



Local Plan Update

Leeds Local Plan

Development Plan Document

Pre-Submission Changes - Flood Risk Background Paper

October 2023

WHY ARE THE POLICIES NEEDED?

As a part of the changing climate MET Office statistics show that winters in the UK have become 12% wetter over the last 60 years. They predict that rainfall is likely to rise by a further 20% by 2070 with an increase in rainfall intensity leading to 20% more flash flooding.

Local rainfall data shows that since July 2019 Leeds has experienced higher rainfall than the East and North East England average. Without action, the predicted increases in rainfall will create problems for Leeds and lead to more people suffering the devastating impacts of flooding. The Boxing Day floods of 2015 resulted in the highest recorded river levels on both the River Wharfe and the River Aire, notably more than a metre higher than the 'Great Flood of Leeds' in 1866.

The Environment Agency has updated the Climate Change Allowances for peak river flow and peak rainfall intensity. These revised allowances have been mapped in the Council's Strategic Flood Risk Assessment (SFRA) to provide an indication of the likely changes in flood risk, including areas that aren't at risk now but are forecast to be in the future.

Leeds City Council have previously produced a set of policies on flood risk management which were adopted in 2013. These existing adopted policies had to be updated to reflect both the recent changes in national policy, and the necessity for climate change impacts to be taken into account when making planning decisions. The Council declared a climate emergency in March 2019 which incorporates a commitment to improve the city's resilience to the impacts of climate change.

Currently, for existing development located in flood risk areas there can be limited access to flood insurance. Where the provision does exist it is generally very expensive. 'FloodRe' does aim to cover this shortfall in residential provision and will provide flood risk insurance but this is only for houses built before 2009. Investment that can't be insured is a risk to livelihoods and the economy. Often small businesses find insurance (where available) too costly both in regard to the cost of premiums and/or the level of excess required (see [Boosting SME's resilience – Yorkshire Integrated Catchment Solutions Programme \(iCASP\)](#)).

Leeds City Council must now do all it can, where possible, to avoid new development in high flood risk areas. When development has to proceed in these at risk areas it must ensure that flood risk is appropriately mitigated for the lifetime of the development such that it will:

- be fully flood resilient,
- have safe access and escape in times of flood,
- incorporate sustainable drainage techniques
- is protected to the appropriate standard including allowance for climate change, and
- does not make flood risk worse for others.

Residents rightly trust that planning applications approved in flood risk areas are resilient. If the planning system fails to adequately ensure flood risk safety for new development then there is limited mechanism to rectify the situation. The responsibility rests with the local authority to get it right.

Leeds City Council is constructing a flood alleviation scheme on the River Aire, and has recently completed schemes on the River Wharfe at Otley and on the Wyke Beck. In areas where the risk of flooding is reduced because of the presence of flood risk reduction assets, proposed development must address the residual risks associated with a potential breach and over topping of these assets. Breach modelling is required to establish the scope, consequence and likelihood of these residual risks so that appropriate mitigations can included to reduce these risks. The updates to the NPPG in August 2022 reinforce this point.



Photo: Construction of the Leeds Flood Alleviation Scheme

Surface water discharge can also lead to increased flood risk where the intensity of the rainfall exceeds the design of the drainage system.. Sustainable drainage systems (SuDS) are designed to control surface water run off at source and aim to mimic natural drainage regimes. They have additional benefits which also help to achieve policy ambitions for water quality, biodiversity and amenity. SuDS include a number of different techniques designed to manage surface water in a more sustainable approach to the conventional practice of draining water run-off through a pipe into a sewer.



Photo: An example of the use of sustainable drainage

HOW IS THE POLICY JUSTIFIED BY THE EVIDENCE?

Water Quality and Water Consumption (Policies Water 1 and 2)

In September 2022 Minister Steve Double contacted Local Authorities to encourage them to apply tighter water efficiency standards to new build developments.

The Leeds Core Strategy Selective Review 2019 includes a policy that requires major commercial developments to achieve a BREEAM sustainable construction standard of 'excellent'. This standard includes water efficiency measures. The 2019 Review further extended the water efficiency standard to residential development so that applications for residential development of 10 or more dwellings are required to meet a water efficiency standard of 110 litres per person per day.

Our monitoring shows that this standard has been readily accepted by house builders leading to a saving in water of 102,000 litres for the period from 1 October 2019 to 30 June 2020.

In light of the initiative by Minister Steve Double to introduce:

- a 'roadmap' on water efficiency in new developments,
- the low cost of implementation of such measures, and
- the significant benefits of the measures,

it is considered that the water consumption standard should be extended to apply to all residential developments and not just Major applications. This extension of the water consumption standard was also suggested by several respondents to the Publication Draft consultation on LPU1, including the Environment Agency.

The original evidence base that supported the introduction of a water consumption standard in 2019 is available and current (see the Note on a Maximum Water Consumption Standard). A policy briefing on the subject prepared by the University of Leeds recommended that the standard should apply to all residential development (see <https://icasp.org.uk/resources-and-publications/water-efficiency-pb/>). Our experience of implementing the standard has shown that developers have not found it to be challenging or costly and there is no reason for limiting the application of the standard to just Major development.

Given recent droughts and climate change forecasts there is ample evidence to justify the requirement to use water wisely.

Functional Floodplain (Policy Water 3)

Paragraph 78 of the Planning Practice Guide defines functional floodplain as:

‘land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise:

- *land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or*
- *land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding).*

Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

The 2007 SFRA defined the flood zone 3b functional floodplain as being largely outside the urban area. In the urban area those flood zones were categorised as flood zone 3a_{ii} rather than 3b. This meant that some sites in the urban area and in zone 3a_{ii} were able to pass the sequential and exception tests and be redeveloped. Occasionally this redevelopment was for a more vulnerable flood risk use, such as residential. This could create issues in the future due to only partially mitigating and not avoiding the flood risk. Further, with the forecasts for climate change, this may lead to additional pressure on emergency planners and rescue services. Therefore the 2023 SFRA defines functional floodplain based on the probability of flood risk regardless of whether it is in the urban area or outside the urban area.

In August 2022, Government published a comprehensive update to the Flood Risk and Coastal Change section of the Planning Practice Guidance. A major element of these changes is the starting point for defining the functional floodplain boundary. This is now 3.3% annual probability extent of flooding rather than 5% extent. In Leeds the probable difference in extent in spatial terms is likely to be negligible and defended areas (formally and informally) should not be classed as functional floodplain.

This August 2022 change to the definition of functional floodplain has been reflected, as best as possible, in the SFRA 2023. Policy Water 3 applies to these areas and has been written so that it recognises the position that there are existing buildings and structures in the urban areas that impact on the storage and conveyance of flood water. (Note that changes to the policy arising through earlier consultations are explained in the Report of Consultation).

The rural, undeveloped and undefended areas of functional floodplain with a 3.3% annual probability of flooding are where water has to flow or be stored in times of flood. In these areas only water compatible uses and essential infrastructure can be permitted. Providing space for flood water in this way helps us to manage flood risk more effectively and reduces the pressure on emergency rescue services. It reduces the need for costly flood defences and helps people to avoid the misery and destruction caused by flood risk.



Photo: Functional floodplain in the Lower Aire Valley

In developed areas where there is a 3.3% annual probability of flooding the storage and movement of flood water may be restricted by the presence of existing infrastructure or solid buildings. Whilst these areas will be subject to frequent flooding, it may not be practical to refuse all future development. Therefore, Policy Water 3 states that in the functional floodplain only the footprint of existing buildings can be redeveloped, where it can be demonstrated to exclude floodwater and there is no increase in the flood risk vulnerability of the use. The land surrounding these buildings are important flow paths and flood storage areas. Properties within these areas may be subject to frequent flooding and there must be no reduction in flood storage volume or impact on flood flow conveyance. Where sites in this flood zone have previously been allocated for development, then a recognition is made of the commitment to that development. This primarily affects sites that are to be protected by the completion of the Leeds FAS..

This recognises the high level of flood risk without 'blighting' areas of existing development. It recognises the critical importance of the undeveloped land surrounding existing buildings which provides space for floodwater storage and flow and reduces flood risk to new and existing development.

Avoiding Development in Flood Risk Areas (Policy Water 4)

Paragraph 159 of the NPPF states that '*Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.*' This is a challenge for Leeds due to:

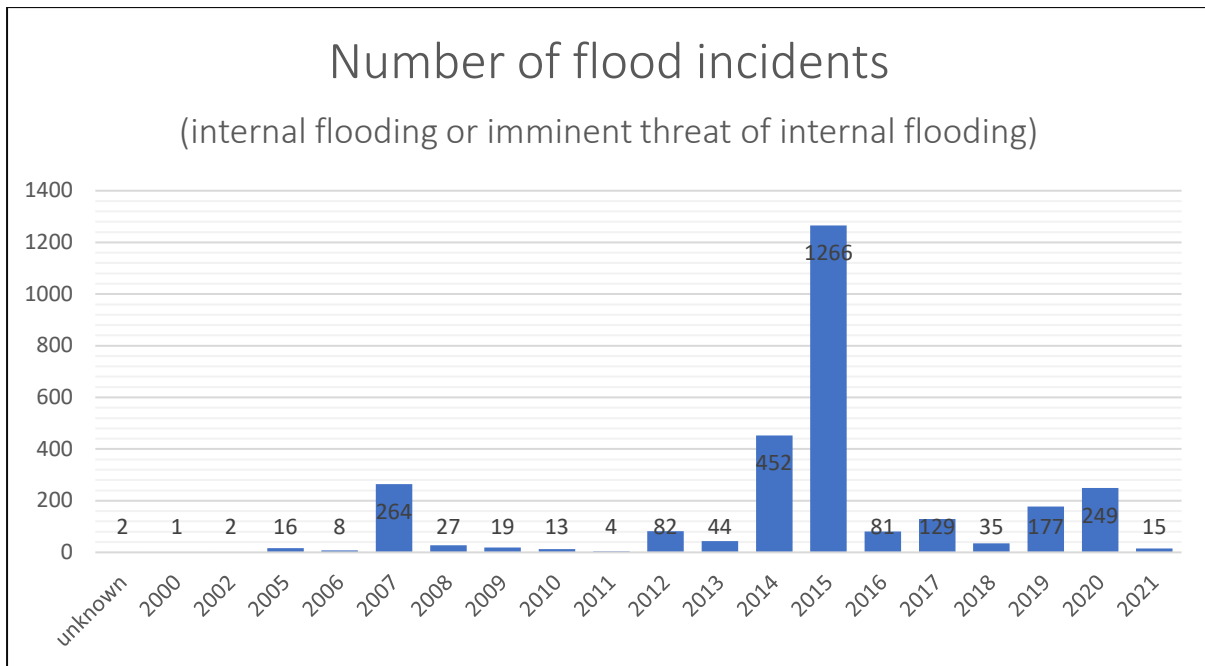
- the large urban area,
- the need to provide sufficient homes for people,
- the subsequent facilities and services required by an expanding population,
- its geography with two major rivers bisecting the administrative area, and
- it being surrounded by green belt land.

These challenges are only further compounded by the forecasts for climate change.

Data clearly evidences that the frequency and severity of flooding in Leeds has increased in recent years. Winter months have become wetter where excessive rainfall over an extended period saturates the river catchments resulting in higher 'normal' river levels with reduced channel capacity to cater for intense rainfall. Summer months have seen an increase in prolonged dry periods where the ground becomes baked and impenetrable. Such ground conditions followed by short intense downpours allows for little infiltration of the rainfall which runs off quickly leading to surface water flooding.

The table below presents the number of incidents reported to the Council where either internal flooding of property occurred or there was an imminent threat of

internal flooding. The internal flooding of property is absolutely devastating to the wellbeing of residents and business owners. However, flooding that affects roads and other important infrastructure can have an equally harmful impact on people’s lives. The distribution of these incidents across the district can be seen on the map in Appendix 1.



The table clearly identifies that there has been an increase in reported flood incidents over the last ten years. The significant number of incidents recorded in 2015 was primarily due to Storm Eva and the antecedent conditions in the build-up to this major flood incident. An incredibly wet October, November and December resulted in saturated catchments prior to the onset of this intense storm. Storm Eva resulted in the highest recorded flood levels for a number of catchments in the Leeds region. The number of properties in Leeds that were flooded or affected by the flooding from Storm Eva is shown in the table below:

	Flooded	Affected	Total
Residential	2300	411	2711
- Houses	247	144	391
- Flats	2053	267	2320
Commercial	541	137	678
Other (churches, allotments, sports clubs)	4	3	7
Total	2845	551	3396

LCC Flood Risk Management collate data on local flooding incidents. From January 2000 to January 2021 a total number of 2,886 Priority 1-3 incidents were reported (see the map in Appendix 1 showing distribution).



Photo: Flooding of Kirkstall Road, a major route into the city centre, in 2015.

The Authority Monitoring Report identifies that there has been an increase in the number of planning applications which the Environment Agency have objected to on the grounds of flood risk. Whilst these applications are not approved until the Environment Agency objection has been resolved,, this increase indicates that flood risk is an important factor for an increasing number of developments.

Residual Risk (Policy Water 5)

Paragraph 167d) of the NPPF states that development should only be allowed in areas at risk of flooding where, it can be demonstrated that *'any residual risk can be safely managed'*.

There can often be a perception that where a publicly funded and operated flood alleviation scheme has been completed the developer no longer needs to consider residual risk. However this is not the case. A FAS is constructed to protect the existing development and not to enable new development in areas benefitting from these new flood defences. Para 42 of the PPG states that *'Areas behind flood defences are at particular risk from rapid onset of fast-flowing and deep-water flooding, with little or no warning if defences are breached. Measures need to be designed to:*

avoid internal flooding from residual risk from flood risk management infrastructure wherever possible; and

ensure people are not exposed to hazardous flooding, irrespective of the development's vulnerability classification.'

Areas that benefit from flood alleviation schemes in Leeds have been identified on the SFRA Residual Risk map. Where a new development is proposed that relies on a FAS (constructed to the appropriate design standard) for protection then the residual risk of a breach or failure of the defence must be considered and, if necessary mitigated for. Breach modelling can be expensive and where there is a requirement for this it is important that developers are made aware as early as possible in the development process.

Flood Risk Assessment and Climate Change Updates (Policy Water 6)

Planning policy seeks to avoid development in flood risk areas. This cannot always be avoided resulting in areas where flood resilience measures are crucial. Policy Water 6 requires applications in flood risk areas to be accompanied by an appropriate flood risk assessment. This must demonstrate that for the lifetime of the development it will be safe for its users without increasing flood risk elsewhere.

Policy Water 6 is an existing, effective adopted policy in the Leeds Natural Resources and Waste Local Plan 2013. However, given the Government's August 2022 update to the NPPF reinforcing the requirement to take account of climate change, the Council considers that Policy Water 6 be amended so that Flood Risk Assessments must consider the impact of climate change.

Paragraph 167 of the NPPF states: *'When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:*

a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;

b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;

Paragraph 80 of the Planning Practice Guidance provides a checklist of the requirements for a Flood Risk Assessment which includes climate change. It states specifically that the FRA should explain *'How is flood risk at the site likely to be affected by climate change?*

The SFRA 2023 provides much of the evidence base to demonstrate the very real risk to Leeds posed by river flooding and increased surface water run-off. It also evidences the impact of climate change across the district. The Environment Agency

recently updated the climate change allowances and the SFRA reflects as best as possible these changes. The updated range of upper end climate change allowances for river flow in the SFRA study area (22%-51%) is extremely similar to the previous range (20%-50%). Therefore, the previous climate change flood outlines are considered a reasonable basis on which to assess the potential change in risk across the SFRA study area due to climate change.

The updated climate change allowances are now assessed on individual river management catchment areas, whereas the previous allowances were assessed on larger scale regional river basins. The study area includes two river management catchments – the Aire and Calder and the Wharfe and Lower Ouse. The current climate change allowances for these river management catchments are shown in Table 1 and Table 2 below. These allowances are an increase in peak river flow used to arrive at a design flood level.

Table 1: Climate Change Allowances for River Flow Increases in the Aire and Calder River Management Catchment

Allowance category	Total potential change anticipated for the '2020s' (2015 to 2039)	Total potential change anticipated for the '2050s' (2040 to 2069)	Total potential change anticipated for the '2080s' (2070 to 2115)
Upper end	24	31	51
Higher central	15	18	31
Central	11	13	23

Table 2: Climate Change Allowances for River Flow Increases in the Wharfe and Lower Ouse River Management Catchment

Allowance category	Total potential change anticipated for the '2020s' (2015 to 2039)	Total potential change anticipated for the '2050s' (2040 to 2069)	Total potential change anticipated for the '2080s' (2070 to 2115)
Upper end	22	29	48
Higher central	14	18	31
Central	11	13	23

The allowance to be applied to a proposed development site depends on the type of use proposed. Development is divided into vulnerability classifications according to

the NPPF and Table 3 shows which climate change allowances should be applied to each vulnerability classification in a given Flood Zone. There are a range of vulnerabilities depending on the location and use and quite rightly uses that involve people sleeping overnight, such as hotels or houses, bring risks and impacts that don't occur when an activity only takes place during the day. As stated previously, flooding of homes can have a hugely detrimental impact on health and well-being with often long lasting effects.

Table 3: Climate Change Allowances to be Applied for Each Development Vulnerability Classification

Flood Zone	Development Vulnerability	Climate Change Allowance
2 and 3a	Essential Infrastructure	Higher Central
	Highly Vulnerable, More Vulnerable, Less Vulnerable and Water Compatible	Central
3b	Essential Infrastructure	Higher Central
	Highly Vulnerable, More Vulnerable and Less Vulnerable	Development should not be permitted
	Water Compatible	Central

Climate change allowances of 20%, 30% and 50% have been applied in most of the modelled flood scenarios. A full set of climate change allowances has not been modelled for all watercourses due to the availability of existing modelled information and the additional cost for providing this additional data. Where the existing data was not available a comparative assessment of the geographically and hydrologically similar catchments was undertaken. The most appropriate conservative proxy model output was chosen to represent flood outlines for key flood events. For example, comparing the 0.1% annual probability flood extent to the 1% annual probability flood extent including a 50% allowance for climate change, where this has been modelled, shows that the differences in the two modelled flood extents are usually small. The 0.1% annual probability event flood outline can therefore be used as a proxy for the 1% annual probability event with 50% allowance for climate change where required. The Environment Agency have confirmed that they are happy with the use of proxies in this instance.

Chapter 10 of the SFRA provides an overview for each Main River watercourse of the changes in flood extent resulting from climate change.

Ensuring Safe Access and Egress in Times of Flood (Policy Water 6A)

Paragraph 167e) of the NPPF requires that *'when determining any planning applications, local planning authorities should ensure that safe access and escape routes are included where appropriate, as part of an agreed emergency plan.'*

The Planning Practice Guidance advise us that in determining whether a development is safe, the ability of residents and users to safely access and exit a building during a flood needs to be considered. Details of how the development will include safe access should be included in an evacuation plan. The evacuation plan should include details of whether adequate flood warnings will be available to the people using the development. It further states that emergency planners and the emergency services should confirm the adequacy of the evacuation proposals.

Much of the city centre and inner suburbs in Leeds have seen increases in their residential populations. This is through a combination of the loss of traditional manufacturing building uses to residential use, and the popularity of high density tall buildings accommodating high numbers of people. Often these have been in high flood risk areas where there is good accessibility to the transport links (train station and pedestrian and cycle corridors along the Kirkstall Road corridor).

National policy requires that people are not exposed to hazardous flooding, irrespective of the development's vulnerability classification. The Environment Agency and H. R. Wallingford produced a supplementary technical note on flood hazard ratings and new development. This helps to clarify what is meant by 'hazardous flooding'. The flood hazard to which people would be exposed on access or escape routes is affected by the depth and velocity of the water, the volume of debris in the water, and the 'people vulnerability' (whether they are children, elderly or infirm). A depth of less than 0.75 metres is classed as a very low hazard. (source: Hazard to People Classification Table 13.1 of FD2320/TR2 -Extended version).

Historically there have been different interpretations of 'safe access'. This has resulted in previous residential developments being approved on the basis that residents would stay put until the flood is over, and in the event of an emergency the Fire and Rescue Service would evacuate with a boat (for example the approval of over 200 units at a redevelopment on Kirkstall Road). In the light of climate change forecasts, this is not a sustainable position for the basis of granting planning consent. Therefore a new policy is needed to give clarity to what is meant by safe access and egress.

Paragraph 44 of the Planning Practice Guidance (PPG) states *'The emergency services are unlikely to regard developments that increase the scale of any rescue that might be required as being safe. Even with defences in place, if the probability of inundation is high, safe access and escape should be maintained for the lifetime of the development.'*

Paragraph 47 of the PPG states that *'Access considerations should include the voluntary and free movement of people during a 'design flood', as well as the potential for evacuation before a more extreme flood, considering the effects of climate change for the lifetime of the development. Access and escape routes need*

to be designed to be functional for changing circumstances over the lifetime of the development’.

Paragraph 47 goes on to state that *‘where a failure of flood risk management infrastructure would result in flooding with a speed-of-onset that would not allow sufficient time for safe access and escape, an internally accessible place of safety, capable of accommodating the likely number of occupants or users of the proposed development should also be provided. Local planning authorities should consider whether the development can be considered safe given the predicted duration of flooding and the vulnerability of occupants/users.’*

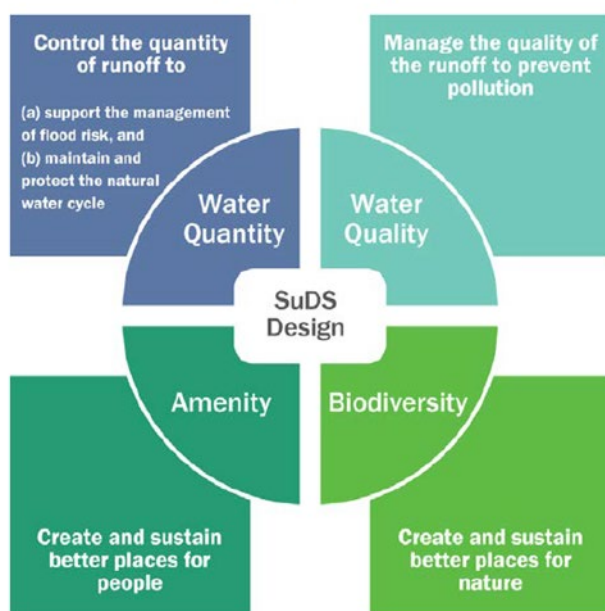
Policy Water 6A reflects this guidance and gives preference to the evacuation of a development prior to the onset of an extreme flood thus avoiding the necessity for residents to stay put or adding potential burden on the Fire and Rescue Service.

Sustainable Drainage (Policy Water 7)

Large areas of Leeds are likely to be suitable for the use of some form of sustainable drainage technique which can be incorporated into a new development drainage design. The SFRA uses British Geological Survey data sets to give an indication of the locations in Leeds where infiltration for new development drainage is feasible.

There are multiple benefits to using sustainable drainage systems for managing surface water in preference to conventional systems, particularly for water quality, biodiversity, health and wellbeing. This is illustrated in the diagram below:

Figure 2: Sustainable drainage objectives (CIRIA C753)



Paragraph 169 of the NPPF states: *‘Major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate. The systems used should:*

- a) take account of advice from the lead local flood authority;*
- b) have appropriate proposed minimum operational standards;*
- c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development; and*
- d) where possible, provide multifunctional benefits.*

The statutory role of the Lead Local Flood Authority for Leeds City Council is undertaken by the Council’s Flood Risk Management Team. They have published technical guidance titled Minimum Development Control Standards for Flood Risk and have requested supporting policy to reduce confusion and ambiguity and improve negotiations and outcomes with developers.

Yorkshire Water have the responsibility for the delivery of water supply and the provision of wastewater services. The Yorkshire Water Business Plan 2020 to 2025 sets out how they will deliver water supply and wastewater services in a resilient and sustainable way. They collect water, treat and safely return it back to the environment. Encouraging the use of sustainable drainage will reduce surface water from our sewers, protecting the environment from sewer flooding and pollution.

Porous Paving and Loss of Front Gardens (Policy Water 8)

The paving over of front gardens can result in increased flood risk caused by additional surface water run-off that is unable to drain naturally where impermeable materials are used. Additionally, the loss of vegetation can contribute to increased air pollution in urban areas and can impact on the character and appearance of traditional streetscapes. The intensification of built development through the use of permitted development rights (e.g. to build extensions and garages) and the impact of climate change further compounds the problem.

Permitted development rights are established by the Government and allow for certain types of development that do not require planning consent. Where planning permission is not required it can be difficult for the Council to influence the loss of spaces that help manage surface water run-off.

Permitted development rights allow for the building of extensions, garages and other structures that reduce the extent of the area available for natural drainage and holding water.

Permitted development rights also allow for the provision of a new or replacement hard surface (such as a driveway) within the curtilage of the grounds of different buildings, such as houses, offices and industrial buildings. However, these permitted development rights are limited to ensure that permeable materials are used.

Article 4 Directions can be used to reduce the growth in surface water run-off in areas where there is local evidence to demonstrate that permitted development rights are increasing urban creep and exacerbating flooding. However, the Article 4 Direction process can be protracted and resource intensive. Early consultation and liaison to ensure that developments are designed to make space for water is a more sustainable and effective approach for managing flood risk which also helps to meet the Local Plan objectives for green and blue infrastructure.

There is increasing evidence of the vital role that gardens play in helping adaptation and mitigation to climate change. Of note is the research published in Urban Forestry & Urban Greening in 2012, entitled 'The domestic garden – Its contribution to urban green infrastructure' by Ross W.F. Camerona, Tijana Blanusa, Jane E. Taylor, Andrew Salisbury, Andrew J. Halsteadb, Béatrice Henricot, and Ken Thompson. The review recognizes the benefit of domestic gardens in mitigating flooding. It states: 'Gardens provide storm attenuation 'services' to the urban matrix. Vegetation, trees especially, intercept intense precipitation, hold water temporarily within their canopy thus reducing peak flow and easing demand on urban drains (Xiao and McPherson, 2002). In addition, vegetation mitigates flood risk by increasing infiltration into the soil reducing surface flow (Dunne et al., 1991).' Research carried out by Perry and Nawaz in 2008 found that despite the advantages of gardens, hard paving in domestic gardens is increasing. Their research found a 13% increase in impervious surfaces over 30 years in Leeds, 75% of which was due to paving of residential front gardens and this was linked to more frequent and severe flooding in the area.

A study undertaken in Edinburgh by the Centre of Expertise for Water, [Quantifying rates of urban creep for Scotland MAIN REPORT.pdf \(crew.ac.uk\)](#), showed that urban creep has a significant effect on increasing the risk of flooding, contributing to more loss of vegetation than urban expansion. This suggests that a local policy is needed to limit the loss of gardens.

How will the policy help deliver the Council's corporate strategy?

Tackling climate change is an important part of the Council's 'Best City Ambition'. It also includes a commitment to 'reduce flooding and other risks from the impact of climate change' and 'build sustainable infrastructure' as well as a commitment to 'reduce pollution'.

The 3 Pillars of the Best City Ambition are:

Health and wellbeing

Inclusive growth

Zero carbon

Health and Wellbeing - In 2030 Leeds will be a healthy and caring city for everyone: where those who are most likely to experience poverty improve their mental and physical health the fastest, people are living healthy lives for longer, and are supported to thrive from early years to later life.

The proposed flood risk policies help to deliver a safe and welcoming city for people of all ages and from all communities in which residents feel more secure. For example, homes that are built in high flood risk areas after 2009 have difficulty getting flood risk insurance. Everyone should be able to afford to insure their home against damage by flooding and we can help to achieve this by avoiding residential development in high flood risk areas and when it can't be avoided ensuring it is resilient and flood resistant.

The proposed flood risk policies encourage better working with housing providers, landlords, tenants and communities to improve poor quality housing, so everyone can have a home which supports good health, wellbeing and educational outcomes.

Inclusive growth - In 2030 Leeds will have an economy that works for everyone, where we work to tackle poverty and ensure that the benefits of economic growth are distributed fairly across the city, creating opportunities for all.

The proposed flood risk policies contribute to achieving this ambition by recognising that some communities face challenges of flood risk and helping to manage that risk so that communities remain sustainable now and in the future.

How are we going to measure the impact of the policy?

DEFRA publish annual data on the number of applications that have received an objection from the Environment Agency on the grounds of flood risk and on the grounds of water quality. The Council refines this data to explain where the objection was resolved and removed and this data is presented annually in the authority monitoring report.

The Council also keeps data on the number and type of applications approved in each flood zone.

Flood Risk Management record the number of flooding incidents each year by property. They also keep records on the number and type of sustainable drainage schemes that are implemented. These are shown on the map in Appendix 2.

How will it be implemented?

The Local Flood Risk Management Strategy for Leeds sets out the role of Development Management Flood Risk Management (DM FRM) colleagues to provide comments on flood risk assessments (FRA). They have responsibility for commenting on flood risk assessments for tributaries and watercourses. The Environment Agency (EA) have responsibility for commenting on flood risk assessments for the main rivers. The Local Plan policies set out what is required and, where the FRA is not adequate, they can be used to justify a reason for refusal of an application.

FRM promote sustainable drainage through their role on agreeing drainage schemes (in line with non-statutory technical standards) and ensure they are appropriately

maintained. Therefore the policy on sustainable drainage will be largely implemented by FRM when they ensure that decisions on planning applications relating to major developments (10 dwellings, or equivalent non-residential developments) have SuDS in place, unless demonstrated to be inappropriate.

The non-statutory standards are set out in Leeds City Council's Minimum Drainage Considerations for Development Control, which is regularly reviewed and kept up to date, for example when the DEFRA Climate Change Allowances are updated.

DM FRM colleagues do not comment on the detail of an evacuation plan. This function has links to the Leeds City Council Flood Plan which is administered by the Resilience & Emergencies Team. As to who should approve the emergency plan whilst FRM set the planning condition, technically they do not approve it. FRM are happy to advise on the technical and factual elements of an emergency plan which relate to flood risk. However, as advised in the ADEPT document, the acceptance of an emergency plan is likely to necessitate a collaborative approach including consultation with the EA, LLFA, Resilience and Emergencies Team and also the Emergency Services. It is the Public Health and Safety /Emergency Planning considerations, especially any proposals to do with the suggested policy criteria and acceptable hazard scenarios, where an opinion is needed from an Emergency Planning Officer.

Equality, diversity, cohesion and integration

Equality has been considered as part of policy formulation, the aim of the policy is to protect those areas which are most affected by flood risk and as such it aims to protect these more vulnerable areas and residents.

The policy looks at flooding holistically. In part it refers to the existing flood alleviation scheme (FAS) the aim of which is to protect existing development and not to enable new development to take place. Where a new development is proposed that relies on the FAS for defence then the residual risk of a breach or failure of the defence must be taken into account.

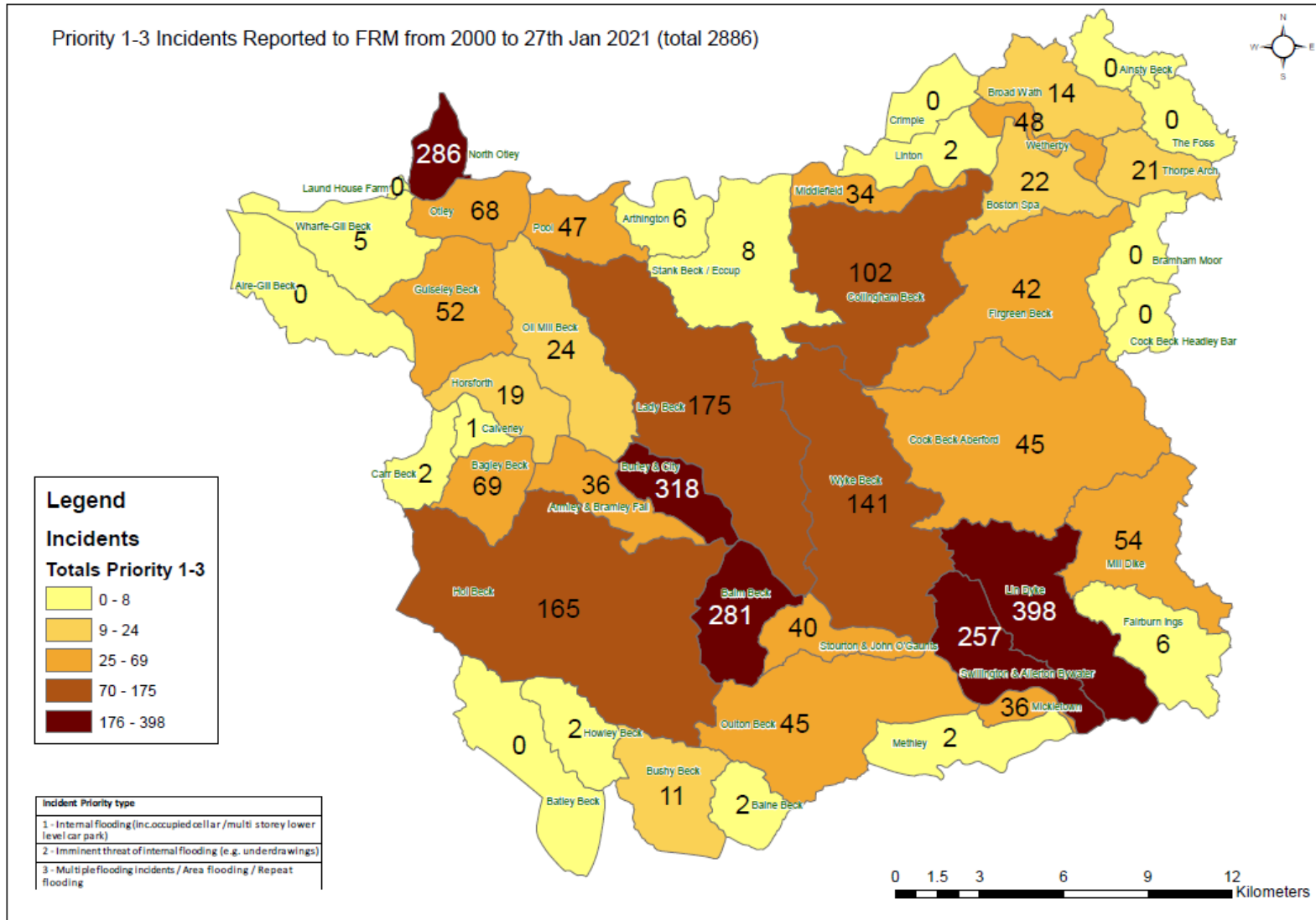
The flood alleviation scheme is on the River Aire, on the River Wharfe at Otley and on the Wyke Beck. In areas where the risk of flooding is reduced because of the presence of flood alleviation schemes or defences, proposed development will need to address the residual risks associated with a potential breach and over topping of the flood alleviation scheme or other defence, whichever is the worst case scenario. Breach modelling is needed to establish the extent of these residual risks to be sure that the proposals will be safe.

In terms of equality the impact of flooding is geographical or spatial being along the River Aire, River Wharfe and the Wyke Beck, residents living in these areas will benefit from the proposals, it will have a direct positive impact on all the protected characteristics but in particular on those who are elderly, the young and those on lower incomes.

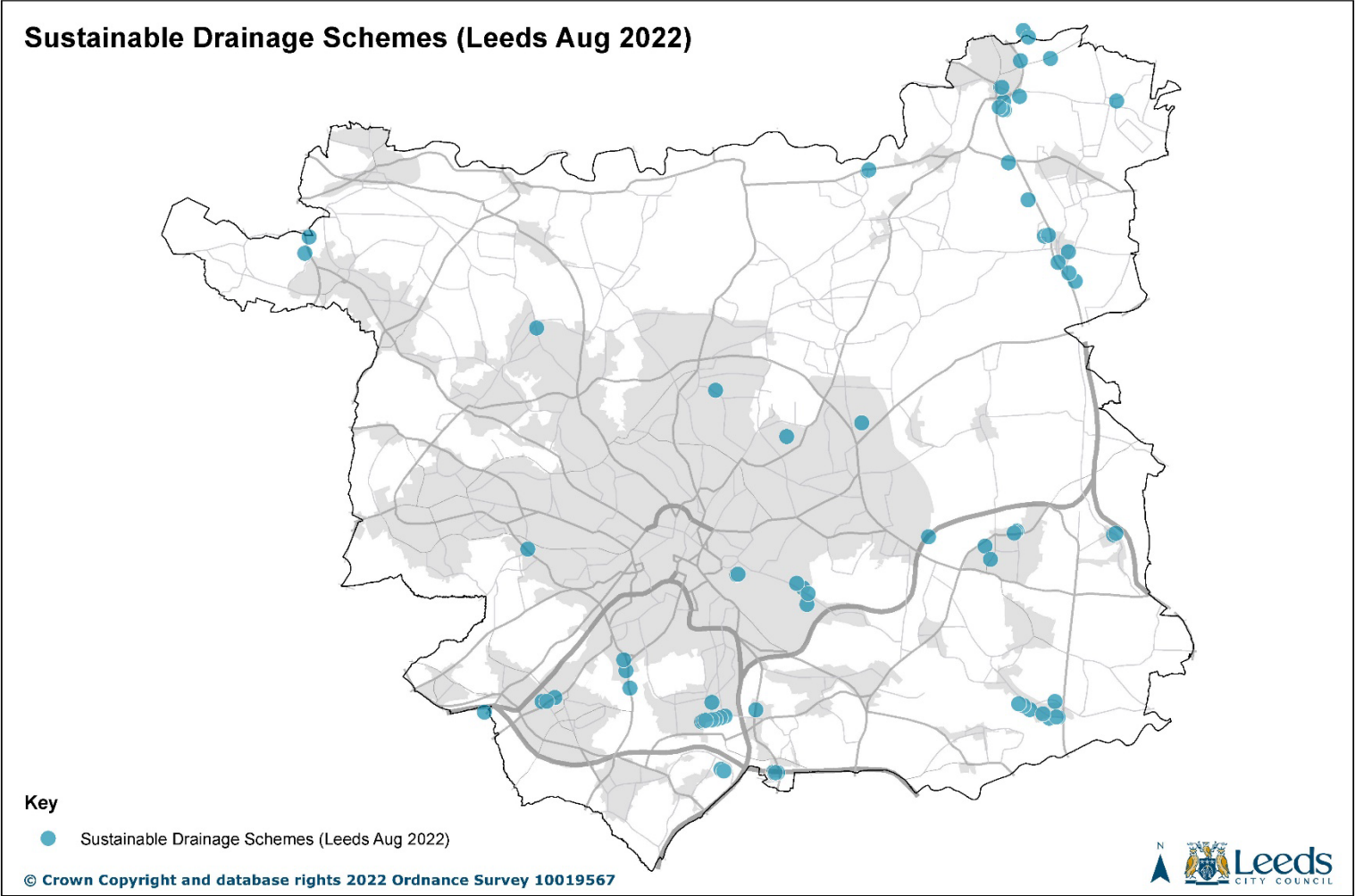
The policy is also about improving and encouraging the use of sustainable drainage systems in new development, this has not been readily taken up by developers. By

encouraging a more sustainable drainage system to be used for managing surface water in preference to conventional systems because of the many other benefits that they bring, particularly for water quality, biodiversity and health and wellbeing this will also have a direct positive impact on the protected characteristics, again in particular this will benefit those who are more vulnerable such as the elderly, the young and those on lower incomes.

Appendix 1:



Appendix 2: Sustainable Drainage Schemes



PRODUCED BY CITY DEVELOPMENT, LOCATION INTELLIGENCE TEAM, LEEDS CITY COUNCIL Date: 13/09/2022 Created by: NF