Kirklees Level 1 SFRA - Appendix G

Local Plan Sites Assessment Summary

Final Report

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Prepared for:

Kirklees Council

www.jbaconsulting.com

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1 Local Plan Sites Assessment

Appendix G provides a strategic assessment of the suitability, relative to flood risk, of the sites to be considered for allocation in Kirklees Council's (the Council) new Local Plan, summarising the outcomes of the screening assessment presented in Appendix F.

The information and guidance provided in this Appendix (also supported by the SFRA Mapping in Appendix B) can be used by the Local Planning Authority (LPA) to inform the application of the Sequential Test in the allocation of sites in the new Local Plan, and the development management process.

The LPA must use the spreadsheet in Appendix F to record their decisions on how to take each site forward for allocation or whether to withdraw a site from allocation, based on the evidence and strategic recommendations provided. Recording decisions in the Sites Assessment Spreadsheet demonstrates that a sequential, sustainable approach to development and flood risk has been adopted.

The Council provided a GIS layer containing 766 potential development sites. In order to inform the Sequential Test for the allocation of development through the new Local Plan, this assessment entails a high-level GIS screening exercise overlaying the potential development sites against Flood Zones 1, 2, 3a and 3b (the functional floodplain), calculating the area of each site at risk. Flood Zones 1, 2 and 3 are sourced from the Environment Agency's (EA) latest version of the Flood Map for Planning, downloaded in October 2025 for this Level 1 SFRA. Flood Zone 3 is split into Flood Zone 3a and Flood Zone 3b (functional floodplain) as part of this Level 1 SFRA, as required by the National Planning Policy Framework (NPPF), 2025.

The impacts of climate change have also been included in the sites screening process using the available EA detailed modelling. The NaFRA2 Flood Map for Planning Flood Zones plus Climate Change layer has also been used to represent fluvial climate change. See Section 1.2 for details.

Surface water risk to assessed sites is analysed by way of the EA's latest version of the national scale Risk of Flooding from Surface Water (RoFSW) dataset, downloaded in December 2025, developed as part of the NaFRA2 project. The EA states that this dataset is generally not suitable for property level assessment, instead it provides an estimate of flood risk to an area of land. The modelling method used does not provide information relating to when floodwater may be deep enough to start causing damage or disruption to homes, roads or other infrastructure.

The updated EA RoFSW climate change extents represent the 2050s central allowance. EA SFRA guidance states *'Check your long term flood risk includes a climate change scenario for surface water flooding (note the time horizon and climate change scenario for surface water fall short of what's needed for planning so additional assessment will be needed)'*. At the Level 1 SFRA stage, the 0.1% AEP present day surface water flood event could be

considered as a proxy for the 1% AEP plus climate change surface water flood event. It is recommended that if the RoFSW map was updated to make the recommended climate change allowances available, that this site screening assessment is updated to reflect that.

It is important to consider that each individual site will require further investigation, following this assessment, as local circumstances may dictate the outcome of the strategic recommendation. Such local circumstances are discussed in Section 1.1. The outcomes of the site assessments are presented in the Sites Assessment Spreadsheet in Appendix F.

1.1 Screening of potential sites

This section of the report draws together the screening results included in Appendix F. The LPA should use the spreadsheet to assist them in carrying out the Sequential Test. If sites cannot be directed to areas of low flood risk, or where wider strategic objectives require development in areas identified through this Level 1 SFRA to be at medium or high risk from flooding now or in the future, then the LPA should consider the Flood Risk Vulnerability Classifications and flood zones. The LPA must consider whether a more detailed Level 2 SFRA (including for application of the Exception Test where applicable) will be required before finalising sites for allocation in the new Local Plan. Strategic recommendations are based on Tables 1 and 2 of the Flood Risk and Coastal Change Planning Practice Guidance[1] (FRCC-PPG) (Paragraphs 077 - 079), and Annex 3 of the NPPF[2].

The decision-making process on site suitability should be transparent and information from this Level 1 SFRA should be used to justify decisions to allocate land in areas shown to be at high or medium risk of flooding now or in the future.

The Sites Assessment Spreadsheet provides a breakdown of each site and the area (in hectares) and percentage coverage of each fluvial and surface water flood zone. Fluvial Flood Zones 3b, 3a, 2 and 1 are considered in isolation. Any area of a site within the higher risk Flood Zone 3b that is also within Flood Zone 3a is excluded from Flood Zone 3a and any area within Flood Zone 3a is excluded from Flood Zone 2. This allows for the sequential assessment of risk at each site by addressing those sites at higher risk first. The effects of climate change on fluvial flood risk have been assessed additionally to existing risk. Table 1-1 shows the proposed use of the sites and the number of sites within each fluvial flood zone and Table 1-2 shows the number of sites within each surface water flood zone.

1 Flood Risk and Coastal Change Planning Practice Guidance | GOV.UK | September 2025
2 National Planning Policy Framework | GOV.UK | February 2025

Table 1-1: Number of sites at risk from fluvial flooding

Proposed use	Number of sites within each flood zone					
	Flood Zone 1*	**Flood Zone 2**	**Flood Zone 3a**	**Flood Zone 3b**	**FMfP Flood Zones plus Climate Change**	**Modelled undefended 1% AEP + Climate Change**
Housing	474	106	34	90	73	27
Employment	20	21	12	19	15	12
Commercial	2	2	0	2	2	1
Mixed Use	71	20	5	13	14	7
Burial Site	1	1	1	1	1	1
Sites For Travellers	5	0	0	0	0	0
Minerals	27	3	1	3	2	0
Total	**600**	**153**	**53**	**128**	**107**	**48**

*Sites with 100% area within Flood Zone 1

Note: sites may be in more than one flood zone. In reality, a site in Flood Zone 3a will also be within Flood Zone 2.

Table 1-2: Number of sites at risk from surface water flooding

Proposed use	Number of sites within each surface water risk category				
	Very low risk zone (less than 0.1% AEP)	**Low risk zone (0.1% AEP)**	**Medium risk zone (1% AEP)**	**High risk zone (3.3% AEP)**	**Medium risk plus climate change zone (0.1% AEP as proxy)**
Housing	245	345	255	213	345
Employment	6	34	27	25	34
Commercial	1	3	2	2	3
Mixed Use	29	62	50	46	62
Burial Site	1	1	1	1	1
Sites For Travellers	1	3	0	2	3
Minerals	5	25	21	20	25
Total	**288**	**474**	**356**	**309**	**474**

*Sites with 100% area within the very low risk zone

Note: sites may be in more than one surface water risk category. In reality, a site in the high risk category will also be in the medium and low risk categories.

The strategic recommendations are intended to assist the LPA in carrying out the Sequential Test and to highlight those sites at greatest flood risk. Table 1-3 shows the number of sites each strategic recommendation applies to:

- Strategic Recommendation A - recommend for withdrawal if built development cannot avoid Flood Zone 3b;
- Strategic Recommendation B - Level 2 SFRA required due to high and/or medium risk now or in the future. Exception Test required if site is at high and/or medium fluvial risk now or in the future and categorised as more vulnerable or essential infrastructure;
- Strategic Recommendation C - progress to developer-led Flood Risk Assessment (FRA); and
- Strategic Recommendation D - development could be allocated on flood risk grounds based on the evidence of this Level 1 SFRA. LPA to make decision on allocation.

Table 1-3: Number of sites per strategic recommendation

Proposed use	Number of sites assigned to each strategic recommendation			
	A	**B**	**C**	**D**
Housing	90	277	135	91
Employment	19	17	2	3
Commercial	2	1	1	0
Mixed Use	13	52	17	9
Burial Site	1	0	1	0
Sites For Travellers	0	4	1	0
Minerals	3	22	5	0
Total	**128**	**373**	**162**	**103**

It is important to note that each individual site will require further investigation before development is allocated, as local circumstances may dictate the outcome of the strategic recommendation. Such local circumstances may include the following:

- Flood depths, velocities, hazards will differ locally to each at risk site therefore modelled depth, hazard and velocity data should be assessed for the relevant flood event through a Level 2 SFRA;
- The RoFSW map is national scale and is not considered suitable for robustly identifying risk at the property level. For sites identified to be at medium or high risk from surface water based on the RoFSW, more detailed surface water modelling may reveal higher or lower risk to the site. The Lead Local Flood Authority (LLFA) should be consulted when considering development at such sites. The RoFSW map does not map flooding less than 0.075m (7.5cm) in depth. Therefore, where the map may show no flooding, there may be shallow flooding up to a depth of 0.075m;
- Current surface water drainage infrastructure and sustainable drainage system (SuDS) suitability are likely to differ at each site considered to be at risk from surface water flooding. Further investigation may therefore be required for any site at high/medium surface water flood risk. The LLFA should require that planning applications must be accompanied by a drainage strategy that is appropriate to the level of risk, independent of the requirement for a site-specific FRA;
- If sites have planning permission but construction has not started, the SFRA will only be able to influence the design of the development e.g. finished floor levels;
- It may be possible at some sites to develop around the flood risk. Planners are best placed to make this judgement i.e. will the site still be deliverable if part of it needs to be retained to make space for floodwater? Yields may be impacted;

- Surrounding existing infrastructure may influence scope for layout redesign/removal of site footprints from risk;
- Some sites not currently shown to be at flood risk may be at residual risk through the failure of defences during a flood event or through blockage/failure of drainage assets such as culverts. Assessment may be required through a Level 2 SFRA;
- Safe and dry access and escape routes must exist at all times during a flood event for emergency response and evacuation. Emergency planners should be consulted and appropriate emergency plans put in place;
- Current land use. A number of sites included in the assessment are likely to be brownfield, thus the existing development structure and footprint could be taken into account as further development may not lead to increased flood risk; and
- Existing planning permissions may exist on some sites where the EA may have already passed comment and/or agreed to appropriate remedial works concerning flood risk. Previous flood risk investigations/FRAs may already have been carried out at some sites. The LPA should be consulted.

1.1.1 Strategic Recommendation A - recommend for withdrawal if built development cannot avoid Flood Zone 3b

This strategic recommendation does not take into account local circumstances, only that part of the site area falls within a flood zone.

Strategic Recommendation A applies to any site where the following criteria is true:

- Any proportion of the site area is within the functional floodplain. The FRCC-PPG flood risk vulnerability classification states that only water compatible uses and essential infrastructure should be permitted in the functional floodplain, though any essential infrastructure must pass the Exception Test and water compatible uses must be designed and constructed to remain operational and safe for users in times of flood; must result in no net loss of floodplain storage; and must not impede water flows and not increase flood risk elsewhere. Development should not be permitted for sites within the highly, more, or less vulnerable categories that fall within the functional floodplain.

It is important to state that it may still be possible to deliver a site that has been recommended for withdrawal from allocation upon more detailed investigation through a Level 2 SFRA and subsequent updates of the Flood Zone 3b outline through more detailed modelling, if applicable.

Depending on local circumstances, if it is not possible to remove the developable area from Flood Zone 3b to a lower risk zone then the site should not be allocated or permitted.

128 of the 766 potential development sites have been recommended for withdrawal if built development cannot avoid the functional floodplain.

Any area within Flood Zone 3b must be left as open green space. For smaller sites, this approach may be challenging to achieve compared to larger sites or strategic sites where there may be enough space to limit the impact through effective flood storage or blue green infrastructure. If this is not possible, the site should be withdrawn.

1.1.2 Strategic Recommendation B - Level 2 SFRA required due to high and/or medium risk. Exception Test may be required.

This strategic recommendation does not take into account local circumstances, only that part of the site area falls within a flood zone.

Strategic Recommendation B applies to any site where the following criteria is true:

- Any part of a site is within Flood Zone 3a (high risk)
- Any part of a site is within Flood Zone 2 (medium risk)
- Any part of a site is within the EA Flood Map for Planning Flood Zones plus Climate Change Extent
- Any part of a site is within the high or medium risk surface water flood zones
- Any part of a site is within the medium risk surface water plus climate change extent (using the low risk surface water extent as a conservative proxy)

NOTE: the Exception Test only applies to sites at fluvial flood risk, depending on the vulnerability of the site use (see Table 2 of the FRCC-PPG). Less vulnerable uses of land do not require the Exception Test but may still require a Level 2 SFRA to show whether they can be safe for the lifetime of development.

According to diagrams 1, 2 and 3 and Table 2 of the FRCC-PPG, any site at high or medium flood risk now and in the future should be assessed in more detail through a Level 2 SFRA. Strategic Recommendation B applies to sites where a Level 2 SFRA is required, unless the LPA can state in local plan policy that built development can avoid the risk area. This may be applicable where risk is isolated.

Sites included within Strategic Recommendation B may be subject to application of the Exception Test through a Level 2 SFRA i.e. more vulnerable sites in Flood Zone 3a. However, the Sequential Test should have been passed first, using this Level 1 SFRA, before the Exception Test is applied. The LPA should always attempt to avoid risk areas where possible.

Strategic Recommendation B applies to 373 of the 766 potential development sites assessed. 332 of these sites require a Level 2 SFRA to further inform on surface water flood risk. However, RoFSW depth, hazard, and velocity data are not currently available from the EA. Guidance from the EA and LLFA will therefore be required as to how any Level 2 SFRA would consider surface water flood risk.

1.1.3 Strategic Recommendation C - allocate and progress to developer-led FRA

This strategic recommendation does not take into account local circumstances, only that part of the site area falls within a flood zone.

Strategic Recommendation C applies to any site where the following criteria is true:

- 100% within Flood Zone 1 (low risk) and not shown to be at risk from high or medium surface water flooding, but is greater than 1 hectare in area
- 100% within Flood Zone 1 (low risk) and shown to be at low risk from surface water flooding, but is greater than 1 hectare in area
- 100% within Flood Zone 1 (low risk) and not shown to be at additional risk from climate change, but is greater than 1 hectare in area
- 100% within Flood Zone 1 (low risk) and shown to be at risk from other sources, i.e. groundwater emergence or reservoir flooding

Strategic Recommendation C applies to 162 of the 766 potential development sites assessed.

1.1.4 Strategic Recommendation D - development could be allocated on flood risk grounds based on the evidence of this Level 1 SFRA. LPA to make decision on allocation

This strategic recommendation does not take into account local circumstances, only that part of the site area falls within a flood zone.

Strategic Recommendation D applies to any site where the following criteria is true:

- 100% within Flood Zone 1 and not at high, medium or low risk from surface water flooding or at risk from other sources, and less than 1 hectare in area
- Site not shown to be at additional risk from climate change

Strategic Recommendation D applies to 103 of the 766 potential development sites assessed. Further investigation (i.e. FRA) may be required by the developer at the planning application stage if any further or new information becomes available since the publication of this Level 1 SFRA.

1.2 Assessment of climate change

The Site Assessment Spreadsheet highlights the potential additional risk to sites, where applicable, as a result of climate change. To represent the increased flood risk resulting from climate change in fluvially dominated scenarios, detailed EA modelled fluvial climate change outputs and the EA Flood Map for Planning Flood Zones plus Climate Change Extents have been used.

The Spreadsheet highlights the **additional** risk from climate change, i.e. areas at risk in the future that are not at risk in the present day. This was screened against the potential development sites to identify sites at risk from climate change. The Risk of Flooding from

Fluvial Climate Change columns indicate the area of each site that intersects with each flood extent. This is based on the NaFRA2 climate change modelling and EA detailed model climate change outlines.

The fluvial climate change scenarios assessed were:

- 1% AEP event + central climate change allowance (EA detailed model flood outlines)
- Combined 1% AEP and 0.1% AEP event + central climate change allowance (Flood Map for Planning - Flood Zones plus Climate Change Extent)

For representation of surface water climate change in this Level 1 SFRA, the low risk RoFSW extent is considered as a conservative proxy for the medium risk plus climate change extent. This approach has been widely accepted by the EA in the absence of suitable modelling.

1.3 Assessment of groundwater emergence risk

The Site Assessment Spreadsheet contains a flag for potential groundwater emergence risks within each site, informed by the JBA Groundwater Map. This flags the highest risk category present within the site, not the category that covers the most area. This is to help to understand where there may be groundwater issues within the site that may require further investigation.

The JBA Groundwater Map does potentially enable a risk-based approach to be taken as it depicts different levels of risk. However, this is based on the risk of emergence of groundwater and not the risk of flooding due to groundwater. It should be noted that the location of highest risk of emergence might not be coincident with the location at highest risk of flooding.

Therefore, it is recommended that the groundwater flood risk is not considered in the Sequential Test on the basis that the JBA Groundwater Map does not provide the confidence or certainty required to undertake the Sequential Test. As the available mapping does not provide competent evidence on the relative risk of flooding, it could potentially result in inappropriate allocations if used without understanding the limitations of the data. Appendix B addresses the use of flood risk information in the application of the Sequential Test.

1.4 Assessment of reservoir risk

The EA's Reservoir Flood Map (RFM) (2021) shows where water may go in the unlikely event of a reservoir or dam failure. A 'dry day' scenario assumes that the water level in the reservoir is the same as the spillway level or the underside of the roof for a service reservoir and the watercourses upstream and downstream of the reservoir are at a normal level.

The RFM dry day extents have been considered within the Site Assessment Spreadsheet. This is a flag as to whether the site is at potential residual risk from a reservoir breach. The mapping does not describe a risk-based scenario as it does not provide the probability of a

dam failure but is intended to describe a 'worst credible case' in the unlikely scenario of a dam failure. Therefore, it is recommended that the RFM is not included in the Sequential Test as the available data is inappropriate to be used alongside risk mapping from other sources. Appendix B addresses the use of flood risk information in the application of the Sequential Test.

A more detailed assessment in a Level 2 SFRA would identify locations where proposed development could result in a change to the risk designation of a reservoir. If proposed sites are located in a zone at reservoir risk, it will be necessary to understand the extent to which the flooding could be made worse and to report on the implications with respect to allocating the land for development. On that basis such an approach is recommended. If proposed development is located in a high hazard zone in the vicinity of an existing dam structure the implications should be considered in a Level 2 SFRA or site-specific FRA and where appropriate an assessment made of whether alternative sites should be considered in accordance with the Sequential Test.

1.5 Assessment of unmodelled watercourses

The presence of nearby or on site fluvial watercourses that have not been modelled through either EA detailed modelling or national scale modelling have been documented within the Site Assessment Spreadsheet. This indicates sites where there may be some fluvial risk present that hasn't been modelled or mapped by the EA. For these sites, it is recommended that the risk from the currently unmodelled watercourses is quantified through a site-specific FRA.

1.6 Assessment of potential residual risk

The potential residual risk posed by flood risk management infrastructure, such as a breach or overtopping of a raised flood defence, has not been modelled for this Level 1 SFRA. Instead, the potential development sites that are situated behind a raised flood defence have been documented within the Site Assessment Spreadsheet. For these sites, it is recommended that the potential residual risk is modelled through a Level 2 SFRA or site-specific FRA. Any allocation at residual risk will require an emergency plan to be in place that is proportionate to the risk. Safe and dry access and escape routes will also be required ensuring safe and timely evacuation of site users in the event of a defence breach / overtopping event.

1.7 Summary of site assessment outcomes

There are several consequential development considerations which could come out of the site assessment Sequential Testing process. Each outcome is discussed below. The LPA should refer to Section 1.1 and Appendix F for details on the site assessments carried out for this Level 1 SFRA.

1.7.1 Rejection of site

A site which fails to pass the Sequential Test and/or the Exception Test should be rejected and development not permitted. Rejection would also apply to any built development within the functional floodplain (unless water compatible or essential infrastructure informed by a FRA). However, if the developer can avoid built development within the functional floodplain, part of the site could still be delivered.

In terms of surface water flood risk, if risk is considered significant (i.e. large, sporadic areas at medium or high risk now or in the future with major flow paths) or where the size of the site does not allow for onsite storage or application or appropriate SuDS then such sites could be rejected. The LLFA will be best placed to advise on site-specific surface water flood risk and whether sites can be taken forward or not.

1.7.2 Exception Test required

Applies to those sites that, according to diagrams 1, 2 and 3, and Table 2 of the FRCC-PPG, would require the Exception Test. Only less vulnerable land uses would not require application of the Exception Test in Flood Zone 3a. More vulnerable uses are only permitted if both parts of the Exception Test are passed. Passing the Exception Test at the plan making stage does not negate the requirement for a FRA at the planning application stage. A Level 2 SFRA will inform the application of the Exception Test and the likelihood of passing part b of the test. Where any new or updated flood risk data to become available at the planning application stage, then the Exception Test should be reapplied using the new data.

1.7.3 Consideration of site layout and design

Site layout and design are important to consider early on in the site planning stage where flood risk exists. The site area would have to be large enough to enable any alteration of the developable area of the site to remove development from a risk area, or to leave space for onsite storage of floodwater. Careful layout and design at the site planning stage may apply to such sites where it is considered viable based on the level of risk. Surface water risk and opportunities for SuDS should also be assessed during the planning stage. Blue green corridors can be used as multifunctional spaces providing mitigation for flood risk management, ecology, biodiversity net gain (BNG), and amenity and social benefits.

Any development within 8 metres of any flood defence structure or culvert on a non-tidal main river is likely to be a regulated flood risk activity under Schedule 25 of the Environment Permitting (England and Wales) Regulations 2016. Any site redesign, where Flood Zone 3a is included within the site footprint, should allow water to flow naturally or be stored in times of flood. Similarly, any change or alteration to an ordinary watercourse within a site would need consent from the LLFA under the Land Drainage Act 1991[3].

1.7.4 Site-specific Flood Risk Assessment

A site-specific FRA should assess whether a potential development site is likely to be affected by current or future flooding from any source. This should include referencing this Level 1 SFRA to help to establish sources of flooding. Further analysis should be performed to improve the understanding of flood risk including agreement with the LPA and the EA on areas of functional floodplain that may not have been robustly defined within this SFRA due to the absence of appropriate information from the EA. The LLFA should be consulted on risk from surface water and from ordinary watercourses.

According to the FRCC-PPG (Para 020), a site-specific FRA is:

"…carried out by (or on behalf of) a developer to assess the flood risk to and from a development site and should accompany a planning application where prescribed in footnote 55 of the National Planning Policy Framework. The assessment should

3 Land Drainage Act | GOV.UK | 1991

demonstrate to the decision-maker how flood risk will be managed now and over the development's lifetime, taking climate change into account, and with regard to the vulnerability of its users (see NPPF Annex 3 – Flood Risk Vulnerability)".

Possible mitigation measures for at risk sites include ensuring finished floor levels are raised a minimum of whichever is higher of 600mm above the:

- Average ground level of the site
- Adjacent road level to the building(s)
- Estimated river flood level for the site

The flood level of the site should include for the 100-year plus an allowance for climate change for sites at fluvial risk.

Property flood resistance and resilience measures should also be considered where flood levels cannot be raised. Compensatory storage must be found where the risk is fluvial. If this cannot be achieved, it is for the applicant to identify alternative mitigation measures.

Any site identified to be at residual risk must have suitable site access and escape routes available during times of flood together with a full emergency plan that should accompany the FRA at the application stage. The provisions of suitable flood warning systems should also be investigated.

For further detail regarding the requirements of a site-specific FRA, refer to Section 7.2 of the main report and EA guidance[4][5]. Detailed mitigation must be agreed through site-specific FRAs or through Level 2 SFRAs where it would be necessary to demonstrate site allocations would be safe for their lifetime.

4 Preparing a flood risk assessment: standing advice | Environment Agency | October 2025
5 Flood risk assessment: Flood Zones 1, 2, 3 and 3b | Environment Agency | October 2025

When is a site-specific FRA required?

According to the NPPF footnote 63, a site-specific FRA should be prepared when the applicants' site is:

- Situated in Flood Zone 2 or 3; for all proposals for new development (including minor development and change of use);
- 1 hectare or greater in size and located in Flood Zone 1;
- Located in Flood Zone 1 on land which has been identified by the EA as having critical drainage problems (i.e. within an ACDP);
- Land identified in the SFRA as being at increased fluvial or surface water flood risk in future;
- At risk of flooding from other sources of flooding, such as those identified in this Level 1 SFRA; or
- Subject to a change of use to a higher vulnerability classification which may be subject to other sources of flooding.

The LPA should also consider further options for stipulating FRA requirements, such as:

- At residual risk from flood defence breach, reservoir or canal failure, culvert blockage; or
- Situated over a culverted watercourse or where development will require controlling the flow of any watercourse, drain or ditch, or the development could potentially change structures known to influence flood flow.

These further options should be considered using the preparation and development of the new Local Plan.

Paragraph 021 of the FRCC-PPG contains information regarding the level of detail required in FRAs and indicates that it should always be proportionate to the degree of flood risk whilst making use of existing information, including the Level 1 SFRA. Paragraph 080 of the FRCC-PPG contains an easy-to-follow FRA checklist for developers.

Together with the information in the FRCC-PPG, there is further detail and support provided for the LPAs and developers online via:

- National flood risk standing advice for local planning authorities
- Preparing a flood risk assessment: standing advice
- Flood risk assessments: Applying for planning permission
- Flood risk assessment: Flood Zones 1, 2, 3 and 3b

The EA have also produced guidance for Flood Risk Assessments for planning applications[6].

6 Flood risk assessments: applying for planning permission | GOV.UK | April 2025

1.7.5 Sites passing the Sequential and Exception Tests

Development sites can be allocated or granted planning permission through a suitable site-specific FRA, approved and signed off by the LPA, where the Sequential Test and the Exception Test (if required) are passed and agreement is reached between the LPA/LLFA, the EA, the water companies and any ancillary stakeholders. In addition, a site is likely to be allocated without the need to assess flood risk where the indicative use is for open space. Assuming the site is not to include any development or land raising / regrading works and is to be left open in its original state then the allocation is likely to be acceptable from a flood risk point of view. However, for sites where there is potential for flood storage, options should be explored as part of a FRA.

In terms of opportunities for reducing flood risk overall as a requirement of the Exception Test, the FRCC-PPG states:

"Developers should refer to the Strategic Flood Risk Assessments and site-specific Flood Risk Assessments to identify opportunities to reduce flood risk overall and to demonstrate that the measures go beyond just managing the flood risk resulting from the development. Reductions could be achieved, for example by:

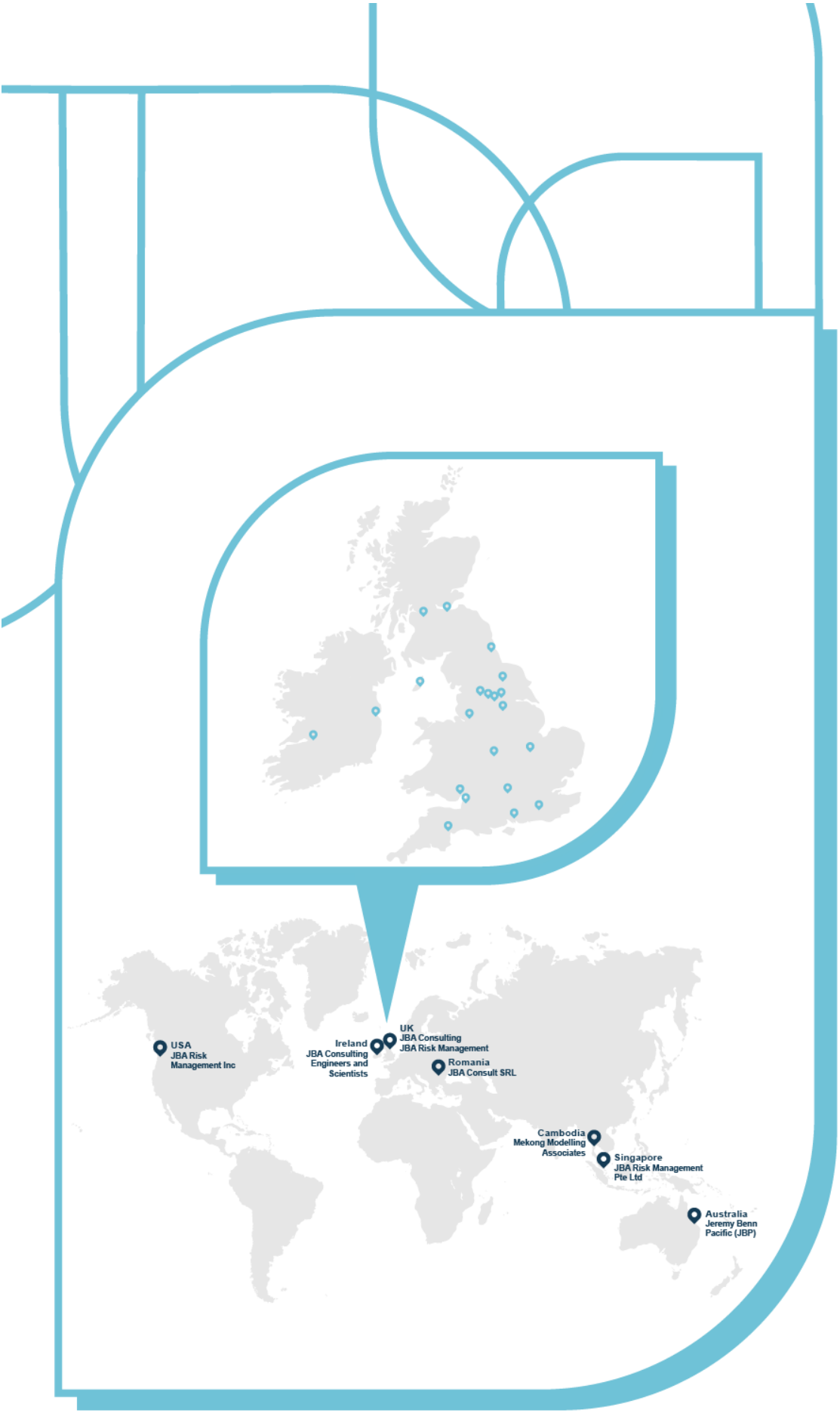
- *Incorporating green infrastructure within the layout and form of development to make additional space for the flow and storage of flood water;*
- *Providing Sustainable Drainage Systems, that manage flood risk beyond the proposed site and above the usual standard, such as by removing surface water from existing combined sewers;*
- *Providing or making contributions to flood risk management infrastructure that will provide additional benefits to existing communities and/or by safeguarding the land that would be needed to deliver it." (Paragraph 37).*

1.7.6 Surface water flood risk to assessed sites

For sites at surface water flood risk, the following should be considered:

- More detailed surface water modelling may reveal increased risk or less risk to a site compared to what is shown by the national RoFSW. The LLFA should be consulted when considering development viability at such sites;
- The RoFSW map does not map flooding less than 0.075m (7.5cm) in depth. Therefore, where the map may show no flooding, there may be shallow flooding up to a depth of 0.075m;
- Outline drainage strategy to ascertain natural flow paths and topographic depressions, particularly for the larger sites which may influence development at sites elsewhere;
- A detailed site-specific FRA incorporating surface water flood risk management;
- Full drainage strategy encompassing detailed surface water modelling of proposed site layouts, attenuation areas, diversion of flow routes, SuDS;

- Ensuring future maintenance of surface water and SuDS assets through s106 agreements;
- The size of development and the possibility of increased surface water flood risk caused by development on current greenfield land (where applicable) and cumulative impacts of this within specific areas;
- Management and re-use of surface water onsite, assuming the site is large enough to facilitate this and achieve effective mitigation. Effective surface water management should ensure risks on and off site are controlled;
- Larger sites could leave surface water flood-prone areas as open greenspace, incorporating social and environmental benefits;
- SuDS must be used where possible for all developments of more than one property. Appropriate SuDS may offer opportunities to control runoff to greenfield rates or better. Restrictions on surface water runoff from new development should be incorporated into the development planning stage. For brownfield sites, where current infrastructure may be staying in place, then runoff should attempt to mimic that of greenfield rates, unless it can be demonstrated that this is unachievable or hydraulically impractical. Developers should refer to the 'National standards for sustainable drainage systems (SuDS)', updated July 2025, relevant Local Plan policies and other guidance documents cited in the main report. Note that SuDS should not be sited in locations of fluvial flood risk unless they are designed to mitigate for both sources of risk;
- Runoff up to and including the 1% Annual Exceedance Probability (AEP) should be managed onsite where possible, including for climate change;
- Measures of source control should be required for all development sites;
- Developers should be required to set part of their site aside for surface water management, to contribute to flood risk management in the wider area and supplement blue green infrastructure networks;
- Developers should be required to maximise permeable surfaces;
- Flow routes on new development where the sewerage system surcharges as a consequence of exceedance of the 3.3% AEP design event should be retained;
- It may be beneficial to carry out a local Surface Water Management Plan (SWMP) or wider drainage strategy for targeted locations with any known critical drainage problems. Investigation into the capacity of existing sewer systems would be required in order to identify critical parts of the system i.e. pinch points. Drainage model outputs could be obtained from the water company to confirm the critical parts of the drainage network and subsequent recommendations could then be made for future development i.e. strategic SuDS sites, parts of the drainage system where any new connections should be avoided, and parts of the system that may have any additional capacity and recommended runoff rates. A Water Cycle Study would help to inform this.



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Registered Office
1 Broughton Park
Old Lane North
Broughton
SKIPTON
North Yorkshire
BD23 3FD
United Kingdom

+44(0)1756 799919
info@jbaconsulting.com
www.jbaconsulting.com
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