



European Union
European Regional
Development Fund



Hessle Foreshore Tidal Defence Scheme



Summative Assessment Report

Project Summary

Applicant Organisation	East Riding of Yorkshire Council	
Project Name	Hessle Foreshore Tidal Defence Scheme	
Project Reference Number	39R17P01833	
Programme Priority Axis	Priority Axis 5	
Name of ERDF Investment Priority	5B – Promoting investment to address specific risks, ensuring disaster resilience and developing disaster management systems	
LEP Area (s) covered	Hull and East Yorkshire LEP (Previously both the Humber LEP and York, North Yorkshire and East Riding LEP)	
Total Eligible Amount (£)	£6,107,873	
Total ERDF (£)	£2,292,136	
ESIF Category of Region	Less Developed	
	More Developed	
	Transition	x

Key Project Milestones	
Start Date	25 October 2018
Practical Completion Date	30 June 2022
Financial Completion Date	30 June 2022

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Introduction

The Hessle Foreshore area suffered significant flooding from the North Sea tidal surge of December 2013, causing internal flooding to 40 residential and 44 commercial properties. As well as the traumatic and disruptive impacts on the local residents, the event saw significant disruption to commercial operations in the area, including multi-million pound stock losses and damage to the fabric of business premises. In response to this event, and in order to reduce the risk of future tidal flooding with the added impacts of climate change and sea level rise, the Hessle Foreshore Tidal Defence Scheme was developed.

The Hessle Foreshore Tidal Defence Scheme complements both the Humber Hull Frontages Tidal Defence Scheme (delivered by the Environment Agency) and the Councils tidal defence scheme at Paull (east of Hull). The scheme specifically addresses the issue of tidal flooding in Hessle and Hull, which is not addressed by either of the aforementioned schemes. Together these schemes provide a consistent, high standard of protection from tidal flooding across Hull and the surrounding area.

The project is split into three phases which combine to deliver a 0.5% Annual Exceedance Probability (1 in 200 year) Standard of Protection from tidal flood risk. Phase 1 comprises of an upgrade to the Hessle Clough Sluice Structure at the outfall of Fleet Drain into the Humber Estuary. Phase 2 is a dual-purpose flood/highway barrier alongside the A63. The Phase 2 work has been delivered in partnership with National Highways (formerly Highways England) and is not part of the eligible project expenditure. Phase 3 is a glass/concrete flood wall and associated tidal defence infrastructure along Cliff Road, Hessle. The project has been designed and built by specialist engineering consultants and contractors alongside project supervision from the Councils experienced Civil Engineering Services Team. All phases are now complete and operational.

All output targets have been achieved and reported. Project expenditure has been achieved and will be reported in the final claim submission (Q2 2022). Project match funding outside of the ERDF grant has been provided by Defra Flood Defence Grant in Aid which is administered by the Environment Agency, and Local Growth Funding administered by the Hull and East Yorkshire Local Enterprise Partnership (Previously the Humber LEP).

The output methodology utilises a counterfactual impact evaluation on the basis that a defined area of land is protected by the tidal defence which would otherwise remain at tidal flood risk into the future. The P6 business outputs within this defined benefit area have been delivered on completion of the scheme as designed. The method of defining outputs is outlined in detail in Section 4 and is in accordance with the standard central government

approach for funding Flood and Coastal Defence Risk Management projects (Defra / Environment Agency Project Appraisal Guidance¹).

Section 1: Project Context

The Stage 1 Logic Model (Figure 1) has been completed and submitted to the Managing Authority previously. The Logic Model outlines the processes required to achieve the project outputs. Primarily the concept that if the project inputs and activities are completed as intended, the project outputs, outcomes and impacts are achieved as a direct result. This is due to the nature of the project as a tidal defence which protects a defined geographical area on completion. Note the project pre-dates the updated logic model template.

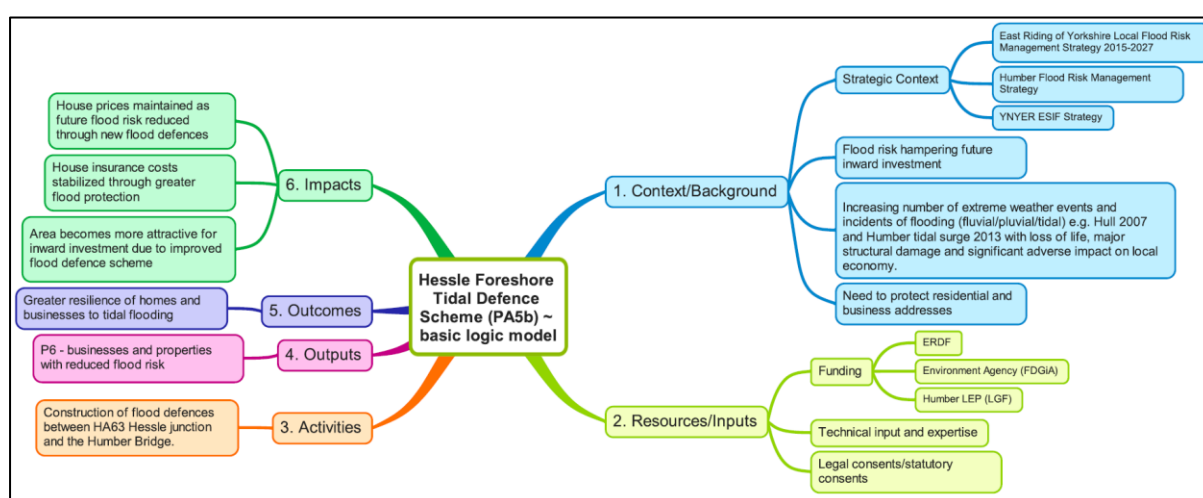


Figure 1: Logic Model.

As such, the requirement for data collection and monitoring throughout the project for Stage 2 is not necessary as would be the case for a complex revenue project for example. However, a verification process has been completed following practical completion to ensure that the tidal defence has been constructed as designed, and the defined benefit area remains unchanged. The scheme has been carefully monitored by the Project Management Team throughout the delivery stage and has been constructed as designed. Hence all project outputs within the defined benefit area can be reported with confidence. The output verification process has been outlined in detail within Section 4 of this Stage 3 Summative Assessment Report.

The market failure arises here because tidal defences are necessary to prevent flood damages, but are in essence non-excludable common goods. It follows that no individual business or group of businesses would be financially or practically able to mobilise to

¹ <https://www.gov.uk/government/publications/flood-and-coastal-erosion-risk-management-appraisal-guidance>

undertake such a major infrastructure project. If the flood risk was not addressed, existing businesses would have continued to have experienced significant disruption in the event of a flood. This will be exacerbated by the influence of future climate change and sea level rise. New business investment in the area will also be less likely without the stability provided by a tidal flood defence.

As well as direct damage to businesses and property, flood risk leads to further indirect damages such as a lack of, or increased cost of insurance provision, poor mental health and wellbeing, lack of business continuity and reduced productivity and commercial performance. There are also significant secondary effects on the wider local population; including impacts on residents whose properties are at risk of flooding, suppliers to affected businesses, and interruption to major infrastructure including key transport links in and out of Hull, which contains a busy port and the main local employment centre.

The project is required to deliver a number of defined business outputs as part of the funding agreement. This has been achieved and the completed project provides confidence for the continued investment of these businesses within the local area, and the additional inward investment that the businesses bring to the area.

Due to the factors outlined above, failure to intervene would have negatively affect investor confidence, and damaged the sustainability of existing businesses. There has been considerable research carried out on the impacts of flooding. Please refer to 'The Costs and Impacts of the Winter 2013 to 2014' by DEFRA and the EA which was provided as an appendix to the full application. This report confirms the significant impacts of flooding the areas affected and local populations.

The project has been delivered during the ongoing Covid-19 global pandemic, which has created additional pressures on the construction and delivery stage of the project. For example additional measures included the provision of additional site wellbeing facilities and social distancing requirements for construction workers and site staff. Whilst there have been impacts on the project delivery as a result, necessary measures have successfully been implemented to mitigate risk and enable the continued delivery of the project. As such it can be said with confidence that the project can be expected to successfully deliver all project outputs as profiled. This is a significant achievement for the whole project delivery team.

Section 2: Project Progress

The scheme is complete and operational, and all profiled eligible capital expenditure has been defrayed. Following the final claim submission in July 2022 all eligible expenditure will have been reported and claimed as per the project financial forecast below (Table 1). All project outputs have been delivered as profiled.

Indicators / Expenditure	Original Funding Agreement	Amount in most recent Funding Agreement Variation	Total achieved at time of evaluation	% of target	Projected to be achieved at Project Closure	% of target
Expenditure						
ERDF Capital Expenditure (£m)	£6.108	£6.108	£6.108	%100	£6.108	100%
ERDF Revenue Expenditure (£m)	N/A	N/A	N/A	N/A	N/A	N/A
Indicators						
(P6) Businesses and properties with reduced flood risk	128	128	128	100%	128	100%

Table 1: Project spend and output performance.

All project outputs, outcomes and impacts, as listed below, have been delivered in line with the rationale provided by the project logic model and as verified in Section 4 of this report.

The Strategic Objectives that led to the project development are:

- Reduce flood risk to businesses, essential key infrastructure and households in the at risk area.
- Provide security and stability for the economic development of the area.

Call specific objectives:

- Enabling and protecting economic development potential through investment in flood and coastal flooding management where there is a demonstrable market failure.
- Address flood risk in a priority geographic area – The Humber Estuary
- Invest in infrastructure to enable new employment and housing land to be made available.
- Maximise the benefits of flood defence schemes by linking them with other development and growth proposals.
- Safeguard and enable sustainable economic growth

Humber LEP specific objectives:

- 'Successful and Distinctive Places' by stimulating market demand in the area
- 'Well Connected Authority' by enhancing the resilience of the road network particularly to flooding.

Specific outputs arising from the strategic objectives are:

- 128 businesses with a reduced risk from flooding.
- Reduced Risk of flooding to over 4000 homes
- Reduced risk of flooding to key strategic infrastructure including the A63 and the Hull to Selby railway line.

Additional objectives:

- Facilitate future development sites
- Preserving amenity and recreation value of the frontage

Section 3: Project Delivery and Management

Procurement

Ensuring that specialist consultants and contractors were procured was key to the success of the project. The fully OJEU compliant YORhub procurement framework includes a range of specific frameworks with separate Lots which are arranged by discipline to suit the specific scale and nature of the works. This includes Lots for civil engineering works at a range of scales. Consultants and contractors have been carefully appointed to the frameworks as a result, based on their experience across a range of criteria. The YORhub Lots from which the project consultants and contractors have been appointed are listed below (for the eligible project expenditure):

- YORivil2 Lot 1 – Civil Works up to £0.5m
- YORCivil2 Lot 3 – Civil Works from £4m – £10m

Delivery

The successful delivery of the project is built on the experience and lessons learnt by the Councils major project delivery team across a number of successful ERDF funded major infrastructure projects. These include:

- Willerby and Derringham Flood Alleviation Scheme (£14 million)
- Gypsey Race Park and Avenue Project in Bridlington (£6 million)
- South Withernsea Coastal Defence Scheme (£7 million)

As a result, the delivery team for this project have been able to draw upon experience from previous project teams who have shared knowledge and resources.

The Council also benefits from access to the knowledge and skills of the Technical Assistance Partnership (TAP), a project part funded by the European Structural and Investment Fund. The TAP partnership is made up of organisations from the public, private and voluntary sector, and collectively they have a vast experience in working with both ERDF and ESF funds. The TAP are able to:

- Provide information about ERDF and ESF in layman's terms through publicity events, their website, publications and workshops;
- Discuss project ideas and check that they fit with the funding's general eligibility and the Calls criteria;
- Host brokerage and partnership development seminars;
- Provide advice and support to help to complete the outline application form;

- Provide technical advice covering compliance with procurement, State Aid and publicity requirements;
- Cross check applications against the Call specification prior to the closing date;
- Facilitate and deliver workshops to explain the requirements of ERDF and ESF throughout the project life cycle

The Council has also delivered a portfolio of non-ERDF funded major Flood and Coastal Erosion Risk Management (FCERM) capital projects over the past six-year FCERM investment period. These include:

- Anlaby and East Ella Flood Alleviation Scheme (£21 million)
- Cottingham and Orchard Park Flood Alleviation Scheme (£20 million)
- Tidal Defence improvements at Paull as part of Phase 1 of the Hull and Humber Flood Alleviation Scheme (£5 million)

In addition the Council has delivered a number of major non-FCERM projects such as highway works and public building and infrastructure projects. This major project delivery experience across a range of disciplines has allowed the project team to be in a position to mitigate risk and deliver the project as designed and on schedule during a global pandemic, which has had a major impact on the construction industry.

Stakeholder Response

The project has been received well by the local community and is viewed as a key investment in the town in order to provide economic stability and support further growth for businesses and the wider communities that they support. Examples of the positive response received from key stakeholders including local residents, Councillors, the Town Council and the local MP across both local and national media have been provided below:

East Riding Culture and Leisure – *‘Work set to begin on next phase of £11m Hessle Foreshore Tidal Defence Scheme’*

<https://eastridingculture.co.uk/news/?entry=5ebab450919345490494b19a>

Hull Daily Mail – *£11m Hessle Foreshore flood defence scheme to start.*

<https://www.hulldailymail.co.uk/news/hull-east-yorkshire-news/hessle-foreshore-flood-defence-a63-3463164>

Institution of Civil Engineers *‘Flood defence schemes scoop top prizes at Yorkshire and Humber Awards’*

<https://www.ice.org.uk/news-insight/news-and-blogs/latest-news/news/flood-defence-schemes-scoop-top-prizes-at-yorkshire-and-humber-awards/>

Marketing Humber – *'Public Exhibition this Thursday for £11million Hessle Foreshore Tidal Defence Scheme'*

<https://www.marketinghumber.com/news-events/news/business/public-exhibition-this-thursday-for-11million-hessle-foreshore-tidal-defence-scheme/>

The Business Desk – *'Work starts on £11m flood defence scheme'*

<https://www.thebusinessdesk.com/yorkshire/news/2055964-next-phase-of-11m-flood-defence-scheme-begins>

Your East Riding Magazine (Issue 42) *'Flood scheme almost Complete'*

<https://www.eastriding.gov.uk/council/press-office/printed-publications/your-eastriding/>

All media and press briefings provided by the Council have included the required reference to the ERDF funding and the ERDF specific notes to editor as outlined in the Branding and Publicity Guidance (ESIF-GN-1-005).

Section 4: Project Outcomes and Impact

A qualitative analysis of the specific P6 outputs is provided below:

(P6) Business premises with reduced flood risk

Table 2 below outlines the specific P6 output guidance as per the ERDF Output Indicator Guidance (ESIF-GN-1-002).

(P6) Business premises with reduced flood risk	
Terms	Definitions
Unit of Measurement	Number of business premises with reduced flood risk
Investment Priorities where this indicator is used	IP5b
Count Criteria: What can be recorded against this indicator	<p>The number of business premises that have reduced risk of flooding and/or coastal risks as a result of activity through ERDF. The reduced risk can be direct or indirect to the business premises and evidenced to reflect local circumstances as the impacts of flooding can vary from location to location. Examples of indirect risk include (but are not limited to): an access road is at risk of flooding, which would prevent staff, deliveries etc gaining access to the business premises.</p> <p>The methodology must be agreed by appraisers. Methodologies may also be discussed with contract managers as part of a Project Change Request. The Environment Agency, Priority Axis 5 leads and DEFRA may be called on to review and verify methodologies.</p> <p>This indicator measures how, for a given geographical area, ERDF funded activity to reduce the risk of flooding and/or coastal risk for business premises has affected/improved that area.</p> <p>The measure is the total number of business premises with reduced risk. For multi-occupied buildings all the business premises may be counted. For example, where a building houses 10 businesses, the count is 10. Where a single business has premises at multiple sites within the designated area each premise can be counted.</p> <p>For example, if Business Park X received flood protection and within the park Enterprise A had its headquarters, a warehouse plus an office in Business Park X Tower (which houses 10 enterprises) the count is:</p> <p>Enterprise A HQ: 1 count</p> <p>Enterprise A, 1st floor, Business Park X Tower plus 9 other business premises at Business Park X Tower: 10 counts</p> <p>Enterprise A Warehouse: 1 count</p> <p>Total business premises count: 12</p>
Count Threshold: What is the threshold or minimum requirement for recording (one count) of this indicator?	The indicator can be captured following completion of the physical works and provision of the evidence as below.

Count Exclusions: What activity cannot be counted against this indicator?	Properties that are only used, or only intended for use, for domestic purposes are excluded. For example residential households that are being counted as part of eligibility for Flood and Coastal Erosion Risk Management (FCERM) Grant in Aid cannot be counted against this indicator.
Verification Evidence: What records need to be retained to count this indicator?	<p>Details of the works completed:</p> <ul style="list-style-type: none"> • Plans and designs of the as-built works • Certificate of practical completion <p>Details of the business premises with reduced flood risk:</p> <ul style="list-style-type: none"> • Name • Address including post code • Evidence that the business premises was 'at risk', directly or indirectly e.g. flood management plans • Evidence of the agreed methodology • Evidence that the designed works will deliver reduced flood risk.

Table 2: P6 Output Guidance

As per the verification evidence requirements outlined in table 2 above, drawings of the works have been included as Appendix A. Certificate of completion will be provided on receipt from the contractor (following completion of seasonal landscaping requirements). Appendix L of the original full application submission set out the methodology for determining the project outputs. A summary of the original methodology is included below:

Hydraulic modelling was used to determine the project baseline conditions and identify the project benefit area. This is standard for major flood risk management projects. A modelled output of the 'Do Nothing, 1 in 75 year return period event' (i.e. a tidal event with a probability of 1.33% occurring in any given year) was used in comparison with a 'Do Something' post scheme scenario, to determine the baseline benefit area. Businesses and commercial premises within this benefit area were determined to benefit from the scheme. These businesses and the benefit area are shown in Figure 2 below. A table containing a review of the business premises at reduced risk of flooding is included as Appendix B.

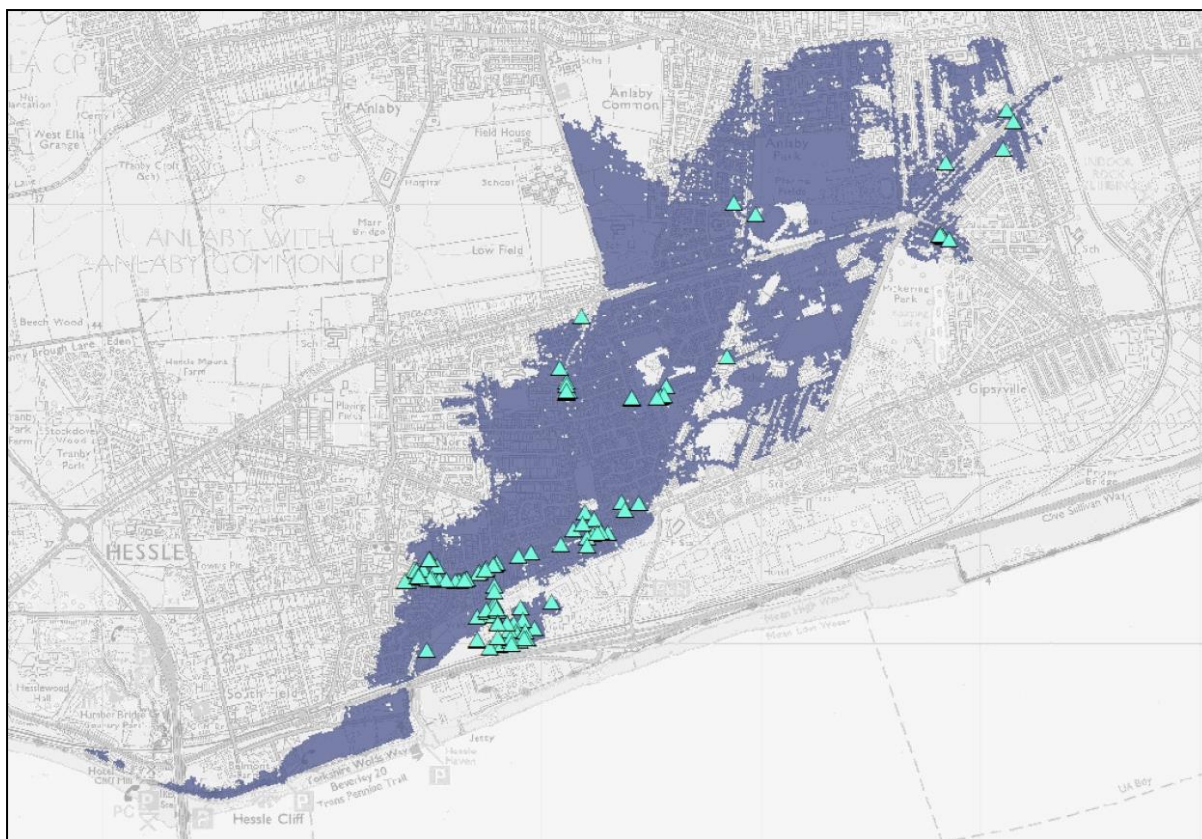


Figure 2: Individual business outputs and project benefit area.

The Council's Local Land and Property Gazetteer (LLPG) was used to identify individual properties and determine whether they were eligible for inclusion. LLPG's are property and land databases maintained by local authorities which can be used to identify properties, businesses etc. and their attributes. The LLPG datasets utilise a Basic Land and Property Unit (BLPU) attribute code to differentiate between different property types e.g. commercial properties. Spatial analysis utilising specialist GIS software was used to identify the individual business outputs within the benefit area.

Each business identified was verified to ensure it was still active and determine whether it was operating from the premises identified. If a business could be found as active on either Companies House, or Jordans company searches it was included. In a small number of cases the registered business address on Companies House was located elsewhere. However, where local research identified that they were operating out of the premises within the benefit area they were included.

Post Project Evaluation

On project completion a review of the original outputs list has been completed to verify the project outputs. This process identified that details of 36 of the 128 original P6 outputs have changed in some way since the full application stage. 16 of these are still countable towards

the P6 outputs. For the remainder, replacements have been identified due to an increase in the final project benefit area from the original assessment. The changes to the original list and the methodology for the assessment of replacements is detailed below:

The original list of businesses was reviewed, and each receptor was assigned a status:

- “Active”, for businesses that remain active with no changes.
- “Details Change”, for businesses that remain active in the benefits area but with new details (i.e. change in name, change in address).
- “New Occupier”, where a commercial receptor on the original list now is now occupied by a different business but at the same location.
- “Moved”, where a business has changed address to outside the benefits area;
- “Inactive”, where a business was found to be inactive and no new occupier could be determined.
- “Duplicate”, which was assigned to duplicate entries.

The full review table is available in appendix B. In summary, 91 entries were found to have no changes, 16 entries were found to have changed name or address but still be countable towards P6 outputs, and 21 entries were found to be not countable. The 37 entries where changes occurred are summarised in table 3 below.

Postcode	Address	Property type	2021 Status	Notes	2021 Postcode	2021 Address
HU13 0AH	Amy Sanchez Hairdressing Salon, 20 Hull Road, Hessle, East Riding Of Yorkshire	Hair and Beauty	Details Change	Change of name to Amy Sanchez Hair and Beauty	HU13 0AH	20 Hull Road, Hessle, East Yorkshire
HU13 9PB	HORIZON PROPERTY SERVICES GROUP LTD, The Townhouse, Saxon Way, Hessle, East Riding Of Yorkshire	Eateries	Moved	Change of name to HPSG LTD, address change to outside benefits area	HU13 9PB	Kingston House, Saxon Way, Hessle, East Yorkshire
HU13 9PB	Stephenson Johnson Financial Planning Limited, Unit 15A, Priory Tec Park, Saxon Way, Hessle, East Riding Of Yorkshire	Commercial	Details Change	Registered address 15b not 15a	HU13 9PB	15b Priory Tec Park, Hessle, East Yorkshire, England
HU13 9PB	Design Workshop Humberside Limited, Unit 2, Priory Tec Park, Saxon Way,	Commercial	Moved	Change of address to outside benefits area	HU4 7DZ	4 Carmel House, (First Floor) Saltmarsh Court Hull

	Hessle, East Riding Of Yorkshire					
HU13 9PB	GGP Consulting Engineers, Unit 6, Priory Tec Park, Saxon Way, Hessle, East Riding Of Yorkshire	Commercial	Moved	Change of address to outside benefits area	HU4 7DY	2 Hallam Road, Priory Park East, Hull, England,
HU13 9PB	New Look Loans Limited, Unit 27, Priory Tec Park, Saxon Way, Hessle, East Riding Of Yorkshire	Industrial	Moved	Change of address to outside benefits area	HU4 7DY	First Floor Office Unit 2, Bridge View Park, Henry Boot Way, Hull, East Yorkshire
HU4 6NH	Alliance Pharmacy, 145 Askew Avenue, Kingston Upon Hull	Retail	Details Change	Changed to Boots the Chemist, address 143 not 145	HU4 6NH	Boots the Chemist, 143 Askew Avenue, Kingston Upon Hull
HU4 6NH	Best, 143 Askew Avenue, Kingston Upon Hull	Retail	Details Change	Currently occupied by Chez Bette	HU4 6NH	Chez Bette Nail and Beauty Spa, 143 Askew Avenue, Hull
HU13 OAE	Fonseca-Klein Ltd, 37 The Square, Hessle, East Riding Of Yorkshire	Retail Outlet	New Occupier	HUDSON PROPERTY ANGELS LIMITED	HU13 OAE	37 The Square, Hessle, United Kingdom
HU13 OAH	Dennis Cowen Carpets, 16 Hull Road, Hessle, East Riding Of Yorkshire	Retail Outlet	New Occupier	2FIFTY5 TANNING STUDIO LIMITED	HU13 OAH	16 Hull Road, Hessle, England
HU13 OAN	Shakers, 52 Hull Road, Hessle, East Riding Of Yorkshire	Retail Outlet	New Occupier	Cafe Italiano Hessle LTD	HU13 OAN	52a Hull Road, Hessle, HU13 OAN
HU13 9EU	Castle Green, 190 First Lane, Hessle, East Riding Of Yorkshire	Commercial	New Occupier	Tranquility Nails and Beauty	HU13 9EU	190 First Lane, Hessle, United Kingdom
HU13 9NB	The Clock Shop, 90 Hull Road, Hessle, East Riding Of Yorkshire	Retail Outlet	New Occupier	Set The Pace Health and Fitness	HU13 9NB	90 Hull Road, Hessle, East Yorkshire
HU13 9NG	Shabz Clothing, 132 Hull Road, Hessle, East Riding Of Yorkshire	Retail Outlet	New Occupier	Legacy Independent Funeral Directors LTD	HU13 9NG	132 Hull Road, Hessle, East Yorkshire

HU13 OAH	William Hill, 12-14 Hull Road, Hessle, East Riding Of Yorkshire	Retail Outlet	New Occupier	Over the Moon Scents Ltd	HU13 OAH	12-14 Hull Road, Hessle
HU13 9NH	Hessle Music Centre, 230 Hull Road, Hessle, East Riding Of Yorkshire	Retail Outlet	New Occupier	Hessle Hair and Makeup	HU13 9NH	230 Hull Road, Hessle, East Yorkshire
HU13 9PB	SWAN SOLICITORS LTD, Unit 15B, Priory Tec Park, Saxon Way, Hessle, East Riding Of Yorkshire	Commercial	New Occupier	Stephenson Johnson Financial Planning Limited	HU13 9PB	15b Priory Tec Park, Hessle, East Yorkshire, England
HU4 6NH	Costello Taxis, 141A Askew Avenue, Kingston Upon Hull	Retail	New Occupier	Drive Private Hire © 57 Taxis Limited	HU4 6NH	Drive Private Hire, 141A Askew Ave, Hull
HU4 7EH	Jos Deli And Diner, 73 Bethune Avenue, Kingston Upon Hull	Retail	New Occupier	Gourmet Burgers	HU4 7EH	73 Bethune Ave, Hessle, Hull
HU4 7HJ	Shelleys, 65 Mollison Road West, Hessle, East Riding Of Yorkshire	Retail Outlet	New Occupier	The Mill Grill House	HU4 7HJ	65 Mollison Road, Hull, England
HU13 OAN	Wilson Yacht Management Limited, 16A - 18A Hull Road, Hessle, East Riding Of Yorkshire	Commercial	Duplicate			
HU13 OAH	Dee Atkinson And Harrison, 6 Hull Road, Hessle, East Riding Of Yorkshire	Commercial	Inactive	Hessle branch no longer operational		
HU13 OAN	Williamsons, 46 Hull Road, Hessle, East Riding Of Yorkshire	Retail Outlet	Inactive	Dissolved		
HU13 9EA	Regency Day Nursery Ltd, First Lane, Hessle, East Riding Of Yorkshire	Day Nursery	Inactive	Dissolved		
HU13 9LX	Mr John Kemp, 26A Itlings Lane, Hessle, East Riding Of Yorkshire	Commercial	Inactive	Cannot confirm any company records		
HU13 9LX	Mr H G Fraser, 27 Itlings Lane, Hessle, East Riding Of Yorkshire	Commercial	Inactive	Cannot confirm any company records		

HU13 9NH	Graham Scott Associates, 228 Hull Road, Hessle, East Riding Of Yorkshire	Commercial	Inactive	Formerly Humber Building Design (dissolved) Now registered address outside benefits area	HU2 8JD	70 Wright Street, Hull, England
HU13 9NW	Hull Council For Voluntary Youth Services, 2054 Hessle Road, Kingston Upon Hull	Community Services	Inactive	Cannot confirm any company records		
HU13 9PB	Ocean Connect Marine UK Limited, Second Floor, The Townhouse, Saxon Way, Hessle, East Riding Of Yorkshire	Commercial	Inactive	Cannot confirm company is operating from this address		
HU4 6DP	Personal Computer Data Services, 135A Belgrave Drive, Kingston Upon Hull	Office	Inactive	Cannot confirm any company records		
HU13 0AA	Unit 5, The Orchard Centre, The Square, Hessle, East Riding Of Yorkshire	Retail Outlet	Inactive	Cannot confirm any company records		
HU4 6GA	Hull Churches Housing Association, 1 St Bede Court, Kingston Upon Hull	Community Services	Moved	Change of address to outside benefits area	HU2 8BJ	Studio 701, 17 Princess Street, Hull
HU13 0AH	Eye Web Solutions Limited, 4 Haisell House, 4 Hull Road, Hessle, East Riding Of Yorkshire	Commercial	Moved	Change of address to outside benefits area	HU13 0EG	6-7 Waterside House Maritime Business Park, Livingstone Road, Hessle, England
HU13 9LU	ETTRIDGE ARCHITECTURE LIMITED, 86D Hull Road, Hessle, East Riding Of Yorkshire	Commercial	Moved	Change of address to outside benefits area	HU1 2LP	17 Kingston Chambers, Princes Dock Street, Hull
HU13 9PB	Sheilds Limited, Units 24 And 25, Priory Tec Park, Saxon Way, Hessle, East Riding Of Yorkshire	Industrial	Moved	Change of address to outside benefits area	HU13 0LH	Hesslewood Hall, Ferriby Road, Hessle
HU13 9PB	Impact Contracting Solutions, Units 7A,	Commercial	Moved	Change of address to	LN6 3QN	Newland House,

	Priory Tec Park, Saxon Way, Hessle, East Riding Of Yorkshire			outside benefits area		Weaver Road, Lincoln
HU13 9PB	Grand Trax Limited, Unit 10A, Priory Tec Park, Saxon Way, Hessle, East Riding Of Yorkshire	Industrial	Moved	Registered address outside benefits area	HU12 ONA	Rear Of 9 Westgate, Patrington, Hull

Table 3: Commercial Property review.

Although all the individual properties in table 3 remain within the benefit area it was not possible to confirm the details of 21 of the commercial occupiers. Whilst a strong case could still be made to include these properties within the final output count the increase in the project benefit area meant that this was not required. 24 additional commercial properties were identified within the final larger benefit area enabling the required figure of 128 to be not only reported but exceeded. Details of the increase in the benefit area are included below.

The original assessment methodology in Appendix L of the Full Application was completed using a 'Do Nothing, 1 in 75-year return period' modelled event. However during the detailed design phase, the level of protection was increased to a 1 in 200 year return period design event (i.e. an event with a 0.5% probability of occurring in any given year). Thus a 'Do Nothing, 1 in 200 year' modelled event output was used to identify receptors which will benefit from the scheme for this evaluation. The methodology employed was the same as at the full application stage but utilising the larger benefit area.

The full list of supplementary properties is available in appendix C. The 24 replacements which were identified are summarised in table 4 below.

Postcode	Address	Property type
HU13 0AA	CARDARAMA, UNIT 11, THE ORCHARD CENTRE, ORCHARD CENTRE, UNIT 11, THE SQUARE, HESSLE	Shop / Showroom
HU13 0AE	The Co-operative Food, 27, to 29, 27-29, THE SQUARE, HESSLE	Shop / Showroom
HU13 0AE	Karens Kars, 29A, 29A, THE SQUARE, HESSLE	Office / Work Studio
HU13 0AH	Alesha Jordan Hair Studio, 3, HAISELL HOUSE, 4 HULL ROAD, HESSLE	Shop / Showroom
HU13 9EU	POST OFFICE, FIRST LANE POST OFFICE, 168, FIRST LANE, HESSLE	Shop / Showroom
HU13 9LW	THE OLDE COACH HOUSE RESIDENTIAL HOME, 2, THE OLDE COACH HOUSE RESIDENTIAL HOME, EASTGATE, HESSLE	Care / Nursing Home
HU13 9NP	HAPPY HOUSE CHINESE TAKEAWAY, 259, HULL ROAD, HESSLE	Shop / Showroom
HU13 9PB	CITECH ENERGY RECOVERY SYSTEMS UK LIMITED, SALISBURY HOUSE, HESSLE	Office / Work Studio
HU4 7NH	Nisa Local Convenience Store, 10 Sibelius Road, Hull	Other Licensed Premise / Vendor

HU13 9PB	The Priory Food Co., The Townhouse, Saxon Way, Hessle	Restaurant / Cafeteria
HU4 7JB	GANTON SPECIAL SCHOOL, 294 ANLABY PARK ROAD SOUTH, Hull	Special Needs Establishment.
HU4 7AB	Bonus Youth Performance Centre, 262A Pickering Road, Hull	Indoor / Outdoor Leisure / Sporting Activity / Centre
HU4 7JB	SIRIUS ACADEMY, 296 ANLABY PARK ROAD SOUTH, HULL	Secondary / High School
HU4 7JB	EDUCATIONAL SERVICE FOR HEARING AND VISION, SIRIUS ACADEMY, 296 ANLABY PARK ROAD SOUTH, HULL	Special Needs Establishment.
HU13 9LJ	PORTACABIN, HESSLE COMMUNITY CENTRE, The Hourne, Hessle	Public / Village Hall / Other Community Facility
HU13 0AH	Butterfly Thai Massage, 14B Hull Road, Hessle	Shop / Showroom
HU13 9NH	STANLEYS CHINESE RESTAURANT, 204 to 206 HULL ROAD, Hessle	Restaurant / Cafeteria
HU13 9NP	Arthurs, 251 HULL ROAD, HESSLE	Shop / Showroom
HU13 9PB	SYNPAC LTD, PRIORY PARK, SAXON WAY	Workshop / Light Industrial
HU13 9PB	Fidelity Systems Ltd, Unit 5, Priory Tec Park, Saxon Way, Hessle	Office / Work Studio
HU4 7NP	ST THOMAS MORE ROMAN CATHOLIC PRIMARY SCHOOL, ST. THOMAS MORE ROAD, Hull	Primary School
HU4 7NJ	Rokeby Park Primary School, Gershwin Avenue, Anlaby Park Road North, Kingston upon Hull	Primary School
HU4 7NH	Drum & Cymbals, 26 Sibelius Road, Hull	Public House / Bar / Nightclub
HU13 9NW	WEST END CHILD ADOLESCENT AND FAMILY UNIT, 2062 Hessle Road, Hessle	Communal Residence

Table 4: Additional commercial properties identified within the project benefit area.

Qualitative Evaluation Summary

Following practical completion, it can be said with confidence that the project reduces flood risk to the defined geographic area as per the methodology outlined in the above sections. The project has been constructed to the specified length and defence height above datum and the quality and robustness of construction has been monitored and assured throughout by the Councils experienced engineers. Thus the project has delivered on the outcomes and impacts set out in the project logic model and met the requirements of the project outputs below:

- (P6) 128 businesses with a reduced risk from flooding.

Additional outputs within the benefit area:

- Over 4000 residential properties at reduced risk of flooding.
- Reduced risk of flooding to key strategic infrastructure including the A63 and the Hull to Selby railway line.

The project outcomes are wholly attributable to the delivery of the project. Due to the nature of the market failure the project impacts and outcomes would otherwise not have been realised. Properties, businesses, infrastructure and land would all have been subject to an ever-increasing risk of flooding in the face of climate change and sea level rise.

Section 5: Project Value for Money

The eligible ERDF total of £6,107,873 remains the same as at the application stage and hence the ERDF grant amount (£2,292,136) remains unchanged. Based on the economic analysis of the overall project costs, including those outside the eligible project amount, the project benefits are as summarised below in Table 5.

Present Value Benefits	Present Value Cost	BCR
£627m	£13.6m	46.2

Table 5: Project BCR summary.

The Table 5 figures are as per the economic appraisal undertaken for central government Grant in Aid funding. This appraisal was done so in accordance with the Flood and Coastal Erosion Risk Management Appraisal Guidance (FCERM-AG); the Multi-Coloured Manual (and subsequent handbook updates), and the Green Book (HM Treasury).

The benefit cost ratio presented in table 5 above represent significant value for money against the investment. However, as outlined in Section 4 the project benefit area has increased since full application stage, and as a result the benefit cost ratio in table 5 above can be considered conservative.

This BCR has been benchmarked against a number of other major FCERM projects delivered by the Council, and as can be seen by the data presented in table 6, the project exceeds the BCR value for other major Council led FCERM projects.

Scheme	Benefit Cost Ratio
Anlaby and East Ella Flood Alleviation Scheme	6.3
Cottingham and Orchard Park Flood Alleviation Scheme	7.1
Hull and Holderness Flood Alleviation Scheme (Phase 1)	34.6
Willerby and Derringham Flood Alleviation Scheme	39.4
Hessle Foreshore Tidal Defence Scheme	46.2

Table 6: ERYC major FCERM project benefit cost ratios.

The economic appraisal methodology utilised a conservative approach so the BCR is likely to be higher when factoring in the accelerated impacts of climate change on sea level rise and accounting for additional damages.

Section 6: Conclusions and Lessons Learnt

The ERDF application, reporting and evaluation process is very comprehensive and as such requires careful project management and monitoring mechanisms to be in place. The Council benefits from experience gained through delivery of previous ERDF funded projects. Knowledge and resources have been shared between project teams and the ESIF funded Technical Assistance Partnership to assist in the delivery of the project stages from initiation to completion and evaluation.

The complex nature of flood defence schemes, especially adjacent to designated areas such as the Humber Estuary leads to complexities in the design and construction phases. As such the ability to procure experienced, specialist consultants and contractors through the YORhub procurement framework has been crucial to delivery of the project, particularly during a global pandemic. Working in combination with the Councils in house Project Management and Engineering Team, and the local knowledge they bring, has only served to enhance this process and deliver the project as designed to reduce flood risk in the area.

Design and delivery by in-house and specialist external consultants and contractors contributed to the construction being delivered as designed, thus delivering the area benefitting from a reduced risk of flooding over the benefit period. The asset has been added to the Councils asset register which utilises the latest GIS software (ArcGIS Pro).

The findings of the Summative Assessment are important as it demonstrates that flood defence infrastructure can have a range of economic wellbeing impacts on the surrounding area and population. In addition, this project will be able to provide key lessons learned for future flood defence projects across the area.

The findings of the Summative Assessment are available across the Council and key partners and will be used to inform future development, public consultation and engagement on local flood defence schemes. The team will make the report available to key partners within the area and beyond where it can support the wider objectives of supporting economic development and business growth through construction of flood defence assets.