

Topic paper: Flooding

Flooding considerations

Pages 2–3

Sample flooding policy sections

Meridien
Ponteland

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Pages 7–10

FLOODING

Analysis of problem

Sources and consultees: Oldham Council Drainage Section; Environment Agency; landowners.
Is the Parish Council's Flooding sub group still active? Learning to be gained from the work of that group?

Issues

Increased frequency and intensity of sustained rainfall flooding events; flash flooding events.

Extent of damage to property; risk to life?

Impact on land use, including farming

Is there any foul water contamination of watercourses due to high rainfall events?

Impact of continuing climate change – even higher overall rainfall, even more intense downpours?

Could climate change also lead to changes in the vegetation and thereby slow runoff?

- There is now evidence of naturally seeded reforestation of the highest areas of the Saddleworth Moors (above say 400 metres) - is this welcome? Or would the loss of open moorland be seen as unacceptable change to a vital element of the Saddleworth landscape.
- There has been increased woodland formation on the hillsides of Saddleworth (say between 150 metres and 400 metres) over the last 20 years. Most has been planted, a lesser amount is self seeded. Success rates have been increased by climate warming. Has this reduced run off? Is more needed for this and/or other purposes?

Will changes in farming types or practices have impacts on run off due to market or grant support changes post Common Agricultural Policy? e.g reduced upland grazing, grants for wilding projects; will there be replacement of EU grants for conservation of upland bird habitats.

Identification of high impact locations for the different types of flooding

Identification of problematic catchment areas which contribute to high level and/or rapid runoff

Identification of places where inadequate surface water drainage infrastructure is causing or exacerbating flooding.

Identification of currently unmapped watercourses.

Provision of information to residents on riparian ownership and responsibilities

Overlap to housing – identify flood risk areas, and mark down as least suitable for development (ref. sequential test).

Potential policy measures

Sustainable Drainage systems in new developments,

Slow the Flow initiatives on tributary streams and catchment areas – link to “wilding” initiatives

Improving surface water drainage infrastructure and maintenance.

Defensive design of new developments in high-risk areas.

Will there be planning policies in the Oldham Local Plan which are sufficient for Saddleworth circumstances.

What non-planning measures are needed which might be appended to the Neighbourhood Plan?

Information sources

NPPF: paragraphs 155–165

Oldham strategic flood risk assessments:

https://www.oldham.gov.uk/downloads/download/499/hybrid_strategic_flood_risk_assessment_downloads

Environment Agency: What’s in my Backyard:

<http://apps.environment-agency.gov.uk/wiyby/default.aspx>

Policy NE5 - Flooding and Drainage

NE5.1 Development should not increase flood risk. Where necessary, planning applications for development within the Neighbourhood Area must be accompanied by a site-specific flood risk assessment in line with the requirements of national policy and advice, but may also be required on a site-by-site basis, based on locally available evidence.

NE5.2 All developments shall discharge surface water at the greenfield Qbar rate with all excess water up to a 1 in 100 year storm, with an appropriate allowance made for climate change, stored safely on site.

NE5.3 All proposals must demonstrate that flood risk will not be increased elsewhere in all rainfall events including exceedance events, and that proposed development is appropriately flood resilient and resistant.

NE5.4 Information accompanying planning applications should demonstrate how any mitigation measures will be satisfactorily integrated into the design and layout of the development.

NE5.5 The use of Sustainable Drainage Systems (SuDS) and permeable surfaces will be encouraged, where appropriate.

NE5.6 All development proposals should demonstrate high levels of water efficiency. All residential development should incorporate water efficiency measures to achieve the enhanced technical standard for water usage under the building regulations.

NE5.7 Proposals to expedite the improvement and upgrade the existing drainage network in the village will be supported.

6.19 Explanation

6.19.1 90 properties in The Parish of Meriden are predicted to be at risk of flooding using the Updated Flood Map for Surface Water. The village has experienced several floods in recent years, most notably in 2007 and 2012. A further flood event occurred in 2016.

6.19.2 The main risk of flooding in Meriden is from the ordinary watercourse that flows into the village to the rear of 175 Main Road and is culverted along Main Road before discharging to an open watercourse on Main Road opposite Waterfall Close. The culverted watercourse is also used to feed Meriden Pool and the ornamental lakes in the grounds of Meriden Hall. In extreme rainfall events the capacity of the culvert is exceeded, and water flows overland to and along Main Road and causing internal flooding to properties.

6.19.3 Following the flooding SMBC as Lead Local Flood Authority (LLFA) have successfully applied for funding to install two Community Flood Risk Cameras at 175 Main Road and opposite the Bull's Head. These cameras are used to monitor water levels and ensure that the trash screens on the culver entrances do not become blocked.

6.19.4 To better understand the flooding and determine what alleviation measures could be put in place the LLFA have commissioned flood modelling based on a detailed digital terrain survey that was carried out in 2018. Future development will be expected to contribute towards the delivery of any such future scheme.



Figure 30 – Flooding in Meriden taken 21 November 2012



Figure 31 – Flooding in Meriden taken 6 February 2016

6.19.5 New developments must contribute to flood alleviation through use of SuDS to attenuate surface water flows, soft landscaping and permeable surfaces where possible. Where there are SuDS opportunities to provide biodiversity enhancement must be considered.

6.19.6 Local planning authorities have a general responsibility not to compromise the achievement of UK compliance with the Water Framework Directive (WFD42) (Directive 2000/60/EC). All surface water bodies need to achieve “good ecological status” by 2015. The Localism Act 2011 enables the UK Government to require local authorities to pay if their inaction resulted in a failure to meet WFD requirements. The Localism Act 2011 also requires local planning authorities to cooperate on cross-boundary planning issues including the provision of water supply infrastructure, water quality, water supply and enhancement of the natural environment.

6.19.7 Under Section 94 of the Water Industry Act 1991, water companies have a general duty to provide effectual drainage to accommodate planned development. Furthermore, they are also required to manage their assets efficiently to minimise customers' bills. Consequently, there will often be limited headroom as water companies do not generally provide significant amounts of spare capacity to accommodate speculative development. Where liaison through the planning process identifies a need to provide additional capacity, the required infrastructure upgrades are planned to ensure the delivery of planned development is not unduly delayed.

6.19.8 The effective management of wastewater is considered critical in the pursuit of sustainable development and communities. It reduces the impact flooding can have on the community, maintains water quality and quantity and helps to enhance local amenity and biodiversity through the provision of green infrastructure.

6.19.9 Effective water management also reduces the movement of water and sewage thereby reducing energy requirements. Meriden Parish Council will continue to work with SMBC as the Lead Local Flood Authority for the area, the Environment Agency and Severn Trent Water Authority to achieve compliance and aim to provide sufficient water to meet local needs.

Flooding and sustainable drainage

4.103 Flooding is an issue of great concern to a number of residents of the Neighbourhood Plan area. There is particularly concern over the impact new development could have on flood risk and also concerns regarding sewer capacity.



4.104 While most of the Neighbourhood Plan area is not at risk from fluvial flooding, the Northumberland Strategic Flood Risk Assessment – Level 2 (SFRA - 2015) identifies that the River Pont presents the main fluvial flood risk to the Neighbourhood Plan area; in addition, a number of minor water courses in the area including Small Burn, Fairney Burn as well as unnamed water courses also present some flood risk. The SFRA also identified risks from surface water flooding.

4.105 The SFRA includes policy recommendations to help guide future development in Ponteland:

- Where applicable roll back development from the River Pont, Fairney Burn and Small Burn watercourses to outside Flood Zone 3a to create 'blue corridors' which provide public open space and recreation areas near watercourses and enhance green infrastructure. Development should not encroach within 5m of the River Pont, Small Burn and Fairney Burn, which is the Environment Agency by-law distance for Main Rivers. This would be beneficial both in terms of flood risk and maintenance access;
- Mixed-use (mixed vulnerability) development that follows the principles of the NPPF sequential approach should be applied within the area. For example, the proposed residential building uses should firstly be situated in Flood Zone 1. The remaining 'less vulnerable' uses should be located within Flood Zone 1, then Flood Zone 2 and only when justifiable, Flood Zone 3. This approach can also be applied within buildings, for example, commercial development located at ground floor level and residential development above ground floor level in flood risk areas. However, access and egress must still be made available for residential uses;
- Development on or near Main Rivers must apply to the Environment Agency for a flood defences consent;
- The Environment Agency must be consulted early on in the design process if structures are going to cross above an existing watercourse;
- Surface water flood risk should also inform the site layout, such that 'highly vulnerable' development is avoided in locations that are shown at the greatest risk of pluvial flooding; and
- For those sites which are primarily greenfield, development has the potential to significantly increase surface water runoff. SuDS should be considered at all stages of the planning and design of new developments to reduce runoff rates and volumes from the developed sites, thus reducing the resultant flood risk posed to the sites and adjacent/downstream areas. Development should, where reasonably possible, aim to reduce surface water runoff to less than greenfield run off. If this is not possible then greenfield runoff rates should be achieved by the proposed mitigation measures.

4.106 The SFRA also recommended that a Surface Water Management Plan was prepared for Ponteland.

4.107 In accordance with the NPPF, Plan Objective 6 seeks to reduce the causes and risk of flooding across the Neighbourhood Plan area.

Flood Alleviation

4.108 The Neighbourhood Plan area lies within the Wansbeck and Blyth Catchment Flood Management Plan (CFMP) area. The CFMP identifies that within the catchment, the main consequences of flooding occur in the urban areas of Morpeth, Ponteland and around Blyth. As flood risk is not the same across the catchment it has been divided into seven sub areas which have similar physical characteristics, sources of flooding and level of risk. The CFMP then identifies the most appropriate approach to managing flood risk in each of the sub areas. Ponteland lies within sub area 6. It identifies that sources of flooding are river and surface water, with risk from the River Pont, Prestwick Carr Cut and other drains. The CFMP highlights that there are currently flood defences in Ponteland which reduce the risk of flooding from the River Pont and a pumping station which reduces the risk of flooding from the Callerton Burn.



4.109 The CFMP identifies that Ponteland is likely to be at risk from surface water flooding in the future as a result of rainfall intensity, and the likelihood of convective storms in summer, may increase as a result of climate change. The CFMP identifies that work will be carried out to maintain the existing flood defences and investigate improvements to the current standard of protection. Work on new defences will be considered with the aim of reducing the risk to the existing developments. The Environment Agency will work with NCC and Northumbrian Water to investigate and address the surface water flooding risk.

4.110 Policy PNP 26 therefore provides a positive policy framework which supports the development of flood prevention and alleviation schemes, provided they represent the most sustainable solution. This approach will help to deliver Plan Objective 6 which seeks to reduce the causes and risk of flooding across the Neighbourhood Plan area.

Policy PNP 26: Flood Alleviation
Proposals for flood prevention and alleviation schemes, including sustainable drainage systems will be supported where they demonstrate that they represent the most sustainable solution and that their social, economic and environmental benefits outweigh any adverse environmental impacts caused by new structure(s) including increasing the risk of flooding elsewhere.

Flood Risk

4.111 The NPPF is clear that inappropriate development in areas at risk from flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere.

neighbourhood plan area. There is particularly concern over the impact new development could have on flood risk and also concerns regarding sewer capacity.

I.113 Policy PNP27 therefore provides the criteria which are required to be considered to demonstrate how development proposals will minimise flood risk in accordance with the NPPF. The policy also makes reference to 'urban creep' which is the conversion of permeable surfaces to impermeable over time e.g. impermeable surfacing of front gardens to provide additional parking spaces, extensions to existing buildings, creation of large patio areas. The consideration of urban creep is best assessed on a site by site basis and is limited to residential development.

Policy PNP 27: Flood Risk

Development proposals will be required to demonstrate how they will minimise flood risk to people, property and infrastructure from all potential sources by:

- a. Avoiding inappropriate development in areas at risk of flooding, directing development away from those areas at highest risk;
- b. Assessing the impact of the development proposal on existing sewerage infrastructure and flood risk management infrastructure, including whether there is a need to reinforce such infrastructure or provide new infrastructure;
- c. Pursuing the full separation of foul and surface water flows within the development;
- d. Ensuring that development proposals separate, minimise and control surface water runoff, with sustainable drainage systems being the preferred approach. Surface water should be disposed of in accordance with the following hierarchy, where surface water should be directed to:
 - i. Infiltration (i.e. a soakaway), unless it can be demonstrated that is not feasible due to underlying ground conditions or site constraints;
 - ii. A watercourse, unless there is no alternative or suitable receiving watercourse available;
 - iii. A surface water sewer;
 - iv. A combined sewer as the last resort once all other methods have been explored.
- e. Where greenfield sites are to be developed, the surface water run-off rates must match the equivalent greenfield run-off rate for the same rainfall event and wherever possible should aim to reduce the existing greenfield run-off rate.
- f. Where previously developed sites are to be developed, surface water run-off rates should aim to discharge surface water at the equivalent greenfield run-off rate. Where it can be demonstrated that cannot be achieved, discharge rates shall be reduced by a minimum of 50% of the existing site run-off rate.
- g. Demonstrating through the design of the drainage system an appropriate allowance for urban creep over the lifetime of proposed residential development. This could be through designing in additional capacity in the drainage system and restricting the amount of impermeable area within the development.

Sustainable Drainage Systems

I.114 The NPPF requires that when determining planning applications Local Planning Authorities should ensure flood risk is not increased elsewhere. Sustainable drainage systems, also known as SuDS, are an important part of any new development to protect against on-site flooding and to ensure that flood risk across the wider water catchment area is minimised. Sustainable drainage systems include features such as ponds, porous road surfaces and shallow drainage

channels (swales), which are designed to absorb rainwater where it falls, or slow water down to reduce the levels entering the drainage system.

4.115 Different proposals will require different types of sustainable drainage systems. Proposals for sustainable drainage systems should be designed and integrated within development proposals at the earliest stage taking advantage of landscape features and topography.

4.116 Policy PNP 28 therefore supports the incorporation of sustainable drainage systems into new development, supporting the delivery of Plan Objective 6 which seeks to reduce the cause and risk of flooding across the Neighbourhood Plan area.

Policy PNP 28: Sustainable Drainage Systems

Sustainable drainage systems should be incorporated into development in order to separate, minimise and control surface water run-off, in accordance with national standards and any future local guidance. Sustainable drainage systems will be a requirement for any development where it is necessary to manage surface water drainage unless it can be clearly demonstrated:

- a. That sustainable drainage systems are not technically, operationally or financially deliverable or viable and that any surface water drainage issues resulting from the development can be alternatively mitigated; or
- b. That the sustainable drainage scheme would adversely affect the environment or safety, including where ponds could increase the risk of bird strike close to Newcastle International Airport.

Robust management and maintenance arrangements must be put in place for the lifetime of the sustainable drainage system.

Transport and Movement

4.117 The private car provides the principal mode of transport for residents of the Neighbourhood Plan area, with 76%¹⁸ of the working population travelling by car. The NPPF encourages a reduction in congestion and greenhouse gas emissions through the introduction of measures which promote a reduction in the number of journeys made by car. Whilst the preparation of transport policy at a local level is primarily a matter for the highway authority, there are a wide range of areas where the Plan can have an influence on transport and movement: new development; active travel routes; public rights of way and access; parking and public transport.



4.118 As part of the early engagement on the Plan, local communities identified a number of issues including: the need for a bypass/ relief road; the need to improve access for pedestrians – particularly school children; inadequate provision for cyclists

¹⁸ <http://www.northumberland.gov.uk/NorthumberlandCountyCouncil/media/Northumberland-Knowledge/NK%20place/Parishes%20and%20towns/Parish%20fact%20sheets/FactSheetParishPonteland.pdf>