DARTMOOR LOCAL PLAN

guiding planning applications in Dartmoor National Park

Strategic Flood Risk Assessment (SFRA)

September 2019

Contents

Appendices

1.0 Introduction

1.1 Objectives

1.1.1 Local Planning Authorities are required to produce a Strategic Flood Risk Assessment (SFRA) as determined by the National Planning Policy Framework (NPPF). An SFRA is an evidence document used to inform decisions regarding where development should be located, influenced by the 'Sequential Test', and is used to guide policy within the Local Plan. The SFRA is also used within the Sustainability Appraisal process to ensure the Local Plan is sound.

1.1.2 The Dartmoor National Park Authority SFRA was completed in 2010 by consultancy Scott Wilson using data and input from the Environment Agency (EA), DNPA, South West Water Ltd, Highways Agency and Devon and Somerset Fire and Rescue Service. The 2010 SFRA report is a Level 1 SFRA and includes background information, technical and supplementary information culminating in the presentation of the mapping deliverables appended to the report. A series of maps and associated Geographical Information System (GIS) data files form the primary deliverable of the Level 1 SFRA.

1.1.3 The 2010 SFRA includes information on:

- The study area including river catchments, topography and geology
- The Sequential approach including the exception test and windfall sites
- Level 1 SFRA Methodology and GIS Analysis
- Assessment of Flood Risk including flood history
- Flood Risk Management
- Focused Assessments
- Policy Review
- Drainage of Development Sites
- Site Specific FRA Guidance
- Recommendations

1.1.4 The EA has confirmed that it considers the information within the 2010 SFRA is still current in a letter dated 13 October 2017:

"…we are happy with the fundamentals of the 2010 Scott Wilson SFRA but consider that some elements required updating (e.g. policy reference, climate change allowances and the responsibilities of the Environment Agency and Lead Local Flood Authorities). We note too that the 2010 SFRA was also considered sufficient to support the examination into the Development Management and Delivery DPD in 2013 which took place following publication of the National Planning Policy Framework.

With the above in mind we have recommended that the existing SFRA should remain as the base document but should be accompanied by a 'SFRA Review 2017/18' document. The SFRA Review should summarise and reiterate the headlines and key recommendations of the 2010 SFRA, link to the new online interactive map (defining the layers included) and include the necessary updates."

1.1.5 Therefore to make the 2010 SFRA fit for use for the Local Plan Review some information will need to be updated. In particular this addendum will review and update GIS data files, policy and guidance references. This ensures the SFRA is both useful, and meets the necessary requirements to support the review of the Local Plan.

1.1.6 SFRAs should be considered as 'live' documents where regular review and monitoring should be undertaken. The associated GIS Interactive Map can be readily updated and should be considered as the live part of the Level 1 SFRA. The GIS Interactive Map will be updated when new data is released.

1.2 Purpose of this addendum report

1.2.1 The following addendum report has been prepared to ensure that:

- The SFRA evidence base for the Local Plan Review is consistent with changes in the National Planning Policy Framework (NPPF 2012) and other relevant government policy, guidance and legislation;
- The document is up-to-date and adequately addresses strategic flood risk and related issues for Dartmoor National Park

1.2.2 This SFRA Addendum should be read alongside the Dartmoor National Park SFRA published in November 2010 and is available online.

1.3 Addendum outputs

1.3.1 The following outputs have been prepared as part of this addendum report:

- Updates to the SFRA resulting from significant changes in legislation, policy and guidance documents;
- Reference to the Flood Risk Management Plans, EA Flood Risk Management Strategy (June 2014) for the latest flood history, Devon Local Flood Risk Management Strategy, Sustainable Drainage System (SuDS) advice including Sustainable Drainage Systems: Guidance for Devon (January 2017) for roles and responsibilities;
- Updates to the SFRA to account for changes in climate change guidance allowances;
- An interactive SFRA map with updated flood risk information is available online to replace the GIS data files produced in 2010

2.0 Updated Policy and Guidance

2.1 National Planning Policy Framework (NPPF) 2012 and the National Planning Practice Guidance (NPPG)

2.1.1 The policy and guidance contained within the Planning Policy Statement (PPS) 25: *Development and Flood Risk – Practice Guide* (December 2009) has been replaced by the NPPF and the NPPG. PPS25 was extensively referred to in the 2010 SFRA.

2.1.2 However similar policy approaches are shared between the PPS25 and NPPF with no fundamental changes. Therefore the 2010 SFRA is based on accurate principles included in the NPPF and NPPG. Nonetheless, the NPPF and NPPG should replace all PPS25 references in the 2010 SFRA.

2.1.3 NPPF paragraph 103 states that:

"*When determining planning applications, local planning authorities should ensure flood risk is not increased elsewhere and only consider development appropriate in areas at risk of flooding where, informed by a site-specific flood risk assessment following the Sequential Test, and if required the Exception Test, it can be demonstrated that: 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; and development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and it gives priority to the use of sustainable drainage systems.*"

2.1.4 Footnote 20 to Paragraph 103 defines when site specific FRAs are required.

"*This includes development proposals of:*

- *'1 hectare or greater in Flood Zone 1 [surface water flood risk]*
- *all proposals for new development (including minor development and change of use) in Flood Zones 2 and 3, or in an area within Flood Zone 1 which has critical drainage problems (as notified to the local planning authority by the Environment Agency) and where proposed development or a change of use to a more vulnerable class may be subject to other sources of flooding.*"

2.1.5 As quoted above, the NPPF prioritises the integration of sustainable drainage systems in all development (para. 103).

2.2 DCC Local Flood Risk Management Strategy and its Addendum for Sustainable Drainage Systems (SUDS)

2.2.1 Since the 2010 SFRA Devon County Council (DCC) has published a Local Flood Risk Management Strategy (June 2014). As Lead Local Flood Authority (LLFA) for its area DCC produced this strategy in line with the Flood and Water Management Act 2010.

2.2.2 The Local Flood Risk Management Strategy should be used as a toolkit and to provide guidance for flood risk management practitioners and the public on any flood risk management issues.

2.2.3 DCC are responsible for managing local flood risk in Devon from surface water, groundwater and consenting and enforcement on Ordinary Watercourses. This excludes flood risk from the sea and main rivers, which is the EA's responsibility.

2.2.4 The LLFA should be consulted on all major development proposals with surface water drainage implications in flood zones 1, 2 and 3.

2.3 Updated Climate Change guidance (2016)

2.3.1 The EA published updated climate change guidance on 19 February 2016 and reviewed this on 3 February 2017, this must now be considered in all new developments and planning applications. The EA can give a free preliminary opinion to applicants on their proposals at pre-application stage. There is a charge for more detailed pre-application planning advice. The LLFA should be contacted for advice on flood risk from local watercourses, surface, or groundwater. The LLFA also consider climate change in their flood risk assessments for surface water drainage. For queries outside of the statutory consultation role the LLFA are considering the introduction of a charge for pre-application advice which is likely to be implemented from April 2018.

2.3.2 The guidance states that:

"*Making an allowance for climate change in your flood risk assessment will help to minimise vulnerability and provide resilience to flooding and coastal change in the future. The climate change allowances are predictions of anticipated change for:*

- *peak river flow by river basin district*
- *peak rainfall intensity*
- *sea level rise*
- *offshore wind speed and extreme wave height*

They are based on climate change projections and different scenarios of carbon dioxide (CO_2) emissions to the atmosphere. There are different allowances for different epochs or periods of time over the next century."

2.3.3 The EA uses climate change allowances as benchmarks when providing advice on flood risk assessments and strategic flood risk assessments.

2.3.4 In accordance with guidance in the PPS25 the EA continues to use the following data and standards as the benchmarks for the advice it gives as a statutory consultee:

- peak river flow allowances by river basin district in table 1 for both flood risk assessments and strategic flood risk assessments
- flood risk vulnerability classification for the type of development and flood zone, over the lifetime of the proposed development, in development plan allocations for strategic flood risk assessments
- flood risk vulnerability classification for the type of development and flood zone as a guide to decide which allowances to use based on the vulnerability of the development for flood risk assessments - you should consider the lifetime of the proposed development to decide which future time period to use

2.4 Peak River Flow Allowances by River Basin District

2.4.1 The peak river flow allowances show the anticipated changes to peak flow by river basin district. There are three allowance categories for uplift in peak flow, upper end, higher central and central which are the 50th, 70th and 90th percentiles respectively. The allowance category used is based on the vulnerability classification of the development and which flood zone it is within.

Table 1: Peak river flow allowances for the South West river base district (use 1961 to 1990 baseline)

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	25%	40%	85%
Higher central	20%	30%	40%
Central	10%	20%	30%

2.4.2 Table 2 considers flood zones and the appropriate flood risk vulnerability classification to decide which allowances should apply to a development or plan. This helps understand the range of impact.

Table 2: Using peak river flow allowances for flood risk assessments

	Vulnerability classification	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Flood Zone 1	Central	□	□	□	□	None
	Higher Central	□	□	□	□	
	Upper End	□	□	□	□	
Flood Zone 2	Central	□	□	□	□	None
	Higher Central	□	□	□	□	
	Upper End	□	□	□	□	
Flood Zone 3a	Central	□	Development should not be permitted	□	□	□
	Higher Central	□		□	□	□
	Upper End	□		□	□	□
Flood Zone 3b	Central	□	Development should not be permitted			□
	Higher Central	□				□
	Upper End	□				□

Note: If (exceptionally) development is considered appropriate when not in accordance with flood zone vulnerability categories, then it would be appropriate to use the upper end allowance.

2.5 High ++ Allowances for Peak River Flood Flow

2.5.1 The high++ allowances will only apply in assessments for developments that are very sensitive to flood risk and with lifetimes beyond the end of the 21st century. For example, infrastructure projects or developments that significantly change the existing settlement patterns. This includes urban extensions and new settlements. Development of this type is unlikely to occur in Dartmoor National Park and therefore we will not be using high++ allowances.

2.6 Peak Rainfall Intensity Allowance

2.6.1 Increased rainfall affects river levels and land and urban drainage systems. Table 3 shows anticipated changes in extreme rainfall intensity in small and urban catchments. For flood risk assessments and strategic flood risk assessments, both the central and upper end allowances should be assessed to understand the range of impact.

Table 3: Peak Rainfall Intensity Allowance in Small and Urban Catchments (use 1961 to 1990 baseline)

Applies across all of England	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	10%	20%	40%
Central	5%	10%	20%

2.7 How to use a range of allowances for peak river flow and peak rainfall intensity

2.7.1 To decide which allowances to use to inform the flood levels that the flood risk management strategy will be based on for a development or development plan allocation the EA suggests the consideration of the:

- likely depth, speed and extent of flooding for each allowance of climate change over time considering the allowances for the relevant epoch (2020s, 2050s and 2080s)
- vulnerability of the proposed development types or land use allocations to flooding

- ‘built in’ resilience measures used, for example, raised floor levels

- capacity or space in the development to include additional resilience measures in the future, using a ‘managed adaptive’ approach

2.8 Future Flood Risk Management

2.8.1 A ‘managed adaptive approach’ may be necessary for developments where flood risk management measures are not currently required but may be in the future. For example setting a development away from a river so it is easier to improve flood defences in the future. This is covered by the normal requirements from the EA for river maintenance and green corridors which vary depending on the size of the river. The EA has not made us aware of any areas where a ‘managed adaptive approach’ is necessary, however they are looking to improve their evidence for future flood risks across Devon and will be able to do this in a future iteration of this assessment. It is also important to note that comments from the EA on potential allocation sites will highlight any significant issues.

2.9 Updated Climate Change Mapping in Dartmoor National Park

2.9.1 It is predicted that climate change will bring milder wetter winters that are characterised by periods of long duration rainfall. In contrast, frequent and short duration, high-intensity rainfall linked with longer drier summers is predicted. These scenarios are likely to increase the risk of flooding from rivers (fluvial), surface water (pluvial) and sewer sources.

2.9.2 To ensure sustainable development now and in the future the EA recommends the consideration of the effects of climate change should be taken into account in an SFRA. Tables 2 and 3 provide the recommended national precautionary sensitivity ranges for peak rainfall intensities and peak river flows.

2.9.3 In DNP the effect of climate change on Flood Zone extents are likely to be limited due to the relatively steep sided valleys that form confined floodplains. The relatively small area of Flood Zone 2 illustrates that increases in flow from fluvial flooding are likely to increase the depth of flooding as opposed to the extent of flooding.

2.9.4 Therefore in the absence of modelled outlines for Flood Zone 3 plus climate change it is pragmatic to suggest that Flood Zone 2 should be used as a surrogate for Flood Zone 3 plus climate change until such a time that more detailed information is available, such as an EA Strategic Flood Risk Mapping Study (SFRM), an appropriate site specific FRA or a Level 2 SFRA. The EA also recommend adoption of a similar approach to the risk of flooding from surface water. Therefore in the absence of modelled alternatives, the medium risk area should be considered as high risk over the course of the next century for surface water flooding.

2.10 Requirements for Developers

2.10.1 Developers should include climate change allowance as part of detailed site-specific Level 2 FRAs as required in the new guidance. The EA can give a free preliminary opinion to applicants on their proposals at pre-application stage. There is a charge for more detailed pre-application planning advice. Contact your local EA office for further information. Contact the LLFA and EA, for advice on flood risk from local watercourses, surface or groundwater.

3.0 Artificial Flood Sources

3.1 Reservoirs

3.1.1 The risk of flooding from reservoirs is mainly due to dam/reservoir wall failure and emergency releases into the catchment. Table 6-2 in the 2010 SFRA provides details of the nine reservoirs located within DNPA which fall under the Reservoir Act (volume greater than 25,000m^3), together with the predominant flow route anticipated in the event of a breach, based on the simplified method described in Chapter 5.

3.1.2 The EA has produced an interactive long term flood risk map which quantifies the risk of flooding from reservoirs throughout the United Kingdom, and those maps relevant to Dartmoor are included in Appendix 2. These maps should be used to inform development decisions and evacuation procedures when considering the flood risk posed by reservoirs.

3.1.3 National guidance states that local planning authorities should discuss their proposed site allocations with reservoir undertakers to avoid an intensification of development within areas at risk from reservoir failure, and ensure that reservoir undertakers can assess the cost implications of any reservoir safety improvements required due to changes in land use downstream of their assets. With reference to the mapped reservoir failure risk, this may therefore be relevant in South Brent, and Buckfastleigh, where allocations may be considered. Both South West Water and South West Lakes Trust, as the reservoir undertaker and landowner respectively for reservoirs within Dartmoor National Park, have been consulted at various stages of the Local Plan Review process. It should be noted that the risk of flooding from reservoirs is extremely low. Reservoirs are inspected regularly by specially qualified Engineers to ensure they are structurally safe and the correct operation and maintenance procedures are being followed.

4.0 Critical Drainage Areas

4.1 A Critical Drainage Area (CDA) is an area that has critical drainage problems and which has been notified to the local planning authority as such by the EA in line with the NPPF. In these locations, there is a need for surface water to be managed to a higher standard than normal to ensure any new development will contribute to a reduction in flooding risks in line with NPPF. These higher standards are determined by the EA. The DNP includes three CDAs; Ashburton, Tavistock and Bovey Tracey.

4.2 Ashburton

4.2.1 Catchment Drainage and Flooding Issues

4.2.2 Ashburton's critical drainage area is mapped on our interactive map. The Balland Stream, Ashburton has a long history of flooding, and the existing culverts/flood walls have a limited capacity. Blockages have caused major issues in recent times. Flooding is also known on the numerous minor watercourses/ditches and surface water culverts within the area. The catchment also has development pressure from new housing and commercial developments.

4.2.3 The existing culverts and flood walls are unlikely to attract funding for significant improvements, and given that current rainfall runoff rates already cause problems and climate change will increase the frequency of flooding further, alternative measures need to be applied.

4.3 Tavistock

4.3.1 Catchment Drainage and Flooding Issues

4.3.2 Tavistock's critical drainage area is mapped on our interactive map. Only half of the area is within the DNPA boundary. The Tiddy Brook caused major flooding on 27th December 1979 and 26th May 1981, resulting in damage to property and disruption to services in the Whitchurch area. Channel and culvert improvements on the Tiddy Brook through Bishopmead housing estate have increased the level of protection to a 1:30 year return period. Flooding is also an issue at the Anderton Road culvert.

4.3.3 The flooding in December 1979 also affected the Boughthayes and Bannawell Street areas. The Bannawell Street flooding was partially caused by a surface water sewer blocking but flood waters also ponded upstream of the Drake Road culvert. Devon County Council Highways are developing highway drainage improvements in this area. At Boughthayes another limited capacity culvert caused flooding, while a relief pipe and new access chambers have been installed these remain constrained systems.

4.4 Bovey Tracey

4.4.1 Catchment Drainage and Flooding Issues

4.4.2 Bovey Tracey's critical drainage area is mapped on our interactive map. Bovey Tracey has a long history of flooding from the River Bovey and its minor tributaries. In the 1980's a comprehensive flood alleviation scheme was built that provides a low standard of protection and serious flooding has occurred in 2000 and 2012. The Challabrook Stream drains a large area of steeply rising ground to the west of the town and passes through sections of open channel and culverts to outfall downstream of Bovey Bridge in the centre of the town. The town, which itself lies outside Dartmoor National Park, is under some development pressure and it is important that whenever new development is to be permitted in the catchment it should; a) be served by a sustainable drainage system that performs in accordance with the criteria set out below and b) should also make a contribution towards a scheme that will reduce risks for those liable to flood.

4.5 Minimum Drainage Standards Required

4.5.1 For all three of these CDAs the following minimum drainage standards are required:

- All new development will have to play their part in reducing current rainfall runoff rates. This requirement also applies to brownfield sites that will have to match the same standards. The SuDS hierarchy should be followed, by using infiltration as far as is practicable. Further guidance on such systems can be found in the CIRIA SUDS manual and in the LLFA guidance.

- All off-site surface water discharges from development should mimic "Greenfield" performance up to a maximum 1 in 10 year discharge rate. All on-site surface water should be safely managed up to the "1 in 100+climate change" conditions. This will require additional water storage areas to be created thereby contributing to a reduction in flooding downstream.

5.0 Sustainable Drainage Systems (SuDS)

5.1 Approaches to managing surface water which take account of water quantity, water quality, public amenity and biodiversity issues are collectively referred to as Sustainable Drainage Systems (SuDS).

5.2 Under Schedule 3 of the Flood and Water Management Act (2010), LLFAs were to be required to establish a SuDS Approval Body (SAB) which would have required DCC to approve, adopt and maintain SuDS features in new developments. However, in December 2014, the Government announced that Schedule 3 would not be enacted because SuDS would be dealt with by strengthening existing planning policy instead. This change, which took effect on 6 April 2015, requires Local Planning Authorities to make the final decision about the suitability of the SuDS provision on new developments and whether it is proportionate to the level of flood risk affecting the site.

5.3 Whilst DCC will no longer be required to establish a SAB, it is now a statutory consultee for major developments which have surface water implications. This new responsibility requires it to provide comments in relation to surface water drainage aspects of planning applications, usually within 21 days.

5.4 We advise all applicants intending to submit a planning application for a major development to refer to the Sustainable Drainage Systems: Guidance for Devon document.

5.5 SuDS are designed to control surface water run off close to where it falls and mimic natural drainage as closely as possible.

5.6 The NPPG stipulates when a SuDS should be considered which will depend on the proposed development and its location, for example whether there are concerns regarding flooding. SuDS may not be practical for some forms of development (e.g. mineral extraction). New development should only be considered appropriate in areas at risk of flooding if priority has been given to the use of SuDS. Additionally, and more widely, when considering major development, SuDS should be provided unless demonstrated to be inappropriate. The NPPG goes on to explain the SuDS requirements in more detail.

6.0 Flood Risk Management Plans

6.1 Flood risk management plans (FRMPs) are the key strategy document for managing flood risk in each river basin. They explain the risk of flooding from rivers, the sea, surface water, groundwater and reservoirs. FRMPs set out how risk management authorities will work with communities to manage flood and coastal risk over the next 6 years. Risk management authorities include the Environment Agency, local councils, internal drainage boards, Highways Authorities, Highways England and lead local flood authorities (LLFAs).

6.2 Each river basin district also has a river basin management plan, which looks at how to protect and improve water quality, and use water in a sustainable way. FRMPs and river basin management plans work to a 6-year planning cycle. The current cycle is from 2015 to 2021. We have developed the South West FRMP alongside the South West river basin management plan so that flood defence schemes can provide wider environmental benefits.

6.3 Dartmoor is covered by three sub-areas:-South Devon, Tamar and North Devon. All three sub areas have measures which cover Preventing Risk, Preparing for Risk, Protecting from Risk and Recovery and review of risk. Full details can be found in Part C of the South West FMRP.

6.4 The Catchment Flood Management Plans (CFMP) published in 2012 have been used to produce the FRMP and their actions and measures.

6.5 South Devon Catchment

6.5.1 Whilst the number of properties at risk in this area is small, the number is set to increase in the future as a result of climate change.

6.5.2 A number of designated environmental sites experience flooding, but natural river processes and sensitive FRM generally benefit these sites. These sites include Dartmoor SAC and South Dartmoor Woods SAC. There are opportunities to maximise the natural hydrological processes for the benefit of BAP habitats and species. This presents an opportunity to create and manage ecologically functional wetlands, in which the natural processes of peatland erosion/accretion, soil conservation and water storage/dissipation are optimised.

6.5.3 The reduction of flow from upper catchments could result in a reduction in flood risk for downstream communities. This includes Bovey Tracey, Ashburton and Buckfastleigh and numerous hamlets.

6.6 Tamar Catchments

6.6.1 Draining from Dartmoor there are steep rivers which respond rapidly to rainfall. The steeper rivers in this area react quickly to localised rainfall, producing rapid increases in flows that affect settlements. There are records of flooding from minor watercourses and surface water in many small communities, including Buckland Monachorum and Peter Tavy.

6.7 North Devon Catchments

6.7.1 This area covers sections of the Dartmoor National Park, including the settlements of Sticklepath (River Taw) and South Zeal.

6.7.2 These are large rural areas with a small number of properties at risk now and in the future. They have a unique environmental status. Designated environmental sites within the area are all water loving and need large quantities of water to maintain existing habitats in good condition. Increased flooding will enhance the existing habitats and can help to create new habitats. Increased flooding through the storage and attenuation of water (similar to the MIRE project) could also help limit the future risk to life and economic damages.

6.8 Summary

6.8.1 The action and measures included in the FRMP will be used to inform planning and decision making.

7.0 Working with Natural Processes

7.1 Working with Natural Processes (WWNP) to reduce flood and coastal erosion risk involves implementing measures that help to protect, restore and emulate the natural functions of catchments, floodplains, rivers and coasts. The EA recently completed an exercise synthesising research on WWMP in one location which is available online and consists of the following items which are intended to inform and promote further such projects:

- An interactive online map of WWNP opportunities
- An evidence directory of previous WWNP projects nationally;
- Detailed case studies of previous projects, including potential funding sources and multiple benefits;
- Guidance on monitoring and evidence gathering;
- These approaches are largely outside the planning system but may link to SuDS schemes, land management practices, agri-environment schemes, and capital projects. The outputs of this work should be used by those planning catchment wide projects to enable opportunities to collaborate on delivery and funding;

7.2 We are currently working with the EA on the Dartmoor Headwaters Natural Flood Management (NFM), a pilot project running from 2018-2021. The aim is to trial the effectiveness of using natural river processes, land management techniques and soft engineering approaches to slow down, store and divert water in the flood-prone upland catchments of the Rivers Mardle, Dean Burn, Colly Brook, Blackbrook and Erme. It is hoped that this will help determine the future viability of these measures within the National Park area, and help inform any future work on this activity both locally, and nationally.

7.3 We are also involved in the South West Peatland project, which includes the restoration of around 300Ha of peatland across 5 Dartmoor sites from 2018-2021. Re-wetting peat soils will bring myriad benefits, including increased upland water retention.

7.4 The EA is also currently working on a pilot NFM project in the Teign Catchment and will be assessing the suitability of further NFM in the catchments above (upstream of) communities with flood risk. DCC are also looking at flooding hotspots and the suitability of NFM to help reduce flood risk. The EA and DCC are working closely together on numerous sites throughout Devon.

8.0 Site-specific Flood Risk Assessment Guidance

8.1 Most minor development and changes of use, with exceptions[1], are not subject to the Sequential or the Exception tests 'but should still meet the requirements for site-specific flood risk assessments' (paragraph 104 and footnote 22). The requirement for site specific flood risk assessments (FRAs) is guided by Paragraph 103 in the NPPF (see page 5).

8.1.1 Applicants will need to do a flood risk assessment for most developments within a flood zone. In the following situations an FRA should always be provided with a planning application:

- In flood zone 2 or 3 including minor development and change of use;
- More than 1 hectare (ha) in flood zone 1;

- Less than 1 ha in flood zone 1, including change of use in development type to a more vulnerable class (for example from commercial to residential), where they could be affected by sources of flooding other than rivers and the sea (for example surface water drains, reservoirs);

- In an area within flood zone 1 which has critical drainage problems as notified by the EA.

8.1.2 The assessment should demonstrate to the decision-maker how flood risk will be managed now and over the development's lifetime, taking climate change into account see section 2.3, and with regard to the vulnerability of its users (see Table 2 – Flood Risk Vulnerability).

8.1.3 The objectives of a site-specific flood risk assessment are to establish:

- whether a proposed development is likely to be affected by current or future flooding from any source;

- whether it will increase flood risk elsewhere;

- whether the measures proposed to deal with these effects and risks are appropriate;

- the evidence for the local planning authority to apply (if necessary) the Sequential Test, and;

- whether the development will be safe and pass the Exception Test, if applicable.

8.1.4 The EA website provides standing advice on the requirement of FRAs for developers and LPAs.

9.0 Water Cycle Studies

9.1 Section 9.3 of the 2010 SFRA discusses Water Cycle Studies (WCS) with particular reference to one being undertaken on behalf of Teignbridge District Council. This WCS was completed in 2010 and has not been updated. A WCS has not been completed for South Hams or West Devon. These studies are voluntary and therefore are not required for the SFRA Review.

10.0 Recommendations

10.1 Through the integrations of these suggestions, the emerging Local Plan will comply with the NPPF and NPPG and the aspiration and policies represented in the following documents:

- Dartmoor National Park Management Plan
- South West River Basin District Flood Risk Management Plan

10.2 Based on the information presented in the 2010 Level 1 SFRA, this Addendum and the accompanying interactive map, DNPA has sufficient information to apply the NPPF Sequential Test to their development sites, seeking to guide development to areas of lowest flood risk wherever possible.

10.3 Further Work and Local Plan Allocation Guidance

10.3.1 Based on the information presented within this SFRA Addendum (2019) and the SFRA (2010), there are three sites allocated in the current and / or emerging Local Plan which require further detailed assessment to improve understanding of the flood risk, ascertain the percentage of the site which is developable, and enable effective planning of new development. These sites are Chuley Road in Ashburton, Axminster Carpets in Buckfast and Thompson's haulage depot in Moretonhampstead, all of which fall partly within flood zone 3.

10.3.2 Where development is proposed in an area of flood risk, applications must be supported by a Flood Risk Assessment (FRA). The FRA provides clarity around actual flood risk and flood hazard on the site, enabling a proper assessment of the site and proposed development. The FRA plays a key role in assessing whether the site passes the Exception Test, by demonstrating that the development will be safe, and not increase flood risk elsewhere. The FRA also assists in developing an appropriate site layout, steering new development to areas with the lowest probability of flooding.

Chuley Road, Ashburton

10.3.3 Chuley Road is a 3.5 hectare brownfield site, the majority of which falls within flood zone 3. Located to the south of Ashburton town centre, the site currently contains a mix of business, light industrial, retail and residential uses. It has historically been the working heart of Ashburton and housed the former Ashburton railway station which closed in 1971, leaving behind a series of heritage assets including the Grade II Listed Goods Shed. Although it was never formally adopted, the draft Chuley Road Masterplan (2015) and associated documents provide further details of the site and constraints to development, including an SFRA carried out at the time (2014).

10.3.4 It should be noted that a Critical Drainage Area (CDA) covers much of Ashburton, including Chuley Road and the catchment upstream of it (see section 4.2) for further details. The emerging Local Plan takes a 'catchment-wide' approach to flood mitigation, linking CDA management with emerging Natural Flood Management (NFM) strategies (see section 7).

10.3.5 Chuley Road is proposed for mixed-use development in both the current and emerging Local Plans, as ASH2 and Proposal 7.4 respectively. Both current and emerging proposals state the need for applications to be supported by a FRA which includes consideration of climate change, and demonstrates that any development will be safe, not increase flood risk elsewhere, and where possible reduces flood risk overall.

10.3.6 Work on Sequential and Exception Tests for Chuley Road was carried out prior to allocation in the current Local Plan. Application of the Sequential Test showed that no 'reasonably available' alternatives to this brownfield allocation existed that could satisfy the local housing need with a lower risk of flooding. Furthermore, as a redevelopment proposal, the site offers a unique opportunity which cannot be replicated elsewhere, particularly in terms of improving this important area, the setting of the town centre and conserving the town's railway heritage. The EA agreed, acknowledging the town centre redevelopment opportunities offered by the site, as well as the possibility to adopt a sequential approach to the layout so that the most vulnerable uses could avoid the highest risk areas (see representation from EA, Appendix 4). Based on the above reasoning, it is considered that this site passes the Sequential Test.

10.3.7 Given that a residential use is proposed, classed as 'more vulnerable' (NPPG), application of the Exception Test was also necessary. In order to pass Part A of the Exception Test, it was demonstrated that the development would "provide wider sustainability benefits to the community that outweigh the flood risk" (NPPF, paragraph 160), namely conservation of the town's heritage and delivery of community facilities, employment opportunities and housing, and the EA deemed this to be sufficient at allocation stage (see representation from EA, Appendix 4). To pass 'Part B' it must be shown that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall. Whilst it is likely that this site will pass 'Part B', both DNPA and the EA consider that this cannot be determined until a detailed planning application and accompanying FRA have been submitted (see representation from EA Appendix 4), a requirement clearly stated in proposals ASH2 and 7.4.

10.3.8 The above approach to the Sequential and Exception tests has been revisited as part of the Local Plan Review process, and we consider that both the process and the outcomes remain valid.

10.3.9 Following its allocation in the current local plan, considerable work was put into a Masterplan for the redevelopment of Chuley Road, though work on the project ceased in 2017 and it was never formally adopted. This included a site-wide Level 2 Strategic Flood Risk Assessment (Parsons Brinckerhoff, 2014) which highlights that only a proportion of the site is reasonable developable due to flood risk and suggests a 'sequential' methodology to guide future development on the site into areas at lowest flood risk. Potential approaches to flood risk mitigation are presented, including re-profiling the River Ashburn to increase flood storage within the channel, works to modify ground levels to control the route of overland flow from the Balland Stream, and a new flood relief channel to increase below ground capacity for the Balland Stream. The EA have stated the importance of a site-wide approach to flood risk mitigation at Chuley Road (see representation from EA, Appendix 5), but this hasn't proven deliverable to date due to the number of different landowners, the limited site value, and the need for flood improvement works outside the site itself.

10.3.10 A detailed application (0035/18) for part of the Chuley Road site referred to as Brewery Meadow was approved for residential development in December 2018, a site which sits alongside the River Ashburn and substantially within Flood Zone 3. The proposed development included flood relief works informed by a site-specific FRA. As outlined in the Officer Report, the Environment Agency considered the application acceptable subject to certain planning conditions, and were satisfied that it would be safe for its lifetime without increasing flood risk elsewhere, therefore passing Part B of the Exception Test.

10.3.11 A further outline application for part of Chuley Road referred to as the former Outdoor Experience site (0439/17) was refused in 2018 (on matters not relating to flooding) and resubmitted in July 2019 (0332/19) alongside a site-specific FRA, and is currently pending decision. The site is substantially located within Flood Zone 1, and comments from the EA on the initial application did not raise any flooding-related concerns.

10.3.12 To conclude, the brownfield nature of the Chuley Road site means that no alternative sites offer the same benefits. Furthermore, the development of the site provides the opportunity to deliver considerable betterment for the local community, particularly in terms of conserving the town's railway heritage, improving the setting of the town centre, and delivering community spaces, facilities, employment and housing.

Axminster Carpets, Buckfast

10.3.13 Axminster carpets is a brownfield site proposed for mixed-use development in the emerging Local Plan as Proposal 7.21. The site comprises large, currently inactive, industrial premises between Buckfast Road and the river Dart, with just under a quarter of the site lying in Flood Zone 3. Buildings on site include a modern steel frame industrial building with a footprint of approaching 10,000sqm and a large brick-built traditional industrial mill building of historic merit, with the Grade II* listed Buckfast Abbey less than 100m to the north. A detailed description of the site can be found in the LAA Area Report for Buckfastleigh (2017).

10.3.14 As a new allocation, the same work must now be undertaken in terms of the application of the Sequential and Exception Tests. To pass the Sequential Test, it must be shown that there are no alternative sites for the proposed development with a lower probability of flooding, taking into account wider sustainable development objectives. The efficient use of previously developed land is a key approach in strategic policy, and this is particularly important in the context of a National Park given the limited development land and infrastructure. As a brownfield site, it has intrinsic and unique qualities that have led to it be proposed for redevelopment and these qualities are not replicated in other potential sites nearby. Development on the site would bring wider sustainable development objectives, in the form of opportunities to conserve on-site buildings of historic merit, significantly enhance the setting of the adjoining grade 2* listed Abbey, and deliver employment uses, community facilities and affordable housing to benefit the local community. Such benefits could not be achieved through development taking place in other sites in the National Park, and would be unique to this site, outweighing the challenge from the need to manage the flood risks. Therefore, in line with reasoning previously agreed by the EA for the similar brownfield mixed-use development site at Chuley Road, Ashburton, it is considered that this site passes the Sequential Test,

10.3.15 Given the mix of uses proposed on the Buckfast site, including 'more vulnerable' dwelling houses and residential care, the Exception Test will also apply here. We consider the development would provide wider sustainability benefits to the community that outweigh the flood risk, namely enhancement of the setting of Buckfast Abbey and provision of employment opportunities, thereby passing Part A of the Exception Test. As confirmed by the EA previously, since no detailed flood modelling has taken place at allocation stage, 'Part B' can only be satisfied at the detailed planning application stage. Therefore a detailed site layout and site-specific FRA must be submitted alongside the planning application in order to demonstrate that the applicant's proposed layout reflects and responds to specific flood risks, taking into account climate change factors, and will not increase flood risk elsewhere. Part (c) of Proposal 7.21 in the emerging Local Plan (Regulation 19) clearly communicates these requirements.

10.3.16 A large-scale mixed-use planning application (0300/19) for the entire Axminster Carpets site was validated on 2 July 2019, including a site-specific FRA. The application is currently being assessed prior to a decision being reached in autumn 2019, including determination of whether the proposed development passes Part B of the Exception Test.

Thompson's haulage depot, Moretonhampstead

10.3.17 Thompson's is a brownfield site proposed for residential development in both the current and emerging Local Plans, as MTN2 and Proposal 7.12 respectively. The site currently used as a storage and distribution depot, characterised by low quality warehouse structures, although two high quality buildings remain from the sites railway heritage, one of which is Grade II listed. A detailed description of the site can be found in the LAA Area Report for Moretonhampstead (2017).

10.3.18 Work on Sequential and Exception Tests for Thompson's has already been carried out prior to allocation in the current Local Plan. The EA felt that 'reasonably available' alternatives to the site did exist which could help deliver local housing need with a lower risk of flooding, but nonetheless accepted that failure of the Sequential Test could be outweighed by 'wider sustainability objectives' (NPPF, paragraph 159) in this instance (see representation from Environment Agency, Appendix 4). 'Wider sustainability objectives' in this case refer to the scheme involving the regeneration of brownfield land with the potential to deliver benefits in terms of landscape/townscape, flood risk and ecology, whilst alternatives are greenfield sites outside the settlement boundary which would have other constraints to development such as impacts on landscape.

10.3.19 Given that a residential use is proposed, classed as 'more vulnerable' (NPPG), application of the Exception Test was also necessary. Work was carried out to show that the development would "provide wider sustainability benefits to the community that outweigh the flood risk" (NPPF, paragraph 160), showing that 'Part A' of the Exception Test could be satisfied, and the EA deemed this to be sufficient at allocation stage. To pass 'Part B' it must be shown that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall. Whilst it is likely that this site will pass 'Part B', both DNPA and the EA consider that this cannot be determined until a detailed planning application has been submitted complete with a detailed site layout and site specific Flood Risk Assessment. These should demonstrate that the layout reflects and responds to specific flood risks, taking into account climate change factors, and will not increase flood risk elsewhere, a requirement clearly reflected in Proposals MTN2 part (e) and 7.12 part (e).

10.3.20 The above approach to the Sequential and Exception tests has been revisited as part of the Local Plan Review process, and we consider that both the process and the outcomes remain valid.

10.3.21 A detailed application for the Thompson's site (0139/19) was validated on 3 April 2019, and includes a detailed site layout and site-specific FRA. The application is currently being processed, and this will include assessment of the FRA to inform the final decision.

10.4 Development Management

10.4.1 Development Management Officers should familiarise themselves with the Level 1 SFRA Addendum and the 2010 SFRA and ensure that site specific FRAs are provided where necessary and prepared against the recommendations presented. Development Management Officers should also familiarise themselves with the geology and soils within the study area together with local drainage issues when considering the use of SuDS as detailed in Chapter 10 of the 2010 SFRA.

10.5 Future Updates to this Level 1 SFRA

10.5.1 Through the preparation of this Level 1 SFRA Addendum the data collected is deemed sufficient to apply the Sequential Test, however, in certain locations where data is questionable, further investigation may be required within a site specific FRA. To continually improve future updates of this Level 1 SFRA Addendum more robust recording of flood events will be of considerable benefits and enable calibration of modelled data, reducing uncertainty.

10.5.2 SFRAs should be considered as 'live' documents where regular review and monitoring should be undertaken. The associated GIS Interactive Map can be readily updated and should be considered as the live part of the Level 1 SFRA. The GIS Interactive Map should be updated when new data is released.

10.5.3 This SFRA Addendum should be read in conjunction with the 2010 SFRA report. The addendum will be kept under review and will be updated when required. The interactive maps will be updated when new data becomes available.

10.6 Emergency Planning

10.6.1 The findings of the Level 1 SFRA Addendum and Level 1 SFRA 2010 may be used to refine and inform emergency plans developed for the area. This should include liaison with local emergency services to share and discuss the available data and its implications for emergency planning. All new development must consider the safe access and egress in the event of a flood incident.

Appendix 1: Focused Assessments

Overview

The information included in the focused assessments in the 2010 SFRA is still relevant and contains local flood history data (not included in the interactive map). However there have been some alterations to the extent of flood areas, therefore we recommend looking at our interactive map for the most up to date information as well as the 2010 SFRA focused assessments for local flood history data. In the 2010 SFRA there is no reference to Critical Drainage Areas, please see section 4 for further information.

For all flood information please see our online interactive flood maps here: https://maps.dartmoor.gov.uk/sfra/.

As well as the five focused assessments within the 2010 SFRA other current Designated Settlements that may need Level 2 SFRA for specific sites are:

- Dunsford
- Walkhampton
- Meavy
- Buckfast
- Christow
- Mary Tavy
- Peter Tavy

It is considered that in principle all of the above listed settlements have areas within or adjoining the built form of the settlement which would be outside Flood Zone 3 areas. Therefore these settlements have the potential for classification as designated settlements. Detailed view of the flood risk in these areas can be viewed on our interactive map which is available online here: https://maps.dartmoor.gov.uk/sfra/

Appendix 2: Reservoir Risk Maps

Overview

It is important to note that this assessment does not provide a definitive indication of flow routes or risk. Where development is proposed downstream of a reservoir, for example within Buckfastleigh, South Brent or Chagford, DNPA should contact DCC for further guidance.

The risk of flooding from reservoirs is mainly due to dam/reservoir wall failure and emergency releases into the catchment. There are nine reservoirs located within DNPA which fall under the Reservoir Act. These are:

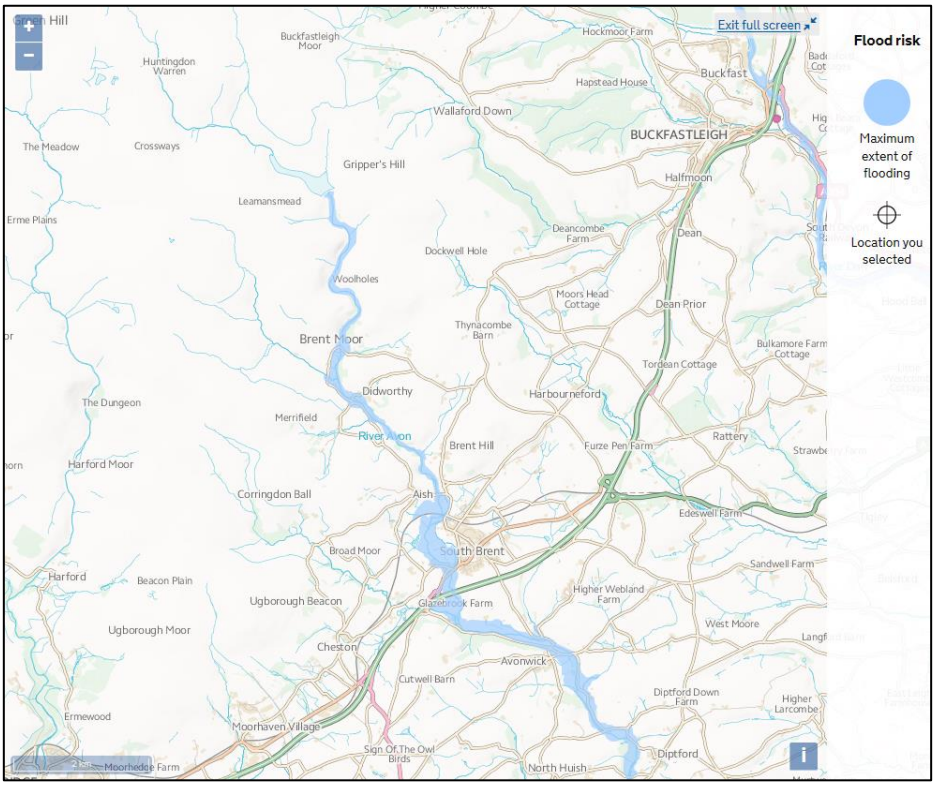
- Avon
- Burrator
- Fernworthy
- Kennick
- Tottiford
- Trenchford
- Meldon
- Venford
- Wheal Jewell (Mary Tavy)

The EA state that if a location is at risk, flooding from reservoirs is extremely unlikely. There has been no loss of life in the UK from reservoir flooding since 1925. An area is considered at risk if peoples' lives could be threatened by an uncontrolled release of water from a reservoir.

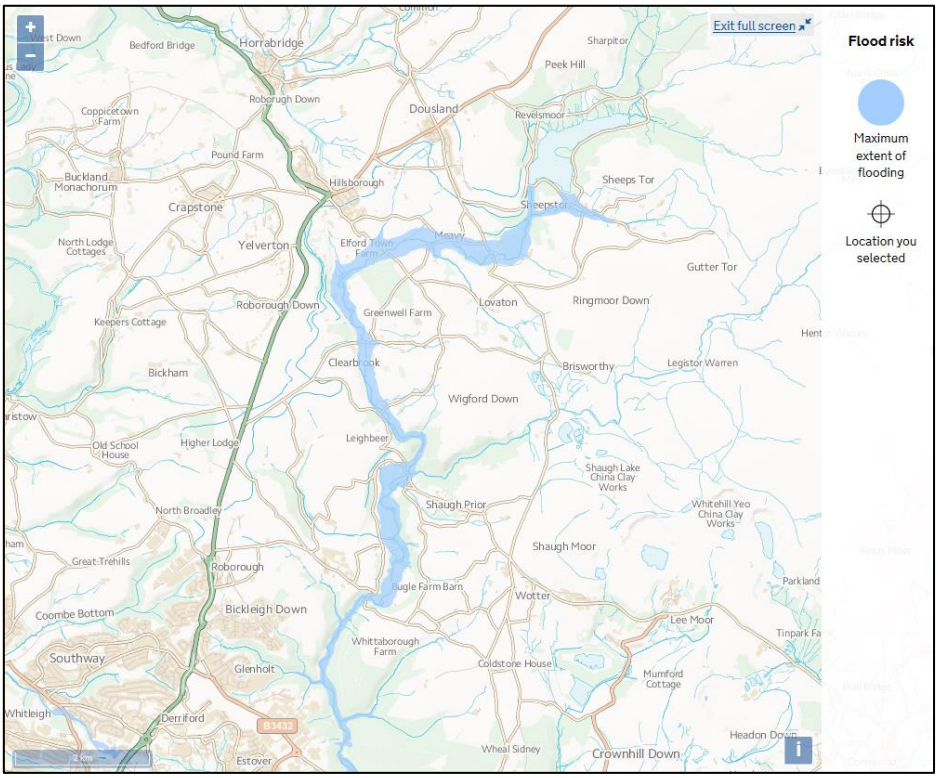
The reservoir risk mapping data is unavailable for publication therefore it could not be added to the interactive map. However the information is available from the EA in the form of an online map here: https://flood-warning-information.service.gov.uk/long-term-flood-risk/map?map=Reservoirs. The relevant experts from DCC, the EA and emergency planners will need to provide context to developers.

The risk maps for the reservoirs within DNPA have been added below.

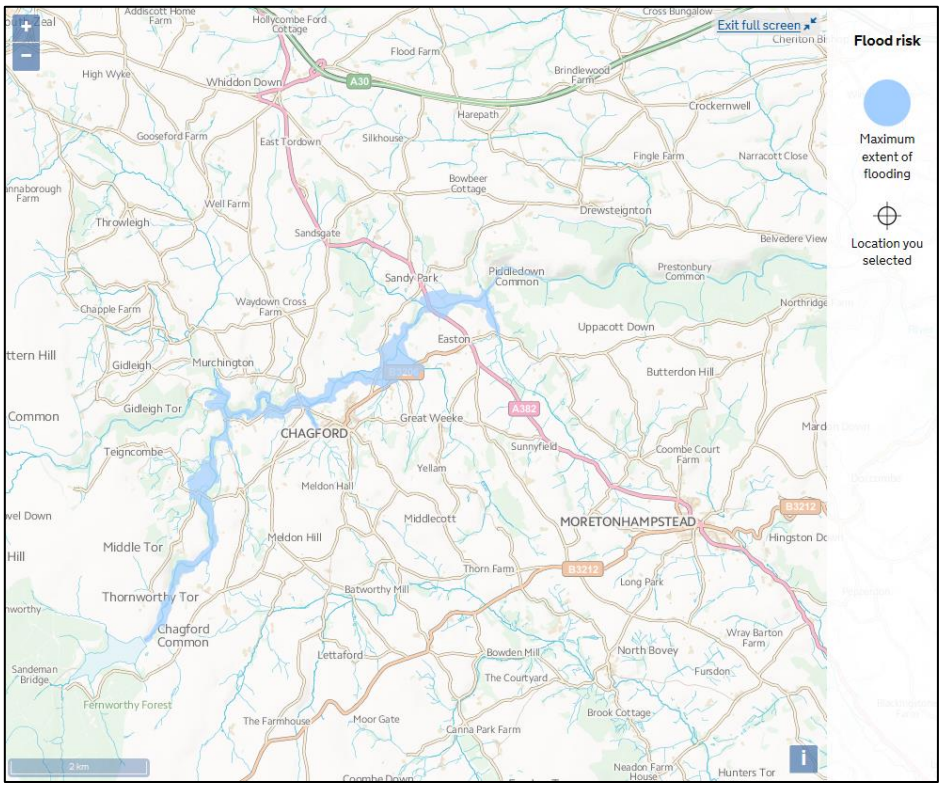
Avon Reservoir



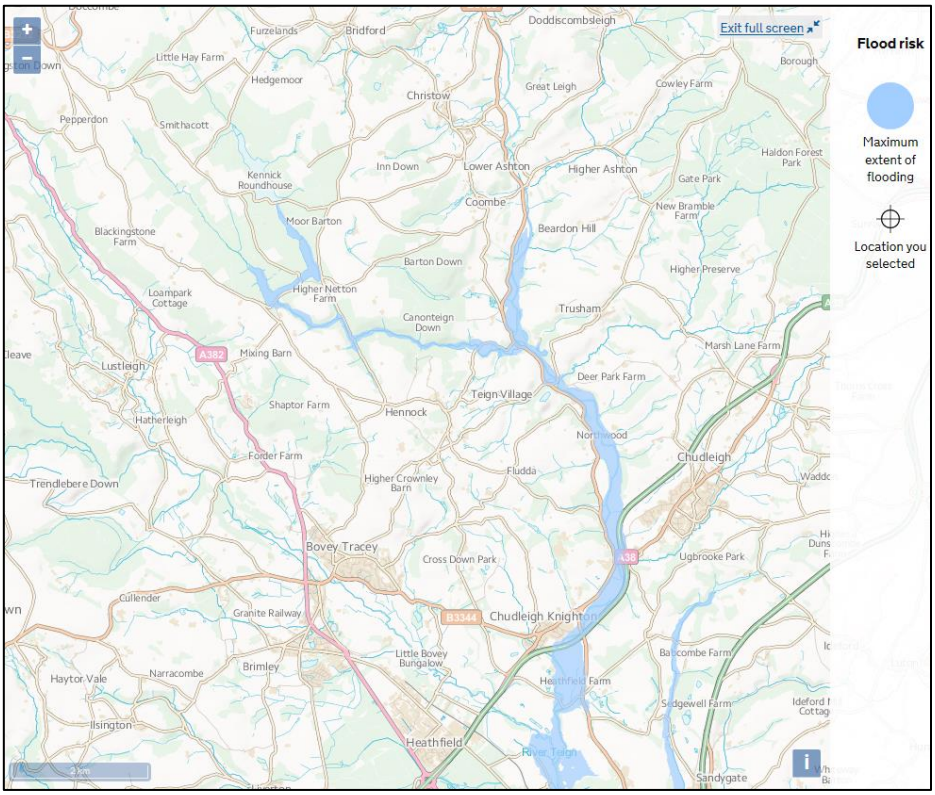
Burrator



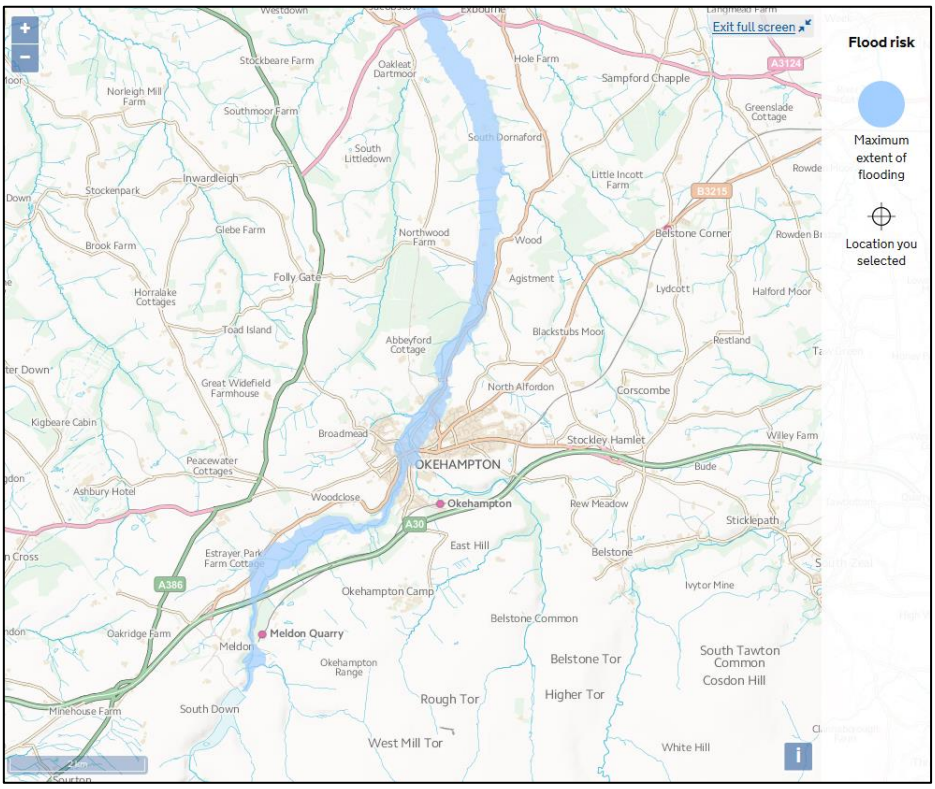
Fernworthy Reservoir



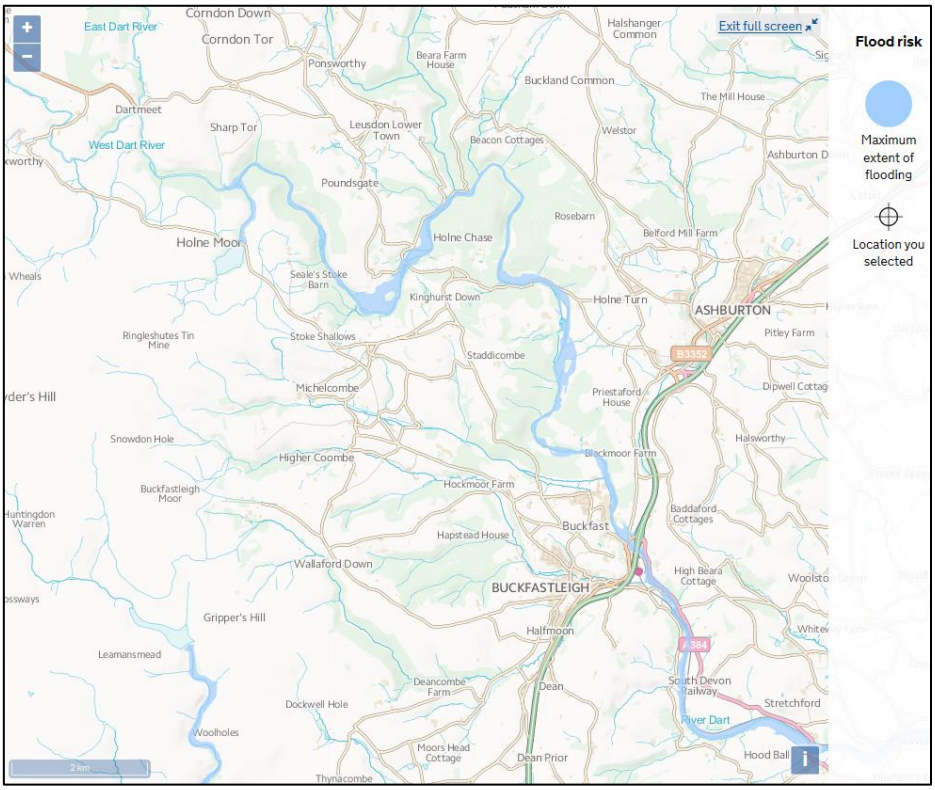
Kennick, Tottiford and Trenchford Reservoirs



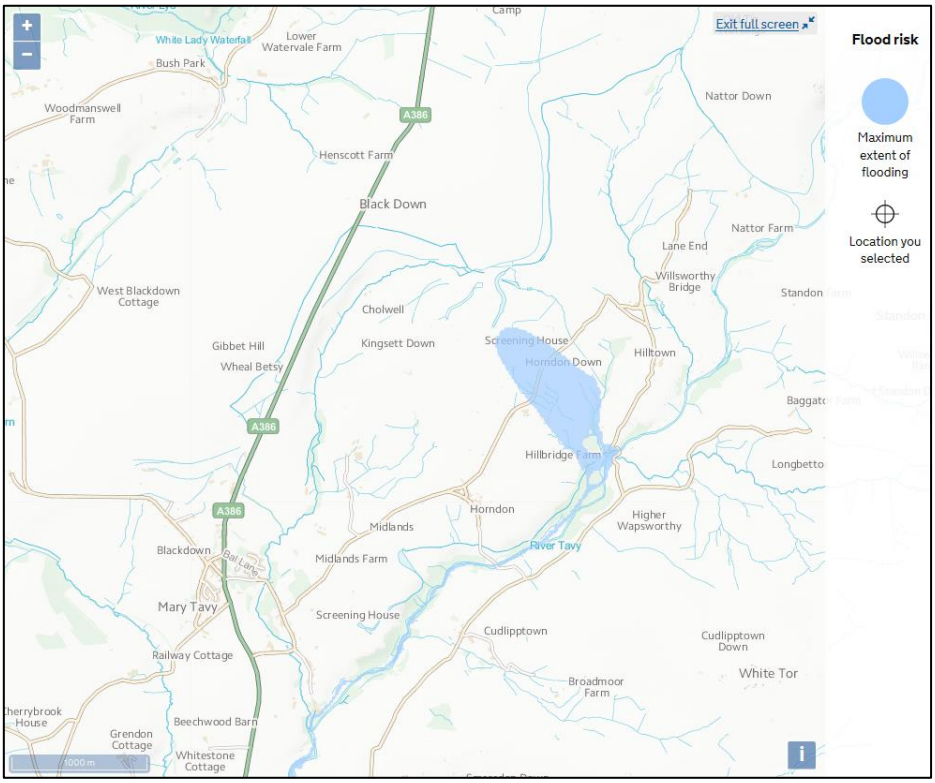
Meldon Reservoir



Venford Reservoir



Wheal Jewell Reservoir



Appendix 3: Environment Agency initial response to DMD consultation

Mr. David Lillington
Dartmoor National Park Authority
Parke
Bovey Tracey
Newton Abbot
TQ13 9JQ

Our ref: DC/2006/000152/OT-04/SB3-L01
Your ref: PM/13/16
Date: 03 December 2012

Dear Mr. Lillington

SEQUENTIAL AND EXCEPTION TESTS – PROPOSALS ASH2, MTN2 AND BCK3 DEVELOPMENT MANAGEMENT AND DELIVERY DPD

Thank you for your email of 20 November 2012 providing us with the opportunity to comment on the above.

Environment Agency position
Your statement regarding the Sequential and Exception Tests for proposals ASH2, MTN2 and BCK3 correctly sets out the policy framework for the application of the tests and the characteristics, qualities and potential development benefits of the three proposal sites. However, we consider that your Sequential Test would be strengthened by clearly defining and justifying the geographical area of search for alternative sites, setting out any alternative sites within that area and the identified housing need for each settlement.

Our specific comments regarding the Sequential Test, the Exception Test and the proposed amendments to policy are provided below.

Comments – Sequential Test
Paragraphs 6-9 of your Sequential Test statement set out the policy factors regarding application of the test (e.g. Paragraph 100-102 of the National Planning Policy Framework [NPPF]). Paragraphs 10-15 then set out characteristics, qualities and potential benefits that development could bring for the three proposal sites. This section reads more like conclusions regarding why you consider the 3 proposal sites should be allocated but it is not supported by a search for/comparison against alternative sites.

Firstly an area of search for reasonably available alternative sites should be defined. In the case of these three allocations and in view of the nature of your Authority as a National Park you may consider it reasonable to limit your areas of search to the settlement boundaries of Ashburton, Moretonhampstead and Buckfastleigh so as to avoid allocation of future development within open countryside.

Consideration of the flood risks for each of the alternative sites should be based on the Dartmoor National Park Level 1 Strategic Flood Risk Assessment prepared November 2010 for comparison of flood risk on each site.

The search for alternatives should also be informed by the identified housing need and/or commercial floor space for Ashburton, Moretonhampstead and Buckfastleigh. Your conclusions may then, for example, show whether or not these three sites are necessary to meet the projected housing needs for the respective settlements.

You may find our guidance on demonstrating the flood risk Sequential Test useful. This can be found online within our Flood Risk Standing Advice package: http://www.environment-agency.gov.uk/research/planning/82584.aspx

Comments – Exception Test
Whilst it is clearly important to be mindful at this stage about whether the Exception Test can be passed, it is difficult to demonstrate for certain whether both parts (in particular the second part requiring development to be safe and not increase flood risk) of the Exception Test can be satisfied without more detail regarding the layout and design of any future development on the sites and detailed Flood Risk Assessments (FRAs).

A definitive answer to whether both parts of this test can be passed would need to wait until submission of detailed planning applications and site specific FRAs. At this stage, therefore, you should only indicate, as best as possible, the likelihood that both parts of test can be satisfied as required by the NPPF.

A lot of the information you have set out in paragraphs 10-15 could be used to highlight the potential community benefits which could be brought forward and the wider sustainability objectives which may be satisfied by development coming forward on these sites.

Comments – Proposed policy amendments
We welcome your commitment in paragraphs 16 and 17 of your statement to apply our proposed amendments to the policy wording for proposals ASH2 and MTN2. This will embed the most crucial flood risk management policy objectives; ensuring that the most vulnerable uses avoid the most hazardous areas and that any development is itself safe and does not increase risk elsewhere. Importantly it also encourages the developers to seek ways to reduce flood risks overall which will bring wider community benefits.

Yours sincerely

MARCUS SALMON
Planning Liaison Technical Specialist

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Appendix 4: Environment Agency additional response to DMD consultation

Mr. David Lillington - Forward Planner
Dartmoor National Park Authority
Parke
Bovey Tracey
Newton Abbot
TQ13 9JQ

Our ref: DC/2006/000152/OT-04/SB4-L01
Your ref: PM/13/16

Date: 08 January 2013

Dear Mr. Lillington

Development Management and Delivery DPD
Sequential and Exception Tests for proposed allocations ASH2 (Ashburton), MTN2 (Moretonhampstead) and BCK3 (Buckfastleigh)

Thank you for your emails of 07 January 2013 which attached the revised Sequential and Exception Tests which you have prepared in accordance with the National Planning Policy Framework (NPPF) to support your Development Management and Delivery Development Plan Document.

Environment Agency position
We are satisfied that the revised Sequential and Exception Tests have now addressed the concerns we have raised previously and have been applied in a consistent and transparent manner. Our detailed comments explaining our position are set out below.

Sequential Test
We have reviewed the Sequential Tests undertaken for each of the three allocations located within Flood Zone 3 and consider that they now address the areas we considered needed strengthening in our letter of 03 December 2012 (Our ref. DC/2006/000152/OT-04/SB3-L01).

All three tests follow the process recommended by the Sequential Test guidance on our Flood Risk Standing Advice. Your Sequential Test documents set out clearly why the test needs to be applied, the evidence base your Authority has used to apply the test (i.e. the Strategic Flood Risk Assessment and Strategic Housing Land Availability Assessments), the local housing need for each settlement and the geographical areas of search for 'reasonably available' alternative sites.

We broadly accept the conclusions of the Sequential Tests for the three settlements:

- For both Ashburton and Buckfastleigh that not enough 'reasonably available' alternatives to allocations ASH2 and BCK3 exist that can satisfy the local housing need and which are at a lower risk of flooding. Additionally it is acknowledged that these sites offer town centre redevelopment opportunities, have also been allocated for employment uses and that a sequential approach to the layout of uses can be taken so that the most vulnerable uses can avoid the highest risk areas;
- For Moretonhampstead that 'reasonably available' alternatives to MTN2 do exist which could help deliver local housing need and which have a lower risk of flooding. Nonetheless we accept your reasoning as to why failure of the test can be outweighed by 'wider sustainability objectives' (paragraph 102 of the NPPF) in this instance (i.e. that MTN2 is a regeneration scheme on Brownfield land which could deliver flood risk and ecological benefits whilst alternatives are Greenfield sites outside the settlement boundary which would have other constraints to development such as impacts on landscape).

Exception Test
We consider that your Exception Tests are sufficient for this stage of the planning process. However, as stated in our letter of 03 December 2012 we consider that a definitive answer to the question of whether the second part of the Exception Test can be passed cannot be determined until a detailed planning application has been submitted complete with a detailed site layout and site specific Flood Risk Assessment.

Yours sincerely

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Appendix 5: Environment Agency response to emerging Local Plan Regulation 18 consultation

Mr Dan Janota - Forward Planning Manager
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Newton Abbot
TQ13 9JQ

Our ref: DC/2016/118533/CS-01/PO1-L01
Your ref: Local Plan Consultation

Date: 04 February 2019

Dear Mr Janota

Dartmoor Local Plan 2018-2033
First Draft (Regulation 18 Consultation)

Thank you for your consultation on the publication draft of the Dartmoor Local Plan review.

We have considered the plan section by section. Whilst there are many parts of the plan we welcome and support there are other areas we consider need to be improved or added. Our comments and advice are as follows.

Section 1 – Vision, Spatial Strategy and Planning Applications
With regard to the 'special qualities of Dartmoor National Park' paragraph **1.1.7** recognises the important role the Moor plays in providing clean water and as the headwater for most of Devon's rivers. In addition to clean water the moors act like a sponge which helps to reduce flood risks downstream. The plan should therefore acknowledge how the various habitats and features of the moor such as peatlands, wooded valleys, mires and reservoirs provide an important water store helping to regulate flows and improve water quality.

We consider that the '**Vision for Dartmoor National Park**' could be more ambitious especially if it is to complement and contribute towards the delivery of your authority's 'Moorland Vision' document.

We support the vision that new proposals should be exemplars for outstanding development. Nonetheless, under 'sustainability – living within environmental limits' a more ambitious vision would seek to do more than simply conserve the natural environment but would also seek to enhance those assets.

With regard to ‘farming, forestry and land management’ the commitment to both conserve and enhance is welcomed. Improving the health of soils will be central to achieving enhancements. Correctly planned and managed land practices have an integral role in promoting soil health which in turn benefits farm productivity, flood management for flood prone communities on and around the moor, and biodiversity.

In terms of a ‘resilient landscape’ it is essential that this also includes consideration of how the landscape will adapt to climate change and what enhancements might be necessary to ensure that the landscape and setting of the moor are resilient.

The vision for ‘thriving habitats and species’ and the acknowledgement of the need for resilience to climate change is important and welcomed. However, it must also be acknowledged that decline in biodiversity is already a concern. Dartmoor provides an opportunity to help mitigate the impacts of climate change and slow biodiversity loss. This part of the vision should align with the Moorland Vision document.

The vision for the ‘historic environment’ is welcomed. Many of the moor’s historic and cultural assets are also environmental assets such as the numerous leats which brought water to surrounding settlements and historic environmental features such as Wistman’s Wood.

Whilst we welcome the summary of Dartmoor’s sustainable development goals presented in **Figure 1.2** we recommend some small changes to ensure they meet the ambition of the plan. In order to encompass the requirement for net gain (both from the National Planning Policy Framework (NPPF) and the 25 Year Environment Plan) we recommend that goal 6 is amended to read ‘conserve and enhance natural resources’. In addition the wording for goal 7 to ‘avoid impact on flood risk’ is unusual and should be altered to read ‘reduce flood risks’.

We are generally supportive of **Policy 1.2** (Sustainable development in Dartmoor National Park), in particular bullet points b), c), d), e), g), h), i), l), and m). However, we do have some comments and suggestions in relation to points b), c), g), and h).

Points b) and c) should also provide for developers to contribute to projects that can reduce climate change impacts and enhance resilience. This could include peatland restoration, woodland creation or other natural flood management schemes.

We recommend that point g) refers, not just to conserving natural resources, but also enhancing and restoring natural resources/assets/capital as well.

We consider that point h) is insufficient in its current form. Instead of simply avoiding development which impacts upon flood risk, development within Dartmoor should be seeking to provide a net betterment to flood risk for existing dwellings and businesses through sustainable means such as natural flood management (NFM). This would complement **Policy 1.3** part 1 which seeks to ‘secure development that improves the…environmental conditions in the area’.

Furthermore, with regard to development allowing for 'natural drainage' it would be better for **policy 1.2** part h) to instead say that development should incorporate sustainable drainage systems (SuDS) which seek to mimic natural drainage of surface water. SuDS are not 'natural' drainage but a manufactured version of natural processes. However, because SuDS need to be designed with an allowance for climate change they will be future proofed.

We fully support **Policy 1.5** which restricts major development within Dartmoor National Park to all but exceptional circumstances.

We are generally supportive of the design principles set out in paragraph **1.6.5**. We support the principles regarding environmental sustainability although it would be good if the supporting text included an explanation of the 'fabric-first' approach.

We welcome too the design principle to enhance biodiversity and the specific expectations to encourage new habitat creation and future adaptability. However, we would question whether this is sufficiently ambitious within the National Park in light of the objectives for 'net gain' set out in the Government's 25 Year Environment Plan and the revised NPPF. Restoration and enhancement of existing habitat may be more appropriate in some cases. It would be good for this principle to cross refer to subsequent chapter on the environment where specific metrics are provided around what kind of features should be included in developments such as ponds and bird or bat boxes.

It is assumed that the design principles in respect of community safety refer to crime prevention measures. However, if the meaning of community safety here is meant to be wider then this should also refer to risks from flooding and other natural hazards. Otherwise there should perhaps be an additional principle regarding resilience to environmental hazards such as flood risk and climate change impacts.

In order to create strong and sustainable places and communities the design principles could also perhaps include encouraging developers to design new houses which allow space to grow so that families are able stay in the community as they expand or circumstances change.

With regard to the efficient use of land (paragraph **1.6.6**), in addition to matters listed we would encourage developers, where appropriate, to explore opportunities for off-site mitigation schemes. These schemes could be in the form of NFM (functioning as rural SuDS features) or environmental projects creating sustainable green spaces and access corridors.

We support **Policy 1.6** (Delivering good design) but consider that additional points could be introduced to ensure a more robust policy. For example, as discussed above, the policy could make reference to design demonstrating a development's resilience to natural or artificial hazards. It could also specifically reinforce the need for biodiversity features such as bird or bat boxes and ponds to be part of the good design mix. We acknowledge that this is covered later in the environment chapter but consider it would be good to embed these principles here.

We welcome the commitment in **Policy 1.7** (Sustainable construction) to encourage reduction in carbon emissions beyond those required by building regulations. However, we consider the policy could be more specific with regard water efficiency and management measures such as green roofs, rainwater harvesting, low flow taps, low flush toilets.

We support **Policy 1.9** (Higher risk development and sites) which covers issues relating to land contamination and installations using hazardous substances.

We welcome a great deal of what has been presented under **section 1.9** on flood risk but consider this chapter and its policy (**1.10**) requires strengthening and a more local focus. The supporting text should make reference to relevant plans such as your strategic flood risk (SFRA), the lead local flood authority's Local Flood Risk Management Strategy and our Flood Risk Management Plan. Recommendations and evidence from these documents can help inform site design to ensure it is fit for purpose and promotes sustainable and resilient development. It will also provide the basis for comparison of the flood risks to alternative sites through the flood risk sequential test.

The plan should also be more specific in highlighting the role that development on Dartmoor could play in reducing risk to communities that will otherwise struggle to fund flood risk management schemes.

Under paragraph **1.9.1** there is a reference to the role Dartmoor plays in supplying water to the region. This would be relevant if this section was more holistic and covered the whole water environment but within a section only relating to flood risks it is less pertinent. You may wish to think about moving consideration of this matter to section 2. It should also be noted that the reservoirs do not have any designed flood risk function but can store water at times when a reservoir has capacity. However, during a wet winter when it is full a reservoir will not serve a flood function.

We support the content of paragraph **1.9.2** but it should acknowledge opportunities to manage flood risks within catchments in line with other plans and programmes such as the Moorland Vision, the Flood and Coastal Risk Management Capital Programme, the River Basin Management Plan and Flood Risk Management Plans. This could include multifunctional green infrastructure (GI), land management projects, NFM and more traditional flood risk management schemes. It could note that where it is not possible to deliver flood risk improvements on a development site improvements in flood management could be achieved through contributions to NFM or GI elsewhere in the catchment.

Paragraph **1.9.3** is essentially a summary of the development and flood risk policy set out in the NPPF (e.g. Flood Risk Assessment and the sequential and exception tests). In highlighting the overarching policy objectives it should also note various other important matters such as:

- the need for climate change impacts to be considered over the lifetime of development;
- the flood risk vulnerability of a development and its users;
- access and egress for occupants and emergency responders during flood incidents, with special consideration in more remote areas;

- how communities need to adapt and become more resilient to changes especially where defences may not be upgraded to keep pace with increases in flood risks; and
- opportunities for development to provide net betterment in an area with a pre-existing flooding problems.

We note that later in the plan there is a diagram demonstrating the approach to the retail sequential test. We would recommend that a similar diagram is used here in relation to the flood risk sequential test as an attempt to make the process clearer to developers.

We consider that in this most sensitive and critical of locations development should improve the existing situation with regard to flood risk management. Dartmoor, as home to the uplands of many of Devon's rivers, has an important ability to hold water back upstream of potential development sites, and of communities already at risk of flooding. NFM is a means of reducing risk to these locations, whilst also delivering rural SuDS features in a more strategic manner benefitting the wider community. It may also be possible to draw in other forms of public and private investment to implement them. NFM can create a meaningful contribution to flood management by;

- Reducing flows in rivers
- Providing rural suds features which may enable development to take place more sustainably
- Enhancing biodiversity, habitat and water quality through careful design and placement in the catchment and upstream of development sites

It should be investigated whether there is any possibility that major development in downstream Districts would be able to provide contributions to off-site NFM works within the National Park.

It should be noted that your Authority is engaged in a natural flood management pilot in partnership with the Environment Agency. Wherever possible both organisations will seek for future development to adhere to the principles of the catchment based approach of implementing natural flood management to deliver net gain for a variety of benefits including flood risk management, habitat, biodiversity and water quality. Sustainable and resilient development has a role in this by potentially implementing NFM upstream of development sites in a more strategic manner. Evidence is available from the pilot project to support this.

Paragraph **1.9.4** in respect of SuDS principles is welcome but could be expanded. For example, it is important that SuDS are planned with the future maintenance and management being simple and with a responsible operator and manager. There may also be potential for cross-over between SuDS and NFM in some locations.

Whilst it is good to see in paragraph **1.9.6** that the authority seeks to 'encourage' the use of SuDS for non-major development outside flood zones and Critical Drainage Areas we consider that the intent could be bolder. For most sites some form of SuDS is possible and, given the plan's proposed policy on restricting major development, it is likely that much of the development coming forward during the plan period will be of a non-major nature. Therefore to prevent the proliferation of non-SuDS systems the expectation should be that all new development within the National Park incorporate SuDS unless (for non-major development) there is an adequate justification as to why no SuDS is possible.

The principles of **Policy 1.10** (flood risk) are generally sound but we consider it could be much stronger. The status as a National Park and Dartmoor's crucial position as the headwaters of many of the county's rivers means a flood risk policy stronger than that set out in the NPPF could be justified.

Firstly, point 2.c) regarding 'flood protection' over a development's lifetime taking account of the vulnerability of users needs to be clarified. The NPPF (exception test) requires development to be safe from flood risk over its lifetime, taking into account the vulnerability of its users including their ability to access and egress during a flood event.

We consider that point 2.d) should go beyond the NPPF requirement to reduce flood risk where possible. It is our view that it will always be possible to improve flood risk within Dartmoor National Park, if not on site certainly through contribution to NFM or GI projects up-catchment of the development. We would therefore recommend a change to in the policy so that it requires developments to contribute to an overall reduction in flood risk.

We recommend that point 3 in respect of SuDS requirements reflects the comments we made above regarding paragraph **1.9.6**.

Finally on flood risk, is important that developers consider the issue of insurance against flood damages. The Flood Re scheme is a joint Government and insurance industry initiative to help property owners find affordable insurance in areas at risk of flooding. The scheme only applies to dwellings built before 2009. The scheme also only covers 3 claims. This matter strengthens the case for new developments to be directed to the lowest risk areas (the sequential approach) and, where they are in areas at risk, designed to be appropriately resistant and/or resilient to present and future flood risks.

Section 2 – Environment

We support the overall strategy for the environment set out in the plan. However, we consider that there should be more consideration of the water environment and reference to 'net gain' within this section. Multiple benefits should also be mentioned within this section (natural capital/ecosystem services). Habitat restoration can benefit biodiversity, natural flood management, water quality, soil restoration, landscape, climate change mitigation and so on. Furthermore, the environment section should set out more clearly how your local plan will help to deliver your Authority's Moorland Vision.

We agree with paragraph **2.2.1** which sets out the importance of landscape to the National Park. The landscape of Dartmoor is essentially a water management system. The landscape can be enhanced through changes in farming practise and land management which help improve water management through natural processes. The landscape wheel in **Figure 2.1** does acknowledge hydrology as an important element of landscape character but this should be expanded upon within the text.

We recommend that paragraph **2.2.5** should also refer to river catchments and corridors and the need to conserve and enhance them. The need to conserve and enhance these landscape features is not just to improve flood risk management but also to improve these key natural corridors for habitats and species.

We consider that **Policy 2.1** (protecting the character of Dartmoor's landscape) could be strengthened. A simple change would be to remove the 'or' from the requirement to 'conserve and/or enhance the character of the Dartmoor landscape'. We would also recommend the addition of another bullet point under part 1 which seeks development which promotes landscape resilience through actively engaging in projects that provide net gain to habitats, ecosystems and species such as natural flood management and peatland restoration activities.

We largely agree with the content of Section 2.3 regarding Biodiversity and Geodiversity. We are supportive of paragraph **2.3.2** which includes reference to the Government's 25 Year Environment Plan (25YEP). However, like the 25YEP we consider that there should contain reference to the objective of achieving a net gain for biodiversity.

Paragraph **2.3.6** recognises the risks to habitats and species from water pollution and siltation which is welcomed. However, it could also note here the risks to habitats and species from the impacts of climate change. Some habitats may, for example, not be sufficiently resilient to deal with drought incidents.

We recommend that paragraph **2.3.7** should also refer to Net Gain and making environmental enhancements elsewhere. It is important that the plan supports and encourages developers to improve the integrity of wildlife corridors including rivers and their floodplains. Adopting a catchment based approach, restoring rivers, reconnecting floodplains and enhancing riparian corridors will be essential elements in achieving this.

Map 2.1 present Dartmoor's designated wildlife sites and key wildlife areas, which includes 'habitat links'. These habitat links appear to correlate with river corridors and reach beyond the National Park boundaries, which we support. However, it is not clear why these links are focussed around the Yealm, Erme, Avon and Bovey whilst they are limited in their extent around the Dart, Tavy, Teign and rivers to the west and north of the moor. These linkages with habitats beyond the boundary of the National Park are important (as demonstrated by **Figure 2.2**), not just in terms of sustaining the existing biodiversity on and around Dartmoor but also in terms of expanding and enhancing it. We recommend therefore that habitat links associated with all the major rivers which arise on the moor should be included and should extend downstream of the National Park's boundaries. This will help show as Dartmoor as a hub with myriad watercourses radiating around it.

Paragraphs **2.3.12** and **2.3.13** refer to the significance of water quality to biodiversity as well as human health. However, the consideration of water quality and wider water environment issues is otherwise limited in this plan. A good quality water environment is critical to a number of Dartmoor National Park's priority species and habitats, as listed in **Table 2.1**. For example, Atlantic Salmon and Otters are two water dependant priority species which are qualifying features of the Dartmoor SAC. Accordingly we would advise that the need to protect water quality (including groundwater) is explicitly included within plan as a policy (whether as part of **Policy 2.2** or as a standalone policy). The policy could be as simple as requiring that development should not have an unacceptable impact on water quality and should seek opportunities to enhance the condition of Dartmoor's water bodies.

We recommend that the approach to mitigation set out in paragraph **2.3.14** is clarified so that it is clear whether it applies to protected habitats and species or more generally to priority habitats and species. It is our view that the 3 point approach to avoidance and mitigation should apply to all habitats and species. Notwithstanding the proposed approach set out in the Government's consultation on biodiversity net gain, we would hope to see net gain as an aspiration for all development, as indicated in the NPPF, regardless of whether habitats/species have been lost or not. Accordingly we recommend that you consider whether the requirement in **Policy 2.2** part 1 that development must result in 'no net loss' is sufficient or whether it should be more ambitious in seeking an overall 'net gain' in biodiversity. As it stands the policy only seeks a net gain in biodiversity where on-site mitigation measures are not possible (Policy 2.2 3a iii).

With regard to Biodiversity Enhancement we have no in principle concerns with the metrics for net gain set out in **Table 2.3**. However, it is important that they align with (or exceed) the new biodiversity metrics currently being developed by DEFRA. We are pleased to see the inclusion of habitat features like swales, wetlands, rivers and ditches in Table 2.3. These features will play an important part in future NFM schemes. Contribution to NFM projects through the Moorland Vision can have a positive impact for communities, landscape and biodiversity as well as aiding climate change adaptation and resilience. Soil health will also be an important consideration. Nonetheless, we fully support the principles of **Policy 2.3** (Biodiversity Enhancement).

We consider that **section 2.4** (Dartmoor's moorland, heathland and woodland) would benefit from some additional detail. For example, it is important to note the crucial role of these habitat features, especially woodlands, in flood management and protection of water quality. The health of soils is equally as important. The local plan should seek to strategically link these areas to the benefits and opportunities they could provide to existing communities and environmental features in accordance with the Government's 25 YEP, Flood Risk Management Plan and River Basin Management Plan. These areas provide great opportunities for net gain on a landscape and catchment scale for flood risk, soil health and biodiversity.

Paragraphs **2.7.9** and **2.7.10** discuss 'enabling development' in respect of heritage assets. Our experience is that these types of proposal within flood risk areas can lead to policy conflicts. In these cases we seek to ensure that the development will be sustainable over its lifetime taking into account the nature of flooding, the vulnerability of the proposed use and an allowance for the impact of climate change. For example, it may be that floor levels need to be raised to ensure that the building will be resistant or resilient to flooding over its lifetime but this will be in conflict with heritage issues.

It is important, therefore, in the context of **Policy 2.8** (Enabling Development) that in flood risk areas there is appropriate weighting given to the need for people to be safe over the lifetime of development and for third parties, like existing development, to be put at an increased risk of flooding.

Section 3 – Housing

We consider that somewhere under **3.1** (Housing development in Dartmoor National Park) the narrative for **Policy 3.1** should include reference to the issue of insurance for new dwellings within the floodplain. This is particularly pertinent for affordable dwellings and people on lower incomes. More detail on the FloodRe scheme is given in our comments on section 1 above.

Paragraph 3.1.3 describes the authority's aim of having local housing policies which, amongst other things, 'Work within environment limits'. The narrative should clarify what these are. For example it is not clear whether this would include issues like flooding.

We recommend that **Policies 3.3**, **3.4** and **3.5** (housing in various settlement types) include reference to the need for new housing to be sustainable in its nature and location.

Likewise under **3.6** (Self Build) the text should include reference to the need for development to be sustainable but also some reference to ensure that **Policy 3.6** does not override other policies in the plan such as the flood risk policy (1.10)

In **paragraph 3.7.16** (Subdivision) there should be acknowledgment of specific flood risk issues. Within flood risk areas subdivisions must not create a single story dwelling on the ground floor which does not benefit from adequate emergency evacuation or safe refuge on higher floors. Also, it is worthy of note that in the NPPF subdivisions are excluded from the definition of 'minor development' and therefore these proposals in flood risk areas must be subject to the sequential test and, in the case of residential development, the exception test.

With regard to **Policy 3.8** (Replacement Homes) and the supporting text in **paragraphs 3.7.18-3.7.20** reference should be made to the need for the replacement dwelling to provide a betterment in terms of flood risk compared to the existing. Replacement homes should be appropriately resistant and resilient to flood risks over the lifetime of development, taking account of climate change, without increasing flood risks elsewhere. The fact that the new home would not be covered under the FloodRe scheme is another important consideration.

We consider that **Policy 3.11** (Gypsy and Traveller Accommodation) requires additional clarifications in terms of flood risk in order to be in accordance with the NPPF and supporting Planning Practice Guidance. It needs to specifically acknowledge that 'highly vulnerable' uses such as residential mobile and park homes (as opposed to camping and caravan sites) should not be permitted in the high probability floodplain. It should also acknowledge the need for these proposals to be appropriately located so that foul drainage can be disposed of without any adverse impacts on the water environment.

Section 4 – Communities, Services and Infrastructure
We note that flood risk management infrastructure is not included as relevant infrastructure in this section. In areas at risk of flooding, where development is justified, developers can help contribute to the maintenance, improvement or construction of flood defences, the implementation of NFM measures or drainage networks thus providing sustainability benefits to the wider community.

We also note that, other than section **4.2** (public open space), there is no specific reference to green infrastructure in and around the settlements. To address this the narrative should encourage public open spaces to be multi-functional in nature. For example **paragraph 4.2.3** could be expanded to also note how well designed and managed Open Spaces can also provide biodiversity net gain and help to reduce flood risk.

It is good to see that **paragraph 4.3.17** promotes the use of SuDS. This should be the case for all car parking areas.

Section 5 – Economy
We would like to see **Policies 5.1 to 5.9** include some reference to ensure that they do not override other policies in the plan such as the flood risk policy (1.10)

We recommend that for clarity **Policy 5.2** (Development affecting Town Centres) and/or the sequential test diagram on page 107 are amended to distinguish this retail sequential test from the flood risk sequential test.

In addition to adding a reference to **Policy 5.6** (Camping and touring caravan sites) that this policy should not outweigh others in the plan, the supporting text (**paragraphs 5.4.10-5.4.13**) needs to acknowledge that the NPPF/PPG considers these types of development to be more vulnerable in terms of flood risk. Both the sequential and exception tests are applicable to camping and caravan sites. It is also worth noting that it can be difficult to provide adequate warning to ensure people using these sites will be able to safely evacuate in time.

With regard to agriculture, forestry and rural land-based enterprise development (**section 5.5**) we consider that this presents a real opportunity to secure important enhancements in land management that can help achieve a net gain for the environment. We are therefore supportive of the actions set out in **paragraph 5.5.5** especially those to not disturb natural drainage and to conserve and enhance landscape and biodiversity features. We would, however, suggest that this should be the default requirement and that the words 'where possible' should be removed in order to strengthen the actions.

Compacted and poor soils on Dartmoor result in increased run-off which can adversely affect flood risk and water quality. Evidence indicates that agricultural activities, such as animal stocking, are often the prime cause of this so any opportunity to achieve improvements in the way this type of land is managed need to be taken. We consider that it would be good if this policy includes a requirement for land management plans like those required by **Policy 5.9**.

With the above in mind we recommend that part c) of **Policy 5.7** (agriculture, forestry and rural land-based enterprise development) is strengthened by adding a requirement that goes beyond causing no harm but actually seeks to enhance or restore drainage, soils and the water environment.

We are supportive of **Policy 5.9** (Equestrian development) which seeks to ensure these types of development conserve or enhance biodiversity and water quality whilst avoiding pollution of soils and water. The narrative in **paragraph 5.7.2** acknowledges these environmental risks such as poorly sited muck heaps.

We are also supportive of paragraphs **5.7.4 and 5.7.5** setting out requirements for land management plans to support equestrian development proposals. On the grounds that there is evidence that soil compaction on Dartmoor is caused by animal stocking it seems reasonable that land management plans for equestrian development should ensure that compaction is not exacerbated and that soil health is restored.

Section 6 – Minerals, Waste and Energy

Minerals developments (**section 6.1**) can have significant impacts on hydrology within their catchments. Opportunities to attenuate water and create habitat must be maximised. It is therefore good to see that **paragraph 6.1.3** confirms that all relevant plan policies also apply to mineral developments.

Paragraph 6.1.7 notes the recreation and habitat opportunities offered by minerals sites. However, it should also note that managed appropriately they can have a positive impact in terms of water resources and flood risk.

Paragraph 6.1.8 could be expanded to encourage minerals site operators to seek betterment to the local area. The current proposals for Linhay Hill Quarry are an example of this where they propose the provision of a community facility (beach) with a flood defence function. Therefore, whilst we support **Policy 6.2**, particularly part 1. C) viii) and x) we recommend that part 2 regarding proposed restoration includes a provision for seeking betterment compared to the existing situation.

We support **Policies 6.4 and 6.5** in respect of waste prevention and disposal/recycling sites. The plan's strategy is consistent with the waste hierarchy and should help to reduce the amount of construction waste produced during development. Nonetheless, we would recommend inclusion of text to encourage re-use of soil in developments for landscaping to minimise the need for off-site disposal.

We recommend that Resources and Waste Strategy, released on 18 December 2018 is referenced in the plan. The strategy sets out how material resources will be preserve by minimising waste, promoting resource efficiency and moving towards a circular economy in England. Further information is available on line via the following link: https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england

We are generally supportive of Policy 6.6 (Renewable Energy) but consider some small changes should be made to improve it. For example, we recommend that part 1.d) should refer to water 'resources' rather than water 'quality' in order to encapsulate flow and quantity. Notwithstanding part 2 of the policy, which we support, we recommend that the narrative notes that photovoltaic sites must benefit from appropriate SuDS to ensure no net increase in flooding as well as opportunities to provide net gain.

Section 7 – Towns, Villages and Development Sites

Under 7.1 (settlements, site development and community plans) it is important that the discussion on site allocations (paragraphs 7.1.5 to 7.1.9) include need for proposed allocations to be subject to the sequential test. The sequential test must be informed by a Strategic Flood Risk Assessment (SFRA) Level 1. If, following application of the sequential test, there are no reasonable alternatives at a lower flood risk then the proposed allocation will need to be subject to the exception test. To inform this test the proposed allocation in an area at risk of flooding will need to be informed by a SFRA Level 2.

As a general note on the numerous settlement maps, we welcome the inclusion of the flood zones from our Flood Map. However, we recommend that the maps show other sources of flooding such the Flood map for Surface Water. The NPPF requires all sources of flooding to be considered when applying the sequential test and in determining whether a proposal can be safe over its lifetime without increasing flood risks elsewhere.

For **Proposal 7.4** (Chuley Road, Ashburton) it needs to be made clear that a strategic solution to managing flood risk is needed for the whole allocation, informed by a masterplan and SFRA level 2, rather than by adopting a plot by plot approach. The proposal must seek to reduce flood risk overall in the area, which requires a strategic approach for the whole allocation. This could involve contributions to NFM works upstream of the proposed allocation. The consequence of not doing this could result in one plot undermining the ability of another to manage or reduce risk adequately.

It should also be noted that Ashburton and the catchment upstream of it is likely to be completely covered by a Critical Drainage Area and will link to the emerging NFM strategies. This is element is relevant also to **proposal 7.3**.

Likewise for **Proposals 7.5 and 7.6** it should also be noted that Buckfastleigh and the catchment upstream of it is likely to be completely covered by a Critical Drainage Area. The NFM works in this catchment have already been commenced by your Authority.

With regard to **Proposal 7.9** (New Park, Horrabridge) we note that the site boundary has been drawn to avoid FZ3. Whilst we welcome this we consider that a site specific FRA to define the true flood extent will be required early in the planning process so that it is clear new buildings and land raising should avoid at that edge of the site.

We consider that **Proposal 7.12** (Thompson's, Moretonhampstead) needs to be amended. For example, part 2.e) is not adequate. A site specific FRA will be required but the extent of flood risk at the site is significant and therefore the allocation must be supported by a SFRA level 2 to inform the application of the exception test and to support your Authority at examination. We also consider that the proposal should be providing a reduction in flood risk overall to the local area so advise that the words 'where possible' are removed.

We note that **Proposal 7.17** is directly adjacent to the floodplain of the River Avon. It is also downstream of the Avon reservoir and there are surface water flood risks on site. We recommend therefore that the proposal wording includes the need to safeguard a riparian corridor along the River Avon and the minor watercourse within site. This is a similar approach to our recommendation for Proposal 7.9.

As with other allocated sites **Proposal 7.22** (Axminster Carpets, Buckfast) must be supported by a SFRA Level 2 such are the flood risks on site. In addition to flood risk from the River Dart there are two mill leats within and adjacent to the site which have a record of flooding. The proposal should to reduce flood risks overall and should consider opportunities to opening up the mill leats.

With regard to other areas there will be a need in some places to safeguard space for water especially where there are existing constraints in the floodplain. This includes areas like the park in South Zeal (**Map 7.10**) and river corridor upstream of it, and the downstream of Christow. In the case of Christow (**Map 7.14**) we note and fully support the proposed settlement boundary which effectively safeguards an area of functional floodplain from inappropriate development.

Yours sincerely

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