



Environment Overview and Scrutiny Committee

Date: Monday, 18 July 2016

Time: 6.00 pm

Venue: Committee Room 1 - Wallasey Town Hall

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AGENDA

1. MEMBERS' CODE OF CONDUCT - DECLARATIONS OF INTEREST / PARTY WHIP

Members are asked to consider whether they have any disclosable pecuniary interests and/or any other relevant interest in connection with any item(s) on this agenda and, if so, to declare them and state the nature of the interest.

Members are reminded that they should also declare whether they are subject to a party whip in connection with any item(s) to be considered and, if so, to declare it and state the nature of the whipping arrangement.

2. MINUTES

The minutes of the meeting of the former Transformation and Resources Policy and Performance Committee held on 22 March, 2016 will be considered by Council at its meeting on 11 July, 2016.

3. FLOOD AND WATER MANAGEMENT ACT: SIGNIFICANT FLOOD INVESTIGATION: AUGUST 22ND TO SEPTEMBER 2ND 2015 (Pages 1 - 102)

4. COASTAL STRATEGY SCRUTINY REPORT (Pages 103 - 124)

5. TRANSFORMING WIRRAL (Pages 125 - 130)

6. 2015/16 REGENERATION AND ENVIRONMENT AND TRANSFORMATION AND RESOURCES DIRECTORATE PLAN CLOSEDOWN REPORTS (Pages 131 - 162)

7. FLOOD AND COASTAL EROSION RISK MANAGEMENT: GOVERNANCE AND REPORTING ARRANGEMENTS (Pages 163 - 170)

Following publication of a Cabinet Member Decision on 5 July 2016, the attached report and decision are submitted to the Committee for its consideration.

8. POLICY INFORM: ENVIRONMENT (Pages 171 - 190)

9. SCRUTINY WORK PROGRAMME REPORT (Pages 191 - 196)

10. ANY OTHER URGENT BUSINESS APPROVED BY THE CHAIR (PART 1)

11. EXEMPT INFORMATION - EXCLUSION OF THE PRESS AND PUBLIC

The public may be excluded from the meeting during consideration of the following items of business on the grounds that they involve the likely disclosure of exempt information.

RECOMMENDED

That, in accordance with section 100A (4) of the Local Government Act 1972, the public be excluded from the meeting during consideration of the following items of business, on the grounds that they involve the likely disclosure of exempt information as defined by the relevant paragraphs of Part 1 of Schedule 12A (as amended) to that Act. The public interest test has been applied and favours exclusion.

12. ANY OTHER URGENT BUSINESS APPROVED BY THE CHAIR (PART 2)



OVERVIEW & SCRUTINY COMMITTEE - ENVIRONMENT

18 JULY 2016

REPORT TITLE	FLOOD & WATER MANAGEMENT ACT: SIGNIFICANT FLOOD INVESTIGATION: AUGUST 22ND TO SEPTEMBER 2ND 2015
REPORT OF	HEAD OF ENVIRONMENT AND REGULATION

REPORT SUMMARY

This report provides an update on the findings of the Flood and Water Management Act Section 19 Flood Investigation which covered the flood events from 22nd August 2015 to 2nd September 2015

A Section 19 Investigation is a statutory requirement under the Flood and Water Management Act to allow Wirral, as Lead Local Flood Authority to manage of flood and coastal erosion risk. The recommendations of the Section 19 Investigation impact directly on the following Environment Pledges in the Wirral Plan 20/20 Vision:

- **Wirral's neighbourhoods are safe:** Flooding and coastal erosion can increase the risk to life and property. By managing these risks in a strategic manner then the risks to neighbourhoods can be minimised.
- **Wirral residents live healthier lives:** The immediate impact on health following flooding is apparent however for those that live with the risk of flooding or coastal erosion the longer term health effects can be as serious. The LFRMS sets out a strategic approach, including on-going community engagement to allow those at risk to become involved in the management of flood risk.

This matter affects all Wards within the Borough.

This is not a key decision.

RECOMMENDATION/S

Members are requested to:

- (1) Note the findings of the report with regard to each relevant Risk Management Authority (RMA);
- (2) Note the recommendations in the report to allow Wirral Council, as the Lead Local Flood Authority (LLFA), to improve its response with regard to flood risk management;
- (3) Note the issue of the Flood Investigation Report to the public in accordance with the statutory requirement under Section 19 of the Flood and Water Management Act (FWMA).

SUPPORTING INFORMATION

1.0 REASON/S FOR RECOMMENDATION/S

- 1.1 The reason for the above recommendation is to enable Wirral Council, as LLFA to meet its statutory requirement under Section 19 of the FWMA 2010 to publish the results of an investigation into significant flooding in the Wirral area.
- 1.2 Section 19 of the FWMA also requires Wirral to investigate and report on the roles of other RMAs in response to the significant flood event.
- 1.3 The events of 22nd August to 2nd September 2015 are classed as “significant” when measured against the criteria set out in the Flood Investigation Policy approved by Cabinet on 12th April 2012 (minute 417 refers).

2.0 OTHER OPTIONS CONSIDERED

- 2.1 The flooding events of 22nd August to 2nd September meet the criteria of “significant” events and as such must be investigated and reported upon in order for Wirral Council to meet its statutory obligations as LLFA. No other options have therefore been considered.

3.0 BACKGROUND INFORMATION

- 3.1 On 2nd September 2015 approximately 80% of the average September rainfall total fell between 02:00 and 14:00 across the Wirral. Widespread flooding was been reported covering all areas of the Wirral. Flooding to property and highways was recorded from multiple sources, the most high profile being fluvial flooding from the Arrowe Brook in Moreton. Sewer flooding was reported across the Wirral, as was surface water flooding which was particularly apparent at Greasby.
- 3.2 On 22nd August 2015 intense rainfall was also experienced in the south-east of the Wirral from Rock Ferry through to Bromborough. There were reports of sewer and surface water flooding affecting property and priority highways. Additionally isolated reports of flooding were received between these dates. As a result this flooding investigation covered the period from 22nd August 2015 to 2nd September 2015 inclusive.
- 3.3 A Flood Debrief session with Key Agencies and Risk Management Authorities was held on Tuesday 15th September and all parties were informed of the flood investigation. Additionally a Flooding Drop-In session for the public was also held on Wednesday 16th September at Moreton Community Centre, hosted by Wirral Council, the Environment Agency, United Utilities, Magenta Housing and the Citizen’s Advice Bureau. Attendees were informed of the Council’s obligation to investigate and report on the flooding incident.
- 3.4 Due to the scale of the flooding incidents and limited internal resource to undertake the investigation a decision was taken to appoint an independent consultant to carry out all investigation work, liaise with all involved RMAs and produce the final

Section 19 Flood Investigation Report. Mini-bids were invited from consultants registered on the Environment and Sustainability Lot of the North West Construction Hub via The Chest, in line with extant contract procedure rules. A single quotation was received and accepted and AECOM were commissioned to undertake the Section 19 investigation and report.

3.5 The commission was split into four key tasks:

Task 1: Review of Flood Events

This task required AECOM to obtain and analyse rainfall and river level data from all relevant agencies in order to define the severity of the events using the probability of occurrence in any one year. This “return period” is important in understanding how drainage systems coped during the flood events and whether the flooding caused was as a result of design standards being exceeded or whether operational issues caused the flooding.

In addition a Flood Defence Consent for a temporary crossing on the Arrowe Brook was in place and reported in the local media. This task also required AECOM to review all data relating to the crossing, which was constructed by a contractor to United Utilities, to determine whether it had an impact on river flow rates and levels upstream at Moreton.

Task 2: Identify Flooding Locations, Types and Causes of Flooding

Task 2 required AECOM to collate and combine all recorded data relating to flooding. All RMAs represented at the flooding de-brief in September were contacted and the resultant data was combined into a single dataset. Data was then analysed to identify areas that had not been subject to investigation on site and to identify clusters of flood areas.

Task 2 also required AECOM to undertake site visits to verify flooding information and also to provide advice to householders where necessary. Site visits were supplemented with a questionnaire hosted online. Residents identified as having been affected by the flood incidents were written to individually and directed to the online questionnaire to provide additional information to aid the investigation. The online questionnaire was also written to gauge whether residents had a knowledge of flood risk and whether they had become more resilient as a consequence of the flood events.

A meeting with the Environment Agency and United Utilities was also held to discuss and agree the initial findings arising from Task 2.

Task 3: Review of Flood Risk Management Agencies' Actions

Task 3 considered the actions taken (or not taken) by the relevant RMAs and required AECOM to collate and produce a timeline of the incident by combining information already produced by RMAs. Any gaps identified were to be subject to further investigation.

Task 4: Recommendations for Action

The conclusion of the investigation and report is the production of recommendations for all RMAs to take forward to improve their response to flood risk management. AECOM were also required to identify areas where Regional Flood and Coastal Committee Levy could be used to provide quick wins in delivering some of these recommendations.

3.6 AECOM started their commission in early November 2015, however Tasks 2 and 3 were delayed as a consequence of other RMA resources being allocated to deal with flooding in Lancashire and Cumbria during December 2015.

3.7 The draft findings of the Section 19 Flood Investigation were presented at the Wirral Flood and Water Management Partnership Meeting on 19th April 2016. A two week opportunity was provided for additional comments from all RMAs and the report was finalised on 13th May 2016. The full Section 19 Flood Investigation Report is attached as Appendix 1.

3.8 The findings of the Section 19 Report are as follows:

- The assessment of rainfall that fell in two pulses on 1st and 2nd September 2015 equates to a rainfall rarity event of 1:84 (1.2% chance of occurrence in any one year). As a guide the Water Industry Act requires sewers to be designed to a minimum of a 1:20 year return period.
- No rainfall data has been made available for the 22nd August 2015 event.
- The Met Office predictions of rainfall and risk did not warrant issue of a National Severe Weather Warning Service for rainfall.
- The Environment Agency (EA) flood warning service for Moreton is triggered by river levels measured at Greasby. The trigger level was not reached on 2nd September and in accordance with procedure, no warning was issued for Moreton.
- The EA issued a flood alert for the Birket catchment at 14:26 on 2nd September when the trigger level at the Great Culvert at Bidston was reached.
- Flooding at east Greasby (Joan Avenue, Greasby Road) was caused by a combination of surface water overland flows and exceedance of the surface water sewer network as a consequence of the high intensity and volume of rainfall (1:84 rarity event)
- Flooding at central Greasby (Rigby Drive, Howell Avenue, Lloyd Drive, Arrowe Road, Rylands Hey) was caused by a combination of surface water overland flows and exceedance of the surface water sewer network as a consequence of the high intensity and volume of rainfall (1:84 rarity event)
- Flooding at west Greasby (Rowan Close) was caused by a blockage on surface water sewer and the capacity of the ordinary watercourse being exceeded.
- Flooding in Moreton has been subject to hydraulic modelling by both EA and United Utilities (UU) to determine the likely effect of the consented Arrowe Brook crossing downstream. The model reports have been reviewed by AECOM and they conclude that the flooding was caused by high river levels as a consequence of a backwater effect due to high river levels in the downstream River Birket. At Moreton high river levels exceeded the bank capacity leading to fluvial flooding and also caused surface water sewers to be unable to discharge. Additionally rainfall intensity and volume caused the capacity of the surface water sewer network to be exceeded.
- At North Cheshire Trading Estate fluvial flooding occurred due to the capacity of the open sections of watercourse (Prenton Brook) being exceeded as a consequence of the high intensity and volume of rainfall (1:84 rarity event). Flooding was

compounded by a low spot in the access road retaining floodwater until the adjacent Prenton Brook had sufficient capacity.

- Flooding at Irby, Thingwall and Pensby was caused by the hydraulic capacity of surface water sewers being exceeded as a consequence of the high intensity and volume of rainfall (1:84 rarity event). Local variations in highway layout exacerbated internal flooding by directing surface water towards property.
 - In total 73 properties are verified as having internal flooding on 2nd September with 57 locations of external flooding. 138 flooding reports remain unconfirmed. Critical infrastructure in the form of key transport links were also affected.
 - 7 properties are verified as having internal flooding on 22nd August with 3 locations of external flooding. 10 flooding reports remain unconfirmed. Critical infrastructure in the form of key transport links were also affected.
 - Despite the flooding events, door to door enquiries from all agencies and the flooding drop-in session, the findings of the flooding questionnaire highlight that the majority of residents affected by flooding still do not know how to better prepare for future flooding incidents.
- 3.9 The Section 19 Report has also identified a series of recommendations to improve the response to flood risk during future events. These wide-area recommendations apply to various RMAs and are detailed in full in the Section 19 Report, but summarised below:
- Improve communication and encourage residents to report flooding issues.
 - Investigate capacity change at Wirral's call centre and / or linking to EA Floodline Direct service.
 - Ensure recording systems accurately capture flooding details
 - Work with communities to improve awareness of flood risk.
 - Develop local flood groups to ensure flood risk is better understood.
 - Review flood forecasting arrangements for Moreton
 - Investigate and identify sewer capacity issues
 - Improve contingency planning, particularly at North Cheshire Trading Estate
 - Investigate and encourage the implementation of Sustainable Drainage, through the planning process, but also at east Greasby.
 - Increase take-up of property level protection
 - Prioritise investigation for repeat flooding locations
- 3.10 The Section 19 Report also identified site specific recommendations to improve flood risk management. These, and the area-wide recommendations above will form part of an Action Plan to be delivered through Wirral's Operational Flood Group which brings together the RMAs involved in the production of the Section 19 Report. Wirral's Flood and Water Management Partnership will monitor progress on the delivery of the recommendations.
- 3.11 The Section 19 Report also identifies a series of "Quick Wins". The Regional Flood and Coastal Committee provided Local Levy of £50,000 to the Merseyside Strategic Flood Partnership to deliver quick wins with regard to flood risk management. The Merseyside Partnership agreed, in October, that the Merseyside allocation could be used to deliver quick wins identified as part of the Section 19 Flood Investigation into the Wirral Floods. Use of the £50,000 funding will also be monitored through the Wirral Flood and Water Management Partnership.

4.0 FINANCIAL IMPLICATIONS

- 4.1 The Section 19 Investigation and Report was funded through the Lead local Flood Authority allocation that Wirral receives to fulfil its duties under the Flood and Water Management Act. The total cost of the commission was £21,793.
- 4.2 Local Levy of £50,000 has been made available by the Regional Flood and Coastal Committee to help deliver some of the “Quick Wins” identified in the investigation report to improve community resilience.
- 4.3 The recommendations of the report identify areas for further investigation which may ultimately lead to scheme delivery to reduce flood risk. Grant Aid, administered by the EA, for studies and works is available but is subject to submission of a satisfactory business case. Furthermore Local Levy provided by the RFCC is available but also subject to the same economic appraisal. Both funding streams are unlikely to provide 100% scheme or study costs and further “Partnership Funding” contributions will be required to address the shortfalls.
- 4.4 After the Winter Storms of 2014/14 the government introduced a package of Flood Support Schemes to enable householders and businesses recover from flooding. In 2014 the government extended the schemes retrospectively to 1st April 2013 so that anyone affected by flooding that year was not disadvantaged. In December 2015 the government re-introduced the Flood Support Schemes in response to the flooding caused by storms Desmond and Eva. Application was made to the Department of Communities and Local Government and through the RFCC to retrospectively extend the schemes to cover the period of the Wirral Floods. The applications have not been successful and there is no opportunity for residents to avail themselves of grants up to £5000 to improve their properties’ resistance and resilience.

5.0 LEGAL IMPLICATIONS

- 5.1 By investigating and reporting on the significant flood events of 22nd August 2015 to 2nd September 2015 the Council, as Lead Local Flood Authority is fulfilling its statutory obligations under the Flood and Water Management Act 2010.

6.0 RESOURCE IMPLICATIONS: ICT, STAFFING AND ASSETS

- 6.1 The recommendations of the Section 19 Report identify two areas where there may be future resource implications for the Council:
 - Investigate capacity change at Wirral’s contact centre. The investigation noted that on 2nd September the contact centre was unable to cope with the volume of calls.
 - Community Flood Groups. Building on the messages from the online questionnaire about the lack of understanding around flood risk and improving community resilience more work is required within the flood affected communities to improve awareness. This work would be best suited for delivery with the Constituency Teams.
- 6.2 Flood risk is managed through a number of different types of assets (gullies, drains, sewers, watercourses and main rivers) with responsibility falling across many Risk Management Agencies. The report recommendations identify issues with assets and these will be addressed as part of the duties of the relevant Risk Management Authority.

7.0 RELEVANT RISKS

- 7.1 The Flood and Water Management Act creates a statutory obligation on Wirral as Lead Local Flood Authority to investigate and report on significant flooding events. In April 2012 Cabinet agreed the policy which identifies when to undertake an investigation. The policy and Flood and Water management Act specify that the investigation report must be made publically available.
- 7.2 Failure to approve the 22nd August to 2nd September 2015 Flood Investigation Report for publication would put Wirral, as Lead Local Flood Authority, in breach of its statutory obligations.

8.0 ENGAGEMENT/CONSULTATION

- 8.1 The Section 19 investigation required engagement with local residents and also with key stakeholders including Risk Management Authorities. A full list of key stakeholders is included within the Section 19 Report.
- 8.2 The first draft of the Section 19 Report was shared with the Environment Agency and United Utilities for initial comment. The second draft of the report has been shared with all stakeholders that attended the flooding de-brief in September 2015 and also attendees of the Wirral Flood and Water Partnership.

9.0 EQUALITY IMPLICATIONS

- 9.1 There are no equalities implications associated with this report.

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APPENDICES

Wirral Borough Council:
Section 19 Flood Investigation: 22nd August and 2nd September 2015 (AECOM)

REFERENCE MATERIAL

Wirral Council Section 19 Flood Investigation Policy (April 2012)

SUBJECT HISTORY (last 3 years)

Council Meeting	Date
Cabinet Member Briefing Report – Environmental Protection Flood & Water Management Act : Significant Flood Investigation : August 22nd to September 2nd 2015	23 May 2016

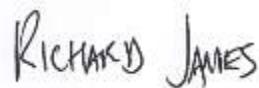
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Wirral Borough Council:

Section 19 Flood Investigation: 22nd August and 2nd September 2015

May 2016

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Rev No	Comments	Checked by	Approved by	Date
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2.0	Final Draft	JB	SK	13/5/16
2.1	Final Report	JB	SK	26/5/16

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Where field investigations are carried out, these have been restricted to a level of detail required to meet the stated objectives of the services. The results of any measurements taken may vary spatially or with time and further confirmatory measurements should be made after any significant delay in issuing this Report.

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List of Acronyms

AEP	Annual Exceedance Probability (%)
DCWW	Dŵr Cymru Welsh Water
EA	Environment Agency
FWMA	Flood and Water Management Act 2010
LLFA	Lead Local Flood Authority
mAOD	meters Above Ordnance Datum
MFR	Merseyside Fire and Rescue Service
MP	Merseyside Police
NGR	National Grid Reference
NWAS	North West Ambulance Service
RMA	Risk Management Authority
UU	United Utilities
WBC	Wirral Borough Council

1 Non-Technical Executive Summary

Introduction

As the Lead Local Flood Authority Wirral Borough Council has a responsibility to record and investigate flooding incidents in accordance with Section 19 of the Flood and Water Management Act (2010).

Section 19 of the Flood and Water Management Act states:

1. On becoming aware of a flood in its area, a LLFA must, to the extent that it considers it necessary or appropriate, investigate:
 - a. Which Risk Management Authorities have relevant flood risk management functions, and
 - b. Whether each of those Risk Management Authorities has exercised, or is proposing to exercise, those functions in response to the flood.
2. Where an authority carries out an investigation under sub-section 1 (above) it must:
 - a. Publish the results of its investigation, and,
 - b. Notify any relevant RMAs in accordance with Section 19(2) of the Flood and Water Management Act.

This Section 19 Flood Investigation has been prepared for the flooding events of the 22nd of August 2015, the 2nd September 2015 and the intervening period. Further detail about the legislative and policy context is presented within Chapter 2 of this report.

Event Background

On 22nd August 2015 intense rainfall fell across the south-east of the Wirral from Rock Ferry through to Bromborough and Bebington. This event resulted in localised flooding which resulted in road closures and disruption to a number of critical transport routes including the entrance to the Mersey Tunnel.

On the 1st September 2015 severe rainfall fell for 48 hours across the wider Wirral Peninsula. This consequently led to significant flooding on the morning of the 2nd September, with significant numbers of property damages occurring around (but not limited to) the urban areas of Moreton, Greasby, Pensby, Irby and Thingwall.

A significant amount of data has been collated from the risk management authorities, stakeholders and residents of Wirral to inform this Section 19 Flood Investigation. This data has also been used to determine the number of properties that were flooded during the two events. The key summary statistics are shown in the table below.

Type of Flooding	Date of Flooding			
	22 August	2 September	Unconfirmed Date	Totals
Internal Flooding	7	73	3	83
External Flooding	3	57	15	75
Unconfirmed	10	138	146	294
Totals	20	268	164	452

As the table above shows, there were 452 reports of flooding submitted to local authorities and the emergency services between these two dates. Of these 452 reports, 7 can be confirmed as corresponding with internal property flooding on the 22nd August 2015 and 73 on the 2nd September 2015. Given the number of properties flooded and the impact on critical

infrastructure these incidents are considered to be significant flood events that require further investigation under Section 19 of the Flood and Water Management Act.

Further information about the background weather conditions and flood incident details are presented within Chapter 3 of this report.

Causes of the Flooding

Consultation has been undertaken with the relevant local authorities, agencies, project partners and local residents. As part of the consultation process, site visits were also undertaken to gather information directly from residents and to establish the causes of the flooding in the affected areas. Residents were also invited to provide input into the Flood Investigation via an online survey that was co-ordinated by Wirral Borough Council. The data and information collected in this process has been used to inform the understanding of the historic flooding mechanisms for the two significant flood events.

Further detail about the consultation and data collection undertaken for the Flood Investigation is presented within Chapter 4 of this report.

Surface Water Flooding

The rainfall that fell on the 1st and 2nd of September 2015 was severe, amounting to a total depth of 93mm in 48 hours. This depth and intensity of rainfall has an annual probability of occurrence of 1 in 86. The severity and intensity of the rainfall led to significant surface water flooding across the Wirral as water was unable to infiltrate into the ground. This was particularly problematic in the areas around Coronation Park, Rigby Drive and Arrowe Road in Greasby, leading to localised and severe property damages. In many areas the surface water issues combined with sewer flooding.

Sewer Flooding

United Utilities and Welsh Water have a duty to provide and maintain a system of public sewers so that the areas for which they are responsible are effectively drained (Water Industry Act, 1991). Sewerage systems are not, however, designed to accommodate flows from severe weather events. During severe weather the capacity of the sewerage network may be exceeded and result in localised surcharging and/ or flooding. UU classify severe weather as rainfall that has an annual probability of occurrence of 1 in 20 or greater.

Given the intensity and severity of the rainfall on both significant flooding incidents, the capacity of the sewer networks was exceeded in multiple locations across the Wirral Peninsular. This consequently led to localised flooding of highways which, in places, resulted in the flooding of residential properties. This was particularly prevalent in the urban areas of Bebington, Bromborough, Greasby, Irby, Pensby and Thingwall. The severity of the sewer flooding was also impacted by high river levels as drainage systems were unable to effectively discharge.

River Flooding

The significant depth and duration of rainfall resulted in elevated water levels within the Wirral's river systems. In some areas this resulted in localised river flooding at areas including Moreton and the North Cheshire Trading Estate. The river flooding that occurred was heavily compounded by a combination of surface water and sewer flooding.

Combination Flooding

One of the most significant causes of the flooding on the 2nd September resulted from multiple flooding mechanisms occurring and interacting dynamically. Moreton in particular was severely affected by surface water, sewer and river flooding interacting. In brief this interaction can be summarised as follows:

- The intensity of the rainfall was unable to infiltrate into the ground, resulting in surface water flooding.
- The design standard of the local drainage networks was exceeded by the severity of the rainfall.
- Water levels rose within the rivers, preventing the local drainage networks from discharging.
- River flooding later exacerbated the flooding from surface water and sewers.

As the 2nd September flooding demonstrates this combination of flooding mechanisms is technically very difficult to predict and develop effective flood warnings. The management of combined flooding mechanisms also requires input from all of the Risk Management Authorities as it cannot be attributed to a single source.

Local Authority Response

All of the Risk Management Authorities and Emergency Services in the Wirral played a part in the flood incident response to the flooding events. Whilst all agencies and authorities were proactive in their response to the 2nd September flooding incident, the following issues have been identified as impacting upon the effectiveness of the incident response:

- There was limited (if any) warning before the flooding occurred.
- When the flooding did occur it happened very rapidly, leaving little lead time to mount an effective response.
- Information about the scale and severity of the flooding was slow to surface and reach key decision-makers.
- The response of the risk management authorities and emergency services was impacted by the gradual exchange of information and finite availability of resources.
- Misconceptions about roles and responsibilities of the different agencies impacted on the effectiveness of the flood incident response and the resilience of the affected communities.

Lessons Learnt

The review of the flood incident response and impacts of the flooding has been used to identify areas that could be improved in the future. Specifically, the following areas for improvement have been identified:

- Improving communications and contingency planning (i.e. continuing to develop Wirral's Multi-Agency Flood Plan);
- Improving community resilience to repeat events (i.e. through the promotion of local flood action groups); and,
- Improving the understanding of combined flooding mechanisms (i.e. through undertaking further appraisal);

Further assessment of the flood incident response and lessons learnt are detailed within Chapter 6 of this report.

Action Plan

Following this review, a number of actions have been identified to assist with the ongoing flood management across Wirral. Many of the actions should be implemented by Wirral Borough Council along with United Utilities, the Environment Agency, riparian owners, residents and other stakeholders. A number of site-specific and strategic recommendations are made within this report.

The flooding questionnaire undertaken in this Flood Investigation has also shown that many residents consider themselves relatively unprepared or are unaware of the risks of flooding. Many of the actions in the future should therefore continue to promote the growth of community-level resilience to flooding through increasing awareness of flood risk and the provision of resources to help foster local flood action groups.

2 Introduction

2.1 Background

Section 19 (1) of the Flood and Water Management Act (FWMA, 2010¹) places a duty on Lead Local Flood Authorities (LLFAs), including Wirral Borough Council (WBC), to investigate flood incidents from surface water, groundwater and ordinary watercourses², where it considers it 'necessary and appropriate'.

Section 19 of the FWMA states that:

- a. On becoming aware of a flood in its area, a LLFA must, to the extent that it considers it necessary or appropriate, investigate:
 - i. which risk management authorities (RMAs) have relevant flood risk management functions, and
 - ii. whether each of those RMAs has exercised, or is proposing to exercise, those functions in response to the flood.
- b. Where an authority carries out an investigation under sub-section (1) it must:
 - i. publish the results of its investigation, and
 - ii. notify any relevant RMAs in accordance with Section 19(2) of the FWMA.

The FWMA (Section 6 (13)) states RMAs to be:

- The LLFA (WBC) and neighbouring LLFAs;
- The Environment Agency (Environment Agency);
- Internal Drainage Boards (not applicable within WBC);
- Water Company (United Utilities (UU) and Dŵr Cymru Welsh Water (DCWW)) as the sewerage undertaker;
- Highways Authority (WBC).

2.2 Criteria for Investigating Flooding Incidents

In agreement with all Merseyside Local Authorities, WBC, who acts as LLFA for the Wirral area, investigates flooding under Section 19 where it meets criteria which define the flooding as 'significant'. A flooding investigation is deemed significant if it:

- Caused internal flooding to 8 or more residential properties / business premises within a kilometre square area;
- Flooded one or more items of critical infrastructure e.g., a pumping station, an emergency services station, electricity substation, hospital, etc.;
- Caused a transport link to be totally impassable for a significant period:
 - Category 1 highways (motorways) and rail links – 1 hour or more;
 - Category 2 and 3a highways – 2 hours or more;
 - Category 3b, 4a, 4b highways – 4 hours or more.

Where an investigation has been undertaken following a significant flood event, WBC will prepare a report. The report detailing the investigations and resulting actions will be produced in an appropriate format and published on the Council's website.

Following the above set of criteria, it was deemed necessary to complete a Flood Investigation due to the significant numbers of flood incidents reported across the Wirral on 2nd September 2015, including flooding to property and highways. This report will also investigate flooding from the period 22nd August 2015 to 2nd September 2015 inclusive, since there were reports of sewer and surface water flooding affecting property and priority highways on 22nd August 2015 and isolated reports of flooding were received by WBC between these dates.

¹ Flood and Water Management Act 2010: <http://www.legislation.gov.uk/ukpga/2010/29/contents>

² An ordinary watercourse includes every river, stream, ditch, drain, cut, dyke, sluice, sewer (other than public sewer) and passage through which water flows which does not form part of a Main River.

2.3 Risk Management Authority Duties and Responsibilities

The legal framework for managing flooding lies with a number of different agencies; the key responsibilities for each are outlined below. Reference should be made to the relevant legislation for further information.

2.3.1 Wirral Borough Council (LLFA)

WBC, as the LLFA, has a strategic overview role and a responsibility to investigate flood incidents from surface water, groundwater and ordinary watercourses where it is considered necessary and appropriate. As part of this role, WBC hold Operational Flood Group Meetings with the RMAs to discuss and report on flood management.

WBC has a consenting and enforcement responsibility for ordinary watercourse regulation for those ordinary watercourses within the administrative area.

The FWMA outlines that the LLFA has powers to designate structures and features that affect flooding in order to safeguard assets that are relied upon for flood risk management of surface water, groundwater and ordinary watercourses. Once a feature is designated, the owner must seek consent from the authority to alter, remove or replace it (FWMA Schedule 1, Section 1).

WBC as the Highway Authority also has the duty to maintain adopted highways within their administrative area under Section 41 of the Highways Act 1980³. Highway maintenance includes that of the road drainage networks (drains and gullies).

Under the Civil Contingencies Act (2004)⁴, WBC are a Category 1 Responder and therefore have the duty to put in place emergency plans and assess local risks to inform the emergency planning. WBC are also required to make information available to the public about civil protection matters and maintain arrangements to warn and advise the public in the event of an emergency.

2.3.2 Environment Agency

The Environment Agency has a strategic overview role and responsibility to investigate flooding from Main Rivers and the sea. The Agency also has permissive powers to carry out emergency or maintenance work on Main Rivers⁵ under Section 165 of the Water Resources Act (1991)⁶.

The FWMA outlines that the Environment Agency has powers to designate structures and features that affect flooding in order to safeguard assets that are relied upon for flood risk management for fluvial (Main River) and tidal sources. Once a feature is designated, the owner must seek consent from the authority to alter, remove or replace it (FWMA Schedule 1, Section 1). The Environment Agency has permissive powers to issue flood warnings communities at risk of flooding. It should be noted that is a permissive power and is not a statutory duty.

2.3.3 United Utilities & Dŵr Cymru Welsh Water

Under the FWMA, United Utilities and Welsh Water are responsible for managing the risks of flooding from their respective surface water, foul and/or combined sewer systems where the sewer flooding is wholly or partly caused by an increase in the volume of rainwater (including snow and other precipitations) entering or otherwise affecting the system.

United Utilities (UU) and Welsh Water (DCWW) have a duty to provide and maintain a system of public sewers so that the areas for which they are responsible are effectively drained (Water Industry Act, 1991)⁷. Sewerage systems are not, however, designed to accommodate flows from severe weather events. During severe weather the capacity of the sewerage network may be exceeded and result in localised surcharging and/ or flooding. UU classify severe weather as rainfall that exceeds a 1 in 20 year return period. Larger, more intense storms would therefore be expected to result in surcharging of the sewer network.

UU and DCWW are required to deliver a significant reduction in sewer flooding incidents by 2020. Their performance commitment includes flooding caused by hydraulic inadequacy of sewers, and other causes of flooding such as blockages, collapses and equipment failures. This commitment does not differentiate between the causes as they have the same impact on the customer.

³ Highways Act 1980: <http://www.legislation.gov.uk/ukpga/1980/66/contents>

⁴ Civil Contingencies Act 2004: http://www.legislation.gov.uk/ukpga/2004/36/pdfs/ukpqa_20040036_en.pdf

⁵ Main Rivers are watercourses shown on the statutory main river maps held by the Environment Agency, the Department of Environment, Food and Rural Affairs (in England) and the Welsh Assembly Government (in Wales). They can include any structure or appliance for controlling or regulating the flow of water into, in or out of the channel.

⁶ Water Resources Act (1991): <http://www.legislation.gov.uk/ukpga/1991/57/contents>

⁷ Water Industry Act (1991): <http://www.legislation.gov.uk/ukpga/1991/56>

UU investigates all flooding incidents that are reported to them and undertakes a verification exercise to understand the issues and flooding mechanisms. This may include a site visit and CCTV survey to determine if there were any blockages in the network. Any blockages encountered during the investigations are cleared to ensure that the sewer has maximum capacity.

2.4 Other Stakeholder Duties and Responsibilities

2.4.1 Riparian Owners

Riparian owners are those that own land or property adjacent to a watercourse. Riparian owners have a responsibility to maintain the bed and banks of the watercourse; this includes maintenance of any owned structures, such as trash screens or culverts.

Section 25 of the Land Drainage Act (1991)⁸ outlines that where the flow of a watercourse is obstructed; the riparian owner is responsible to resolve the condition. Section 28 of the Land Drainage Act (1991) outlines the responsibility of the riparian owner to undertake maintenance of their watercourse if it is impeding the flow of water.

Riparian owners must let water flow through their land without obstruction and must accept flood flows through their land. Riparian owners have no duty in common law to improve the drainage capacity of a watercourse. Further information can be found in the Environment Agency's document 'Living on the Edge' (2012)⁹.

2.4.2 Local Residents

Residents who are aware that they are at risk of flooding should take action to ensure that they and their properties are protected. Residents should report flooding incidents or potential problems (such as blockages) to the LLFA or appropriate organisation if known.

2.5 Consultation

Investigation of the flooding on the Wirral on 22nd August 2015 to 2nd September 2015 inclusive has been undertaken in consultation with the key stakeholders and RMAs.

The Environment Agency commenced the consultation feedback shortly after the flooding and over the following weekend, with teams out supporting the community, gathering data and inspecting Environment Agency assets.

WBC held a Multi-Agency De-brief for the significant flooding event on 2nd September 2015 at Wallasey Town Hall on Tuesday 15th September 2015. The meeting was attended by the RMAs, the Emergency Responders and other parties involved in the flooding, including WBC, EA, UU, Merseyside Police, SP Energy Networks and Magenta Living.

A community drop in session was also held at Moreton Community Centre on Wednesday 16th September 2015, with representatives from WBC, EA and UU present to speak to residents about cleaning up the damage, emergency planning and how to prepare for any future floods.

Following the appointment, AECOM undertook an independent consultation process, which commenced with collecting data from the RMA's, Emergency Responders and other stakeholders involved in the flooding. Consultation with the following parties has been undertaken:

- Wirral Borough Council;
- Environment Agency;
- United Utilities;
- Dŵr Cymru Welsh Water;
- Merseyside Police;
- Merseyside Fire and Rescue;
- North West Ambulance Service;
- Met Office;
- SP Energy Networks;

⁸ Land Drainage Act (1991): <http://www.legislation.gov.uk/ukpga/1991/59/contents>

⁹ Environment Agency (2012) Living on the edge – A guide to your rights and responsibilities of riverside ownership. <http://www.environment-agency.gov.uk/homeandleisure/floods/31626.aspx>

- Magenta Living.

Through the consultation process, the above parties have provided information on historic flooding and clarification of the operational response during the events.

As part of the consultation process, site visits were also undertaken to gather information directly from residents and to establish flooding mechanisms for the worst affected areas. Residents were also invited to provide input into the Flood Investigation via an online survey which was co-ordinated by WBC.

2.6 Site Description

The Wirral is located in North West England and is a peninsular bounded to the west by the River Dee, forming a boundary with Wales, to the east by the River Mersey and to the north by the Irish Sea. The peninsular is roughly rectangular and is approximately 24km long and 11km wide. The southern third of the peninsular is in the county of Cheshire and the top third, the Metropolitan Borough of Wirral, is in the county of Merseyside.

The Wirral is a mixture of large urbanised areas, and more rural towns and villages. The more heavily urbanised areas are concentrated to the north east, around the built up district of Birkenhead. The west and south of the peninsula consists of smaller towns and villages and is more rural.

3 Flood Incident Details

3.1 Overview

On 22nd August 2015 intense rainfall was also experienced in the south-east of the Wirral from Rock Ferry through to Bebington and Bromborough. There were reports of sewer and surface water flooding affecting property and priority highways, with flooding affecting critical transport routes including the Mersey Tunnel approach road and Spital Dam in Bromborough.

Just a week and half later heavy rainfall fell overnight on both the 1st and 2nd of September. Consequently many parts of the Wirral experienced flooding on the morning of the 2nd September 2015. Flooding to property and highways has been recorded from multiple sources, with widespread surface water sewer flooding across the borough. Though surface water flooding characterised the event, it also combined with ordinary watercourse and Main River flooding in Moreton and Prenton.

This section of the report details the meteorological conditions, rainfall and weather warnings during the 2nd September flood event. This review has used data supplied by the Environment Agency and the Met Office and, at the time of issue, no detailed information has been received about the conditions on the 22nd August. It has therefore not been possible to quantitatively analyse the criticality or intensity of this rainfall for this event.

3.2 Meteorological Conditions

The Met Office has provided a summary of the metrological conditions on the 2nd September 2015, which states:

"North-West England and North Wales saw near or below average rainfall during August, and there were no large rainfall accumulations in the area towards the end of the month which may have left ground and river conditions 'primed' for flooding. The large-scale weather pattern on the 1st and 2nd of September (below) saw a slow-moving low pressure system in the North Sea, maintaining a showery north-westerly airflow across much of the UK. This situation typically sees showers organised into bands, either in troughs perpendicular to the airflow or in convergence lines along the flow, and it is this latter, slower-moving, phenomenon which can tend to produce localised, large rainfall accumulations, especially when showers are more energetic due to daytime heating in summer, or overnight close to windward coasts due to warm seas."

Figure 3-1 shows the North Atlantic Analysis Chart for 0600 GMT on 2nd September 2015.

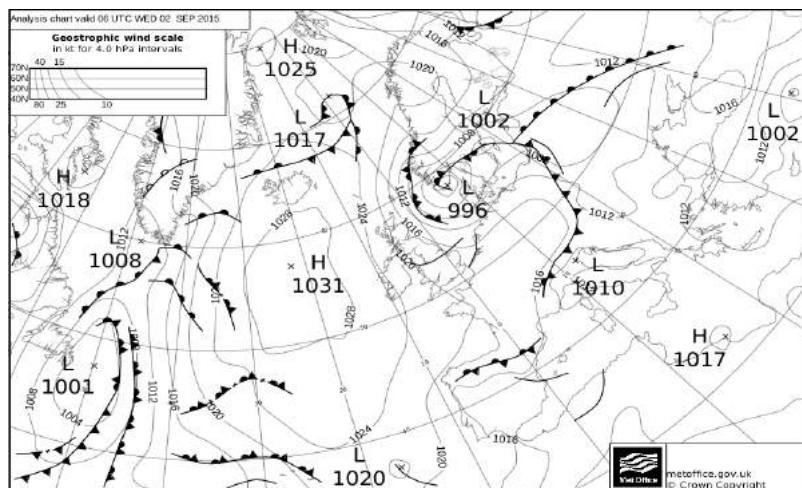


Figure 3-1 North Atlantic Analysis Chart for 0600 GMT on 2nd September

Graphic courtesy of the Met Office

3.3 Hydrometric Data

Table 3-1 provides a summary of the relevant Environment Agency hydrometric gauges within the study area.

Table 3-1 Hydrometric Gauging Stations

Name	Description	Location
Moreton TEL	Rain Gauge (15 minute intervals)	Moreton
Greasby Road	River Level Only (15 minute intervals)	Arrowe Brook
Acton Lane	Stage-Discharge (15 minute intervals)	Arrowe Brook
Davis Road	River Level Only (15 minute intervals)	River Birket
Great Culvert	River Level Only (15 minute intervals)	River Birket
Fornalls Bridge	River Level Only (15 minute intervals)	River Birket
Ford Lane	River Level Only (15 minute intervals)	River Fender

The locations of the hydrometric gauges are shown in Figure 3-2.



Figure 3-2 Hydrometric Sites

Graphic courtesy of the Environment Agency

3.4 Observed Rainfall

As Table 3-1 indicates, there is limited rain gauge coverage on the Wirral peninsular, with the Environment Agency operating a single rain gauge at Moreton. As rainfall is often variable over any given catchment, the post-event analysis undertaken by the Environment Agency has also used rainfall radar to supplement the analysis of the observed rainfall. Rainfall radar is widely available as both observed and forecast datasets. Whilst rainfall radar should not be considered as a direct substitute for ground based observations, it is necessary to adopt a combined approach where the rain gauge coverage may only be partially representative of the area rain fall over the study catchment.

Although the majority of the flooding occurred on the morning of the 2nd September 2015, the rainfall radar and ground based observations show that the rainfall arrived in 2 significant pulses over the study area. Based upon the combined hydrometric data, the Environment Agency estimates that:

- The first pulse of rainfall occurred after 00:00 on the 1st September, with an estimated total of 43mm in 3 hours (giving an average of 14.3mm/hr).
- The second pulse of rainfall occurred after 00:30 on the 2nd September, with an estimated total of 50.2mm in 6 hours (giving an average of 8.4mm/hr).

The use of the Moreton rain gauge alone suggests that only 38mm fell over a 12 hour period from 00:30 to 12:30 on the 2nd September (giving an average of 3.1mm/hr). This demonstrates that the rain gauge was not representative of the conditions over the wider study area and this was likely attributable to the spatial variability of the rainfall over the Wirral catchments. The rainfall radar sequence for the morning of the 2nd September highlights the spatial variability of the rainfall over the Wirral peninsular (Figure 3-3).

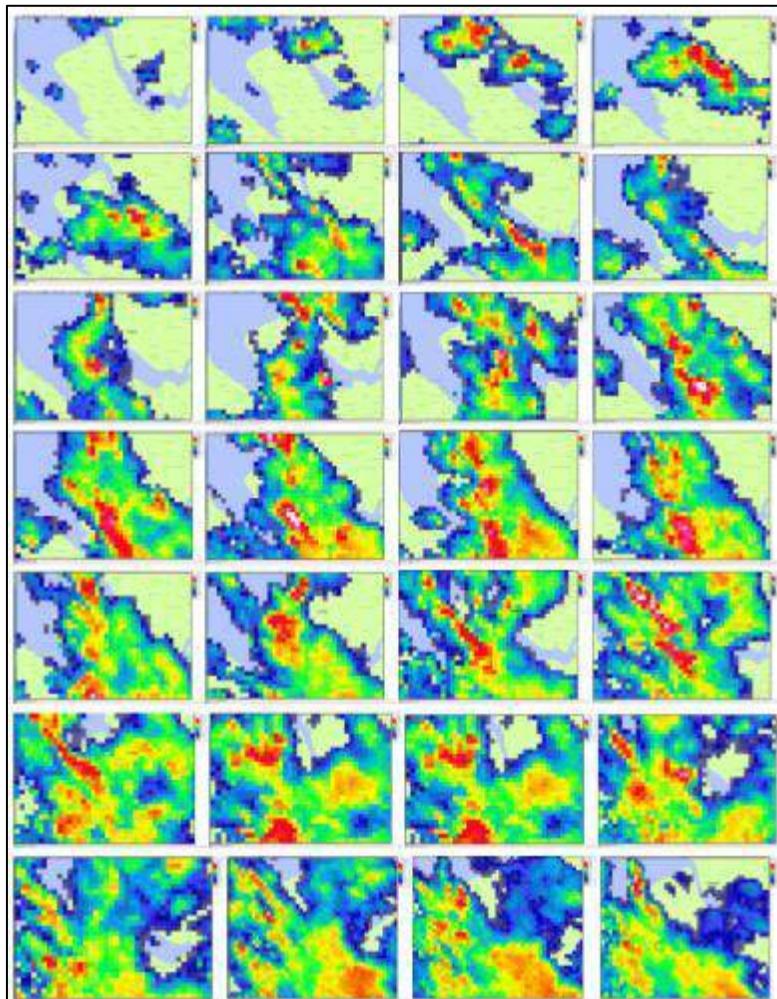


Figure 3-3 Rainfall Sequence on Wednesday 2nd September 2015 from 00:030 to 06:30 GMT (15 minute intervals)

Graphic courtesy of the Environment Agency

3.5 Rainfall Rarity

The Environment Agency has used the estimated rainfall totals presented in Section 3.4 to estimate event rarity for the flood event using the Depth-Duration-Frequency (DDF) rainfall model. DDF curves describe rainfall depth as a function of duration for given return periods at specified locations within the UK and can be reproduced using the Flood Estimation Handbook (FEH) CD-ROM. The Environment Agency state:

"The majority of rainfall initially fell in an isolated area to the West of the Arrowe Brook catchment and the highest rainfall intensity commenced from 31 August to 01 September from 22:00 to 01:00 (duration 3 hours) with a cumulative rainfall total of 43mm (estimated event rarity of 51 years). This would be considered localised with high intensity showery conditions. Note this preceded the main rainfall that fell on the catchment and prior to reported flooding."

SJ 30512 80530. Main rainfall falling throughout the period of 02 September was a longer duration of 5.5 hours (50.2mm) giving a rarity of rainfall event in the order of 57 years. Time line was from 00:50 to 06:20 (02/9/2015).

An estimate using the 2 consecutive rainfall events over the 48 hour period using the radar data gives a cumulative total of 93 mm, and gives an estimated rarity of 84 years."

The DDF model for the Arrowe Brook catchment has been reproduced in Figure 3-4 and Figure 3-5. The DDF model demonstrates that a 93mm 48 hour rainfall profile over the Arrowe Brook catchment has an equivalent return period of 84 years.

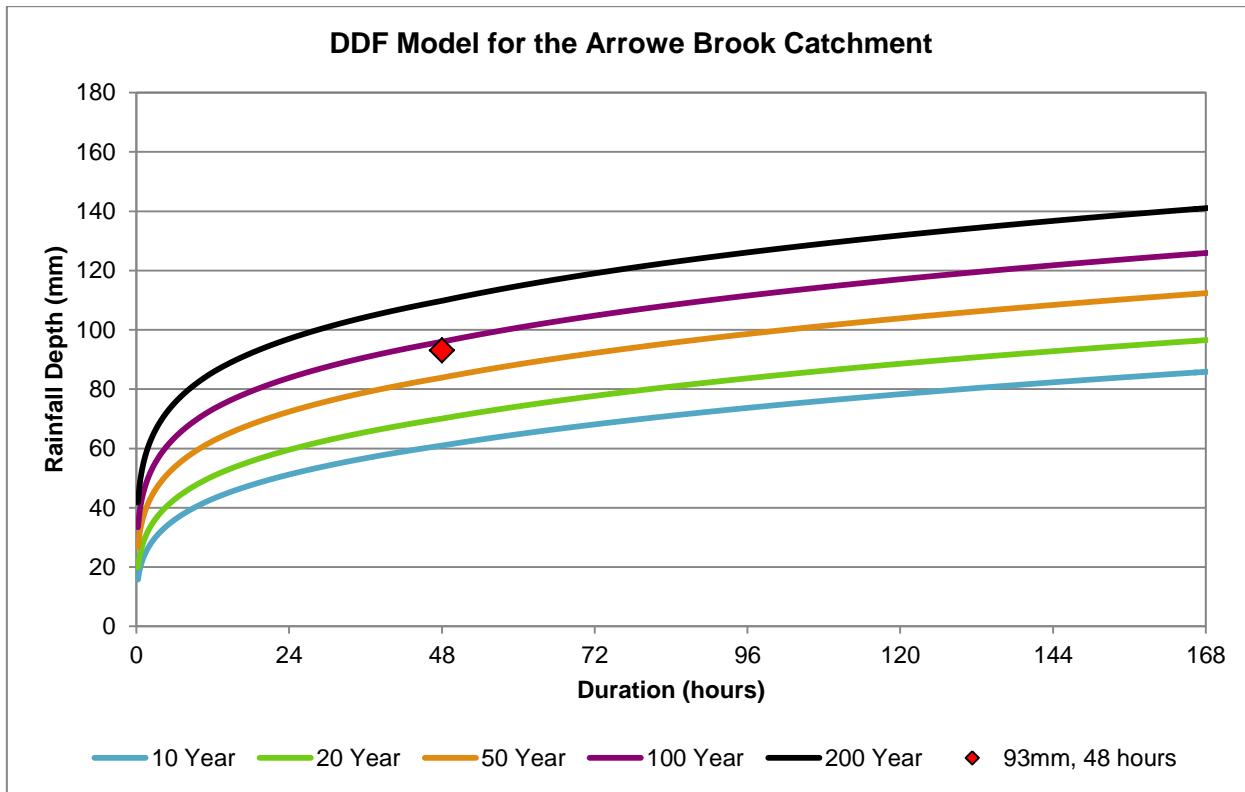


Figure 3-4 Depth Duration Frequency Curves for the Arrowe Brook Catchment (325100 390000)

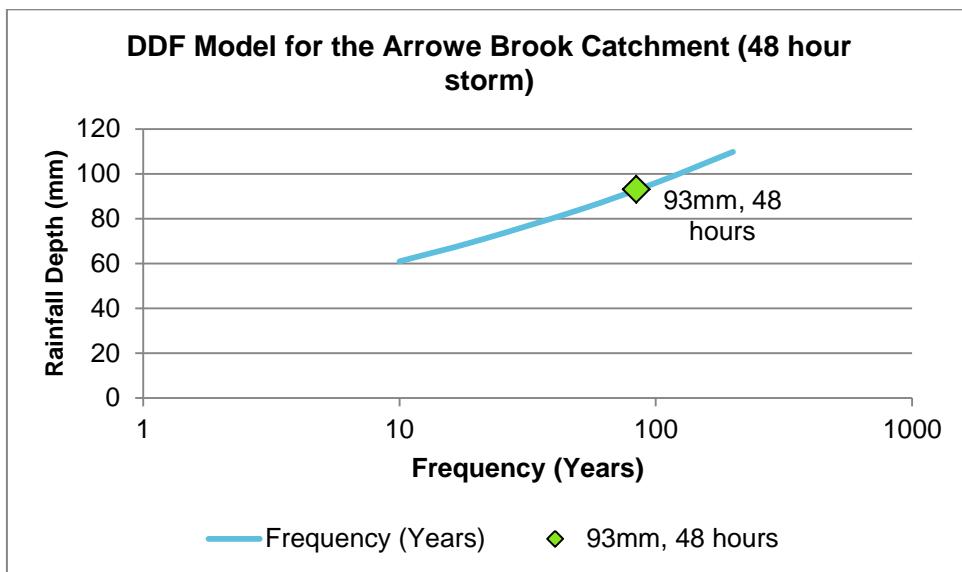


Figure 3-5 Depth Duration Frequency Curve for a 48 Hour Storm over the Arrowe Brook Catchment

3.6 Weather Warnings

On the 1st September 2015 the Met Office forecasts produced for the UK highlighted the potential for banded shower to produce localised large rainfall accumulations in the North-West, noting that 15mm in 1-2hrs was possible where this occurred. The Met Office's report on this event states:

"There was much variation in detail between forecast models, but a common theme was to highlight a risk of organised shower activity 'from northern England southwards' with a particular focus on North and North East Wales. Within this broad area highlighted, a risk assessment was made on the basis of some areas seeing perhaps 20-25mm in 2-3hrs late in the night and into the daytime on the 2nd. Overnight updates to this forecast extended the higher risk area eastwards to cover areas adjacent to Liverpool Bay, and to incorporate the risk of 30mm in 3 hrs or less.

The joint risk assessment process undertaken by the Met Office Chief Meteorologist and the Flood Forecasting Centre suggested that there was a low risk of minor flooding impacts from this scenario, predominantly from surface water flooding. This risk is not sufficiently high for a Met Office National Severe Weather Warning Service (NSWWS) rain warning, and is equivalent to a GREEN ('very low') flood risk on the FFC's Flood Guidance Statement (FGS). The FGS issued on the 1st specifically mentioned 'Heavy showers across parts of the north-west of England and North Wales on Tuesday 1st September 2015 and Wednesday 2nd September may cause localised [river and surface water] impacts'. So no warnings were issued.

Further risk assessment was made on several occasions during the night based on observed accumulations, and the decision remained that a warning was not required. The observed impacts did not become apparent until well into the morning of the 2nd.

In the event, observed rain gauge rates and accumulations over 1-4hrs were less than had been catered for in forecasts and in assessing the need for warnings. On the morning of the 2nd September, observed hourly rates from gauges did not exceed 10mm/hr, with a highest hourly total of 9mm (to 8.15 GMT) on the morning of the 2nd. Consequently the level of impact, assessed 'moderate' in NSWWS terms, was some way in excess of what would be expected, or even possible, from these rainfall amounts.

Our conclusion remains that either a) there were localised much higher rainfall intensities and accumulations which occurred across the Wirral on the morning of the 2nd which were not captured by either the rain gauges or by rainfall radar, or b) there were antecedent or other environmental conditions which made the area unusually susceptible to fairly modest summer rainfall. "

4 Data Collection

4.1 Consultation

During the consultation process, various forms of flooding records and data were provided by the consultees listed in Section 2.5. Table 4-1 summarises the data provided to AECOM for use in this Section 19 Flooding Investigation.

Table 4-1 Data Register

Consultee	Information
DCWW	<ul style="list-style-type: none"> DCWW search for flooding records or information on the flooding in Heswall
Environment Agency	<ul style="list-style-type: none"> Investigation Summary Report Post Flooding Event Survey Information Estimated Flood Extents for Moreton and Prenton Brook Modelled and historic flood outlines Hydrometric gauge data Community drop in feedback summary table Arrowe Brook modelling report
Local Residents	<ul style="list-style-type: none"> Photographs, anecdotal evidence
Magenta Living	<ul style="list-style-type: none"> Record of flooded properties for 2nd September 2015 Photographs of flooding Timeline of events for 2nd September 2015 and the following week
Met Office	<ul style="list-style-type: none"> Report on the weather situation surrounding the 2nd September 2015 flooding.
Merseyside Fire & Rescue	<ul style="list-style-type: none"> Call Out Log from 2nd September 2015 and flood event de-brief form
Merseyside Police	<ul style="list-style-type: none"> Incident Report for 22nd August and 2nd September 2015
North West Ambulance Service	<ul style="list-style-type: none"> Summary of Alerts / Call Outs
SP Energy Networks	<ul style="list-style-type: none"> Timeline of flooding on 2nd September 2015 and photographs
United Utilities	<ul style="list-style-type: none"> Verified Flooding Data for 22nd August and 2nd September 2015
Wirral Borough Council	<ul style="list-style-type: none"> Emails to regarding flooding sent to WBC's Highway Asset Inbox Call out log for 2nd September 2015 CRM Report for 2nd September 2015 Wirral Incidents (UU) (Unverified) Flooding timeline Multi-Agency Flood De-brief Meeting Notes

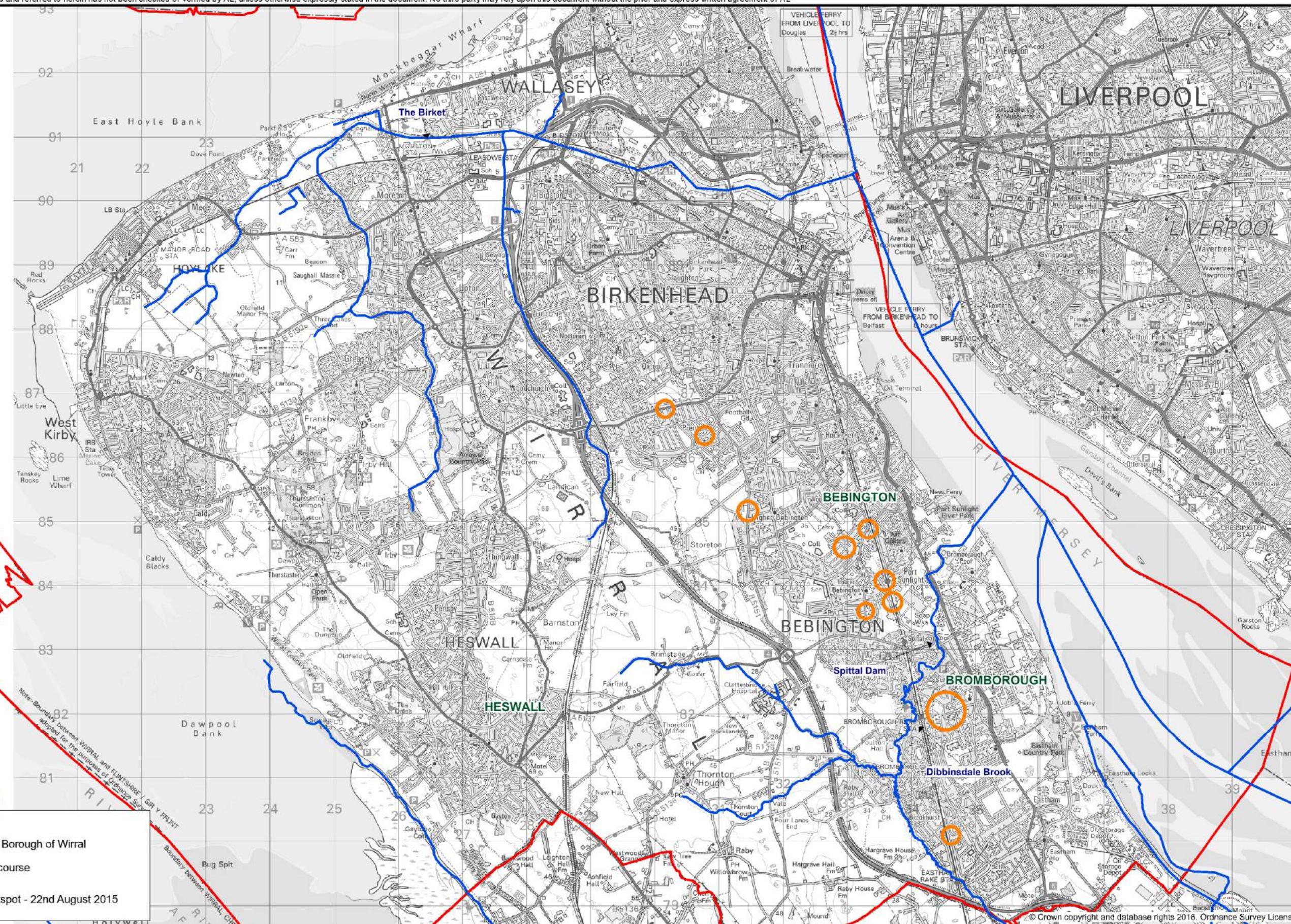
4.2 Data Review

The data collected as part of the consultation process was used to identify which parts of the Wirral had experienced flooding between the 22nd August 2015 and the 2nd September 2015. Spatial data was plotted in Mapinfo, a Geographic Information System (GIS), and the reported incidents of flooding were reviewed to identify geographical flooding 'hotspots' where multiple reports of flooding were identified in close proximity of each other.

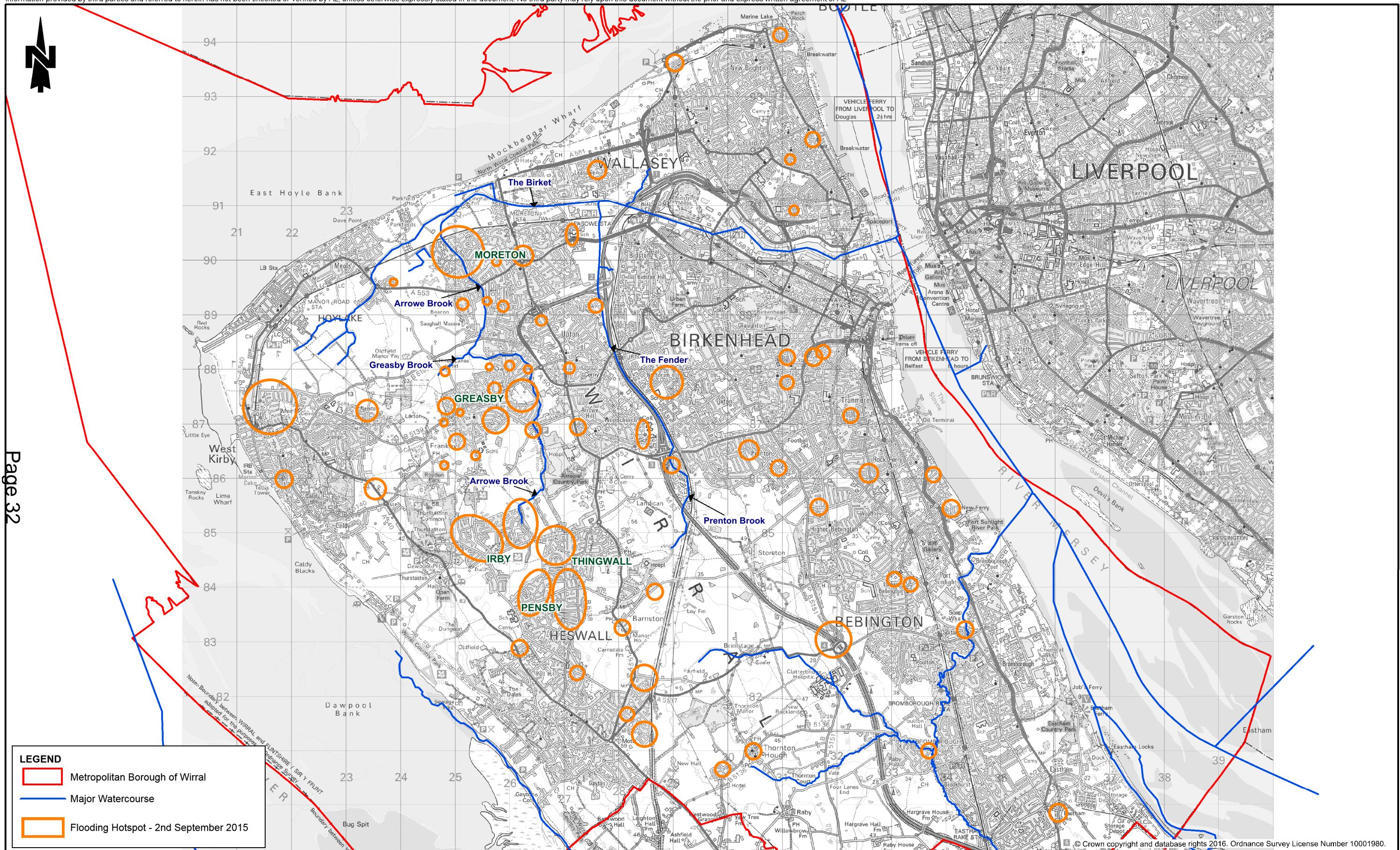
The flooding hotspots that have been identified for the 22nd August 2015 event are shown in Figure 4-1 and the hotspots for the 2nd September 2015 event are shown in Figure 4-2. This data has also been provided to WBC for use in their flooding register.



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Client:  WIRRAL	Title: FLOODING HOTSPOT OVERVIEW MAP FOR 22ND AUGUST 2015	 4th Floor, Bridgewater House, Whitworth Street, Manchester, M1 6LT Tel: +44 (0) 161 907 3500 Fax: +44 (0) 161 907 3599 www.aecom.com	Design: AB	GIS: AB	
			Chk'd: RJ	App'd: RJ	
Project: SECTION 19 FLOOD INVESTIGATION 22ND AUGUST AND 2ND SEPTEMBER 2015		Date: 22-03-2016	Scale: 1:60,000@A3		
No. FIGURE 4-1				Rev: 0	
		cm		A3	



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LEGEND

Metropolitan Borough of Wirral

— Major Watercourse

Flooding Hotspot - 2nd September 2015

Client



Title

FLOODING HOTSPOT OVERVIEW MAP FOR 2ND SEPTEMBER 2015

**Project: SECTION 19 FLOOD INVESTIGATION
22ND AUGUST AND 2ND SEPTEMBER 2015**

AECOM

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Design: A

GIS: AB

Chk'd:

App'd:

Page 22/23 22.03.2016

1:65 000 © A2

No. FIGURE 4.2

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A3

4.3 Key Statistics

The flood incident data can be summarised in terms of date and type (internal property flooding or external flooding). A breakdown of these key statistics is presented in Table 4-2. It should be noted that due to the variety of sources considered and quality of data it has not been possible in all instances to verify the date or type of flooding record.

Table 4-2 Key Flood Report Statistics

Type of Flooding	Date of Flooding			
	22 August	2 September	Unconfirmed Date	Totals
Internal Flooding	7	73	3	83
External Flooding	3	57	15	75
Unconfirmed	10	138	146	294
Totals	20	268	164	452

Critically, the 2nd September 2015 flooding incident meets the significance criteria (i.e. 8 reports of internal property flooding) for a Section 19 Flood Investigation with 73 confirmed records of internal flooding collated for the event. Whilst only 7 internal flooding records were collated for 22nd of August, this event has also been considered due the impact on transport links including the Mersey Tunnel approach road and public highway in the Bromborough and Bebington area.

4.4 Site Visits

The distribution of the flooding 'hotspots' and other relevant information gathered from the consultees was reviewed to determine the potential flooding mechanisms and identify areas that may benefit from a site walkover in accordance with the project brief. The site visits were undertaken between 1st March 2016 and 3rd March 2016. The scope, extent and timing of the site work was agreed with Neil Thomas (WBC Project Manager) prior to undertaking work on site.

The objective of the site work was to:

- Identify and appraise historic flooding mechanisms;
- Engage with local residents and stakeholders to capture local knowledge of the 2015 flood events; and,
- Provide bespoke advice to historically affected residents with an emphasis on flood risk resilience measures.

The following flooding hotspots were targeted for site visits as part of the agreed scope:

- Greasby, including areas around:
 - Arrowe Road, Brookdale Close, Circular Drive, Coronation Park, Joan Avenue, Norwood Road, Rigby Drive, Rowan Court and Rylands Hey
- Moreton, including areas around:
 - Carnoustie Close, Felton Close, Millhouse Lane, Tern Way, Town Meadow Lane and Wastdale Drive
- Irby, Pensby and Thingwall, including areas around:
 - Glenwood Drive, Mayew Road, Somerset Road, Ridgewood Drive, Thingwall Drive, Rosemead Avenue and King's Drive
- The North Cheshire Trading Estate

Residents were notified in advance of the site visits via a letter drop that was co-ordinated by WBC. The stakeholder engagement aspect involved both pre-arranged and unscheduled visits to residents within these targeted areas. Local knowledge was captured via a formal questionnaire which was developed and agreed in conjunction with WBC (a blank questionnaire template is included within Appendix A). This questionnaire was also made available online and residents were provided a link to this in the letter drop undertaken by WBC.

5 Site Specific Flooding Mechanisms

The following chapter summarises the flooding investigated for areas identified as being affected between the 22nd of August 2015 and the 2nd September 2015. For each site, an overview is provided, flooding mechanisms discussed, RMA responses outlined and recommendations to reduce flood risk suggested. The majority of this chapter focuses on the 2nd of September flooding incident given the significant impact to people, property and large volume of data that was captured for this event.

5.1 Bebington and Bromborough

5.1.1 Site Overview

Bromborough is a large village within the Metropolitan Borough of Wirral, in Merseyside, England. It is situated on the Wirral Peninsula, to the south of Bebington and to the north of Eastham. The Dibbinsdale Brook is an Environment Agency main river that flows south to north through this area. Bebington and Bromborough experienced localised flooding primarily during the 22nd August flood events and again during the 2nd September flooding. This flooding had a significant impact on main roads and road closures were completed by WBC Highways and Merseyside Police during the 22nd August flooding incident.

Key sites of interest are shown in Figure 5-1.

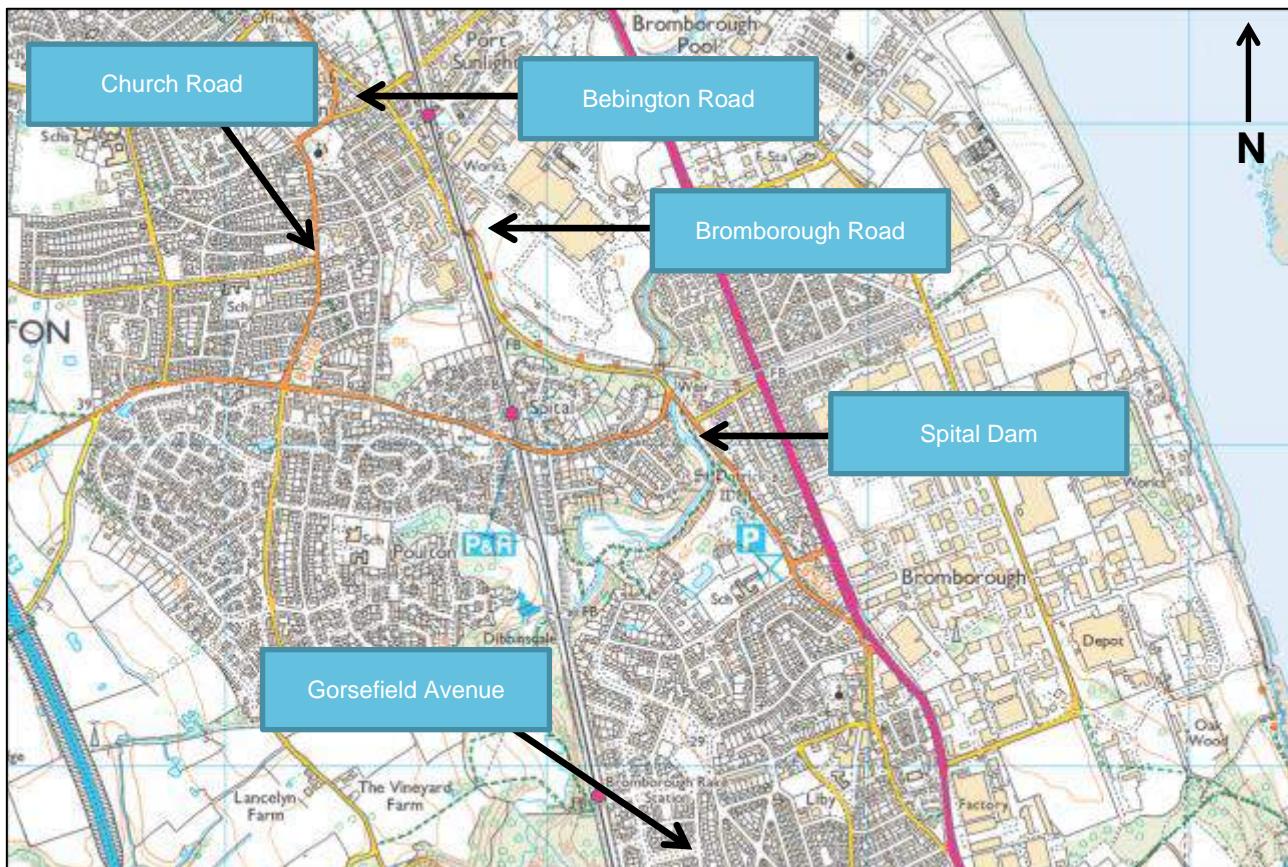


Figure 5-1 Bebington and Bromborough

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5.1.2 Flooding Impacts

The key flooding impacts in this area are as follows:

- Spital Dam was subject to flooding up to a depth of 1.2m. This caused significant disruption to vehicular traffic. This occurred during both the 22nd August and 2nd September flood events, with a motorist being rescued from his car by Merseyside Fire and Rescue during the 2nd September incident. Photographs of the flooding can be seen in Photograph 5-1 and Photograph 5-2.
- Bromborough Road was flooded near Unilever and the Port Sunlight Station as was Bebington Road.
- A number of residents at Port Causeway reported external property flooding from the public highway during the 22nd August flooding.
- Gorsefield Avenue was flooded on the evening of the 22nd August, resulting in internal property flooding.
- Further public highway flooding was reported on The Rake, Woodchurch Road, Prenton Lane and Mount Road.



Photograph 5-1 Bromborough Road Flooding (2/9/15)



Photograph 5-2 Bromborough Road Closures (2/9/15)

Images from the Liverpool Echo <http://www.liverpoolecho.co.uk/news/liverpool-news/re-read-wirral-flooding-chaos-9974697>

5.1.3 Flooding Mechanisms

United Utilities has undertaken post-event investigations into the areas affected by the 22nd August 2015 flooding which were reported to them. These investigations conclude:

- The 1 in 20 year design standard of the surface water sewers at Port Causeway, Mount Road and The Rake were exceeded due to the severity of the 22nd August rainfall.
- There were a number of single reports of flooding which resulted from soft blockages causing localised flooding.

In addition to the UU investigations it is anticipated that:

- The flooding at Spital Dam resulted from both surface water ponding in the low point on the road and fluvial floodwater from the Dibbinsdale Brook. High water levels within the Dibbinsdale Brook would have also prevented the local drainage network from effectively discharging into the watercourse.

5.1.4 RMA Response to Flooding

Based upon the available information AECOM understands that other relevant RMA actions in this area include:

- WBC Highways undertook a number of road closures for flooded roads in this area, including Spital Dam, Bebington Road and Bromborough Road.
- UU has undertaken post-event investigations to verify the cause of the issues.

5.1.5 Recommendations

The evidence reviewed as part of this Section 19 Flood Investigation indicates that the flooding at this location was relatively localised and that post-event investigations have already been undertaken. Additional works could include:

- Updating the WBC Traffic Management Plan with a road closure plan for Spital Dam and the other areas of Bromborough Road that have experienced repeated highways flooding historically.
- Although UU received no reports of flooding from residents, UU are aware of the flooding and various flooding mechanisms and are currently working with the EA and Wirral BC on a partnership funded scheme to potentially mitigate flood risk in the future.

5.2 Greasby

5.2.1 Overview

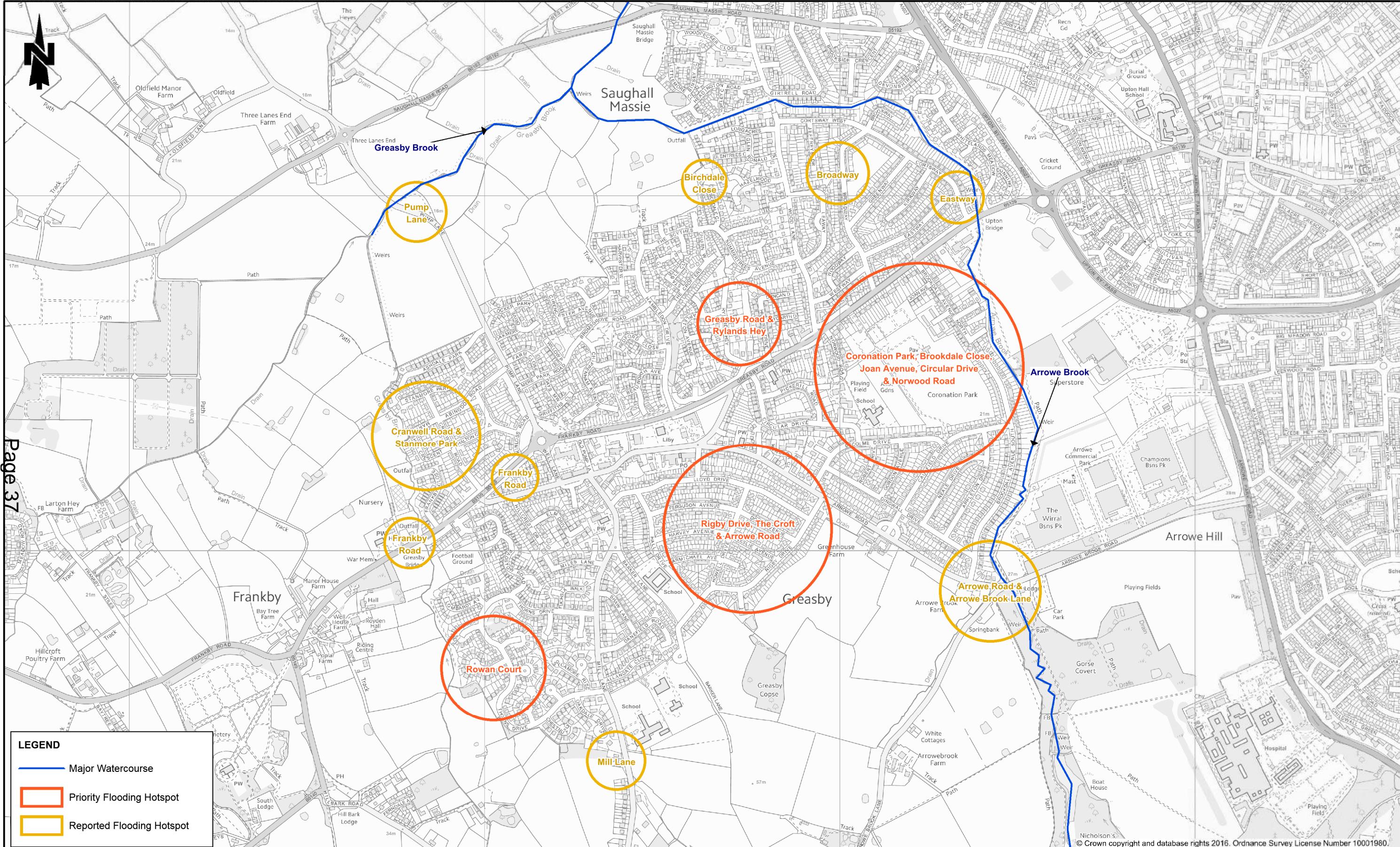
Greasby is a large village located near the centre of the Wirral Peninsula with a population of approximately 10,000 inhabitants. Both the Arrowe Brook and Greasby Brook (Environment Agency main rivers) flow south to north through the village. Several other unnamed ordinary watercourses are also present and have several connections with the surface water sewer network.

The stakeholder consultation and data review presented in Section 4 identified multiple reports of property and highway flooding during the 2nd September 2015 event. The majority of these issues relate to surface water, sewers and ordinary watercourses. The main rivers were not reported as being the source of any flooding issues within this location.

The data review has been used to delineate flooding hotspots, as shown in Figure 5-2. Following the observations made on site and consultation with local residents it apparent that the flooding mechanisms in several of the identified hotspots are linked. Accordingly, the flooding hotspots can be broadly categorised into three flood 'cells':

- East Greasby, including:
 - Coronation Park
 - Brookdale Close
 - Joan Avenue
 - Circular Drive
 - Norwood Road
- Central Greasby, including:
 - Rigby Drive
 - The Croft
 - Arrowe Road
 - Rylands Hey
- West Greasby, including:
 - Rowan Close

The subsequent points in this section discuss the evidence of flooding, site observations, flooding mechanisms, RMA response and suggested actions accordingly.



Client:



Project: SECTION 19 FLOOD INVESTIGATION
22ND AUGUST AND 2ND SEPTEMBER 2015

Title:

GREASBY FLOODING HOTSPOTS



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Design: AB

GIS: AB

Chk'd: RJ

App'd: RJ

Date: 22-03-2016

Scale: 1:10,000@A3

No. FIGURE 5-2

cm

cm

Rev: 0

A3

5.2.2 East Greasby

5.2.2.1 Coronation Park

The survey team commenced the site visits in the Coronation Park car park. Extensive pooling of surface water was observed and no formal drainage was apparent at this location (Photograph 5-3). There was no evidence that the surface water ponding in the car park directly impacted on the adjacent residential properties, although this could have potentially impacted them historically.



Photograph 5-3 Standing Water in the Coronation Park Car Park (1/3/16)

The grassed areas of the park were waterlogged (Photograph 5-4), with multiple instances of standing water observed. The park itself covers an area of approximately 8 hectares. A notice in the park's information board suggests that the park was previously a clay excavation pit which was later capped with excavation material from the Mersey tunnel (Photograph 5-5).

Significant clay deposits and low permeability soils may prevent the infiltration of surface water into the ground and result in the generation of overland flow which residents indicated has happened historically (including on both the 22nd August and the 2nd September 2015). A drainage ditch is present on the park's western boundary (adjacent to the allotments) and was observed to be conveying a small volume of water at the time of the visits. This feature may afford a low level of protection to the playing fields and the adjacent residential properties.



Photograph 5-4 Waterlogged Soils in Coronation Park (1/3/16)



Photograph 5-5 A Brief History of Coronation Park (1/3/16)

5.2.2.2 Brookdale Close

Dialogue with stakeholders and local residents at Brookdale Close indicated that water from Coronation Park is routed overland in a northerly direction following heavy rainfall. This subsequently pools against the fences at the back of Brookdale Close and then seeps beneath the garden fencing to the rear or the properties (Photograph 5-6). The properties are also at the bottom of a topographic gradient at this location.

The residents at Brookdale Close confirmed that the majority of the flooding was external, with the exception of 2 individual homes that experienced internal flooding. The residents also confirmed that the properties which experienced historic flooding have now had new doors fitted by Magenta Living.



**Photograph 5-6 Surface Water behind Brookdale Close
(1/3/16)**



Photograph 5-7 Brookdale Close (1/3/16)

5.2.2.3 Joan Avenue

The survey team undertook a walkover at Joan Avenue at the request of residents who had experienced severe flooding during the 2nd September 2015 event. This visit also entailed the provision of bespoke flood risk resilience advice to the residents. The residents at Joan Avenue indicated that the flood flow route originated from the Coronation Park and was influenced by the topography of the adjacent bowling green. The overland flow was subsequently routed through and around a number of properties on Joan Avenue (Photograph 5-8) and onto Greasby Road.



Photograph 5-8 Flooding at the back of Joan Avenue (2/9/15)

Photograph Courtesy of a Local Resident

5.2.2.4 Circular Drive

The survey team was able to speak with one resident at Circular Drive who indicated that the historic flooding was a result of surface water exceeding the capacity of the UU surface water sewer network. The resident also stated that some of the gullies may have been blocked at this location. The resident stated that the flooding was constrained to the roadway and

has not resulted in any internal property damage. UU has confirmed that they do not hold any records of this location being at hydraulic capacity and it has not been reported to them by local residents.

5.2.2.5 Norwood Road

The survey team attempted to make contact with a number of residents on Norwood Road to investigate the reported incidents of flooding. Whilst the majority of the residents were not available at the time of the drop-ins, the team made contact with a resident who indicated that the flooding was a result of surcharging sewers on the main road and that UU had been in attendance following the event undertaking maintenance and post-event clearance works.

5.2.2.6 Flooding Mechanisms

Following a review of the historic flooding information, meteorological conditions, stakeholder consultation and site observations it is concluded that the flooding within this area was a result of:

- Limited infiltration capacity within the grassed areas of Coronation Park resulting in the generation of a large volume of surface water. If there are significant clay deposits beneath the park this may create an impermeable lining which would exacerbate this issue.
- Wet antecedent conditions arising from the rainfall on the 1st of September may have further reduced the infiltration capacity of the grassed areas of the park prior to the second pulse of rainfall on the 2nd September.
- The topography of the grassed area of Coronation Park slopes towards the north. Water unable to infiltrate into the ground would be routed overland in this direction towards Brookdale Close and Joan Avenue.
- The hydraulic capacity of the UU drainage network beneath Norwood Road and Circular Drive being exceeded due to the significant intensity of rainfall (with an estimated return period of 84 years for the 48 hour storm). UU's sewerage systems are not designed to accommodate flows from severe weather events (i.e. those greater than a 1 in 20 year rainfall event) (as detailed in Section 2.3.3).

The flooding mechanisms for the West Greasby are summarised in Figure 5-3.

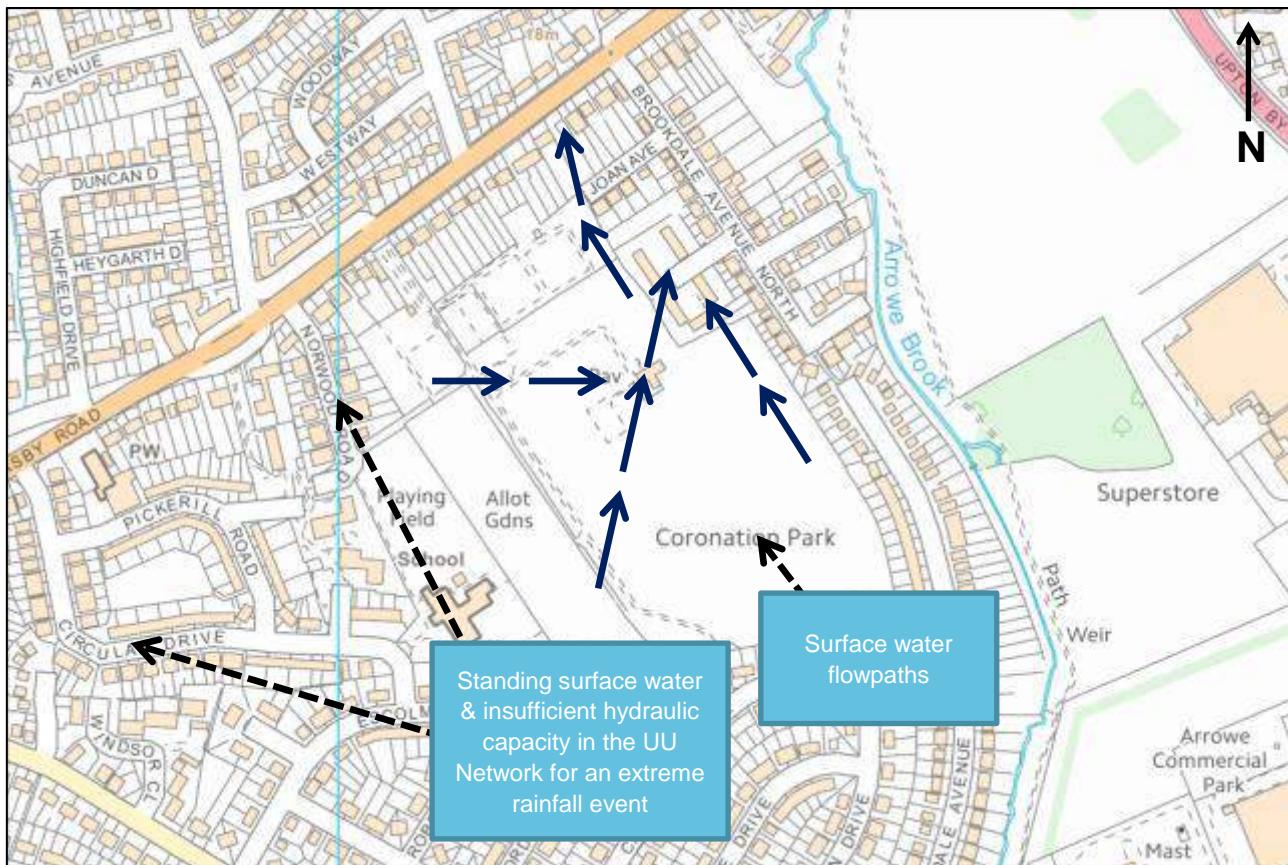


Figure 5-3 East Greasby Flooding Mechanisms

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5.2.2.7 RMA Response to Flooding

AECOM understands that the following actions have been undertaken by RMA's following the flooding:

- WBC has commissioned this Section 19 Report to investigate the flooding issues.
- UU has undertaken post-flood investigations, clearance and maintenance work on Norwood Road.
- Magenta Living has fitted flood resilience measures on the properties at the properties on Brookdale Close.

5.2.2.8 Recommendations

The evidence reviewed as part of this Section 19 Flood Investigation indicates that the flooding experienced at this location is primarily attributable to the volume of surface water runoff generated by the large contributing area at Coronation Park. Flood risk from this source may also increase in the future due to the effects of climatic change on rainfall intensity.

Improving the drainage and ability of Coronation Park to attenuate surface water runoff may therefore reduce flood risk to residents on Brookdale Close, Joan Avenue and Greasby Road. These resilience improvements could be potentially undertaken in tandem with other works to improve the amenity of the park in line with the objectives of WBC's Wirral Parks and Open Spaces Strategy¹⁰, specifically Objective 4.2:

Table 5-1 Excerpt from the Wirral Parks and Open Spaces Strategy

OBJECTIVE 4.2: Wirral's parks and open spaces address climate change issues and deliver environmental sustainability.

The parks and open spaces strategy needs to take account of Borough wide strategies and policies including the Climate Change Strategy, Environmental Management System (EMS), Shoreline Management Plan, Coastal Strategy and Floods and Water Management Act.

Long term climate forecasts (Climate UK), indicate a likelihood of higher average temperatures and more seasonal extremes. This might include a decrease in summer rainfall and an increase in heat waves, and/or an increase in 'flash' rainfall resulting in more flooding, higher sea levels and waterlogged soils. There is therefore a need to build climate adaptability into the maintenance of Wirral's parks, open spaces and coastal facing sites. This will in turn impact on the selection of species for planting, choosing specimens that are resilient to unpredictable weather conditions. Sustainable drainage capacity in parks and open spaces will be increased and there will be a need to improve drainage of sports pitches and a potential need for more irrigation in summer months where funding is available. The strategy also needs to take account of the North West River Basin Management Plan in order to help optimise water quality and ecological status of rivers and streams in parks as well as in Wirral's estuaries. Site management and development will need to accommodate wetter winter conditions and drier/hotter summer conditions, for example better provision of shading. There will also be a need for flexible deployment of staff and resources in response to greater and more unpredictable seasonal variations.

There is potential to improve and promote the environmental sustainability of parks and open spaces and associated buildings and operations, for example, using low emission machinery/vehicles where possible. Wirral's parks and open spaces can play an important role in reducing the borough's carbon and environmental footprint through for example recycling and composting of parks waste, encouraging local food growing; exploring biomass planting and micro-generation of energy if viable and appropriate to sites. In addition, encouraging cycling, walking and public transport use where appropriate.

POLICY 4.2a Parks and open space help alleviate flood risk while protecting their core amenity and recreational uses.

- Seek funding for a Programme of Sustainable Drainage Projects at suitable parks and open spaces and implement where appropriate as part of specific site management and development plans.

¹⁰ Wirral Parks and Open Spaces Strategy:

<https://www.wirral.gov.uk/sites/default/files/all/Leisure%20parks%20and%20events/parks%20and%20open%20spaces/Wirral%20Parks%20and%20Open%20Spaces%20Strategy%202014-2024.pdf>

AECOM understands that Coronation Park was considered as part of the Environment Partnerships (TEP) 'Wirral Resilient Parks' project and that preliminary proposals identified potential opportunities to improve drainage through a combination of:

- Football field drainage;
- A system of swales and ponds;
- Rainwater harvesting; and,
- Underground storage tanks serving the areas of hard standing.

An artist's impression of the potential resilience measures is shown in Figure 5-4.



Figure 5-4 Coronation Park Proposals

Excerpt from the Wirral Resilient Parks Project

On the basis of the recent severe flooding it is therefore recommended that WBC explore opportunities to secure funding to further appraise the preliminary Coronation Park proposals for technical and environmental feasibility.

Though UU has not received any residents' reports of flooding at Circular Drive from residents, the information collated from the site walkover indicates that the flooding at this location may be attributable to the exceedance of the sewer's 1 in 20 year design capacity. UU should undertake investigations to determine if there are any blockages or features which are likely to reduce its hydraulic capacity. WBC should assist in this through an assessment of the highway drainage system which connects to the central UU sewer.

5.2.3 Central Greasby

A review of internet sources that there have been a number of flooding incidents at this location. On 17th July 2007 Wirral Globe¹¹ reported that “torrential downpours brought chaos to parts of Greasby this afternoon as roads were flooded after just 30 minutes of rain.” The report notes that Arrowe Road was closed, and that internal and external flooding affected properties on Arrowe Road and Rigby Drive. A picture accompanying the report (Photograph 5-9) shows significant flooding in Arrowe Road adjacent to the public footpath leading from Lloyd Drive.



Photograph 5-9 Arrowe Road Flooding (17/7/07)

Images from the Wirral Globe: <http://www.wirralglobe.co.uk>

On 10th September 2008 Wirral Globe¹² reported that significant flooding had occurred on 5th September 2008 when “15mm of rain fell in just one hour”. The report states that properties on The Croft, Rigby Drive, and Lloyd Drive were subject to flooding, with a resident of The Croft noting that it was the second time this year the property had been affected by flooding which was caused by “excess water from a farmer’s field”. The report suggests that pressure was being put on UU due to incapacity in the main sewers, with a UU spokesman suggesting that the area has a history of land drainage problems rather than a lack of sewer capacity.

On 30th October 2008 the website of MP Ester McVey¹³ reported on the setting up of the Greasby Flood Action Group by members of the community. The report suggests that the previous flood event had occurred in September 2008.

On 27th August 2009 Wirral Globe¹⁴ reported that, following flooding affecting properties in Arrowe Road and Rigby Drive in July 2009, UU had taken action to assess the condition of the local public sewers. The report suggested that root ingress and debris were reducing capacity in the sewers in Greasby Road, and that that remedial works had since been carried out.

On 16th August 2012 the Liverpool Echo¹⁵ reported flash flooding following significant rainfall had affected properties on The Croft for the second time in three days, although the precise date of flooding is not recorded. In the report a resident also notes that similar flooding had occurred in July 2007. The picture accompanying the report (Photograph 5-10) shows significant water pooled in the low spot on Rigby Drive, between The Close and the junction with Howell Drive. A resident reports the cause of the flooding to be runoff from the fields at the rear of the residential area.

¹¹ http://www.wirralglobe.co.uk/news/1551415.Floods_bring_chaos_to_Greasby/

¹² http://www.wirralglobe.co.uk/news/3663210.HowTorrents_left_Wirral_awash/

¹³ <http://www.esthermcvey.com/greasby-flooding-action-group/>

¹⁴ http://www.wirralglobe.co.uk/news/4568536.Water_result_Floods_are_over_for_Greasby_householders/

¹⁵ <http://www.liverpoolecho.co.uk/news/liverpool-news/families-affected-flash-floods-wirral-3337451>



Photograph 5-10 Rigby Drive Flooding (16/8/12)

Images from the Wirral Globe: <http://www.wirralglobe.co.uk>

The Environment Agency's Updated Flood Map for Surface Water (UFMfSW) indicates this surface water flowpath from the fields adjacent to Greasby Copse (south of Rigby Drive). The surface water mapping shows this flow as routing through a number of properties on Rigby Drive, the Croft and the residential area downstream.

The data review exercise confirmed that this area was affected again during the 2nd September 2015 flooding, with multiple reports on Rigby Drive, the Croft, Arrowe Road and Rylands Hey.

5.2.3.1 Rigby Drive & the Croft

The survey team commenced the site visit investigations by contacting residents on Rigby Drive. Whilst several of the residents were unavailable for comment, one resident stated that the flooding in this area is a result of surface water from the upper catchment around Greasby Copse which converges around the properties around the southern side of Rigby Drive. This consequently exceeds the capacity of the local drainage network and is routed overland through the properties on Rigby Drive to the Croft. A photograph of the flooding in the residents back garden is shown in Photograph 5-11.

The survey team subsequently made contact with residents on The Croft to gather information to further the understanding of the flooding mechanisms and to provide bespoke flood risk resilience advice to the local residents. It was also noted that the residents had implemented a number of resilience measures to protect their property. The consultation with the residents on Rigby Drive confirmed that the overland flow from the upper catchment is routed through the gardens and exceeds the capacity of the local drainage network on the Croft. It should be noted, however, that sewerage networks are not intended or designed to receive land drainage.

Flooding and surface flows from this area may potentially compound the issues around Arrowe Road (which is immediately downslope), though the sewer connectivity has not been confirmed at this stage.



Photograph 5-11 Rigby Drive Flooding (Unknown Date)

Image Courtesy of a Local Resident

5.2.3.2 Arrowe Road

The initial data screening exercise indicated a number of reported flood incidents were present on the junction of Arrowe Road with Tudor Grange. Several of these reported incidents were collated as part of the Environment Agency's drop-in feedback sessions in Moreton following the 2nd September 2015 event.

The survey team attempted to make contact with residents on Arrowe Road, though the majority of them were unavailable at the time of the survey. Whilst the initial attempts were unsuccessful, a pre-arranged visit with an affected resident had been scheduled. Consultation with the resident at Arrowe Road indicated that the historic flooding was a result of a combination sources. Specifically, the resident advised that:

- Arrowe Road directs surface water onto the adjacent pavements due to a perceived lack of highways drainage (gullies) and camber of the road.
- The topography of Arrowe Road acts to convey floodwater to the area adjacent to the junction with Tudor Grange.
- The surface water drainage network converges immediately outside of the resident's property and during severe weather the design standard is exceeded. This network is anticipated to cover a relatively large catchment area up to Greenhouse Farm. This consequently results in localised surcharging of sewers and severe ponding within Arrowe Road.
- Flooding is further exacerbated as a result of heavy traffic flow along Arrowe Road in both directions. This consequently results in the generation of bow waves which increase the flood damage to adjacent properties.

A neighbouring resident provided a number of photographs of the historic flooding to the survey team (Photograph 5-12). UU has confirmed that it has not received any reports of flooding from residents in this area for the 2nd September 2015 flooding.



Photograph 5-12 Arrowe Road Flooding (2/9/15)

Image Courtesy of a Local Resident

The resident stated that the flooding on Arrowe Road has had a severe and repeated impact on a number of properties on Arrowe Road over an approximate 10 year period. Whilst the resident had installed some flood resilience measures (airbrick covers), water continues to ingress into his home via the brickwork and doors during a flood event. The survey team advised on additional resilience that could be potentially adopted at the property.

The perceived local authority inaction during the 2nd September 2015 flooding reportedly led to community led road closures in order to prevent vehicular traffic from generating further bow waves and impacting on property.

5.2.3.3 Rylands Hey

Whilst the initial data review indicated that only one property was affected at this location, the survey team undertook a walkover of this area and spoke two local residents. As a result of this consultation it was apparent that up to five properties at this location were affected as a result of a combination of surface water from the contributing area upstream and ordinary watercourse flooding. This floodwater was routed through and around properties, flowing roughly parallel with the ordinary watercourse and the flooding may have been exacerbated by a culverted section.

The local residents also provided photographic and video evidence of the flood flow route through the properties on the 2nd September 2015. This information was used to indicate an approximate flood flowpath for this at this location.



**Photograph 5-13 Surface Water Flowpath at Rylands Hey
(1/3/16)**



**Photograph 5-14 Ordinary Watercourse at Rylands Hey
(1/3/16)**

5.2.3.4 Flooding Mechanisms

Following a review of the historic flooding information, meteorological conditions, stakeholder consultation and site observations it is anticipated that the flooding within this location was a result of:

- Rainfall on the hillside above Rigby Drive generating a significant amount of surface water due to the catchment area, topography and limited infiltration potential of the soils.
- Surface water then being subsequently routed through The Close and onto Rigby Drive.
- Floodwater was then routed through the gardens of properties on Rigby Drive and into the garden of properties on The Croft.
- Though some surface water would have been lost into the UU sewer network, the volume of floodwater and severity of the weather exceeded the 1 in 20 year design standard of the drainage and was routed overland. It should also be noted that surface water sewers are not designed or intended to take land drainage.
- A large volume of surface water was then conveyed along Howell Drive, with ponding at the junction with Lloyd Drive.
- Flood water was then routed through the gardens and a footpath on Lloyd Drive and onto the properties on Arrowe Road.
- Flooding on Arrowe Road is compounded by surface water from the easterly aspect of Arrowe Road.
- The volume of floodwater on Arrowe Road exceeding the design capacity of the UU sewer network.
- Flooding was exacerbated as a result of heavy traffic flow along Arrowe Road in both directions. This consequently resulted in the generation of bow waves which increased the flood damage to adjacent properties.
- Surface water flows were routed down Tudor Grange onto Circular Drive and subsequently onto Rylands Hey. This was compounded by UU sewers running at capacity due to the severe weather (being greater than a 1 in 20 year return period) and resulted in overland flow running through the gardens and properties on Rylands Hey.

These flooding mechanisms are summarised in Figure 5-2.

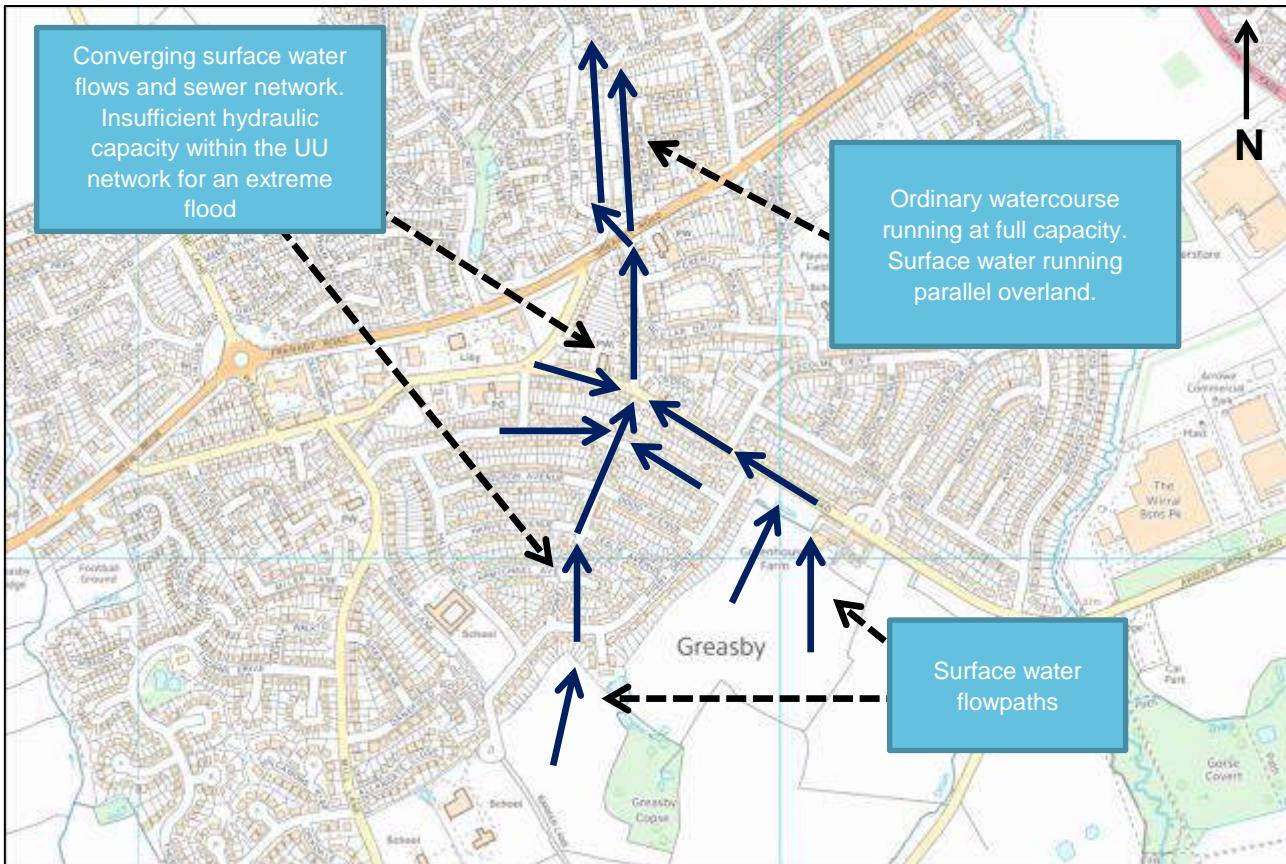


Figure 5-5 Central Greasby Flooding Mechanisms

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5.2.3.5 RMA Response to Flooding

Prior to the 2nd September 2015 flooding, WBC commissioned a detailed water modelling study and investigation into this hotspot in February 2014. The investigation created a verified representation of the flooding mechanisms with a hydrodynamic model and analysed a range of potential interventions to potentially mitigate flood risk. The primary solution entailed the interception and storage of surface water flows from the hillside within the fields upstream of Rigby Drive, with a controlled release of surface water into the public sewer via the existing connections.

The modelling determined that a significant volume of storage would be required to deliver a benefit to the properties downstream – i.e. up to 7,700m³ for a 1 in 30 year plus climate change event. The report therefore concluded that due to the volume of storage required secondary interventions may be required to deliver a feasible mitigation strategy and to reduce the impact of future flood risks.

Based upon the available information AECOM understands that other relevant RMA actions in this area include:

- WBC has commissioned this Section 19 Report to investigate the flooding issues.
- UU has undertaken post-event investigations into the reported flooding to verify the cause of the issues.

5.2.3.6 Recommendations

Several recommendations for further work were made in the Surface Water Modelling Study which WBC and its project partners should consider if there is a sufficient partnership funding to advance a capital scheme in this flooding hotspot.

These recommendations for further work are outlined in Table 5-2.

Table 5-2 Excerpt from the Greasby Flood Investigation Report

Consultation and Stakeholder Engagement

The flooding events which have occurred to date have had a significant impact on the local community. There is a general concern and a wish to see action taken. If there is potential to take a scheme forward, it is recommended that public consultation forms a part of the scheme development exercise to engage residents and to obtain buy-in to flood alleviation proposals.

The potential solutions rely on work being undertaken within the fields to the south of the residential area. In order to confirm the feasibility of any solution and to take any potential solution forward, significant engagement with the landowner will be required. It is recommended that initial liaison be undertaken before progressing with further study.

Ongoing liaison and partnership working with both UU and the EA will be required to develop a holistic solution for the surface water flooding. In particular, further liaison with UU would be required as a priority in order to confirm acceptability in principle of the potential solutions, including the potential controlled release of surface water into the public sewer. Further consultation with UU on funding provision for a sewer flooding solution will be a key requirement.

If there is potential to take a scheme forward, the planning division of Wirral Council should be consulted in order to establish the requirements for planning permission for any scheme, in order to identify the likely scope of work required to support any application.

Economic Appraisal

A full economic assessment would be required in order to justify any investment and identify potential sources of funding. Such an appraisal is likely to include for outline costing of potential interventions, cost-benefit analysis, and appraisal of potential funding sources.

As the provision of a holistic solution will require implementation of the UU sewer flooding solution, discussions with UU will be required to confirm the potential for funding of such a scheme. AMP6 funding priorities may or may not be favourable to the scheme, and this should be considered as early as possible to avoid abortive work.

The alleviation of flood risk from watercourses and surface water can attract government funding to either pay for the works in full or as a part of a wider funding package. This source of funding is called Flood and Coastal Erosion Risk Management Grant in Aid (FCRM GiA) – previously known as Flood Defence Grant in Aid. Rules apply to attracting FCRM GiA, as presented on the EA website¹⁶. The underlying policy aim for the use of GiA is to draw in contributions from others – the wider the funding package the more likely GiA is to be granted.

As part of the overall scheme scoring, Wirral Council would need to demonstrate that a scheme will provide a favourable outcome against some or all of the following criteria:

- The number of households protected against flood risk;
- Positive economic benefit to cost ratio (showing the scheme is an economic investment); and
- Habitat improvement.

Assessment against these criteria is scored in terms of Defra/EA “Outcome Measure” targets. Other funding sources may be also be available and should be considered prior to proceeding with any GiA funding bid. A Project Appraisal Report (PAR) may be required to support any bid for funding.

Surveys and Model Refinement

In order to refine the 2D hydraulic model of the catchment, and to inform further development of potential solutions, the following may be required:

- Survey of pipe connections from drainage ditches to confirm pipe size, invert levels, current condition, connectivity;
- Potential further survey of the public sewerage;
- Ground based topographical survey of the fields where work may be undertaken;
- Threshold survey of properties at risk of flooding;
- Some ground investigation is likely to be needed where significant engineering works are planned (subject to the

¹⁶ <https://www.gov.uk/government/collections/flood-and-coastal-defence-funding-for-risk-managementAuthorities>

- Council not having access to suitable existing data);
- At this stage it is not clear whether contaminated land is likely to be an issue. This will need to be checked through desk study and then ground investigation if needed.

The scope of any surveys would need to be carefully considered to ensure the critical elements which may constrain the design are understood.

Environmental Assessment

It is important to review the impacts of works, both positive and negative, on the surrounding area. This assessment may include environmental surveys and investigations on how potential impacts could be mitigated or opportunities incorporated within the works. Both the permanent impacts of any scheme and the temporary impacts during construction should be evaluated. The following topics may be amongst those which need to be considered:

- Ecology and biodiversity;
- Air quality;
- Noise;
- Cultural Heritage;
- Landscape and visual impact;
- Socio-economic impact;
- Traffic and transport.

Detailed Design Activities

The detailed design work is dependent on the tasks listed above and will include refinement of the hydraulic modelling to confirm solutions, preparing design specifications, hydraulic calculations, detailed design drawings, agreement of contract procurement methodology, and preparation of tender documents including all CDM Construction Health and Safety Information. A CDM Coordinator will be required for these works as it is assumed the scheme will be notifiable to the HSE.

Potential secondary interventions for consideration included:

- Property Level Urban SUDS
- Street Level Urban SUDS
- Changing Land Management Practice
- Mitigation
- Maintenance
- Flood-Proofing
- Temporary Infrastructure
- Changing Land Management Practice

5.2.4 West Greasby

5.2.4.1 Rowan Close

The survey team managed to speak to three residents at Rowan Close and confirmed that the historic flooding at this location has resulted from both sewers and ordinary watercourses. The sewer flooding had resulted in both wastewater and surface water surcharging out of manholes adjacent to property, resulting in localised property damage. The residents advised that UU had been contacted and subsequently undertaken post-event work to disinfect and clear up the affected areas. Post-event investigations undertaken by UU confirm that this flooding was a result of the initial rainfall on the 1st September 2015 combined with a blockage of fats, oils and grease within the local sewer network.

On the opposite side of the close a resident concerned with flooding from an ordinary watercourse which is a tributary of the Greasby Brook. This issue was reported as being a result of a tree growing within the unmaintained ordinary watercourse which then traps debris during times of flood. This consequently results in a localised constriction to flow and a backwater effect.



Photograph 5-15 Vegetation Growth within an Unnamed Ordinary Watercourse (1/3/16)

The local resident stated that they had previously voiced concerns about blockage and reduced conveyance within the watercourse. The survey team explained about the different risk management authorities' responsibilities and the riparian ownership issues, though it was unclear who owned the land on the opposite bank of the watercourse. This may need to be confirmed and reiterated at a later stage with subsequent visits to the local residents.

Localised low spots were also observed on the river banks adjacent to the neighbouring properties; blockage in the future may pose a localised fluvial flood risk at this location.

5.2.4.2 Flooding Mechanisms

Following a review of the historic flooding information, meteorological conditions, stakeholder consultation and site observations it is anticipated that the flooding at the Rowan Close was a result of:

- Blockage within the UU sewer network (fats, oils and grease); and,
- Localised ordinary watercourse flooding.

5.2.4.3 RMA Response to Flooding

Based upon the available information AECOM understands that other relevant RMA actions in this area include:

- WBC has commissioned this Section 19 Report to investigate the flooding issues.
- UU has undertaken post-flood clearance and maintenance work on Rowan Close.
- UU has undertaken post-event investigations to verify the cause of the issues.

5.2.4.4 Recommendations

The evidence reviewed as part of this Section 19 Flood Investigation indicates that the flooding at this location was relatively localised and that post-event investigations have already been undertaken. Additional works could include:

- Liaison with local residents and stakeholders to reiterate the importance of not depositing fats, oils and grease down the drain and riparian ownership issues.

5.3 Moreton

5.3.1 Site Overview

Moreton is a village on the north coast of the Wirral Peninsula, Merseyside, England. The village is bisected by the Arrowe Brook, an Environment Agency main river that flows south to north through the residential area. The Arrowe Brook subsequently joins the River Birket downstream of Moreton, where it flows east for 6km to Bidston Great Culvert where water discharges via gravity into the West Float (Birkenhead Docks). The Environment Agency also operate a pumping station at this location as high tides can prevent the River Birket from freely discharging into the West Float. This pumping station has a theoretical maximum rate of 16 m³/s. Pumping can be required during high tides due to the flat, coastal topography and tide-locking that can occur.

These catchment conditions can result in a significant backwater effect from the lower end of the catchment and as such elevated levels within the River Birket can result in an increased water level within the Arrowe Brook catchment upstream. Subsequently the Environment Agency can issue Flood Warnings and Flood Alerts in Moreton for increased river levels within the lower catchment, as well as for high river levels in the upper catchment.

The Arrowe Brook is crossed by two bridges within the urban area of Moreton: the Town Meadow Lane road bridge and a Railway Bridge at the downstream end of the village. An annotated map of Moreton village and the key features is shown in Figure 5-6.

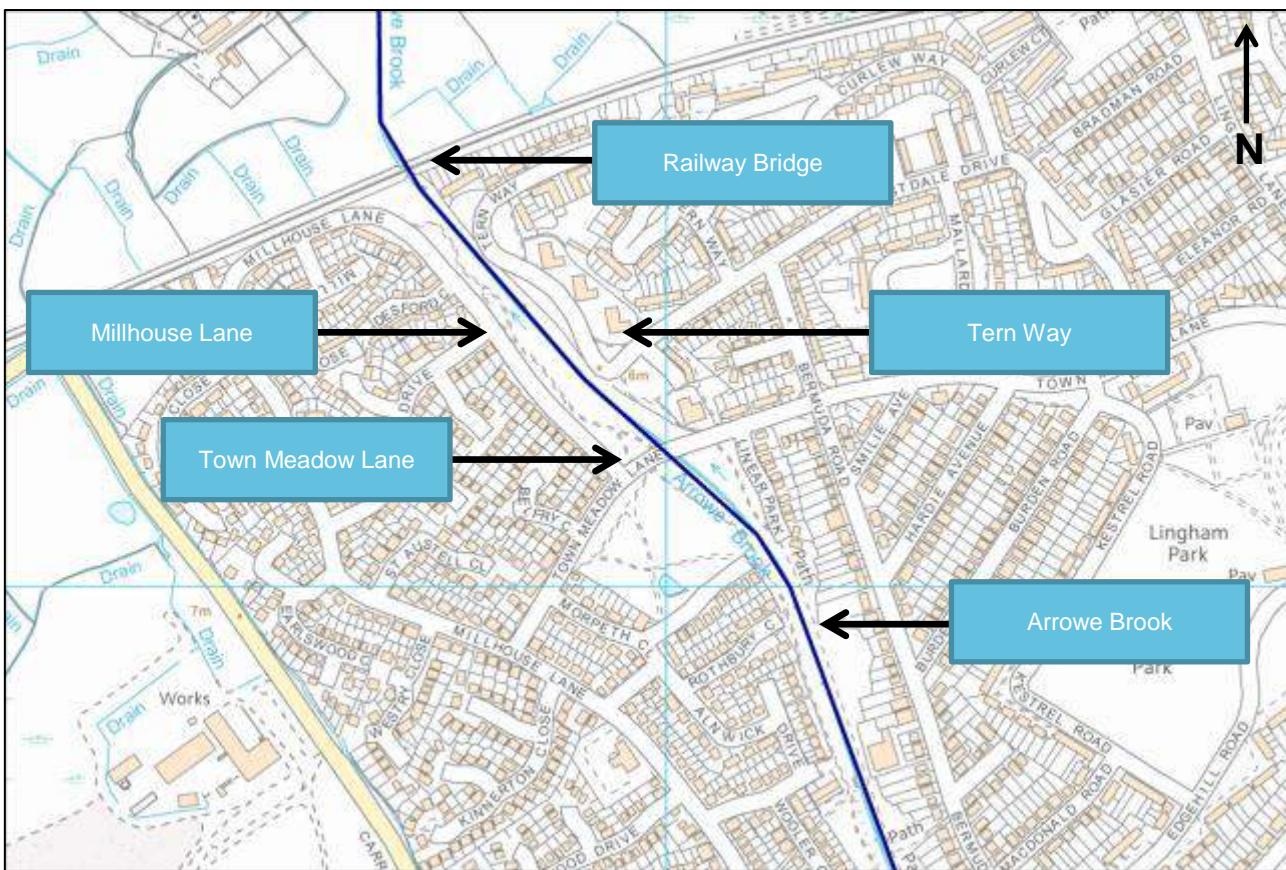


Figure 5-6 Moreton Village; Key Features

© Crown copyright and database rights 2016. Ordnance Survey License Number 10001980. Scale is 1:3,000.

5.3.2 Flooding Timeline

AECOM has reviewed information collated from the consultees and produced an approximate timeline for the 2nd September flooding at Moreton. This has been split into the physical flooding impacts and the flood incident response by emergency responders, RMAs and other relevant agencies. The reconstructed timeline is shown in Table 5-3.

Table 5-3 Moreton Flooding Timeline

Key Timeline Abbreviations			
EA	Environment Agency	MF&R	Merseyside Fire and Rescue
FIDO	EA Flood Incident Duty Officer	ML	Magenta Living
FWDO	EA Flood Warning Duty Officer	MP	Merseyside Police
MFDO	EA Monitoring and Forecasting Duty Officer	NIRS	National Incident Reporting System

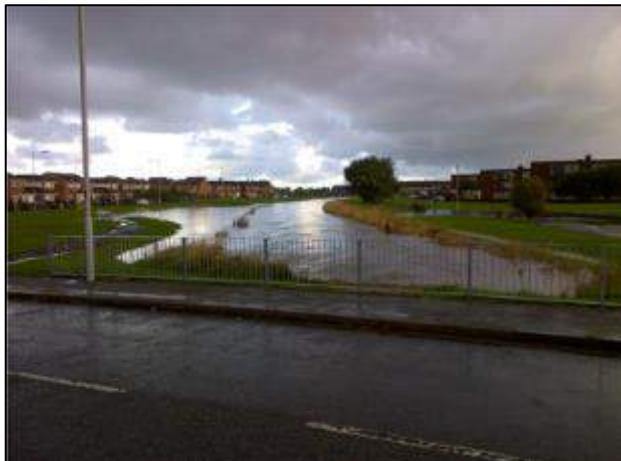
Time	Flooding Impacts and Observations	Flood Incident Responses	Source
06:30	EA alarm received for Great Culvert trash screen (downstream of Moreton)	EA Operations team already on location and checking for blockages	EA
06:45	-	-	
07:00	-	-	
07:15	Report of surface water flooding at Oakham Drive	-	MP
07:30	Report of surface water flooding at Millhouse Lane	-	MF&R
07:45	-	Alarm received for Great Culvert trash screen: EA Operations team already on location	EA
08:00	Deep flooding (> 12") reported on Millhouse Lane & Millhouse Close EA alarm received for Great Culvert trash screen (downstream of Moreton)	MP Officer arrives at the scene Reports of flooding reach the EA Flood Incident Duty Officer (FIDO) through the National Incident Reporting System (NIRS)	MP, EA
08:15	-	WBC Highways Officer arrives at the scene	
08:30	-	Reports of flooding arrive at ML contact centre Residents begin requesting sandbags MP Officer requests assistance from WBC	MP
08:45	Extensive surface water flooding Floodwater reaches entrances to property on Town Meadow Lane	WBC Highways Officer completes road closure Police Inspector made aware and looks to secure sandbags MP advises Inrix (traffic link) about flooding MP advises WBC Street Scene about flooding	MP
09:00	Flooding spreads onto Felton Close Gardens on Wastdale Drive are flooded First report of property flooding Moreton	EA operatives arrive at the scene and checking structures for blockages Second NIRS report received by EA FIDO for Town Meadow Lane WBC begins organising further road closures with contractors Additional requests for sandbags from residents M&FR attends site meeting with MP. Both provide advice to residents	MP, MF&R, ML
09:15	EA operations team confirms Arrowe Brook is at capacity and that the adjacent flooding is due to surface water which is unable to effectively drain into the river system	MP Officer awaiting arrival of sandbags ML Property Surveyor and Technician arrive ML establishes 'Emergency Contact Point' at its contact centre	EA, MP, ML
09:30	-	ML Supported Housing Management Team begin acting as co-ordinators for residents	ML

Time	Flooding Impacts and Observations	Flood Incident Responses	Source
		unable to remain in their homes ML begins prioritising residents for re-location ML Technical Staff install pumps in communal areas in an attempt to reduce water levels	
09:45	Town Meadow Lane flooded to a depth of 18" and rendered impassable	WBC Street Scene confirms WBC Highways are assisting with road closures on Town Meadow Lane and Arrowe Road	MP, ML
10:00	Additional property flooding on Tern Way, Wastdale Drive and Town Meadow Lane Internal property flooding is up to a depth of 12"	WBC Street Scene confirms sandbags are unavailable in line with WBC policy EA Monitoring and Forecasting Duty Officer (MFDO) identifies that current forecast shows Flood Warning triggers will not be reached at Greasby Road	WBC
10:15	-	-	
10:30	Reports of external flooding at Meadowbrook Road	EA Site Controller moved onto Meadowbrook Road to investigate reports of flooding	EA
10:45	River levels on the River Birket at the Great Culvert Entrance reach ACT ENHANCE threshold.	EA MFDO Confident Flood Alert threshold will not be reached at the Great Culvert Entrance due to significant channel capacity	EA
11:00	Water level in the garden area of Town Meadow Lane reaches 8" above property thresholds Reports of external flooding on Brookdale Avenue	WBC Call Centre receives reports of flooding of properties on Tern Way	WBC, ML, EA
11:15	-	MF&R assists with evacuation and isolating electrics	MP, MF&R
11:30	Water level at Wastdale Road is approximately 18" above property thresholds	ML isolates gas and electrics in all accessible properties ML attempts to contact WBC Head of Corporate & Community Safety (unsuccessful)	ML
11:45	River levels on the River Birket at the Great Culvert Entrance continue to rise, river levels on the Arrowe Brook at Greasby Road begin to fall	-	
12:00	Property flooding at Carnoustie Close	-	WBC
12:15	Approximately 50+ properties are confirmed as having flooded at Tern Way	Additional pair of EA Site Controllers dispatched to Tern Way MF&R reach decision to begin evacuating properties as water levels continuing to rise	EA
12:30	-	ML request support from WBC EP team	WBC
12:45	-	-	
13:00	EA FWDO confirms tidal levels at Great Culvert Entrance should not be resulting in flooding on the River Birket or Arrowe Brook Majority of the flooding is understood to be surface water flooding at this time	ML attend a joint on site meeting with EA and MF&R EA attempts to contact WBC (unsuccessful) WBC Highways confirms WBC sandbag policy with ML EA Flood Incident Room opened WBC Highways contractors arrive at site EA discuss issuing Flood Alert for the Wirral catchment due to surface water flooding even though Flood Alert/ Flood Warning trigger levels have not been reached (a decision is made not	ML, EA, WBC

Time	Flooding Impacts and Observations	Flood Incident Responses	Source
		to issue an alert as surface water not EA remit)	
13:15	-	-	
13:30	-	WBC Council staff put on standby to assist reception centre with relocation: ML primarily leading as most affected residents are ML tenants	WBC
13:45	-	-	
14:00	-	MF&R leave site - unable to do anything further	ML
14:15	-	-	
14:30	Flood Alert threshold for the Wirral catchment is reached at the Great Culvert Entrance	Flood alert issued for Wirral Catchment as trigger level reached at the Great Culvert EA Site Controller confirms properties at Tern Way flooded up to a depth of 24"	EA
14:45	-	-	
15:00	-	-	
15:15	-	-	
15:30	Floodwater begins to recede at Tern Way	--	EA
15:45	-	-	
16:00	-	EA Incident Room closed	
16:15	-	-	
16:30	-	ML Security Team delivers sandbags to affected residents	ML
16:45	-	-	
17:00	-	EA operations teams leave site	EA

5.3.3 Flooding Photographs

Contextual photographs of the flooding at Moreton are shown in Photograph 5-18 through to Photograph 5-21.



Photograph 5-16 Arrowe Brook Looking to Tern Way (2/9/15)



Photograph 5-17 Flooding at Tern Way (2/9/15)



Photograph 5-18 Tern Way Flats (2/9/15)



Photograph 5-19 Wastdale Drive (2/9/15)



Photograph 5-20 Flooding at Tern Way (2/9/15)



Photograph 5-21 Flooding at Tern Way (2/9/15)

5.3.4 Site Observations

The AECOM site walkover on the 2nd of March 2016 prioritised residents and the areas identified within the estimated flood outline produced by the Environment Agency local area team following the event. The Arrowe Brook was observed as being in relatively good condition, with little debris and freely flowing. The watercourse is relatively straight with clearly defined uniform banks on each side of the river. The topography of the adjacent floodplains is flat, with a limited change in level between the bank crests and the neighbouring properties (Photograph 5-22).

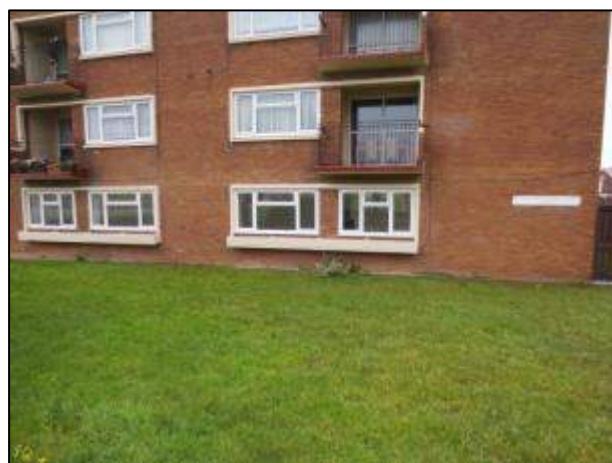


Photograph 5-22 The Arrowe Brook in Morton (Looking Upstream) (2/3/2016)

A number of large surface water outfalls (of varying diameter) were also observed along this reach of the Arrowe Brook. Several of these outfalls were visibly blocked at the trash screen and potentially retaining water within the drainage system.



Photograph 5-23 Blocked Surface Water Outfall (2/3/16)



Photograph 5-24 Vacant & Refurbished Flats at Moreton (2/3/16)

A significant number of the ground-floor flats on Tern Way were observed as being vacant or having been recently refurbished. It was not evident from the site walkover if this refurbishment process also included retrofitting flood resilience measures. Given the significant number of vacant properties there was a limited opportunity to engage in dialogue with local residents about the flooding. However, the survey team were able to attend a previously arranged visit with a resident to discuss the flooding that occurred, RMA response and to provide bespoke advice on property resilience measures.

The site walkover identified recent evidence of increased water levels immediately upstream of the Rail Bridge as evidenced by a series of wrack marks just below the crest levels of the river banks (Photograph 5-25). This indicates that the capacity of the Rail Bridge may potentially throttle flows during times of flood which could result in a backwater effect and lateral spilling into the adjacent floodplain.



Photograph 5-25 Arrowe Brook Railway Bridge (2/3/16)

A pre-arranged visit with a local resident at Moreton indicated that the Town Meadow Lane Road Bridge may have acted to constrict flows which could have resulted in a local backwater effect which impacted on the properties upstream.

Following the 2nd September flood event members of the community raised concern about a temporary crossing over the Arrowe Brook downstream of the Rail Bridge in Moreton. At the time of the flooding UU were upgrading the sewer network to alleviate surface and foul water flooding and, as part of this work, had a temporary crossing over the Arrowe Brook which was consented by the Environment Agency.

These temporary crossings are intended to be constructed such that at high flows they overtop. Photographs of the structure are shown in Photograph 5-26 and Photograph 5-27.



Photograph 5-26 Arrowe Brook, UU structure (post-event photograph)



Photograph 5-27 Arrowe Brook, Looking North Across the UU structure, 09:38, 2/9/15

Left image is reproduced from: <http://chrisblakeley.com/2015/09/11/did-this-damn-contribute-to-the-floods-in-moreton-last-week/>

Right image is courtesy of the Environment Agency

5.3.5 Flooding Mechanisms

The flooding that was experienced in Moreton was a result of several interlinked flooding mechanisms that fall under the remit of multiple RMAs. This section provides a detailed account, description and explanation of the flooding mechanisms.

5.3.5.1 River Flows

As outlined in Section 3.3, the Environment Agency operates a gauging station on the Arrowe Brook at Acton Lane. This station is located approximately 800m upstream of the flooding that occurred in Moreton. This gauging station enables the Environment Agency to estimate river flow based upon river level (stage) and a series of mathematical equations that describe the hydraulic properties of the gauging site.

Based upon the observations recorded during the 2nd September flood event, the Environment Agency estimate that the recorded peak water level on the Arrowe Brook corresponds with a river flow of 11.7 m³/s. This is stated as being approximately equivalent to a 1 in 75 year fluvial return period on the Arrowe Brook. This is also the largest observed flow since records began at the site in 2006.

5.3.5.2 Modelling and Mapping Studies

River Modelling

The Environment Agency has a hydraulic model of the Arrowe Brook catchment. This is a computational model of the rivers, Fender, Birket, Arrowe Brook and other tributaries within the catchment. It should be noted that this model was designed specifically to map the fluvial flood risk from these watercourses and therefore has the following limitations:

- It does not represent the risk of flooding from surface water (i.e. rainfall falling directly on Moreton)
- It does not represent the risk of flooding from surface water drainage network (i.e. sewers running at capacity)
- It does not represent the interaction between river and the surface water drainage network (i.e. sewers flooding because they are unable to discharge due to high river levels).

The hydraulic model of the Arrowe Brook catchment has been used to create the Environment Agency's Flood Zone map for Moreton (Figure 5-6). Critically, the mapping shows that a 100 year flood event is modelled as remaining within the central channel area, whilst 1000 year river flows would be anticipated to flood large parts of the adjacent urban area.

Given that the observed flood flows on the Arrowe Brook on the 2nd September can be approximated to a 1 in 75 year river flow, the modelling and mapping studies indicate that this would not have been sufficient to cause the Moreton flooding in isolation.

Surface Water Mapping

Whilst the management of surface water falls under the remit of WBC as the LLFA, the Environment Agency has also produced the national Updated Flood Map for Surface Water in its Strategic Overview role in flood risk management. This mapping has been designed to indicate areas that may be at risk of surface water flooding for 30 year (high risk), 100 year (medium risk) and 1000 year (low risk) storms. It is important to note that this is national mapping product and does not represent reflect local detailed sewer drainage networks and is not designed to represent the risk of fluvial flooding from watercourses.

The Environment Agency's Updated Flood Map for Surface Water is shown in Figure 5-8. This mapping shows that several of the roads around Moreton are considered to be at high risk of surface water flooding from a 30 year storm event (including parts of Oakham Drive, Millhouse Lane, Town Meadow Lane and Tern Way). The mapping also shows that a significant proportion of the study area is at risk of flooding from surface water in a 100 year storm.

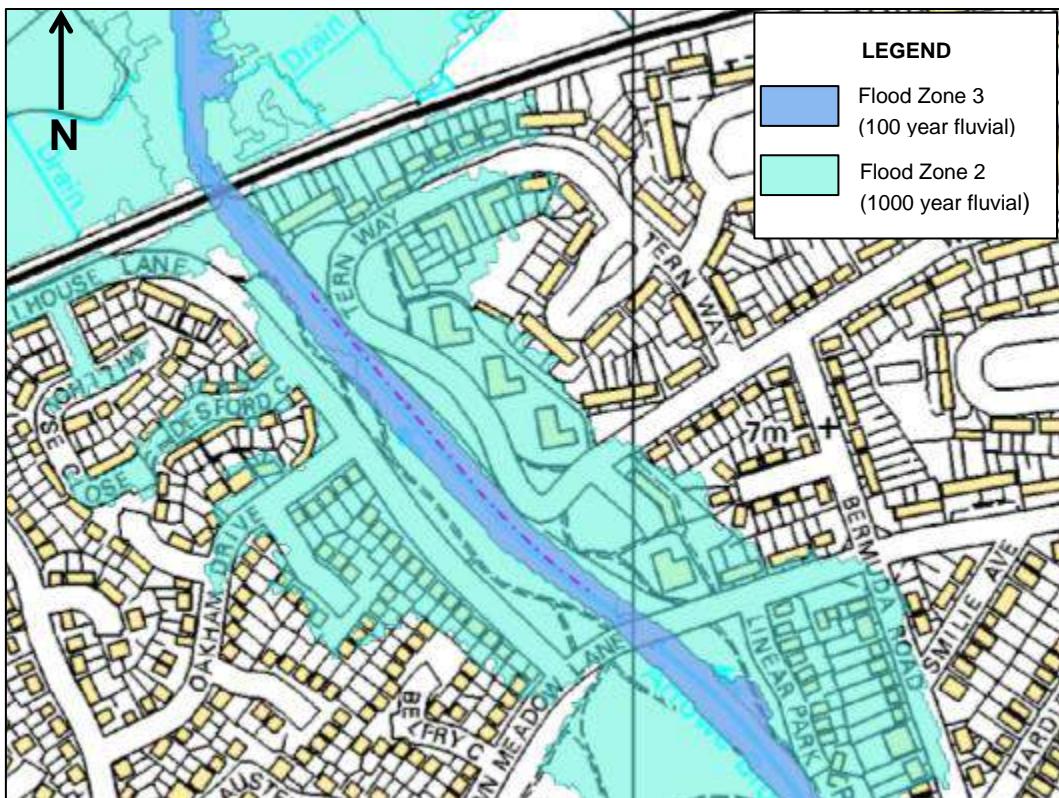


Figure 5-7 Environment Agency Flood Zone Map

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Figure 5-8 Environment Agency Flood Map for Surface Water

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5.3.5.3 Combined Mechanisms

The recorded gauge data, models and mapping reviewed in the previous section demonstrates that the 2nd September 2015 in Moreton cannot be attributed to a single causative factor (i.e. the flooding was not just the result of large river flows on the Arrowe Brook). The flooding observations documented in the reconstructed Moreton timeline (Table 5-3) supports this conclusion; surface water flooding on Oakham Drive and Millhouse Lane was reported from 08:00 whilst the water level in the Arrowe Brook was still within the river banks.

It is therefore concluded that the flooding was a result of a combination of the following flooding mechanisms:

1. Severe rainfall over a 48 hour period over the Arrowe Brook and River Birket hydrological catchments.
2. A progressive and gradual increase in the water stored within the catchments due to the flat coastal landscape and constrained outfall to the Mersey Estuary at the Great Culvert. This resulted in a backwater effect that restricted the ability of the River Birket to freely discharge at its downstream end near the Wallasey Float. This is supported by recorded levels at the Davis Road and Fornall Bridge gauging stations.
3. The initial pulse of rainfall on the 1st September reducing the capacity of the soils within the river catchments to absorb rain that subsequently fell on the 2nd September.
4. The second pulse of rainfall on the morning of the 2nd September resulting in a flood peak of 11.7m³/s on the Arrowe Brook (approximately equivalent to a 1 in 75 year fluvial return period).
5. Intense rainfall falling directly on the urban area, exceeding the 1 in 20 year design standard of the UU surface water drainage network and resulting in severe surface water flooding.
6. Rising water levels within the Arrowe Brook preventing the UU surface water drainage network from freely discharging into the watercourse, resulting in 'backing up' and compounding the surface water flooding.
7. The Tern Way Bridge and Railway Bridge acting as a partial throttle on river flows on the Arrowe Brook, resulting in a localised backwater effect within Moreton.
8. All of the above items acting in tandem, resulting in a combination of surface water and fluvial flooding in Moreton.

The Environment Agency has provided a series of illustrations that demonstrate how some of these combined flooding mechanisms can occur (Table 5-4 overleaf)

Table 5-4 Flooding Mechanisms

Ref.	Flooding Mechanism
1	<p data-bbox="298 736 647 770">Typical drainage network</p>
2	<p data-bbox="282 1365 430 1439">River level low, out flow to river can occur</p> <p data-bbox="652 1500 906 1534">Surface Water drainage</p> <p data-bbox="1184 1484 1410 1518">Foul Water drainage</p> <p data-bbox="287 1715 1314 1828">Flood Mechanism 1 : 'Pluvial' or surface water. Rainfall rate is greater than surface water network capacity and surface water ponding/flooding can occur.</p>
	<i>Graphics courtesy of the Environment Agency</i>

Ref.	Flooding Mechanism
3	<p>River level high no out flow to river.</p> <p>Surface Water drainage</p> <p>Foul Water drainage</p> <p>The diagram shows a cross-section of a landscape under a dark cloud. A blue area representing a river or stream is at a high level, indicated by a vertical line above it. A green area represents the ground surface. Two pipes, one blue labeled 'Surface Water drainage' and one grey labeled 'Foul Water drainage', both have their outlets blocked by the high water level. Rain is shown falling from the cloud onto the green surface, which is starting to flood. An orange house is situated on the right side of the green area.</p>
4	<p>River level high: no out flow to river.</p> <p>Surface Water drainage</p> <p>Foul Water drainage</p> <p>This diagram is identical to the one for mechanism 3, showing a high river level blocking drainage pipes and causing surface water to back up and flood the surrounding area.</p>
<p>Flood Mechanism 2 : Surface Water : Rainfall rate less than surface water network capacity but surface water outlet 'backed up' and surface water ponding/flooding can occur.</p> <p>Flood Mechanism 3 : River/surface combined: Rainfall rate less than surface water network capacity but surface water outlet 'backed up' and surface water ponding/flooding can occur, and river out of bank too.</p> <p><i>Graphics courtesy of the Environment Agency</i></p>	

5.3.5.4 Impact of the United Utilities Structure

Following the 2nd September flood event members of the local community raised concern that the temporary UU structure downstream of Moreton may have exacerbated the flooding that occurred.

In order to investigate the potential impacts associated with the as-built design of the structure the Environment Agency has used the hydraulic model of the Arrowe Brook to quantitatively assess the impacts. This investigation has used two versions of the hydraulic model of the Arrowe Brook (one with the UU structure and one without) for a series of return periods, including the 10, 20, 75 and 100 year design events. The modelling shows that both the Rail Bridge and the Town Meadow Lane Bridge cause a constriction to flow and result in an increase in water levels at either structure. In relation to the UU structure, the modelling investigation states:

"This 1D model has shown that the UU structure increases water levels upstream at Tern Way by 250mm to 150mm at the lower return periods (i.e. 10 to 20 year return periods). At the higher return periods there are no differences observed from the structure. This is because the catchment is very flat and the downstream boundary is the control"

Excerpt from the Environment Agency Flood Investigation Report: Wirral, September 2015, Version 2.0

As the observed flows on the Arrowe Brook can be approximated to a 75 year flood event, the hydraulic modelling therefore implies that the UU structure would not have had a significant impact on the peak river levels in the Moreton area.

United Utilities Flood Modelling Investigations

In addition to the investigative modelling works undertaken by the Environment Agency, UU also commissioned an independent report to understand whether the temporary crossing on Arrowe Brook had led to the flooding in Moreton on the 2nd September 2015. The modelling looked at scenarios with and without the temporary crossing in place. The report concludes that the flooding would have occurred without the structure in place due to the severe weather and rainfall event that was experienced.

5.3.6 Flood Warnings

Under the Land Drainage Act 1991 and the FWMA 2010 the Environment Agency has permissive powers to issue flood warnings communities at risk of flooding. It should be noted that is a permissive power and is not a statutory duty.

The areas of Moreton that were affected by flooding on 2nd September 2015 are covered by the Environment Agency's Flood Warning Service. The Flood Warning Area is Moreton Brook (ME08 Arrowe Brook at Moreton West¹⁷). This Flood Warning Area is intended to provide residents with warning of potential fluvial flooding from the Arrowe Brook. It should be noted that this FWA is not intended to provide warning of other sources of flooding (such as that arising from surface water, ordinary watercourses, sewers and groundwater).

At the time of the flood event the flood warning service at Moreton was based on a simple trigger model that used the 15 minute interval data from the level gauge at the Greasby Road gauge. Under these procedures the Environment Agency would have issued Flood Warnings to the Moreton FWA (ME08) once the river level exceeded a predefined threshold at this location.

The Environment Agency did not issue a Flood Warning for the Moreton FWA as the predefined threshold level at the Greasby Road gauge was not met. This was correct in terms of the flood warning procedures at the time as the recorded flows on the Arrowe Brook would not have been sufficient to cause flooding in Moreton in isolation. The recorded river levels for Greasby Road and the associated trigger levels for issuing a Flood Warning are shown in Figure 5-9.

A Flood Alert was later issued at 14:26 BST for the Birket catchment as river levels on the River Birket exceeded the Flood Alert threshold at the Great Culvert. The Flood Alert was therefore issued approximately 4.5 hours after the fluvial peak in Moreton.

¹⁷ Arrowe Brook at Moreton West: <http://apps.environment-agency.gov.uk/flood/34681.aspx?area=013FWFME8&page=1&type=Fwacode>

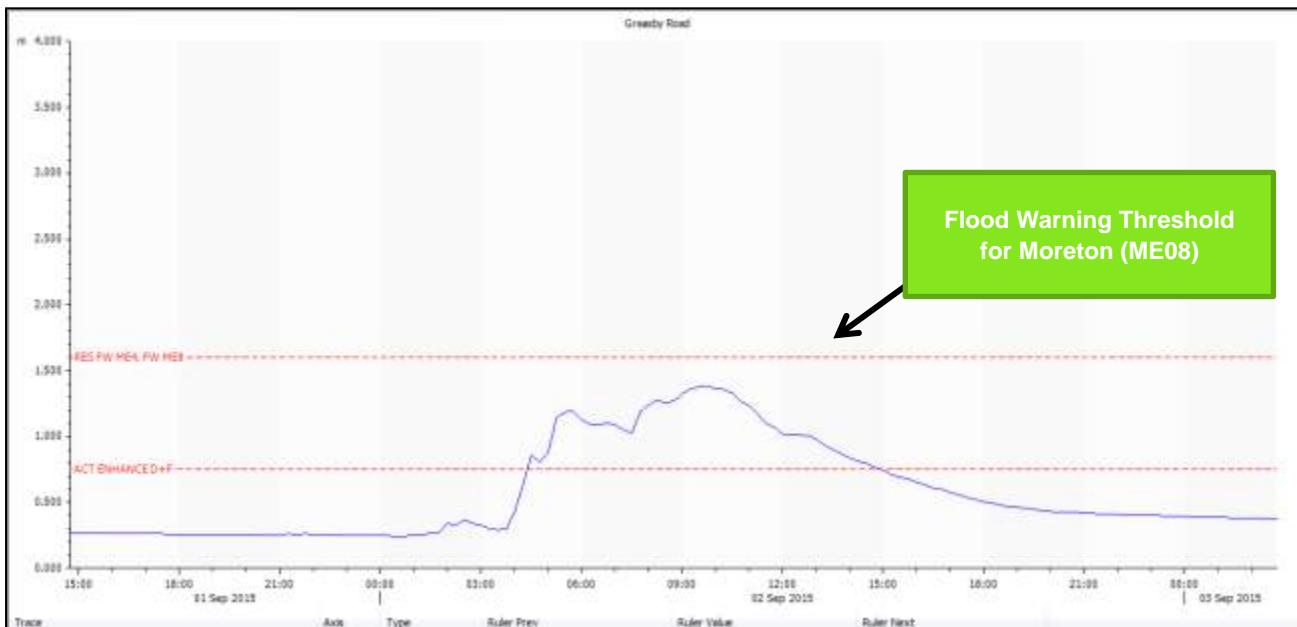


Figure 5-9 River Levels and Flood Warning Trigger Levels at Greasby Road (2nd September 2015)

Graphic courtesy of the Environment Agency. Levels are to local gauge datum and are not to mAOD.

As Section 5.3.5.3 concludes, the flooding that occurred in Moreton was not solely attributable to the river levels within the Arrowe Brook; the flooding resulted from a combination and interaction of surface water, sewerage and fluvial flooding mechanisms. Though surface water and sewer flooding do not directly fall under the remit of the Environment Agency, it has since revised its flood warning procedures to include an additional threshold level at the Acton Lane gauging station. This additional threshold level is now being used to provide Moreton with a targeted flood warning service.

5.3.7 RMA Response to Flooding

Beyond the immediate incident response other relevant RMA actions in this area include:

- The Arrowe Brook was last maintained by the Environment Agency in April 2015. The maintenance included vegetation clearance, debris removal and routine grass cutting. Prior to the flooding incident it was due to be maintained again (mechanical cut and de-weed) during the autumn of 2015.
- Environment Agency operations staff were inspecting for and clearing blockages before and during the flood event. Priority grid run clearances were carried out prior to flooding due to previous heavy rainfall on the 1st September.
- Though the Environment Agency's Flood Warning trigger level at Greasby Road did not reach the predefined threshold, a Flood Alert was later issued when levels at the Great Culvert were met. This was correct in terms of the flood warning procedures at the time of the event.
- The Environment Agency's post incident response commenced immediately following the event and over the following weekend, with teams out supporting the community, gathering data and checking our assets.
- A drop in session was also held at Moreton Community Centre on Wednesday 16th September 2015, with representatives from WBC, EA and UU on hand to speak to residents about cleaning up the damage, emergency planning and how to prepare for any future floods.
- The Environment Agency have undertaken post-event analysis on the criticality of the rainfall and hydraulic modelling to verify the potential effect of the consented temporary works crossing on the Arrowe Brook downstream of Moreton
- Following the 2nd September 2015 flooding the Environment Agency has since revised its flood warning procedures to include an additional threshold level at the Acton Lane gauging station. This additional threshold level is now being used to provide Moreton with a targeted flood warning service
- WBC has commissioned this Section 19 Report to investigate the flooding issues, with emphasis on the community concern about the consented temporary works crossing
- UU has undertaken post-event investigations to verify the cause of the sewer flooding issues in the area

5.3.8 Recommendations for Action

The following recommendations for action are made for the Moreton area:

- Wirral MBC, the EA and United Utilities should work together to produce an integrated fluvial and surface water model to cover this area of the Wirral. This model would better simulate the interactions between the rivers, sewer and surface water networks to enable us to better understand flooding mechanisms. It is understood that the RMAs are currently considering this modelling as part of a larger project covering the whole Wirral area that is currently scheduled to start in 2017.
- Following the flooding members of the public expressed concern about the consented structure over the Arrowe Brook. Whilst this structure had been granted an Environmental Permit by the Environment Agency, this had not been communicated to WBC prior to the event. WBC as the LLFA and the EA should work together to increase communications in relation to where Environmental Permits and Ordinary Watercourse Consents have been granted in Wirral.
- WBC, EA and UU should continue to engage with the residents in Moreton to improve the community's understanding of the combined flood risk and how to take measures to increase their resilience and preparedness for flooding in the future.

5.4 North Cheshire Trading Estate, Prenton

5.4.1 Site Overview

The North Cheshire Trading Estate is located between the M53 motorway, the A552 and the Prenton Brook (an Environment Agency main river). Access to the trading estate can only be obtained via a minor road off the Junction 3 roundabout of the M53. Whilst the North Cheshire Trading Estate does not contain any residential properties, access and egress was inhibited by fluvial flooding of the Prenton Brook during the 2nd September 2015 event.

A site location map is shown in Figure 5-10.

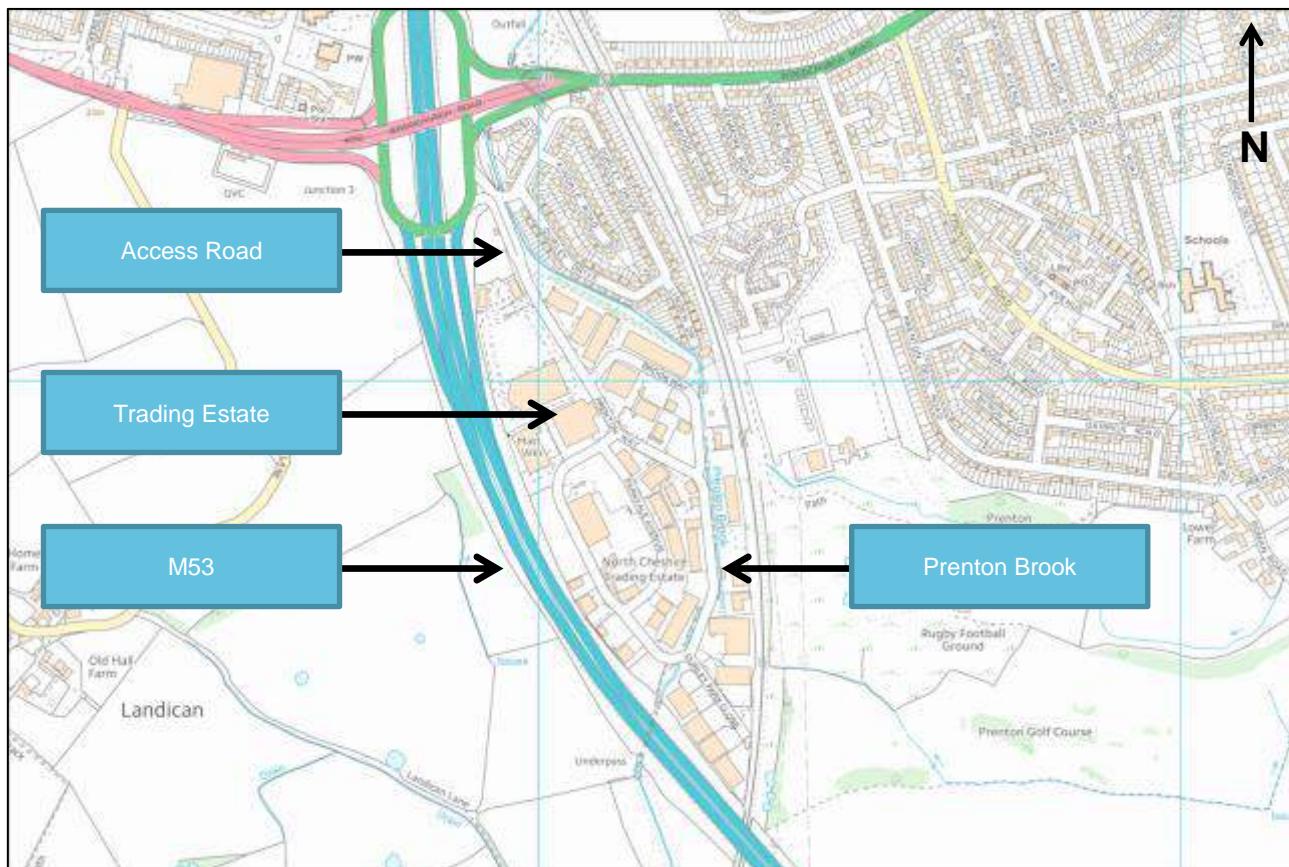


Figure 5-10 North Cheshire Trading Estate, Prenton

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SP Energy Networks operates a major office at the North Cheshire Trading Estate. This serves a number of functions:

- It is the 24 hour control room which serves the electricity distribution network for 1.5m homes and businesses in Merseyside, Cheshire and North Wales.
- It is the local depot for engineering and industrial staff for the network in the Wirral and Chester area.
- It is the centre of design and planning activities for the Merseyside and North Wales Electricity Board area.

As part of the scope of this Section 19 Flood Investigation AECOM has consulted with SP Energy Networks to gather any relevant information about the flooding at this location. SP Energy Networks advised that solitary access road into the North Cheshire Trading Estate was impassable for approximately 4 hours and that this had a major impact on its operations. Night staff were unable to leave the estate and replacement staff were unable to relieve them. Depot and head office staff were unable to get in to start their normal working day. It is understood that the flooding at the North Cheshire Trading Estate did not result in any internal flooding.

An approximate timeline of the flooding was produced by SP Energy Networks and is shown in **Table 5-5**.

Table 5-5 North Cheshire Trading Estate: SP Energy Networks Flooding Timeline

"7am. Road was impassable. Police had closed the access road to all vehicles at some point (unable to confirm time from our staff).

7:15am. Control room staff had alerted managers to the problem and managers started to alert staff on route to work. We use a cascade system.

8:40am. I spoke to the EA in Warrington to find out what the EA view was on the flooding. The EA was unaware of the difficulties at this location until the call but had staff on the Wirral who were going to attend to see if there were any blockages to clear.

9am. Our depot and design teams were activating to temporarily run their operations from our training centre in Hoylake.

For the control room, the night staff were continuing to work on, but we were wanting to make a decision on moving to our back-up location in Wrexham. We were also concerned about how to get the staff home. Police on the road block had no information as to when the road would be passable. We tried to contact the Wirral BC civil contingencies team both in their office and on mobiles. Mobiles were unobtainable (network busy) and staff were struggling to get into the office. Spoke to WBC before 10am.

9:45am. Staff persuaded the police to allow a high wheel base 4 wheeled drive vehicle to set-up a shuttle through the flood and a few staff were able to get into the estate that way.

10am. EA advised that there was no blockage causing the flood, just the volume of water coming down Prenton Brook. The flow was reducing and waters were starting to recede and access should be possible within the hour.

10:30am. Road became passable and business gradually recovered to normal during the rest of the morning. Updated WBC that our situation was relieved."

Flooding timeline courtesy of SP Energy Networks

SP Energy Networks have also provided photographs of the access road flooding at the North Cheshire Trading Estate as shown in Photograph 5-28 and Photograph 5-29.



Photograph 5-28 Flooding on Prenton Way (2/9/15)



Photograph 5-29 Flooding on Prenton Way (2/9/15)

Images Courtesy of SP Energy Networks

5.4.2 Site Observations

The survey team undertook a walkover of the estate, starting at the southern aspect just short of where the Prenton Brook is culverted beneath the M53. The watercourse, which flows south to north, is maintained channel which is covered by horizontal screens along the majority of its length. There was evidence that Environment Agency operatives had recently undertaken channel clearance and debris removal.

Standing surface water was observed in the road located immediately north of the junction with the Prenton Way Business Units. This is also located at a low spot in the topography of Prenton Way between the M53 and the remainder of the Trading Estate. This low spot is also adjacent to an open section of the Prenton Brook which has a relatively shallow embankment relative to the water level in the channel.

The survey team also observed an access bridge to Durley Drive over the Prenton Brook. The soffit level of this structure is relatively low compared to the deck level of the access road. Based upon these observations it was considered that this structure could potentially impact on the conveyance of flow during high water levels. This could potentially lead to a backwater effect which could result in lateral spilling over the low bank levels. Blockage of this structure could exacerbate flood risk, though the active Environment Agency operations teams found no evidence of a blockage occurring during the 2nd September 2015 flooding.



Photograph 5-30 Low spot on the Prenton Way (3/5/15)



Photograph 5-31 Access Bridge to Durley Drive



Photograph 5-32 The Prenton Brook

5.4.3 Flooding Mechanisms

Following a review of the historic flooding information, meteorological conditions, stakeholder consultation and site observations it is anticipated that the flooding at the North Cheshire Trading Estate was a result of:

- A significant volume of fluvial floodwater being routed through the Prenton Brook.
- River level exceeding the capacity of the open sections of the Prenton Brook, particularly around the northern aspect of the North Cheshire Trading Estate where the gradient of the channel reduces.
- A low spot in the topography of the Prenton Way acting to retain fluvial floodwater until the flood peak had passed
- Potentially a backwater effect from the Access Bridge to Durley Drive, though this would need to be confirmed via a river modelling study.
- Surface water compounding the fluvial flooding, particularly if the UU surface water sewer outfalls to the Prenton Brook were unable to drain due to elevated water levels within the watercourse.

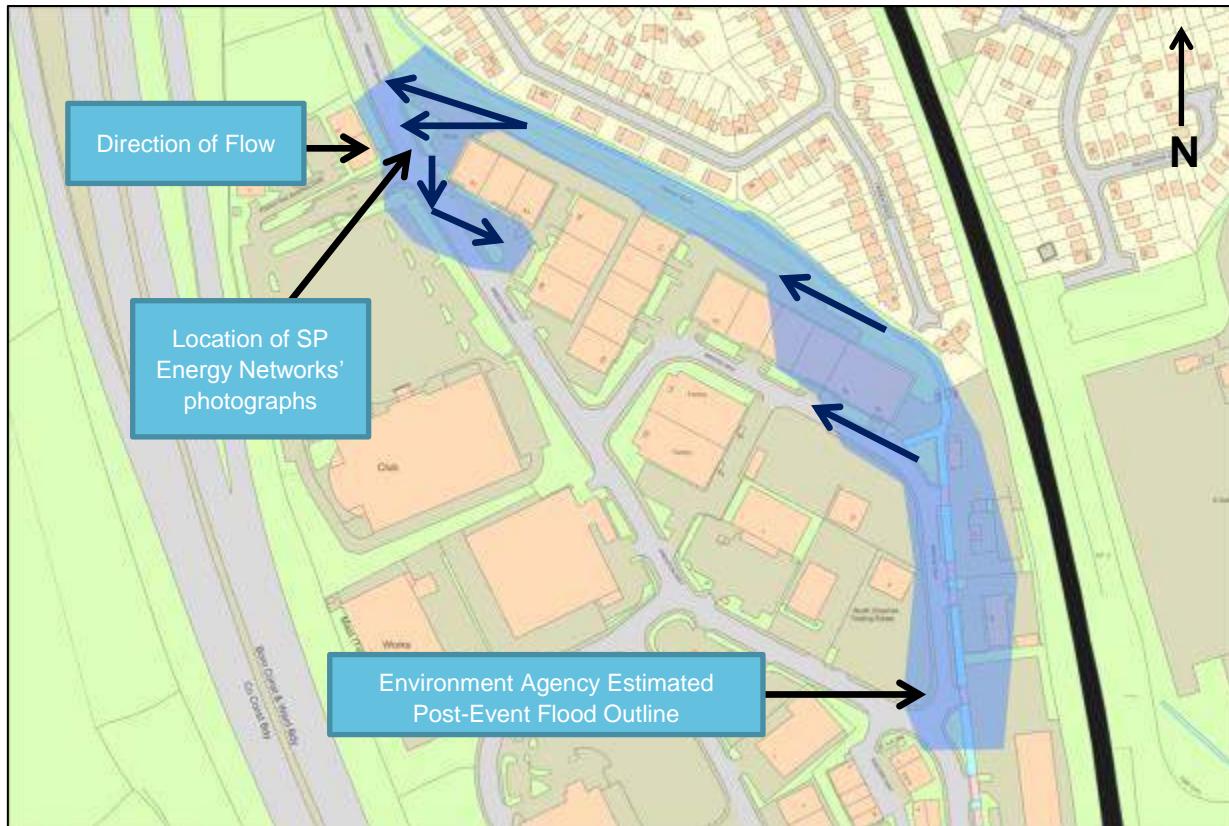


Figure 5-11 Flooding Mechanisms at the North Cheshire Trading Estate

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5.4.4 RMA Response to Flooding

Based upon the information collected as part of the scope of this Flood Investigation it is understood that the RMA and emergency response at this location was as follows:

- Merseyside Police were called out shortly after the overtopping and preventing cars from entering the estate and later prevented all access/ egress after being advised by the Environment Agency. The M53 was closed for approximately 30 minutes.
- An Environment Agency operations team was dispatched to inspect the watercourse for blockages following notification of the flooding
- The Environment Agency organised a Multi-Agency Meeting on the 12th November with business from the North Cheshire Trading Estate. This was also attended by representatives from WBC and UU.
- Environment Agency operatives have since been on site undertaking maintenance works (Photograph 5-33)



Photograph 5-33 Environment Agency Operations Team

5.4.5 Recommendations

During times of flood access and egress to the site may be impossible due to the boundaries created by rising floodwater, the M53 and the Prenton Brook. Whilst implementing alternative access routes may be technically and economically challenging, WBC should look to undertake a feasibility study to determine if access and egress can be feasibly improved (i.e. via a pedestrian footbridge). This study may present further opportunity for Partnership Working with SP Energy Networks and other business on the North Cheshire Trading Estate.

Both WBC and the EA should also look to liaise with the landowners and commercial businesses on the North Cheshire Trading Estate to develop emergency flood planning that details aspects such as:

- How staff will be protected;
- A register of staff who may require assistance in the event of a flood;
- Key contacts at the RMAs and emergency services;
- How hazardous equipment will be managed; and,
- Road closure procedures.

The Environment Agency may wish to consider implementing telemetry on the Prenton Brook (i.e. a level gauge) and the use of a trigger level to provide Flood Warnings to the commercial businesses on the North Cheshire Trading Estate.

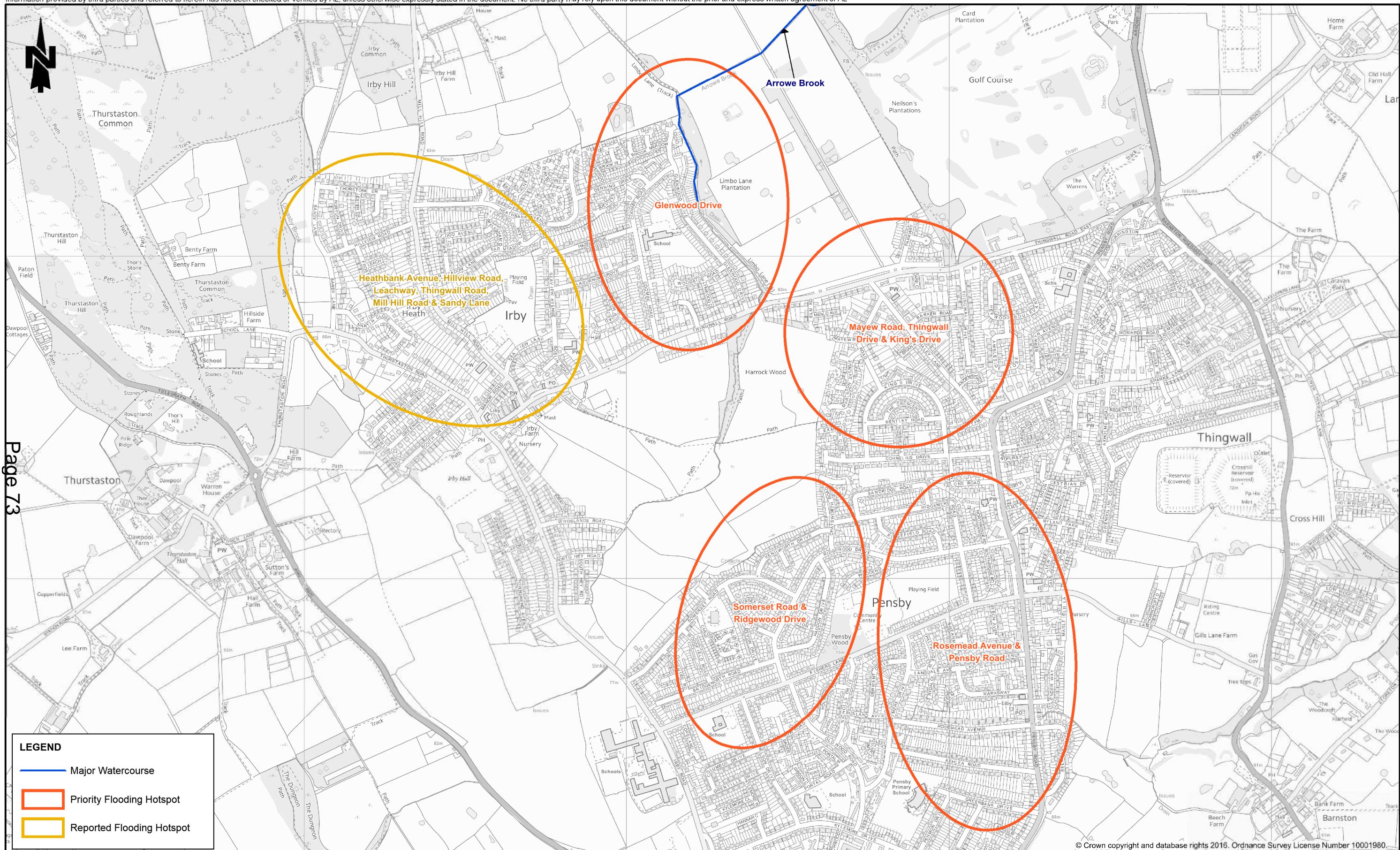
It may also be necessary to review the Environment Agency Flood Zone Maps for the Prenton Brook as these do not presently show the risk of fluvial flooding from the watercourse which was observed during the flood event.

5.5 Irby, Pensby and Thingwall

Irby, Pensby and Thingwall are three neighbouring villages in the centre of the Wirral Peninsula.

The stakeholder consultation and data review described in Section 4 identified multiple reports of property and highway flooding during the 2nd September 2015 event. The majority of these issues relate to surface water, sewers and ordinary watercourses. The main rivers were not reported as having caused any flooding issues within this location.

The data review has been used to delineate flooding hotspots, as shown in Figure 5-12.



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Client:



Project: SECTION 19 FLOOD INVESTIGATION
22ND AUGUST AND 2ND SEPTEMBER 2015

Title:

IRBY, PENSBY & THINGWALL FLOODING HOTSPOTS



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GIS: AB

Chk'd: RJ

App'd: RJ

Date: 22-03-2016

Scale: 1:11,000@A3

No. FIGURE 5-12

Rev: 0

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5.5.1 Glenwood Drive, Irby

The initial data screening indicated three potential flooding hotspots on Glenwood Drive. No visual evidence of flooding was apparent at all three locations along the road during the site visit. Local residents indicated that there are minor surface water pooling issues on the pavement at the southern end of the estate. This is not anticipated to be a major issue that results in an impact on property or vehicular access. No residents were available to comment on the second grouping of reported incidents midway along Glenwood Drive.

There was some evidence of localised waterlogging at the third grouping at the north of the estate which may be attributable to surface water shedding from the main highway onto the adjacent common land. One resident indicated that minor external flooding had occurred historically but otherwise declined to comment further.

UU has stated that their investigations into the area have confirmed that the flooding was a result of the 1 in 20 year design standard of the sewers being exceeded due to the exceptional severity of the weather, resulting in the external flooding of the highways shown in Figure 5-13.

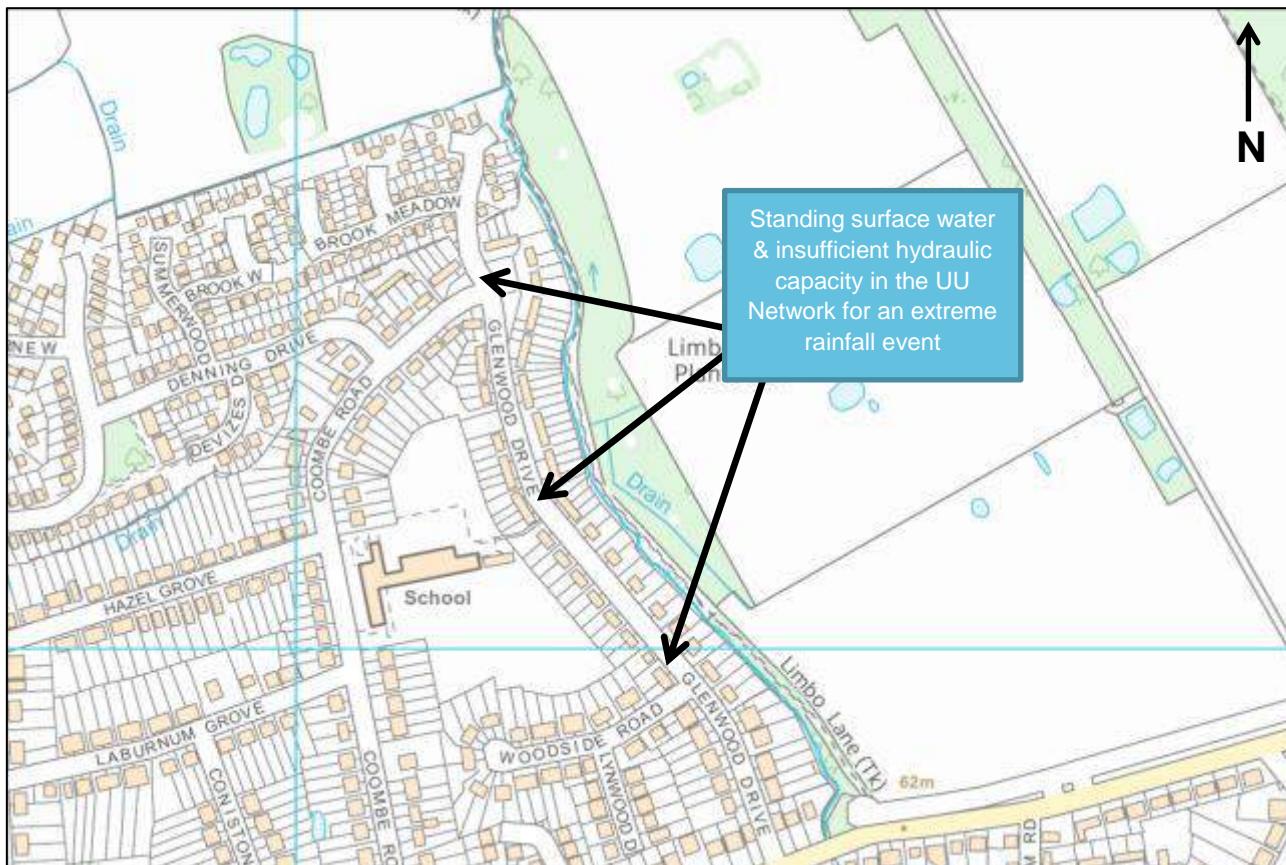


Figure 5-13 Irby Flooding Mechanisms

5.5.2 Mayew Road, Thingwall

The data screening exercise in Section 4 highlighted that UU records indicated a number of reported incidents on Mayew Drive in Pensby. The survey team were successful in speaking to one local resident who indicated that Mayew Road is unadopted highway and that it receives surface water from the adjacent highway during intense rainfall.

As no formal drainage is present on the unadopted highway the surface water flow is routed onto the neighbouring properties due to the gradient and the topography. Whilst this has not resulted in internal flooding historically, the resident indicated that there are issues with damp and that they had installed local drainage measures on the drive to compensate.



Photograph 5-34 Unadopted Highway on Mayew Road (2/3/16)

5.5.3 Thingwall Drive, Thingwall

The AECOM survey team attended a pre-arranged visit with two residents on Thingwall Drive. The residents provided an account of the repeat flooding that occurs on Thingwall Drive (which included the 2nd September 2015 flood event). The residents advised that the flooding is a result of surface water exceeding the capacity of the local drainage network which subsequently ponds in a topographic low point outside their property.

The residents advised that the flooding has occurred approximately 10 times in the last 15 years and has resulted in severe stress and property damage. The residents advised that they had implemented a number of resilience and emergency mitigation measures (pumps, air brick covers) themselves.

The residents confirmed that whilst the majority of the flooding just affects their property, the 2nd September 2015 event affected a number of their neighbours and required UU to pump out floodwater. UU has stated that their investigations into the area have confirmed that the flooding was a result of the 1 in 20 year design standard of the sewers being exceeded due to the exceptional severity of the weather, resulting in the external flooding of highway.

The survey team spoke about additional flood resilience measures that could be potentially implemented, though it was apparent that the greatest issue was the slope, topography and localised low spots of the pavement immediately outside of the resident's property. A resident also provided photographs of flooding at the other end of Thingwall Drive (Photograph 5-36) which also confirms that the surface water issues are prevalent elsewhere along the estate.



Photograph 5-35 Surface Water Flooding at Thingwall Drive (Unknown Date)

Image Courtesy of a Local Resident



Photograph 5-36 Surface Water Flooding at Thingwall Drive (2/9/15)

Image Courtesy of a Local Resident

5.5.4 King's Drive, Thingwall

The survey team spoke to two residents on King's Drive. The first resident indicated that there had been no flooding, however, the second stated that the fire service had been called out following major rainfall (though they could not remember the date that this occurred). The resident advised that the fire service had been in attendance to pump water out of the road, though they had not had any flooding issues since then.

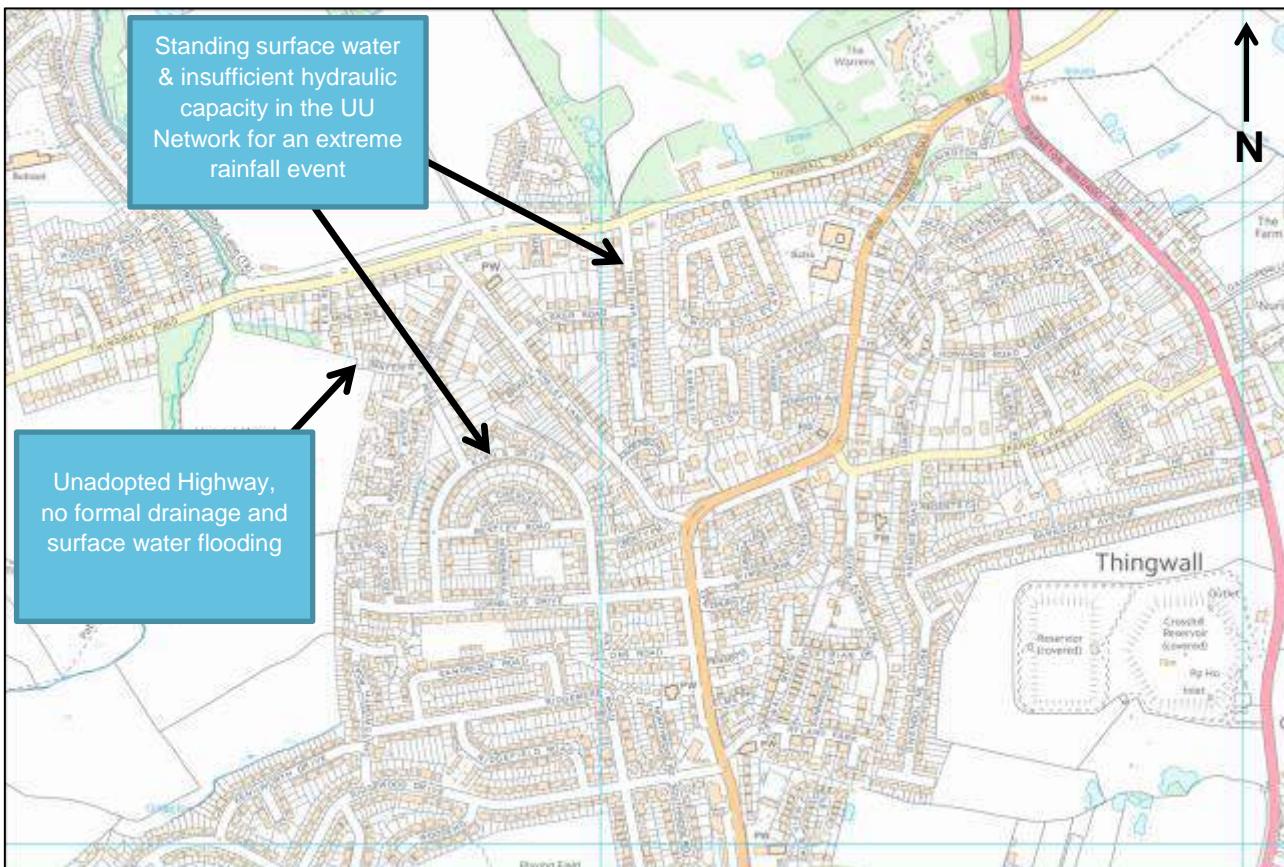


Figure 5-14 Thingwall Flooding Mechanisms

5.5.5 Somerset Road, Pensby

The survey team started the walkover at Somerset Road with a pre-arranged visit at a resident who had been affected by flooding historically. The resident indicated that she awoke in the night due to disruption outside and was surprised to find that her home was completely surrounded by surface water. It was understood to be a result of the capacity UU sewer network being exceeded which consequently led to surface water being conveyed along Somerset Road and flowing down the drive to her home which is significantly below road level. The resident confirmed that UU have been active in retrofitting property resilience measures both for her and her neighbours further up the road following the event. These measures were relatively comprehensive, including waterproofed brickwork, non-return valves and flood doors.

Dialogue with additional residents confirmed UU has been particularly active along the road following the flooding, implementing additional resilience measures and undertaking further maintenance and clearance along Somerset Road.

UU has stated that their investigations into the area have confirmed that the flooding was a result of the 1 in 20 year design standard of the sewers being exceeded due to the exceptional severity of the weather, resulting in the external flooding of highway.

**Photograph 5-37 Somerset Road (3/3/16)****Photograph 5-38 Ridgewood Drive (3/3/16)**

5.5.6 Ridgewood Drive

The survey team attended another pre-arranged visit with a resident on Ridgewood Drive who confirmed that the historic flooding issues were very similar to those that occurred on Somerset Road (the adjoining road). Following heavy rainfall water exceeds the capacity of the local drainage network and results in external flooding around a number of properties in this area. The resident stated that the flooding had not resulted in any internal property damage.

5.5.7 Rosemead Avenue / Pensby Road

The survey team undertook a visual inspection of the land around Rosemead Avenue and attempted to make contact with a number of local residents, though none were available to comment. The visual inspection indicated that the junction of Rosemead Avenue with Pensby Road is at a low spot in the topography and that a number of the gullies were full of standing water. A significant amount of water was heard moving beneath a manhole, potentially indicating the presence of a storm drain or culverted watercourse. The design standard of the surface water sewer network at this location may well be exceeded following heavy rainfall.

UU has stated that their investigations into the area have confirmed that the flooding was of a blockage in a private asset.

5.5.8 Flooding Mechanisms

Following a review of the historic flooding information, meteorological conditions, stakeholder consultation and site observations it is anticipated that the flooding across this area was a result of:

- The 1 in 20 year hydraulic capacity of the surface water sewers being exceeded due to the intensity of the 2nd September rainfall.
- Localised variations in highways topography (i.e. at Thingwall Drive and Somerset Road) routing floodwater towards properties.

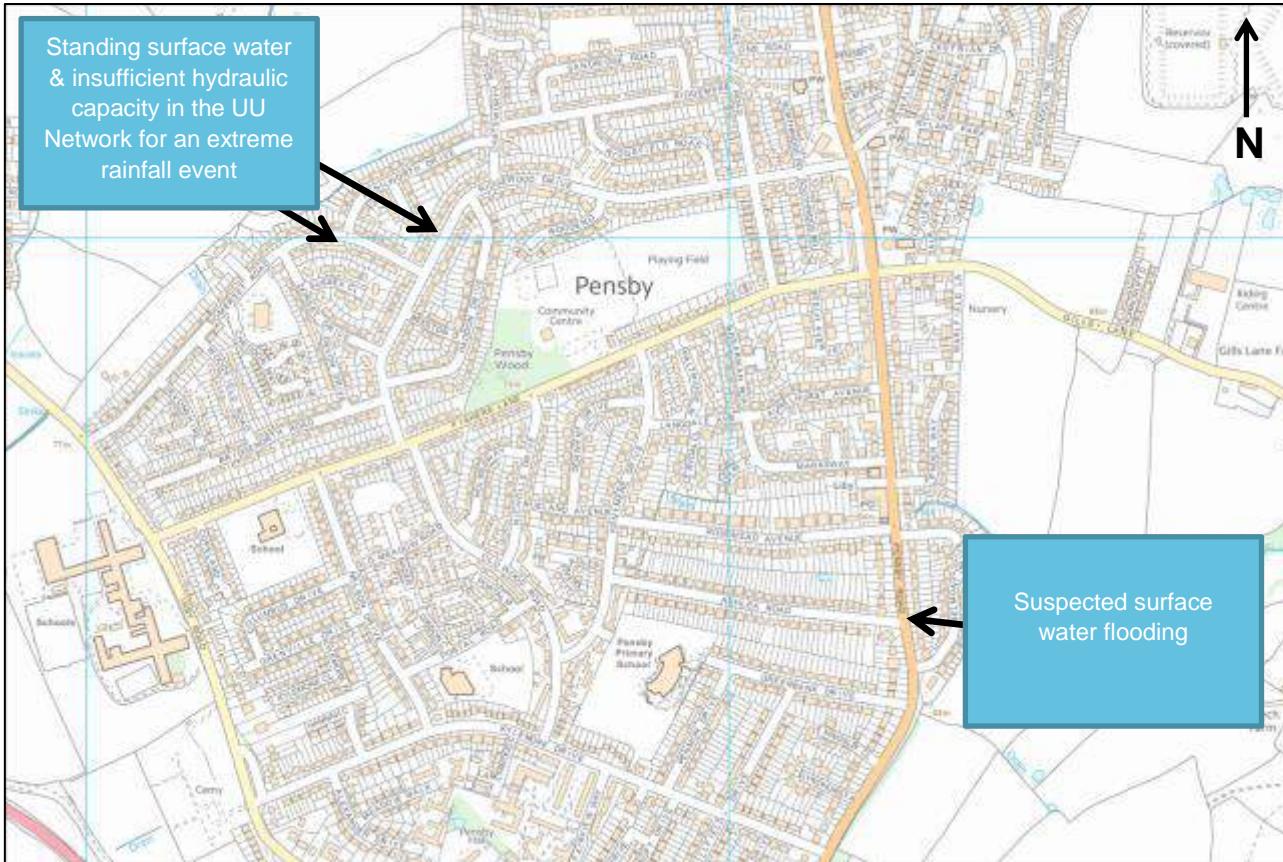


Figure 5-15 Pensby Flooding Mechanisms

5.5.9 RMA Response to Flooding

Based upon the available information AECOM understands that other relevant RMA actions in this area include:

- WBC has commissioned this Section 19 Report to investigate the flooding issues.
- UU has investigated all flooding incidents that were reported to UU and has undertaken a verification exercise to understand the issues and flooding mechanisms. This included site visits and CCTV survey to determine if there were any blockages in the network. Any blockages encountered during the investigations were cleared to ensure that the sewer has maximum capacity.
- UU has undertaken post-flood clearance, maintenance and refurbishment works on Somerset Road.
- UU dispatched an operations team to Thingwall Drive to pump floodwater out of homes during the 2nd September flooding.

5.5.10 Recommendations

The most likely cause of flooding in this area is related to the 1 in 20 year design standard of the UU sewerage network being exceeded by the severity of the weather. WBC Highways and UU should review the road drainage infrastructure in this area to ensure it is adequate to cope with expected volumes of surface water runoff.

Given the frequency of the repeated flooding at Thingwall Drive both WBC and UU should investigate whether any additional mitigation measures can be put in place to reduce the impact of flooding (for example local topographic raising of kerbs and highway may reduce the risk of internal property flooding).

5.6 Other Affected Areas

Based upon a review of social media and internet news websites, it is understood that significant flooding was also experienced across the following locations between the 22nd August and the 2nd September 2015.

- Heswall;
- West Kirby; and,
- Brimstage.

Based upon the verified flood investigation provided by UU the majority of these isolated instances relate to the severity of the weather exceeding of the 1 in 20 year design standard of the UU sewer network. Relevant photographs from news outlets are shown below. This was also compounded by localised ordinary watercourse and Main River flooding at discrete locations (i.e. the Clatter Brook in Dibbinsdale).



Photograph 5-39 Road Closures (2/9/15)



Photograph 5-40 Highway Flooding in Heswall (2/9/15)



Photograph 5-41 Brimstage Flooding (2/9/15)

Images from the BBC <http://www.bbc.co.uk/news/uk-england-merseyside-34127828>

5.7 Flooding Incident Summary – 2nd September

The physical aspects of the 2nd September flooding incident can be effectively summarised as follows:

- The rainfall over the 1st and 2nd of September was severe, amounting to 93mm in 48 hours,
- This depth of rain over the 48 hour period can be approximated to a 1 in 86 year storm return period.
- The ground conditions across Wirral were saturated, resulting in rainwater being unable to infiltrate into the ground
- The majority of the flooding resulted from rain falling directly on the urban area and flooding surfaces.
- The intensity of the rainfall exceeded the 1 in 20 year design standard of UU sewers.
- River levels were elevated across the Wirral river catchments and this inhibited the ability of the UU sewer network to move floodwater away from urban areas.
- River levels exceeded the capacity of the river channel at some locations, resulting in flooding mechanisms that combined with the preceding surface water and sewer flooding.
- The topography of the Wirral Peninsular is very flat and resulted in entire river systems and drainage networks 'Backing up' from the downstream end.
- The flat topography also exacerbated the surface water flooding as it resulted in excessive ponding in urban areas.
- The flooding that occurred was widespread.
- Whilst the contributing rain fell over 48 hours, the onset of the flooding was rapid, with little lead-time for residents, RMAs and emergency responders.

6 RMA Response – Strategic Overview

The data review undertaken in Chapter 4 of this Section 19 Flood Investigation report demonstrates the magnitude and widespread extent of the flooding that occurred on the 22nd August and 2nd September 2015. To summarise, a total 452 reports of flooding have been documented between these two dates. Of the 452 reports, 73 were confirmed as corresponding with internal property flooding that occurred during the 2nd September 2015 incident.

Chapter 5 of this Section 19 Flood Investigation details the complexity of the flooding mechanisms responsible for the property damages and disruption that occurred during 2nd September flooding incident. The evidence and observations reviewed in Chapter 5 demonstrate that the flooding impacts cannot be attributed to one singular root cause, but instead resulted from multiple sources and a combination of flooding mechanisms acting dynamically across the Wirral Peninsula.

Given the combination and extent of the flooding mechanisms on the 2nd September 2015 flood incident it is clear that all RMAs and emergency services had a role to play in the response to the events. This Chapter of the Flood Investigation therefore focuses on the flood incident response at the strategic scale and serves to detail how events unfolded, what worked well and what lessons can be learned to improve flood risk management in Wirral in the future. This review and account of the flooding incident response has been informed through consultation with the RMAs, partners, stakeholders and Wirral residents.

6.1 Flood Incident Response – Core Themes

The following core themes characterise the flooding and flood incident response that occurred on the 2nd September 2015:

- There was limited (if any) warning before the flooding occurred.
- When the flooding did occur it happened very rapidly, leaving little lead time to mount an effective response.
- Information about the scale and severity of the flooding was slow to surface and reach key decision-makers.
- The RMA and emergency response was impacted by the gradual exchange of information and finite availability of resources.
- Misconceptions about roles and responsibilities of the different agencies impacted on the effectiveness of the flood incident response and the resilience of the affected communities.

The following sub-headings elaborate on the core themes outlined above.

6.1.1 Limited Warning

Section 3.6 of this Flood Investigation identifies how there were few weather warnings in the days preceding the 2nd September 2015 flood event. On the 1st of September 2015 the Met Office Chief Meteorologist and the Flood Forecasting Centre determined that there was a low risk of minor flooding impacts. The level of risk was not considered to be sufficiently high for a Met Office National Severe Weather Warning Service rain warning, and was equivalent to a GREEN ('very low') flood risk on the Flood Forecasting Centres' Flood Guidance Statement.

Whilst the Flood Guidance Statement on the 1st September 2015 acknowledged that heavy showers across parts of the north-west of England may have resulted in localised river and surface water impacts, no formal warnings were issued. The lack of weather warnings reflects the technical challenge associated with predicting very localised, intense rainfall and the consequent surface water flooding that heavily characterised the 2nd September flooding incident.

Though the Environment Agency holds permissive powers to issue flood warnings, the Flood Warning service is designed to provide guidance and warnings in relation to main rivers and not from other sources of flooding (i.e. that arising from surface water, ordinary watercourses, sewers and groundwater). Though the river flow on the Arrowe Brook did later contribute towards the combination of flooding mechanisms in Moreton, the flooding at this location began several hours earlier with the onset of intense surface water and sewer flooding.

As a consequence of the intensity and distribution of the rainfall (i.e. being difficult to predict and capture within contemporary warning systems) there was very little advance warning for residents, emergency responders and the RMAs. Consequently the flood incident response was slow to mobilise which resulted in considerable strain on the resources of the emergency responders. For example, Merseyside Police received no flood warnings but dealt with 17 separate flood related incidents, with up to 15 separate police patrols being deployed by 21:00.

6.1.2 Rapid Onset

As the majority of the flooding on the 2nd of September 2015 resulted from surface water there was very little lead time between the first signs of flooding and property damages occurring. If the Moreton incident timeline (Table 5-3) is used as a case study, it can be seen that the first reports of potential flooding reached Merseyside Police at 07.17 and the first confirmed report of internal flooding occurred at 09.10 (just under two hours later). Consequently there was a very narrow window of time for RMAs and emergency responders to effectively undertake the following:

- Identify there was a significant flooding incident occurring,
- Mobilise resources with which to assist residents and stakeholders; and,
- Contact other RMAs and emergency responders in line with emergency planning protocols.

This issue was further compounded by challenges relating to the exchange of information between residents, stakeholders, RMAs and emergency responders.

6.1.3 Exchange of Information

Given the lack of flood warnings and limited effective lead time that preceded the flooding the RMAs involved were initially unaware of the significance and severity of the flood event. WBC, for example, was not aware of the number of residential properties that were affected until much later in the day on the 2nd of September 2015. As a consequence of this WBC did not call for a major incident during the flooding which would have involved WBC using their resources to support the emergency services in line with the major incident plan.

The issue arose because information about the flooding incident was slow to reach key decision-makers. This resulted in little on-site presence from WBC and limited interaction between the RMAs. This can be attributed to the following key factors:

- Many residents were unsure how to report flooding and/ or which authority they should be reporting the flooding to.
- The WBC communications team was under-resourced on the day and the contact centre was unable to cope with the volume of calls. Many queries were received via Twitter which WBC was unable to progress due to the lack of resources.
- Several RMAs and stakeholders were unaware of WBC's single point of contact numbers and were using the Council's main switchboard for emergency calls
- A significant number of Magenta Living tenants reported the flooding to the Magenta Living call centre, though not necessarily the Environment Agency, UU or WBC.
- There was no consultation or dialogue between the Environment Agency and WBC on the day of the event; both agencies were uncertain how the other was approaching the event.
- WBC contacted Merseyside Fire and Rescue and the Police early in the day and the feedback received suggested no major issues and emergency responders were coping well.
- WBC was unaware of Magenta' Livings involvement and the evacuations until midday.
- WBC took the approach that the rain would stop and the flooding would alleviate whilst individual agency business continuity events would kick in.

6.1.4 Resource Availability

As the sections above outline, resources were stretched during the 2nd September flooding incident. Both the WBC communications team and the Magenta Living call centre received a high number of flood-related calls and were unable to cope with the volume. Emergency responders coped well, though a strain was placed on their resources as there was no call for a major incident.

WBC had few resources available with which to support residents on site. Whilst WBC had contractors (such as Biffa) assisting, many residents did not realise they were effectively representatives of WBC.

6.1.5 Misconceptions – Roles and Responsibilities

Following the onset of flooding many residents and emergency responders maintained the perception that WBC would supply sandbags to help protect properties from flooding. WBC's current policy has been not to supply sandbags to the public following a decision by Elected Members several years before the 2nd September 2015 flooding incident. Many residents were therefore unaware of this policy and had little in the way of flood resilience measures with which to reduce the impact of the flooding.

In addition to the above, there was inter-agency confusion about who was co-ordinating the multi-agency response and the respective roles and responsibilities within each agency. This resulted in WBC, EA and UU largely acting in isolation on each other on the day of the flooding.

6.1.6 Positive Observations

Whilst there were several contributing factors which inhibited and slowed the effectiveness of the multi-agency incident response, the following items have been identified as positive observations that should be noted:

- All RMAs and agencies were proactive in their individual response with the information and resources available.
- Magenta Living worked well to assist vulnerable residents evacuate flooded properties.
- 6 Environment Agency operations teams worked effectively to keep watercourses flowing and free of blockages.
- The Environment Agency's Press Office provided excellent additional public-facing support.
- Emergency services were on site and provided invaluable assistance to residents from the onset of flooding.
- All RMA's have consequently worked together in a collaborative partnership and provided post-event community support to affected residents.
- All RMA's have been proactive in undertaking site specific post-event investigations.
- The EA has modified flood warning procedures with additional trigger levels for Moreton.
- UU has implemented flood mitigation at a number of the properties affected by sewer flooding.
- UU has commissioned an independent report to understand whether the temporary crossing in Arrowe Brook contributed to the flooding in the Moreton area.

6.2 Lessons Learnt and Moving Forwards

Following a review of the information supplied by the RMA's, project partners and data collected from the site visits the following strategic areas which could be potentially improved in the future have been identified:

- Communications and Contingency Planning (i.e. Multi-Agency Flood Plans);
- Community Resilience; and,
- Understanding of Integrated Flooding Mechanisms;

This section of the report identifies strategic recommendations which could be potentially carried forward into an Action Plan by the relevant RMAs. A table of specific recommendations is also documented within Chapter 8.

6.2.1 Communication and Multi-Agency Flood Planning

Following the 2nd September flooding all of the RMA's and agency partners identified a need for more clearly defined lines of communication between the relevant parties during the flood event. In several instances RMA's and other partner agencies attempted to make contact via central switchboards which were overwhelmed by the volume of calls from local residents. It is therefore recommended that the RMAs and first responders continue to co-operatively develop their multi-agency flood response plan in line with the recommendations of the Civil Contingencies Act (2004).

Whilst more generic major incident plans are already in place for Wirral, a specific Multi-Agency Flood Plan would help address the complex and diverse nature of flooding and the consequences that arise which often requires a comprehensive and often sustained response from a wide range of organisations. WBC has already begun this process following the 2nd September flooding with the preparation of a draft Severe Weather Contingency Plan.

The Multi-Agency Flood Plan should look to include representatives from all relevant departments and agencies in order to consider all the consequences and impacts (short, medium and long term). WBC should consider contributions from relevant departments including Emergency Planning, Highways, Drainage, Social Services and Environmental Health. A representative from the Environment Agency's Flood Incident Management team should also be a member of the working group to provide flood risk and flood warning advice and information. Contributions from Category 2 responders are critical in terms of considering assets and infrastructure in the floodplain that may be impacted by floodwater.

The Multi-Agency Flood Plan should detail communications arrangements (both internally and with the public), key points of contact, the location of control centres, resources availability, roles and responsibilities, environmental considerations, health and safety considerations, methods for sharing information about vulnerable people, plans for critical infrastructure, training and key records to maintain into the future. The plan should also identify and develop the 'trigger points' which outline metrics that would initiate the emergency response.

All RMAs should review their procedures and processes for data collection during and after a flood event, ensuring that reports of flooding are captured in a manner which can be shared rapidly and easily documented within WBC's flooding geo-database.

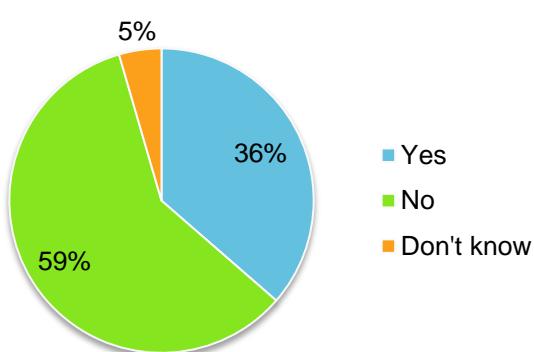
WBC should also look at contingency planning for its main communication switchboard and whether this can be linked into the Environment Agency's Extended Floodline Capability Service during an emergency situation.

The flooding of the sole access and egress route at the North Cheshire Trading Estate has highlighted the need for co-operative contingency planning at this location. Whilst it is understood that SP Energy Networks is currently looking at Business Continuity for repeat events, it is recommended that this process is undertaken through consultation with WBC, the Environment Agency and the emergency responders to develop contingency plans and key points of contact for repeat events. It is also recommended that WBC's Traffic Management Plan is also revised to indicate where roads are susceptible to flooding and to develop road closure plans at these locations (potentially with input from local Flood Wardens and Flood Action Groups).

6.2.2 Community Resilience

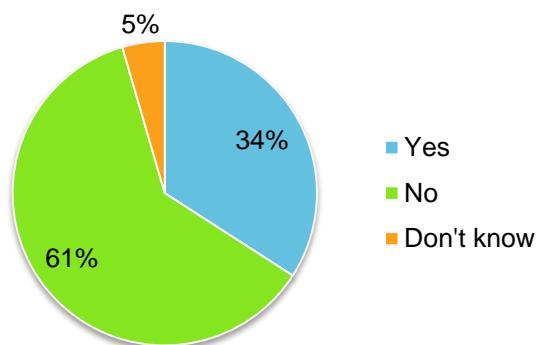
The flood survey questionnaires used in the data collection phase of this Section 19 Flood Investigation (Appendix A) asked residents to complete a number of questions about their potential preparedness for flooding. A summary of the results of this survey are shown below.

Do you know how to find out if you might be at risk of flooding?



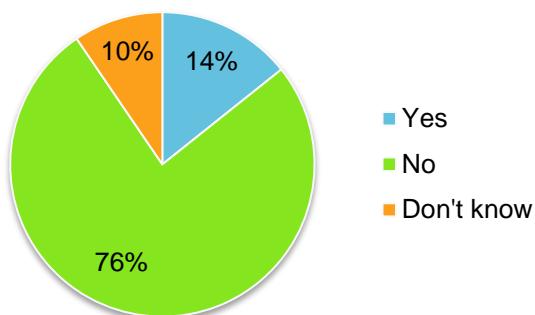
44 respondents

Do you know how to receive flood warnings?



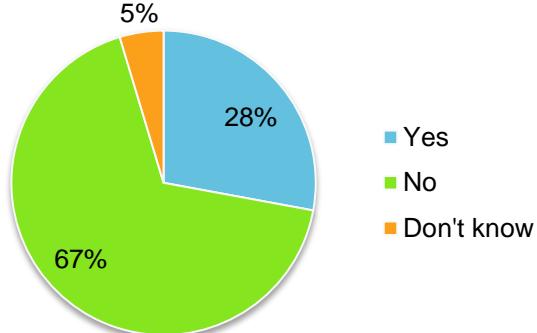
44 respondents

Do you have a personal flood plan?



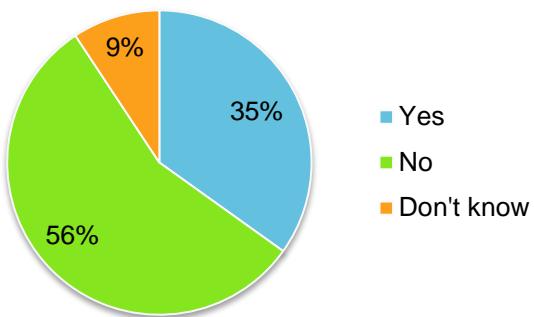
42 respondents

Do you know how you could improve your property's flood protection?



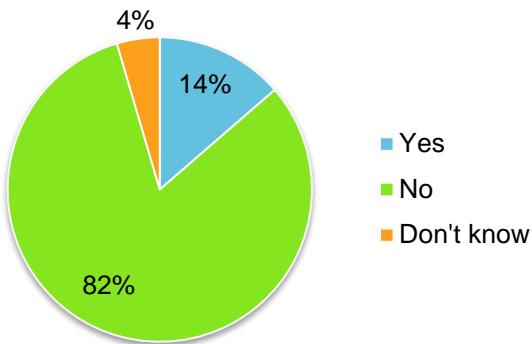
43 respondents

Do you know how to report flooding?



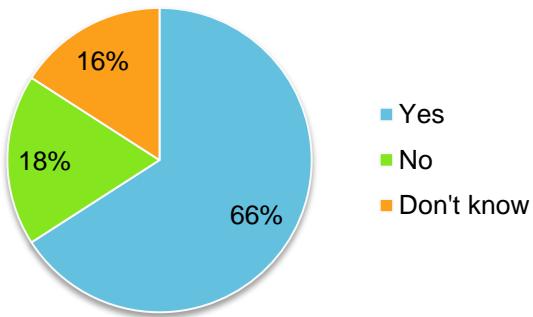
43 respondents

Do you know where to get help during a flood?



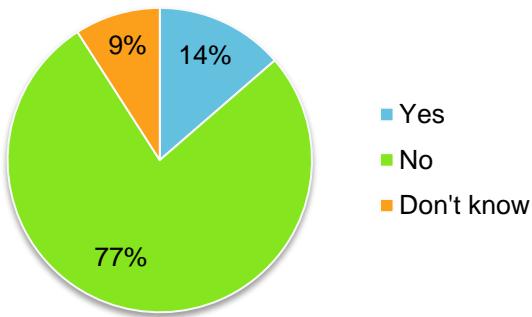
44 respondents

Do you think you would need additional help during a flood?



44 respondents

Do you know where to get help after a flood?



44 respondents

The results above clearly demonstrate that many of the affected residents are uncertain how to find out more information about flood risk, how to improve the resilience to flooding or how to obtain additional support if needed. Based upon these findings and experience of residents during the flooding events, the RMAs should look to provide a co-ordinated approach to improving community-level resilience across Wirral by engaging and consulting with local residents in the known flooding hotspots and high risk areas in accordance with the Central Government's Strategic National Framework on Community Resilience¹⁸.

Stakeholder engagement should place emphasis on increasing the community's awareness of flood risk and local actions that can be undertaken to improve community-level preparedness for flooding (i.e. through helping individuals produce personal flood action plans¹⁹). Personal flood action plans should also detail mechanisms for reporting flooding, thereby minimising the potential delay between a flood event occurring and the key RMA personnel and decision-makers from being notified.

Where possible stakeholder consultation should include a face-to-face element; preliminary feedback from residents suggested that the multi-agency feedback session at the Moreton community centre on the 25th September was well

¹⁸ Strategic National Framework on Community Resilience [Accessed 21/3/2016]:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/60922/Strategic-National-Framework-on-Community-Resilience_0.pdf

¹⁹ Personal Flood Plans [Accessed 21/3/2016]: <https://www.gov.uk/government/publications/personal-flood-plan>

received and afforded an opportunity for a clear, transparent line of dialogue with the relevant RMAs. These public-facing sessions also afford an opportunity to provide advice on property level resilience measures, as well as funding mechanisms and potential contractors for procuring these works.

RMAs should also support the development of local flood action groups (such as the Greasby Flood Action Group) through the consultation, provision of advice and other resources. Training could also be provided to local 'Flood Wardens' which are volunteers who help raise awareness of any flood risks in their community, help pass on flood warnings when they are issued, help prepare for flooding and to assist vulnerable people both during and after flooding has occurred.

It is recommended that WBC review its current position on the provision of sandbags. Whilst it is unlikely that WBC would have been able to effectively distribute sandbags to all of the residents affected by the rapidity of the 2nd September 2015 flooding, it is recommended that this policy is reviewed and the outcome heavily publicised. If, after this review, WBC retains the policy not to supply sandbags to residents, consultation and community engagement should explicitly acknowledge this and ensure that at-risk communities are aware of the need to improve the resilience of their properties before a flood event occurs. WBC has previously issued Flood Advice²⁰ leaflets to residents at risk and it is recommended that this practice is repeated in the areas at risk of flooding. This would also provide residents with greater direction about options for obtaining help during and after a flood event occurs.

Other potential quick wins to improve community level resilience could include:

- Hosting a 'flood fair' in a community space to help inform and empower local communities.
- Promoting an awareness of flood risk and improving the communities understanding of what to do/ who to contact in the event of a flood (though helping residents to develop personal emergency plans)
- Developing a flood toolkit to help empower the creation of resilient communities.
- Provision of monitoring equipment (i.e. trigger alarms on ordinary watercourses).
- Developing a road closure scheme with the local flood wardens and WBC Highways department to close roads at pre-determined locations when certain triggers are met.

6.2.3 Understanding Integrated Flooding Mechanisms

Whilst a Flood Alert was issued for Moreton on the 2nd September 2015 in line with the Environment Agency's flood warning procedures, the Flood Alert was issued effectively four hours after the flooding had occurred in Moreton. As Section 5.3.5.3 concludes, this situation arose because the flooding in Moreton was a result of a combination of flooding mechanisms, with surface water preceding any fluvial overtopping of the Arrowe Brook.

Following the 2nd September 2015 flooding the Environment Agency has since revised its flood warning procedures to include an additional threshold level at the Acton Lane gauging station. This additional threshold level is now being used to provide Moreton with a targeted flood warning service. Whilst improvement will likely benefit the Moreton community in the future, it should be noted that Flood Warnings are not intended to indicate a risk of flooding from surface water or sewers.

The combined flooding mechanisms that occurred in Moreton highlights the need to continue developing the understanding of combined flooding mechanisms which occur across the entire Wirral area. It recommended that the EA and UU consider the development of a fully integrated catchment model (i.e. one which links sewers, watercourses and surface water) to further improve the understanding of flood risk over Wirral. This evidence base would create a more informed understanding of the flood risk hazard and help determine whether further investment is required to reduce flood risk.

²⁰ Flood Advice [Accessed 21/3/2016]:

<https://www.wirral.gov.uk/sites/default/files/all/communities%20and%20neighbourhoods/Emergencies/Flooding/Flood%20Advice%20Leaflet.pdf>

7 Flood Investigation Outcomes

This section of the flood investigation report aims to outline a summary of the responses from each of the RMAs which operate within the WBC administrative area and the suggested actions for further management of flood risk in the future.

7.1 Wirral Borough Council

7.1.1 WBC as Lead Local Flood Authority

As the LLFA, WBC has conducted this flood investigation report in response to the flood incidents arising between the 22nd August and the 2nd September 2015. This report has been compiled through collaborative working with relevant RMAs and stakeholders. This flood investigation report will be published, at which time relevant RMAs and stakeholders will be notified. In addition, WBC will coordinate with RMAs for further work and investigations in the future and will work collaboratively with local communities to address flooding issues.

7.1.2 WBC as the Highways Authority

WBC as the Highways Authority is responsible for the maintenance of the highways across the borough. During the 2nd September 2015 flooding WBC Highways brought in additional resources in via a Highway Maintenance Contractor to manage and remove flood water from public highways. Highways Inspectors were also dispatched to site in order to assess and arrange road closures where this was appropriate.

Following the 22nd August and 2nd September flooding, WBC Highways has undertaken further investigations to determine if there are potential operational problems, particularly in the areas around Whitehouse Lane, Heswall and Bromborough Road and Bebington. WBC Highways has also undertaken the following other actions:

- Developed a root cutting schedule identified as a result of further investigations.
- Undertaken road sweeping at Moreton to remove flood debris from highway.
- Organised Highway inspectors to follow up on flooding issues reported to WBC via the CRM system. Gullies have been checked for operational problems and have been rectified where issues were found.
- Liaison with householders who requested additional assistance due to their perception that the highway alignment had caused flooding.
- WBC Highways representatives have also attended the Multi-Agency Flooding De-Brief, Moreton Community Drop-Ins and the North Cheshire Trading Estate Multi-Agency meeting.

7.1.3 WBC as a Category 1 Responder

As a Category 1 Responder, WBC has utilised knowledge of recent flooding incidents to begin drafting the Multi-Agency Emergency Response plan for flooding and severe weather.

7.2 Environment Agency

Following the flooding incidents the Environment Agency has undertaken detailed investigations into the flooding event and undertaken hydraulic modelling to understand the flooding mechanisms in Moreton. Though the majority of the flooding at Moreton was a result of surface water, the Environment Agency has since revised its flood warning procedures to include an additional threshold level at the Acton Lane gauging station. This additional threshold level is now being used to provide Moreton with a targeted flood warning service.

The Environment Agency has attended the Multi-Agency Flooding De-Brief, Moreton Community Drop-Ins and the North Cheshire Trading Estate Multi-Agency meeting and undertaken door-to-door surveys in areas affected by the flooding.

7.3 United Utilities

Following the 22nd August and the 2nd September 2015 flooding, UU has investigated all flooding incidents which were directly reported to them. This involves verifying each incident and determining the flooding mechanism. Investigations are site specific but can include the following: site walk around, CCTV surveys and collating information from residents and other organisations such as the Met Office, the Environment Agency and the Local Authority. Any defects that were found (such as blockages) were resolved, whilst any longer term hydraulic issues were recorded and prioritised for future investment. UU has also provided flood mitigation to some of the properties that were impacted.

UU has attended various flooding debrief meetings with the Environment Agency and WBC to review the flooding that occurred on the 22nd August and 2nd September. UU continues to meet this organisation routinely as part of their flood partnership responsibilities. In addition UU attended the public event to talk to concerned residents about the flooding.

In addition to the above, UU has also commissioned an independent report to understand whether the temporary crossing in Arrowe Brook contributed to the flooding in the Moreton area.

8 Next Steps

WBC's role as LLFA is to coordinate the management of flood risk within their administrative area. It is suggested that the recommendations made within this report are formulated into an Action Plan by the relevant RMAs which can be monitored and discussed at the operational flood group meetings.

If, following a review of this Flood Investigation Report and liaison with RMAs, flood risk is considered to be unacceptable at a site WBC should investigate potential capital schemes which could provide flood alleviation within these areas. A follow-up meeting should be held with RMAs to discuss potential options to be taken forward.

8.1 Actions – Strategic

The assessment of flooding mechanisms and the flood incident response highlights several actions that could be applied across the borough. These are detailed in Table 8-1 below.

Table 8-1 Recommended Actions - Strategic

ID	Action	Lead RMA (Support) ²¹	Area to be Implemented
1	Action Plan: WBC as the LLFA should look to develop an action plan that outlines timescales and milestones for delivering the site-specific and strategic recommendations made within this report.	WBC (EA, UU)	Boroughwide
2	Multi-Agency Flood Plan: WBC should continue to develop its Severe Weather Plan with sustained input from RMAs and partner agencies.	WBC (EA, UU)	Boroughwide
3	Wirral MBC, the EA and United Utilities should work together to produce an integrated fluvial and surface water model covering the Wirral. This model would better simulate the interactions between the rivers, sewer and surface water networks to enable a better understanding flooding mechanisms. It is understood that the RMAs are currently considering this modelling as part of a larger project covering the whole Wirral area and that is currently scheduled to start in 2017.	EA, UU, WBC	Boroughwide
4	Communication: Continue to encourage residents to report issues of flooding. Outline who this should be reported to (WBC, UU, EA), and what mechanisms are available to report (phone, email, mobile app etc.). Additional information could be made available through the council website. This would be used to ensure as many records as possible are noted.	WBC (EA, UU, residents, business owners)	Boroughwide
5	Communication: WBC to look at increasing their call centre capability and potential opportunities to link this with the Environment Agency's Floodline service.	WBC	Boroughwide
6	Records: Ensure systems are set up at the council to efficiently record details of flooding. This is needed to gather as much information as possible about each incident at the time of flooding. This will be essential in ensuring the correct flooding mechanisms are understood.	WBC	Boroughwide
7	Stakeholder engagement and community resilience: All three RMAs to work proactively with the local communities to improve awareness of flood risk and resilience to subsequent events. Emphasis should be placed on preparing for flooding before an event happens.	WBC, EA, UU	Boroughwide

²¹ EA = Environment Agency, AW = Anglian Water

ID	Action	Lead RMA (Support) ²¹	Area to be Implemented
8	Sandbag Policy: WBC should look to review its sandbag policy and heavily publicise the outcome of this review to residents, emergency responders and project partners.	WBC	Boroughwide
9	Community flood groups: As a quick win, WBC could work with residents to ensure flood risk is understood and to develop local flood groups. The formation of local flood groups would be beneficial in disseminating information and managing local flood risk.	WBC (EA, UU, residents, businesses)	Borough wide
10	Review flood warning procedures in light of the potential hydraulic influence between sub-catchments and joint-probability events.	EA	Moreton
11	Implement SuDS: As part of the investigation, the implementation of SuDS has been suggested as part of a long term approach to reducing the pressure on the surface water drainage network. This may potentially afford a significant benefit at Coronation Park where large volumes of runoff affected properties during the 2 nd September 2015 flooding. Further investigation into the feasibility of such schemes would need to be examined prior to implementation.	WBC (residents & businesses)	Boroughwide
12	Property level protection and resilience measures: As a quick win, residents should consider implementing property level protection where necessary.	Residents and businesses (WBC)	Boroughwide.
13	In areas with a single incident of flooding, WBC should prioritise investigations should flooding occur again in the future.	WBC (EA, UU)	Boroughwide
14	WBC and the EA should work together to increase communications in relation to where Environmental Permits and Ordinary Watercourse Consents have been granted.	WBC, EA	Boroughwide

8.2 Actions – Site Specific

Suggested site-specific actions for the RMAs have been highlighted within each of the areas investigated within Chapter 5 and Chapter 6. For ease of reference these are reproduced again Table 8-2 below.

Table 8-2 Recommended Actions – Site Specific

ID	Action	Lead RMA (Support) ²²	Area to be Implemented
1	WBC should look to improve the drainage and surface water attenuation at Coronation Park. This may reduce flood risk to residents on Brookdale Close, Joan Avenue and Greasby Road. These resilience improvements could be potentially undertaken in tandem with other works to improve the amenity of the park in line with the objectives of WBC's Wirral Parks and Open Spaces Strategy.	WBC (UU)	Coronation Park, Greasby
2	UU should undertake investigations at Circular Drive to determine if there are any blockages or features which are likely to reduce its hydraulic capacity.	UU (WBC)	Circular Drive, Greasby

²² EA = Environment Agency, AW = Anglian Water

ID	Action	Lead RMA (Support) ²²	Area to be Implemented
	WBC should assist in this through an assessment of the highway drainage system which connects to the central UU sewer.		
3	WBC and UU should consider undertaking further appraisal at the Central Greasby flooding hotspot (in line with the recommendations made in Greasby Surface Water Modelling Study)	WBC (UU, EA)	Greasby Central Flowpath
4	UU should continue to liaise with local residents and stakeholders to reiterate the importance of not depositing fats, oils and grease down their respective drains.	UU (WBC)	West Greasby, Boroughwide
6	All RMAs should continue to engage with the residents in Moreton to improve the community's understanding of the flood risk and how to take measures to increase their resilience and preparedness for flooding in the future.	EA, WBC, UU	Moreton
7	WBC should look to undertake a feasibility study into improving access and egress. This study may present further opportunity for Partnership Working with SP Energy Networks and other business on the North Cheshire Trading Estate.	WBC	North Cheshire Trading Estate
8	The flooding of the sole access and egress route at the North Cheshire Trading Estate has highlighted the need for co-operative contingency planning at this location. It is recommended that this process is undertaken through consultation with WBC, the Environment Agency and the emergency responders to develop contingency plans and key points of contact for repeat events.	WBC (EA, residents, businesses)	North Cheshire Trading Estate
9	WBC Highways and UU should review the road drainage infrastructure at Thingwall Drive to ensure it is adequate to cope with expected volumes of runoff. Both WBC and UU should consider whether any additional mitigation measures can be put in place to reduce the risk of repeat flooding on Thingwall Drive. Local topographic raising of kerbs may reduce the risk of internal property flooding if sewer capacity cannot be increased.	WBC, UU	Thingwall Drive

8.3 Actions - Quick Wins

The following potential community-level quick wins have been identified within this Section 19 Flood Investigation:

- Provision of PLP surveys for residents affected by flooding.
- Provision of capital resources to support, empower and facilitate community resilience and local flood action groups.
- Hosting a 'flood fair' in a community space to help inform and empower local communities.
- Promoting an awareness of flood risk and improving the communities understanding of what to do/ who to contact in the event of a flood (though helping residents to develop personal emergency plans and disseminating flooding leaflets).
- Developing a flood toolkit to help empower the creation of resilient communities.
- Training volunteer community 'flood wardens' and fostering other flood groups.
- Provision of monitoring equipment (i.e. trigger alarms on ordinary watercourses – though this would likely have to be done in tandem with the EA to avoid any overlap/ confusion about flood warnings).
- Developing a road closure scheme with the local flood wardens and WBC Highways department to close roads at pre-determined locations when certain triggers are met.

9 Useful Contacts

KEY FLOODING CONTACT DETAILS

The following gives guidance on whom to contact about various types of flooding. Always contact the emergency services first (**999**) if you or a family member is in immediate danger.

Flooding from Public Sewer

UNITED UTILITIES

- Report sewer flooding **0345 6723 723**
- <http://www.unitedutilities.com/>

WELSH WATER

- Report sewer flooding **0800 085 3968** **(24 hour service)**
- <http://www.dwrcymru.com/en/my-wastewater/sewer-flooding.aspx>

Flooding from a Burst Water Mains

UNITED UTILITIES

- Report a leak **0800 330033**
- <http://www.unitedutilities.com/>

WELSH WATER

- Report a leak **0800 281 432** **(24 hour service)**
- <http://www.dwrcymru.com/en/My-Water/Report-a-Leak.aspx>

Flooding from the Public Highway, Drains or Ordinary Watercourses (Non-Main River)

WIRRAL BOROUGH COUNCIL

- Council switchboard **0151 606 2000** **(Mon-Fri, 8:45am – 5pm)**
- To report a flooding emergency **0151 606 2004** **(Mon-Fri, 8am – 5pm)**
- **0151 647 7810** **(out of hours)**

Flooding from a Main River

ENVIRONMENT AGENCY

- General enquiries **03708 506 506** **(Mon-Fri, 8am – 6pm)**
- Incident hotline **0800 80 70 60** **(24 hour service)**
- Floodline **0345 988 1188** **(24 hour service)**
- General enquiries email enquiries@environment-agency.gov.uk

USEFUL WEB RESOURCES

The following web links contain useful information about being prepared, understanding flood risk and reporting drainage issues to Wirral Borough Council.

Being Prepared

Prepare for a flood and get help during and after:

<https://www.gov.uk/prepare-for-a-flood/get-help-after-a-flood>

Be ready for flooding:

<http://www.nationalfloodforum.org.uk/wp-content/uploads/Ready-For-Flooding-26-11-14.pdf>

Make a personal flood plan:

<https://www.gov.uk/government/publications/personal-flood-plan>

Prepare your property for flooding:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/451622/LIT_4284.pdf

Understanding Flood Risk and Flood Warnings

Check current flood warnings and river levels:

<https://www.gov.uk/check-if-youre-at-risk-of-flooding>

Sign up for flood warnings:

<https://www.gov.uk/sign-up-for-flood-warnings>

Reporting a Flood

Report flooding from a public highway to Wirral Borough Council:

<https://www.wirral.gov.uk/communities-and-neighbourhoods/emergencies/flooding/report-flood>

Report a problem with a drain or a grid (also known as a gully):

<https://www.wirral.gov.uk/parking-roads-and-travel/roads-and-pavements/grids-and-drains>

Appendix A. Flood Survey Questionnaire

Wirral Borough Council Section 19 Flood Investigation - Flood Survey Questionnaire**22nd August 2015 and 2nd September 2015**

As Lead Local Flood Authority, Wirral Borough Council has a responsibility to record and report flood incidents as detailed within Section 19 of the Flood and Water Management Act (2010).

This questionnaire is intended to help Wirral Borough Council and its project partners with understanding and investigating the flooding that occurred between the 22nd August 2015 and the 2nd September 2015.

There are no right or wrong answers to the following questions. Please respond to all the questions in accordance with your own personal experience where possible.

If you do not know or do not want to answer any of the questions please leave them blank and move on to the next question.

Under NO circumstances will your personal details be given to any other organisation other than Wirral Borough Council, United Utilities and the Environment Agency.

Your Details

Name (Optional)		
Contact Details (Optional)		
House Number		
Postcode		

Your Experience of Flooding

Have you been affected by flooding previously?	Yes	No
Were you affected by flooding on the 22 nd August 2015?	Yes	No
Were you affected by flooding on the 2 nd September 2015?	Yes	No
What was affected by the flooding?	Internal	External

What was the source of the past flooding? (if known)					
River	Surface Water	Sewers	Groundwater	Other	Don't Know
Please provide any specific details about the flooding below.					
Flood Warning					
If you were affected, did you receive any warning?			Yes	No	
If "Yes", who gave you the flood warning? <i>Please tick all that apply.</i>					
Environment Agency					
Police					
Fire Service					
Wirral Borough Council					
Flood Warden					
Neighbour/ Friend					
Other					

Did you receive any assistance during the flooding? Please tick all that apply.		
Environment Agency		
Police		
Fire Service		
Wirral Borough Council		
Flood Warden		
Neighbour/ Friend		
Other		
Preparing for Flooding		
Do you know how to find out if you might be at risk of flooding?	Yes	No
Do you know how to receive flood warnings?	Yes	No
Do you have a personal flood plan?	Yes	No
Do you know how you could improve your property's flood protection?	Yes	No
Do you know how to report flooding?	Yes	No
Do you know where to get help during a flood?	Yes	No
Do you think you would need extra help during a flood?	Yes	No
Do you know where to get help after a flood?	Yes	No
Do you know where to find out more information about flooding?	Yes	No

Recommendations / Suggestions

Is there anything which you think could be done to reduce the risk of flooding in your area?

Is there anything which you think could have been done better before the flooding?

Is there anything which you think could have been done better during (or after) the flooding?

KEY FLOODING CONTACT DETAILS

The following gives guidance on whom to contact about various types of flooding. Always contact the emergency services first (**999**) if you or a family member is in immediate danger.

Flooding from Public Sewer**UNITED UTILITIES**

- Report sewer flooding **0345 6723 723**
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WELSH WATER

- Report sewer flooding **0800 085 3968** **(24 hour service)**
- <http://www.dwrcymru.com/en/my-wastewater/sewer-flooding.aspx>

Flooding from a Burst Water Mains**UNITED UTILITIES**

- Report a leak **0800 330033**
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- Report a leak **0800 281 432** **(24 hour service)**
- <http://www.dwrcymru.com/en/My-Water/Report-a-Leak.aspx>

Flooding from the Public Highway or Drains**WIRRAL BOROUGH COUNCIL**

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- To report a flooding emergency **0151 606 2004** **(Mon-Fri, 8am – 5pm)**
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Flooding from a Main River**ENVIRONMENT AGENCY**

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- Incident hotline **0800 80 70 60** **(24hour service)**
- Floodline **0345 988 1188** **(24 hour service)**
- General enquiries email enquiries@environment-agency.gov.uk

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<http://www.nationalfloodforum.org.uk/wp-content/uploads/Ready-For-Flooding-26-11-14.pdf>

Make a personal flood plan:

<https://www.gov.uk/government/publications/personal-flood-plan>

Prepare your property for flooding:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/451622/LIT_4284.pdf

Understanding Flood Risk and Flood Warnings

Check current flood warnings and river levels:

<https://www.gov.uk/check-if-youre-at-risk-of-flooding>

Sign up for flood warnings:

<https://www.gov.uk/sign-up-for-flood-warnings>

Reporting a Flood

Report flooding from a public highway to Wirral Borough Council:

<https://www.wirral.gov.uk/communities-and-neighbourhoods/emergencies/flooding/report-flood>

Report a problem with a drain or a grid (also known as a gully):

<https://www.wirral.gov.uk/parking-roads-and-travel/roads-and-pavements/grids-and-drains>

Any Questions? Please contact highwayasset@wirral.gov.uk

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ENVIRONMENT OVERVIEW & SCRUTINY COMMITTEE MONDAY 18TH July 2016

REPORT TITLE:	COASTAL STRATEGY SCRUTINY REVIEW
REPORT OF:	MEMBERS OF THE COASTAL STRATEGY SCRUTINY REVIEW PANEL

REPORT SUMMARY

This report (included as Appendix 1) provides the findings and recommendations emanating from the Coastal Strategy Scrutiny Review.

Members of the Environment Overview and Scrutiny Committee are requested to consider the contents of this report and support the recommendations arising from this review.

RECOMMENDATION/S

1. Members of the Committee are requested to support the contents and recommendations of the Scrutiny Report, 'Coastal Strategy';
2. The report be referred to the next appropriate Cabinet meeting;

SUPPORTING INFORMATION

1.0 REASON/S FOR RECOMMENDATION/S

The Scrutiny Review report is subject to review by Members of the Committee and requires approval to be referred to Cabinet for consideration of the recommendations made.

2.0 OTHER OPTIONS CONSIDERED

Not Applicable

3.0 BACKGROUND INFORMATION

- 3.1 As part of the Regeneration and Environment's work programme, a scrutiny review, Members agreed to carry out a task & finish review of the Council's Coastal Strategy.
- 3.2 Three Committee Members agreed to form the Review Panel. These were Councillors Mike Sullivan, Dave Mitchell and John Hale. At the first meeting of the scrutiny review, it was agreed Cllr Mike Sullivan would be the Chair of the Review Panel.
- 3.3 The review was conducted over a small number of meetings held with Council officers and representation from the Environment Agency's Environment Agency's Flood and Coastal Risk Management Advisor. Information was provided as requested by the Review Panel to allow detailed question and answer sessions to be carried out.
- 3.4 The Panel's primary objectives in doing this work were to understand how Wirral Council is delivering the Coastal Strategy, particularly in relation to the four schemes identified as requiring intervention in the short-term, and how these are to be funded.
- 3.5 This report provides a number of recommendations for this Committee to consider before referring the report to Cabinet for review.

4.0 FINANCIAL IMPLICATIONS

Not Applicable

5.0 LEGAL IMPLICATIONS

Not Applicable

6.0 RESOURCE IMPLICATIONS: ICT, STAFFING AND ASSETS

Not Applicable.

7.0 RELEVANT RISKS

Not Applicable

8.0 ENGAGEMENT/CONSULTATION

Not Applicable

9.0 EQUALITY IMPLICATIONS

This report is for information to Members and there are no direct equality implications.

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APPENDICES:**Appendix 1: Coastal Strategy Scrutiny Review Report****REFERENCE MATERIAL****SUBJECT HISTORY (last 3 years)**

Council Meeting	Date

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Coastal Strategy Scrutiny Review

A report produced by

The Regeneration and Environment Policy & Performance Committee

FINAL REPORT

WIRRAL BOROUGH COUNCIL

Coastal Strategy Scrutiny Review

FINAL REPORT

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1 EXECUTIVE SUMMARY

Wirral's Coastal Strategy was approved by Cabinet in October 2013 and identifies a timescale for intervention to reduce flood and coastal erosion risk. Four priority areas have been identified where intervention has been as being required in the next 20 years (West Kirby, Meols Parade, Rock Park and Wallasey Embankment).

The Review Panel heard that DEFRA (Department for Environment Food & Rural Affairs) requires Shoreline Management Plans and coastal strategies to be in place in order for access to capital funding that is administered by the Environmental Agency. The Council is supported by the Environment Agency and heard from the Flood and Coastal Risk Management Advisor from their Partnerships and Strategic Overview team on the excellent formal and informal working arrangements to help Wirral deliver the Coastal Strategy.

The Review Panel heard that central government funding is distributed as Flood Defence Grant in Aid (FDGiA) and is allocated nationally based on ranking of projects. For grants to be successful when applied for, there needs to be a clear demonstration that a percentage of funding required has been raised by local partners. The Scrutiny Review identified that this can be challenging in the economic climate and that there is a need to be innovative in looking at other sources, including approaches taken by other local authorities and combining Coastal Strategy schemes with other regeneration opportunities.

Recommendation 1

Officers should ensure that all funding opportunities are fully explored to deliver the Council's Coastal Strategy, including:

- ii) Potential funding from the Devolution deal as part of the Liverpool City Region Combined Authority*
- ii) Maintaining a strong joined-up approach to deliver coastal strategy schemes with other regeneration opportunities where significant benefits can be realised; and*
- iii) Identifying any innovative approaches to meeting funding gaps taken by other local authorities.*

Recommendation 2

Where it has been clearly demonstrated that all funding opportunities have been exhausted, it is a recommendation of the Review Panel that any internal capital bids are considered and supported by Cabinet where deemed appropriate.

The Review panel learned the value of the Local Levy as a source of funding for schemes. Wirral Council makes annual contributions to the Local Levy for the Environmental Agency to administer flood risk management through the north-west region and for 2015/16, Wirral paid £166,222 (with an anticipated 2% increase each year). Decisions are made by the Regional Flood and Coastal Committee (RFCC) which is comprised of a number of partnerships. The Merseyside Partnership includes Wirral who can apply for funding to be allocated to a scheme as long as it has DEFRA approval indicating that it is viable. In looking at the delivery of the four short-term schemes to be delivered, the Review Panel confirmed that the Local Levy funding is detrimental to ensuring their delivery. The review confirmed the Wirral is also one of the authorities that is currently benefitting the most through funding being provided

exceeding the contributions made up to the point when all four schemes are expected to be delivered.

Recommendation 3

The Review Panel recognises the value of Local Levy funding to enable Wirral to deliver schemes identified in the Coastal Strategy. It therefore requests that the Council strongly supports any proposed annual increases in Local Levy contributions by the RFCC to ensure the Coastal Strategy can be delivered.

The review identified that Members can help their constituents, particularly those that are part of Wirral's coastal communities. The Review Panel concludes that Members can play a more active role in engaging with residents and businesses to help them understand flood risk management.

Recommendation 4

Officers should establish a process to develop Members understanding of flood risk management to enable them to engage with their constituents on these risks. Although the Review Panel is concerned with those residents and business that are situated on Wirral's coastline, all Members should be included as part of this process.

2. INTRODUCTION

As part of the Regeneration and Environment Policy & Performance Committee's work programme, a scrutiny review of the Coastal Strategy was agreed and a Review Panel comprising of three Members of the Committee was established. The purpose of the review was to look at how the Council will deliver the Coastal Strategy, and in particular, the areas that require intervention in the short-term.

3. ORIGINAL SCOPE AND METHODOLOGY

3.1 Scope

A scoping meeting was convened with the Review Panel, the Head of Environment and Regulation and the Highways and Assets Team Leader to get an overview of the Coastal Strategy.

The agreed scoping document is included as Appendix 1. It was agreed that the focus of the review would concentrate on the following key areas:

- To review how Wirral Council is delivering the Coastal Strategy, particularly in relation to the four schemes identified as requiring intervention in the short-term.
- To ensure that all funding opportunities are explored where there are shortfalls.
- To ensure Wirral engages with the Regional Flood and Coastal Committee and that it seeks to get value from the contributions it makes to deliver the Coastal Strategy schemes.

3.2 Methodology

The Review Panel agreed that the scrutiny review would fall under the category of a short review. An initial briefing session with the Review Panel, the Highway Assets Team Leader and the Head of Environment and Regulation was convened to provide a comprehensive overview of the Coastal Strategy prior to the formal scoping meeting. Question and answer evidence sessions were convened as the approach for the review to enable Members to determine its findings and recommendations.

The Environment Agency's Flood and Coastal Risk Management Advisor from their Partnerships and Strategic Overview team was invited to attend one of the evidence sessions. This enabled Members of the Review Panel to further understand the role of the Environment Agency and provide further information relating to the funding element of the Coastal Strategy.

4. FINDINGS AND RECOMMENDATIONS

4.1 Background to the Wirral Coastal Strategy

In England, coastal defence is managed through the Department for Environment, Food and Rural Affairs (Defra) and administered through the Environment Agency. The hierarchical approach to coastal management is demonstrated through Shoreline Management Plans (SMPs) which sets out the policies for the coastline over three epochs; short-term of up to 20 years, medium term from 20 to 50 years and long-term which is up to 100 years. SMPs were first introduced in 1999 and the most recent review was completed in 2009.

The policies contained within the current North West England and North Wales Shoreline Management Plan to manage the long length of coastline were adopted by Cabinet in September 2010. In areas where there are a number of properties or businesses, the policy could be 'Hold the Line' and looks at taking action to maintain the current defence line which may or may not be artificially defended (hard structures) at the present time. In some cases 'the line' might be sand dunes, mud flats or cliffs and the stretch of coast in question could be subject of works, as necessary, in the future. A policy of 'No Active Intervention' could also be applied where no action is taken to protect the coastline.

Coastal Strategies identify how and when SMP policies can be implemented. Wirral's Coastal Strategy was a recommendation of this last SMP review with work starting in 2011. Wirral's Coastal Strategy was approved by Cabinet in October 2013 and is not a statutory document but Wirral, as a Coastal Erosion Risk Management Authority, undertook its production. Policies relating to all stretches of coastline are addressed in the strategy and those "Hold the Line" policies which require investment are subject to an outline business case with a timetable for implementation.

Local Flood Risk Management Strategies

The Flood and Water Management Act 2010 (FWMA) created Lead Local Flood Authorities (LLFA) and Wirral is one of them. The Act placed statutory duties on LLFAs including the production of Local Flood Risk Management Strategies (LFRMS). These strategies require LLFAs to identify all forms of flood risk in their area (whether it be from the sea, rivers, surface water, sewers or groundwater), identify the relevant Risk Management Authority for managing the source of risk and to identify how the risk can be managed through the delivery of FWMA statutory duties and through investment leading to greater understanding.

The LFRMS takes account of the Coastal Strategy and the Action Plan for managing flood and erosion risk at the coast, but it does not set out the business case for managing other forms of flood risk. It does, however, advocate further study, working with other flood risk management authorities, to understand that risk and to identify priorities for economic analysis and investment. This is particularly important to note in relation to the flooding that occurred in Wirral in September 2015. As Wirral is a LLFA, it needs to meet its statutory requirement under Section 19 of the Flood and Water Management Act 2010 to publish the results of an investigation into significant flooding in the Wirral.

The Coastal Strategy looks at tidal flood and coastal erosion risk in greater detail. This includes the number of properties at a strategic level that are protected by coastal defences

from tidal flooding and erosion. It also looks at how these risks change over the 100 years and how and when ‘Hold the Line’ policies can best be implemented.

4.2 Coastal Strategy Prioritised Works

The output from the approved coastal strategy is a management plan of actions for each strategic length of coastline. Each length of coastline has an identified policy which can be implemented. It was explained to the Review Panel that the Coastal Strategy looks at the whole coast and assesses the Shoreline Management Plan policy for each length of coast against more detailed information relating to coastal processes, environment, climate change and economics to identify where the Council needs to do work in the next 20 years. The Review Panel discussed the four areas that have been identified through this process.

West Kirby – Works are required to provide protection from flooding by construction of secondary linear defences. Properties along the West Kirby frontage were identified to be at significant flood risk and later demonstrated by the floods that took place in December 2013.

Wallasey Embankment – This is to reduce flood risk to Moreton and Leasowe. Erosion at the toe of the embankment is increasing the risk of failure of the structure with an associated increase risk of flooding inland. However, the rate of erosion, at present estimates, does not require immediate intervention, but towards the end of the “Short Term” 20 year period.

Rock Park – This length of coastline comprises of predominantly residential developments to the south of the Shell Tranmere Oil Terminal. The works here are related to the maintenance and refurbishment of the existing river wall that is in poor condition and at risk of failure. Failure of the defences would result in increased erosion thereby threatening the waterside properties.

Meols – there is a requirement to carry out works to improve the long term integrity of the defences at Meols Parade, where damage to the existing defences threatens the integrity of residential property and highway infrastructure. Erosion risk is significant as the sea wall is over 110 years old and residual life is less than 25 years.

4.3 Funding Approaches

To help Members with the review, the Flood and Coastal Risk Management Advisor from the Environment Agency was invited to discuss the funding approaches to help deliver coastal strategies. The Review Panel learned that, given the economic pressures being experienced in the public sector, securing enough funding for flood and coastal risk management work has been challenging and that the need heavily outweighs total funding available. Although there has been an increase in investment from central government, more funding is required and resulted in the ‘partnership funding approach’ being introduced by Defra. There is now a move to a partnership funding approach which means schemes would not be able to rely solely on central government funding but would have to look at obtaining financial input from local partners. This approach allows central government to contribute to a larger number of projects but would require funding to be found from other sources.

Flood Defence Grant in Aid

The Flood and Coastal Risk Management Advisor provided an overview of how central government provided funding for schemes through Flood Defence Grant in Aid (FDGiA). It was explained that historically, government used to only be able to fund some coastal strategy schemes but with 100% funding provided. However, following a government review in 2011, changes were made to ensure that more schemes can be funded through contributions being made by local authorities to meet shortfalls. Allocation of funding would now be determined as an outcome of prioritisation on a national level through ranking all projects according to a defined scoring system.

It was further explained that every proposal will be eligible for a certain amount of FDGiA funding based mainly on the properties that the scheme will protect and the benefits the scheme will deliver. Although schemes will generally achieve 55% of FDGiA funding, this does depend on the merits of each scheme and the score it will generate to determine how much is awarded. The Environment Agency needs to know over the full six years when the requests for funding are coming from local authorities which it can then approve to enable it to give more certainty on funding for schemes. Until recently, government only provided the EA with funding on a year by year basis so it was difficult to plan. In the last two years, the EA has secured a six year settlement from government to provide a more secure programme.

Schemes need to be included in the Investment Programme that is coordinated by the Environment Agency. Some schemes will be fully funded whilst others will get some or very little. Prioritisation of schemes is based on the likelihood of meeting the shortfalls to ensure all funding is available. West Kirby is a priority scheme because the business case in the Coastal Strategy determined that if the Council delivered a scheme after 20 years, a lot of properties are currently likely to be subject to frequent flooding, would not incur further flood damage. The Review Panel commented that, in respect to tourism for the area, would also be crucial. Through accelerating works and making it a priority, these damages will not be incurred and the scheme will get a better cost-benefit ratio. This also helps build the business case to support a request for grant aid from the Environment Agency as cost-benefit ratio is one of the areas considered by the Environment Agency, along with the number of properties removed from flood risk and Partnership Funding contributions secured.

Local Levy Funding

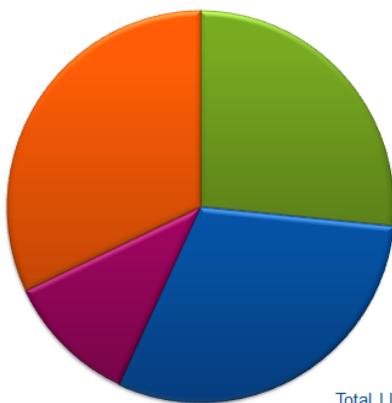
The Review Panel learned that a critical source of funding for schemes come from the Local Levy that Wirral pays into each year for the Environment Agency to administer flood risk management through the North West Region.

Local Levy is set by the Regional Flood and Coastal Committee (RFCC) and charged to Lead Local Flood Authorities in that region. The RFCC is comprised of a number of partnerships and Wirral is part of the Merseyside Partnership that is represented and chaired by the Portfolio Holder for Environment. Decisions to support coastal projects as well as wider flood risk management activities are made by the RFCC with some funding being 'pooled'. Wirral can apply for Local Levy funding to be allocated to a scheme as long as it has DEFRA approval indicating that it is viable.

Wirral paid £166,222 in Local Levy contributions for 2015/16 but each year there is a review of the local levy contributions and a vote by RFCC members about whether to increase the levy or keep it at the same level. A 2% increase was recently approved by the Committee. The benefit of Local Levy funding is that you are not bound by constraints that you would get from

FDGiA funding and having to compete against other local authorities around the country. The graph below compares contributions made within for the Merseyside Partnership in 2015/16.

Local Levy Contributions (15/16) for Merseyside Partnership



Merseyside	
Sefton Metropolitan Borough Council	145,708
Wirral Metropolitan Borough Council	166,222
Knowsley Metropolitan Borough Council	60,682
Liverpool City Council	175,737
TOTAL	548,349

Total LLFA Local Levy contribution to NW RFCC = £3.7 m,
£548k from Merseyside is 15%

4.4 Funding and delivery of short term priority schemes

The Review Panel was updated on the current progress of delivering the four short-term priority schemes from the Coastal Strategy.

West Kirby

The profile of West Kirby following the storms in 2013 has been raised with a number of houses and businesses having been subject to flooding. Economic analysis was carried out after the Wirral Coastal Strategy was developed and at the time it was determined that the Council would need to find £1.8M to £2M of investment. The number of properties that could be protected from the initial assessment identified that £650K Flood Defence Grant in Aid (FDGiA) from the EA could be secured with approximately a £1.3M shortfall. £200K was identified through the Flood and Water Management Act and Cabinet approved £500K of capital. Local Levy funding of £500K completed the total amount required to deliver the scheme. The proposals to reduce flood risk in West Kirby went out to public consultation to gauge opinions and the popular option was a structure set back on the promenade as opposed to at the railings. The project appraisal report which looks at the whole economic benefits in detail for delivering the scheme has now been completed and finalised for submission to the EA for scrutiny. The EA needs to ensure that it is correct and that what Wirral says it will deliver is feasible economically and technically. Once the project is assured by the EA, the grant aid to deliver scheme will be made available.

The scheme was brought forward due to the funding opportunities available even though it was determined that it was not needed for a few years. The Review Panel considered the scheme for West Kirby as being important as it is an established area that can improve the visitor economy to Wirral. The fact that the scheme was brought forward was seen as beneficial.

Meols Parade

This is the next likely scheme to be delivered and requires the most local levy funding. The proposal is to simply strengthen the wall and will require £4M funding. It is likely only £1.2M FDGiA will be made available so there will be a significant shortfall and £1.2M has been requested in the Local Levy bidding process. There is still a shortfall but the scheme will not need to be delivered for a few years because of limited budgets being made available each year. Public contributions have been identified as a source of funding for year 3 (2018/19) so various capital bids will be submitted. There will be a £1.7M shortfall so contributions over 5 years are being looked at as it is a 5 year scheme.

Rock Park

This is essentially a restoration project which the Coastal Strategy has identified £1.66M of funding being needed to restore the esplanade. As it is in an area of deprivation, it can draw in more FDGiA funding. £760K grant in aid can be obtained due to the properties at risk as well as being in an area of deprivation. Local Levy funding of £900K has been identified and should meet the £1.66M that is needed.

Wallasey Embankment

Because of the scoring for funding, this will receive the full allocation of grant aid due to the high number of properties so there are no immediate concerns on funding. The works carried out will look at reinforcing the embankment. However, there is a non-immediate erosion problem so the area will need intervention towards the end of the 20 year "Short Term" timeframe.

The Review Panel identified that the working relationship between Council officers and the EA was crucial to help deliver schemes and assurances that this is in place was provided by the Flood and Coastal Risk Management Advisor . It was explained to the Review Panel that the Environment Agency has a national strategic overview for managing flood and coastal erosion risk. In practice, this means that on coastal matters Wirral works closely and collaboratively with the EA with strategic studies such as the SMP and Wirral Coastal Strategy demonstrating compliance with the Environment Agency's overall vision. The Review Panel welcomed that, on a local level, Wirral Council and the Environment Agency are professional partners, working closely through informal and formal arrangements to try and maximise the benefits for investment to Wirral through delivery of the Wirral Coastal Strategy. This is particularly important where there is a challenge to boost Wirral's score by ensuring the partnership funding element is supported by other funding.

It was explained that opportunities to identify other sources of funding would form part of the respective business case for delivering schemes which may lead to them being successfully delivered early. The Review Panel queried the feasibility of a number of options as potential avenues for funding. One of these was through applying a Community Infrastructure Levy which is a levy against developers on new properties. However, it was explained that for existing properties in an area, a Community Infrastructure Levy would already have had to be in place to raise funds.

Other sources of funding explored by the Council have included Lottery funding, the Regional Growth Fund and the potential for resident contributions. At the time when the Coastal Strategy was developed, it was anticipated that a Heritage Lottery Grant would be received but this may now be unlikely. Members noted that there is reference to the environment and River Mersey as part of the Liverpool City Region Devolution arrangements as well as the

single investment fund of £30 million over 30 years. The issue in identifying sources of funding is that the Coastal Strategy identifies schemes to be implemented so you cannot change where you need to invest. The Review Panel acknowledges the funding gaps as a significant challenge to deliver schemes is a national issue and that officers may need to make capital bids to meet these shortfalls. However, there is also a need to be innovative in looking at other ways of securing funding in the future with the Council facing competing demands for capital investment.

In relation to the Rock Park scheme, the Review Panel pointed out that it is located where there is a lot of potential for regeneration opportunities and that if regeneration work was carried out on the esplanade, this could help the Council deliver the scheme detailed in the Coastal Strategy in terms of securing the FDGiA funding. It was explained by the Highway Assets Team Leader that the figures detailed in the coastal strategy for Rock Park were informed by the Mersey Coastal Park Strategy which considered improved access and a cycle way. If the regeneration strategy was to go ahead, this would benefit the scheme for Rock Park. It was explained by the Flood and Coastal Risk Management Advisor that this is the principal of government changing funding where in the past engineers simply concentrated on preventing flooding and regeneration opportunities would be considered later. It is more holistic in looking at everything together by combining schemes to see what opportunities can be gained. Furthermore, the Review Panel acknowledged a comment made by the Flood and Coastal Risk Management Advisor that Members should be encouraged to consider opportunities and promote ideas which could be raised with council officers which the Council may not be fully aware of.

Recommendation 1

Officers should ensure that all funding opportunities are fully explored to deliver the Council's Coastal Strategy, including:

- ii) Potential funding from the Devolution deal as part of the Liverpool City Region Combined Authority*
- ii) Maintaining a strong joined-up approach to deliver coastal strategy schemes with other regeneration opportunities where significant benefits can be realised; and*
- iii) Identifying any innovative approaches to meeting funding gaps taken by other local authorities.*

Recommendation 2

Where it has been clearly demonstrated that all funding opportunities have been exhausted, it is a recommendation of the Review Panel that any internal capital bids are considered and supported by Cabinet where deemed appropriate.

As part of the Scrutiny Review, Panel Members wanted assurance that Wirral was taking all opportunities to access Local Levy funding to help deliver Wirral's schemes as well as considering the return on the investment through the annual contributions made. As stated earlier in this report, Wirral's contribution for 2015/16 is £166,222. The Local Levy contributions Wirral has made since 2013 against the expected Local Levy funding which will be drawn is shown in Fig.1 below. Contributions made from 2017/18 are based on an assumption that a 2% increase will be applied by the RFCC. IT should also be noted that

contributions for the delivery of recommendations of the LFRMS (74K) are not included in the table below as these do not form part of the Wirral Coastal Strategy.

Fig. 1

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	TOTAL
Levy Paid (£)	164,044	163,358	166,222	167,920	171,278	174,704	178,198	181,762	185,397	189,105	192,887	1,934,875
Forecast Contributions (£)												
West Kirby				60,000	440,000							
Rock Park Esplanade									543,992	524,898		
Meols Parade						50,000	219,404	228,231	235,013	243,246	251,756	
Wallasey Embankment	No Levy Contributions required as funded completely by Grant Aid											
Total (£)	0	0	0	60,000	440,000	50,000	219,404	772,223	759,911	243,246	251,756	2,796,540

Looking at the funding that is to be drawn covering the period where Wirral's short-term schemes are to be delivered, there is a clear demonstration of the importance of Local Levy funding and that Wirral is an authority that is likely to be a net receiver against contributions made (£1,934,875 paid in against an anticipated £2,796,540 in funding received up to 2024). It is also noted that across the North West Region, some authorities will get more out than others over the coming years and Wirral is one that is currently benefiting.

To support local levy applications, The Review Panel was informed that the Chair of the North West RFCC was invited to Wirral to see the damage caused at Meols, the flooding at West Kirby and the significant erosion at Wallasey Embankment. By demonstrating the impact of the coast to the Chair of the Committee, the Review Panel was encouraged that this provided support to the bids that Wirral put in for local levy contributions.

Recommendation 3

The Review Panel recognises the value of Local Levy funding to enable Wirral to deliver schemes identified in the Coastal Strategy. It therefore requests that the Council strongly supports any proposed annual increases in Local Levy contributions by the RFCC to ensure the Coastal Strategy can be delivered.

4.5 Engagement with coastal communities

The Review Panel acknowledged comments made by the Flood and Coastal Risk Management Advisor that outside of hard structures and coastal defences, consideration also needs to be given to flood risk management along the coast and the importance of engaging with residents and businesses to enable them to understand these risks. This is an area that the Environment Agency strongly advocates to local authorities. As well as the Council supporting this, it was also stated and agreed by the Review Panel that Members would also have a key role through talking to their constituents. Key messages could be conveyed about what they could do to manage flood risk and what they should do if there is going to be a flood. Key areas which may flood easily could be targeted so residents and businesses would

be a lot more aware of the risk than they were beforehand. The Flood and Coastal Risk Management Advisor added that the Environment Agency could support this through providing key messages. The Review Panel endorsed this approach but stressed that all Members should fulfil this role and not just those whose wards are located on the coastline.

Recommendation 4

Officers should establish a process to develop Members understanding of flood risk management to enable them to engage with their constituents on these risks. Although the Review Panel is concerned with those residents and business that are situated on Wirral's coastline, all Members should be included as part of this process.

5. CONCLUSIONS

The Review Panel was encouraged by the collaborative partnership arrangements in place between Council Officers and the Environment Agency to enable the Coastal Strategy to be delivered. This is particularly important when trying to maximise the investments to Wirral.

The Review Panel acknowledged the funding gaps for delivery of the Coastal Strategy and that all opportunities for funding schemes must be considered in light of this. As this is a national issue, it is prudent for Wirral to look at any innovative approaches taken by other local authorities. Maintaining a joined-up approach to delivering the strategies schemes with other regeneration opportunities is also important as this could help deliver schemes quicker through access to more funding.

The value of Local Levy funding has been demonstrated and the annual contributions made provide an invaluable crucial source of funding for the Coastal Strategy delivery.

The Review Panel believe that Members' flood risk management awareness across Wirral's coastline should be enhanced as they can fulfil a role of working with their constituents on managing risks. This is particularly important to help protect those residents and business that are at risk of flooding.

6. MEMBERS OF THE TASK & FINISH GROUP

Councillor Mike Sullivan (Chair)



Chair's Statement:

"The flooding experience in September 2015 and, in particular, West Kirby in 2013 has highlighted the importance of managing flood risk. The Coastal Strategy plays a key role in this in protecting our coastal communities.

The Review Panel concluded that delivery of Wirral's Coastal Strategy depends on the excellent relationship the Council has with the Environment Agency to maximise benefits for Wirral and this was demonstrated through the review. Additionally, securing funding to deliver the Coastal Strategy schemes is a fundamental challenge and the Council must ensure that all funding opportunities are explored to reduce the impact on capital bids being requested.

I would like to thank the Members of the Review Panel, Officers and the Environment Agency's Flood and Coastal Risk Management Advisor from their Partnerships and Strategic Overview team for their contribution to this review."

Other Panel Members were:

Councillor Dave Mitchell



Councillor John Hale



Appendix 1

Scope Document

Review Title: Coastal Strategy

Date: July 2016

1. Contact Information:	
Scrutiny Panel Chair: Councillor Michael Sullivan michaelsullivan@wirral.gov.uk	Scrutiny Officer(s): Michael Lester Scrutiny Support Officer michaellester@wirral.gov.uk 691-8628
Panel members: Councillor Dave Mitchell davemitchell@wirral.gov.uk	Departmental Link Officers: Mark Smith Head of Environment & Regulation marksmith@wirral.gov.uk 606-2103
Councillor John Hale johnhale@wirral.gov.uk	Neil Thomas Highways and Assets Team Leader neilthomas@wirral.gov.uk 606-2004
Other Key Contacts: None identified at this time	
2. Review Aims:	
Which Wirral Plan Pledge does this review relate to? The Coastal Strategy supports the Pledge of 'Attractive local environment for Wirral residents'.	
What are the main issues?	
<ul style="list-style-type: none">The Coastal Strategy identifies areas that require intervention to reduce flood and coastal erosion risk. Four areas have been identified for intervention in the short-term. Members are interested in how these are to be delivered to improve management of flood and coastal erosion risk at these areas.Funding to deliver the schemes is challenging and requires other sources to be identified outside of what can be provided by the Environment Agency. How is Wirral Council taking up opportunities to secure funding to bridge the financial gaps?How the Local Levy has been used as partnership funding to support delivery of the areas identified for intervention in the Coastal Strategy. Is Wirral taking all opportunities to access the Local Levy against what it pays in on an annual basis? How does Wirral engage with the Regional Flood and Coastal Committee who determine local levy funding priorities?	
The Panel's objectives in doing this work:	
<ul style="list-style-type: none">To review how Wirral Council is delivering the Coastal Strategy, particularly in relation to the four schemes identified as requiring intervention in the short-term.To ensure that all funding opportunities are explored where there are shortfalls.To ensure Wirral engages with the Regional Flood and Coastal Committee and that it	

seeks to get value from the contributions it makes to deliver the Coastal Strategy schemes.

The desired outputs/outcomes:

- Assurances will be provided that short-term priorities identified in the strategy are being delivered.
- Opportunities for further funding may be identified as part of the review

3. Review Approach

How will the Panel engage with the Executive?

- The findings and recommendations arising from the review will be discussed with the Portfolio Holder.
- The final report will be referred to Cabinet for consideration of the recommendations

Who will the Panel be trying to influence as part of its work?

- Senior Managers
- Cabinet

Duration of review?

It is anticipated that this will be short review conducted over a number of evidence sessions.

Extra resources needed? Would the investigation benefit from the co-operation of an expert witness?

None identified at this stage

4. Sources of Evidence:

Secondary information (background information, existing reports, legislation, central government documents, etc).

- Cabinet Report October 2013 (Approval of Coastal Strategy)
- Coastal Strategy

Primary/new evidence/information

- Background information relating to delivery of four areas identified for intervention in the short-term.
- Information on Local Levy contributions / funding arrangements
- A report on other potential sources of funding to support scheme delivery.

Who can provide us with further relevant evidence? (Cabinet portfolio holder, officer, service user, general public, expert witness, etc).

council officers to include:

Council officers

Environment Agency's Flood and Coastal Risk Management Advisor

What specific areas do we want them to cover when they give evidence?

Officers (See above)

Flood and Coastal Risk Management Advisor –

- Feedback on the effectiveness of the arrangements between Wirral Council and the Environment Agency
- Information on funding approaches and how schemes are considered for inclusion on the Environment Agency's investment programme

What processes can we use to feed into the review? (site visits/observations, face-to-face questioning, telephone survey, written questionnaire, etc).

- Face to face questioning

In what ways can we involve the public and at what stages? (consider whole range of consultative mechanisms, local committees and local ward mechanisms).

Not applicable at this stage

Should we involve the Press & Public Relations Team at any stage of the review? (Homepage news release, press releases etc)

Not applicable

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ENVIRONMENT OVERVIEW & SCRUTINY COMMITTEE

18 JULY 2016

REPORT TITLE	<i>TRANSFORMING WIRRAL</i>
REPORT OF	<i>Michele Duerden – Senior Manager Transformation & Improvement</i>

REPORT SUMMARY

This report provides a proposed approach to pre-decision scrutiny of proposals for new business models.

New business models are being developed for Council Services to deliver Wirral's 20 pledges, respond to stakeholder views and provide the financial savings required.

A briefing session on alternative delivery will be available to all Members on 20th July 2016. This session will provide an overview of the different types of alternative delivery models and their relevance and appropriateness to different services.

Pre-decision scrutiny of proposals for new business models enables Members to engage in reviewing transformation proposals in line with the need for Council to radically change the way services are delivered to secure 2020 outcomes.

This matter affects all Wards within the Borough.

This is not a key decision.

RECOMMENDATION/S

It is recommended that;

- a) The Committee includes pre-decision scrutiny of proposals for new business models as part of the scrutiny work programme as they become available
- b) Committee to agree the appropriate scrutiny approach to review proposals as they are brought forward, providing pre-decision scrutiny against the agreed principles for service models

SUPPORTING INFORMATION

1.0 REASON/S FOR RECOMMENDATION/S

- 1.1 The Outline Transformation Approach (Item 5 - Cabinet 21st March 2016) sets out the principles of a new approach to transformation for the Council; which will ensure the organisation is best equipped to achieve the Pledges committed to in the Wirral Plan. The report sets out how the new transformation programme would be taken forward, including new models for service delivery.
- 1.2 Elected Member engagement in this programme is paramount. Pre-decision scrutiny of proposals for new service models enables Members to be fully engaged in reviewing transformation proposals ensuring that Elected Members are central to supporting, overseeing and promoting the Council's transformation agenda.
- 1.3 A briefing session will be facilitated on 20th July 2016, open to all Members. This session will provide an overview of different delivery models and their appropriateness to different services. Awareness of the range of different delivery models will allow Members to provide an informed consideration of transformation proposals.
- 1.4 Proposals may be brought forward for pre-decision scrutiny throughout the year. It is recommended that the Committee retains sufficient flexibility in the work programme to scrutinise proposals as they arise.
- 1.5 Members should give consideration as to whether the delivery options developed for Council services embody quality, efficiency, local employment, equality and diversity. Each model will be individually developed and scrutinised. New models should be evaluated in line with the principles provided at Appendix 1.

2.0 OTHER OPTIONS CONSIDERED

- 2.1 The Cabinet Member for Transformation and Leisure has identified the opportunity for pre-decision scrutiny to be undertaken.

3.0 BACKGROUND INFORMATION

- 3.1 The Wirral Plan sets out a vision for Wirral: a set of 20 Pledges which will be achieved over the next five years to improve the lives of Wirral residents. In order to achieve these ambitions, the Council needs to modernise and work in a completely different way, and ensure it has the right culture, abilities, skills and approach to deliver the 2020 vision for Wirral.

- 3.2 In order to deliver this plan Wirral has committed to delivering a modern public service and organising ourselves to deliver our aims. The Outline Transformation Approach (Item 5 - Cabinet 21st March 2016) report set out how the two core themes would be taken forward: (1) a new transformation programme, working to develop new models for service delivery and (2) the implementation of a new operating model. The themes are being developed and implemented concurrently, ensuring that the Council is able to deliver change at pace and continue to deliver positive outcomes to improve the quality of life for Wirral residents.
- 3.3 The transformation programme and the development of new models for service delivery have now commenced. In order to drive major improvements and efficiencies appropriate delivery options for a range of services are being designed, these will need to be negotiated and implemented in order to promote innovation and improve customer experience. As part of this work it is expected that some services will be re-organised and grouped with other services with shared outcomes.
- 3.4 A standard, robust and detailed approach to proposal development and options appraisal has been embedded ensuring any proposals for change are robustly evidenced and aligned to the agreed principles. Comprehensive programme management methodologies will ensure all transformation activities support the delivery of the 20 pledges.
- 3.5 New business models will enable long term sustainable services for Wirral. The delivery options which will be developed for Council services will embody quality, efficiency, local employment, equality and diversity. They will drive an efficient, commercial and value-driven approach to public services. One size will not fit all; each model will be individually developed and evaluated in line with these principles, which have been provided in full at Appendix 1, and will guide the organisation in our approach to the design of new models, as well as aid Members in their democratic engagement in the process.
- 3.6 It is proposed that as each model is developed pre-decision scrutiny is completed ensuring that Elected Members are fully engaged in supporting, overseeing and promoting the Council's transformation agenda

4.0 FINANCIAL IMPLICATIONS

There are no financial implications arising from this report.

5.0 LEGAL IMPLICATIONS

There are no legal implications arising from this report.

6.0 RESOURCE IMPLICATIONS: ICT, STAFFING AND ASSETS

There are no resource implications relating to this report.

7.0 RELEVANT RISKS

The Centre for Public Scrutiny highlights the need for scrutiny to engage in reviewing transformation proposals in line with the need for Councils to radically change the way services are delivered.

8.0 ENGAGEMENT/CONSULTATION

The Council is required to consult with the Trade Unions and affected staff on proposed changes to role and responsibilities, structures and services.

9.0 EQUALITY IMPLICATIONS

No EIA has been undertaken relating to the subject of this report because there is no relevance to equality at this time.

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APPENDICES

Appendix 1 – Principles for Service Models

REFERENCE MATERIAL

SUBJECT HISTORY (last 3 years)

Council Meeting	Date

APPENDIX 1 - PRINCIPLES FOR SERVICE MODELS – POLICY & ETHICAL

Principle	Evaluation
-----------	------------

Achieves the ambition and vision set out in the Wirral Plan and associated pledges	Must be able to demonstrably deliver Wirral Plan pledges.
Achieves improved outcomes for Wirral residents, businesses	Measurable outcomes linked to the Pledges and Strategies
Service design reflects the views of residents, businesses	Appropriate level of consultation; use of published material e.g. customer insight
Delivers savings or reduces the burden to the Council's net revenue funding	Achieve savings / reduce operating costs for the Council / or reduce demand
Council retains robust accountability and governance arrangements	Appropriate governance/ contract management arrangements are in place.
Resilience and flexibility to emerging issues in service delivery	Ability to respond to changing statutory duties/ future opportunities for service delivery Ability to adjust in a timely manner to political direction/legislative or procedural changes.
Partners and local businesses believe the Council is easy to do business with	Regular engagement takes place with partners and local businesses to develop joined-up approach.
Promotes equality and diversity	Promotes equality and diversity amongst its residents and workforce through undertaking robust equality impact assessment.
Impact on employment and the local economy	Availability of training and development opportunities. Secures commitment to sustainable local employment.

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ENVIRONMENT OVERVIEW AND SCRUTINY COMMITTEE

18 JULY 2016

REPORT TITLE	2015/16 REGENERATION & ENVIRONMENT AND TRANSFORMATION & RESOURCES DIRECTORATE PLAN CLOSEDOWN REPORTS
REPORT OF	ASSISTANT CHIEF EXECUTIVE AND STRATEGIC DIRECTOR TRANSFORMATION & RESOURCES

REPORT SUMMARY

This report sets out the 2015/16 year-end position in relation to performance for the Regeneration & Environment and Transformation & Resources Directorate Plans. March 2016 marked the end of the planning cycle for the 2015/16 Corporate and Directorate Plans and as such, these act as closedown reports for both Plans.

The reports capture performance across a broad suite of performance indicators and Directorate projects. At the beginning of the report, there is an overview which includes a summary analysis which also highlights the key achievements of the plans.

Due to the new scrutiny arrangements, for this committee two Directorate Plan reports (Regeneration & Environment and Transformation & Resources) are included as both plans apply to the scope of the new committee.

RECOMMENDATION/S

- The Environment Overview and Scrutiny Committee considers the contents of the Directorate Plan Closedown Reports and highlights any areas requiring further clarification or action.

[Starting on a separate page]

SUPPORTING INFORMATION

1.0 REASON/S FOR RECOMMENDATION/S

- 1.1 To ensure Members of the Committee have the opportunity to review the delivery of the 2015/16 Regeneration & Environment and Transformation & Resources Directorate Plans.

2.0 OTHER OPTIONS CONSIDERED

N/A

3.0 BACKGROUND INFORMATION

- 3.1 The Directorate Plans were developed in early 2015 and set out how the Directorates supported the objectives of the Corporate Plan 2015/16. This included activities measured through a suite of performance indicators as well as a programme of Directorate Projects. The reports included as Appendix 1 and 2, set out performance against these measures as at year end 31 March 2016.
- 3.2 Whilst the Corporate Plan 2015/16 (and supporting Directorate Plans) have been superseded by the Wirral Plan: A 2020 Vision, they still formed the basis of the 2015/16 performance management framework. A new Performance Management Framework has been developed for the Wirral Plan effective from 1st April 2016.

4.0 FINANCIAL IMPLICATIONS

- 4.1 There are no financial implications arising from this report.

5.0 LEGAL IMPLICATIONS

- 5.1 There are no legal implications arising from this report.

6.0 RESOURCE IMPLICATIONS: ICT, STAFFING AND ASSETS

- 6.1 There are no implications arising from this report.

7.0 RELEVANT RISKS

- 7.1 There are none arising from this report.

8.0 ENGAGEMENT/CONSULTATION

- 8.1 The reports have been reviewed by the Directorate Management Teams.

9.0 EQUALITY IMPLICATIONS

- 9.1 The reports are provided for information, there is no equality impact.

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APPENDICES

Appendix 1 – 2015/16 Regeneration and Environment Directorate Plan Closedown Report

Appendix 2 – 2015/16 Transformation and Resources Directorate Plan Closedown Report

REFERENCE MATERIAL

SUBJECT HISTORY (last 3 years)

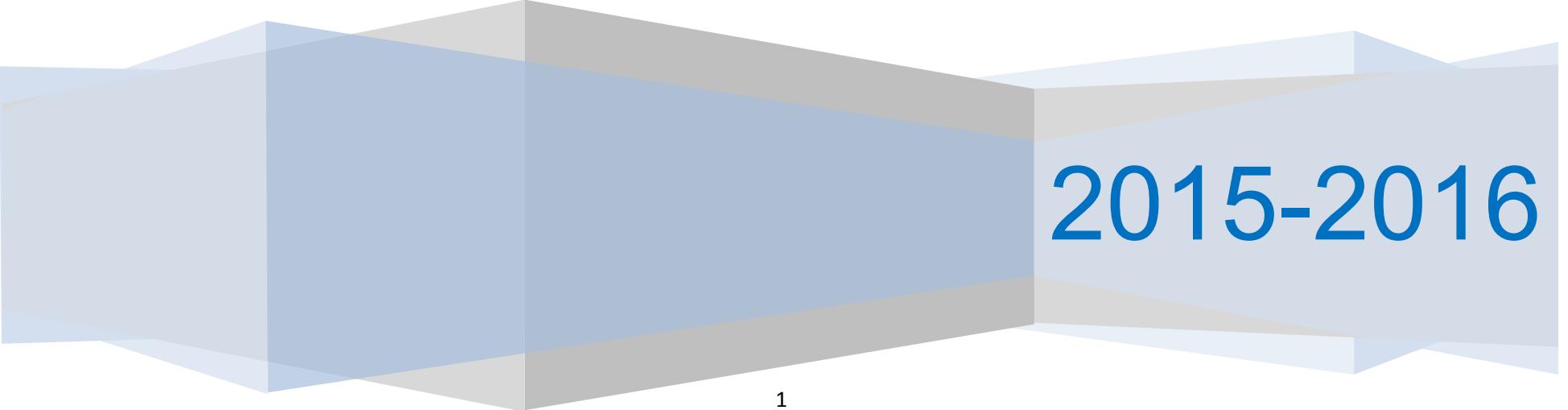
Council Meeting	Date

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Regeneration & Environment Directorate Plan

Year End Closedown Report

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2015-2016

A 3D bar chart graphic showing a decline from 2015-2016 to 2016-2017. The chart consists of two bars. The first bar, representing the 2015-2016 financial year, is light blue and reaches a height of approximately 85%. The second bar, representing the 2016-2017 financial year, is also light blue but is shorter, reaching a height of approximately 75%. The bars are set against a white background with a light gray floor and a light gray wall.

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1. Introduction

2. Overview

- 2.1 Summary Analysis
- 2.2 Achievements
- 2.3 Challenges

3. Performance Reports

- 3.1 Performance Indicator and Projects Report
- 3.2 Financial Report

1. Introduction

This report sets out the year end position for the 2015/16 Regeneration and Environment Directorate Plan. As this is the final year in the plan cycle, the report also acts as a close down report for the Directorate Plan.

The Regeneration and Environment Directorate Plan was developed in early 2015 as the Directorate's contribution towards the delivery of the 2015/16 Corporate Plan as approved by Council 8 December 2014. The Directorate Plan was presented to the Regeneration and Environment Policy and Performance Committee on 30 March 2015.

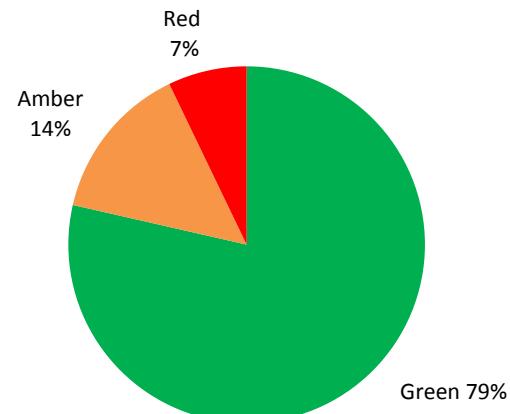
The Directorate Plan set out how the Regeneration and Environment Directorate supported the objectives of the 2015/16 Corporate Plan. This included activities measured through a suite of 18 performance indicators which included Directorate Projects. This report sets out performance against these measures as at year end 31 March 2016. For the performance indicators, a detailed commentary is only provided against those indicators rated red or amber setting out the reasons for under-performance and what is being done to address it.

2. Overview

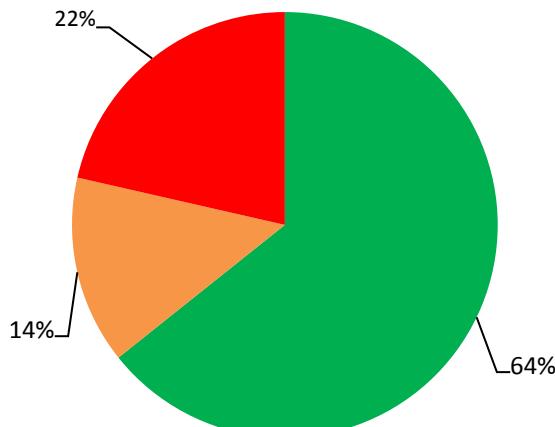
2.1 Summary Analysis

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PI's RAG rating



PI Direction of Travel



Projects Status



Ratings of the 14 reportable indicators:

- 11 Green
- 2 Amber
- 1 Red

The condition of Wirral's strategic road network deteriorated marginally but has remained within the top quartile nationally.

Road safety remained a concern as it failed to meet the Local Transport Plan (LTP) milestone.

Of the 14 measures where it is possible to indicate the Direction of Travel:

- 9 Improved
- 2 Sustained
- 3 Deteriorated

Details of future monitoring of performance indicators have been included within the year-end statements.

Status for the 4 Projects:

- All Delivered

The outcomes achieved as a result of the projects, have been included within 3.1 Performance Indicator and Projects Report.

2.2 Achievements

- 79% of the indicators met or exceeded the target set and 78% improved or were sustained during 2015/16
- Despite a marginal deterioration in Wirral's strategic road network they have remained in the top quartile nationally and well within the Local Transport Plan (LTP) target of 4%.
- All four projects undertaken during 2015/16 were delivered on time and to budget.
- 2015-16 saw another strong financial performance from the Regeneration & Environment Directorate. Overall, the revenue outturn was £2.3m under the £89.5m budgetary target for the year. This position also included the achievement of £2.7m out of £2.9m of approved budget saving options.

2.3 Challenges

Although there has been an overall reduction in the number of people injured on Wirral's roads of 8% over the past 12 months, there was an increase of 2% in the number of people killed and seriously injured. Our continuing challenge to reduce the number of those killed or seriously injured on our roads is also reflected at a city region level and will no doubt be confirmed when the 2015 statistics are published by the Department for Transport (DfT) later this year. A Road Safety Plan has been developed at a City Region level and reviewing its progress will form part of the Members Workplan for 2016/17.

3. Performance Reports

3.1 Performance Indicator and Projects Report

2015-16 Regeneration & Environment Performance Indicators		Year End Target 2015/16	Quarter 4			Year-end Statement (Red or Amber) <i>Context (Green where provided)</i>
PI Ref	PI Title		Actual	Period	DoT	
RECP02	To maintain local environmental quality (LEQ) of litter, detritus, & graffiti in main gateways and shopping areas	93.5%	93.2% Green	Apr-Mar	↔	<i>This indicator will be slightly re-defined to become borough-wide and in 2016/17 will be reported through Wirral Plan reporting arrangements.</i>
RECP03	Number of new affordable homes	250	298 Green	Apr-Mar	↑	<i>In 2016/17 this indicator will be reported through Wirral Plan reporting arrangements.</i>
RECP04	Number of adaptations completed	2000	2700 Green	Apr-Mar	↑	<i>In 2016/17 this indicator will be reported through Wirral Plan reporting arrangements.</i>
RECP05	Number of interventions to improve private rented sector properties	400	929 Green	Apr-Mar	↑	<i>This indicator will be monitored in a Service Plan from 2016/17.</i>
RECP06	Increase the number of jobs created and safeguarded via Invest Wirral	975	1084 Green	Apr-Mar	↑	<i>In 2016/17 this indicator will be reported through Wirral Plan reporting arrangements.</i>
RECP07	Gross Value Added per head of population	£13,213	£13,589 Green	2014	↑	<i>In 2016/17 this indicator will be reported through Wirral Plan reporting arrangements.</i>

2015-16 Regeneration & Environment Performance Indicators		Year End Target 2015/16	Quarter 4			Year-end Statement (Red or Amber) Context (<i>Green where provided</i>)
PI Ref	PI Title		Actual	Period	DoT	
RECP08	Number of working age people claiming out-of-work benefits (economic in-activity)	13.6%	12.4% Green	2015	↑	<i>In 2016/17 this indicator will be reported through Wirral Plan reporting arrangements.</i>
REDP09	Reduce the number of people killed or seriously injured in road traffic accidents (KSI)	98	143 Red	Apr-Mar (Police: Jan-Dec 2015)	↓	The following road user groups have shown an increase during 2015 in the number of people sustaining KSI injuries compared to the average during 2012-2014: Adult vehicle occupants (increase of 12 KSI in 2015 from average) Motorcyclists (increase of 15 KSI in 2015 from average) Adult pedestrians (increase of 3 KSI in 2015 from average) Additional resources for education, enforcement & publicity will be made available in 2016/17 to target high (KSI) risk casualty groups. <i>In 2016/17 this indicator will be reported through Wirral Plan reporting arrangements.</i>
REDP12	Number of empty properties returned to use or demolished through local authority action	260	289 Green	Apr-Mar	↔	<i>In 2016/17 this indicator will be reported through Wirral Plan reporting arrangements.</i>
REDP13	Number of homeless preventions	750	1338 Green	Apr-Mar	↑	<i>In 2016/17 this indicator will be reported through Wirral Plan reporting arrangements.</i>
REDP15	% of Major Planning Applications determined within 13 weeks	60%	67% Green	Apr-Mar	↑	<i>This indicator will be monitored in a Service Plan from 2016/17.</i>
REDP16	Total investment secured into Wirral developments	£25M	£43,450,331 Green	Apr-Mar	↑	<i>In 2016/17 this indicator will be reported through Wirral Plan reporting arrangements.</i>

2015-16 Regeneration & Environment Performance Indicators		Year End Target 2015/16	Quarter 4			Year-end Statement (Red or Amber) Context (<i>Green where provided</i>)
PI Ref	PI Title		Actual	Period	DoT	
RECP18	Develop and deliver the Wirral Selective Licensing Scheme (WSLS)	100%	100% Green	Apr-Mar	↔	<p><i>Project delivered. The impact of delivering this project has been far-reaching for residents in the affected areas with 600 residents so far who have directly benefitted from the advice, referrals and support provided by the Council and its partner agencies. Immediate health and safer homes benefits have included energy efficiencies, identifying the need for and the provision of heating grants, safety checks and referrals for welfare rights advice.</i></p>
REDP19	Delivery of the Docks Bridges Replacement Major Scheme up to contract award stage	100%	95% Green	Apr-Mar	↔	<p><i>Project delivered. The delivery of this project has secured the appointment of a contractor to replace two strategically important highway bridges in Birkenhead; this will benefit all Wirral residents by reducing the number of future road closures or restrictions that would otherwise have been required and will support our continued ambitions for major regeneration and economic growth developments.</i></p>
REDP20	Maintain the condition of Wirral's strategic network – Principal Roads	1%	1.7% Amber	2015	↓	<p><i>In 2016/17 these indicators will be reported through Wirral Plan reporting arrangements.</i></p>

2015-16 Regeneration & Environment Performance Indicators		Year End Target 2015/16	Quarter 4			Year-end Statement (Red or Amber) Context (<i>Green where provided</i>)
PI Ref	PI Title		Actual	Period	DoT	
REDP21	Maintain the condition of Wirral's strategic network – Non-principal Roads	1%	1.75% Amber	2015	↓	
REDP22	Implementation of LED Street Lighting Project	100%	100% Green	Apr-Mar	↔	<i>Project delivered. The tangible benefits realised as a result of the roll-out of LED streetlights across our strategic road network, involving 7553 street light columns, will be the substantial reductions to the Council's energy costs (of £768,000 by March 2019), a reduced carbon levy because of reduced carbon dioxide emissions and long term maintenance costs will be reduced because of longer burning hours than conventional units. Once initial teething problems have been overcome residents will experience improved light output and less outages.</i>
REDP23	Develop and deliver a master plan for Birkenhead Town Centre	100%	100% Green	Apr-Mar	↔	<i>Project delivered. The benefits of delivering this project will be the significant investment into the retail and commercial offer of central Birkenhead and the resulting new employment opportunities for the people of Wirral.</i>
Direction of Travel (DoT) Key		↑	Performance Improving		↓	Performance Deteriorating ↔ Performance Sustained

3.2 Financial Report

The Regeneration and Environment Directorate year end position produced an underspend of £2.3 million on the revised net budget as per the table below. In year revisions to the budget related mainly to capital financing adjustments and the allocation of remodelling savings.

	<i>Original Net Budget</i>	<i>Budget Changes In year</i>	Revised Net Budget	Outturn	Variance
	£ms	£ms	£ms	£ms	£ms
R&E	90.3	-0.8	89.5	87.2	-2.3

The most significant element of the underspend related to savings incurred on the supported housing programme contracts (this was the delivery of 2016/17 savings early). Further savings arose from higher than expected levels of income in a number of services which offset an adverse variance for the Floral Pavilion.

Savings agreed in setting the 2015/16 budget led to £3.1 million being removed from the directorate budget. The timing of delivery meant that the Street Works Permits saving won't be achieved until 2016/17, whilst the Perch Rock car parking proposal was reversed. These savings were compensated for from underspends and increased income from elsewhere within the directorate which mitigated any shortfall and led to an overall underspend position for the directorate.

Capital Programme Budget

The Capital Programme was amended during the year to reflect the inclusion of slippage from the 2014/15 programme and adjustments and re-profiling within the 2015/16 financial year.

Regeneration and Environment	Capital Programme December 2015	Outturn March 2016	Variation
		£ms	£ms
Environment and Regulation	11.5	10.5	-1.0
Housing	5.4	3.8	-1.6
Regeneration	6.5	5.5	-1.0
Total R&E Expenditure	23.4	19.8	-3.6

The largest element within Environment and Regulation section of the programme related to the installation of the LED lighting which commenced in mid-August and was substantially completed in March 2016. The outturn capital costs of £3.2 million further strengthen the value for money of the capital investment and future revenue savings will be generated. The DfT highway maintenance allocation of £2.8 million was supplemented from the Council's own Capital Programme with a further £500,000 for maintenance improvement schemes on unclassified and residential roads. The programme for the year resulted in the completion of 20 resurfacing schemes and one footway scheme on the Principal road network, 19 schemes on the Non-Principal Classified road network and 150 schemes on the Unclassified Road network.

Within the Housing section of the programme £1.7 million of grant aid was provided for the provision of essential aids and adaptations giving disabled people better freedom of movement in and around their homes. The new house building programme has commenced with £0.5m invested during the year.

In terms of Regeneration over £5.2 million Regional Growth Fund and business investment grants have been allocated to date helping to create jobs and encourage the growth.

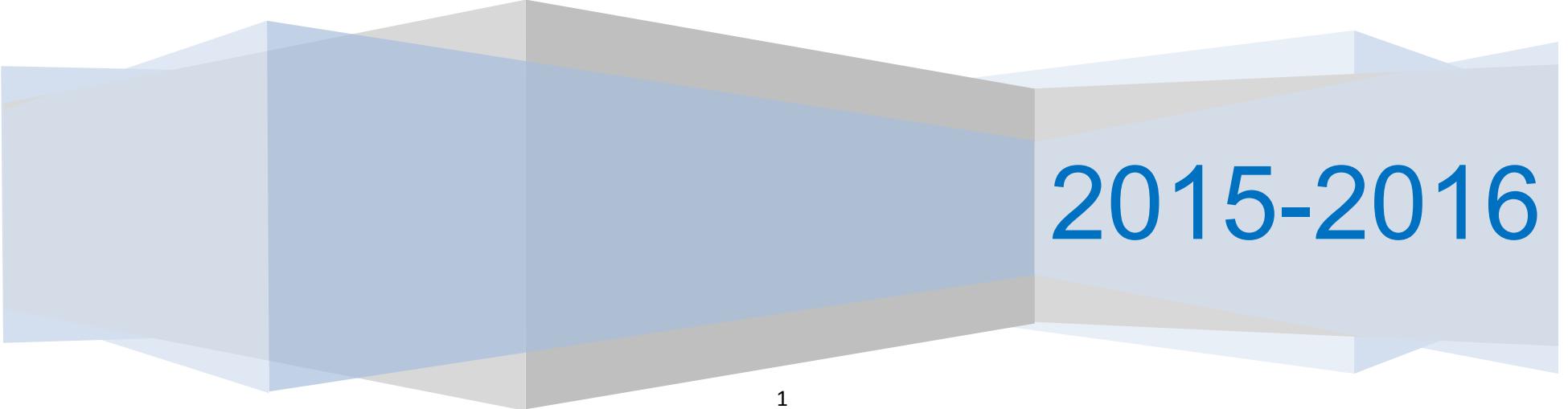
Some slippage has occurred on schemes such as the new house building scheme meaning the unused elements of the 2015/16 programme will be re-profiled into 2016/17.

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Transformation and Resources Directorate Plan

Year End Closedown Report

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2015-2016

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1. Introduction

This report sets out the year end position for the 2015/16 Transformation and Resources Directorate Plan. As this is the final year in the plan cycle, the report also acts as a close down report for the Directorate Plan.

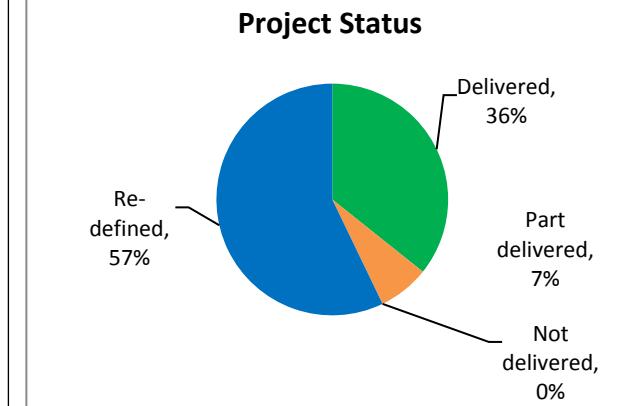
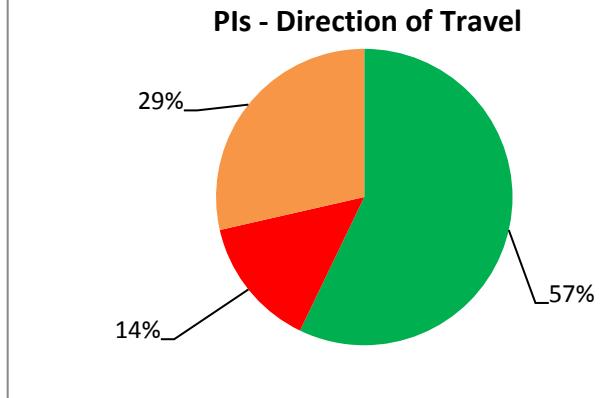
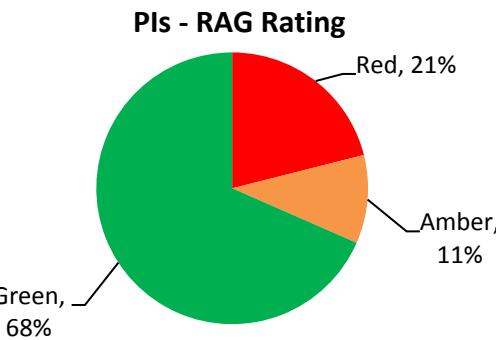
The Transformation and Resources Directorate Plan was developed in early 2015 as the Directorate's contribution towards the delivery of the 2015/16 Corporate Plan as approved by Council 8 December 2014. The Directorate Plan was presented to the Transformation and Resources Policy and Performance Committee on 30 March 2015.

The Directorate Plan set out how the Transformation and Resources Directorate supported the objectives of the Corporate Plan. This included activities measured through a suite of 20 performance indicators as well as a programme of 12 Directorate Projects. This report sets out performance against these measures as at year end 31 March 2016. For the performance indicators, a detailed commentary is only provided against those indicators rated red or amber setting out the reasons for under-performance and what is being done to address it.

2. Overview

2.1 Summary Analysis

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Ratings of the 19 reportable indicators:

- 13 Green
- 2 Amber
- 4 Red

For indicators rated Amber and Red, the responsible officer has indicated action taken to get performance back on track within the Year-end statement.

Of the 14 measures where it is possible to indicate the Direction of Travel:

- 8 Improving
- 2 Deteriorating
- 4 Sustained

Details of future monitoring of performance indicators have been included within the Year-end statement.

Status for the 14 Projects:

- 5 Delivered
- 1 Part Delivered
- 8 Re-defined

The outcomes achieved as a result of the projects, together with continued monitoring of on-going projects has been included within progress update.

2.2 Achievements

- 68% of the indicators met or exceeded the target set and 57% improved during 2015/16
- Performance Appraisals completed between April 15 - Mar 2016 improved by 29% compared to the previous year.
- Performance for Suppliers paid within 30 days has improved by 12% during 2015/16, with the monthly target being exceeded from December 2015.
- There has been a 50% reduction in the number of general exception notices issued and a 37% reduction in the number of published supplementary agendas for Cabinet and Committee meetings during 2015/16, compared to the previous year.
- The monthly average number of days to accurately process benefit claims has fallen during 2015/16, with the targets being consistently met / exceeded from October 2015.

2.3 Challenges

- 2015/16 Sickness Absence is 1.63 days higher than target and 0.84 days higher than 2014/15.
- The calculation method used to monitor performance for spend allocation of Discretionary Housing Payment led to a Red rating, but the Department for Work and Pensions (DWP) grant funding was fully spent. It included a Local Authority contribution of £294k, which will be used to supplement the 2016/17 DWP Grant and support people who will face increasing difficulties with their housing costs. The future calculation method for monitoring performance will be reviewed for 2016/17 onwards.
- For 2015/16 targets were missed for the recovery of Council Tax (by 0.3%) and National Non-Domestic Rates (by 1.1%). The collection of these will be monitored closely during 2015/16.

3. Performance Reports

3.1 Performance Indicator Report

2015-16 T&R DP Performance Indicators		Year End Target 2015/16	Quarter 4			Year-end Statements (Red or Amber) Context (Green/where provided)
PI Ref	PI Title		Actual	Period	DoT	
TRCP02	Projected Delivery of Council budget savings	£29.273m	£29.273m Green	Apr 15 - Mar 16		<i>This indicator will continue to be reviewed through service monitoring.</i>
TRCP03	Performance Appraisals completed by September 2015	80%	51% Red	Apr 15 - Sep 15	↑	This PI has a target completion date of September, therefore the 2015/16 out turn of 51% remains, however as at 31 March 2016 performance appraisals have been completed for 78% of all staff and 91% of managers. Performance against this measure is being reviewed by the Strategic Leadership Team in advance of the 2016 appraisals cycle. This indicator will continue to be reviewed through service monitoring.
TRCP04	Sickness Absence: The number of working days/shifts lost due to sickness absence (cumulative)	9.75	11.38 Red	Apr 15 - Mar 16	↓	The latest verified sickness forecast for 2015/16 is 11.38 (1.63 days above the 9.75 day target) and 0.84 days above 10.54 days in 2014/15. Management action continues to be taken to reduce the level of sickness absence across the Council. This includes changes to the Council's sickness policy and triggers from October 2015, Strategic Director-led sessions with managers to set expectations and the development of an employee wellbeing plan. On-going performance is being monitored closely on a monthly basis to ensure that these activities are having a positive impact. This indicator will continue to be reviewed through service monitoring.

2015-16 T&R DP Performance Indicators		Year End Target 2015/16	Quarter 4			Year-end Statements (Red or Amber) Context (Green/where provided)
PI Ref	PI Title		Actual	Period	DoT	
TRDP06	Suppliers paid within 30 days or payment terms	90.00%	95.49% Green	Mar-16	↔	<i>Business process improvements and project review has led to an increase in electronic invoicing and payments, significantly improving performance and exceeding the target for the final quarter of 2015/16. This indicator will continue to be reviewed through service monitoring.</i>
TRDP07	Local SME suppliers paid within 10 days	60.00%	N/A	N/A	N/A	<i>Following business process review and improvement, a number of issues have been identified with this measure regarding data quality and the agreed methodology currently in place. This indicator will continue to be reviewed through service monitoring.</i>
TRDP08	The total number of extraordinary Council, special cabinet and committee meetings	15	13 Green	Apr 15 - Mar 16	↑	<i>This indicator will continue to be reviewed through service monitoring.</i>
TRDP09	Reduction in the issuing of general exception notices under the Access to Information Rules	8	5 Green	Apr 15 - Mar 16	↑	<i>This indicator will continue to be reviewed through service monitoring.</i>
TRDP10	Reduction in the total number of published supplementary agendas for Cabinet and Committee meetings	25	19 Green	Apr 15 - Mar 16	↑	<i>This indicator will continue to be reviewed through service monitoring.</i>

2015-16 T&R DP Performance Indicators		Year End Target 2015/16	Quarter 4			Year-end Statements (Red or Amber) Context (Green/where provided)
PI Ref	PI Title		Actual	Period	DoT	
TRDP13	Client finance recovered by end of month following billing	80.00%	74.33% Red	Mar-16	↑	The overall 2014/15 collection is 85%. Whilst recovery in respect of 2015/16 has incrementally improved, performance has fallen short of the year-end target. This reflects introduction of charges for more services, some of which met with resistance impacting on recovery, staff resource and productivity. Management action is being taken to improve recovery and revise reporting arrangements for 2016/17 to ensure that it is properly reflective of achievement. With the implementation of new software, this work will then include focusing on developing enhanced processes which will improve workflow and improved management information through enhanced data, leading to improvements in operational strategies around the management of debt. This indicator will continue to be reviewed through service monitoring.
TRDP14	Recovery of Council Tax	95.6%	95.3% Amber	Apr 15 - Mar 16	↔	Staffing was recruited to full capacity and targeted actions implemented leading to a reduction in outstanding transactions. Business process analysis for smarter working and increased collection was undertaken as part of the Transaction Centre Review Project. These actions reduced the deficit from 0.9% to 0.2% compared to January 2016, but the Year-End target was missed by 0.3%. This indicator will continue to be reviewed through service monitoring.
TRDP15	Recovery of National Non Domestic Rates (NNDR)	98.3%	97.2% Green	Apr 15 - Mar 16	↓	<i>Collection was on or above target until the Year-End, where the target was missed by 1.1% due to being unable to collect late additional debit and early payments evening out over 12 instalments. This indicator will continue to be reviewed through service monitoring.</i>

2015-16 T&R DP Performance Indicators		Year End Target 2015/16	Quarter 4			Year-end Statements (Red or Amber) Context (Green/where provided)
PI Ref	PI Title		Actual	Period	DoT	
TRDP16	Spend allocation of Discretionary Housing Payment	100%	100% £1,036.5k Red	Apr 15 - Mar 16	↔	The 2015/16 Department for Work and Pensions (DWP) grant funding has been fully spent. The residual Local Authority contribution, £294k, will be carried forward to supplement the 2016/17 DWP Grant and support people who will face increasing difficulties with their housing costs, as Housing Benefit Reforms continue to impact on those in receipt of benefit. This indicator will continue to be reviewed through service monitoring.
TRDP17	Directorate Revenue Budget	£30.1m	£25.2m Green	Apr 15 – Mar 16	N/A	<i>The 2015/16 budget was adjusted from £31.9m to £30.1m to reflect in year revisions to the budget, which related mainly to capital financing adjustments and the allocation of remodelling savings. This indicator will continue to be reviewed through service monitoring.</i>
TRDP18	Directorate Capital Programme	£5.7m	£5.7m Green	Apr 15 - Mar 16	N/A	<i>The 2015/16 capital programme was amended during the year to reflect the inclusion of slippage from the 2014/15 programme and adjustments / re-profiling within the 2015/16 financial year. This indicator will continue to be reviewed through service monitoring.</i>
TRDP19	Directorate Savings achieved	£3.9m	£3.9m Green	Apr 15 - Mar 16	N/A	<i>The 2015/16 budget was adjusted to £3.9m to reflect the reallocation of the £22k alley gating saving to the Transformation & Resources Directorate. This indicator will continue to be reviewed through service monitoring.</i>

2015-16 T&R DP Performance Indicators		Year End Target 2015/16	Quarter 4			Year-end Statements (Red or Amber) Context (Green/where provided)
PI Ref	PI Title		Actual	Period	DoT	
TRDP20	Number of Information Governance Incidents (including reported vulnerabilities which could potentially result in a breach)	30	38 Amber	Apr 15 - Mar 16	N/A	There have been no breaches which required reporting to the Information Commissioner's Office during 2015/16. The Council encourages staff to report Information Governance incidents before they become reportable problems, so that any issues can be addressed and resolved to reduce the risk to the Council and its partners. This indicator will continue to be reviewed through service monitoring.
TRDP22	Average number of days to accurately process new Benefit claims	24	23 Green	Apr 15 - Mar 16	↔	<i>The 2015/16 Year-End performance was ahead of target, but the overall cumulative performance of 27 days for 2015/16 fell below the standard set, as a result of backlog at the start of the year due to the age of claims, which has now been cleared. The Department for Work and Pensions have yet to confirm final Year-End position so this return is provisional. This indicator will continue to be reviewed through service monitoring.</i>
TRDP23	Average number of days to accurately process change in circumstance Benefit claims	14	3 Green	Apr 15 - Mar 16	↑	<i>The 2015/16 Year-End performance was ahead of target, but the overall cumulative performance of 16 days for 2015/16 fell below the standard set, as a result of backlog at the start of the year due to the age of claims, which has now been cleared. The Department for Work and Pensions have yet to confirm final Year-End position so this return is provisional. This indicator will continue to be reviewed through service monitoring.</i>
TRDP24	% grant income achieved	99.99%	100.00% Green	Apr 15 - Mar 16	↑	<i>The total value of Local Authority overpayments has fallen below the lower threshold for attracting a subsidy penalty (income loss). This position is provisional, as it has still to be cleared as part of the annual audit process. This indicator will continue to be reviewed through service monitoring.</i>

2015-16 T&R DP Performance Indicators		Year End Target 2015/16	Quarter 4			Year-end Statements (Red or Amber) Context (Green/where provided)
PI Ref	PI Title		Actual	Period	DoT	
TRDP25	£ Identification of Fraud and Error (FERIS)	£768K	£768K Green	Apr 15 - Mar 16	↑	<i>The Department for Work and Pensions (DWP) national data extracts has confirmed that the Q3 baseline was met, and it is expected that the baseline of £768k will be marginally exceeded. The DWP have yet to confirm the final Year-End position and as such this return is provisional. This indicator will continue to be reviewed through service monitoring.</i>
Direction of Travel (DoT) Key		↑	Performance Improving		↓	Performance Deteriorating ↔ Performance Sustained

3.2 Projects Report

2015-16 T&R DP Projects	Status	Q4 2015/16 Progress update
Continue to transform support services, including establishing new Transaction Centre	Delivered	<p>The Transaction Centre structure became operational at Cheshire Lines from May 2015 and the Transaction Centre Senior Manager came into post July 2015.</p> <p>Reviews of business processes and subsequent changes implemented within the operation have streamlined support services, reduced backlogs and improved performance.</p> <p>Distribution services (mail, courier and scanning) have been under continuous review, and plans are underway for the service to move into to more suitable accommodation in Q1.</p>
Implement Strategic Asset Management Plan	Re-defined	<p>This is on-going as the Council continues to deal with its Delivering Differently and Alternative Delivery Models. Works to Star Design and South Annexe are now complete.</p> <p>The overall programme of Office Rationalisation works has delivered more efficient working space, maximising building occupancy and helping to reduce running costs. Surplus buildings have produced Capital Receipts and in some cases the added bonus of New Housing developments.</p> <p>The Demolition of Acre Lane will be completed on 12th May 2016. The Consultant has been appointed for undertaking condition surveys and the survey format agreed. It is anticipated to commence surveys of Leisure Assets in May 2016.</p> <p>This project will be taken forward as part of 'Achieving The Vision' within the Assets Transformation Programme.</p>
Review and revise the Council's Contract Procedure Rules (CPRs)	Delivered	<p>The revised Contract Procedure Rules have been approved, and were implemented on 1 April 2016. Briefing sessions were offered to all staff, and have been or are scheduled to be delivered to circa 300 officers. A more general procurement e-learning session is hoped to be compiled during 2016/17 and made compulsory for all officers. This will ensure that all staff are aware of the responsibilities and procedures and that the Council conforms with the appropriate regulations.</p>

2015-16 T&R DP Projects	Status	Q4 2015/16 Progress update
Develop measures to provide evidence how or where Equality Impact Assessments (EIAs) have informed our policy and decision making and improved outcomes	Re-defined	An equalities template is currently being developed, to be used as part of the business planning process. This will highlight where EIA's are being completed and what actions are required to be undertaken to improve practice / service delivery. It is anticipated that the programme will be completed and agreed by end of April 2016. The performance indicator / target setting will be taken forward as part of the Equality Plan 2016/2020.
Implementation of ModGov reports management function	Delivered	The reports Management system roll has been completed and most report authors are now using the system to submit reports, however the system will be subject to ongoing review regarding its effectiveness.
Audit & Risk Committee membership	Re-defined	The Secretary of State has extended the existing arrangements for Independent Audit Panels and the appointment of external auditors under the Local Audit Accountability Act 2014 until April 2018. As such, LA's will be required to have Panels with independent membership in place by 31 Dec 2017. The Local Government Association (LGA) is currently undertaking an exercise to evaluate levels of interest amongst Local Authorities (LAs) for national collective arrangements. Expressions of interest are required from all LAs by September 2016, Wirral have indicated an interest for this type of agreement. The LGA aim to have a mechanism in place to award contracts for external audit services by June 2017, removing the need for LAs to make their own arrangements and appoint independent Audit Panels. Progress on this project will be subject to continuous monitoring by the Audit and Risk Management Committee and the Corporate Governance Group.
Support the implementation of the Transformation Programme	Delivered	£28.5m savings were delivered for 2015/16. Proposals for key Transformation Programmes for 2016/17 have been developed. Activity is underway to assess the resources required to deliver these. Priorities for 2016/17 service reviews have been established and work is underway to develop Outline Business Cases for delivery models by June 2016.
Support robust budget setting processes to deal with financial challenges	Delivered	The accounts were completed and published by deadline of 30/09/15. Medium Term Financial Plan was reported to Cabinet 17/12/15 and updated as part of the Council Budget to Cabinet 22/02/16. Budget for 2016/17 was set by Council on 03/03/16. Future years to follow given Government announcements in March / April being in the Medium Term Financial Strategy.
		An update was reported to T&R Policy and Performance committee 22/03/16: revised and comprehensive

2015-16 T&R DP Projects	Status	Q4 2015/16 Progress update
Customer Access Strategy		<p>specification is being drafted before circulation to wider stakeholders for feedback/approval by senior leadership team and members.</p> <p>Alignment with emerging digital and customer contact strategies is also being taken into consideration before progressing to any identified procurement. This project will be taken forward as part of the Technology Strategy.</p>
People Strategy	Re-defined	<p>Work on shaping a new operating model for the Council has been carried out, based on an organisational diagnosis and feedback from the LGA Peer review (November 2015).</p> <p>In order to ensure that the strategies are developed in line with the emerging organisational structures, a short-term culture action plan has been agreed by SLT, focussing on key activities that can be delivered by April 2016, for implementation whilst a longer term action plan is developed. This will support the implementation of the new operating model, and will include developing a People Strategy to support a refreshed leadership and culture framework, linked to the Council's new operating model. The People Strategy is being developed, with input from the Workforce Equality Steering Group, and will be taken forward as part of the 'New Organisation Arrangement' project.</p>
Equality Plan - Workforce Equality Objectives	Re-defined	<p>Progress has been made on this project during 2015/16, including:</p> <ul style="list-style-type: none"> • Revised reasonable adjustments policy and allocation of £25,000 budget to help staff obtain these more quickly. • Revised Performance Appraisal form, that includes best practice elements of the Equality Framework for Local Government and reasonable adjustments. • Revised equality profiling form for staff to include recent changes in the law and updated information categories, allowing us to meet the legal requirements of the Public Sector Equality Duty. • Wirral Council becoming one of first local authorities in the country to ensure staff are paid a Living Wage and offering companies discounted business rates if they do the same. Some elements of this project have been deferred until the new operating model is implemented, but the Head of Human Resources will be publishing the current workforce data as at 31st March 2016 as an interim measure. The project will be taken forward as part of the Equality Plan 2016/2020.
To review Wirral's Community Safety Strategy, to ensure it meets local needs.	Re-defined	<p>Community Safety Partnership Analysts and Wirral Anti- Social Behaviour Team are being co-located with Police colleagues within Wallasey Police Station. This will ensure joint intelligence, shared priorities and overcome any duplication or gaps in delivery; supporting the Wirral Plan 2020 pledges and supporting strategies, in particular Pledge 19 and its supporting Strategy "Ensuring Wirral's neighbourhoods are safe".</p>

3.3 Financial Report

Revenue Budget

The Transformation and Resources Directorate year end position produced an underspend of £4.9 million on the revised net budget as per the table below. In year revisions to the budget related mainly to capital financing adjustments and the allocation of remodelling savings.

	<i>Original Net Budget</i>	<i>Budget Changes In year</i>	Revised Net Budget	Outturn	Variance
	£ms	£ms	£ms	£ms	£ms
T&R	31.9	-1.8	30.1	25.2	-4.9

The most significant element of the underspend was from Treasury Management activity. The continued use of internal cash flow to delay external borrowing for the current and past capital programmes has resulted in approximately £4 million of savings in year. The authority temporarily substituted the ‘borrowing’ using cash flows derived from reserves and other balances. This policy whilst ‘losing’ investment interest receivable (average 0.6%), saved an average 3.5% on borrowing costs plus delayed any principal repayment.

Other underspends arose from vacancies held across a number of service areas.

Savings agreed in setting the 2015/16 budget led to £3.9 million being removed from the directorate budget. The profile delivery meant that not all of this was achieved in year in respect of libraries and asset management. But compensatory underspends from elsewhere within the directorate mitigated any shortfalls and led to an overall underspend position for the directorate.

Capital Programme Budget

The Capital Programme was amended during the year to reflect the inclusion of slippage from the 2014/15 programme and adjustments / re-profiling within the 2015/16 financial year.

Transformation and Resources	Capital Programme December 2015	Outturn March 2016	Variance
		£ms	£ms
Transformation & Resources	7.3	5.7	-1.6

The largest element of the directorate's programme related to £2.2 million spent on refurbishing a significant number of Council properties which will lead to their more efficient use. A further £1.5 million was incurred updating information technology systems whilst a similar amount will now be re-profiled into the 2016/17 programme.



<p>COUNCILLOR BERNIE MOONEY CABINET MEMBER – ENVIRONMENT</p>	<p>CABINET MEMBER BRIEFING REPORT 4 JULY 2016</p> <p>FLOOD AND COASTAL EROSION RISK MANAGEMENT : GOVERNANCE AND REPORTING ARRANGEMENTS</p>
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REPORT SUMMARY

This report provides a summary of the governance arrangements that are in place to oversee the management of flood and coastal erosion risk.

This is not a key decision.

RECOMMENDATION

The Cabinet Member is requested to:

- (1) Note the findings of the report.
- (2) Request Council to appoint the Cabinet Member for Environment to the Merseyside Flood and Coastal Risk Management Strategic Partnership and by default to the North West Regional Flood and Coastal Committee.
- (3) Refer this report and decision for consideration by the Environment Overview & Scrutiny Committee on 18th July 2016.

SUPPORTING INFORMATION

1.0 REASON/S FOR RECOMMENDATION/S

- 1.1 The Flood and Water Management Act 2010 (FWMA) identifies Wirral Council as a Lead Local Flood Authority (LLFA). A statutory duty of the FWMA is for the LLFA to work in partnership with other Risk Management Authorities (RMAs) including the Environment Agency and Sewerage Undertakers.
- 1.2 This report sets out the existing committees, partnerships and groups that were either in place prior to the introduction of the FWMA or have been put in place since its introduction specifically to facilitate partnership working arrangements between the LLFA and RMAs in order to comply with the requirement under the FWMA.

2.0 OTHER OPTIONS CONSIDERED

- 2.1 This report sets out existing arrangements for governance and so no other options are considered.

3.0 BACKGROUND INFORMATION

- 3.1 Section 13 of the FWMA sets out a requirement for LLFAs and RMAs to co-operate in the exercising of their Flood and Coastal Erosion Risk Management (FCERM) duties. Section 7 of the FWMA also requires the Environment Agency (EA) to set out a national strategy for the management of flood and coastal erosion risk. The EA's "Understanding the risks, empowering communities, building resilience" document delivers this requirement and identifies Regional Flood and Coastal Committees (RFCC) as having a key role in the co-ordination of FCERM by advising on and approving the implementation of programmes of work for their areas, and supporting the development of funding for local priority projects and works. The national strategy also identifies that RFCCs provide for local democratic input through the majority membership of representatives from LLFAs.
- 3.2 North West Region Regional Flood and Coastal Committee
The North West RFCC provides the overarching platform for partnership working for Wirral Council as LLFA.
- 3.3 All RFCCs are established by the EA under Section 22 of the FWMA. The membership of the RFCC is set out by the Secretary of State for the Environment and for the North West this is defined in the RFCC Terms of Reference. For the Merseyside LLFAs of Wirral, Liverpool, Sefton and Knowsley the appointed representatives are the elected members from Sefton Council and Wirral Council that attend the Merseyside Flood and Coastal Risk Management Partnership.
- 3.4 Members of the RFCC have voting rights and exercise these votes on decisions relating to investment programmes for FCERM in the north-west,

use of Local Levy collected from local authorities and also on annual increases to the Local Levy demand.

- 3.5 The RFCC meets quarterly.
- 3.6 The RFCC is supported by a Finance Sub-Group (FSG) which discusses the detail of the committee related finances, primarily relating to the FCRM Programme, in more detail. This Group is not a decision making group and does not have any delegated powers, but makes recommendations to the full RFCC. Membership is agreed by the RFCC based on an appointment by the LLFAs based on those with a background or interest in the financial aspects. At present a Member from Knowsley Council represents Merseyside at the FSG. The FSG meets quarterly, typically a month before the main RFCC meeting.
- 3.6 **Merseyside Flood and Coastal Risk Management Partnership**
The Merseyside LLFAs of Wirral, Sefton, Liverpool and Knowsley work together to ensure a consistent approach to flood and coastal erosion risk management is delivered across Merseyside. The Merseyside FCRM Partnership also includes representatives from other RMAs of United Utilities as sewerage undertaker and the Environment Agency.
- 3.7 The Merseyside FCRM Partnership has two tiers; a Tactical Officers Group and a Strategic Group. The Tactical Officers Group works in partnership to share best practice in the delivery of FCERM in each LLFA area and report on progress in doing this consistently across Merseyside to the Strategic Group.
- 3.8 The Strategic Group is attended by elected members from each LLFA supported by relevant officers. Currently Wirral's holder of the Environment Portfolio attends and chairs the Strategic Group. In order to be consistent with the approach of the other LLFAs it is proposed that Wirral Council directly appoints the Cabinet member for Environment to the Strategic Group of the Merseyside Flood and Coastal Risk management Partnership. This would lead, by default, to membership of the North West RFCC.
- 3.9 The Strategic Group is not a decision making group but reviews and endorses the work and reports of the Tactical Officers Group. The Strategic can task the Tactical Officers Group with specific activities.
- 3.10 The Merseyside FCRM Partnership is served by Terms of Reference which are subject to review and agreement by the Strategic Group. Both the Tactical Officers and the Strategic Group meet quarterly prior to the next round of RFCC meetings.
- 3.11 **Wirral Flood and Water Management Partnership**
In 2008, in response to the Pitt review and recommendations, Wirral's Streetscene & Transportation Overview & Scrutiny approved the establishment of a cross-party Elected Members Steering Group, which meet regularly with the cross-departmental Officers Flood Group. Both groups were set up in

following a local flood incident as a way in which such events could be tackled from a multi-agency perspective before the introduction of the FWMA.

- 3.12 These two groups have now combined into the Wirral Flood and Water Management Partnership (WF&WMP) and includes representatives from the RMAs of the EA, United Utilities, Dwr Cymru Welsh Water and Wirral Council as Highways Authority, Local Planning Authority and Emergency Planning. Wirral NHS, MerseyTravel and the Emergency Services also attend.
- 3.13 Cross-party membership is maintained with attendance from representatives from the Conservative, Labour and Liberal Democrat groups. The Cabinet member for Environment also attends and provides a link between local management of flood and coastal erosion risk to that across Merseyside and the north-west region.
- 3.14 The WF&WMP receives reports from Wirral's Operational Flood Group and also monitors progress in delivering the Action Plans arising from the Local Flood Risk Management Strategy and also from Section 19 Flood Investigations. The WF&WMP meets twice a year and reports annually to the Environment Policy and Performance Committee.
- 3.15 Wirral Operational Flood Group
Officers from Wirral as LLFA and Highway Authority meet with other RMA officers from EA, United Utilities and Dwr Cymru Welsh Water to work together to manage flood and coastal erosion risk in Wirral. Day-to-day issues are identified, shared and, where possible, resolved and wider flood risk issues are considered in more detail. In addition this group is tasked with delivering the actions arising from flood investigations and also the actions from the Local Flood Risk Management Strategy that require partnership working.

4.0 FINANCIAL IMPLICATIONS

- 4.1 There are no financial implications arising from the governance arrangements arising in this report.

5.0 LEGAL IMPLICATIONS

- 5.1 This report identifies the operational and strategic arrangements put in place either by Wirral Council or the Environment Agency to manage flood and coastal erosion risk locally, across Merseyside and regionally.
- 5.2 Wirral's membership and participation at the Groups, Partnerships and Committees both at officer and elected member level demonstrates co-operative working with other RMAs and Wirral's compliance with Section 13 of the Flood and Water Management Act.

6.0 RESOURCE IMPLICATIONS: ICT, STAFFING AND ASSETS

- 6.1 This report outlines the existing governance and reporting arrangements for the management of flood and coastal erosion risk. No changes to the existing arrangements are recommended, other than the direct appointment of the Cabinet Member for Environment to the Merseyside FCRM Partnership, and as such there are no resource implications.

7.0 RELEVANT RISKS

- 7.1 There are no risks associated with this report. A direct appointment of the Cabinet Member for the Environment to the Merseyside FCRM partnership reinforces the existing arrangement.

8.0 ENGAGEMENT/CONSULTATION

- 8.1 None required

9.0 EQUALITY IMPLICATIONS

- 9.1 There are no equalities implications associated with this report.

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EXECUTIVE MEMBER DECISION FORM

DECISION TO BE TAKEN BY: CLLR BERNIE MOONEY

KEY DECISION: NO

PORTFOLIO AREA: ENVIRONMENT

PORFOLIOS AFFECTED: ENVIRONMENT

WARDS AFFECTED: ALL WARDS

**SUBJECT: FLOOD AND COASTAL EROSION RISK MANAGEMENT:
GOVERNANCE AND REPORTING ARRANGEMENTS**

1. RECOMMENDATIONS:

The Cabinet Member is requested to:

- (1) Note the findings of the report.
- (2) Request Council to appoint the Cabinet Member for Environment to the Merseyside Flood and Coastal Risk Management Strategic Partnership and by default to the North West Regional Flood and Coastal Committee.
- (3) Refer this report and decision for consideration by the Environment Overview & Scrutiny Committee on 18th July 2016.

2. REASON/S FOR RECOMMENDATIONS:

The Flood and Water Management Act 2010 (FWMA) identifies Wirral Council as a Lead Local Flood Authority (LLFA). A statutory duty of the FWMA is for the LLFA to work in partnership with other Risk Management Authorities (RMAs) including the Environment Agency and Sewerage Undertakers.

This report sets out the existing committees, partnerships and groups that were either in place prior to the introduction of the FWMA or have been put in place since its introduction specifically to facilitate partnership working arrangements between the LLFA and RMAs in order to comply with the requirement under the FWMA.

3. STATEMENT OF COMPLIANCE

The recommendations are made further to legal advice from the Deputy Monitoring Officer and the Section 151 Officer has confirmed that they do not incur unlawful expenditure. They are also compliant with equality legislation and an equality analysis and impact assessment has been completed. The recommendations reflect the core principles of good governance set out in the Council's Code of Corporate Governance.

4. DECLARATION OF INTEREST

There are no conflicts of interest.

Signed:  Executive Member: Cllr Bernie Mooney Date: 4 July 2016 Also present:	Signed:  Chief Officer: Mark Smith Date: 4 July 2016
Date of Senior Policy Team Meeting(s):	

A list of background papers on this issue is held with:

Contact Officer: Neil Thomas
Date: 4 July 2016

Date of Publication:

Date of Expiry of Call-In Period:

N/a -

Form Reference: Executive Member Decision Form May 2012 v 1.0

Policy Inform: Environment

July 2016

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Introduction

Wirral Plan:

The Wirral Plan: A 2020 Vision sets out a shared partnership vision to improve outcomes for Wirral residents. The Plan focuses on three key priority areas: People, Business and Environment.

The Wirral Plan Environment Priority states:

"Wirral has an attractive and sustainable environment, where good health and an excellent quality of life is enjoyed by everyone who lives here."

Environment Policy Briefing:

This policy briefing paper is intended to provide Members of the Overview and Scrutiny Committee with the latest position on emerging policy and legislative developments to support the committees work programme and future scrutiny work.

The following table outlines the timetable for the preparation and reporting of policy briefing papers:

Overview and Scrutiny Committee Briefings	
July 2016	The first policy briefing will focus predominately on the Queen's Speech, which will establish the Government's legislative programme for the parliamentary year ahead.
September 2016	The second policy briefing will be produced in September; it will provide an update on policy and legislation and will focus on Wirral Implications relevant to the government's programme of legislation as outlined in the previous policy briefing.
January 2017	The third policy briefing will focus on the Autumn Statement and the Spending Review which sets out how Government money will be allocated. The policy briefing will provide an update on policy and legislation and will consider relevant implications for Wirral.
May 2017	The fourth policy briefing will focus upon the 2017 Chancellor of Exchequers Budget. The policy briefing will provide an update on policy and legislation and will consider relevant implications for Wirral.

The July policy briefing focuses on the policies and legislation that have emerged from the Queens speech, which was delivered on 18th May 2016. This policy briefing focuses specifically on policies and legislation relating to the Environment Priority.

The Committee may wish to identify specific policy areas to focus upon which are in line with the Committee's work programme. Detailed briefing papers can be prepared for these subject matters at the request of the Committee which would be in addition to the regular policy briefing papers outlined above.

Queen's Speech 2016- Designation to Overview and Scrutiny Committees

On Wednesday 18th May 2016, the Queen's Speech was delivered, outlining the Government's programme of legislation and policies for the coming year. Below is a list of each individual Bill which will have implications for local government that was announced during the speech, including those Bills carried over from the 2015-16 session. The list identifies the Overview and Scrutiny committee with whose remit the legislation most closely aligns:

Legislative Plans	Overview and Scrutiny Committee
Neighbourhood Planning and Infrastructure Bill	Business and Environment
Bus Services Bill	Business
Local Growth and Jobs Bill	Business
Digital Economy Bill	Business
Modern Transport Bill	Business
High Speed Rail Bill	Business
Better Markets Bill	Business
Children and Social Work Bill	People
Education for All Bill	People
Higher Education and Research Bill	People
National Citizen Service Bill	People
Finance Bill	People and Business
Policing and Crime Bill	People and Environment
Soft Drinks Industry Levy	People and Environment
Lifetime Savings Bill	People and Environment
Prison and Courts Reform Bill	Environment
Investigatory Powers Bill	Environment

Additional Bills that have been announced are outlined below. These will be monitored in relation to any emerging implications for Local Government and reported to the relevant Overview and Scrutiny Committee as appropriate.

Additional Legislative Plans
Wales Bill
Bill of Rights
Criminal Finances Bill
Counter-Extremism and Safeguarding Bill
Cultural Property (Armed Conflicts) Bill

Small Charitable Donations Bill

NHS (Overseas Visitors Charging) Bill

The Bills relevant to the Environment priority are discussed in further detail in this paper.

Queen's Speech 2016- Emerging and Ongoing Legislation

Neighbourhood Planning and Infrastructure Bill

"To support the economic recovery, and to create jobs and more apprenticeships, legislation will be introduced to ensure Britain has the infrastructure that businesses need to grow."

Synopsis and Key Points:

• Synopsis:

- The Neighbourhood Planning and Infrastructure Bill will reform planning and give local communities more power and control to shape their own area so that we build more houses and give everyone who works hard the chance to buy their own home.

Key Points:

- The Bill will include measures to reform and speed up the planning process by minimising delays caused by pre-commencement planning conditions.
- A new statutory basis will be introduced for the independent National Infrastructure Commission, to help invest in Britain's long-term future.
- Processes will be streamlined to support neighbourhoods to come together to agree plans that will decide where things get built in their local area.
- The compulsory purchase order process will become clearer, fairer and faster for all those involved. Including reform of the context within which compensation is negotiated.
- New legislation will enable the privatisation of Land Registry, which will support the delivery of a modern, digitally-based land registration service that will benefit the Land Registry's customers.

Policing and Crime Bill

"Strengthen the capability and accountability of the police service in England and Wales."

Synopsis and Key Points:

- **Synopsis:**
- The Policing and Crime Bill will carry over from the previous Parliamentary session. The Bill will continue the reform of policing, reforming out-of-date complaints and disciplinary procedures, and increasing public confidence in the police.

Key Points:

- The Bill will include a new duty on all 3 emergency services to collaborate, to improve efficiency and effectiveness.
- New authority will enable Chief Officers to designate wider powers on police staff and volunteers, so they can make best use of their workforce.
- The use of police cells as places of safety for under-18 year-olds in a mental health crisis will be banned.
- A stronger oversight role will be introduced for PCCs over local complaints, giving them an explicit responsibility for ensuring the effective and efficient delivery of the local police complaints system, and extending HM Inspector of Constabulary's remit to enable it to inspect private contractors.
- Both the current police complaints system and police disciplinary system are too complex and lack transparency. The Bill would simplify the complaints system and make reforms to the disciplinary regime to increase transparency and independence.

Further Detail:

- The Policing and Crime Bill was given a formal First and Second reading (no debate) on Thursday 19 May 2016 to reintroduce it in the 2016-17 session of Parliament. The Bill will be restarted at the point it reached in the last session.

Soft Drinks Industry Levy

"A soft drinks industry levy to help tackle childhood obesity."

Synopsis and Key Points:

- **Synopsis:**

- A new soft drinks industry levy will be introduced in the Finance Bill 2017 targeted at producers and importers of soft drinks that contain added sugar from April 2018.

- **Key points:**

- The legislation will encourage companies to reformulate by reducing the amount of added sugar in the drinks they sell, moving consumers towards lower sugar alternatives. Under this levy, if producers change their behaviour, they will pay less tax.

Revenue from the levy will be invested to:

- Double the primary school PE and sport premium from £160 million per year to £320 million per year from September 2017 to help schools support healthier and more active lifestyles.
- Provide up to £285 million a year to give 25% of secondary schools increased opportunity to extend their school day to offer a wider range of activities for pupils, including more sport.
- Provide £10 million funding a year to expand breakfast clubs in up to 1,600 schools starting from September 2017.

Further Detail:

- This levy is the first step in this Government's comprehensive national childhood obesity strategy that will be published in full later this year. A consultation will be held in due course on the technical details of the tax.

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- **Duncan Selbie, Chief Executive of Public Health England, said:**

"A levy or tax was 1 of 8 recommendations from PHE's evidence review on sugar reduction and is a stunning early indication of the Government's commitment to reducing child obesity."

Lifetime Savings Bill

"Help the lowest-income families save, through a new Help to Save scheme, and to create a Lifetime ISA to help young people save for the long-term."

Synopsis and Key Points:

• Synopsis:

- The Lifetime Savings Bill will help people to save and make plans for the future, and build the financial resilience and security of people across the country – especially the young and those on low incomes.

Key Points:

- The Bill will enable the Government to create a new Help to Save scheme, which will help those from low incomes build up their savings.
- Under the Help to Save scheme, workers in receipt of working tax credits or Universal Credit who save up to £50 a month will receive a Government bonus of 50% – to a maximum of £600 – after two years.
- It will also enable the Government to create a new Lifetime ISA for adults under 40, with a Government top up bonus of 25% on all savings up to £4,000 a year.
- Lifetime ISA account holders could access some or all their funds to buy their first home (worth up to £450,000), or from age 60 without charge.

Prison and Courts Reform Bill

"Reform prisons and courts to give individuals a second chance.

Old and inefficient prisons will be closed and new institutions built where prisoners can be put more effectively to work."

Synopsis and Key Points:

• Synopsis:

- The Prison and Courts Reform Bill will bring about the biggest reform of our prisons since Victorian times, ensuring they are not just a place of punishment but also rehabilitation, so everyone has the chance to get on the right track.

Key Points:

- New powers for Prison Governors to allow them unprecedented levels of control over all aspects of prison management.
- Governors will also be given the freedom to drive a revolution in education, training, healthcare and security for prisoners to reduce re-offending and improve life chances for all.
- New freedoms will be backed with a new regime of openness as prisons are required to produce statistics on areas such as prisoner education, reoffending and employment on release.
- New performance measures will assess prisons' current performance, long term direction and progress.
- Measures will be introduced to meet the Government's manifesto commitment to modernise the Courts and Tribunals service, reducing delay and frustration for the public.

Further Detail:

- On 18th May 2016, the country's first autonomous reform prisons were announced. The announcement included sites in London, the East Midlands and North-East, including one of Europe's largest prisons – HMP Wandsworth – meaning that more than 5,000 offenders will be housed in reform prisons by the end of this year.
- These new freedoms for Prison Governors sit alongside the government's commitment to replace decrepit, ageing prisons with modern establishments suitable for the needs of prisoners today – to be built with £1.3 billion of investment announced at the Spending Review.
- More autonomous reform prisons will follow later this Parliament. And the 9 new-build prisons announced at the Spending Review will be established with similar freedoms.
- On 18th May the government also published 'Dame Sally Coates's review of education in prisons', commissioned by the Justice Secretary. Alongside new Teach First-style programmes in prison, this will recommend robust learning plans to track individuals' progression, and allowing governors to fund more stretching education programmes.

Investigatory Powers Bill

"Modernise the law governing the use and oversight of investigatory powers by law enforcement, security and intelligence agencies."

Synopsis and Key Points:

- **Synopsis:**

- The Investigatory Powers Bill will carry over from the previous Parliamentary session. The purpose of the Bill is to modernise the law and ensure it is fit for purpose in a digital age, and introduce enhanced authorisation and oversight arrangements. The Bill will also ensure the police and security and intelligence agencies have the powers they need to continue to protect the British public from the many threats we face, while building confidence in the public that powers are operated sensibly.

- **Key Points:**

- New legislation will plug gaps in the abilities of law enforcement agencies to monitor people's online communications when investigating crime or terrorism.
- Tough new safeguards will be introduced for the use of investigatory powers.
- The Bill will also establish a world-leading oversight regime of law enforcement agencies and the security services.

Further Detail:

- The Investigatory Powers Bill was given a formal First and Second Reading (no debate) on Thursday 19 May 2016 to reintroduce it in the 2016-17 session of Parliament. The Bill will be restarted at the point it reached in the last session.

Recent National Legislation

Housing and Planning Act 2016

Synopsis:

Synopsis:

The Housing and Planning Bill received Royal Assent on 12 May 2016 and is now an Act of Parliament.

The Housing and Planning Act will give hard working families every opportunity to own their own home. It will also give house builders and decision-makers the tools and confidence to provide more homes and further streamline the planning system to accelerate their delivery. Measures include underpinning the voluntary Right to Buy agreement with housing associations, tackling rogue landlords and speeding up the neighbourhood planning process.

Further Detail:

- The Housing and Planning Act 2016 consists of 8 parts:
 1. New Homes in England
 2. Rogue landlords and letting agents in England
 3. Recovering abandoned premises in England
 4. Social housing in England
 5. Housing, estate agents and rent charges: other changes
 6. Planning in England
 7. Compulsory purchase etc.
 8. General

The legislation of the Act will take effect at different times.

Immediate:

- Regulations to allow for pilot schemes to be set up to test the use of competition from alternative providers for processes planning applications.
- Setting timescales for neighbourhood planning decisions.
- Requiring councils to keep registers of certain types of land (brownfield).

Two months after Royal Assent:

- Permission in principle.

Beyond two months:

- Most of the other elements of the Act will come into force later in the year, and will be specified in future regulations yet to be published.

Energy Act 2016

Synopsis:

Synopsis:

The Energy Bill received Royal Assent on 12 May 2016 and is now an Act of Parliament.

The Energy Act will bring new powers for the Oil and Gas Authority (OGA) to better support North Sea industry; make local communities the primary decision makers on new onshore wind developments; and bring forward the closure of costly subsidies for new onshore wind developments across Great Britain.

Further Detail:

- **Secretary of State for Energy and Climate Change Amber Rudd said:**

“The Energy Act is a vital part of our plan to ensure our families and businesses have access to secure, affordable and clean energy supplies they can rely on, while keeping bills down.

“By strengthening the Oil and Gas Authority and giving it powers to drive greater collaboration and efficiency in the industry, this Act shows that the broad shoulders of the UK are committed to helping our oil and gas industry attract investment, support jobs and remain competitive for the future.”

Sources

Queens Speech

[Queen's Speech 2016: what it means for you, Government website, 18th May 2016](#) – Outlines the Bills announced in the Queens Speech 2016

[Queen's Speech: 18th May 2016, LGiU, 18th May 2016](#) – An explanation of the Bills announced in the Queens Speech 2016

[Queens Speech 2016: background briefing notes, Government website, 18th May 2016](#) – More detailed briefing notes on the Bills announced in the Queen's Speech 2016

Policing and Crime Bill

[Policing and Crime Bill 2016, Parliamentary website](#) - Previous debates on all stages of the Policing and Crime Bill and any latest updates

Soft Drinks Levy

[Queens Speech 2016: background briefing notes, Government website, 18th May 2016](#) – Details an upcoming national childhood obesity strategy

[Levy on high sugar drinks: PHE statement, Government website, 16th March 2016](#) – Public Health Statement on the announcement of a sugary drinks levy

Prison and Courts Reform Bill

[Biggest shake-up of prison system announced as part of Queen's Speech, Government website, 18th May 2016](#) – Overview of the developments surrounding the Bill

[Review puts education at heart of prison service, Government website, 18th May 2016](#) – Outlines Dame Sally Coates's review of education in prisons

Housing and Planning Act 2016

[Housing and Planning Act 2016, Parliamentary website](#) - Previous debates on all stages of the Housing and Planning Act and any latest updates

[Landmark Housing and Planning Bill receives Royal Assent, Government website, 13th May 2016](#) – Outlines the Housing and Planning Act as it receives Royal Assent

[Sheila Camp and Andrew Ross, Housing and Planning Act 2016, LGiU, 23rd May 2016 – Summary of the key provisions of the Housing and Planning Act](#)

Energy Act 2016

[Energy Act 2016, Parliamentary website - Previous debates on all stages of the Energy Act and any latest updates](#)

[Greater security for North Sea Oil and Gas as Energy Bill becomes law, Government website, 12th May 2016 – Overview of the Energy Act](#)

Policy Developments

Briefing: Update on public health and planning: Spring 2016

NHS England has announced the Healthy New Towns proposals it will support as part of its drive to tackle unhealthy environments. This announcement has put the link between planning and health back into the mainstream press.

This briefing outlines a number of initiatives and reports that highlight the link between health and planning:

- NHS Healthy New Towns demonstrator sites
- Building the Foundations: Tackling obesity through planning and development
- Tipping the Scales: Case studies on the use of planning powers to limit hot food takeaways.

Source: [Andrew Ross, Briefing: Update on public health and planning: Spring 2016, LGiU, 20th April 2016](#)

Briefing: What's happening to air pollution policy?

In 2015, the UK government was ordered by the courts to take urgent action to meet repeatedly missed European air pollution reduction targets, following legal action by Client Earth. Despite committing to being compliant by 2010, in 2013 194 of 375 local authorities failed to meet European mean air pollution limits.

In response to this legal request, 'Improving air quality in the UK – tackling nitrogen dioxide in our towns and cities' was released by the government in December 2015. The main announcement is the creation of five new clean air zones in some of the biggest cities in the country, to increase the speed of compliance. Other measures are listed, mostly voluntary, of relevance to other local authorities.

Source: [Steven Bland, Briefing: What's happening to air pollution policy?, LGiU, 21st April 2016](#)

Briefing: Draft Cycling and Walking Investment Strategy

The government has recently published a consultation on its draft cycling and walking investment strategy. The strategy sets out the Government's ambition and objectives for cycling and walking, the financial resources available to meet those objectives, and how the objectives will be delivered with governance arrangements.

The Government will be issuing guidance in summer 2016 on the preparation of the Local Cycling and Walking Infrastructure Plans and, among other things; the consultation seeks views on the

assistance that local authorities will need to deliver these plans. The deadline for comments is 23rd May.

[Source: Ruth Bradshaw, Briefing: Draft Cycling and Walking Investment Strategy, LGiU, 21st June 2016](#)

Briefing: The Culture White Paper

The Culture White Paper was published on 23rd March, acknowledging the importance of diversity and equality of access to cultural activities. It recognises that ‘resilience remains a key issue, particularly at regional and local levels’ and urges the development of business models and financial strategies to ‘deal with potential challenges to funding’. These models should draw from philanthropy, private donations, non-grant funding, and commercial revenues. A limited number of new initiatives include:

- A virtual Commercial Academy for Culture to support the extension of commercial expertise across the cultural sectors;
- A Cultural Citizenship Programme to give young people the best arts and cultural experiences;
- A Great Place scheme to be initially piloted in twelve areas including four rural ones, each based on ambitious local cultural strategies

[Source: Andrea Davies, Briefing: The Culture White Paper, LGiU, 21st June 2016](#)

Briefing: If it's broke, then fix it? Recent inquiries into the English Planning system

Two separate committees have called for an overhaul of the National Planning Policy Framework to ensure that the planning system is creating places where people can live well which will help address challenges such as climate change.

‘Building Better Places’ was launched on 19th February by the House of Lords and makes 66 recommendations. Many of them are relevant to local authorities, although the Lords make it clear that the national context needs overhaul as it is skewed in favour of short-term developer interests, which will lead to long-term costs for all.

The Committee on National Policy for the Built Environment and the Communities and Local Government Committee published its inquiry into the DCLG’s consultation on national planning on 1st April. One of the concerns expressed by the CLG Committee was the sheer amount of draft guidance and legislation that is targeted at reforming the planning system, mostly with the twin objectives of increasing speed and housing supply.

[Source: Andrew Ross, Briefing: If it's broke, then fix it? Recent inquiries into the English Planning system, LGiU, 21st June 2016](#)

Briefing: Place Based Health Step Forward Local Government

The health sector is developing a focus on place-based health and care systems that are organised around localities and community involvement. Council leaders and chief executives need to participate in this unfolding agenda so that a place-based approach reinforces and helps to meet local priorities, rather than creating fresh divisions.

Source: [Andrews Ross, Briefing: Place Based Health Step Forward Local Government, LGiU, 21st June 2016](#)

Briefing: Gardens and Health Implications for Policy and Practice

A new report, Gardens and Health, was commissioned by the National Gardens Scheme in 2015 and published by the Kings Fund in May 2016. Written by David Buck, Senior Fellow in Public Health and Inequalities at the Kings Fund, it looks at the impact of gardens and gardening on health and wellbeing. It explores what the NHS and wider health and social care systems (including local government players) can do to maximise positive impact.

The report aims to:

- Bring together evidence on gardens and wellbeing, looking at relationships to health across the life-course
- Demonstrate how gardening interventions have an importance place in the NHS and wider health and care systems
- Place ‘gardens and health’ in a strategic health policy content, with recommendations on how gardening can help achieve policy goals, nationally and locally

Source: [Carol Grant, Briefing: Gardens and Health Implications for Policy and Practice, LGiU, 21st June 2016](#)

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ENVIRONMENT OVERVIEW & SCRUTINY COMMITTEE THURSDAY 18TH July 2016

REPORT TITLE:	SCRUTINY WORK PROGRAMME REPORT
REPORT OF:	THE CHAIR OF THE COMMITTEE

REPORT SUMMARY

This report explains the concept of developing a scrutiny work programme for the new municipal year. The Environment Overview & Scrutiny Committee, in cooperation with the other two Overview & Scrutiny Committees, is responsible for proposing and delivering an annual work programme. This work programme should align with the corporate priorities of the Council, in particular the delivery of the Wirral Plan pledges which are within the remit of the Committee.

The report describes the process to enable members to deliver and manage the work programme for the municipal year.

RECOMMENDATION/S

1. Committee is requested to suggest any topics for inclusion on the Environment Overview & Scrutiny work programme for the 2016/17 municipal year.
2. Committee is requested to support a proposal to convene a dedicated work programme planning session, open to all Members of the Environment Overview & Scrutiny Committee. The purpose of the session is to give further detailed consideration to the Committee's work programme prior to the next scheduled Committee meeting in September.

SUPPORTING INFORMATION

1.0 REASON/S FOR RECOMMENDATION/S

To ensure members of the Environment Overview & Scrutiny Committee have the opportunity to contribute to the delivery of the annual work programme.

2.0 OTHER OPTIONS CONSIDERED

Not Applicable

3.0 BACKGROUND INFORMATION

3.1 THE SCRUTINY WORK PROGRAMME AND THE WIRRAL PLAN

The work programme should align with the priorities of the Council and its partners. The programme will be informed by:

- The Wirral Plan pledges
- The Council's transformation programme
- The Council's Forward Plan
- Service performance information
- Risk management information
- Public or service user feedback
- Referrals from Cabinet / Council

To maximise impact, scrutiny should ensure that topics of significance are prioritised in the work programme. During the next five years, the delivery of the Wirral Plan will form the highest priority for the Council and its partners. The scrutiny committee model has been modified to reflect the changes in Council priorities towards delivering improved outcomes for residents. Therefore, it is important for scrutiny to maximise the opportunity for non-executive members to play a constructive role in supporting the effective delivery of the Wirral Plan and the Council's Transformation Programme, whilst ensuring decision-makers are held to account.

It is proposed that the scrutiny work programme will focus on the Wirral Plan and will be owned by the three Overview & Scrutiny Committees. The priorities identified by members of the Environment Overview & Scrutiny Committee will form a key element of the overall work programme. This approach will ensure the most effective use of scrutiny's resources.

The Wirral Plan pledges and associated strategies of particular relevance to the Environment Overview & Scrutiny Committee are:

Pledge	Strategies
Leisure and cultural opportunities for all	Wirral's Leisure Strategy Wirral's Culture Strategy
Wirral residents live healthier lives	Wirral Residents Live Healthier Lives Strategy
Community services are joined up and accessible	Third Sector Strategy (in development) Volunteering Strategy (in development)
Good quality housing that meets the needs of residents	Housing Strategy (in development – due July 2016)
Wirral's neighbourhoods are safe	Ensuring Wirral's Neighbourhoods are Safe Strategy
Attractive local environment for Wirral residents	Loving Our Environment Strategy Managing Our Waste Strategy 2015 - 2020

Given the scope of the pledges and supporting strategies, it will be necessary for members to identify specific aspects of pledge delivery upon which to focus. As a starting point for discussion, members may want to consider the following:

- The viability of the partnership arrangements to deliver the pledge
- Specific service areas related to a pledge / strategy
- The delivery of specific actions listed in the Action Plan for each strategy
- Specific issues highlighted in the regular performance monitoring reports
- The impact of the delivery of an aspect of a pledge on outcomes for residents.

In addition, members of the Environment Overview & Scrutiny Committee will also want to consider how best to undertake their statutory scrutiny functions in relation to:

- The review and scrutiny of flood and coastal erosion risk management.
- The review and scrutiny of the decisions made or actions taken by the Wirral Community Safety Partnership.

3.2 PRINCIPLES FOR PRIORITISATION

The annual work programme should align with the corporate priorities of the Council, in particular the Wirral Plan pledges. Good practice suggests that, in order to maximise the impact of scrutiny, it is necessary to prioritise proposed topics within the work programme. Members may find the following criteria helpful in providing a guideline towards ensuring that the most significant topics are prioritised:

Principles for Prioritisation	
Wirral Plan	Does the topic have a direct link with one of the 2020 pledges?
	Will the review lead to improved outcomes for Wirral residents?
Public Interest	Does the topic have particular importance for Wirral Residents?
Transformation	Will the review support the transformation of the Council?
Financial Significance	Is the subject matter an area of significant spend or potential saving?
	Will the review support the Council in achieving its savings targets?
Timeliness / Effectiveness	Is this the most appropriate time for this topic to be scrutinised?
	Will the review be a good use of Council resources?

By assessing prospective topics using these criteria, the Committees can prioritise an effective work programme that ensures relevance and the highest potential to enhance outcomes for residents.

3.3 DELIVERING THE WORK PROGRAMME

It is proposed that the work programme will consist of a combination of scrutiny reviews, standing items and requested officer reports. Regular work programme update reports will provide the committee with an opportunity to plan and regularly review its work across the municipal year.

It is anticipated that the work programme will be delivered through a combination of:

- Scrutiny reviews undertaken by task & finish groups
- Standing panels, such as the Health & Care Performance Panel
- Evidence days and workshops
- Committee reports provided by officers
- Standing committee agenda items, for example, performance monitoring and financial monitoring
- Spotlight sessions

As some of the selected topics may well cut across the Wirral Plan themes, it is anticipated that some of the scrutiny topics may be of interest to members of more than one committee. In these circumstances, opportunities for members of more than one committee to work jointly on an item of scrutiny work will be explored.

During the municipal year, it is proposed that regular work programme review sessions will be held between the Chairs and Spokespersons of the Committee in order to effectively manage the work programme. This would help to ensure that higher priority topics are given greatest prominence on the work programme as it progresses and is modified during the year.

3.4 TRANSFER OF SCRUTINY WORK PROGRAMME ITEMS

Members will be aware that the Cabinet report relating to future scrutiny arrangements (6th June 2016) set out a proposal to describe how existing pieces of work being carried forward from 2015/16 would transfer into the new scrutiny committee model. The items relevant to the Environment Overview & Scrutiny Committee are set out below:

Item	Former Committee	Timescale
Coastal Strategy Scrutiny Review	Regeneration & Environment	Reporting to July Committee
Libraries Scrutiny Review	Transformation & Resources	Review on hold pending internal review work.
Review of Councillors	Coordinating Committee	To be considered as part of work programming

3.5 FURTHER DEVELOPMENT OF THE SCRUTINY WORK PROGRAMME

In line with the new remit of the Committee and the principles for prioritisation, as described above, Members are requested to suggest possible topics for inclusion in the work programme. Committee Members should also consider how best to further develop the work programme in advance of the next scheduled Committee meeting in September. This could be achieved by Committee providing delegated authority to the Chair, Vice Chair and Spokespersons to provide further detailed input to the work programme's development.

4.0 FINANCIAL IMPLICATIONS

Not Applicable

5.0 LEGAL IMPLICATIONS

Not Applicable

6.0 RESOURCE IMPLICATIONS: ICT, STAFFING AND ASSETS

The delivery of the scrutiny work programme will be met from within existing resources.

7.0 RELEVANT RISKS

Not Applicable

8.0 ENGAGEMENT/CONSULTATION

Not Applicable

9.0 EQUALITY IMPLICATIONS

This report is for information to Members and there are no direct equality implications.

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APPENDICES: None

REFERENCE MATERIAL

SUBJECT HISTORY (last 3 years)

Council Meeting	Date