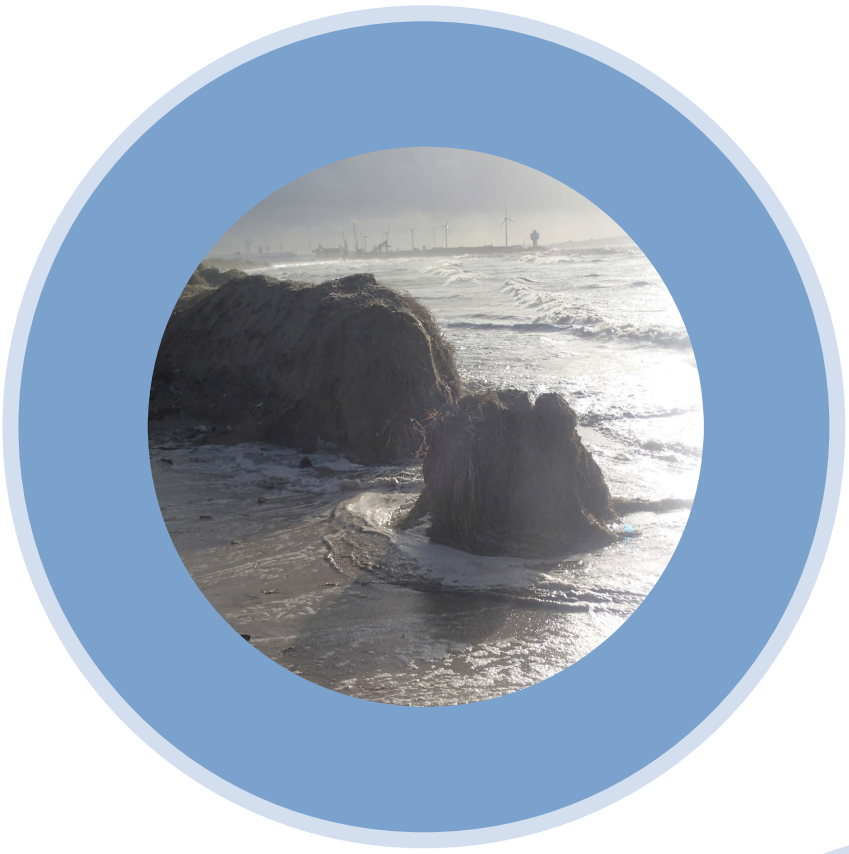
Sefton Council

Flood and Coastal Erosion Risk Management Investment Plan



Document Information

Title	Flood and Coastal Erosion Risk Management Investment Plan
Owner	Sefton Council
Version	1.5
Status	Final – Following consultation
Author (s)	Graham Lymbery and Michelle Barnes
Date of publication	August 2015
Approved by	Paul Wisse

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1.0 Introduction

1.1 Why has this Investment Plan been done?

Flood risk and coastal erosion are serious issues for Sefton and this is recognised within the Community Risk Register that places flooding, in particular, as one of our most significant risks. Our approach to managing this is set out in the Flood and Coastal Erosion Risk Management Strategy which is complimented by a supporting Service Delivery Plan and this Investment Plan.

1.2 What is the purpose of this Investment Plan?

The purpose of this Investment Plan is to set out the approach the Council will take to the provision of and securing of funding for the management of flood risk and coastal erosion over the short to medium term. For revenue funding provided from Council resources it will identify how this will be allocated to activities, the benefits of these activities and the consequences of ceasing or reducing the levels of funding. For capital funding for schemes it will set out the current identified requirement with possible sources and limitations, again setting out the benefits of the schemes and the consequences of not undertaking the schemes.

Whilst this Plan provides transparency in relation to our approach for our communities it is primarily aimed at decision makers within the Council and within partner agencies. If we are to secure funding from within the Council or partners in the form of grant aid or contributions we need to clearly set out our future requirements along with benefits and consequences even if it is only in principal for schemes which are not yet at a detailed stage. Doing so will allow officers to seek grant aid and contributions.

The Plan briefly summarises the possible sources of funding, then discusses revenue and capital funding in turn. As a Plan approved by the Council it sets direction and will inform any future allocation of funds. Where it is identified that funding is required from sources external to the Council, officers are authorised to seek this funding in accordance with the Plan.

2.0 Aims and objectives

2.1 The Investment Plan

The objectives of the Investment Plan are to:

- Present an overview of the funding for the management of flood and coastal erosion in Sefton
- Identify potential funding needs
- Set out current revenue funding for this service area
- Set out the benefits/consequences of increases or decreases in funding

3.0 How flood and coastal erosion risk is managed in Sefton

3.1 Overview of flood and coastal erosion risk management in Sefton

Figure 1 illustrates how flood and coastal erosion risk is managed by Sefton Council from its vision, objectives, actions and influences of guiding principles from the National Flood and Coastal Erosion Risk Management Strategy. An explanation of the diagram follows:

The vision for the management of flood and coastal erosion risk is set in the centre of the diagram. The circles linked to the vision set out the detailed outcomes we are seeking and each is accompanied by activities that support their delivery. Around the outside are set the principles that we will seek to work to, these will apply across all activities.

The activities and how they are funded, along with costs and benefits, are set out in more detail in section 4. They are also detailed in the supporting Service Delivery Plan which includes how we will monitor and report on our actions and an overview of the actions are presented in the Local Flood and Coastal Erosion Risk Management Strategy.

Whilst the Flood and Coastal Erosion Risk Management Strategy, Service Delivery Plan and Investment Plan are separate documents it is only when considered together that they satisfy our legal requirements under the Flood and Water Management Act (2010) and the Flood Risk Regulations (2009).

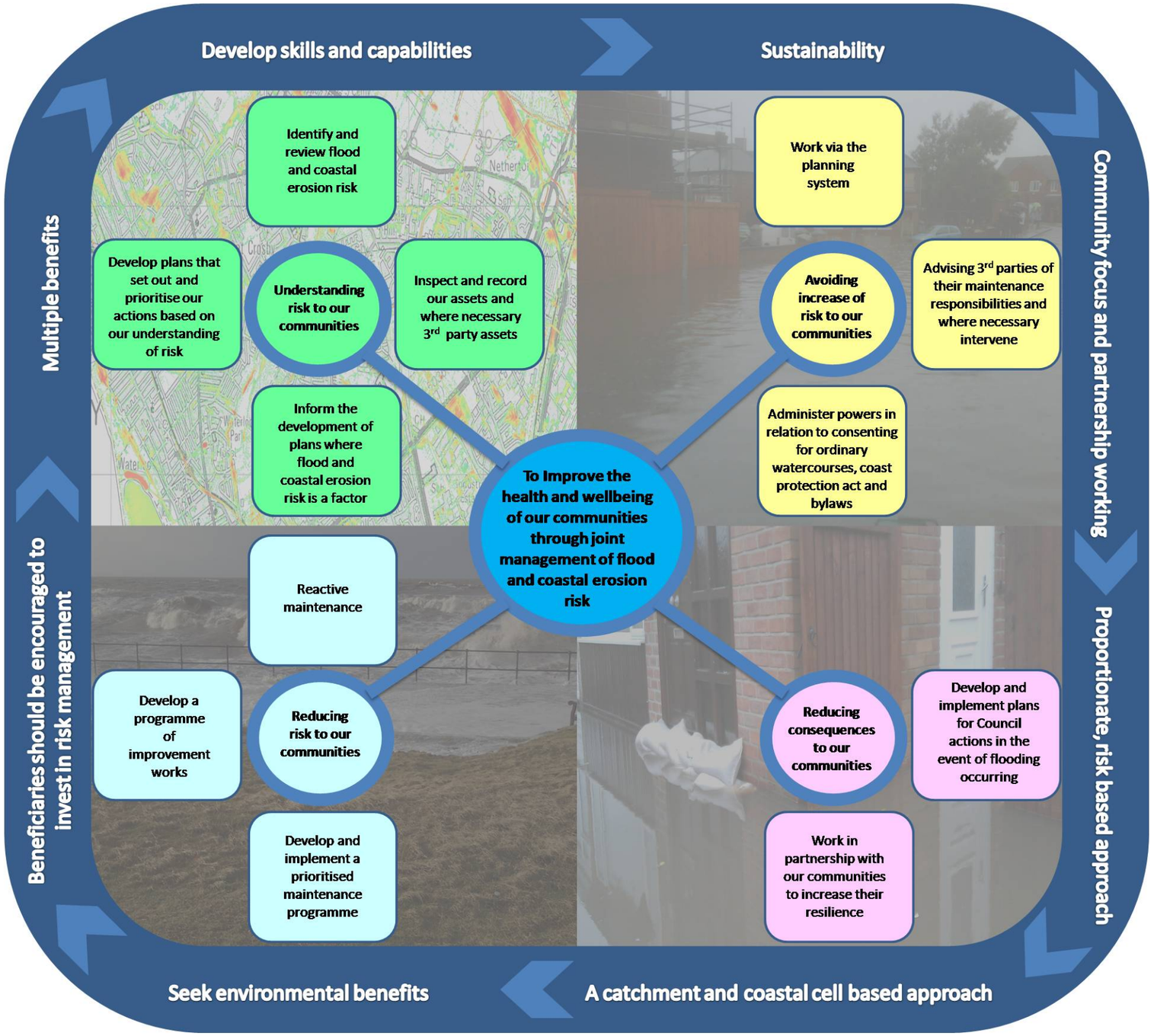


Figure 1: Management of Flood and Coastal Erosion Risk in Sefton

4.0 How flood and coastal erosion risk management is funded in Sefton

4.1 Funding sources available

Source of funding	Description	Administered by	Appropriate for	Criteria	Process
Flood Defence Grant in Aid (FDGiA)	Central government funding for flood and coastal defence projects. Funding levels for each scheme relate directly to the number of households protected, damage prevented and other benefits such as environmental or business benefits that will be delivered. There is additional emphasis on protecting households in deprived areas.	Environment Agency	Medium to large capital projects.	For 100% funding there is an expectation that the benefits will exceed the costs by at least a factor of 5. There is a positive adjustment for houses in socially deprived areas. If a scheme does not meet the criteria for 100% grant aid then lesser amounts can be bid for with the shortfall being made up with funding contributions from elsewhere.	Bids have to be entered into a medium term plan and submitted to the Environment Agency on an annual basis. If successful an indicative allocation is made but this is subject to a successful grant application.

Source of funding	Description	Administered by	Appropriate for	Criteria	Process
Local Levy	The Regional Flood and Coast Committee can agree a levy to be paid by upper tier authorities (county and unitary authorities) for works which do not attract a sufficiently high priority for funding by national government, but are nonetheless cost effective and of local importance. The Local Levy is supported by the Department of Communities and Local Government (DCLF). It allows locally important flood defence projects, including	Environment Agency	Smaller projects or as a contribution to FDGiA projects.	The criteria are set by the Regional Flood and Coastal Committee and are currently under review.	Schemes are either identified through the Medium Term Plan or can be submitted direct to the committee via the Merseyside Strategic Flood Group.

Source of funding	Description	Administered by	Appropriate for	Criteria	Process
	property level protection to go forward. The Levy is agreed annually and monies can be carried over annually. However, any local schemes suggested which use the Levy need to ensure that they are in-line with the regional priorities as set out by the Regional Flood and Coastal Committee. The Local Levy can top up Flood Defence Grant in Aid funding.				
United Utilities	Investment heavily regulated by Ofwat but opportunities for contributions to area-wide projects which help to	United Utilities	Projects which help to remove surface water from combined	The criteria and process have not yet been developed but are being discussed as part of looking at opportunities for joint working.	

Source of funding	Description	Administered by	Appropriate for	Criteria	Process
	address sewer under-capacity problems or assets at risk of flooding.		sewers or projects which help protect critical infrastructure		
Section 106 funding (developer contributions)	Section 106 of the Town and Country Planning Act 1990 allows a planning authority to request payments from developers (linked to specific developments to contribute to the infrastructure required to make developments acceptable in planning terms)	Sefton Council	Larger development sites		Administered by Planning.
Community Infrastructure Levy	A local levy applied by the Planning Authority on developers to contribute to a general infrastructure fund.	Sefton Council	Larger development project		Administered by Planning.

Source of funding	Description	Administered by	Appropriate for	Criteria	Process
Requesting Local Contributions	Contributions from residents and/or businesses that benefit from proposed flood risk mitigation schemes may be explored in specific cases.		All projects	To be established	
Council Capital	The Council has a limited amount of capital funding which it can allocate to priority actions.	Sefton Council	All projects	The allocation of funding is assessed against needs across the Council	A process is established that involves officers and elected Members
Liverpool City Region Local Enterprise Partnership	A key objective is Strategic Economic Development – contributing to the development of spatial planning, housing, transport, skills and infrastructure. Th ey are the main economic development interface with	Liverpool City Region Local Enterprise Partnership	Larger development project	The criteria are set by the Liverpool City Region Local Enterprise Partnership	Major schemes would need to be agreed by the Liverpool City Region Local Enterprise Partnership and included in their forward programme

Source of funding	Description	Administered by	Appropriate for	Criteria	Process
	Government and form part of the Liverpool City Region Combined Authority where their role is to lead on economic development				
Council Revenue	Revenue funding is allocated to this service area.	Sefton Council	All projects	Where a small contribution can allow a scheme to progress officers will consider the relative merits of the revenue work that could be undertaken as compared to the capital scheme, especially in relation to reduction of maintenance liability.	Decided at Officer level.
Local Transport Plan	The Council has a capital fund allocated through the Local Transport Plan (LTP) focussed on outcomes	Sefton Council	All projects	There would have to be a clear mutual benefit identified and then prioritised against other schemes within	The LTP programme is planned within the Investment Programmes and Infrastructure Division and

Source of funding	Description	Administered by	Appropriate for	Criteria	Process
	relating to transport. There are times when these outcomes overlap with flood risk outcomes allowing joint funding.			the LTP.	then approved by the Cabinet Member for Transportation.

Table 1: Sources of available funding for managing Flood and coastal erosion in Sefton

4.2 Revenue funding and allocation to activities

Table 2 sets out the revenue funding currently allocated (2015/16) for flood and coastal erosion risk management, its allocation and the consequences of reducing or ceasing funding for any of the activities, the table is colour coded to relate to the outcomes and activities in figure 1.

The same table is used in the Service Delivery Plan where it is extended to include specific deliverables and performance measures. The table is also found in the Local Flood and Coastal Erosion Risk Management Strategy to provide an overview of the management of this risk in Sefton.

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
Understanding risk to our communities	Identify and review flood and coastal erosion risk	• Monitoring of a range of conditions • Recording flood and coastal erosion events • Modelling of systems • Communicating the risk	• Regular technical and non-technical reports for coastal erosion and tidal flood risk • Develop Investigations policy and reporting procedure • Consolidation of risk information for communication	An understanding of risk underpins our decisions on what to do to manage the risk, informs the plans of others who might influence the risk and underpins any application for external funding to address the risk. A reduction in or ceasing of funding may result in an increase in risk and will certainly reduce, if	63,055	22%

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
				not eliminate, our ability to draw in external funding to address the risk.		
	Develop plans that set out and prioritise our actions based on our understanding of risk	Develop and maintain: • Local Flood Risk Strategy • Preliminary Flood Risk Assessment • Flood Risk Management Plan • Shoreline Management Plan • Surface Water	• Satisfy legislative requirements for a Local Flood Risk Strategy and Flood Risk Management Plans. • Develop, maintain and review other plans as necessary and take forward actions recommended in them	A clear statement of risk and how it is to be managed is a legislative requirement and will also be a requirement inn order to access government grant aid. A reduction in or ceasing of funding will certainly reduce, if not		

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
		Management Plan • Coastal Change Study • Catchment Plans (Flood Risk Management Plans)	on a prioritised basis	eliminate, our ability to draw in external grant aid to address the risk.		
	Inform the development of plans where flood and coastal erosion risk is a factor	• Local Plan • Strategic Flood Risk Assessment • Green Space • Habitat Management • Coastal Management	• Input fully to plans to maximise opportunities and minimise adverse impacts in relation to flood and coastal erosion risk management	Prevention of any avoidable increase in risk by using our understanding of the risk to inform other plans is a particularly cost effective way of managing the risk. A reduction in or ceasing		

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
				of funding would lead to an increase in risk.		
	Inspect and record our assets and where necessary 3rd party assets	• Develop and maintain a database containing information about assets important to flood risk management • Identify and designate assets which are in third party ownership and although not their primary function	• A database containing information on known assets • A prioritised inspection regime • A programme of work to complete documentation of assets	The Council is responsible for a number of flood and coastal erosion risk management assets, in order for these to be kept in a safe condition and to perform their function they must be inspected and maintained. A reduction in or ceasing of funding would lead		

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
		are important for flood risk management		to an increase in risk and also expose the Council to financial liability in the event of accidents due to their unsafe condition or damage due to their failure.		

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
Avoiding increase of risk to our communities	Work via the planning process	• Develop and maintain evidence relating to flood risk in the format of the Strategic Flood Risk Assessment (SFRA) to inform the Local Plan. The most recent update of the SFRA has been completed in 20132013 • As and when the relevant sections of the Flood and Water Management Act 2010 are enacted we will establish and operate a SUDS (Sustainable	• Discharge duties required of a Lead Local Flood Authority such as a statutory consultee for assessing flood risk implications from developments, through the planning process. • Production and application of local FRA guidance • Advise on Planning applications in accordance with legislation and guidance	Prevention of any avoidable increase in risk by using our understanding of the risk to inform planning decisions is a particularly cost effective way of managing the risk. A reduction in or ceasing of funding would lead to an increase in risk.	37,970	14%

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
	Administer powers in relation to consenting for ordinary watercourses, coast protection act and bylaws	• Establish consenting procedures and raise awareness of need for consents • Review and enact bylaws • Review procedures and enact recommendations relating to the Coast Protection Act	• Put in place procedures for consenting works to ordinary watercourses and raise awareness of the need to seek consent for such works. • Put in place procedures for consenting works controlled under the Coast Protection Act and raise awareness of the need to seek	Prevention of any avoidable increase in risk by using the powers provided to the Council is a particularly cost effective way of managing the risk. A reduction in or ceasing of funding would lead to an increase in risk.		

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
			consent for such works. • Review bylaws that it would be beneficial to enact and commence the process of enactment.			
	Advising 3rd parties of their maintenance responsibilities and where necessary intervene	• Communicate riparian duties • Identify issues or receive in complaints relating to lack of maintenance • Identify and enter	• Clear procedures for dealing with riparian issues	Prevention of any avoidable increase in risk by using the powers provided to the Council is a particularly cost effective way of managing the risk. A		

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
		into negotiations with riparian owners • Where negotiations fail commence enforcement proceedings • Where necessary undertake works ourselves		reduction in or ceasing of funding would lead to an increase in risk.		

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
Reducing risk to our communities	Develop and implement a prioritised maintenance programme	• Identify catchments and associated critical infrastructure • Develop and implement an asset management plan which will include a prioritised maintenance plan based on the number of properties at risk and the vulnerability of the	• Review and re-tender works contracts • Develop and start a programme of work to identify critical infrastructure in each drainage area • Commence development of an asset management plan	The Council is responsible for a number of flood and coastal erosion risk management assets, in order for these to be kept in a safe condition and to perform their function they must be inspected and maintained. A reduction in or ceasing of funding would lead to an increase in risk and also expose the	169600	57%

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
		resident		Council to financial liability in the event of accidents due to their unsafe condition or damage due to their failure.		
	Undertake reactive maintenance	Respond to reactive maintenance needs on a prioritised basis				

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
	Develop a programme of improvement works	• Identify capital maintenance and improvement works •Develop a forward plan and bid for funding to undertake the work • Implement works when funds become available	• Development of a justified forward plan listing proposed works • Submission of forward plan for grant aid (indicative stage only) • Implementation of works granted funding	In order to draw in external funding for the purpose of reducing risk it is necessary to develop a programme and apply for funding. A reduction in or ceasing of funding will certainly reduce, if not eliminate, our ability to draw in external grant aid to address the risk.		

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
Reducing consequences to our communities	Work in partnership with our communities to increase their resilience	•Share our understanding of flood and coastal erosion risk • Discuss with communities options for increasing their resilience • Provide advice and support on what to do before during and after a flood	• Development of a communications strategy • Development of basic communication materials • Commence implementation of communication strategy	A significant number of our communities will remain at risk despite our other actions, all we can do for them is seek to reduce the consequences of flooding and coastal erosion by discussing with them the risk and actions they can take to them and by taking limited actions when	18,750	7%

Outcome	Activity	Actions	Outputs in Strategy period (2015-2018)	Consequences of reduction in or ceasing of funding	Total budget to support this outcome £	% of total budget
	Develop and implement plans for Council actions in the event of flooding occurring	• Emergency Plan • Resilience Plan	• Review the emergency and resilience plans for flooding	flooding occurs. A reduction in or ceasing of funding would lead to an increase in consequences to our communities.		
Total Budget					**289375**	

Table 2: Details of costs associated with the delivery of Flood and Coastal Erosion Risk Management in Sefton (only those costs managed by the Flood and Coastal Erosion Risk Management Team are shown here).

When floods occur, even relatively shallow depths of a few centimetres, they can cause significant damage costing tens of thousands of pounds to repair. A typical cost would be £40,000 per property per event with the residents being displaced from their property for six months. Flooding also causes health impacts both physical and mental, short term and long term. It also causes disruption to communities and their normal activities.
Coastal erosion cannot be insured for. Residents facing this risk have to cover the losses themselves and are also responsible for the demolition of their property and the removal of the debris.

Box 1: Clarification of the consequences of flood and coastal erosion risk

4.3 Capital funding

The following table sets out the capital investment that has been identified within the medium term plan submission to the Environment Agency. The status of the funding for each scheme is set out later in this section but ranges from unapproved and not yet clearly defined to approved schemes that are being implemented.

Scheme	Total applied for in MTP* 2014 - 2026 (£)	Funding source
Crosby Marine Lake to Formby Point Strategy Delivery Programme	2,724,000	FDGiA and Other contributions
Formby Strategic Flood Risk Management Programme	50,000	Local Levy
Sefton Strategic Surface Water Management Plan Delivery Programme	2,040,000	FDGiA
North West Strategic Regional Monitoring Programme (Sefton's allocation)**	258,174	FDGiA
Merseyside Strategic Groundwater Flood Risk Pilot Strategy (Sefton's allocation)**	76,800	Local Levy and FDGiA
Merseyside Natural Flood Management Study	95,000	FDGiA
Four Acres Multi Agency Flood Options and Asset Management Plan	35,000	FDGiA
River Alt Training Study	455,000	FDGiA
Ainsdale and Birkdale Land Drainage Study	50,000	FDGiA
Sefton Watercourses Under Highways Study	255,000	FDGiA
The Nile Investigation	95,000	FDGiA
The Pool Investigation	180,000	FDGiA
Total	**6,313,974**	

Table 3: Summary of Capital investment applied for, current approved figures can be seen by looking at the Council's capital programme

*The MTP (Medium Term Plan) sets out funding needs for Sefton to the Environment Agency who administer Flood Defence Grant in Aid (FDGiA)

**Sefton will be the lead authority managing larger budgets for other partners in the region or North West. This figure is for a proportion of the much larger budget specifically for Sefton works.

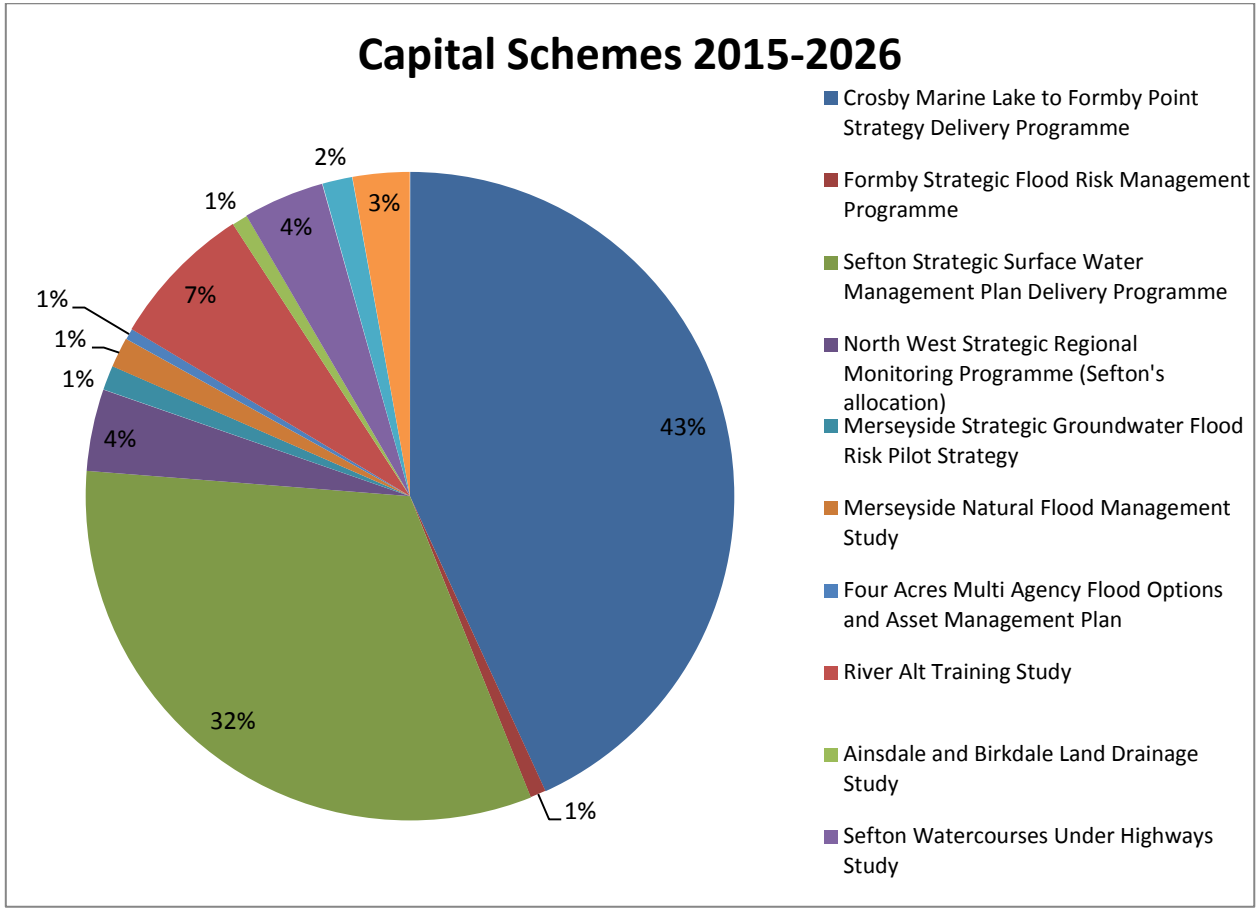
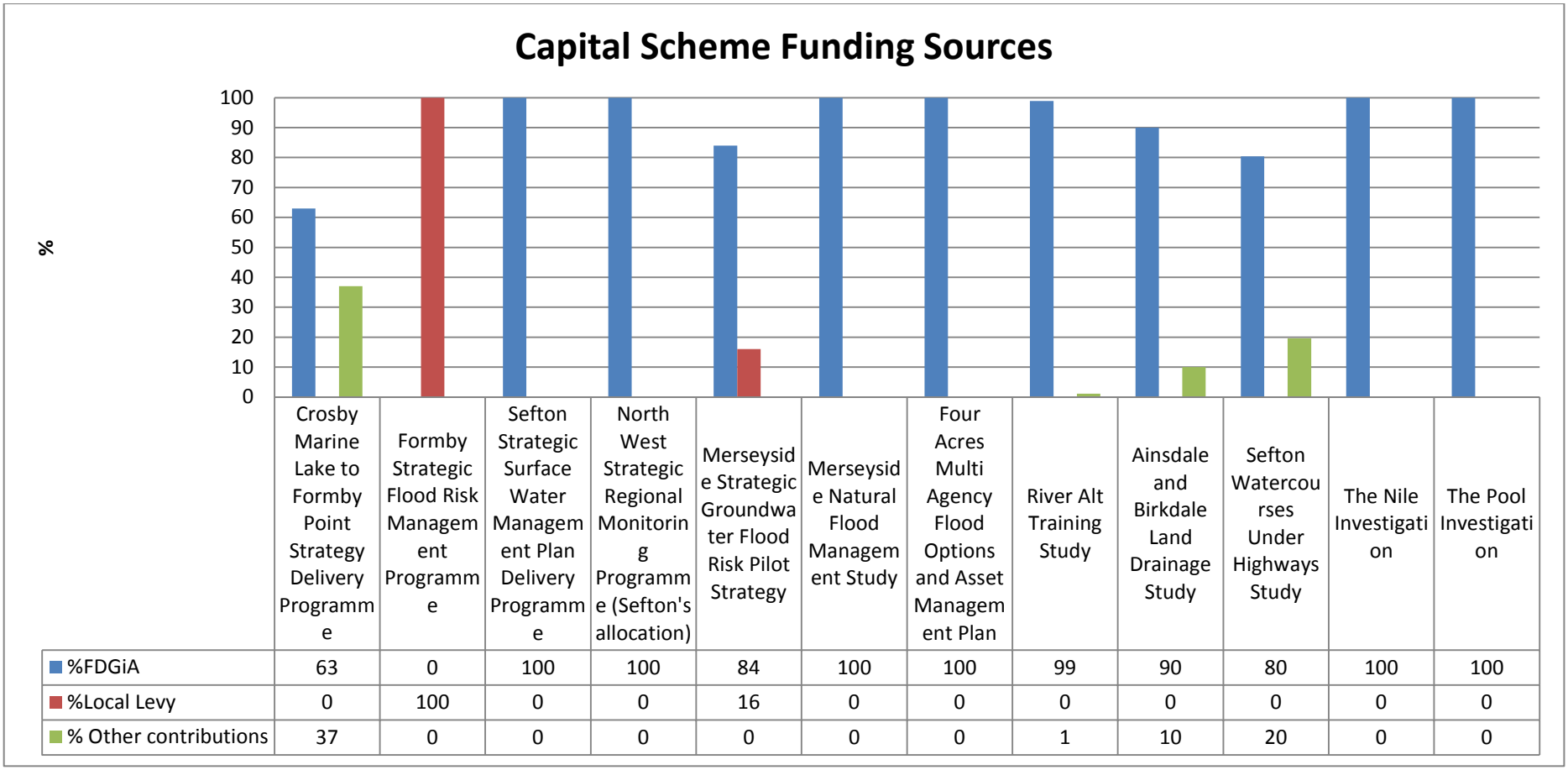


Figure 2: Summary of proposed Capital spending for FCERM in Sefton



	Crosby Marine Lake to Formby Point Strategy Delivery Programme	Formby Strategic Flood Risk Management Programme	Sefton Strategic Surface Water Management Plan Delivery Programme	North West Strategic Regional Monitoring Programme (Sefton's allocation)	Merseyside Strategic Groundwater Flood Risk Pilot Strategy	Merseyside Natural Flood Management Study	Four Acres Multi Agency Flood Options and Asset Management Plan	River Alt Training Study	Ainsdale and Birkdale Land Drainage Study	Sefton Watercourses Under Highways Study	The Nile Investigation	The Pool Investigation
%FDGiA	63	0	100	100	84	100	100	99	90	80	100	100
%Local Levy	0	100	0	0	16	0	0	0	0	0	0	0
% Other contributions	37	0	0	0	0	0	0	1	10	20	0	0

Figure 3: Summary of proposed Capital scheme funding sources for FCERM in Sefton

4.4 Detail of each Capital project scheme bid for medium term plan 2015

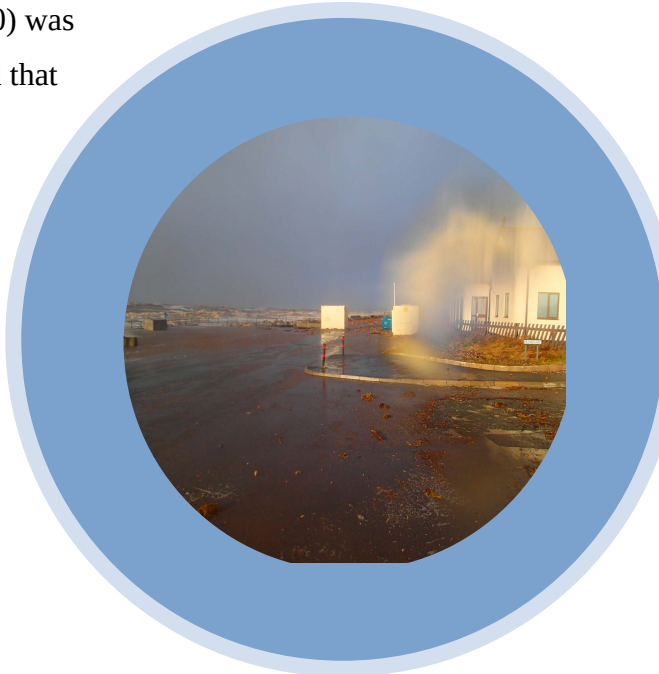
This section sets out capital schemes; they range in status from fully funded to outline projects where the nature and extent of any intervention has yet to be determined. Because of the long lead-in time for some projects, especially major coastal projects, the actual need for funding may be up to 20 years in the future. It will be made clear what future funding implications may be and what funding is being sought at this time.

4.4.1 Crosby Marine Lake to Formby Point Strategy for Coastal Defence

Initial funding to develop options to be requested.
Has been included in the Medium Term Plan for Flood Defence Grant in Aid and has been discussed with United Utilities as they have assets at risk.
Potential future costs are significant.

The hard defences between the docks and Hall Road were constructed between 1970 and 1975 whilst the rubble protection to the north was deposited between the 1930s and 1960s. The hard defences are expected to have a maximum lifespan of sixty years while the rubble defences are eroding posing a current issue in relation to the release of contaminated material and future issues to United Utilities and Council infrastructure. The frontage to Hightown has recently had work undertaken which defers any major intervention date to the 2050s. From the River Alt to Formby Point there are no major interventions proposed.

The strategy considering this frontage (approved 2010) was written before recent changes to funding and assumed that a cost benefit ratio greater than 1 made works viable. On this basis work to replace the defences north of the swimming baths are considered viable but not to the south. To the south it has been assumed that the defences would be maintained to the 2030s whilst a decision is taken on whether to abandon or replace.



Any assumption for replacement assumes the use of rock armour as this is the cheapest option. North of Hall Road it is assumed that there would be limited works to protect the pumping station.

There has been a recent change in grant aid funding from the Environment Agency which means that we can get grant aid as a contribution to a scheme rather than having to justify the complete scheme on economic grounds. There has also been more pressure on grant aid which normally requires a return of 5 to 1 on investments and this can be as high as 8 to 1 depending on the demand for grant aid within England. Since the study we have also identified asbestos contamination in the eroding ground north of Hall Road.

We have uncertainties around the choice of abandon or rebuild, construction/decommissioning costs, potential funders and the optimum time to cease maintenance and either rebuild or abandon. There is a cost associated with understanding costs and intervention timings. Whilst the structure may be able to stand until the 2030s the costs of maintenance will increase towards the end of its life and this date is a broad assumption until we are able to undertake intrusive investigation.

To give an idea of the scale of costs for the rebuild option an initial range of £25-35 million should be considered with a likely grant aid contribution of circa 20% and the potential for a contribution from United Utilities unless they decide to relocate their infrastructure. A refinement of costs and timings can be established by 2016 with a lead in time of circa 5 years for the construction which would have to be spread over several years.

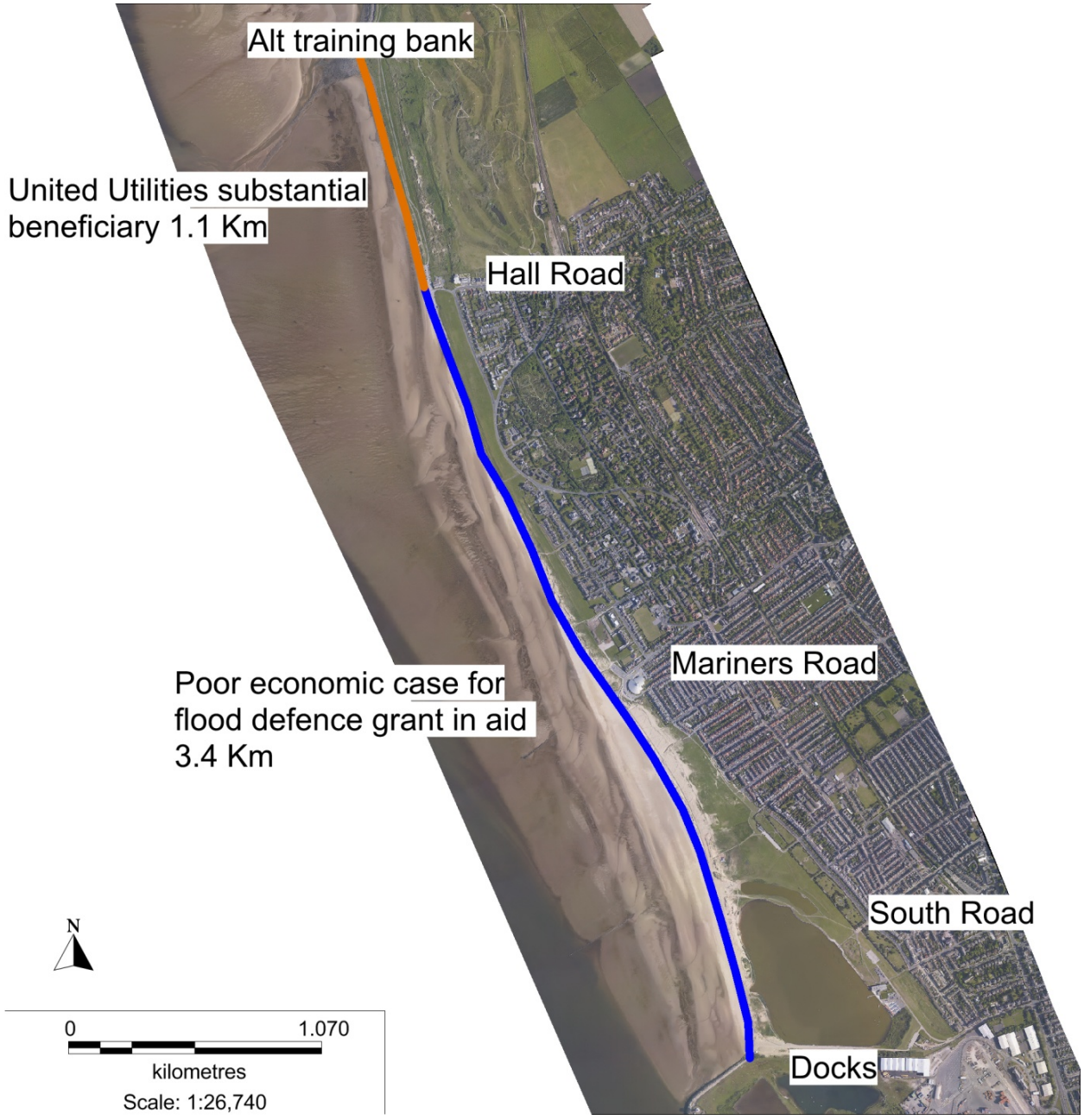


Figure 4: Map of scheme area

4.4.2 Formby Strategic Flood Risk Management Programme

Requires inclusion in the Capital Programme
£50,000 fully funded from Local Levy (status – approved by Regional Flood and Coastal Committee), no on-going costs, no exit costs. Potential to identify future works that could be subject to a future funding bid.

Formby area has had a number of recent flooding incidents primarily from surface water. The area was identified within the Surface Water Management Plan and Preliminary Flood Risk Assessment as being at risk of significant flooding. Disparate schemes have led to limited benefit and a coordinated approach is required to reduce flood risk in Formby. A variety of options will be considered and implemented, including attenuation, resilience, re-routing watercourse and up-grading watercourses to deliver a reduction in flood risk.

4.4.3 Sefton Strategic Surface Water Management Plan Delivery Programme

Requires approval to bid for external funds subject to further approval prior to any contractual commitment
£2,040,000 Grant aid with possible requirement for contributions (status – flagged in Environment Agency Medium Term Plan – no approval) any infrastructure will require maintenance.

A number of separate schemes have been identified within the Surface Water Management Plan and further updates to the models have been made that have refined the details of these schemes. This programme will also take forward the finding of the Formby Strategic Study which focuses on the detailed issues within that area. The schemes will aid in the delivery of flood risk reduction within Sefton. There will be opportunities for collaborative working with other Flood Risk Management Authorities. Depending on

the schemes identified there may be a requirement for a contribution to secure grant aid funding.

4.4.4 North West Strategic Regional Monitoring Programme

Already included in the Capital Programme
£258,174 for Sefton's elements of the programme (fully funded through grant aid)

Coastal monitoring is undertaken to help us understand how the coast is changing, inform decisions around how we manage coastal erosion and tidal flood risk and inform detailed design of any interventions. This is a coordinated programme across the North West of England that captures, validates and stores coastal monitoring data for this purpose.

4.4.5 Merseyside Strategic Groundwater Flood Risk Pilot Strategy

Requires inclusion in the Capital Programme
Of the £384,000 regional project allocation Sefton has been allocated £76,800 of which £60,000 is fully funded from Local Levy (status – approved by Regional Flood and Coastal Committee), with an indication that the balance will be approved when required.

Groundwater flooding impacts on a number of properties across Merseyside. The susceptibility to groundwater flooding maps show large areas at high or very high risk of flooding across the county. However, there are a number of recorded events in areas at low risk that appear to follow fault lines. This pilot strategy seeks to establish a series of monitoring point across the county to better understand the localised flood risk and complement the existing EA network. The flood risk maps will be refined with the new information and this will allow appropriate action to be undertaken to reduce flood risk to properties. Trigger levels will be identified that could lead to the development of a warning system.

4.4.6 Merseyside Natural Flood Management Study

Requires approval to bid for external funds subject to further approval prior to any contractual commitment £95,000

The study would undertake a desktop study to assess feasibility of implementing this approach within the Merseyside area. The study would identify sites that would potentially be suitable for natural flood management techniques, recommend appropriate solutions in these sites and provide an outline cost for implementation. An assessment of the reduction in flood risk to properties would be included in this process. The sites would be prioritised on viability and flood risk reduction. This list would then lead to a programme of works over the subsequent years

4.4.7 Fouracres Multi Agency Flood Options and Asset Management Plan

Requires inclusion in the Capital Programme
£35,000 fully funded from Grant Aid (status – approved by Regional Flood and Coastal Committee), no on-going costs other than existing maintenance costs, no exit costs. Potential to identify future works that could be subject to a future funding bid.

Multi Agency assets need to be properly managed and maintained to ensure flood risk is minimised. The site is bounded on two sides by two main rivers. United Utilities public sewers, which Sefton Council highway gullies drain into, discharges into these main rivers. Tide locking of systems is a source of flooding by preventing the free discharge of the public sewer. 25 properties were flooded in September 2012. Since then some improvements have been made to the system, however, a flood risk management options and an asset management plan need to be produced to ensure all assets are operating effectively together and to identify options to minimise the remaining flood risk.

4.4.8 River Alt Training Study

Requires approval to bid for external funds subject to further approval prior to any contractual commitment, likely to require contributions to secure funding £455,000

Sediment drift along the Sefton Coast pushes the River Alt in a southerly direction from where it emerges at Hightown towards Crosby. Historically this caused erosion of the bank and the loss of several properties. A training bank was established in the 1930's to divert the river out to sea. The condition of the bank is deteriorating and a breach could occur at anytime under the right conditions. Should the Alt breach the training bank it would put the coastline at increased rates of erosion and 25 properties, the terminal end of coastal defences and contaminated waste ground at increased risk . Along its path before the training bank there are a number of structures that 'control' the current course of the river.

A study needs to be undertaken to identify to optimum intervention date and method to maintain the trained position of the river channel. The influence of the control structures needs to be understood and the identification of additional structure/works, modelled, costed and programmed.

4.4.9 Ainsdale and Birkdale Land Drainage Study

Requires approval to bid for external funds subject to further approval prior to any contractual commitment, likely to require contributions to secure funding £50,000

The land drainage system for parts of Ainsdale (200 properties) and Birkdale (25 properties) was designed to drain through a small sand dune system through a network piped and open watercourses and onto the foreshore. Since the system was build the dune system has accreted significantly and the level of the foreshore has increase. This is severely restricting the free discharge of surface water onto the foreshore. Beach levels in some area are higher than the top of pipe. The dune system

and foreshore are now designated nationally and internally. The system requires significant maintenance and intrusion into the designated habitat.
The project will undertake a system wide approach to reviewing the operation of the drainage network and look at options that could satisfy the land drainage requirements and provide habitat benefits. These options would be prioritised and costed.

A study needs to be undertaken to identify to optimum intervention date and method to maintain the trained position of the river channel. The influence of the control structures needs to be understood and the identification of additional structure/works, modelled, costed and programmed.

4.4.10 Sefton Watercourses Under Highways Study

Requires approval to bid for external funds subject to further approval prior to any contractual commitment, likely to require contributions to secure funding £255,000

There are numerous watercourses within Sefton that pass under the highway, this includes both ordinary watercourses and main river. There are many location where the culvert under the highway acts as a constriction and restricts flow rates leading to increased flood risk. Since these culverts were build there has been significant urban development leading to increased flows in these watercourse. The condition of many of these is unknown and requires mapping, inspecting and modelling.

A study is required to understand the system, model flood risk and identify programme of works to reduce flood risk.

4.4.11 The Nile Investigation

Requires approval to bid for external funds subject to further approval prior to any contractual commitment, may require contributions to secure funding £180,000

The Nile watercourse drains a significant part of Birkdale and Southport, with approximately 5000 properties in its catchment. Its known starting point is in Birkdale and is culverted all the way through Southport, picking up surface water drainage systems on its route, before heading back up to Birkdale and discharging onto the beach.

The majority of the watercourse has been culverted since Southport developed over 100 years ago. Over time the watercourse has had more connections added to it and its status and capacity are unknown. A study is required to understand the system, model flood risk and identify programme of works to reduce flood risk.

4.4.11 The Pool Investigation

Requires approval to bid for external funds subject to further approval prior to any contractual commitment, may require contributions to secure funding £255,000

The Pool watercourse drains a significant part of Southport, with approximately 3000 properties in its catchment, starting at Blowick (SD 3667 1679) it meanders through farmland, a golf course and a historic hall, taking in surface water drains along its course. It then enters the lake at the Botanic Gardens, from that point onwards, as Southport developed, the watercourse has been culverted, all the way to its discharge point into Three Pools Waterway and this stretch is within Flood Zones 3. Over time the watercourses has had more connections added to it and its status and capacity are unknown.

During periods of moderate rainfall the highway drainage systems, that connect with The Pool, back up as they are unable to discharge into the watercourse, causing ponding on the highway. Along the culverted section, a number of properties have reported flooding to their gardens, stopping just before entering their properties, with each report a limited investigation is carried out.

5.0 Prioritising flood and coastal erosion risk management in Sefton

5.1 How is flood and coastal erosion risk management funding prioritised in Sefton?

It is not possible to prevent all flooding, and with limited resources we need to be able to prioritise our flood risk management work. We appreciate that flood risk is a concern for many of our communities, and we aim to mitigate flood risk wherever practicable. A key principle of the Flood and Coastal Erosion Risk Management Strategy is that investment will be prioritised in areas at greatest risk from flooding. Prioritisation will be based on the most up to date information and will ensure that resources are directed to those areas with the highest demonstrable level of local flood risk. This prioritisation will be revisited and adjusted accordingly as our understanding of local flood risk improves over time and as new information becomes available. Grant aid, that is bid for via the Environment Agency, is prioritised based on the number of homes benefiting from any scheme weighted in favour of areas identified as experiencing social deprivation. Whilst it is possible for some schemes to score so highly that they can receive 100% grant aid most will require a contribution from other sources to secure some grant aid, this is done on a scoring system so varies from scheme to scheme. The Council will seek contributions where possible and where a contribution can secure significant benefits will consider making a capital or revenue contribution on a case by case basis.

6.0 Monitoring and review

6.1 How often will this investment Plan be reviewed?

The Investment Plan will be reviewed after three years and monitored annually in conjunction with the Flood and Coastal Erosion Risk Management Strategy and the Service Delivery Plan.

7.0 Further reading

Sefton Council Flood and Costal Erosion Risk Management Strategy
http://www.sefton.gov.uk/advice-benefits/crime-and-emergencies/flooding-advice.aspx

Sefton Council Flood and Coastal Erosion Risk Management Service Delivery Plan
http://www.sefton.gov.uk/advice-benefits/crime-and-emergencies/flooding-advice.aspx

National Flood and Coastal Erosion Risk Management Strategy
https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england