

### Open Report on behalf of Environment Agency

Report to:	<b>Flood and Drainage Management Scrutiny Committee</b>
Date:	<b>09 December 2016</b>
Subject:	<b>Environment Agency Update</b>

#### Summary:

To update the Flood and Drainage Management Scrutiny Committee on Environment Agency activities, including progress on key schemes.

#### Actions Required:

Members of the Flood and Drainage Management Scrutiny Committee are invited to consider and comment on the update provided and highlight any future actions for consideration.

### 1. Key Schemes

This paper provides an update on the key schemes within the current 2015-21 consented programme for the Northern Regional Flood & Coastal Committee (RFCC) area. The overall programme consists of 107 schemes with the key ones being the **34** highest priority schemes based on the following criteria:

- **Outcome measures** – Schemes delivering >200 households
- **Significant expenditure** – Schemes with consented total spend >£1m
- **Contributions** – Schemes with public, private and further contributions required collectively >£300k
- **Other** projects deemed important in the Area including for reasons associated with reputational risk

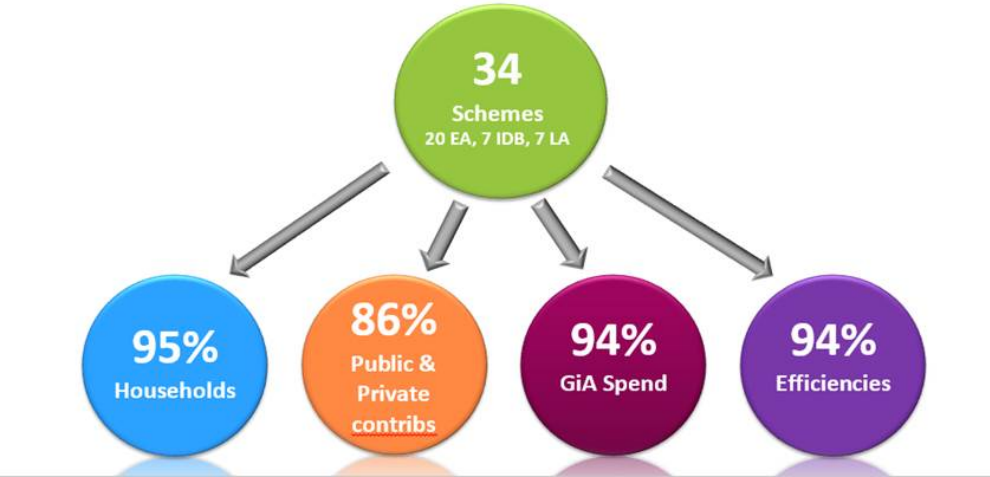
The graphic below explains how the key schemes contribute to overall programme targets.

Future reporting will utilise outputs from a programme monitoring dashboard, which will bring efficiencies in reporting requirements whilst retaining flexibility to report across the programme as a whole through presentation of case studies reflective of the 'other schemes'.

It remains our longer term intention that future content will be more visual, including map output, a Red Amber Green (RAG) status overview and will evolve to a more exceptions based reporting approach. All reporting will be baselined against the current consented programme which will require further work to ensure Programme & Project Management Tool (PPMT) accuracy improvements from all risk management authorities.

This report is in line with that produced for the Northern Regional Flood & Coastal Committee (RFCC).

### 6 year programme – our Key Schemes



Of the 34 key schemes 16 are located with Lincolnshire:

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|---|---|
| <ul style="list-style-type: none"> <li>• Boston Barrier</li> <li>• Boston Haven Banks</li> <li>• Lincshore</li> <li>• Saltfleet to Gibraltar Point Strategy</li> <li>• Horncastle Flood Alleviation Scheme</li> <li>• Louth Flood Alleviation Scheme</li> <li>• Wainfleet Relief Channel</li> <li>• Black Sluice Catchment Works</li> <li>• Work arising from Upper Witham Strategy Review</li> <li>• Swaton Flood Resilience Scheme</li> <li>• Welland Flood Banks Refurbishment</li> <li>• Saltfleet Pumping Station</li> <li>• Boygrift Pumping Station</li> <li>• Wrangle Sea Banks</li> <li>• Hobhole Pumping Station</li> <li>• Westmere Pumping Station</li> </ul> | <ul style="list-style-type: none"> <li>Environment Agency</li> <li>Environment Agency</li> <li>Environment Agency</li> <li>Environment Agency</li> <li>Environment Agency</li> <li>Environment Agency</li> <li>Environment Agency</li> <li>Environment Agency</li> <li>Environment Agency</li> <li>Environment Agency</li> <li>Environment Agency</li> <li>Lindsey Marsh IDB</li> <li>Lindsey Marsh IDB</li> <li>Witham Fourth IDB</li> <li>Witham Fourth IDB</li> <li>South Holland IDB</li> </ul> |
|---|---|

**These 16 schemes are at various stages of development or construction. Below is a summary of the position of those schemes ongoing or currently anticipated to commence on site before December 2017.**

The dates and cost estimate below are taken from the latest programme, though are subject to change. Of the 107 schemes in the Northern RFCC programme 17 are being promoted by Lincolnshire County Council. In addition, there are also an additional 7 schemes within the RFCC programme located within Lincolnshire.

## **2 Updates**

*For information, Gateway 3 refers to contract award and Gateway 4 refers to completion on site.*

### **2.1 Boston Barrier**

Commencement Date (Gateway 3):	November 2017
Completion Date (Gateway 4):	December 2019
Cost:	£107,500,000 (whole life cost)

#### Latest Update:

The project team submitted an application for a Transport and Works Act 1992 order (TWAO) for public representation on the 23<sup>rd</sup> August, 2016.

As part of the application process, the Secretary of State for Environment, Food and Rural Affairs, Andrea Leadsom, has decided that a public inquiry into the Boston Barrier Transport and Works Order application will be held in the new year.

### **2.2 Boston Haven Banks**

Commencement Date (Gateway 3):	February 2017
Completion Date (Gateway 4):	March 2018
Cost:	£2,000,000 (FDGiA only)

A number of low spots exist along the Haven banks downstream of the proposed Barrier location. To keep pace with sea level rise and maintain the required standard of protection for Boston, works to raise earth embankments are required.

Programme of works to be undertaken over the current 6 year Medium Term Plan (MTP) in conjunction with the Barrier scheme as described in the various phases of the Boston Combined Strategy.

#### Latest update:

It is proposed that Witham Fourth IDB deliver this work via a Public Sector Cooperation Agreement (PSCA), with approval to this procurement strategy pending though due soon.

It is proposed to have works on site during summer 2017.

### **2.3 Lincshore**

Commencement Date (Gateway 3):	April 2010
Completion Date (Gateway 4):	March 2021
Cost:	£65,792,126

This is a beach renourishment scheme protecting approximately 20,000 houses, 35,000ha prime agricultural land and 30,000 static caravans as well as major tourism developments in Skegness and north of the resort and national nature reserves.

#### Latest update

£4.8m cost for 2016 campaign was completed on programme in June 2016 with 350,000m<sup>3</sup> of sand placed.

Renourishment need is assessed annually in the January of the preceding financial year. Subject to winter weather conditions, there remains a possibility that there will be no need for a 2017 renourishment campaign, although best case scenario would see localised recycling of material along the beaches. The contract is in place for 2017 should a campaign be necessary.

The Marine Management Organisation (MMO) licence is in place for the next five years.

Flood Defence GiA (FDGiA) will continue to fully fund these interim works for the current 6 year Medium Term Plan (MTP) following extensive efforts to secure contributions. In 2018/19 Lincshore activities will be transferred to 'Saltfleet to Gibraltar Point Interim Works' and is expected to be nourishment focussed. This will ensure flood risk is managed through beach renourishment until the outcome of the Saltfleet to Gibraltar Point Strategy Review (SGPSR) is known.

### **2.4 Saltfleet to Gibraltar Point Strategy Review**

Commencement Date (Gateway 3):	April 2012
Completion Date (Gateway 4):	March 2021
Cost:	£ 1,210,866

Beach renourishment remains the most cost effective solution in the short-term as we keep pace with climate change. However, this option alone will not be technically viable in the longer term. The SGPSR will indicate when an alternative approach for significant capital investment is required and the need for partnership contributions is likely.

The SGPSR will engage key stakeholders this year on the flood risk approaches and variety of options to gauge opinions and feedback in order to prepare our business case and complete the Strategic Environmental Assessment. This will allow us to hold formal consultation during 2017 on the preferred options and submit the full business case for approval during 2018/19, to commence works in 2021.

Latest update:

We are working with our partners to understand what 'additionality' could be funded by interested parties, to achieve maximum economic and flood risk benefits from this large scheme. We continue to look at environmental opportunities from such a large project.

Key stakeholders were formally consulted in early September on the Strategic Environmental Assessment scoping document.

A series of five workshops have been held with the following key stakeholders:

- Lincolnshire County Council Members/Officers
- East Lindsey District Council Members/Officers
- Parish/Town Councils
- Partner Organisations
- Tourism, Business and Community Representatives

Attendees shared their views on what the coastline could look like in the future and also what else might be achieved through the Strategy. Feedback received at the workshops will help reduce the long list of options to a short list for preferred options appraisal. Further workshops are planned with these stakeholders in March.

## **2.5 Horncastle Flood Alleviation Scheme**

Commencement Date (Gateway 3):	July 2015
Completion Date (Gateway 4):	2017
Cost:	£ 8,100,000

Horncastle is situated on the confluence of the rivers Bain and Waring. Flooding occurs due to high flows in both watercourses. The town has a significant number of properties with a low standard of protection.

Partnership funding of £8.1M has enabled the preferred option of building a flood storage reservoir on the River Bain and individual property protection for those at risk from the River Waring to proceed.

Latest update:

Civil works for the control structures are substantially complete. Work is progressing with the earth embankments and the mechanical and electrical installation. A number of risks have materialised which have delayed completion. The delays are due to a number of factors, including heavy rain and difficulties in securing suitable material locally for the embankments.

We are working to bring the reservoir into service as soon as possible in 2017.

## **2.6 Louth Flood Alleviation Scheme**

Commencement Date (Gateway 3):	July 2015
Completion Date (Gateway 4):	November 2016
Cost:	£ 6,500,000

Louth is a “rapid response” catchment situated on the River Lud with a low standard of protection from flooding.

Partnership funding of £6.5M enabled the preferred flood risk management option of building two flood storage reservoirs to proceed with construction starting in July 2015.

### Latest update:

Civil works for the control structures are substantially complete along with the earth embankments. Work is progressing with the mechanical and electrical installation.

A number of risks have materialised which have delayed completion. The delays are due to a number of factors, including heavy rain and difficulties in securing suitable material locally for the embankments.

We have worked with the Reservoirs Act engineer and the contractor to ensure the reservoir can be operated, albeit partly, before full completion ensuring a reduced level of flood risk to the town this winter.

## **2.7 Wainfleet Relief Channel**

Commencement Date (Gateway 3):	September 2018
Completion Date (Gateway 4):	April 2022
Cost:	£ 2,830,000

## **2.8 Black Sluice Catchment Works**

Commencement Date (Gateway 3):	June 2012
Completion Date (Gateway 4):	May 2018
Cost:	£ 2,161,050

Black Sluice Catchment is around 50% low fen land, with the remainder of the catchment higher ground sloping to the west from the 5mAOD contour to around 130m AOD in the highest reaches.

Flood Risk Management in the catchment has traditionally focused on the lowland area, with the highest expenditure occurring at Boston’s Black Sluice Pumping Station (BSPS). The 1940s pumping station is approaching the end of its operational life. Together with Black Sluice Internal Drainage Board (IDB) we are developing a Joint Catchment Operation Plan which will include asset operation parameters to ensure continued multi-functional use i.e. navigation, angling and land drainage.

Latest update:

The transfer of the pumping station is now progressing as part of our 'Main River Rationalisation' project, which will be administered locally by a staff resource located in Lincoln.

Delivery mechanisms for the other elements of catchment flood resilience works including bank armouring and property level resilience have been explored. This work will be undertaken through other national project packages e.g. bank armouring work is now being progressed through the ARPOW (Area Recondition Programme of Works).

The South Forty Foot Steering Group has been established and is made up of senior staff from all risk management authorities in the catchment and chaired by Robert Caudwell. This group have had been involved in further in depth discussions with Anglian Water and other partners about the creation of multifunctional water resource storage in the catchment (Water Resources East Anglia – WREA project). Water resource, flood risk management, habitat creation and recreation could be achieved through careful design.

## **2.9 Work arising from Upper Witham Strategy Review**

Commencement Date (Gateway 3):	December 2017
Completion Date (Gateway 4):	June 2022
Cost:	£ 1,730,000

The works arising from the review include works to extend the life span of the three main sluices in Lincoln (Stamp End, Great Gowts and Bargate) and to ensure the integrity of three sections of concrete floodwall (along Foss Bank, St Catherines and near Boultham Avenue).

This project is to be renamed "Lincoln Defences" in the future.

## **2.10 Swaton Flood Resilience Scheme**

Commencement Date (Gateway 3):	Summer 2017
Completion Date (Gateway 4):	March 2021
Cost:	£ 1,210,866

The current preferred option to reduce flood risk in Swaton village is to adopt natural flood management techniques, whereby a large number of features are installed upstream to slow down or hold back run-off. In addition property level protection will be offered to a small number of houses.

The business case for the project has been drafted though funding is still to be finalised. A bid has been made to central government for funding as part of an additional budget for natural flood management projects. The outcome of this bid is currently unknown though if unsuccessful it will be necessary to seek other sources of funding.

### **2.11 Welland Flood Banks Refurbishment**

Commencement Date (Gateway 3): January 2023  
Completion Date (Gateway 4): March 2026  
Cost: £ 5,363,786

### **2.12 Saltfleet Pumping Station**

Commencement Date (Gateway 3): June 2020  
Completion Date (Gateway 4): October 2020  
Cost: £ 2,115,000

### **2.13 Boygrift Pumping Station**

Commencement Date (Gateway 3): September 2017  
Completion Date (Gateway 4): March 2018  
Cost: £ 397,000

### **2.14 Wrangle Sea Banks**

Commencement Date (Gateway 3): March 2017  
Completion Date (Gateway 4): October 2017  
Cost: £675,330

To raise and re-profile sea defences to keep pace with climate change protecting 463 properties at risk, several businesses and 340 hectares of agricultural land.

Landowners farming behind the sea defences will contribute up to 40 metres of farmland to provide the spoil to re-profile the sea banks. Witham Fourth IDB is the lead Risk Management Authority on the project which will enable local contractors to be used. Peter Brett Associates have been appointed to design and project manage the scheme.

#### Latest update:

Environmental Survey work is in progress to support the business case later this year. Ground investigation surveys have been completed and we await the results. A full topographical land survey has been completed for consultants to consider sea bank design options.

A project board has been set up by Witham Fourth IDB.

### **2.15 Hobhole Pumping Station**

Commencement Date: November 2013  
Completion Date: March 2016  
Cost: £ 697,000

This project is complete.

### **2.16 Westmere Pumping Station**

Commencement Date: December 2018  
Completion Date: March 2020  
Cost: £ 535,000



### **3 Lincolnshire County Council Schemes**

The following schemes have grant in aid spend within the 2015-2021 FDGiA programme are being promoted by Lincolnshire County Council. The information below is based on the programme refresh submitted in July 2016, though we understand it is currently being reviewed.

#### **3.1 Lincoln - Stamp End**

Commencement Date: May 2016  
Completion Date: December 2016  
Cost: £ 821,000

#### **3.2 Horncastle Surface Water Scheme**

Commencement Date: August 2017  
Completion Date: November 2017  
Cost: £ 426,607

#### **3.3 Digby Surface Water Scheme**

Commencement Date: August 2017  
Completion Date: November 2017  
Cost: £ 380,000

#### **3.4 Keelby Surface Water Scheme**

Commencement Date: October 2017  
Completion Date: January 2018  
Cost: £ 295,000

#### **3.5 Toynton St Peter Surface Water Scheme**

Commencement Date: December 2018  
Completion Date: April 2019  
Cost: £ 275,000

#### **3.6 Ruskington Surface Water Scheme**

Commencement Date: July 2017  
Completion Date: October 2017  
Cost: £ 287,500

#### **3.7 Timberland Surface Water Scheme**

Commencement Date: June 2018  
Completion Date: October 2018  
Cost: £ 245,000

#### **3.8 Middle Rasen Surface Water Scheme**

Commencement Date: September 2017  
Completion Date: January 2018  
Cost: £ 190,000

#### **3.9 Scopwick Surface Water Scheme**

Commencement Date: December 2017  
Completion Date: June 2018  
Cost: £ 175,000

### **3.10 Kirkby-on-Bain Surface Water Scheme**

Commencement Date: July 2017  
Completion Date: October 2017  
Cost: £ 210,000

### **3.11 Lincoln – Bunkers Hill**

Commencement Date: October 2017  
Completion Date: March 2018  
Cost: £ 64,200

### **3.12 Crowland Surface Water Scheme**

Commencement Date: June 2025  
Completion Date: March 2026  
Cost: £ 91,450

### **3.13 Newton Near Haceby Surface Water Scheme**

Commencement Date: June 2025  
Completion Date: March 2026  
Cost: £ 56,000

### **3.14 Whaplode Surface Water Scheme**

Commencement Date: June 2025  
Completion Date: March 2026  
Cost: £ 235,000

### **3.15 Leasingham Surface Water Scheme**

Commencement Date: December 2020  
Completion Date: March 2021  
Cost: £ 25,000

### **3.16 Boston Marsh Lane Surface Water Scheme**

Commencement Date: June 2025  
Completion Date: March 2026  
Cost: £ 175,000

### **3.17 Spalding Acacia Avenue Surface Water Scheme**

Commencement Date: June 2025  
Completion Date: March 2026  
Cost: £ 12,000

#### **4 Trent RFCC Programme**

There are also an additional 7 schemes within the Trent RFCC programme located within Lincolnshire.

##### **4.1 East Stockwith - Ravensfleet Pumping Station**

Scunthorpe & Gainsborough Water Management Board

Commencement Date: September 2016

Completion Date: March 2018

Cost: £ 573,000

##### **4.2 Torksey Pumping Station**

Trent Valley Internal Drainage Board

Commencement Date: June 2016

Completion Date: March 2019

Cost: £ 749,000

##### **4.3 Torksey Gate Automation**

Environment Agency

Commencement Date: November 2018

Completion Date: March 2019

Cost: £ 200,000

##### **4.4 Marton Pumping Station**

Trent Valley Internal Drainage Board

Commencement Date: May 2019

Completion Date: October 2019

Cost: £ 412,000

##### **4.5 Wildsworth - Jenny Hurn Pumping Station**

Scunthorpe & Gainsborough Water Management Board

Commencement Date: September 2020

Completion Date: March 2021

Cost: £ 260,000

##### **4.6 Wildsworth - Whoofer Pumping Station**

Scunthorpe & Gainsborough Water Management Board

Commencement Date: March 2019

Completion Date: September 2020

Cost: £ 67,000

##### **4.7 Susworth Pumping Station**

Scunthorpe & Gainsborough Water Management Board

Commencement Date: April 2020

Completion Date: March 2021

Cost: £ 150,000

## **5. Consultation**

### **a) Policy Proofing Actions Required**

Not applicable

## **6. Background Papers**

No background papers within Section 100D of the Local Government Act 1972 were used in the preparation of this report.

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