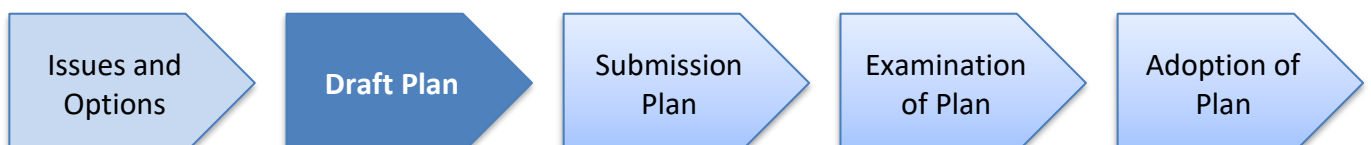


Reviewing the Plan for **Solihull's Future**

Solihull Local Plan Review

Flood Risk Sequential Test

April 2020



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1. Background

1. The NPPF (paragraphs 155-161) requires all plans to take a sequential risk-based approach to locating new development so as to avoid flood risk to people and property. This should take account of the current and future impacts of climate change. To meet this requirement, a sequential test should be applied to steer new development to areas with the lowest risk of flooding, in all areas known to be at risk of any form of flooding.
2. The Solihull Strategic Flood Risk Assessment, 2017 (SFRA), is a Level 1 SFRA for the Borough which provides the basis for applying the sequential test. The SFRA provides information and guidance on flood risk in the Borough, taking account of the probable impacts of climate change, and a comprehensive set of maps presenting flood risk from all sources that can be used as evidence for the Local Plan Review (LPR). The SFRA recommends that the sequential approach is adopted for all future developments in the Borough.
3. The SFRA provides guidance on the sequential test, which should be applied to the whole of the Borough to increase the likelihood of allocating development in areas not at risk of flooding. This means that all potential development sites should be tested, including those not proposed for allocation.
4. If it is not possible to locate all new development in areas of low flood risk, an exception test may have to be applied. This will depend on the potential vulnerability of the proposed development. The exception test will need to be informed by a Level 2 SFRA, and will have to demonstrate that wider sustainability benefits outweigh the risk of flooding, and that the development will be safe for its lifetime and not increase risk elsewhere.

2. Methodology

Details of Sites

5. These include the Draft Site Allocation reference, where relevant, together with the Call for Sites references, a brief location of the sites and the proposed use. The flood risk vulnerability classification is based on the table in the NPPG, which classifies most housing as More Vulnerable and business and leisure uses as Less Vulnerable.

Evidence Base

6. The mapping in Appendix A of the SFRA shows main rivers and the detailed river network. It shows the extent of flood zones 2, 3a and 3b, based on the results from hydraulic models provided by the EA or prepared for the SFRA. The impacts of climate change are shown using the three allowance categories, central, higher central and upper end. Most of the Borough lies in the Humber river basin district, for which peak river flow allowances are 20%, 30% and 50% respectively for the longest period, the 2080s (2070-2115). The upper reaches of ordinary watercourses in the far eastern part of the Borough flow into the Severn river basin. For sites in this area, peak river flow allowances are 25%, 35% and 70% respectively for the longest period.
7. Surface water flood risk is included in the SFRA, based on the EA Risk of Flooding from Surface Water dataset showing the 30 year, 100 year and 1000 year extents. The mapping also shows the broad susceptibility to groundwater flooding by kilometre square, based on the Areas Susceptible to Groundwater Flooding dataset. This shows the proportion of each 1km grid square where geological and hydrogeological conditions indicate that ground water might occur, not the likelihood of groundwater flooding.
8. The SFRA identifies potential artificial sources for flooding, such as sewers, reservoirs and canals. Information of flooding from sewers comes from the Council's flood database and Severn Trent Water registers. The flood extent mapping for reservoir breach or failure comes from the EA website.
9. The SFRA provides a summary of flood risk by settlements, which covers risks from rivers, surface water and reservoir inundation, and highlights any historic events recorded.
10. As part of the SFRA, a Level 1 Site Screening spread sheet provides a summary of the flood risk for the proposed site allocations in the Draft Local Plan 2016. This identifies those sites potentially affected by a watercourse that has not been modelled, as it is not part of the Main River network. This spread sheet provides an initial screening indicating whether a Level 2 SFRA is recommended and whether or not additional modelling would be required. The Site Screening has been updated in April 2020, to include the additional site allocations in the Supplementary Consultation 2019.

Advice from the Environment Agency

11. The Environment Agency submitted a representation in response to the consultation on the Local Plan Review, 2016, which advises that the sequential test should be applied to all site allocations, with all development steered to flood zone 1, in the first instance. A Level 2 SFRA is required for any development in flood zones 2 or 3, which should take into account the latest climate change allowances. The EA provided information on the flood plains and flood zones associated with the DLP2016 site allocations.
12. A further representation was submitted in response to the Supplementary Consultation 2019, which provides information on the additional site allocation proposals. This advises

that the sequential test and a Level 2 SFRA is required for Sites 12, 19 and 20, which as published include a small proportion of the site areas within flood zones 2 and/or 3. The EA also recommends that an additional Level 2 SFRA is undertaken to provide a strategic approach to flood alleviation in the Dickens Heath/ Cheswick Green area, taking account of Sites 4, 11, 12 and 26.

13. The EA highlights those sites where no indicative flood risk maps are available, Sites 1, 4, 6, 8, 10, 18, 20 and 26. These generally accord with the SFRA Site Screening advice on sites impacted by ordinary watercourses, where a Level 2 SFRA supported by hydraulic modelling is required, although the EA representation includes two sites not included in the SFRA, Sites 6 and 18. The EA recommends that further assessment of these sites is undertaken in conjunction with the Lead Local Flood Authority to ascertain the land available for development within the sites.
14. The EA also provides advice relating to those sites where a flood risk is evident. This includes recommendations to provide flood attenuation off site where relevant, information on any requirement for easement along the river corridor, and the need to protect green and blue infrastructure.

Applying the Sequential Test

15. Where the sequential test is applied, alternative reasonably available sites are considered, based on the call for sites submissions and the Site Assessments published as part of the Supplementary Consultation 2019. These are focussed on the geographical area stated, and assessed against the flood risk evidence. Where an alternative site is available with a lower probability of flooding, justification is provided if the original site is to be taken forward.
16. Where a site is only partially affected, an indication is given whether the site should be redefined to exclude the area of flood risk, or development designed to provide open space to avoid adverse consequences. Finally, the need for an Exception Test, if the site is to be taken forward is indicated.

3. Results

17. The flood risk sequential test site assessments are provided in Appendix A. There is a table for each site being proposed in the Draft Local Plan, and for alternative sites where the sequential test is formally applied. The tables list the matters set out in the Methodology above and indicate where application of the Sequential Test is required, and those sites that will be subject of the Level 2 SFRA.
18. In accordance with the EA advice, the sequential test is being applied for 3 sites, Sites 12, 19 and 20. For Site 12, alternative reasonably available sites are considered, but are assessed as having a similar or greater level of flood risk. For Sites 19 and 20, no reasonable alternative sites have been identified. Site 19 proposes significant growth around the High Speed 2 Interchange station east of the NEC, and is a unique location that cannot be replicated. Site 20 is justified primarily to meet the needs of the adjoining JLR plant, and is dependent on its proximity to the existing factory. In these two cases, there are significant social and economic benefits justifying the proposed site allocations, which alternative sites cannot provide. These 3 sites will be subject of Level 2 SFRA, with modelling where it is not available.
19. A number of the other site proposals relate to land where there is an existing ordinary watercourse within or adjacent to the site. In most cases, these watercourses have not been modelled, so the detailed flood zones and climate change allowances are not available. Sites 1, 4, 6, 8, 9, 10, 18 and 26 require modelling as part of a Level 2 SFRA. For Sites 4, 12 and 26, a Level 2 SFRA will be undertaken to consider a strategic approach to flood alleviation in the wider area.
20. The April 2020 update to the Site Screening spread sheet identifies one further site, Site 17, where the surface water flood risk justifies a Level 2 SFRA.

4. Consultation

21. Advice was sought from the EA before preparation of the sequential test, and the EA was consulted on the draft in April 2020. Wider consultation will take place as part of the publication of the Submission Draft Local Plan.

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