ROSSENDALE LOCAL PLAN

FLOOD RISK INCORPORATING SEQUENTIAL TEST TOPIC PAPER

March 2019

Rossendale
BOROUGH COUNCIL

Contents

1 Introduction

1.1 This Topic Paper is one of a number that have been produced to discuss and explain how the overall Strategy was developed for the emerging Rossendale Local Plan, with this paper focusing on flood risk. It provides a brief summary of the evidence base and an explanation of how this informed the preparation of the surface water run-off, flood risk, sustainable drainage and water quality policy and site allocations within the Plan.

1.2 Rossendale is the source of the River Irwell (including tributaries such as the River Spodden). High rainfall in Rossendale therefore has a significant impact on the wider Irwell catchment in Greater Manchester, in particular Bury, Rochdale and Salford.

1.3 The topography of Rossendale, with most of the towns and villages concentrated in linear settlements along river valleys surrounded by steep hills, strongly influences the pattern of flood risk. After intense rain fall events or after a long period of rain the water flows off the hills rapidly into already swollen rivers. Flooding problems have historically been exacerbated by poorly maintained culverts and highway drainage network or sewers with low capacity.

2 Background

2.1 National Context

National Planning Policy Framework

2.1.1 Paragraph 155 of the National Planning Policy Framework (NPPF) sets out that development should be steered away from areas at high risk of flooding. Further on, in paragraph 156, it emphasises that strategic policies in the Local Plan should be informed by a Strategic Flood Risk Assessment and advice from the Environment Agency, the Lead Local Flood Authority and internal drainage board should be considered, when applicable.

2.1.2 Paragraph 157 of the NPPF goes on to explain that a sequential approach should be used to choose suitable sites for development, considering the impacts of climate change. The sites should avoid the risk of flooding to people and property.

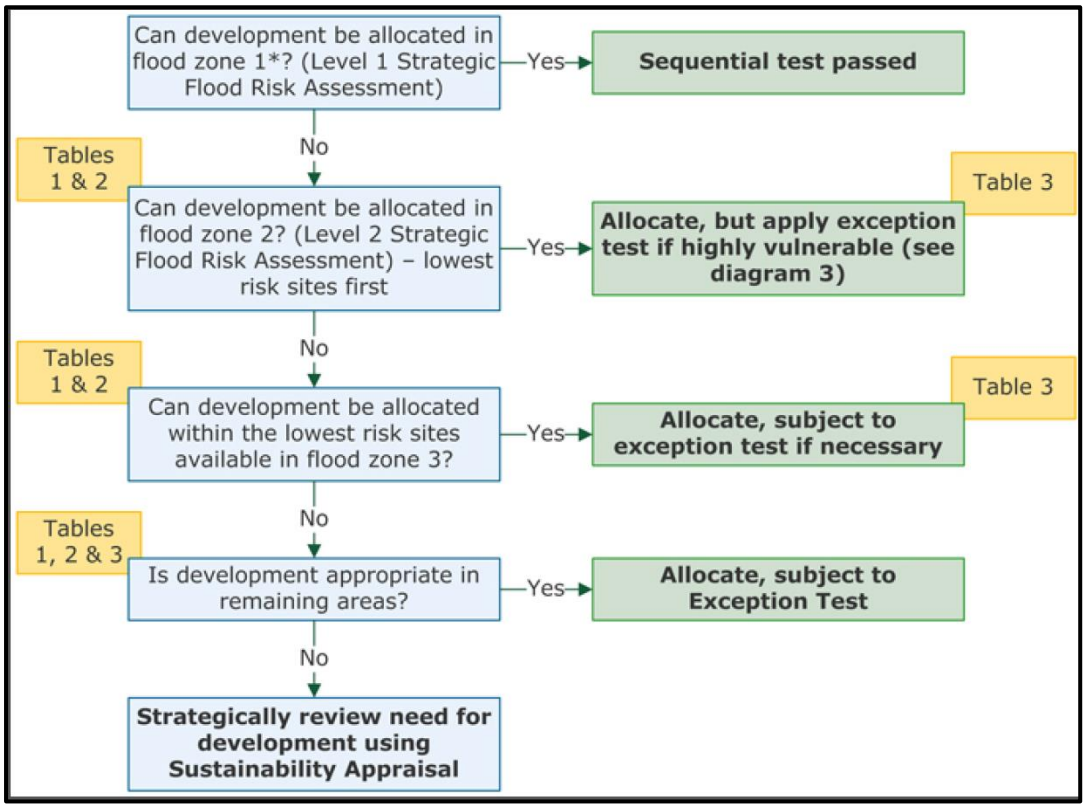
2.1.3 If it is not possible to allocate development in the lower risk zones (e.g. flood zone 1) then an exception test should be applied. To pass the exception test, it should be demonstrated that the benefits of the development outweigh the risk of

flooding; and that “the development will be safe for its lifetime” as well as not increasing flood risk elsewhere.

Flood Risk and Coastal Change Planning Practice Guidance

2.1.4 The Flood Risk and Coastal Change Planning Practice Guidance describes the application of the Sequential Test for Local Plan preparation in diagram 1.

Diagram 1: Sequential Test for Local Plan preparation



2.1.5 The flood zones are defined within table 1 of the PPG based on the probability of occurrence.

Table 1: Flood zones

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as ‘clear’ on the Flood Map – all land outside Zones 2 and 3)
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding.(Land shown in dark blue on the Flood Map)

Zone 3b The Functional Floodplain	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

2.1.6 Table 2 of the PPG classifies the type of development according to their vulnerability to flood risk.

Table 2: Flood risk vulnerability classification

Essential infrastructure

• Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk.
• Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood.
• Wind turbines.

Highly vulnerable

• Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding.
• Emergency dispersal points.
• Basement dwellings.
• Caravans, mobile homes and park homes intended for permanent residential use.
• Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure').

More vulnerable

• Hospitals
• Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels.
• Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels.
• Non–residential uses for health services, nurseries and educational establishments.
• Landfill* and sites used for waste management facilities for hazardous waste.
• Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

Less vulnerable

• Police, ambulance and fire stations which are not required to be operational during flooding.
• Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'more vulnerable' class; and assembly and leisure.
• Land and buildings used for agriculture and forestry.
• Waste treatment (except landfill* and hazardous waste facilities).
• Minerals working and processing (except for sand and gravel working).
• Water treatment works which do not need to remain operational during times of flood.
• Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place.

Water-compatible development

• Flood control infrastructure.
• Water transmission infrastructure and pumping stations.
• Sewage transmission infrastructure and pumping stations.
• Sand and gravel working.
• Docks, marinas and wharves.
• Navigation facilities.
• Ministry of Defence defence installations.
• Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location.
• Water-based recreation (excluding sleeping accommodation).
• Lifeguard and coastguard stations.
• Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.
• Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

* Landfill is as defined in Schedule 10 of the Environmental Permitting (England and Wales) Regulations 2010.

2.1.7 If the site allocations cannot all be accommodated in flood zone 1 than the exception test will be required for highly vulnerable sites in flood zone 2 or other types of sites in flood zone 3. Table 3 in the PPG explains when the exception test should be carried out based on the vulnerability of the development.

Table 3: Flood risk vulnerability and flood zone 'compatibility'

Flood Zones	**Flood Risk Vulnerability Classification**				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓

Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	✗	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	✗	✗	✗	✓*

✓ Development is appropriate

✗ Development should not be permitted.

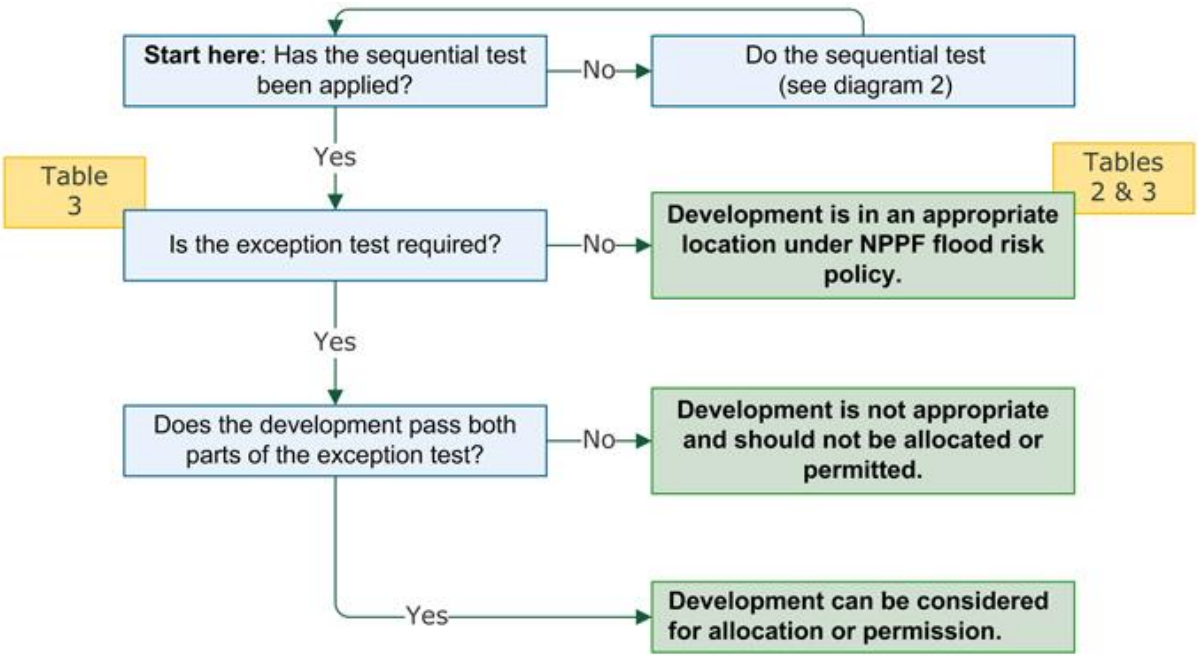
† In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

* In Flood Zone 3b (functional floodplain) essential infrastructure that has to be there and has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere.

2.1.8 The exception test to apply in the preparation of the Local Plan is outlined in diagram 2.

Diagram 2: Application of the Exception test to Local Plan preparation



2.1.9 The sequential test and exception test undertaken as part of the Local Plan preparation are discussed in section 3 of this report.

2.2 Regional / Local context

Lancashire and Blackpool Local Flood Risk Management Strategy

2.2.1 The Lancashire and Blackpool Local Flood Risk Management Strategy (2013) sets out how Lancashire County Council and Blackpool Council intend to manage flood risk from local sources of flooding over the next 3 years. The report includes strategic objectives, specific measures to achieve them and an action plan showing how the measure will be implemented. The strategy identifies over 6,000 properties within Rossendale at risk from local flooding sources. It also states that during the flood events on 22nd and 23rd June 2012, 127 properties were affected by flooding in Rossendale.

Previous flooding events in Lancashire and Rossendale

2.2.2 Significant flooding events affecting a number of properties have happened three times in the last 5 years, most recently on Boxing Day 2015. Significant damage has been caused to property and therefore flood risk associated with new construction is high in the awareness of the public and elected members.

2.2.3 Following the flood events that affected Lancashire in December 2015, the Lead Local Flood Authority (LLFA) developed district level reports to provide communities with information about what the relevant authorities are doing in terms of managing flood risk. The Rossendale District Flood report (2017) identified the following actions:

County wide actions:

- Authorities responsible for flood risk-related assets, public infrastructure or flood defences should minimise the risk of damage to these properties
- Relevant authorities should provide advice and support to local communities to reduce the impact of flooding and help residents and businesses to recover. A drop in session was help in Irwell Vale in February 2016.
- LLFA should keep details of flood events and understands if it triggers an investigation. If an investigation should take place, the findings should be made available in a timely manner. The flood events of December 2015 were investigated and the LLFA produced a stage one report identifying all known communities affected by the flooding. A stage two report will be published which will follow up on the progress of the recommended actions.

District wide actions:

- LLFA to develop a Surface Water Management Plan (Level 2) for Rossendale District (Defra funding secured in 2021)
- All relevant risk management authorities to develop upland land management techniques to reduce fast-flowing watercourses to feed into rivers at time of heavy rainfall. The North West Regional Flood & Coastal Committee supports investigations and proposals in or near Rossendale (e.g. Moors for the Future)

2.2.4 The communities which were affected by the December 2015 flood events in Rossendale include:

- 62 properties in Irwell Vale suffered fluvial, groundwater and surface water flooding. The River Ogden went over its banks at Ogden Bridge and the River Irwell came out of channel at Lumb Bridge. A permanent pump at Meadow Park is being considered to manage flood water.
- 50 properties in Rawtenstall suffered fluvial, groundwater and surface water flooding. The River Irwell breached at the level of New Hall Hey Business Park and flooded the cricket pitch. Cellars and ground level of properties flooded.
- 27 properties in Whitwell Bottom were affected by several sources (e.g. main river, surface water, groundwater and overwhelmed drainage).
- 24 properties were affected at Strongstry and Chatterton by surface water running off the former railway embankment and by a local Ordinary Watercourse. The River Irwell overtopped its banks and undermined the Bridgeway Bridge which collapsed. LCC are undertaking culvert investigations and repairs. Also, LCC and Rossendale Borough Council are to investigate and propose surface water management for land uphill of North Terrace and the railway line.
- 21 properties in Waterfoot were affected by surface water, fluvial (Cowpe Brook) and groundwater flooding in particular near Whitewell Brook.
- 19 properties at Stubbylee where further investigations are required.
- 17 properties in Bacup near Rockcliffe Road, Market Street and River Street affected by surface water flooding due to blocked and overwhelmed drains.
- 16 properties affected in Stacksteads near Brandwood Road, Waterbarn Lane, Brandwood Park and River Street. The former cricket pitch at Waterbarn was inundated.
- 9 properties affected in Shawforth due to the River Spodden going over its banks.
- 4 properties in Hareholme affected by flooding from the River Irwell.
- 3 properties in Helmshore affect by flooding from the River Ogden.
- One property affected in Weir, Cowpe and Goodshaw.

3 Evidence base

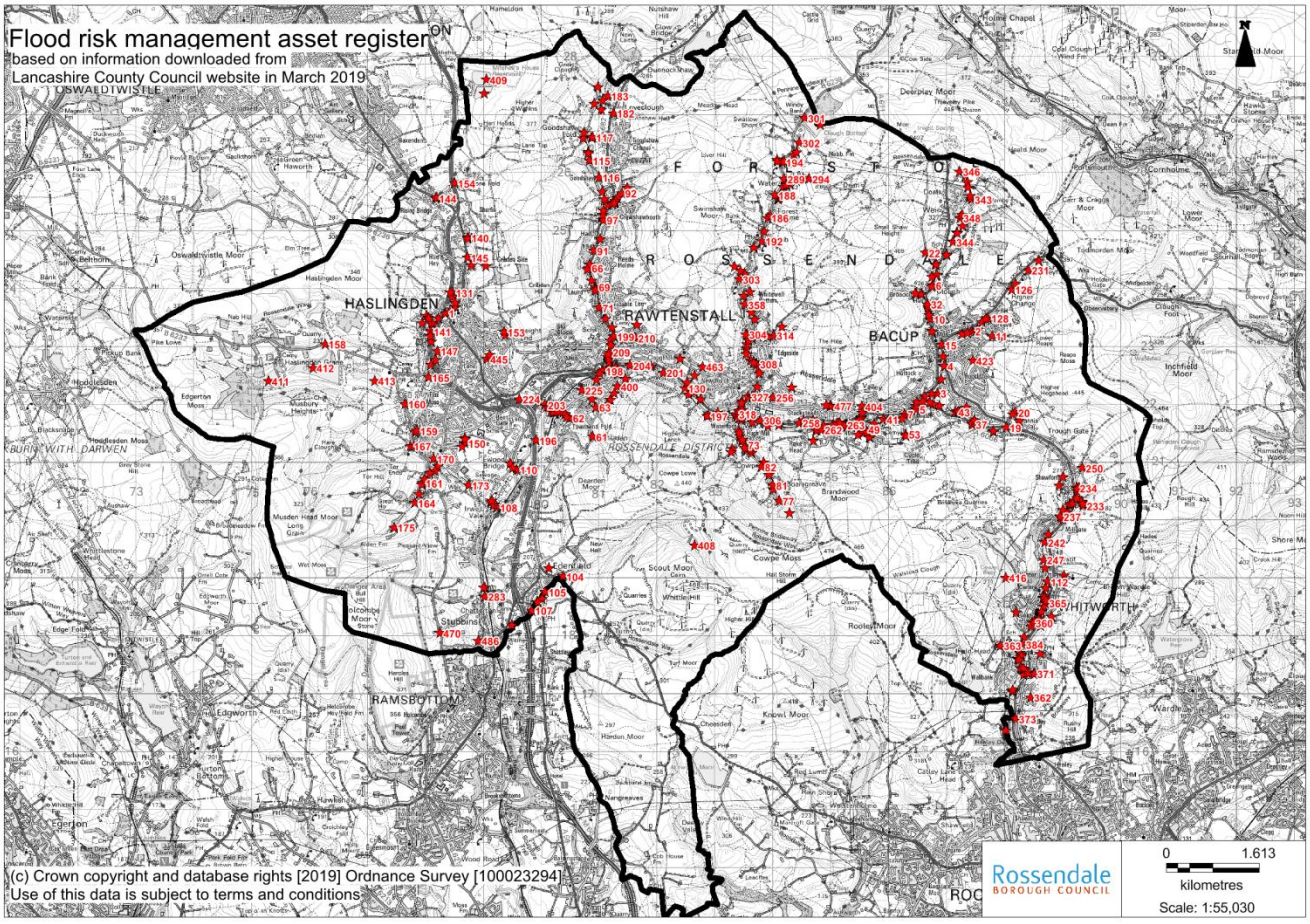
3.1 Strategic Flood Risk Assessment (SFRA)

3.1.1 In 2016, Rossendale Borough Council commissioned JBA to update a Strategic Flood Risk Assessment for Rossendale. The SFRA provides a summary of flood risk within the Borough and information regarding the existing flood risk management assets. It also assesses potential site allocations against the risk of flooding.

Flood risk management

3.1.2 The Flood risk management asset register produced by the LLFA is available to download at: https://www.lancashire.gov.uk/council/strategies-policies-plans/environmental/lancashire-and-blackpool-flood-risk-management-strategy/. It contains information about the type of structure and their location. Map 1 shows the distribution of the flood risk management asset register in Rossendale.

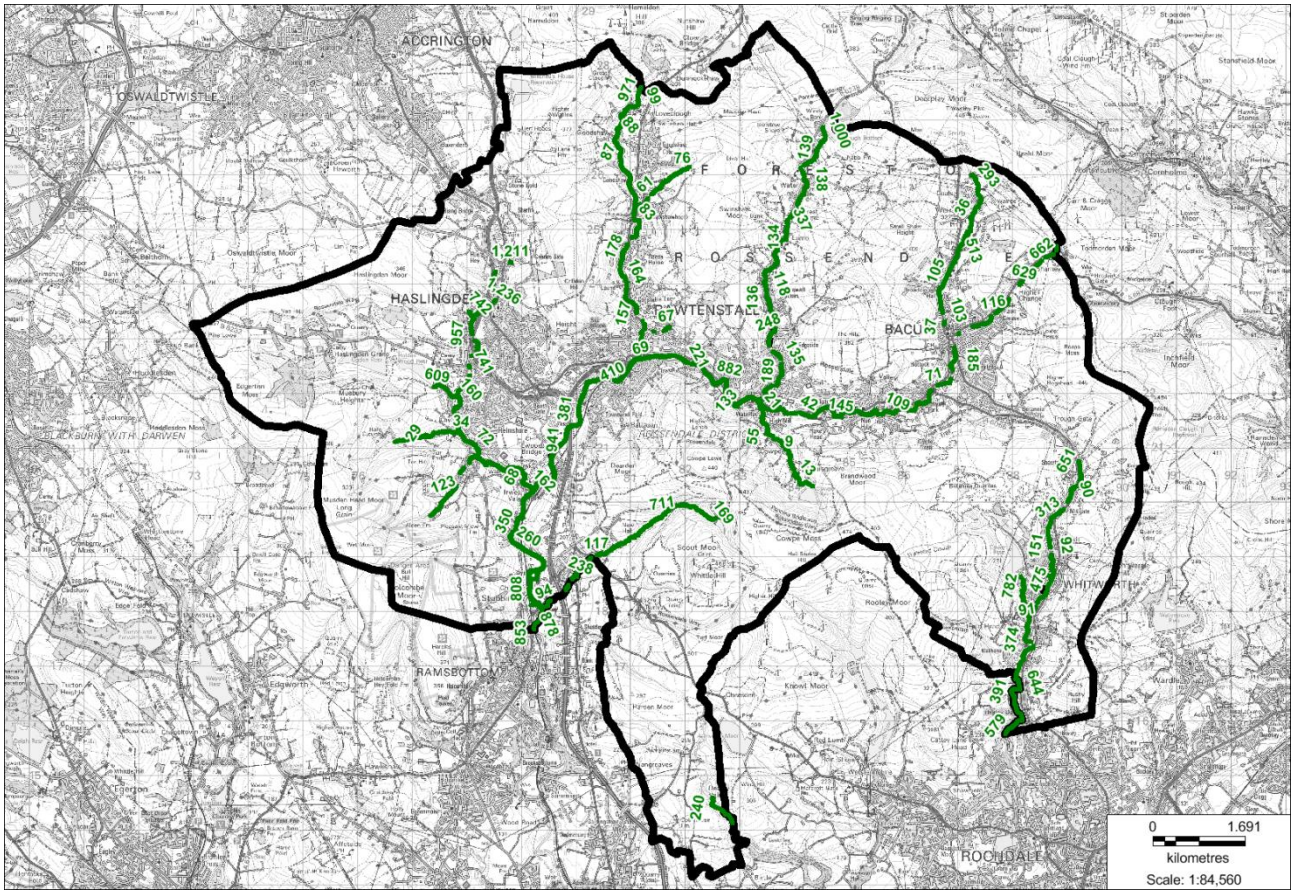
Map 1: Flood risk management assets identified on the LLFA register as of January 2019.



3.1.3 In January 2019, the register included:

- 389 culverts
- 90 trash screens
- 9 open channels
- 9 reservoirs
- 3 drains
- 1 flood defence wall in Whitworth
- 1 flood storage area in Whitworth
- 1 pumping station in Haslingden

3.1.4 The Environment Agency also publishes a Spatial Flood Defences dataset which is available to download at https://data.gov.uk/dataset/6884fcc7-4204-4028-b2fb-5059ea159f1c/spatial-flood-defences-including-standardised-attributes. The map below shows the spatial flood defences based on information dated January 2019. The spatial flood defences include channels, embankments and walls.



3.1.5 Some flood risk management assets are also held by United Utilities such as Wastewater Treatment Works, Combined Sewer Overflows, pumping stations, detention tanks, sewer networks and manholes.

Potential Local Plan site allocations assessment

3.1.6 The SFRA is divided into 2 distinctive assessments: level 1 and level 2. The level 1 assessment identifies flood risk to potential site allocations and provides information to apply the Sequential Test. The assessment considered fluvial flood risk as well as surface water floor risk and the effect of climate change. The level 2 assessment provides additional information to apply the Exception Test.

3.1.7 Amongst the 306 potential allocation sites assessed at level 1 the SFRA recommended that 19 sites should be subject to the exception test and 10 sites should be withdrawn.

3.1.8 The SFRA then assessed these 19 potential sites at level 2 and recommended to withdraw 10 sites while the remaining 9 sites should be subject to the Exception Test. The 10 sites that the study recommended for withdrawal were not allocated for housing, mixed-use or new employment sites within the emerging Local Plan.

3.1.9 The SFRA also identified a functional flood plain (zone 3b) in Crawshawbooth near Limy Water and on Swinnel Brook.

3.2 Sustainability Appraisal (SA)

3.2.1 The SA assessed the emerging Local Plan policies and site allocations against 13 objectives. One of them, SA Objective 4, relates to the protection, enhancement and management of watercourses in Rossendale and the management of water resources in a sustainable way.

3.2.2 The SA identifies that upland management is essential to reduce flood risk and prepare the Borough for the impacts of climate change. It also states that development on greenfield sites is likely to exacerbate flood risk (particularly surface water flooding), but the emerging Local Plan policies provide scope for mitigation. In particular policy ENV9: Surface Water Run-Off, Flood Risk, Sustainable Drainage and Water Quality requires development in flood zone 2 and 3 to submit site-specific flood risk assessment and to manage surface water via Sustainable Drainage Systems.

4 Applying the Sequential Test

4.1 Site allocations

4.1.1 Within the emerging Local Plan, 74 sites are proposed for housing allocation, 5 sites for mixed-use allocation and 5 sites for employment allocation also called

“new employment sites”. A further 51 sites in existing employment are identified for protection. Appendix A lists the site allocations together with the flood zone they are in, the SFRA site reference and the SFRA recommendation.

4.1.2 Table 4 shows the number of site allocations within flood zone 1, 2 and 3. Amongst the 84 housing, mixed-use and new employment site allocations, 74% are in flood zone 1, 6% are in flood zone 2 and 20% are in flood zone 3.

Table 4: Site allocations by flood zones

Site Allocations		Flood zone 1		Flood zone 2		Flood zone 3	
	Number of sites	Number of sites	%	Number of sites	%	Number of sites	%
Housing	74	58	78.4%	4	5.4%	12	16.2%
Mixed-Use	5	2	40%	1	20%	2	40%
New Employment	5	2	40%	0	0%	3	60%
Total	84	62	74%	5	6%	17	20%

Proposed site allocations in flood zone 1

4.1.4 The first stage of the sequential test applies to allocating development within flood zone 1. Amongst the 58 sites proposed for housing and 2 sites proposed for mixed use (including residential units) situated within flood zone 1, 49 have been assessed in the Strategic Flood Risk Assessment.

4.1.5 The SFRA concluded that 48 sites could be allocated subject to a site-specific Flood Risk Assessment or should be allocated based on flood risk grounds. However, for one site, H19 – Land off Lower Clowes Road, New Hall Hey, the study recommended further investigation due to the surface water risk. This particular site obtained a Lawful Development Certificate in 2016, as a lawful start was made on the planning application reference 2002/0532 which was allowed at appeal in 2003. At the time of the planning application, the Environment Agency had no objection in principle “subject to protection of the minor adjacent water course and provision of details prior to construction of finished floor levels”. This condition has been included within the grant of planning permission.

4.1.6 2 sites proposed for employment are in flood zone 1. For one site, the SFRA recommended that the development could be allocated subject to a Flood Risk Assessment. For the other site, NE5 – Baxenden Chemicals Ltd, Rising Bridge, the SFRA concluded that further investigation is required due to surface flood risk with due consideration to the site layout and design.

Proposed site allocations in flood zone 2

4.1.7 The second stage involves allocating the lowest risk sites first in flood zone 2. According to table 3, essential infrastructure, more vulnerable, less vulnerable and water compatible development are appropriate in flood zone 2. However, the Exception Test is required for highly vulnerable development.

4.1.8 Basement dwellings, caravans, mobile homes and park homes intended for permanent residential use are considered highly vulnerable according to table 2. None of the five proposed housing site allocations in flood zone 2 are for these types of use, therefore the Exception Test is not required.

4.1.9 However, it is important to note that the following sites should not contain any types of development identified as highly vulnerable:

- H21 – Reed Street, Bacup
- H54 – Land at Ashworth Road, Water
- H57 – Foxhill Drive, Whitewell Bottom
- H63 – Hollin Farm, Whitewell Bottom
- M1 – Waterside Mill, Bacup

Proposed site allocations in flood zone 3

4.1.10 Amongst the 12 sites proposed for housing allocation in flood zone 3, seven sites have a full or outline planning permission for the whole allocated land or part of the land.

4.1.11 These seven sites are discussed below:

- H12 – Reedsholme Works, Rawtenstall: The Reserved Matters application has been approved for 97 dwellings (2018/0535). The EA did not object to the planning application but recommended that the development proceed in accordance to the Flood Risk Assessment submitted with the application and the mitigation measures identified.

- H22 – Former Bacup Health Centre: Approval was granted for a care home with 22 bedrooms (planning application reference 2017/0100) and the site is currently under construction. The Lead Local Flood Authority had no objections but requested the inclusion of conditions such as a surface water drainage scheme and a surface water lifetime management and maintenance plan. The EA did not object in principle to the application but requested that the culvert beneath the site be repaired or replaced before the new building is built, as well as maintained in accordance with the phasing arrangement of the development.

- H23 – Glen Mill, 640 Newchurch Road, Stacksteads: An outline planning application for 9 dwellings has been approved (reference 2017/0130). EA withdrew their objection based on the revised layout proposed and requested that no structure should be erected within 4 metres of the top of the bank of the River Irwell. Also, the development should go ahead in strict accordance to the Flood Risk Assessment and the mitigation measures identified. The proposals will also require a permit from the EA for any works or structures within 8 metres from the River Irwell.

- H33 – Land off Rockcliffe Road and Moorlands Terrace, Bacup: The part of the site within flood zone 3 has been granted permission for 26 affordable dwellings (reference 2018/0043). The EA stated that a permit may be required for any works or structures within 8 metres from the River Irwell. Also the comment from the EA related to potential risks of pollution to controlled waters.

- H38 – Land off Burnley Road and Meadows Avenue, Bacup: the site obtained a reserved matters approval for 6 dwellings (reference 2017/0551). EA did not object to the application and state that the above Ordnance Datum flood levels are appropriate in relation to flood risk form the River Irwell. However, if the culvert which runs through the site overflows due to blockage, the water could enter the site and impact on the plot areas. EA recommended to consult the LLFA regarding the culvert. The development may also require a permit for any works or structures within 8 metres from the River Irwell. The Lead Local Flood Authority did not comment on this application.

- H53 – Waterfoot Primary School: the conversion of the school to supported-living accommodation was approved in 2017 (reference 2016/0599). EA withdrew their objections subject to the following condition being attached to the planning permission: “The development hereby permitted shall not be commenced until such time as a scheme to ensure finished floor levels are set no lower than 194.11m above Ordnance Datum has been submitted to, and approved in writing by, the local planning authority.” The development is currently near completion.

- H65 – Albert Mill, Whitworth: An outline planning application has been approved in 2018 for 49 dwellings (2012/0588). One of the conditions associated with the grant of permission relates to the finished floor level of dwellings which should not be lower than 208.52 above Ordnance Datum to reduce risk of flooding. A subsequent planning application for 85 dwellings has been submitted (2018/0498). EA is currently objecting to the application based on the Flood Risk Assessment provided. Although EA welcomes the opening of the culvert, they request a revised Flood Risk Assessment to set

out the required dimension of the channel and which states that the layout can accommodate the revised channel and bank slopes. United Utilities recommends drainage conditions. In the Sustainability Appraisal, the site scores badly against the water and flooding objective, however it scores well against the natural resources (as the development is proposed on brownfield land), health (with good access to health facilities), housing (providing additional dwellings), employment location and skills (with good access to employment opportunities and in proximity to schools) and transport objectives (with good access to bus services and public rights of way). The Sustainability Appraisal found that the site could have a minor impact on cultural heritage (as it can be viewed from a Grade II Listed Building, although the redevelopment of the site can enhance the local character of the area), climate change mitigation (increase of greenhouse gas emissions) and material assets (increase in waste generation).

4.1.12 The remaining five sites proposed for housing allocation within flood zone 3 are discussed below.

- H10 – Land at Bury Road, Rawtenstall: The site adjoins the River Irwell, however development on the site is proposed on a plateau which is situated on higher ground. In the Sustainability Appraisal, the site scores badly against the water and flooding objective but positively in terms of the health (proximity to health services), housing, employment location and skills(proximity to employment opportunities and schools) and transport (good access to bus service and public rights of way). Development here could have a minor impact on natural resources (development on a greenfield site), climate change mitigation (increase greenhouse gas emissions) and adaptation (loss of green infrastructure) and material assets (increase in waste generation). The EA objected to the allocation of the site within the Publication version of the Local Plan and recommends the boundary of the site to be modified so that it removes the flood zone 3 from the site allocation. This would fit with what has been defined as the developable area for this site.

- H35 – Shadlock Skip, Stacksteads: The site has been assessed in the SFRA (level 2) and the recommendation is to “Continue with Exception test if partial development can be agreed so that the site boundary is pulled back to the south of the Irwell and out of Flood Zone 3a”. In the Sustainability Appraisal, the site scores badly in terms of water and flooding, however it is expected to have positive impacts on the natural resources (development on brownfield site), housing, employment and transport objectives. The site can have minor effects on the biodiversity and geodiversity (situated within the Stacksteads Gorge Local Geodiversity Site), climate change mitigation, material assets and health objectives. Indeed, the site cannot satisfy three or four of the

criteria regarding accessibility to a GP, NHS hospital, public greenspace or leisure centre, or located away from air pollution sources such as a busy road. The site is currently in use for employment including a waste collection and skip hire business. The redevelopment of the site for residential use was supported by the residential neighbours.

- H69 – Cowm Water Treatment Works, Whitworth: The site has been assessed in the SFRA (level 2) and the recommendation is to “Continue with Exception test as western area of site may be deliverable though scenarios of reservoir dam failure must be modelled. External access roads required”. The site is within the ownership of United Utilities and includes a former waste water treatment work. The Sustainability Appraisal shows that the site scores badly against the water and flooding objective. The site can have minor negative effects on landscape, cultural heritage, natural resources, climate change mitigation and adaptation, material assets and transport. It is expected to have minor positive effects on housing and employment location (good access to employment opportunities). The site scores well in terms of health (facilitating active lifestyle with good access to health facilities) and employment skills (proximity to schools).

- H70 – Irwell Vale Mill: A planning application was submitted and subsequently withdrawn for part of the site (2017/0290). EA made an objection to the proposals but stated that:

“With regard to the Irwell Mill site taken as a whole, there would appear to be potential for the redevelopment to reduce flood risk associated with the River Ogden. The existing site configuration with the mill buildings forming the channel results in a constrained watercourse. If the site were redeveloped as a whole there is potential to create a less constrained channel. This could provide a reduction in flood levels although the existing Ogden Bridge may limit any benefits. Only reassessment by modelling would ultimately determine this. We would recommend the developer and the LPA consider the overall site development and how this could potentially reduce flood risk to the development site and surrounding properties.

The site is within flood zones 1, 2 and 3 and as such the LPA must apply the sequential test of NPPF to determine whether there are other sites available in a lower risk flood zone in preference to the development of the Irwell Vale Mill site.

We suggest that the LPA consults the emergency planners / services, about whether a 'safe' access / egress can be achieved using a Flood Warning and Evacuation Plan (FWEP). If the LPA does not receive advice from emergency planners / services, we encourage it to ask developer to prepare and submit Emergency Flood Plans “

The site has been assessed in the SFRA (level 2) and the recommendation is to continue with the Exception test as the northern part of the site may be deliverable. However, the southern part is at medium risk of surface water and should be avoided. The Sustainability Appraisal shows that the site performs badly against the water and flooding objective. The development can have minor negative effects on the landscape, cultural heritage, biodiversity and geodiversity, natural resources, climate change adaptation and mitigation, health, material assets and transport objectives. However, the development can have minor positive effects on housing and employment location (good access to employment opportunities) and scores well for employment skills (proximity to schools).

- H73 – Edenwood Mill, Edenfield: The site has been assessed in the SFRA (level 1) and the study recommends due consideration to the site layout and design. The EA stated in an email dated 23rd January 2019 that as long as a development proceeds in accordance with the SFRA guidance they are satisfied that it could be delivered safely. Also, it is an opportunity to open up a culverted watercourse and this could be a mitigation measure associated with the demolition of the existing mill. In the Sustainability Appraisal, the site scores badly against the water and flooding objective. The development is expected to have minor negative effects on natural resources, climate change mitigation and adaptation, health and material assets objectives, However it is expected to have minor positive effects against the housing, employment and transport objectives.

4.4.13 The mixed-use site M4 – Futures Park, Bacup which is proposed to be allocated for a variety of uses including employment and a transit site for Gypsies and Travellers site is partly situated within flood zone 3. Parts of the site (plot 1 and plot 5) were assessed for employment in the SFRA (level 1) and the study recommends that the development could be allocated subject to a site specific Flood Risk Assessment. The site was assessed in Sustainability Appraisal of the Publication (Pre-Submission) version of the Local Plan for mixed-use including residential and employment use. An updated assessment is included in the Sustainability Appraisal Addendum, to assess the site for mixed-use, including residential development, employment use and a transit site for Gypsies and Travellers. The original and updated assessments achieve the same results when tested against the sustainability appraisal objectives. The site scores badly in terms of water and flooding, but it is mentioned that since the site proposed is larger than the one assessed in the SFRA, there could be scope to steer development away from the flood zone 3. The development is expected to have minor negative effects on the landscape, cultural heritage, biodiversity and geodiversity, natural resources, climate change adaptation and mitigation, health and material assets objectives. However the site scores well for employment location and is

expected to have minor positive effects on the housing, employment and transport.

4.1.14 Three new employment site allocations are proposed within flood zone 3. This type of development is classified as “less vulnerable” within table 2. The 3 sites are:

- NE1 – Extension to Mayfield Chicks, Ewood Bridge: The site has been assessed in the SFRA (level 1) and the study recommends that development could be allocated subject to a site specific Flood Risk Assessment.

- NE3 – Carrs Industrial Estate North Extension, Haslingden: The site has not been assessed in the SFRA. A small part of the site is within flood zone 3, along the A56. The development is expected to avoid this area at higher risk of flooding and the site would be subject to a site-specific flood risk assessment at the planning application stage. The Sustainability Appraisal shows the site has no major negative effects while it can have a major positive effects regarding provision of employment. The assessment concludes that the development can have minor negative effects on the landscape, cultural heritage, biodiversity and geodiversity, water and flooding, natural resources, climate change mitigation and adaptation, material assets and transport objectives.

- NE4 – Extension of New Hall Hey, Rawtenstall: the site has been assessed as two sites in the SFRA. The land to the west of the River Irwell has been assessed at level 1 and the study recommends that the site could be allocated subject to a site specific Flood Risk Assessment. The land to the east of the River Irwell has been assessed at level 2 because the Exception Test was required. The study recommends to “Continue with Exception test as may be deliverable though access would need to avoid the railway line”. The SFRA stated that “safe access and egress should be possible from the south and east however there is presently no road or street network”. The Sustainability Appraisal shows that the development is not expected to have any major negative effects, but can have a major positive effects regarding the provision of employment. The assessment shows that the development can have minor negative effects on landscape, cultural heritage, natural resources, climate change mitigation and adaptation, material assets and transport.

4.1.5 The site M5 – Park Mill, Helmshore is proposed to be allocated for retail (A1) with restaurants and cafés (A3). It was assessed for residential use in the SFRA and the study recommended withdrawing the site based on surface water flood risk. However, the proposed use is less vulnerable than the residential use tested. Park Mil is already partly used as a furniture and curtain shop, with an ancillary café. A planning permission was granted in

2015 to change the use of a storage area to a gym. In the Sustainability Appraisal, the site was assessed for mixed-use including residential and employment uses. It scores badly against the water and flooding objective but positively against the employment objectives. The assessment shows the development can have minor negative effects on landscape, cultural heritage, biodiversity and geodiversity, climate change mitigation, health and material assets; however it can also have minor positive effects on natural resources, housing and transport. The emerging Local Plan would like to protect the site for mixed-use, especially regarding its A1 and A3 uses.

4.2 Emerging Local Plan Policy

4.2.1 The strategic and local policies within the emerging Local Plan seek to mitigate the risk of flooding to people and property.

4.2.2 The “Strategic Policy ENV1: High Quality Development in the Borough” sets out that all development will be expected to consider a set of criteria including criterion n) “that proposals do not increase the risk of flooding on the site or elsewhere, where possible reducing the risk of flooding overall, having regard to the surface water drainage hierarchy” and criterion s) “designs that will be adaptable to climate change, incorporate energy efficiency principles and adopting principles of sustainable construction including Sustainable Drainage Systems (SuDS)”.

4.2.3 Furthermore local policies also aim to mitigate against flood risk, in particular “Policy ENV9: Surface Water Run-Off, Flood Risk, Sustainable Drainage and Water Quality” which states that “A sequential approach will be taken and planning permission will only be granted for proposals which would not be subject to unacceptable flood risk, or materially increase the risks elsewhere and where it is a type of development that is acceptable in the Flood Plain”.

4.2.4 “Policy ENV5: Green infrastructure networks” goes on to highlight the importance of Green Infrastructure in managing flood risk. Indeed, the policy explains that if proposals will result in a net loss of green infrastructure, it would not be permitted if this loss cannot be replaced elsewhere and if it would have unacceptable effects on the “amenity, surface water run-off, nature conservation or the integrity of the green infrastructure network”.

4.2.5 These policies have been assessed in the Sustainability Appraisal and score well against the various sustainability objectives.

5 Conclusions

5.1 Rossendale has been affected by flood events in recent years. The most recent flooding happened in December 2015 and affected various properties in Irwell Vale, Rawtenstall, Whitewell Bottom, Strongstry, Chatterton and Waterfoot as well as other parts of the Borough. The topography of the Borough which comprises steep sided valleys facilitate fast water run-off to rivers which can be already swollen after intensive rainfall events. The high number of culverts combined with the low capacity of sewers and drainage network contribute to flood risk in the area.

5.2 The emerging Local Plan considered flood risk when preparing policies and allocating sites for development. A Strategic Flood Risk Assessment study (level 1 and 2) was commissioned to better understand flood risk from rivers but also from surface water in the Borough and potential development sites were assessed. A Sustainability Appraisal study was also undertaken which assessed the policies and the site allocations against various sustainability objectives.

5.3 The emerging Local Plan allocated where possible sites within flood zone 1, however due to the location of the settlements within valleys and the aspiration of the Council to redevelop brownfield sites, some sites within flood zone 2 and 3 are proposed for allocation.

5.4 The recommendations from the studies were considered during the selection of the most suitable sites for allocation. Sites situated in flood zone 3 are expected to bring benefits to the community as demonstrated by the Sustainability Appraisal and will be subject to a site-specific flood risk assessment at the planning application stage to demonstrate that the site can be safe during its lifetime and do not increase the risk of flooding elsewhere

Appendix A – Site Allocations and Flood Risk

Housing Site Allocations

Housing Allocation Ref.	Site name	Net developable area (ha)	No. of units proposed	Density (dwellings per hectare)	Delivery Timescale	Greenfield/Brownfield	Allocation	Policy	Flood zone (based on the SFRA or the EA mapping site for sites not assessed in the SFRA)	SFRA Ref.	SFRA recommendation
Rawtenstall, Crawshawbooth, Goodshaw and Loveclough											
H1	Greenbridge Mill (Hall Carr Mill) Lambert Haworth	1.28	64	50	Years 1-5	Brownfield	Housing	HS2	Flood zone 1	SFRA227	Development could be allocated subject to FRA
H2	Magistrates Court, Rawtenstall	0.02	11	550	Years 1-5	Brownfield	Housing	HS2	Flood zone 1	n/a	n/a
H3	Land at former Oakenhead Resource Centre	0.69	19	28	Years 1-5	Brownfield	Housing	HS2	Flood zone 1	n/a	n/a
H4	Turton Hollow, Goodshaw	1	30	30	Years 1-5	Mixed but largely greenfield	Housing	HS2	Flood zone 1	SFRA233	Development could be allocated subject to FRA
H5	Swinshaw Hall, Loveclough	1.72	47	27	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA237	Development could be allocated subject to FRA
H6	Land south of 1293 Burnley Road, Loveclough	0.19	5	26	Years 1-5	Greenfield	Housing (Self Build)	HS20	Flood zone 1	SFRA240	Development could be allocated subject to FRA
H7	Land Adjacent Laburnum Cottages, Goodshaw	0.31	10	32	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA87	Development could be allocated subject to FRA
H8	Oak Mount Garden, Rawtenstall	0.29	9	31	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA103	Development could be allocated subject to FRA

H9	Land off Oaklands and Lower Cribden Avenue	1.57	31	20	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	n/a	n/a
H10	Land at Bury Road, Rawtenstall	0.25	7	28	Years 1-5	Greenfield	Housing	HS2	Flood zone 3	n/a	n/a
H11	The Hollins, Hollin Way	2.62	70	27	Years 1-15	Greenfield	Housing	HS2	Flood zone 1	SFRA03	Development could be allocated subject to FRA
H12	Reedsholme Works, Rawtenstall	2.19	110	50	Years 1-5	Brownfield	Housing	HS2	Flood zone 3	SFRA297	Consider site layout and design
H13	Loveclough Working Mens Club and land at rear and extension	3.2	95	30	Years 1-5	Mixed	Housing	HS2	Flood zone 1	SFRA238	Development could be allocated subject to FRA
H14	Hall Carr Farm, off Yarraville Street	1.07	26	24	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA154	Development could be allocated subject to FRA
H15	Willow Avenue off Lime Tree Grove	0.35	10	29	Years 11-15	Greenfield	Housing	HS2	Flood zone 1	SFRA83	Development could be allocated subject to FRA
H16	Land East of Acrefield Drive	0.61	18	30	Years 11-15	Greenfield	Housing	HS2	Flood zone 1	SFRA164	Development could be allocated subject to FRA
H17	Land south of Goodshaw Fold Road	0.23	7	30	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA235	Development could be allocated subject to FRA
H18	Carr Barn and Carr Farm	1.24	25	20	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA80	Development could be allocated subject to FRA
H19	Land off Lower Clowes Road, New Hall Hey	0.27	7	26	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA259	Require further investigation based on surface water risk
Bacup, Stacksteads, Britannia and Weir											
H20	Old Market Hall, Bacup	0.16	16	100	Years 1-5	Brownfield	Housing	HS2	Flood zone 1	n/a	n/a
H21	Reed Street, Bacup	0.42	13	31	Years 1-5	Brownfield	Housing	HS2	Flood zone 2	SFRA35	Development could be allocated subject to FRA
H22	Former Bacup Health Centre	0.2	22	110	Years 1-5	Brownfield	Housing (Special needs)	HS19	Flood zone 3	SFRA123	Site has extant FRA accepted by the EA. As long as mitigation recommendations in the FRA are adhered to, site should be able to go ahead
H23	Glen Mill, 640 Newchurch Road, Stacksteads	0.17	9	53	Years 1-5	Brownfield	Housing	HS2	Flood zone 3	SFRA287	Consider site layout and design
H24	The Former Commercial Hotel, 318A, 316B and 316C Newchurch Road	0.04	7	175	Years 1-5	Brownfield	Housing	HS2	Flood zone 1	n/a	n/a
H25	Land at Blackwood Road, Stacksteads	1.37	41	30	Years 1-5	Mixed	Housing	HS2	Flood zone 1	SFRA279 and part of SFRA212	Development could be allocated subject to FRA
H26	Land off Greensnook Lane, Bacup	1.43	26	18	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA09	Development could be allocated subject to FRA

H27	Land off Fernhill Drive, Bacup	0.15	5	33	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA36	Development could be allocated subject to FRA
H28	Sheephouse Reservoir, Britannia	2.1	63	30	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA299 (wrong reference)	Development could be allocated subject to FRA
H29	Land off Pennine Road, Bacup	2.8	84	30	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA37 and SFRA494	Development could be allocated subject to FRA
H30	Tong Farm, Bacup	1.7	51	30	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA23	Development could be allocated subject to FRA
H31	Lower Stack Farm	0.32	10	31	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA24	Development could be allocated subject to FRA
H32	Booth Road/Woodland Mount, Brandwood	0.35	10	29	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA33	Should be allocated based on flood risk grounds subject to consultation with LLFA
H33	Land off Rockcliffe Road and Moorlands Terrace, Bacup	3.22	63	20	Years 1-5	Greenfield	Housing	HS2	Flood zone 3 and Flood Zone 1	SFRA162 and SFRA273	Consider layout and design and Development could be allocated subject to FRA
H34	Land at Higher Cross Row, Bacup	0.53	17	32	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA17	Should be allocated based on flood risk grounds subject to consultation with LLFA
H35	Shadlock Skip, Stacksteads	0.72	22	31	Years 6-10	Brownfield	Housing	HS2	Flood zone 3	SFRA308	Exception test
H36	Hare and Hounds Garage, Newchurch Road, Stacksteads	0.15	9	60	Years 6-10	Brownfield	Housing	HS2	Flood zone 1	n/a	n/a
H37	Land off Gladstone Street, Bacup	2.1	63	30	Years 6-10	Mixed	Housing	HS2	Flood zone 1	SFRA159	Development could be allocated subject to FRA
H38	Land off Burnley Road and Meadows Avenue, Bacup	0.13	6	46	Years 6-10	Greenfield	Housing	HS2	Flood zone 3	n/a	n/a
H39	Land off Cowtoot Lane, Bacup	5.93	151	25	Years 1-10	Greenfield	Housing	HS2	Flood zone 1	SFRA30	Development could be allocated subject to FRA
H40	Land off Todmorden Road, Bacup	2.98	53	18	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA25 and SFRA284	Development could be allocated subject to FRA
H41	Thorn Bank, Bacup	1.55	46	30	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA156	Development could be allocated subject to FRA
H42	Land south of The Weir Public House	1.77	52	29	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA205	Development could be allocated subject to FRA
H43	Land west of Burnley Road, Weir	0.46	10	22	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA206	Development could be allocated subject to FRA
H44	Irwell Springs, Weir	2.48	46	19	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	n/a	n/a
Haslingden and Rising Bridge											
H45	Former Haslingden Police Station, Manchester Road	0.12	8	67	Years 1-5	Brownfield	Housing	HS2	Flood zone 1	n/a	n/a

H46	1 Laburnum Street	0.04	8	200	Years 1-5	Brownfield	Housing	HS2	Flood zone 1	n/a	n/a
H47	Land at Kirkhill Avenue, Haslingden	0.74	22	30	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA44	Development could be allocated subject to FRA
H48	Land Off Highfield Street	0.45	13	29	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA49	Development could be allocated subject to FRA
H49	Land adjacent 53 Grane Road	0.15	5	33	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	n/a	n/a
H50	Land Adjacent Park Avenue/Criccieth Close	1	30	30	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA54	Development could be allocated subject to FRA
H51	Land to side and rear of Petrol Station, Manchester Road	0.16	6	38	Years 6-10	Brownfield	Housing	HS2	Flood zone 1	SFRA45	Should be allocated based on flood risk grounds subject to consultation with LLFA
H52	Land to the rear of Haslingden Cricket Club	0.74	30	41	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA48	Development could be allocated subject to FRA
Waterfoot, Lumb, Cowpe and Water											
H53	Waterfoot Primary School	0.4	21	53	Years 1-5	Brownfield	Housing (Special needs)	HS19	Flood zone 3	n/a	n/a
H54	Land at Ashworth Road, Water	0.06	6	100	Years 1-5	Brownfield	Housing	HS2	Flood zone 2	n/a	n/a
H55	Carr Mill and Bolton Mill, Cowpe	0.07	11	157	Years 6-10	Brownfield	Housing	HS2	Flood zone 1	SFRA264; SFRA265 and SFRA138	Should be allocated based on flood risk grounds subject to consultation with LLFA; Should be allocated based on flood risk grounds subject to consultation with LLFA and Development could be allocated subject to FRA
H56	Knott Mill Works, Pilling Street and Orchard Works, Miller Barn Lane	0.06	5	83	Years 6-10	Brownfield	Housing	HS2	Flood zone 1	SFRA281	Should be allocated based on flood risk grounds subject to consultation with LLFA
H57	Foxhill Drive	0.22	7	32	Years 1-5	Greenfield	Housing	HS2	Flood zone 2	SFRA127	Development could be allocated subject to FRA
H58	Land off Lea Bank	0.31	9	29	Years 6-10	Greenfield	Housing (Self Build)	HS20	Flood zone 1	SFRA89	Should be allocated based on flood risk grounds
H59	Land Adjacent Dark Lane Football Ground	1.95	80	41	Years 1-5	Mixed	Housing	HS2	Flood zone 1	SFRA93	Development could be allocated subject to FRA
H60	Johnny Barn Farm and land to the east, Cloughfold	4.55	80	18	Years 1-5	Greenfield	Housing	HS2	Flood zone 1	SFRA74 and SFRA223	Development could be allocated subject to FRA
H61	Hareholme, Staghills	0.33	9	27	Years 6-10	Greenfield	Housing (Self Build)	HS20	Flood zone 1	n/a	n/a

H62	Land off Peel Street, Cloughfold	0.28	8	29	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA267	Development could be allocated subject to FRA
H63	Hollin Farm, Waterfoot	0.18	5	28	Years 6-10	Greenfield	Housing	HS2	Flood zone 2	SFRA216	Development could be allocated subject to FRA
H64	Hargreaves Fold Lane, Chapel Bridge, Lumb	0.75	23	31	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA217	Development could be allocated subject to FRA
Whitworth, Facit and Shawforth											
H65	Albert Mill, Whitworth	1.14	49	43	Years 1-5	Brownfield	Housing	HS2	Flood zone 3	SFRA306 (assessed for employment)	Consider for withdrawal based on surface water risk
H66	Land North Of King Street	0.17	5	29	Years 6-10	Greenfield	Housing	HS2	Flood zone 1	SFRA43	Development could be allocated subject to FRA
H67	Land Behind Buxton Street	0.41	28	68	Years 1-5	Greenfield	Housing (Special needs)	HS19	Flood zone 1	SFRA120	Development could be allocated subject to FRA
H68	Former Spring Mill (land off eastgate and westgate)	3.7	111	30	Years 1-10	Brownfield	Housing	HS2	Flood zone 1	SFRA296	Development could be allocated subject to FRA
H69	Cowm water treatment works, Whitworth	0.68	20	29	Years 6-10	Mixed	Housing	HS2	Flood zone 3	SFRA299	Exception test
Edenfield, Helmshore, Irwell Vale and Ewood Bridge											
H70	Irwell Vale Mill	1.43	45	31	Years 1-5	Mixed	Housing	HS2	Flood zone 3	SFRA178	Exception test
H71	Land East of Market Street, Edenfield	0.31	9	29	Years 1-5	Brownfield	Housing	HS2	Flood zone 1	SFRA145	Development could be allocated subject to FRA
H72	Land west of Market Street, Edenfield	15.25	400	26	Years 6-15	Mixed but largely greenfield	Housing	HS3	Flood zone 1	SFRA182; SFRA184 and SFRA183	Development could be allocated subject to FRA
H73	Edenwood Mill, Edenfield	0.94	47	50	Years 6-10	Mixed	Housing	HS2	Flood zone 3	SFRA180	Consider site layout and design
H74	Grane Village, Helmshore	4	174	44	Years 1-10	Mixed but largely greenfield	Housing	HS2	Flood zone 1	SFRA295	Development could be allocated subject to FRA
Mixed-use including residential											
M1	Waterside Mill, Bacup	0.09	39	433	Years 6-10	Brownfield	Mixed-use	EMP2	Flood zone 2	SFRA307	Development could be allocated subject to FRA
M2	Spinning Point, Rawtenstall	1.56	28	18	Years 1-5	Brownfield	Mixed-use	EMP2	Flood zone 1	SFRA02 (assessed for mixed use)	Development could be allocated subject to FRA
M3	Isle of Man Mill, Water	0.54	16	30	Years 6-10	Mixed	Mixed-use	EMP2	Flood zone 1	SFRA114 (assessed for residential)	Development could be allocated subject to FRA

M4	Futures Park, Bacup		1 transit site for Gypsies and Travellers to include 4 pitches			Mixed	Mixed-use	EMP2 and HS18	Flood zone 3	SFRA21 and SFRA22	Development could be allocated subject to FRA
Total area, total number of dwellings and average density		**95.11**	**2853**	**53**							

New Employment Site Allocations

Employment Allocation Ref.	Site name	Gross Area (ha)	Estimated Net Developable Area (ha)	Use Class	Policy	Flood zone (based on the SFRA or the EA mapping site for sites not assessed in the SFRA)	SFRA Ref.	SFRA recommendation
New Employment								
NE1	Extension to Mayfield Chicks, Ewood Bridge	2.81	2.81	B1, B2, B8	EMP2	Flood zone 3	SFRA167	Development could be allocated subject to FRA
NE2	Land North of Hud Hey, Haslingden	3.43	2.70	B1, B2, B8	EMP2	Flood zone 1	SFRA248	Development could be allocated subject to FRA
NE3	Carrs Industrial Estate North Extension, Haslingden	5.67	4.84	B1, B2, B8	EMP2	Flood zone 3	n/a	n/a
NE4	Extension of New Hall Hey, Rawtenstall	6.18	5.20	B1, B2, B8	EMP7	Flood zone 3	SFRA175 and SFRA155	Development could be allocated subject to FRA and Exception test
NE5	Baxenden Chemicals Ltd, Rising Bridge	4.92	4.40	B1, B2, B8	EMP2	Flood zone 1	SFRA246	Require further investigation based on surface water risk and recommends consider site layout and design

Mixed-Use Site Allocations with no residential elements

Mixed-Use (with no residential units)								
M5	Park Mill, Helmshore	0.86	0.40	A1, A3	EMP2	Flood zone 3	SFRA56 (assessed for residential)	Consider for withdrawal based on surface water risk