

Report of City Development

Report to Executive Board

Date: 10th February 2012

Subject: Leeds (River Aire) Flood Alleviation Scheme

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|--|---|--|
| Are specific electoral Wards affected? If relevant, name(s) of Ward(s): City and Hunslet | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Are there implications for equality and diversity and cohesion and integration? | <input checked="" type="checkbox"/> Yes | <input 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? If relevant, Access to Information Procedure Rule number: Appendix number: | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

Summary of main issues

1. This is a high priority scheme for the City which has the aim of ensuring and supporting the further growth of the Leeds economy.
2. Previous scheme proposals have not progressed due to lack of funding.
3. An alternative phased approach and revised strategic direction, with Leeds City Council taking the lead role, is now being recommended to ensure work continues on this vitally important project for the city.
4. The Executive Board is requested to approve the recommended phased approach, subject to detailed technical assessment.

Recommendations

The Executive Board is requested to:

- (i) Acknowledge that the original comprehensive flood defence scheme, costing £188m, (whole life costs @ 2011 figures), providing a 1 in 200 year standard of flood protection, will not be funded in the near future.
- (ii) In light of (i) above, agree that a phased approach to providing flood defences is the most pragmatic way forward at this time, with the aim being to complete Phase 1 to

achieve a 1 in 75 year Standard of Protection for the City Centre area, from Leeds Station to Knostrop Weir by the end of 2015.

- (iii) Agree, should it be affordable and practicable, elements of Phase 1, as outlined in the report at 3.9, be progressed at the earliest opportunity.
- (iv) Agree that Leeds City Council, as Lead Local Flood Authority, working with partners, should lead and procure further work to develop proposals and to secure funding in order to progress Phase 1, currently estimated by the Environment Agency at £75.8m.
- (v) The Leeds MPs, continue to liaise proactively with Defra and the Environment Agency to support Leeds City Council in its ambition to progress a flood defence project for the city by providing minimum match funding, seconding technical staff and sharing all relevant technical information.
- (vi) Authorise spend of £500k to be made available from the Council's Capital allocation of £10m to progress the recommendations of this report including further feasibility and associated work.
- (vii) Agree to the phased approach highlighted in the report at 3.9, subject to detailed technical assessment.

1 Purpose of this report

- 1.1 This report updates the Executive Board on the progress of proposals to provide flood defences for the City.
- 1.1 It seeks approval to a phased approach to providing flood defences, with the aim being to complete Phase 1, to achieve a 1 in 75 year Standard of Protection for the City Centre area (between Leeds Station and Knostrop Weir), by the end of 2015.

2 Background information

- 2.1 Currently, there are no formal flood defences along the River Aire and in recent years the city has come very close to flooding.
- 2.2 The Executive Board in August 2009 considered a Comprehensive scheme for the River Aire, from Newlay Bridge to Woodlesford and agreed that a Managed Adaptive approach to protecting Leeds from major flooding from the River should be adopted by the Environment Agency (EA).
- 2.3 In January 2011, the Council and the EA were informed by Defra that the comprehensive scheme would be subject to the new “payments for outcomes” funding assessment model. The latter prioritises residential flood protection schemes ahead of schemes that protect businesses and distributes the “flood defence grant in aid” accordingly. For Leeds, because of the predominance of businesses on the Waterfront, this means the potential central government grant is relatively low requiring the shortfall to be made up from significant external funding. In essence, this makes the Comprehensive Scheme unaffordable in the foreseeable future.
- 2.4 As a consequence and further to a constructive meeting with the Secretary of State for Defra in March 2011, alternative options have been examined including a phased approach to introducing flood defences along the River Aire.

3 Main issues

- 3.1 In 2000, the city centre was only centimetres away from flooding with further near misses in 2004, June 2007 and January 2008. It has been estimated by the Environment Agency (EA) that over 4,500 residential and commercial properties are at risk and approximately £400m of direct damage would be caused by a major flood from the River Aire in Leeds.
- 3.2 The Executive Board in August 2009 considered a comprehensive scheme for the River Aire, from Newlay Bridge to Woodlesford which had been developed in accordance with Defra’s guidelines prevailing at the time. Despite some considerable reservations about the proposed height and extent of some of the defences, the Executive Board agreed that a Managed Adaptive approach to protecting Leeds from major flooding from the River should be progressed by the Environment Agency. Under the Managed Adaptive approach, an initial standard of protection at 1 in 200 year event level, without an allowance for climate change, was to be provided. Climate change would then be managed by future interventions such as upstream storage, land management or by periodic “topping up” of

defences in future years. The alternative precautionary approach incorporates an assessment and allowance for climate change in the constructed defences. This would have significantly affected the heritage and aesthetics of and access to the Waterfront, by installing higher defences along the Waterfront, thereby affecting the regeneration and amenity value of the river corridor.

- 3.3 Following informal feedback in late Summer 2010, it was then confirmed in January 2011 by Defra that the proposals for the River Aire needed to be progressed in accordance with the concept of “payment for outcomes” model that Defra had recently consulted on. At the time, the EA suggested this would result in the external funding requirement for the comprehensive scheme being increased to in excess of £100m. This level of external funding effectively made the comprehensive proposals unaffordable in the foreseeable future.
- 3.4 A meeting with the Secretary of State, the Environment Agency, Leeds MPs and a cross party delegation from the City Council, on 22 March 2011 considered the possible next steps and course of action.
- 3.5 Working with the Environment Agency, it was agreed there should be a review of the options including the possibility of a “revised scheme”, of under £100m, including potentially providing a lower Standard of Protection in the first instance to facilitate work in the short term. The benefit of a “revised scheme” is that it could be delivered in phases and funded over a number of years with funding coming from a variety of sources e.g. from government, from the City Council, from an ERDF bid and from the private sector.
- 3.6 Since the meeting in March, work has continued with the EA and other partners, culminating in this report to the Executive Board.
- 3.7 The EA’s non-technical summary report of this work entitled “Alternative Solutions” is attached as Appendix A. The full technical report is available as a background paper. Table 1 summarises the six main options that emerge from the report whilst Appendix B shows the differing defence heights at key locations.
- 3.8 Final versions of the above have only recently been received and officers will require some time to review the detailed contents. Nevertheless, the close liaison on the production of the document(s) means recommendations can be made on the revised strategic direction to be followed.
- 3.9 Option 6 is the preferred option at this stage because of the significantly reduced defence heights, linked with the completion of the moveable weirs and removal of Knostrop Cut. Table 1 highlights the height of the defences at the key locations identified in phase 1. Where possible, these defences will be incorporated into existing structures on site to minimise the impact on residents and the visual impact on the Waterfront. Detailed consideration of all the details will follow, as will further extensive public consultations prior to the seeking of any planning permissions. The challenges associated with delivering Option 6, however, particularly in respect of the removal of Knostrop Cut should not be underestimated. Changed navigational arrangements will be a key issue which will need careful consideration with British Waterways.

The proposed phased approach is as follows:

Phase 1, City Centre to achieve a 1:75 year Standard of Protection in the City Centre between Leeds Station and Knostrop Weir;

- i) remove the existing weir and install a moveable weir at Knostrop.
- ii) remove the existing weir and install a moveable weir at Crown Point.
- iii) provide defences (embankments, terracing, setting back of defences, walls etc).
- iv) remove Knostrop Cut to merge the Canal and River Aire.

Phase 2, to complete a 1:75 year Standard of Protection along the River Aire, upstream and downstream of the City Centre section from Newlay Bridge to Woodlesford.

- i) works not confirmed at this stage but provision of defences most likely.

Phase 3, works to increase the Standard of Protection to 1:200 year, possibly in a phased manner, starting with the City Centre initially.

- i) works not identified at this stage but could include additional upstream storage facilities, any elements not implemented previously, land management techniques etc.

- 3.10 It should be noted that at this juncture that completion of all elements of Phase 1 by the end of 2015 will be extremely challenging, particularly the removal of Knostrop Cut. Further reports to Executive Board will provide further updates on deliverability of each element.
- 3.11 Encouraging landowners of Waterfront properties to incorporate flood defences in existing properties will be an on-going process.
- 3.12 To afford the greatest flexibility in the future and to avoid abortive costs and future disruption, larger foundations for the defences will be provided at the outset, where practical, to facilitate potentially higher defences in the future. The latter will be subject to the usual consents.
- 3.13 The issue of the future maintenance liabilities of the weirs and river channel is an important issue which needs to be resolved satisfactorily.
- 3.14 The EA's work has concluded there are no adverse implications, upstream or downstream, of implementing a scheme in the City Centre area.
- 3.15 The opportunity will be taken, where feasible, with partners, to introduce fish passes and to support hydro electric power projects along the River Aire and create environmental enhancements along the River Aire. These works will support the delivery of the Water Framework Directive which the EA and UK Government is tasked with delivering under European Environmental Policy. Additional further funding is available to implement these elements.

4 Corporate Considerations

4.1 Consultation and Engagement

- 4.1.1 The feedback from the extensive consultations carried out on the Comprehensive Scheme were detailed in previous reports to this Board. The recommendations contained in this report reflect feedback received during these previous consultations.

| Criteria | Metric | Original Comp. PAR Scheme | Original PAR Scheme – City Centre only | Original PAR Scheme at 1 in 75 SoP | City Walls only | Lower City Walls with Weirs | Lower City Walls, with Weirs and removal of Knostrop Cut |
|--------------------------------------|-----------------|---------------------------------|---|--|--------------------|-----------------------------------|---|
| Option | | 1 | 2 | 3 | 4 | 5 | 6 |
| Standard level of Protection | Estimate | 1 in 200 | 1 in 200 | 1 in 75 | 1 in 75 | 1 in 75 | 1 in 75 |
| Timescales for delivery of 1in 75 | years | 8 | 4 | 4 | 4 | 5 | 6 |
| Height of Walls relative to tow path | Wall heights(m) | | | | | | |
| · L.L Canal Lock | metre | 0.98 | 0.98 | 0.47 | 0.47 | 0.29 | 0.01 |
| · Victoria Mill | metre | 0.85 | 0.85 | 0.4 | 0.4 | 0.21 | - |
| · Riverside Court | metre | 1.92 | 1.92 | 1.51 | 1.51 | 1.31 | 0.94 |
| · Navigation Walk | metre | 1.48 | 1.48 | 1.07 | 1.07 | 0.87 | 0.5 |
| · Brewery Wharf | metre | 2.11 | 2.11 | 1.7 | 1.7 | 1.46 | 1.01 |
| · Turlow Court | metre | 1.3 | 1.3 | 0.91 | 0.91 | 0.63 | 0.15 |
| DEFRA Contribution (est) | | £28m | £12m | £12.5m | £8m | £8.5m | £8.5m |
| COST | | £169M | £69M | £152m | £64m | £48m | £76M |
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Table 1: Options emerging from the Environment Agency’s “Alternative Solutions” report.

- 4.1.2 Continuing dialogue with partners e.g. British Waterways and Yorkshire Water and other interested partners e.g. the Waterfront Association, have also helped to shape the formulation of these recommendations.
- 4.1.3 Councillor Nash, in her capacity as Leeds City Council's representative on the Regional Flood & Coastal Committee and local ward member, has been briefed and is supportive of the approach being recommended.
- 4.1.4 The other two local ward members for the City and Hunslet ward will be briefed prior to the Executive Board meeting.
- 4.1.5 Subject to comments from the Executive Board, extensive formal and public consultations will be carried out in accordance with the usual scheme design and proposal development processes.

4.2 Equality and Diversity / Cohesion and Integration

- 4.2.1 An equality, diversity, cohesion and integration screening has been undertaken on the proposals and is available as a background document. No equality issues have been identified at this stage. However, if approval is given by the Executive Board for Officers to further develop the proposals, a full impact assessment will be undertaken at the planning and design stage and at further stages throughout the process as appropriate

4.3 Council Policies and City Priorities

- 4.3.1 The recommended approach is consistent with the aims contained within the Council's Priority Plan and Business Plan, including:
 - (i) Best City for business: Support the sustainable growth of the Leeds economy; create more jobs
 - (ii) Best City for health and well-being: support people to live safely in their homes
 - (iii) Best City to live: enable growth of the city whilst protecting the distinctive green character of the city.

4.4 Resources and Value for Money

- 4.4.1 Following the completion of the Alternative Solutions Report, the EA has indicated there is no more funding available to progress further work on the Leeds scheme. Unless, further funding is made available from Defra or another source therefore, the work to identify and promote a flood defence scheme for Leeds will come to a halt.
- 4.4.2 To prevent the latter therefore, it is recommended that Leeds City Council, working with partners, should lead and procure further work to develop proposals and to secure funding to progress Phase 1.

- 4.4.3 An external funding working group has also been meeting to discuss the various options and funding streams that might be available to progress elements of the revised scheme.
- 4.4.4 Yorkshire Water Services Ltd for example, has been an active and supportive member of both the Steering Group and the external funding working Group. The company is wholly supportive of the council's aspiration of a 200 year level of protection for the city, delivered in a series of planned stages and supports the concept of an initial stage delivering a 1:75 standard of protection to the city centre. Yorkshire Water will shortly be undertaking a hydraulic study of the public sewer system in Leeds. The outcomes of this work, a computerised hydraulic model of the public sewer system, will be shared with all of the flood management partners in Leeds. The outcomes of this model will help determine what further steps may be possible to improve flood protection in the city. Alongside the hydraulic model, Yorkshire Water are currently working closely with Leeds Council and the Environment Agency to understand if the company can incorporate any associated work to support the Leeds Scheme in the next price review (this would be the funding period 2015 to 2020).
- 4.4.5 A funding package for the first phase works comprising contributions from the City Council, Central Government, private sector, CIL and European Funding is therefore taking shape.
- 4.4.6 The Council has allocated £10m towards this scheme from its Capital Programme and whilst its original intention was to support the Comprehensive Scheme, the recommendation is to use these funds to 'kick- start' Phase 1.
- 4.4.7 Government grant in the form of the "flood defence grant in aid" would be pursued and is likely to be in the region of £8m- £10m for the first phase.
- 4.4.8 Local private contributions from a variety of sources including CIL could also increase the level of contributions to the scheme.
- 4.4.9 An European Regional Development Fund bid based on match funding would give a total funding pot in the range of £40-50m.
- 4.4.10 The EA has currently costed Phase 1 at £75.8m but it is believed there is considerable scope to revise down the development, procurement, construction and maintenance costs included in this figure. Further reports to Executive Board will confirm the financial package and the elements of the scheme to be progressed.
- 4.4.11 The cost of installing the two moveable weirs, which could be the first element of this project, has been estimated by the EA at £29.7m, including maintenance. Whilst it would be more cost effective to deliver all elements of phase 1 under a single contract, subject to approval of this report, further work will be undertaken to examine the possibility of implementing elements of phase 1 before 2015. Such a move would signal a clear statement of intent that the Council and its partners take this issue very seriously and are looking to progress matters at the earliest opportunity.

4.5 Legal Implications, Access to Information and Call In

4.5.1 There are no legal implications directly related to this report.

4.6. Risk Management

4.6.1 Because of the ongoing financial constraints, there is a significant risk that work on this project will stop. This reports seeks to overcome the barriers to progress and identify proposals that can be advanced over the next few years.

5 Conclusions

5.1 This remains a vitally important scheme for the City, not just because of the threat to lives and property but also because of the long-term reputational damage a major flood would have on the attractiveness and economic performance of the City.

5.2 Whilst there seems to be a general consensus that improved flood defences are urgently required, it is equally important that the scheme not only delivers the level of flood protection required but also that the scheme delivers on the various strategies the Council has developed for the River Aire waterfront in recent years. Balancing the need to achieve flood protection for the city whilst preserving access, visibility, and the architectural and landscape qualities of the Waterfront remains extremely challenging.

6 Recommendations

The Executive Board is requested to:

- (i) Acknowledge that the original comprehensive flood defence scheme, costing £188m, (whole life costs @ 2011 figures), providing a 1 in 200 year standard of flood protection, will not be funded in the near future.
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- (vi) Authorise spend of £500k to be made available from the Council's Capital allocation of £10m to progress the recommendations of this report including further feasibility and associated work.
- (vii) Agree to the phased approach highlighted in the report at 3.9, subject to detailed technical assessment.

7 Background documents

- 7.1 13th February 2009 Executive Board report - Leeds City Council
- 7.2 August 2009 Project Appraisal Report – Environment Agency
- 7.3 August 2009 Executive Board report – Leeds City Council
- 7.4 Alternative Solutions Report – Environment Agency; November 2011
- 7.5 An equality, diversity, cohesion and integration screening, November 2011