

North Yorkshire County Council
Business and Environmental Services

Executive Members

27 March 2023

Flood and Water Management Act 2010 - Review of actions taken by Risk Management Authorities within the Published Flood Investigation Reports

Report of the Assistant Director – Highways and Transportation

1.0 Purpose of Report

- 1.1 To inform the Corporate Director, Business and Environmental Services (BES) and the Executive Member for Highways and Transportation of the response of Risk Management Authorities to the recommendations put forward for all Flood Investigation Reports
- 1.2 To seek the approval of the Corporate Director - BES, in consultation with the Executive Member for Highways and Transportation to publish the review of the Section 19 Flood and Water Management Act 2010 flood investigation reports

2.0 Flood reporting requirements of NYCC in its capacity as Lead Local Flood Authority

- 2.1 Section 19 of the Flood and Water Management Act 2010 (FWMA) requires Lead Local Flood Authorities (LLFA's) to investigate flooding incidents in its area to the extent it considers it necessary or appropriate and then publish a report on the results of the investigation.
- 2.2 When a flooding incident has occurred, the FWMA requires LLFA's to investigate which Risk Management Authorities have relevant flood risk management functions, and whether each of those Risk Management Authorities has exercised, or is proposing to exercise, those functions in response to the flood. Where a LLFA carries out an investigation, it is required to publish the results of its investigation and notify any relevant Risk Management Authorities of those results.
- 2.3 As LLFA, North Yorkshire County Council's Flood Risk Management Team investigates all reported incidents of flooding accordingly, in a manner proportionate to the specific characteristics of the incident. The nature of the investigation may vary from a site visit and a data collection exercise, allowing officers to understand responsibilities and any action required by the relevant Risk Management Authorities, to a more formal investigation to be published under the FWMA.
- 2.4 The NY Flood Risk Strategy identifies the characteristics of a flood incident to be used to determine whether or not it is appropriate to undertake a formal Section 19 Investigation in the aftermath of a flood, these are listed below:
- Level of support and engagement from other Risk Management Authorities
 - Number of properties internally flooded
 - The depth, area or velocity of flooding reported
 - The frequency of flooding in a given location
 - The nature or extent of critical infrastructure impacted by the flood

- The nature or source of requests for an investigation received by NYCC
- Whether the flood relates to a known issue

2.5 If an event fulfils one or more of these criteria, a formal investigation is progressed accordingly, and application of this principle has led to the undertaking of formal section 19 investigations. As part of these reports, recommendations are put forward to identify how risk management authorities can better support communities and assist in preventing, protecting and preparing those communities.

2.6 Since 2015 a total of 13 Flood Investigations have been published and can be found at [Flood and water management | North Yorkshire County Council](#). This report includes (see **Appendix A**) an update of actions in relation to the recommendations put forward within each of the published Flood Investigation reports.

2.7 During and since the publication of the Section 19 reports NYCC has worked with local authorities and other risk management authorities particularly the Environment Agency and Yorkshire Water Services Limited to address the recommendations made. Actions and recommendations assigned to the relevant Risk Management Authorities are either ongoing or complete.

3.0 Flood Investigation report recommendations

3.1 A series of meetings have been held during January, February and March 2023 with the relevant risk management authorities to seek feedback and provide updates on any actions in relation to the recommendations taken since the reports were published. Appendix A includes the original published Flood Investigation Report recommendations alongside the actions taken since by the risk management authorities.

4.0 Financial Implications

4.1 Additional actions arising from the recommendations within the published reports are included within the Flood Risk Management Programme carried out by the Flood Risk Management Team and any costs will be managed within existing budgets.

5.0 Legal Implications

5.1 This report and its recommendations are consistent with the discharge of the County Council's duty as LLFA to investigate flooding as set out in the Flood and Water Management Act 2010 and the Local Flood Risk Management Strategy. The LLFA must publish a report on its investigations and notify any relevant risk management authority of those results. The purpose is so that it can be ascertained where responsibility for managing the flood risk lies and what is being done about it.

5.2 Information has been requested and provided by other Risk Management Authorities to the LLFA in line with its powers under Section 14 of the Flood and Water Management Act 2010 to assist the LLFA in its review of the published reports.

5.3 Surface water drainage systems and ordinary watercourses are the responsibility of their riparian owners. North Yorkshire County Council/Partners have undertaken studies of the drainage systems using its powers available under Section 19 of the Flood and Water Management Act 2010 to investigate flood incidents in order to understand any mechanisms which may have contributed to the event and is not indicative of NYCC taking any responsibility for the condition or maintenance of drainage systems in any location.

6.0 Future steps

- 6.1 It is proposed that the updated actions are published on the County Council's website. The actions associated with this update of the recommendations do not require a further formal review or report and any additional scrutiny/actions will be brought forward as part of the Flood Risk Management Programme.

7.0 Equalities Implications

- 7.1 Consideration has been given to the potential for any adverse equality impacts arising from the recommendation. It is the view of officers that the recommendation does not have an adverse impact on any of the protected characteristics identified in the Equalities Act 2010 or NYCC's additional agreed characteristics. See **Appendix B**.

8.0 Climate Change Implications

- 8.1 A Climate Change Impact Assessment is included. It is the view of officers that this proposal will have a positive impact on climate change, see **Appendix C**.

9.0 Recommendations

- 9.1 It is recommended that the Corporate Director – BES, in consultation with the Executive Member for Highways and Transportation:
- i. notes the content of the review of actions taken since the publication of the flood investigation reports and the future actions recommended to continue to understand the risk in these locations;
 - ii. agrees to the updated actions from the review of recommendations being published alongside the existing flood investigation reports.

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Background Documents to this Report:

None

The updates can be found within this document and are as follows:

Updated actions based on the recommendations from the published Flood Investigation reports	Page Number
Flood Investigation report for Tadcaster 2015	Page 5
Flood Investigation report for Whixley - Boxing Day 2015	Page 6
Flood Investigation report for Tockwith 2015	Page 7
Recommendations from the Flood Investigation report for South Craven 2015	Page 8
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Flood Investigation Report - Harrogate Greenfields Avenue 2015	Page 11
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<p>Recommendations from the Flood Investigation report for Tadcaster 2015 (These recommendations should be read in conjunction with the updated recommendations published in 2022 and subsequently updated within this report)</p>	<p>Update - March 2023</p>
<p>An improved system of flood defences in Tadcaster is a priority for the town. The current level of protection is low and whilst the rainfall preceding the flood was unusual, the risk of a repeat event remains. The Environment Agency (EA) are continuing the work to prepare a bid for funding for an improved flood defence scheme. If the bid is successful all authorities, interested parties, local businesses and the community will need to co-operate to secure any additional funds required, in order to provide the highest achievable standard of protection for a scheme acceptable to the community</p>	<p>Environment Agency Update - The development of the Flood Alleviation Scheme is progressing well. We are working towards an Outline Business Case in March – April 2023, following public engagement in March. Delivery is programmed for during 2024 – 2026. There remains a number of challenges in developing the scheme, we continue to engage with local stakeholders, the community and partner organisations to bring them along on the development of the scheme.</p>
<p>Resilience and the ability to recover quickly from flooding will continue to play an important role in Tadcaster. There has been a strong uptake of the grant scheme but no doubt more can be done. North Yorkshire County Council as Lead Local Flood Authority, Yorkshire Water Services Limited (YWSL), the EA and Tadcaster Flood Action Group (TFAG) should work together to review the current level of resilience and identify opportunities for improvement.</p>	<p>Environment Agency Update - Post 2015 a lot of resilience and preparedness work enhanced to support the already existing community emergency plan which was actioned during the flood event to great success. Since 2015 work has continued with the community via TTC and TFAG - including the increase in number of properties signed up to Flood Warning Service and have Property Flood Resilience measures in place. This was evident during the February 2022 flood event where many were better prepared and responded to the event better allow them to recover quicker. NYCC LLFA Update - Information on property flood resilience has been provided to the Tadcaster Flood Action Group to assist where residents and businesses would like to assess or improve their Property Flood Resilience.</p>
<p>There are no practical drainage arrangements that could cope with a main river flood of the magnitude seen in 2015. However, NYCC and YWSL should continue to investigate options for improvements which could mitigate against more frequent surface water flood events. It is vital that the existing drainage infrastructure performs as well as it can. NYCC & YWSL should continue to regularly inspect and maintain the highway and public sewer systems, and the EA continue their programme of inspections along the main river. Particular attention should be paid to the condition of the various outfalls into the river, and the relevant responsible parties notified of any blockages or impediments to their operation.</p>	<p>NYCC Update - There have been several surface water events since 2015. Including summer 2022 and January 2023. The most recent event in January 2023 identified that at 2.6m the river level stops surface water from discharging via the surface water outfall serving Bridge Street. YWSL are intending to improve the existing outfall valve with a Tidal Flap Valve in April 2023 to stop a surcharge of river water back up into the surface water system that serves the properties and road surface water system within Bridge Street. Yorkshire Water also intend to install a passive surface water pump to ensure that the surface water is able to discharge when it is 'fluivially' locked. NYCC Highways have confirmed that they have the gullies serving Bridge Street on a planned maintenance and in accordance with NYCC standards (annually in the case of the flooded locations) and there are no ongoing concerns (with the Highway element of the surface water system) particularly around the flooded locations. The issue of surface water flooding is not an issue in normal rainfall events and the main causal factor was the inability of the system to discharge due to high river levels'. If highways start to flood in flood risk locations e.g. Highways will inspect and ask the contractors to clean the gullies as and when required. NYCC (LLFA) have asked YW for their maintenance schedule for the Bridge Street surface water system but to date have not received confirmation of what it is.</p>
<p>It is important that Tadcaster maintains a level of awareness and preparedness. TFAG can play a vital role in achieving this and NYCC, the EA & Yorkshire Water Services Limited should continue to offer practical and financial support to this effect</p>	<p>Environment Agency Update - Post 2015 a lot of resilience and preparedness work enhanced to support the already existing community emergency plan which was actioned during the flood event to great success. Since 2015 work has continued with the community via TTC and TFAG - including the increase in number of properties signed up to Flood Warning System and have Property Flood Resilience measures in place. This was evident during the February 2022 flood event where many were better prepared and responded to the event better allow them to recover quicker. NYCC Resilience and Emergency Team (RET) - RET to use the Tadcaster Flood Action Group AG as a case study for the community risk register. Document to be disseminated by April.</p>

Recommendations from the Flood Investigation report for Whixley - Boxing Day 2015	Update – March 2023
<p>The Local Community to engage with Harrogate Borough Council (HBC) Emergency Planning to develop a community emergency response plan and the provision of a sand bag store on West Lane/Church Street. To include a plan for deployment of sandbags to augment action of concrete apron on West Lane.</p>	<p>Harrogate Borough Council (HBC) Update - A Community Resilience plan is in place and was updated in September 2021. Sandbags are in place but have not had to be topped up as there have not been any incidents since the events of 2015.</p>
<p>A review is carried out of the condition, capacity and connectivity of the drainage systems along Starra Field Lane, West Lane and Church Street. This work to be taken forward by the LLFA, North Yorkshire Highways and local stakeholders working in partnership.</p>	<p>NYCC Highways Update - A review of the capacity of the drainage system serving the highway within Church Street was also carried and it was identified that an extension and redirection of the 600mm culvert that is currently connected to a smaller 150mm culvert within the Cherry Tree development could increase the capacity of the system. However, this was not cost beneficial and therefore has not been taken forward.</p>
<p>NYCC in its capacity as LLFA to work with local stakeholders to review condition of local riparian drainage ditches and culverts, with particular focus on the assets draining the catchment surrounding Starra Field Lane and West Lane, and Whixley Cut down stream of the village.</p>	<p>NYCC Highways Update - Assessments of the downstream network were carried out by NYCC Highways. The Stonegate culvert had large amounts of silt and debris removed along with remedial localised masonry repairs, close to the junction with the High Street.</p>
<p>NYCC in both its capacities as LLFA & Highways Authority to continue to work with local stakeholders to identify other opportunities for restricting/slowing surface water flow from neighbouring farmland in times of extreme rainfall.</p>	<p>NYCC Lead Local Flood Authority Update - No opportunities have been identified to date. If sites come forward then the LLFA will consider these as part of it's ongoing flood risk programme.</p>
<p>Future development in the area to take into account the management of surface water runoff from the development, and to ensure Sustainable Drainage Systems (SuDS) are used where ever possible</p>	<p>NYCC Lead Local Flood Authority Update - North Yorkshire County Council as a statutory consultee to the planning process for local flood risk. As such any comments on major schemes that are proposed, including Sustainable Drainage Systems (SuDS), will include consideration of the current mapped flood risk and flooding history when providing responses to planning consultations.</p>

Recommendations from the Flood Investigation report for Tockwith 2015	Update - March 2023
<p>NYCC, in its capacity as Lead Local Flood Authority (LLFA), to work with local stakeholders to review condition of local riparian drainage ditches and culverts</p>	<p>NYCC Lead Local Flood Authority Update - Whilst no reports of flooding or issues with the drainage system have been received from local residents since the flood events in 2015 it is acknowledged that the riparian network of culverts and ditches require ongoing maintenance due to the risk associated with the flooded properties. Any ongoing issues with the downstream network should be recognised and dealt with accordingly in light of the risk associated with the properties at this location. It should be noted that the watercourses within the area come under the auspices of the Internal Drainage Board (who have regulatory powers on ordinary watercourses). Flood prevention measures were offered to residents including flood doors. Harrogate Borough Council - Tockwith has a community resilience plan in place and are very active.</p>
<p>NYCC, in its capacity as LLFA to work with local landowners to identify other opportunities for restricting/slowing surface water flow from neighbouring farmland in times of extreme rainfall.</p>	<p>NYCC Lead Local Flood Authority Update - No opportunities have been identified to date. If sites come forward then the LLFA will consider these as part of its ongoing flood risk programme.</p>
<p>Future development in the area to take the management of surface water runoff from the development into account, and to ensure Sustainable Drainage Systems (SuDS) are used where ever possible.</p>	<p>NYCC Lead Local Flood Authority Update - North Yorkshire County Council as a statutory consultee to the planning process for local flood risk. As such any comments on major schemes that are proposed, including Sustainable Drainage Systems (SuDS), will include consideration of the current mapped flood risk and flooding history when providing responses to planning consultations.</p>
<p>Local residents, when noticing surcharge from the sewer, to contact Yorkshire Water Services Limited (YWSL) to lodge the incident and retain incident reference.</p>	<p>YWSL Update - Ongoing</p>
<p>YWSL to investigate the extent of flood water ingress into the foul sewer, and take steps to reduce this where possible.</p>	<p>YWSL Update - The foul sewer in Tockwith takes flows from a number of other villages and covers a large area. Initial investigation in Tockwith found no evidence of infiltration and no further work has been done. Would be almost impossible to trace infiltration in that length of sewer.</p>

<p>Recommendations from the Flood Investigation report for South Craven 2015</p>	<p>Update – March 2023</p>
<p>NYCC in its capacity as Lead Local Flood Authority (LLFA) to work with local stakeholders to review condition of local riparian watercourses, drainage ditches and culverts.</p>	<p>NYCC Lead Local Flood Authority Update - A number of communities were affected by the flood events in 2015. NYCC as LLFA and NYCC Highways have pro actively responded to requests for a review of the condition of local riparian watercourses, drainage ditches and culverts. It should be noted that a number of studies are to be completed in April 2023 to identify potential flood mitigation projects for the communities of Lower Bradley, Farnhill, Kildwick, Lothersdale and Cononley. This will, where appropriate, involve an assessment of the ordinary watercourse and sewer systems within these areas.</p>
<p>NYCC in both its capacities as Highway Authority and LLFA to work with local stakeholders to reduce surface water flow onto the highway and the impact of the debris it carries on local drainage systems.</p>	<p>NYCC Lead Local Flood Authority Update - Consideration of Natural Flood Management Measures to reduce flows into the surface water system and any associated debris is being carried out by the EA, NYCC and stakeholders.</p>
<p>The EA to lead on the development of a strategy for managing flood risk in the Glusburn Beck & Long Dyke Catchments, in partnership with existing flood groups.</p>	<p>NYCC Lead Local Flood Authority Update - An Initial Assessment report was commissioned by the Environment Agency and produced in 2019. This provided a series of recommendations. These recommendations will be used to inform and focus the Environment Agency in undertaking a Strategic Outline Case to enable further investigation and an assessment of the most cost effective options for flood risk mitigation. This will include consideration of surface water issues. This is expected to be delivered by Spring 2024.</p>
<p>Coordination of cross boundary working with neighbouring local authorities to assess and promote catchment wide measures, including natural flood management, to reduce flood peaks for the mutual benefit of both the communities of South Craven and the Upper Aire, and larger urban populations downstream.</p>	<p>NYCC Lead Local Flood Authority Update - Consideration of the wider catchment and opportunities to coordinate works for the benefit of the local community is ongoing. A South Craven Catchment Management Flood Group (of Risk Management Authorities and key stakeholders) currently meet quarterly to ensure the wider catchment work in the River Aire (as part of the Leeds Flood Alleviation Scheme) is considered and opportunities identified. The Environment Agency are also carrying out a review of catchments to bring associated projects together. This will include discussions with the Local Resilience Forum to ensure that prevention is coordinated with emergency plans and preparedness and community plans and catchment plans are aligned.</p>

Recommendations from the Flood Investigation report Sessay 2015	Update - March 2023
<p>NYCC in its capacity as LLFA to engage with local landowners and stakeholders, to identify opportunities to improve attenuation and reduce runoff</p>	<p>NYCC Lead Local Flood Authority Update - Sessay was assessed on NYCC's approved criteria prioritisation tool and was found to score low and could not be prioritised ahead of other locations currently on our programme which scored higher. This can be reviewed pending delivery of the current programme. If additional flooding was to occur the prioritisation would be re-assessed.</p>
<p>Yorkshire Water Services Limited to continue CCTV investigation of foul sewer, to maintain as necessary, and to identify and eliminate infiltration of the network.</p>	<p>Yorkshire Water Update - Investigations have found no defects in foul sewer, however Surface Water from the primary school is connected to foul sewer and will lead to overloading. Need to work with School and NYCC to remove school SW and find more appropriate discharge points.</p>
<p>NYCC in its capacity as highway authority to carry out investigations to map and inspect the highway drainage network, and carry out maintenance as necessary.</p>	<p>NYCC Highways Update - NYCC Highways have cleaned any highway assets and there are currently no issues within the system. NYCC camera surveyed their system and found no issues.</p>
<p>NYCC in its capacity as LLFA to work with YWSL and local stakeholders to investigate, map, inspect & ascertain responsibility for surface water network.</p>	<p>Yorkshire Water Update - Public sewer records shared with NYCC. As part of the assessment of foul water flooding the extent of responsibility was clarified.</p>
<p>NYCC in its capacity as LLFA to coordinate all risk management authorities and interested parties to produce a Surface Water Management Plan.</p>	<p>NYCC Lead Local Flood Authority Update - Sessay was assessed on NYCC's approved criteria prioritisation tool and was found to score low and could not be prioritised ahead of other locations currently on our programme which scored higher. This can be reviewed pending delivery of the current programme. If additional flooding was to occur the prioritisation would be re-assessed.</p>
<p>NYCC as LLFA will continue to work with RMAs, and local stakeholders to develop plans to address the issues raised in this report.</p>	<p>NYCC Lead Local Flood Authority Update - YW and NYCC and the district council had a meeting with the Parish Council residents in 2022 re: sewers surcharging into properties. YW confirmed that these had not been reported to them and there is under reporting due to insurance/house selling issues.</p>

Recommendations from the Flood Investigation Report - Knaresborough 2015	Update - March 2023
Risk management authorities to cooperate in the assessment of catchment wide measures, including natural flood management, to reduce flood peaks in Knaresborough.	Environment Agency Update - Overview lines to assess flood risk and mitigation on a catchment / sub catchment scale. Work ongoing.
The EA to report the outcome of the flood warning improvement study back to the KFC.	<p>Environment Agency Update - When a Flood Warning has been issued, we will validate the shape and triggers of that warning. So once issued, we will gather on-site evidence, as well as liaising with partners and the community to understand the impacts. So if properties flooded before we expected them to, we will amend the trigger for this warning so it is issued earlier. Similarly, we may raise trigger levels if there was no flooding when we expected there to be, reducing the chances of 'false alarms'. We will also review which locations flooded and alter the coverage accordingly, if needed. We have done this process for every warning ever issued in North Yorkshire – and so the warnings have been altered, where necessary, after every incident.</p> <p>We are also in coming to the end of the 'Flood Warning Expansion Project'. This project has involved creating new flood warnings, or expanding our current flood warnings, to make sure that any 'high risk' property is covered by a Flood Warning. This work has resulted in a number of alterations and additions to the North Yorkshire coverage, which are summarised in an LRF briefing issued every quarter.</p>
HBC emergency flood planning to be reviewed in light of the 2015 flood event and any lessons learnt incorporated.	Harrogate Borough Council Update - There is a well developed community plan in place - sandbags are available for the Nidderdale and Abbey Road sites. A number of properties next to the Riverside managed to raise their lodges and caravans. Electrical junction boxes were also lifted. This has reduced the risk of water ingress into properties. HBC do respond where needed. A number of properties received Property Flood Resilience to reduce the flood impact. The first round of PFR was offered in 2015 and a second round of 2019 PFR were funded from a central government grant via North Yorkshire County Council.

<p>Recommendations from the Flood Investigation Report - Harrogate Greenfields Avenue 2015</p>	<p>Update – March 2023</p>
<p>NYCC in both its capacities as Highway Authority and LLFA to work with local riparian owners to desilt the culvert under Greenfields Avenue and stretches upstream and downstream to improve capacity and conveyance.</p>	<p>NYCC highways Update - A camera survey was carried out and a section of pipe was re-laid to allow flow. Section F had work and was open ditch and has been culverted (2017) with remedial works in the downstream manhole chamber (Z) within property owners boundary. Investigation after incident did identify tree roots in downstream surface water system that would have caused a restriction. Cyclical maintenance plan now in place to keep sewer free of tree roots.</p>
<p>Further investigation to be undertaken by NYCC as LLFA into the drainage network upstream of Stonefall Avenue, with a view to identifying un-mapped connections into the public sewer and overall contributing area.</p>	<p>NYCC LLFA – This is ongoing and has not been completed.</p>
<p>NYCC as LLFA in partnership with YWSL to work with local upstream landowners to identify opportunities for restricting/slowing surface water flow from neighbouring areas in times of extreme rainfall.</p>	<p>NYCC Lead Local Flood Authority Update - No opportunities have been identified to date. If sites come forward then the LLFA will consider these as part of it's ongoing flood risk programme.</p>

<p>Recommendations from the Flood Investigation Report - Brotherton 2015</p>	<p>Update - March 2023</p>
<p>NYCC in its capacity as Highway Authority to consider options to reduce the amount of water flowing towards the housing by introducing potential improvements to the highway</p>	<p>NYCC Highways Update - Since the 2015 event there have not been persistent issues with highway drainage. However, if there were ongoing drainage issues with the highway then this would be revisited. It should be noted that the surface water outfall issues have been pro actively dealt with and non return valve has been installed to ensure that the main carrier drain is not affected by the flood plains surcharging into the surface water system.</p>
<p>Selby District Council (SDC) as landlord to investigate the potential to raise threshold of drives, to prevent water flowing towards affected properties from Marsh Croft.</p>	<p>SDC Update - These measures have not taken place. It should be noted that the majority of the properties are now within private ownership and no longer the responsibility of SDC. This will be kept under review pending any further incidents of flooding.</p>
<p>NYCC in its capacity as Lead Local Flood Authority to progress work with the riparian (private) owner and IDB to bring drainage ditch (Marsh drain "A") into maintenance.</p>	<p>NYCC LLFA Update - NYCC have worked with the Internal Drainage Board to bring Marsh Drain A into a good standard of maintenance. In addition a non-return valve has been installed by the IDB at the outfall of the main surface water carrier pipe (Under the A162) that discharges into Marsh Drain to stop the main river surcharging back up into the system. Yorkshire Water have also been advised to install a non return valve within their system discharging to this carrier pipe to protect against flooding to their surface water system.</p>
<p>YWSL to clear silt from the culvert under the A162, and from the chamber leading to it.</p>	<p>NYCC (LLFA) Update - NYCC Highways have been advised that this culvert needs to be included on a maintenance schedule. NYCC have worked with the Internal Drainage Board to bring Marsh Drain A into a good standard of maintenance. In addition a non-return valve has been installed by the IDB at the outfall of the main surface water carrier pipe (Under the A162) that discharges into Marsh Drain to stop the main river surcharging back up into the system. Yorkshire Water have also been advised to install a non return valve within their system discharging to this carrier pipe to protect against flooding to their surface water system.</p>
<p>SDC to maintain existing property level protection measures, and seek to implement additional measures where possible.</p>	<p>SDC Update - SDC offered grants for Property Flood Resilience measures to those residing in SDC housing stock and in addition fitted PFR measures e.g. flood barriers to their housing stock.</p>

<p>Recommendations from the Flood Investigation Report - Sleights 2016</p>	<p>Update - March 2023</p>
<p>The series of culverts between the Fairhead Junction and Blue Bank be placed on the NYCC flood risk asset register, because of their implication on a significant flood event</p>	<p>NYCC (LLFA) Update - NYCC have placed the culvert on the Flood Risk Asset Register</p>
<p>NYCC in its capacity as highway authority, undertakes appropriate routine inspection of the culverts to ensure they are adequately maintained.</p>	<p>NYCC Highways Update - These are identified as critical infrastructure and their cleaning is a quarterly order raised on an individual basis.</p>

Recommendations from the Flood Investigation Report - Scarborough 2017	Update - March 2023
<p>The LLFA to work with NYCC Resilience & Emergencies and the Environment Agency to support the work of ICASP (Yorkshire Integrated Catchment Solutions Programme to investigate any relevant developing technologies in short term forecasting, and surface water risk warning, particularly in relation to other identified “rapid response” catchments with the aim of improving forecasting of intense, localised storms.</p>	<p>NYCC Resilience and Emergencies (RET) Update - ICASP carried out a workshop with relevant stakeholders to identify how short term forecasting can be improved to aid response time and the results can be found at https://icasp.org.uk/projects-2-2/surface-water-flood-forecasts/ NY. Scarborough Borough Council (SBC) Update - To improve the existing watercourse and surface water network SBC have installed alarms on a number of trash screens where watercourses enter piped systems. This enables a rapid response to flooding/blockages. SBC have a total of 8 across the borough alongside 3/4 weathers stations.</p>
<p>The LLFA to work with NYCC Highways to investigate the potential to adapt roads to formalise their role as exceedance pathways and utilise more resilient materials to mitigate future damages. Particular locations where this should be considered include Peasholm Gap, Eastborough and Columbus Ravine</p>	<p>NYCC Highways Update - A number of manholes were damaged as a result of surface water surcharge. However, within Eastborough and Columbus Ravine it would not be appropriate to raise the kerbs to improve the exceedance flowpaths. These locations receive significant runoff which is in part due to the topography. The system includes a watercourse that narrows to a smaller (375mm culverted pipe) going through Peasholm gap. To increase the outfall of the existing piped system would not be cost beneficial.</p>
<p>LLFA and Scarborough Borough Council (SBC) should undertake further investigations into the condition of assets associated with ordinary watercourses. Blockage consequence modelling and condition surveys should be carried out on screens and culverts associated with ordinary watercourses, with the intention of informing a program of improvement and maintenance.</p>	<p>NYCC (LLFA) - A modelling study has been completed for Scalby Beck from Lady Edith's Drive. The model has corroborated the number of properties at risk. An additional blockage modelling consequence study will be carried in 2023/24. This will involve the EA as they manage assets within this location.</p>
<p>LLFA and Scarborough Borough Council to work together to identify opportunities to hold back water in attenuation areas during extreme rainfall. Locations where this could be viable include The Mere, Throxenby Mere and land upstream of Edgehill Road. The potential costs and benefits of this approach should be explored so as to inform any future requests for regional or national funding.</p>	<p>Scarborough BC Update - The Mere acts as a storage and has a baffle plate at the outfall. The Scarborough Mere goes into the YW system and stops properties from discharging their surface water to the system. This can cause periodic issues. No funding bids have been submitted to date due to the dispersed nature and extreme circumstances of the event that occurred.</p>
<p>Scarborough LPA, the LLFA and Yorkshire Water seek a greater level of attenuation on brownfield sites as they come through for redevelopment where sites are discharging surface water to the public sewer network. Greenfield rates of discharge should be achieved wherever possible.</p>	<p>SBC Update - SBC have, where opportunities exist, pushed for attenuation and betterment within minor application sites, however it is not always practical as there is no local or national policy in place at present and no requirement for developers to provide betterment. SBC have promoted rain water harvesting to reduce surface water discharging to the existing combined sewer system.</p>
<p>LLFA to make an assessment of the potential for property level resilience in areas where multiple properties are at risk from repeated events. In particular key services such as the ambulance station should be made resilient to flooding.</p>	<p>NYCC (LLFA) - A county wide Property Flood Resilience scheme is to be implemented to offer internally flooded properties the opportunity to access grants for flood property level protection measures e.g. flood doors, air brick covers. The availability of grants will be determined by a range of criteria, one of which being where there is no other cost beneficial scheme available.</p>

Recommendations from the Flood Investigation Report - Richmondshire 2019	Update - March 2023
<p>The LLFA to work with NYCC Resilience & Emergencies (RET) and the Environment Agency to support the work of ICASP (Yorkshire Integrated Catchment Solutions Programme to investigate any relevant developing technologies in short term forecasting, and surface water risk warning, particularly in relation to other identified "rapid response" catchments with the aim of improving forecasting of intense, localised storms.</p>	<p>NYCC RET Update - Since Storm Arwen a number of community plans have been funded to allow them to use power during a flood incident. Also an application is also being made to combine a pot of £7.5m for Norther Power grid boundaries to pilot communities and then open up the opportunity to establish charitable status. Supporting hubs and Swaledale being used to support this. Harrogate Borough Council Update - A 5G project is on-going and includes 3 sensors within Swinney Beck to aid the identification of blockages within the watercourse and to allow for improved maintenance. NYCC LLFA Update - In some locations there may not be a cost effective solution to protect properties. Response and recovery will then become a priority and the LLFA and RET will work together to ensure preparedness within the community and partner organisations.</p>
<p>LLFA with the assistance of NYCC Highways and the Local Parish Councils should continue to undertake further investigations into the condition of assets associated with ordinary watercourses. Blockage consequence modelling and condition surveys should be carried out on screens and culverts associated with ordinary watercourses, with the intention of informing a program of improvement and maintenance.</p>	<p>NYCC LLFA Update - NYCC as LLFA have completed a number of studies following the flood events. The 'UPPER DALES DISPERSED VILLAGES FLOOD ALLEVIATION STUDY Option Investigation Report (covering Leyburn, Arkingarthdale, Bellerby, Spennythorne, Reeth and Fremington, West Witton, Redmire, Hawes and Gayle and Bainbridge). These studies recognised options for improved resilience and mitigation alongside quick and easy wins. Someof the highlights from the studies and the quick wins are detailed below: As part of these studies; surveys of the watercourses, culverts and screens were commissioned in a number of locations. For example, the LLFA undertook an extensive survey of the watercourse network in Leyburn and checked connections with highway drainage and mapped this out. However, no blockage modelling consequence was carried as the studies identified that blockage consequence modelling would outweigh the costs of any flood prevention schemes. None the less the studies did assume 100% blockage and this will provide the basis for blockage consequence modelling if needed. Within Leyburn a trash screen within the watercourse upstream of Bishopdale Close, was identified as a key constraint. The study identified that this could benefit downstream properties if there was an opportunity to improve the screen to ensure it was self cleansing. This screen is on third party land and any improvements will require engagement with the private land owner. Within Bellerby - A number of kerbs were raised to divert water from the affected properties by NYCC Highways. Trash screens in Bellerby upstream of Cross Keys Public House need a raked trash screen to ensure that it is self cleansing and debris goes over. The culvert under the highway close to the pub was surveyed and was in good condition. NYCC LLFA have identified the potential to replace the trash screen. This will require further design and liaison with NYCC Highways. A CCTV survey was also carried out in Reeth which informed a study. Grinton - Two bridges in Grinton were cleared by NYCC Highways dues to the build up of washed down gravels. Two properties in Grinton flooded due to the water coming out of bank from the watercourse and crossing the highway. Due to the limited amount of risk in Grinton a study was not undertaken. The studies have looked at high level options that need refining e.g. raising kerbs etc. However, the event was of such a scale (1:1000) that the aim would be to protect properties for 1:100 year and resilience to 1:1000. However, the funding would not protect up to that return period.</p>
<p>LLFA and other partner organisations to work together to identify opportunities to hold back water in attenuation areas during extreme rainfall. Locations where this could be viable include Bellerby and Leyburn. The potential costs and benefits of this approach should be explored so as to inform any future proportionate requests for regional or national funding.</p>	<p>NYCC (LLFA) Update - Bellerby Parish Council have acquired land upstream of Bellerby and this is a location identified within the 'UPPER DALES DISPERSED VILLAGES FLOOD ALLEVIATION STUDY Option Investigation Report - Bellerby', North Yorkshire County Council, June 2021 that could hold water upstream. The parish council have also received funding of £20k for work to be carried out within their land. NYCC as LLFA will provide support to the parish council with any such initiatives. The 'UPPER DALES DISPERSED VILLAGES FLOOD ALLEVIATION STUDY Option Investigation Report - Leyburn, North Yorkshire County Council, June 2021' discounted this as an option as there is nowhere suitable to implement such measures.</p>
<p>The LLFA will continue to support Natural Flood Risk Management, and work with communities and land owners to implement natural measures of reducing flood risk from surface water runoff</p>	<p>NYCC (LLFA) Update - 'The 'UPPER DALES DISPERSED VILLAGES FLOOD ALLEVIATION STUDY Option Investigation Report (covering Leyburn, Arkingarthdale, Bellerby, Spennythorne, Reeth and Fremington, West Witton, Redmire, Hawes and Gayle and Bainbridge) Identified areas within Ministry Of Defence land and identified catchments where targeted measures could be used to reduce surface water flood risk - this was carried out for all the studies completed. The intention is for any measures to be included within the Yorkshire and N Yorkshire Innovation resilience project (led by City of York Council) of which £2million is ring fenced for NFM projects upstream of York. This is a significant and exciting project looking at a catchment scale. There is a project in Arkingarthdale, for example, started by the Rivers Trust that will be expanded and included within this project. City of York Council are working up a grant funding application process and these study areas will bid for the funds available through this project. These bids will be processed via the North Yorkshire Partnership. This will include mutual benefits e.g. soil aeration for improved yields which will benefit flood risk attenuation.</p>

Recommendations from the Flood Investigation Report - County Wide Section S19 February 2020	Actions from the Flood Investigation Report - County Wide Section S19 February 2020	Update - March 2023
Lead Local Flood Authority and North Yorkshire County Council Highways to work with the community of Gildersleets to review the feasibility of any flood alleviation or improved resilience scheme for the community.	A community meeting will be organised with representatives from the parish council to progress this work	NYCC (LLFA) Update - Identified the need for Gikdersleets to go on the FRM Programme as a priority area. Funding is being sought for a study of high level options to be carried out. Once funding is secured a study will be commissioned which will involve a meeting and collaboration with the local community.
	Opportunities to include the work in future North Yorkshire County Council flood risk programme will be explored	
	Resilience planning and preparedness will be key. This could include establishing a flood group to support the work or liaising with existing representatives	NYCC (LLFA) Update - A flood group could be formed to support any NYCC (LLFA) study.
All risk management authorities to continue responsive service and the monitoring of Swinney Beck in Masham.	The event has increased understanding of the drainage system and where responsive action may be beneficial	Harrogate Borough Council (HBC) Update - Masham have a well developed Community Emergency Plan and this links into HBC flood plan. There is also a Sandbag store. Several properties affected by flooding close to the Swinney Beck have benefitted from PFR scheme. A 5G project is on-going and includes 3 sensors within Swinney Beck to aid the identification of blockages within the watercourse and to allow for improved maintenance and response times to flood events. HBC and the Town Council have discussed the potential for upstream storage. Pending agreement with a range of landowners and funding being available this is believed to be a preferred option to reduce the downstream risk. Upstream of Masham the Swinney Beck is a designated main river and any measures should include discussion with the EA who regulate activities on main rivers and in addition support communities who are affected by flood risk from this source.
	Understanding the constraints of the system, North Yorkshire County Council Lead Local Flood Authority Officers will engage with the responsible parties to ensure that the drainage system is maintained and systems are working properly	NYCC Highways Update - NYCC highways have regular communication with residents and the Town Council where there are issues with the Highways assets e.g. culverts and bridges. NYCC (LLFA) Update - NYCC will assist where appropriate, using Land Drainage Powers to ensure that the riparian responsibilities are carried out to ensure the watercourse is kept free of blockages.

<p>Recommendations from the Flood Investigation Report - County Wide Section S19 February 2020</p>	<p>Update - March 2023</p>
<p>The Environment Agency to undertake a review and further assessment of the flows and capacity of the River Aire and its washlands. (This work is already in progress since the February 2020 events)</p> <p>North Yorkshire County Council to support the work of neighbouring Lead Local Flood Authorities and the Environment Agency where practicable to model scenarios that reflects the chronological order of events, rainfall volumes and timescales of the February 2020 event</p>	<p>Environment Agency Update:</p> <p>Following the February flooding our field teams have continued to carry out routine inspections and maintenance of our assets. As a result of the floods and subsequent high river levels we developed 2 recovery programmes of work that amounted to approximately £13 million on the lower Aire. These repairs will ensure that the defences operate as designed and continue to provide protection from floods. These repairs are now complete.</p> <p>The need for an update to the existing models was identified following the 2020 floods. This need arose from the Section 19 reports and also to provide evidence for a programme of improvement works.</p> <p>This work has taken longer than we anticipated. Initial testing revealed the need to extend, improve and recalibrate our models for the area so that they are suitable for these activities. This is a lengthy iterative process, particularly the calibration whereby a modeller will make adjustments and rerun the model repeatedly until satisfactory results are achieved.</p> <p>The reach includes 110km of river channel, canals, several km of defences, moveable weirs, numerous tributary inflows and downstream tidal influence, washlands and their outfall structures, and an extensive low lying flood plain. Due to the size and complexity of the models they take a long time to run, up to 6 days in some cases. The modelling is being carried out by one of our delivery partners and reviewed by our own modellers and those working for East Riding or Yorkshire Councils. The model is at the final review stage, however issues have been identified that require addressing, and it is difficult to put a time frame on this. Progress is being made and we hope to have an approved/working model within a few months.</p> <p>Why is the modelling so important? The Environment Agency and partners are committed to delivering an Action Plan for the Lower Aire, and this is currently being drafted. The recalibrated model is critical to provide the evidence, to prioritise and to carry out the work identified in the plan. Without the modelling we will not be able to identify the benefit any interventions will have. We also need the evidence to secure the funding to carry out this work.</p> <p>The modelling will provide a better understanding of the flood risk in the area (including updated maps), as well as the opportunities, and build a programme of works to improve flood risk management across the catchment.</p> <p>Flood warnings As recommended, the EA have reviewed and updated the flood warnings for the area and can report a high proportion of registered properties. We meet regularly with our partners and have completed a sharing of information exercise, covering all aspects highlighted in the recommendations. The EA have reviewed their activities before, during and since the February 2020 floods.</p> <p>We have fed this into the Section 19 reports and used the findings to improve our operational procedures.</p> <p>Next steps</p> <p>When the modelling is complete, we will share with you the results and the draft action plan for comment. We will be working in partnership with other organisations and the community to deliver improvements for the lower Aire businesses and residents.</p>

<p>Recommendations from the Flood Investigation Report - County Wide Section S19 February 2020</p>	<p>Actions from the Flood Investigation Report - County Wide Section S19 February 2020</p>	<p>Update - March 2023</p>
<p>All risk management authorities to work with the communities to encourage and promote improved property level resilience. With the impacts of climate change becoming ever more clear, it is critical that communities play an active role in helping themselves to be resilient to the increasingly prevalent risk of flooding</p>	<p>Lead Local Flood Authority Officers will work with first responding Risk Management Authorities to identify communities where resilience planning and targeted work to enhance this will be of most benefit</p>	<p>NYCC Resilience and Emergency Team (RET) and NYCC (LLFA) Update - NYCC LLFA team identifies those communities that are at high risk of flooding and enables a prioritisation of flood prevention schemes as a result. Where the programme identifies cost beneficial projects the LLFA will carry out active engagement with those communities. However, in some locations affected by flooding, it may not be possible to implement a cost beneficial flood alleviation scheme and/or the properties may still be at risk, even with, for example property level flood resilience measures. Where this occurs NYCC (LLFA) are working with NYCC RET to target those communities where flood protection measures are not currently cost effective and provide an enhanced level of support for emergency preparedness. This recognises the role of community flood plans alongside prevention measures.</p> <p>Currently NYCC RET use the NILEV flood plan with flood warning communities that get repeated warnings. The EA are also looking at holding workshops in 2024 to look at gaps and what a community plan should look at. This will involve key stakeholders and to identify what a community plan should look like and will include pilots with those most at risk e.g. coastal etc . February - what does a community mean for various agencies.</p> <p>NYCC (LLFA) Update - There are a number of actions within the revised North Yorkshire Local Flood Risk Management Strategy (2022) that reflects the need ensure that flood prevention, protection and emergency preparedness are coordinated between agencies.</p>
	<p>Community meetings will be set up by North Yorkshire County Council, in those locations to identify the specific actions which would assist in future flood response</p>	
	<p>This will involve joint working with the Environment Agency and district councils and other relevant Risk Management Authorities</p>	
	<p>Action plans for each targeted locality will be created</p>	
	<p>Opportunities to include communities in the future North Yorkshire County Council flood mitigation programme will be explored</p>	
	<p>Where inclusion in the North Yorkshire County Council programme is appropriate, additional feasibility work or options to deliver improved flood management, led by the Lead Local Flood Authority may be required</p>	
	<p>The work will include identifying critical assets to flood risk and identifying those responsible for maintenance and engaging in active response planning</p>	
	<p>It will include resilience planning specific to that particular community</p>	
	<p>Community input will be key to this. Actions will arise from the engagement with those who are at risk</p>	
	<p>Where it is identified through feasibility work that it will be beneficial, Property flood resilience measures will be explored</p>	
<p>Communities will be supported and empowered, to undertake appropriate resilience measures and to plan and coordinate actions for their own specific needs</p>		

Appendix A

Location	February 2022 Flood Investigation	Update – March 2023
Tadcaster	Following a review of existing PFR measures the EA and partners should discuss sources of funding for PFR measures, both for existing and new properties.	Environment Agency Update - Two ridings foundation provided money for flood recovery which was to allow for PFR work.
Tadcaster	Yorkshire Water/NYCC Highways should review the level of maintenance required to sustain the design efficiency of their drainage systems that serve the flooding locations in line with the risk identified for the affected locations. YW and NYCC Highways should provide a maintenance timetable for the systems serving the flooding locations.	NYCC Highways Update - NYCC Highways have confirmed that they have the gullies serving Bridge Street on a planned maintenance and in accordance with NYCC standards (annually in the case of the flooded locations) and there are no ongoing concerns (with the Highway element of the surface water system) particularly around the flooded locations. The issue of surface water flooding is not an issue in normal rainfall events and the main causal factor was the inability of the system to discharge due to high river levels'. If highways start to flood in flood risk locations e.g. Highways will inspect and ask the contractors to clean the gullies as and when required. YW have not confirmed what their maintenance schedule is at the flooded location.
Tadcaster	If businesses and residents are unwilling to wait for a review of the existing PFR measures and/or funding then the EA will provide guidance as to PFR measures that can be taken in the interim prior to a capital scheme coming forwards.	Environment Agency Update - The EA can provide details via TFAG / TTC about PFR but can not recommend providers. Option to use flood mobile to help promote flood resilience and PFR options. Follow the link for additional information: https://environmentagency.blog.gov.uk/2021/05/27/the-ox-cam-pathfinder-project-introducing-the-floodmobile/ NYCC (LLFA) Update - The LLFA have provided guidance to the TFAG on the process for offering PFR to properties that have been flooded.
Tadcaster	The EA should continue to involve YWSL/NYCC Highways in scheme development to ensure that surface water systems can continue to function to a reasonable standard.	NYCC as LLFA Update - The LLFA are working closely with the EA, NYCC Highways and Selby District Council to identify surface water outfalls as part of the Tadcaster FAS. Ongoing. Especially as a result of SW issues in recent months.
Tadcaster	EA to carry out a post review of the flood alert/warning system to ensure that these are issued in a timely manner.	Environment Agency Update - When a Flood Warning has been issued, we will validate the shape and triggers of that warning. So once issued, we will gather on-site evidence, as well as liaising with partners and the community to understand the impacts. So if properties flooded before we expected them to, we will amend the trigger for this warning so it is issued earlier. Similarly, we may raise trigger levels if there was no flooding when we expected there to be, reducing the chances of 'false alarms'. We will also review which locations flooded and alter the coverage accordingly, if needed. We have done this process for every warning ever issued in North Yorkshire – and so the warnings have been altered, where necessary, after every incident. We are also in coming to the end of the 'Flood Warning Expansion Project'. This project has involved creating new flood warnings, or expanding our current flood warnings, to make sure that any 'high risk' property is covered by a Flood Warning. This work has resulted in a number of alterations and additions to the North Yorkshire coverage, which are summarised in an LRF briefing issued every quarter.

Location	February 2022 Flood Investigation	Update – March 2023
Ulleskelf	Environment Agency to review the current flood risk assets their integrity and current standard of protection.	<p>Environment Agency Update - We commissioned one of our contractors to undertake an engineering visual inspection of the flood walls and embankments that form the rear of Little Kirby Ings Reservoir. The walls run to the rear of properties on West End, Main Street and Ings Road. Surveys we undertaken in May and June and we received the reports in July 2022 and have been considering the findings.</p> <p>From a visual inspection the assets were generally in a fair condition with minor defects noted. Residents also provided verbal evidence of the flooding that recently occurred and these were comments were noted in the reports. The reports recommended maintenance and we intend to undertake the minor maintenance activities in the coming months, typically these will be replacement of the seals between walls and minor repair to coping stones along walls. For these activities we intend to contact the individual home owners prior to any works taking place.</p> <p>We are aware that flooding of land on the landward side of the defences is occurring and have been given pictures and videos by residents. The defects in the visual survey did not indicate any reasons that we would experience the level of water experienced, so we also considering the recommendations for further investigations. These investigations will try to identify the risk of flooding from seepage through or beneath the flood walls and embankments. These investigations are likely to be both expensive and intrusive and will take some months to plan. For example the types of survey we are considering could include removing brick and stone cladding to inspect the concrete wall core, trial pits to inspect the wall foundations and geotechnical surveys of the ground conditions. For these activities we intend to contact the individual home owners prior to any works taking place.</p> <p>Alongside the reports we also undertook a topographic survey of the defences. The topographic survey showed that the walls in the area were built to the design level of 8.75mAOD. The survey indicated there are local variations which are 10-40mm lower, for this level of difference we are unlikely to undertake any works. We have compared the survey to a drawing from our archives from the 1980's and the current level appears to be the designed level. We also started the repair work to little Kirby Ings Reservoir front bank, which we were unable to complete due to rising river levels. We intend to finish the repair in spring/summer when river levels are low enough to remove the existing failed timber piles and install new timber piles. I understand this has been damaged by the recent high flows.</p>
Ulleskelf	Environment Agency to review their current flood model to better understand flood risk in Ulleskelf to assist in an initial assessment to explore options to manage the flood risk, working with the community and partners.	Environment Agency Update - The Lower Ouse Wharfe Selby Dam and Tadcaster model is being used to inform the wider work of the EA to look at catchment / sub catchment approach which will inform future options for Ulleskelf.
Ulleskelf	Environment Agency will communicate with local residents of properties known to have flooded internally to investigate options for managing flood risk e.g. This may need to be dependent on those property owners affected contributing towards a solution.	Environment Agency Update - The PFR Framework approach will be developed and delivered across North Yorkshire

Location	February 2022 Flood Investigation	Update – March 2023
Ulleskelf	Property owners could carry out their own property flood resilience measures where funding is not forthcoming or residents are unwilling to wait.	NYCC (LLFA) Update - We are not aware of any measures having been taken by property owners.
Ulleskelf	EA to carry out a post review of the flood alert/warning system to ensure that these are issued in a timely manner	Environment Agency Update - Completed by the EA Flood Resilience/Incident team to allow for an improvement to the Flood Warning System.
Ulleskelf	Yorkshire Water/NYCC Highways should review the level of maintenance required to sustain the design efficiency of their drainage systems that serve the flooding location in line with the risk identified for the affected locations	This is ongoing and YW and NYCC Highways will amend their maintenance programmes based on reports of flooding to their assets.
Kirkby Wharfe	Complete Phase 2 of the village flood defences as funded by the Environment Agency.	Environment Agency Update - An Outline Business Case is in draft with Selby District Council for review / approval and submission.
Brotherton	NYCC and Yorkshire Water to install non-return valves within the surface water system to reduce the risk of surcharging.	NYCC (LLFA) Update - NYCC have worked with the Internal Drainage Board to bring Marsh Drain A into a good standard of maintenance. In addition a non-return valve has been installed by the IDB at the outfall of the main surface water carrier pipe (Under the A162) that discharges into Marsh Drain to stop the main river surcharging back up into the system. Yorkshire Water have also been advised to install a non return valve within their system discharging to this carrier pipe to protect against flooding to their surface water system.

Equality impact assessment screening form

Initial equality impact assessment screening form			
This form records an equality screening process to determine the relevance of equality to a proposal, and a decision whether or not a full EIA would be appropriate or proportionate.			
Directorate	Business and Environmental Services		
Service area	Highways and Transportation		
Proposal being screened	An update of actions relating to the recommendations for all published flood investigations.		
Officer(s) carrying out screening	Mark Henderson, Stephen Lilgert		
What are you proposing to do?	That North Yorkshire County Council, in its capacity as Lead Local Flood Authority publishes an update actions relating to the recommendations for all published flood investigations.		
Why are you proposing this? What are the desired outcomes?	North Yorkshire County Council has a statutory duty to investigate flood events, bestowed by the Flood and Water Management Act (2010).		
Does the proposal involve a significant commitment or removal of resources? Please give details.	There is no financial implication arising from the publication of the report		
<p>Impact on people with any of the following protected characteristics as defined by the Equality Act 2010, or NYCC's additional agreed characteristic</p> <p>As part of this assessment, please consider the following questions:</p> <ul style="list-style-type: none"> To what extent is this service used by particular groups of people with protected characteristics? Does the proposal relate to functions that previous consultation has identified as important? Do different groups have different needs or experiences in the area the proposal relates to? <p>If for any characteristic it is considered that there is likely to be a significant adverse impact or you have ticked 'Don't know/no info available', then a full EIA should be carried out where this is proportionate. You are advised to speak to your Equality rep for advice if you are in any doubt.</p>			
Protected characteristic	Yes	No	Don't know/No info available
Age		No	
Disability		No	
Sex (Gender)		No	
Race		No	
Sexual orientation		No	
Gender reassignment		No	
Religion or belief		No	
Pregnancy or maternity		No	
Marriage or civil partnership		No	

NYCC additional characteristic			
People in rural areas		No	
People on a low income		No	
Carer (unpaid family or friend)		No	
Does the proposal relate to an area where there are known inequalities/probable impacts (e.g. disabled people's access to public transport)? Please give details.	No.		
Will the proposal have a significant effect on how other organisations operate? (e.g. partners, funding criteria, etc.). Do any of these organisations support people with protected characteristics? Please explain why you have reached this conclusion.	No		
Decision (Please tick one option)	EIA not relevant or proportionate:	X	Continue to full EIA:
Reason for decision	The content of the flood investigation reports is technical in nature, and therefore does not have the ability to impact differently upon any protected characteristics. Any measures implemented as a result of the recommendations will be assessed on a case-by-basis. Where it is deemed necessary then an equality impact assessment will be completed to identify any potential impacts on people with protected characteristics. This may result in amendments to the delivery of the measures.		
Signed (Assistant Director or equivalent)	Barrie Mason		
Date	16/03/23		



Climate change impact assessment

The purpose of this assessment is to help us understand the likely impacts of our decisions on the environment of North Yorkshire and on our aspiration to achieve net carbon neutrality by 2030, or as close to that date as possible. The intention is to mitigate negative effects and identify projects which will have positive effects.

This document should be completed in consultation with the supporting guidance. The final document will be published as part of the decision making process and should be written in Plain English.

If you have any additional queries which are not covered by the guidance please email climatechange@northyorks.gov.uk

Please note: You may not need to undertake this assessment if your proposal will be subject to any of the following:

Planning Permission
Environmental Impact Assessment
Strategic Environmental Assessment

However, you will still need to summarise your findings in in the summary section of the form below.

Please contact climatechange@northyorks.gov.uk for advice.

Title of proposal	Review of published Flood Investigation Reports
Brief description of proposal	As above
Directorate	BES
Service area	Network Strategy
Lead officer	Mark Henderson
Names and roles of other people involved in carrying out the impact assessment	Meirion Jones
Date impact assessment started	07/03/2023

Options appraisal

Were any other options considered in trying to achieve the aim of this project? If so, please give brief details and explain why alternative options were not progressed.

n/a – This is a statutory duty that is placed on the county council.

What impact will this proposal have on council budgets? Will it be cost neutral, have increased cost or reduce costs?

Please explain briefly why this will be the result, detailing estimated savings or costs where this is possible.

The proposal is cost neutral, it concerns the publication of a report in line with NYCC's duty as lead local flood authority.

<p>How will this proposal impact on the environment?</p> <p>N.B. There may be short term negative impact and longer term positive impact. Please include all potential impacts over the lifetime of a project and provide an explanation.</p>	<p>Positive impact (Place a X in the box below where relevant)</p>	<p>No impact (Place a X in the box below where relevant)</p>	<p>Negative impact (Place a X in the box below where relevant)</p>	<p>Explain why will it have this effect and over what timescale?</p> <p>Where possible/relevant please include:</p> <ul style="list-style-type: none"> • Changes over and above business as usual • Evidence or measurement of effect • Figures for CO₂e • Links to relevant documents 	<p>Explain how you plan to mitigate any negative impacts.</p>	<p>Explain how you plan to improve any positive outcomes as far as possible.</p>
<p>Minimise greenhouse gas emissions e.g. reducing emissions from travel, increasing energy efficiencies etc.</p>	Emissions from travel	X				
	Emissions from construction	X				
	Emissions from running of buildings	X				
	Other	X				
<p>Minimise waste: Reduce, reuse, recycle and compost e.g. reducing use of single use plastic</p>		X				
<p>Reduce water consumption</p>		X				

<p>How will this proposal impact on the environment?</p> <p>N.B. There may be short term negative impact and longer term positive impact. Please include all potential impacts over the lifetime of a project and provide an explanation.</p>	<p>Positive impact (Place a X in the box below where relevant)</p>	<p>No impact (Place a X in the box below where relevant)</p>	<p>Negative impact (Place a X in the box below where relevant)</p>	<p>Explain why will it have this effect and over what timescale?</p> <p>Where possible/relevant please include:</p> <ul style="list-style-type: none"> • Changes over and above business as usual • Evidence or measurement of effect • Figures for CO₂e • Links to relevant documents 	<p>Explain how you plan to mitigate any negative impacts.</p>	<p>Explain how you plan to improve any positive outcomes as far as possible.</p>
<p>Minimise pollution (including air, land, water, light and noise)</p>		X				
<p>Ensure resilience to the effects of climate change e.g. reducing flood risk, mitigating effects of drier, hotter summers</p>		X				
<p>Enhance conservation and wildlife</p>		X				
<p>Safeguard the distinctive characteristics, features and special qualities of North Yorkshire's landscape</p>		X				

<p>How will this proposal impact on the environment?</p> <p>N.B. There may be short term negative impact and longer term positive impact. Please include all potential impacts over the lifetime of a project and provide an explanation.</p>	<p>Positive impact (Place a X in the box below where relevant)</p>	<p>No impact (Place a X in the box below where relevant)</p>	<p>Negative impact (Place a X in the box below where relevant)</p>	<p>Explain why will it have this effect and over what timescale?</p> <p>Where possible/relevant please include:</p> <ul style="list-style-type: none"> • Changes over and above business as usual • Evidence or measurement of effect • Figures for CO₂e • Links to relevant documents 	<p>Explain how you plan to mitigate any negative impacts.</p>	<p>Explain how you plan to improve any positive outcomes as far as possible.</p>
<p>Other (please state below)</p>		<p>X</p>				

Are there any recognised good practice environmental standards in relation to this proposal? If so, please detail how this proposal meets those standards.

n/a

Summary Summarise the findings of your impact assessment, including impacts, the recommendation in relation to addressing impacts, including any legal advice, and next steps. This summary should be used as part of the report to the decision maker.

Although this report doesn't in itself result in any impacts, the measures carried out by Risk Management Authorities will have a positive effect on the climate change impact. For example, the projects and programmes will support communities to prevent, protect and prepare for the increased impact and frequency of flood risk as a result of climate change.

Flood events themselves cause an increase in carbon emissions and damage to ecosystems and biodiversity. Through human response to flood events there is increased vehicle movements, waste of damaged property before end of normal life (e.g. appliances, fixtures and fittings), and often carbon intensive built environment preventative measures such as flood walls. Flood water carries organic matter away from agricultural areas and destroys habitats. Consequently, the prevention of flooding event, especially in the knowledge that climate change will lead to increased extreme and more frequent weather events, is very important.

The updated actions within the Flood Investigation reports contribute towards and support the North Yorkshire Council Climate Change Strategy, (currently a draft and out for public consultation which can be found at the following link:), [https://www.northyorks.gov.uk/sites/default/files/fileroot/About%20the%20council/Consultations/North%20Yorkshire%20Council%20climate%20change%20strategy%202023-2030/87680 Climate%20Change%20Strategy%20for%20web%20-%20accessible.pdf](https://www.northyorks.gov.uk/sites/default/files/fileroot/About%20the%20council/Consultations/North%20Yorkshire%20Council%20climate%20change%20strategy%202023-2030/87680%20Climate%20Change%20Strategy%20for%20web%20-%20accessible.pdf) (see page Page 32, 7(b) which references adaptation)

The published flood investigations identify areas for further work to mitigate flood risk. This includes plans to both utilise nature based solutions for extreme weather events and flood mitigation. This supports the proposal to develop a Climate Change Adaptation Plan, working alongside Yorkshire & Humberside Climate Commission and other Yorkshire & Humberside Local Authorities.

Sign off section

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Date: 16/03/23