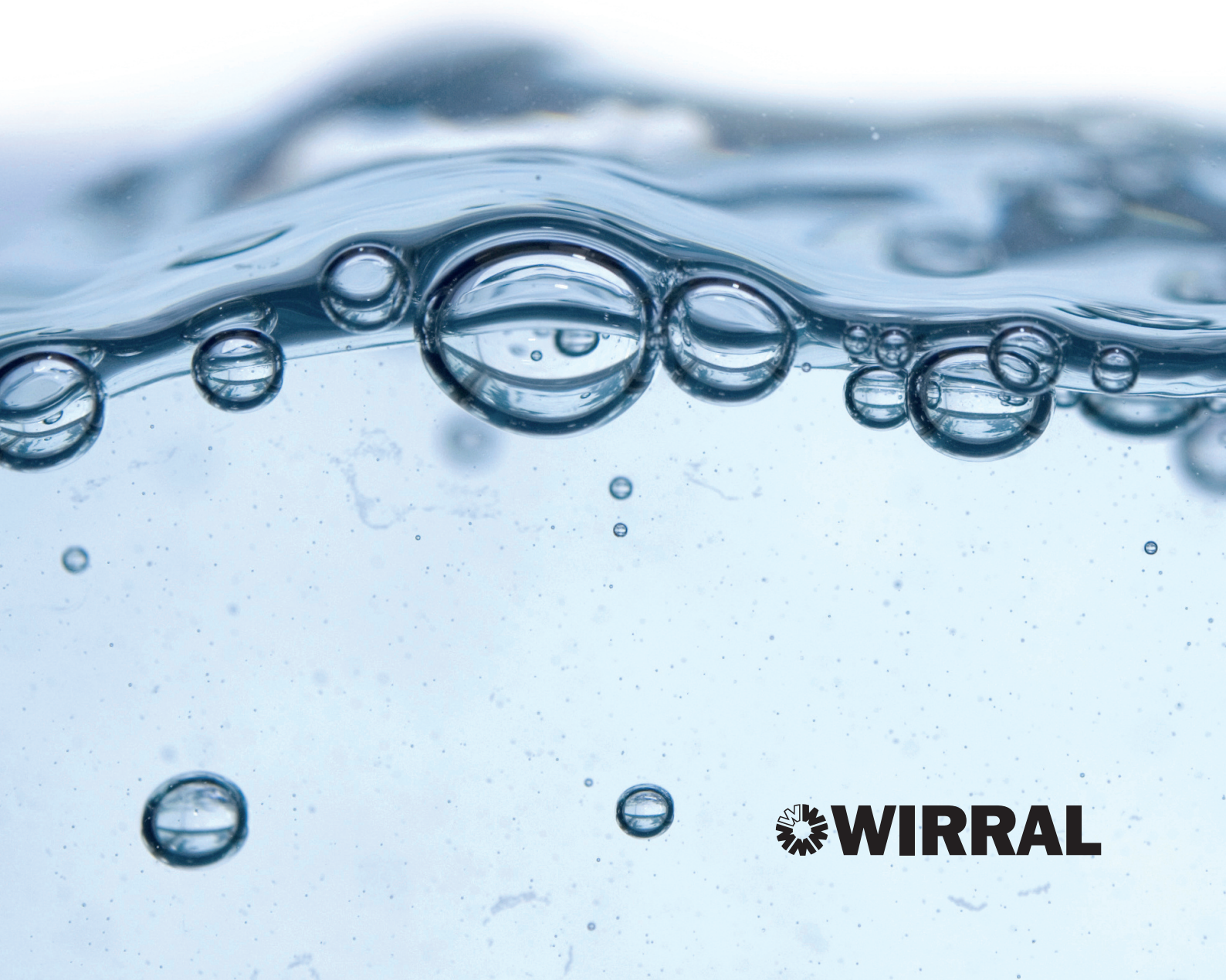
Preliminary Flood Risk

ASSESSMENT REPORT



WIRRAL

Contents

Executive Summary

This report has been prepared in accordance with guidance supplied by the Environment Agency on behalf of the UK Government. This guidance supports the Lead Local Flood Authorities (LLFAs) in managing local flood risk under the Flood Risk Regulations 2009, which implement the European Floods Directive.

Under these Regulations, LLFAs are responsible for undertaking a Preliminary Flood Risk Assessment (PFRA) for local flood risk, from surface runoff, groundwater and ordinary watercourses. The PFRA is a high level screening exercise which involves collecting information on past (historic) and future (potential) floods, assembling it into a preliminary assessment report, and using it to agree local surface water information and identify Flood Risk Areas (areas where the risk of flooding is significant i.e. more than 30,000 properties at risk)

No significant historic local flooding or significant future local flood risk has been identified as part of this PFRA process and Wirral has adopted the Flood Map for Surface Water (FMfSW) for its locally agreed surface water risk.

The local flooding that has occurred together with identified future flood risk from the surface water flood risk maps will form the basis of the Wirral Flood Risk Management Strategy and be supported by this report.

In accordance with the Flood Risk Regulations 2009, this Preliminary Flood Risk Assessment will be reviewed in 6 yrs (2017).

1.0 Introduction

1.1 Scope of Report

1.11 This report has been prepared by the Technical Services Department of Wirral MBC in accordance with guidance supplied by the Environment Agency on behalf of the UK Government. This guidance supports the Lead Local Flood Authorities (LLFAs) in managing local flood risk under the Flood Risk Regulations 2009, which implement the European Floods Directive. This Directive provides a consistent approach to managing flood risk across Europe, through a six year planning cycle based on a four stage process of: undertaking a Preliminary Flood Risk Assessment (PFRA), identifying Flood Risk Areas, preparing flood hazard and risk maps and preparing flood risk management plans. This guidance focuses on the first two stages.

1.12 Under the Regulations, LLFAs are responsible for undertaking a PFRA for local flood risk, from surface runoff, groundwater and ordinary watercourses (An ordinary watercourse is any watercourse, including streams, ditches and culverts, through which land drainage water may flow and which has not been designated as a 'Main River'. A 'Main River' being a major watercourse or river such as the Birkett and Fender, which are under the direct control of the Environment Agency.)

1,13 The PFRA is a high level screening exercise which involves collecting information on past (historic) and future (potential) floods, assembling it into a preliminary assessment report, and using it to agree local surface water information and identify Flood Risk Areas (areas where the risk of flooding is significant)

1.14 Wirral MBC is the Unitary Authority for the Wirral Area and is therefore the lead local flood risk authority and undertakes the flood and coastal erosion risk management functions as described in sections 4 & 5 of Part 1 of the Flood and Water Management Act 2010. It is also the Highway and Planning Authority for the Wirral area. In addition, it is also the Land Drainage body, in accordance with the Land Drainage Act 1991 and the Coastal Defence operating authority, although both are operated under permissive powers.

1.2 Aims and Objectives

1.21 The following aims and objectives have been provided to guide the Lead Local Flood Authorities through the PFRA process.

1.22 The aim of this PFRA is to provide an assessment of local flood risk across the study area including information on past floods and the potential consequences of future floods.

1.23 The objectives of the PFRA process is

- To collect information on historic and future (potential) floods and flood risk;
- To assemble the information in the PFRA report template;

- To determine where in Wirral there is significant flood risk;
- To establish good professional partnership arrangements

1.3 Study Area

1.31 Wirral Metropolitan Borough Council is approximately 70sq miles in size with a population in excess of 310,000. It is located in the North West of England on the low-lying peninsula between the Dee Estuary to the south and the Mersey Estuary to the north and has extensive residential areas near the coast and inland watercourses.

1.32 The majority of the developed areas within the Borough lie along the Mersey coast and east of the M53 Motorway and includes the port development at Twelve Quays and Birkenhead Docks. West of the M53 motorway the Borough comprises of suburban settlements, villages and small towns separated by areas of Greenbelt.

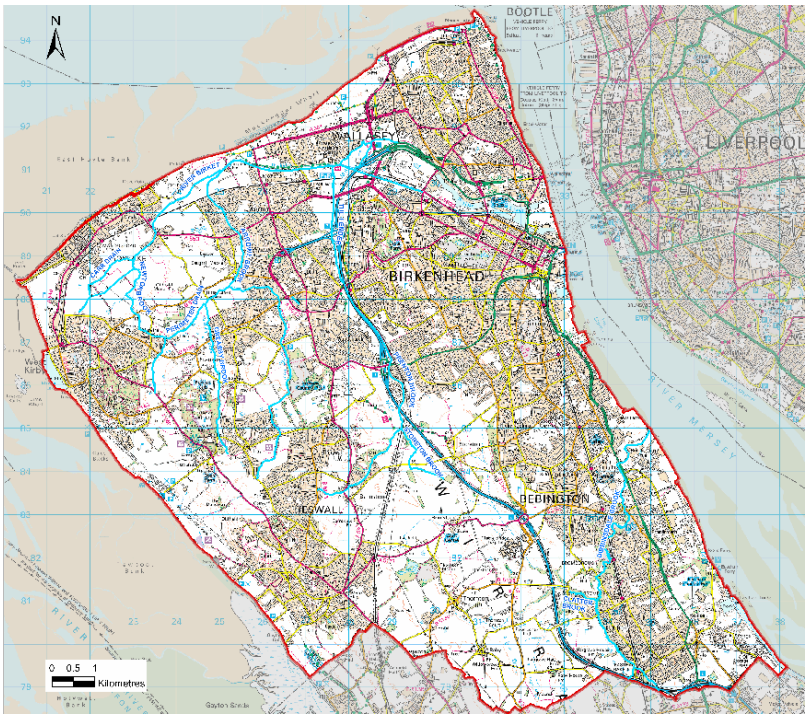


Figure 1. Study Area and Main Watercourses

1.33 There are two areas of high ground at Wallasey and Birkenhead, as well as two sandstone ridges that run northwest – southeast, one running from Bidston through Bebington, the other running from West Kirby to Heswall. The latter represents the watershed between the Dee and Mersey Estuaries and also the boundary between the jurisdictions of United Utilities/Dwr Cymru (Welsh Water) The majority of the Wirral is founded on sandstone, which forms an aquifer.

1.34 The river network within the Borough is largely self-contained (with the exception of the two estuaries) and the total designated main river length is 97kms. The two main river catchments are the River Birket, to the north and the Dibbinsdale Brook, to the

south, which together with their numerous tributaries drain into the Mersey Estuary through engineered infrastructure designed to minimise tidal inundation. Properties near the River Birket and its tributary, the Fender are protected from flooding by defences constructed to protect against a probability of overtopping that varies dependant on the design criteria at the time.

1.35 There is known to be a network of ordinary watercourse across much of the Wirral that ultimately discharge into the 'Main Rivers', but it has not been mapped to any great detail and thus the associated flood risk is as yet unknown.

2.0 Lead Local Flood Authority responsibilities

2.1 Responsibilities and Roles

2.1.1The Lead Local Authority is responsible for the management of local flood risk. This leadership role includes ensuring that flood risk from all sources, including from surface run-off, groundwater and ordinary watercourses, is identified and managed as part of locally agreed work programmes that is linked to the spatial planning process. This enhanced role for local authorities, which includes leading new local partnerships, will be pivotal to the success of the much stronger and more comprehensive approach to flood risk management.

2.1.2 Wirral Local Leadership Role

- Setting Local Strategy for local flood risk management
- Leadership and accountability for ensuring effective management of local flood risk from ordinary watercourses, surface run-off and groundwater.
- Production of local flood risk assessments, maps and plans including an asset register.
- Improved drainage and flood risk management expertise.
- Drainage from non-Highways Agency Roads
- Prioritising local investment.
- Consenting and enforcement powers for certain works affecting ordinary watercourses.
- Promoting partnerships with local planning authorities to produce Strategic Flood Risk Assessments.
- SuDs Approving Body

2.1.3 Delivery / executive role

- Powers to do work for surface run-off and groundwater flood risk.
- Duty to undertake Flood and Coastal Erosion Risk Management (FCERM) functions in accordance with local and national strategies.
- Local Flood Risk Management (LFRM) decision-making integrated into local asset management and investment programmes.
- Category 1 responder under the Civil Contingencies Act including local delivery of flood warnings.

2.2 Wirral Local Flood Risk Management Partnership

2.2.1 Following widespread flooding nationally in 2007, a review by Sir Michael Pitt highlighted that as intense rainfall events can occur anywhere there was a need for all stakeholders to work in partnership to improve understanding and the management of flood risk, particularly in urban areas, in order to be better prepared.

2.2.2 In 2008, in response to this review and recommendations, Wirral's Streetscene & Transportation Overview & Scrutiny approved the establishment of a cross-party Elected Members Steering Group which met regularly with the cross-departmental Officers Flood Group which was also established in 2008 following a local flooding incident.

2.2.3 The present Wirral Flood Group is a combination of these two groups, plus representatives from the Environment Agency, United Utilities, Welsh Water, Wirral NHS and the Emergency Services. The partnership relationship has been strengthened by re-branding as the Wirral Flood Management Partnership Group, together with the introduction of agreed Terms of Reference that all partners have signed up to. This group reports annually to the Overview & Scrutiny Committee on flood risk management undertaken during the previous year and sets out its actions/targets for the next

2.2.4 In addition, an operational sub-group, made up of Council Officers and representatives from the Environment Agency, United Utilities and Welsh Water, has been established to deal with the day-to-day flooding and flood risk issues, it meets monthly or as required and reports to the bi-yearly Flood Management Partnership Group meetings.

2.2.5 The Governance and Partnership Arrangements structure is detailed below in Figure 2

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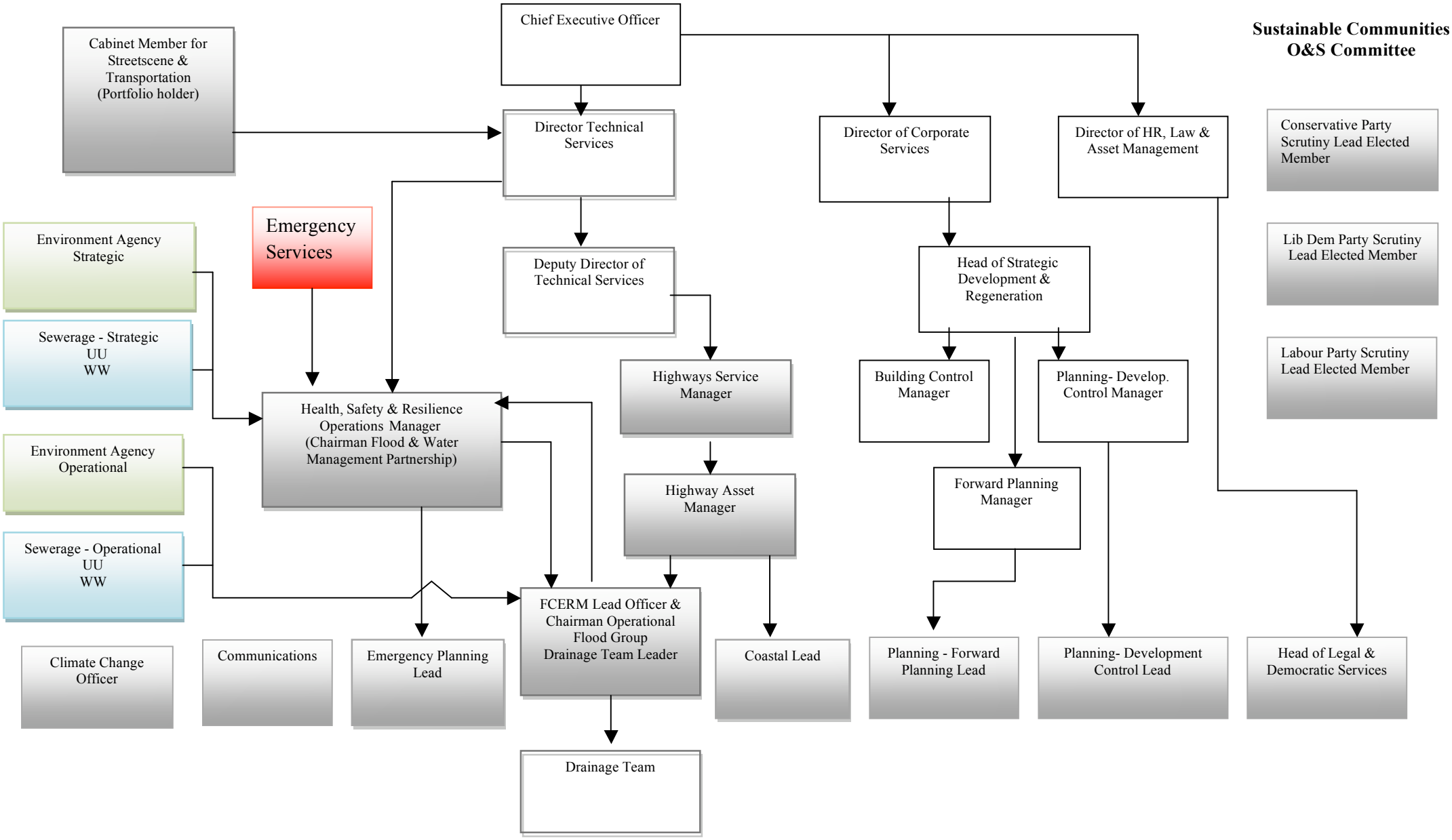


Figure 2. Governance and Partnership Arrangements
(Members of Flood Management Partnership and Operational Flood Group in shaded boxes)

2.3 Wirral Local Flood Risk Public Consultation and Communication

2.3.1 A priority for the Flood Management Partnership Group is the need to involve and inform the local community concerning flood risk within Wirral. Initially, consultation with the various Housing partnerships will enable the flood risk messages to reach a wider audience and increase the understanding of the local flood risk and the prioritisation that these communities would wish to see in connection with what are, usually, very localised problems.

2.3.2 The Wirral PFRA will be published on the Council's Website although it may be necessary restrict access to some sensitive information.

3.0 Methodology and data review

3.0.1 Wirral MBC carried out a comprehensive audit of its flooding complaint recording system, to detail what records existed of historic flooding incidents, which were not related to operational maintenance issues, this resulted in a detailed list of street locations. This together with the drainage staff's and highway inspector's local knowledge, local community flooding information such as local newspaper reports and any photographs were then used to produce a draft historic flooding database.

3.0.2 There was, unfortunately very little information concerning land drainage and groundwater flooding as these were not recorded or investigated in the past. In addition, it should be noted that the information concerning historical flooding relied heavily on anecdotal evidence, such as reports of flooding from members of the public logged by the Council's call centre.

3.0.3 The draft historic flooding database was shared with the local Water and Sewerage companies and the Environment Agency, to further improve the confidence in the recorded incidents. The Environment Agency was able to provide additional flood locations that had been reported directly to them but were not linked to the 'Main Rivers'. However, the local water and sewerage companies were only able to supply flood risk information from their DG5 flood records

3.0.4 Staff within the Council's Coastal Group were also consulted to identify if any links existed between the flood locations and coastal/tidal flooding.

3.0.5 Correlation of some of the historic flooding information was also made possible following a number of high intensity storm events, which had occurred within the previous 12 months.

3.0.6 The historic flooding data collected is held on a Microsoft Excel spreadsheet and this together with the DG5 locations has been set as a layer on the adopted corporate GIS system, MapInfo. These are stored within the Councils computer network with appropriate security and back up facilities and although Wirral MBC does not operate a

quality assurance system, it has entered into data agreements with partners who have shared data.

3.0.7 The flooding database is an ongoing item on the agenda of the Operational Flood Working Group and is considered a 'live document' to be updated as flooding issues are resolved or new locations are identified.

4.0 Past flood risk

4.1 Historical Local Significant Flood Risk

4.1.1 In order to identify if there had been any historical local significant flood risk, it was necessary to define what was to be considered as a locally significant flooding incident. Wirral MBC, along with other Councils on Merseyside, agreed this as flooding that affected 20 people (or approximately 8 houses) or 1 critical service, within a 1 km grid square. Although flooding was found to have occurred at a number of locations across the borough, none met the above criteria.

4.2 Surface Water Flooding

4.2.1 Although no historically significant flooding has occurred, records from a number of sources show that surface water flooding has occurred following a number of either high intensity storm events or extended periods of heavy rain. However, this flooding had only affected a small number of properties internally with the majority of the flooding being mainly external to the property, or restricted to the highway, open space and farmland.

4.2.2 The identified storm events and data sources related to the surface water flooding that has occurred are detailed in the Table below and although no information was recoded concerning the storms themselves, severe weather warnings were received via the Met Office and/or the Environment Agency on the more recent incidents.

Table 1 – Flooding Incident Data Sources

Incident Date	Flood Information Source
November 2000	Local newspaper reports and Wirral flooded area plans
August 2006	Wirral Council records
September 2007	Wirral Council records and political community groups
September 2008	Wirral Council records and political community groups
January 2008	Wirral Council records
July 2009	Wirral Council records and local newspaper
July 2010	Wirral Council records

4.2.3 In the past land drainage and groundwater flooding incidents were rarely recorded or investigated unless they impacted on to the highway.

4.2.4 During these high intensity storms some overland flow and surface water run-off was recorded but this was limited by the general topography.

4.2.5 The locations of the recorded flooding incidents are detailed in Figure 3 below.

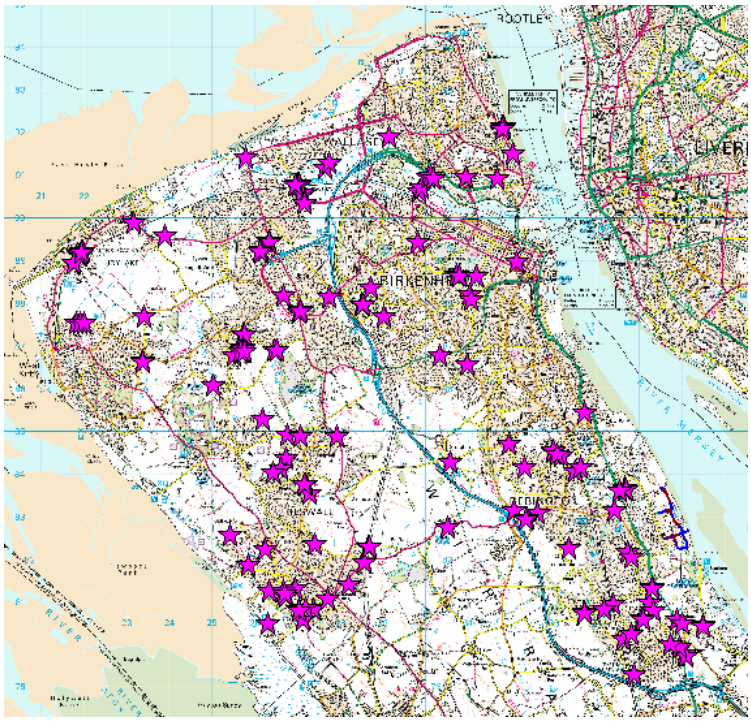


Figure 3. Locations of Recorded Surface Water Flooding Incidents

4.2.6 Approximately two-thirds of the surface water flows generated within the Wirral discharges into the River Birket and its tributaries. This ‘Main River’ flows into a large diameter culvert known locally as ‘The Great Culvert’. These flows are intercepted by an automatic, mechanically raked screen with a bypass overflow should the screen blind or suffer a mechanical failure, which has lead to property flooding in the past.

4.2.7 Downstream of this screen is a pumping station, operated by United Utilities that intercepts these raked flows up to the stations maximum pumping capacity of 6m3/s, which are discharged into the West Float Dock. Flows in excess of this pass forward into the downstream section of the ‘Great Culvert which is designated as a public sewer and receives combined flows from the public sewerage system. The ‘Great Culvert eventually discharges into the United Utilities WwTW at Shore Road, Birkenhead. Flows in excess of the treatment capacity of the works are pumped directly into the River Mersey via a storm pumping station with a capacity of 9.14m3/s.

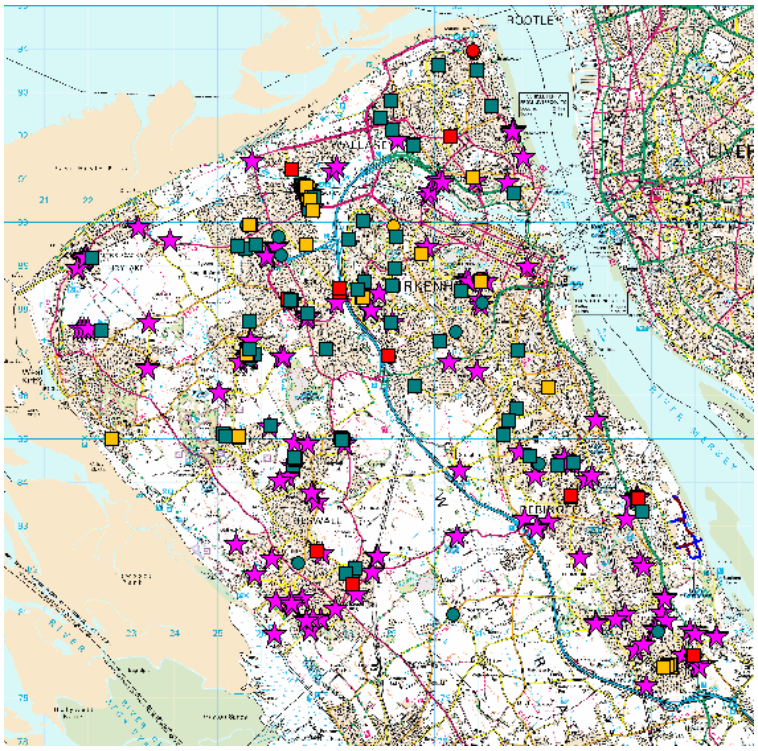
4.2.8 A major factor influencing the flooding that has occurred is the flood defences on the main river network, in particularly the Birket and Fender, which in places have been constructed higher than the surrounding area. Although, this allows the Main Rivers to carry and store additional flows it prevents many of the directly piped outfalls and critical and ordinary watercourses from discharging into them. This inevitably leads to flows backing up and subsequent flooding, which due to the low-lying nature of the area, can stretch well into the upstream catchments

4.3 Flooding from Public Sewers

4.3.1 Much of the highway drainage system within the Wirral discharges into either the public combined or surface water sewers. During high intensity storm events or extended periods of heavy rain the public sewerage system often becomes overloaded resulting in both surface water and foul flooding of properties and the highway.

4.3.2 The DG5 register of reported sewage flooding incidents provided by both United Utilities and Welsh Water were analysed and some correlation in locations between the flood maps and the Wirral recorded flood incidents was identified.

4.3.4 Figure 4 below shows the DG5 reported public sewer flooding incidents, both internal and external together with the Wirral recorded flooding incidents.



Key

Wirral Historic Flood Locations

DG5 Internal Flooding Locations

DG5 External Flooding Locations

Figure 4. DG5 Public Sewer and Wirral Reported Flooding Locations

4.3.3 Discussions with representatives of both United Utilities and Welsh Water has not identified any past sewage flooding incidents that were locally significant

4.4 Groundwater Flooding

4.4.1 Groundwater flooding results when the natural water table within the underlying strata rises to ground level. This can result from reductions in water abstraction, or following long periods of sustained rainfall. The areas most at risk can be low-lying areas or where the ground water table is at a naturally shallow depth.

4.4.2 The Environment Agency Areas Susceptible to Ground Water Flooding Map (AStGWF) suggests that the coastal fringes to the east and northeast together with the northwest of the Wirral could be susceptible to groundwater flooding.

4.4.3 However, the production of these maps was based on limited geological information and does not take account of groundwater rebound following reductions in water abstraction. In addition, the maps show 1km grid squares where geological and hydrogeological conditions show that groundwater might emerge but it is likely that only isolated locations within the overall susceptible area are actually likely to suffer the consequence of groundwater flooding.

4,4.4 Figure 5 below shows the Environment Agency AStGWF Map for the Wirral.

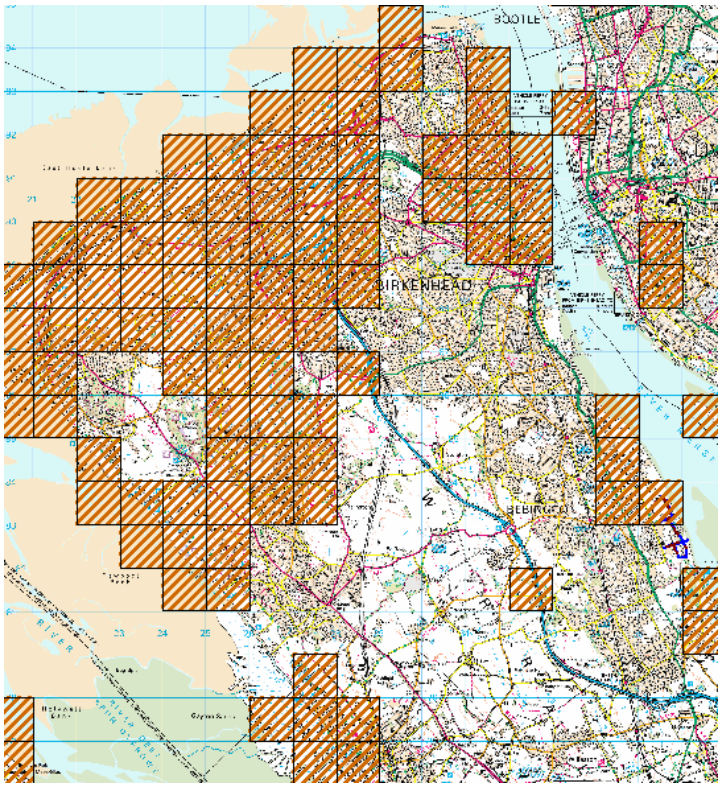


Figure 5 Environment Agency AStGWF Map for the Wirral

4.4.5 No records were identified of known groundwater flooding within the Wirral thus it is not possible to conclude if any past groundwater flooding had had any significant effect on existing recorded surface water flooding. However, it is possible that the future requirement to deal with surface water by the adoption of Sustainable Urban Drainage systems (SUDs) will lead to groundwater and land drainage flooding could become more widespread.

4.4.6 Groundwater does affect the operation of the 3 Mersey tunnels and continuous pumping is undertaken at present.

4.5 Tidal Flooding

4.5.1 Although there is no requirement to consider flooding from the sea in the PFRA, it was considered prudent to identify what known historical tidal flooding had occurred and examine if this could have influenced the surface water flooding events that had occurred around the coastal fringes. However, no such links were identified.

5.0 Future flood risk

5.1 Significant Local Flood Risk

5.1.1 The Government, drawing on information from existing surface water flood risk maps (deep - for 1 in 200 annual probability rainfall), identified 1 km grid squares across the UK, where local flood risk is significant. Where a number of grid squares are close together they are termed ‘clustered’ and these clusters are identified as Indicative Flood Risk Areas. A cluster is 5 or more local flood risk squares per 3km2. For a 1km square to be classed as ‘a local flood risk issue’ one of the following criteria had to be met:

a. People > 200
b. Critical services > 1
c. Non-residential properties >20

To be classed as an Indicative Flood Risk Area (significant flood risk) a ‘cluster’ of 1km squares required one of the following to be met:

a. >30,000 people at risk
b. >150 critical services at risk
c. > 3,000 non-residential properties
d. include a nationally designated site

5.1.2 The above criteria did not identify any indicative flood risk areas within the Wirral.

5.1.3 A number of these 1km grid squares were identified within the Wirral and although they were not classed as an Indicative Flood Risk Area, this highlights that a significant number of both residential and none residential properties could be at risk from future surface water flooding with the consequential risk to human health.

5.1.4 The table below shows the number of properties in Wirral which could be at risk of local flooding as reported in Annexe 2

Table 2. Number of Properties within the Wirral Identified with Future Local Flood Risk

Annexe 2 Flood ID	Description of assessment method	Human health consequences - residential properties	Number of non-residential properties flooded
1	Areas Susceptible to Surface Water Flooding (AStSWF) - Less	26,800	4500
2	Areas Susceptible to Surface Water Flooding (AStSWF) - Intermediate	7000	1400
6	Flood Map for Surface Water (FMfSW) - 1 in 200	23100	3700
7	Flood Map for Surface Water (FMfSW) - 1 in 200 deep	5200	900

5.1.5 The Figure below shows the flooding related to AStSWF and FMfSW I in 200yr rainfall event.

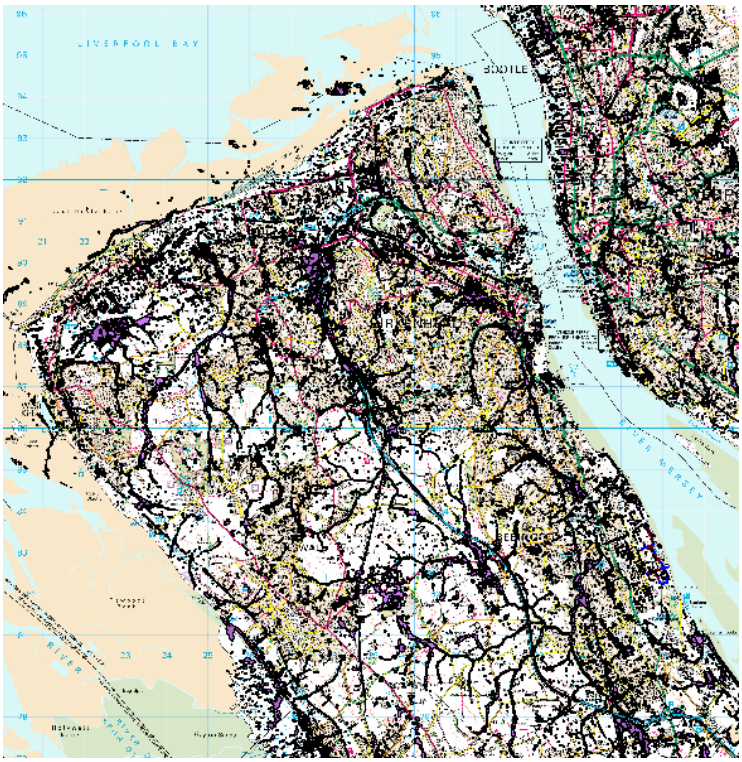


Figure 6. Flooding Associated with AStSWF and FMfSW

5.2 Locally Agreed Surface Water Information

5.2.1 Wirral's local flood risk database was shared with both United Utilities, Welsh Water and the Environment Agency; and there was some correlation between a number of the DG5 and the local flood risk locations.

5.2.2 This local flood risk information was also compared against the FMfSW and AStSWF maps. It was found that the FMfSW was more consistent with this known flooding and has therefore been adopted by Wirral for its locally agreed surface water risk.

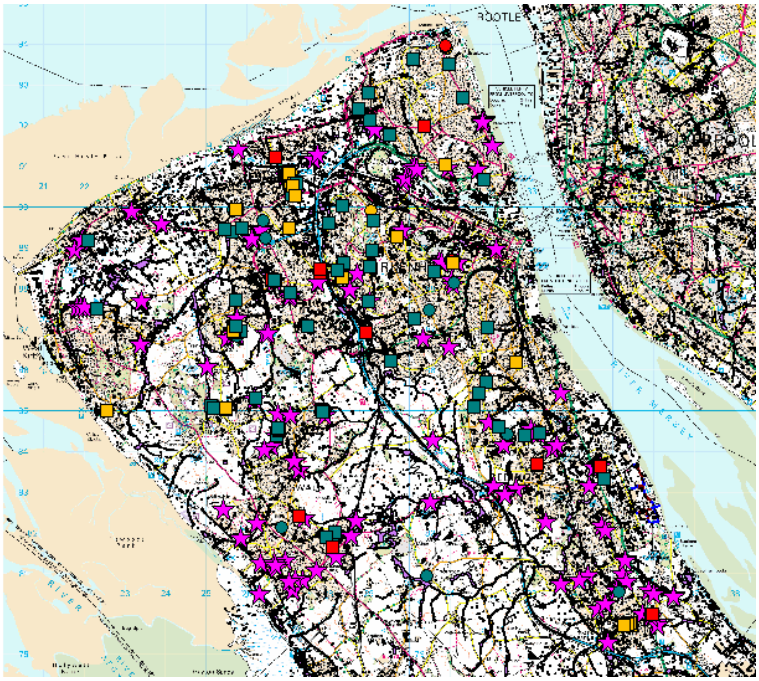


Figure 7. Agreed Flood Map for Surface Water with Historical Flood Locations Overlaid

5.2.3 It has been agreed with partners that the flood risk database will be developed to include DG5 flood locations but where the capacity of a public sewer is the likely cause, it will be clearly identified as Sewerage Undertaker responsibility. However, where there is a flood risk link to either a downstream watercourse or 'Main River', then this will be investigated by either Wirral MBC or jointly with the Sewerage Undertaker and involving the Environment Agency.

5.2.4 It is believed that these proposals will enable a better understanding of the local flood risk and the development of linked and locally agreed work programmes.

5.3 Groundwater Flooding

5.3.1 Groundwater levels are continuing to rise due to a significant reduction in industrial abstraction with the decline of industry. This causes increasing risk of groundwater flooding. The AStGWF map has been used to provide information detailed in the future flood risk spreadsheet (Annex 2).

5.3.2 Groundwater flooding poses a future flood risk to the three Mersey tunnels. The two road tunnels and one rail tunnel are key transport links connecting Liverpool to

Wirral. Potential consequences are an economic impact through closures obstructing commuters and commercial traffic and passengers. Emergency services would be hindered through the closure of this strategic link, limiting their ability to respond to incidents.

5.4 Climate Change

5.4.1 The Evidence

5.4.1.1There is clear scientific evidence that global climate change is happening now. It cannot be ignored.

5.4.1.2 Over the past century around the UK we have seen sea level rise and more of our winter rain falling in intense wet spells. Seasonal rainfall is highly variable. It seems to have decreased in summer and increased in winter, although winter amounts changed little in the last 50 years. Some of the changes might reflect natural variation, however the broad trends are in line with projections from climate models.

5.4.1.3 Greenhouse gas (GHG) levels in the atmosphere are likely to cause higher winter rainfall in future. Past GHG emissions mean some climate change is inevitable in the next 20-30 years. Lower emissions could reduce the amount of climate change further into the future, but changes are still projected at least as far ahead as the 2080s.

5.4.1.3 We have enough confidence in large-scale climate models to say that we must plan for change. There is more uncertainty at a local scale but model results can still help us plan to adapt. For example we understand rainstorms may become more intense, even if we can’t be sure about exactly where or when. By the 2080s, the latest UK climate projections (UKCP09) are that there could be around three times as many days in winter with heavy rainfall (defined as more than 25mm in a day). It is plausible that the amount of rain in extreme storms (with a 1 in 5 annual chance, or rarer) could increase locally by 40%.

5.4.2 North West River Basin District

5.4.2.1 Key Projections

5.4.2.1.1 If emissions follow a medium future scenario, UKCP09 projected changes by the 2050s relative to the recent past are

- Winter precipitation increases of around 14% (very likely to be between 4 and 28%)
- Precipitation on the wettest day in winter up by around 11% (very unlikely to be more than 25%)
- Relative sea level at Morecambe very likely to be up between 6 and 36cm from 1990 levels (not including extra potential rises from polar ice sheet loss)
- Peak river flows in a typical catchment likely to increase between 11 and 18% increases in rain are projected to be greater near the coast than inland.

5.4.2.2 Implications for Flood Risk

5.4.2.2.1 Climate changes can affect local flood risk in several ways. Impacts will depend on local conditions and vulnerability.

5.4.2.2.2 Wetter winters and more of this rain falling in wet spells may increase river flooding especially in steep, rapidly responding catchments. More intense rainfall causes more surface runoff, increasing localised flooding and erosion. In turn, this may increase pressure on drains, sewers and water quality. Storm intensity in summer could increase even in drier summers, so we need to be prepared for the unexpected.

5.4.2.2,3 Drainage systems in the district have been modified to manage water levels and could help in adapting locally to some impacts of future climate on flooding, but may also need to be managed differently. Rising sea or river levels may also increase local flood risk inland or away from major rivers because of interactions with drains, sewers and smaller watercourses. Even small rises in sea level could add to very high tides so as to affect places a long way inland.

5.4.2.2.4 Where appropriate, we need local studies to understand climate impacts in detail, including effects from other factors like land use. Sustainable development and drainage will help us adapt to climate change and manage the risk of damaging floods in future.

5.4.3 Dee River Basin District

5.4.3.1 Key Projections

5.4.3.1.1 If emissions follow a medium future scenario, UKCP09 projected changes by the 2050s relative to the recent past are

- Winter precipitation increases of around 10% (very likely to be between 2 and 21%)
- Precipitation on the wettest day in winter up by around 8% (very unlikely to be more than 21%)
- Relative sea level at Hoylake very likely to be up between 7 and 38cm from 1990 levels (not including extra potential rises from polar ice sheet loss)
- Peak river flows in a typical catchment likely to increase between 7 and 12%

5.4.3.2 Implications for Flood Risk

5.4.3.2.1 Climate changes can affect local flood risk in several ways. Impacts will depend on local conditions and vulnerability.

5.4.3.2.2 Wetter winters and more of this rain falling in wet spells may increase river flooding along the Dee and its tributaries. More intense rainfall causes more surface runoff, increasing localised flooding and erosion. In turn, this may increase pressure on drains, sewers and water quality. Storm intensity in summer could increase even in drier summers, so we need to be prepared for the unexpected.

5.4.3.2.2 Rising sea or river levels may increase local flood risk inland or away from major rivers because of interactions with drains, sewers and smaller watercourses.

5.4.3.2.3 Where appropriate, we need local studies to understand climate impacts in detail, including effects from other factors like land use. Sustainable development and drainage will help us adapt to climate change and manage the risk of damaging floods in future.

5.4.4 Adapting to Change

5.4.4.1 Past emission means some climate change is inevitable. It is essential we respond by planning ahead. We can prepare by understanding our current and future vulnerability to flooding, developing plans for increased resilience and building the capacity to adapt. Regular review and adherence to these plans is key to achieving long-term, sustainable benefits.

5.4.4.2 Although the broad climate change picture is clear, we have to make local decisions against deeper uncertainty. We will therefore consider a range of measures and retain flexibility to adapt. This approach, embodied within flood risk appraisal guidance, will help to ensure that we do not increase our vulnerability to flooding.

5.4.5 Long Term Developments

5.4.5.1 It is possible that long-term developments might affect the occurrence and significance of flooding. However, current planning policy aims to prevent new development from increasing flood risk.

5.4.5.2 In England, Planning Policy Statement 25 (PPS25) on development and flood risk aims to "ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk. Where new development is, exceptionally, necessary in such areas, policy aims to make it safe without increasing flood risk elsewhere and where possible, reducing flood risk overall."

5.4.5.3 Adherence to Government policy ensures that new development does not increase local flood risk. However, in exceptional circumstances the Local Planning Authority may accept that flood risk can be increased contrary to Government policy, usually because of the wider benefits of a new or proposed major development. Any exceptions would not be expected to increase risk to levels that are "significant" (in terms of the Government's criteria).

5.4.5.4 Wirral’s Core Strategy (which, when adopted in 2012, will run until 2027) will aim to focus job, housing and population growth to areas in greatest need of social economic and environmental regeneration, principally in east Wirral and especially the Housing Market Renewal/Growth Point areas in Birkenhead and Wallasey, where no limit to the number of homes and jobs is proposed. Elsewhere, development is likely to be more restricted to that which supports existing town centre’s and/or which is along main public transport corridors. Green Belt will not be released in the period to 2027 and the focus in rural areas will be on supporting the agricultural economy, outdoor sport and recreation and environmental protection.

5.4.5.5 Wirral Waters, the largest planning application for future development in the UK has been approved by Government and Wirral's planning committee (subject to a Section 106 legal agreement). It is an 18 million sq ft, £4.5 billion, regeneration scheme in Birkenhead and Wallasey spanning some 30yrs.

5.4.5.6 Flood risk implications were considered as part of the outline planning application and further updated assessments will be required as detailed "reserved matters" planning applications are submitted over the lifetime of the project. These will need to ensure that the proposal does not have an adverse impact on local flood risk.

6.0 Identification of Flood Risk Areas

6.0.1 No indicative flood risk areas were identified within the Wirral, however, a number of l km grid squares were identified where future local flood risk may be an issue and are shown in the figure below.

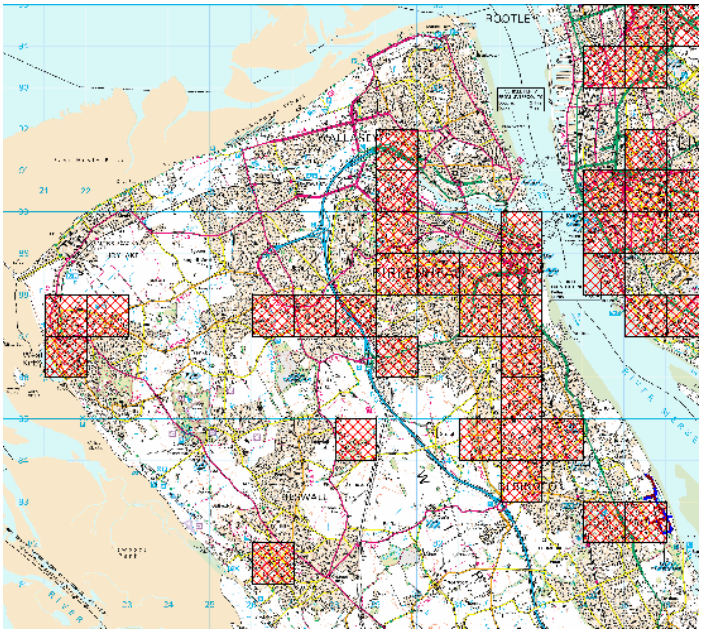


Figure 8. Areas where Future Local Flood Risk May be an Issue

6.0.2 These future local flood risk areas will be considered during the development of the Wirral Flood Risk Management Strategy.

7.0 Next steps

7.1 Data Capture

7.1.1 Wirral, as the LLFA, now has a responsibility to investigate all surface water flooding in the future, including that from land drainage and groundwater. These investigations will greatly improve its local flood risk knowledge and enable it to better manage the overall local flood risk.

7.1.2 A review of the management procedures in connection with the response to flooding is planned as part of the development of its flood risk management strategy, as are improvements in the call centre initial response to the flooding notifications by the public. This should result in the development of a more detailed flooding database that will help identify significant local flood risk in the future and support the requirement to review the PFRA every 6 years by collecting information that was optional for this first cycle.

7.2 Flood Asset Register

7.2.1 Wirral will populate and maintain an asset register, and then develop maintenance regimes for those assets that pose the most potential flood risk

7.3 Overview and Scrutiny Role

7.3.1 The Wirral Flood Management Partnership and the Wirral Operational Flood Group will support the new flood management role of the Overview & Scrutiny Committee by the production of an annual report on flood risk management undertaken during the previous year and by setting out its actions/targets for the next.

7.4 Wirral Flood Risk Management Strategy

7.4.1 The Wirral Flood Risk Management Strategy will be supported by this report.

7.5 PFRA Review

7.5.1 In accordance with the Flood Risk Regulations 2009, this Preliminary Flood Risk Assessment will be reviewed before 2017.

8.0 References

Defra / WAG (2010) Selecting and reviewing Flood Risk Areas for local sources of flooding – Guidance to Lead Local Flood Authorities. (http://www.defra.gov.uk/environment/flooding/documents/research/flood-risk-method.pdf)

Environment Agency (07/12/10 Preliminary Flood Risk Assessment - Final Guidance (Report – GEHO1210BTGH-E-E). Available from http://publications.environment-agency.gov.uk/pdf/GEHO1210BTGHe-e.pdf

Environment Agency (02/03/11) Preliminary Flood Risk Assessment – Annexes to the final guidance (Report – GEHO1210BTHF-E-E). Available from http://publications.environment-agency.gov.uk/pdf/GEHO1210BTHFe-e.pdf

European Floods Directive 2007/60/EC

Flood and Water Management Act 2010

Flood Risk Regulations (2009) Statutory instruments No. 3042

Land Drainage Act 1991

Planning Policy Statement 25 (PPS25)

The Pitt Review (2008) Learning lessons from the 2007 floods

Annexes

• Annex 1 - Records of past floods and their significant consequences (preliminary

assessment report spreadsheet)
• Annex 2 - Records of future floods and their consequences (preliminary assessment report spreadsheet)
• Annex 3 - Records of Flood Risk Areas and their rationale (preliminary assessment report spreadsheet)
• Annex 4 - Review checklist
• Annex 5 – N/A