' and the Vision for Leeds, including:

- (i) Best City for business – comprehensively supporting the sustainable growth of the Leeds economy through safeguarding jobs in the area protected by flood defences. The investigation of measures to reduce flood risk with regard to opportunities presented by the South Bank Master Plan (Europe's largest regeneration area with the potential to create 35,000 new jobs and 4000 new homes), High Speed 2, the A65 Kirkstall corridor and its interface with wider existing Network Rail infrastructure.
- (ii) Best City for health and well-being – supporting people to live safely in their homes. Adopting a Catchment Based approach to flood defence would enhance

public citizen and stewardship involvement, moving toward a more holistic solution to a flood defence initiative and to vanguard community ownership and their association to local flood protection measures.

- (iii) Best City to live – enabling the growth of Leeds whilst protecting the distinctive green character of the city. The study would investigate enhancing waterfront areas and its civic and community importance, whilst fitting within its urban context, sense of place and identity.
- (iv) Best City Region – The study would look at protecting accessibility to the city, thus contributing to the Vision for Leeds 2030 by safeguarding the city region transport strategy and helping the city become ready for High Speed 2.
- (v) Strong nationally and internationally – An innovative engineering approach together with a community connection will form part of the feasibility investigation and, much like the ongoing flood defence works, place Leeds at the forefront of engineering flood defence solutions which would be globally recognised.

4.4 Resources and value for money

4.4.1 Funding - The government has made £3m available through the Environment Agency Flood Defence Grant in Aid for initial scoping development, business case, feasibility design and planning application of a potential scheme upstream of Leeds city centre. The delivery of the scheme post feasibility will require further resources from Central Government similar to the partnership approach developed for the Phase 1 scheme, as outlined in paragraph 3.1.3.

4.4.2 Capital Funding and Cashflow

Previous total Authority to Spend on this scheme	TOTAL £000's	TO MARCH 2016 £000's	FORECAST				
			2016/17 £000's	2017/18 £000's	2018/19 £000's	2019/20 £000's	2020 On £000's
LAND (1)	0.0						
CONSTRUCTION (3)	0.0						
FURN & EQPT (5)	0.0						
DESIGN FEES (6)	0.0						
OTHER COSTS (7)	0.0						
TOTALS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Authority to Spend required for this Approval	TOTAL £000's	TO MARCH 2016 £000's	FORECAST				
			2016/17 £000's	2017/18 £000's	2018/19 £000's	2019/20 £000's	2020 On £000's
LAND (1)	0.0						
CONSTRUCTION (3)	0.0						
FURN & EQPT (5)	0.0						
DESIGN FEES (6)	1000.0		650.0	350.0			
OTHER COSTS (7)	2000.0		1300.0	700.0			
TOTALS	3000.0	0.0	1950.0	1050.0	0.0	0.0	0.0
Total overall Funding (As per latest Capital Programme)	TOTAL £000's	TO MARCH 2016 £000's	FORECAST				
			2016/17 £000's	2017/18 £000's	2018/19 £000's	2019/20 £000's	2020 On £000's
Flood Defence Grant in Aid	3000.0		1950.0	1050.0			
Total Funding	3000.0	0.0	1950.0	1050.0	0.0	0.0	0.0
Balance / Shortfall =	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Parent Scheme Number: 32500/000/000

Title: Flood Alleviation - Upstream of City Centre

4.4.3 Revenue Implications – None at this stage.

4.5 Legal Implications, Access to Information and Call In

4.5.1 There are no specific legal implications at this the feasibility stage, however under Section 165 of the Water Resources Act 1991, powers will be subsequently devolved from the Environment Agency to enter private land for the purpose of undertaking flood defence and drainage works as part of the scheme.

4.6 Risk Management

4.6.1 There is significant risk that if the progression of the study is delayed, difficulties will be encountered in achieving the deadlines and funding could be withdrawn.

5 Conclusions

5.1 The City Council has demonstrated its capability to attract sponsorship-support and lead the delivery of major flood defence work in the city. Since 2010 and the decision to not progress with the original 1 in 200 year proposals, there has been rapid and successful advancement of the alternate scheme which will shortly see the city centre, downstream to Knostrop, protected from a 1 in 100 year flood event. With Woodlesford afforded defences against 1 in 200 years.

5.2 Moving forward on progress to define and deliver a second flood alleviation scheme to protect areas further west and south of the city centre, is crucial to underpin the aspiration of a Northern Powerhouse, its foundation of secure and rapid transport and the ambitions of a Best City together with the objectives of the Local Enterprise Partnership Strategic Economic Plan.

5.3 Protecting communities, the well-being of people and sustaining inclusive economic growth is the basis of the Best Council Plan. Recent weather and flood events have visibly demonstrated the necessity to develop a scheme or programme of upstream works to safeguard the local population from river and surface water flooding.

5.4 Whilst the existing delivery team is in place to continue progress of the ongoing scheme, it is of value to enhance and draw on these skills, knowledge and experience whilst augmenting the city's ability to begin progress on the feasibility of a second project.

6 Recommendations

6.1 The Executive Board is requested to:

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- 4) Authorise the Director of City Development to negotiate the detailed terms of the acquisition of land required to facilitate the construction of the flood defences.
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- 7) Note that the Chief Officer (Highways and Transportation) shall be responsible for the implementation of actions 1-6.
- 8) Note the intention to bring forward a Regeneration Strategy for the Kirkstall Corridor that will ensure integration of future flood alleviation works with any land use changes, development proposals and property improvements that will safeguard and promote the sustainable environmental, economic and social future of the area.

7.0 Background documents¹

7.1 None

¹ The background documents listed in this section are available to download from the Council's website, unless they contain confidential or exempt information. The list of background documents does not include published works.