Local Sites Strategic Flood Risk Assessment 2020

FAREHAM
BOROUGH COUNCIL

Contents

Introduction

This document provides the evidence to show that flood risk has been fully taken into account in selecting sites for allocation in the Fareham Borough Local Plan 2037. It has been prepared to support the Regulation 19 Publication Plan.

Local Plan and Flood Risk

The National Planning Policy Framework (NPPF) and associated National Planning Practice Guidance on Flood Risk and Coastal Change (NPPG) emphasise the active role Local Planning Authorities should take in ensuring that flood risk is understood and managed effectively and sustainably throughout all stages of the planning process. The NPPF outlines that Local Plans should be supported by a Strategic Flood Risk Assessment (SFRA).

The overall approach of the NPPF to flood risk in local plans is set out in paragraphs 155-161.

Planning and flood risk

155. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.

156. Strategic policies should be informed by a strategic flood risk assessment and should manage flood risk from all sources. They should consider cumulative impacts in, or affecting, local areas susceptible to flooding, and take account of advice from the Environment Agency and other relevant flood risk management authorities, such as lead local flood authorities and internal drainage boards.

157. All plans should apply a sequential, risk-based approach to the location of development – taking into account the current and future impacts of climate change so as to avoid, where possible, flood risk to people and property. They should do this, and manage any residual risk, by:

- *applying the sequential test and then, if necessary, the exception test as set out below;*
- *safeguarding land from development that is required, or likely to be required, for current or future flood management;*
- *using opportunities provided by new development to reduce the causes and impacts of flooding (where appropriate through the use of natural flood management techniques); and*
- *where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development, including housing, to more sustainable locations.*

158. The aim of the sequential test is to steer new development to areas with the lowest risk of flooding. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of

flooding. The strategic flood risk assessment will provide the basis for applying this test. The sequential approach should be used in areas known to be at risk now or in the future from any form of flooding.

159. If it is not possible for development to be located in zones with a lower risk of flooding (taking into account wider sustainable development objectives), the exception test may have to be applied. The need for the exception test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in national planning guidance.

160. The application of the exception test should be informed by a strategic or site-specific flood risk assessment, depending on whether it is being applied during plan production or at the application stage. For the exception test to be passed it should be demonstrated that:

- *the development would provide wider sustainability benefits to the community that outweigh the flood risk; and*
- *the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.*

161. Both elements of the exception test should be satisfied for development to be allocated or permitted.

Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment is a study carried out to assess the risk to an area from flooding from all sources, now and in the future, taking account of the impacts of climate change, and to assess the impact that land use changes and development in the area will have on flood risk

The NPPF states that Local Plans should apply a sequential, risk-based approach to the location of development so as to avoid, where possible flood risk to people and property.

Where an initial assessment shows that land outside flood risk areas cannot appropriately accommodate all the necessary development, it may be necessary to increase the scope of the assessment to a more detailed level to provide the information necessary for application of the Exception Test, where appropriate. The Exception Test should demonstrate that there are wider benefits to the community which outweigh flood risk and that the development will be safe over its lifetime.

The PUSH SFRA (2007, 2012 and 2016 and Update)

In 2007, a Strategic Flood Risk Assessment (SFRA) was commissioned by the Partnership of Urban south Hampshire known as PUSH (now Partnership for South Hampshire PfSH) and undertaken by Atkins on behalf of the partner authorities to inform the development of the South East Plan and partner authority Local Plans. A light touch review was undertaken in 2012 at which time small amendments were made to the GIS mapping.

To ensure that it continued to provide a robust, contemporary and sound analysis of flood risks from all sources, the PUSH SFRA was updated in 2016[1] to update mapping outputs and to add guidance documents for each Local Authority area[5]. Some key findings of the Fareham specific part of the PUSH SFRA are summarised below:

Sources of Flood Risk

- The Borough has 8.5 km of open coastal frontage, 14.5 km of frontage on the tidal River Hamble and 11.5 km of frontage onto Portsmouth Harbour.
- The primary source of flood risk to Fareham Borough is from the sea. The key parts of the Borough which are currently at risk of flooding from the sea are the Fareham frontage to Portsmouth Harbour, Portchester, Lower Swanwick and Warsash.
- The Wallington River and River Meon flow through the Borough, with a total main river length of 35 km.
- The secondary source of flood risk to the Borough is from rivers.

Key physical characteristics that may constrain development

- At present, approximately 9% of the Borough's land area is designated as within Flood Zones 2 and 3.
- A number of environmentally designated areas represent a significant constraint on development in the Borough, covering approximately 13% of its area.
- The topography of the Borough ranges from sea level to approximately 50 Metres Above Ordnance Datum (mAOD) for the majority of the Borough with the exception of the area to the north of Portchester which rises to approximately 110 mAOD on Portsdown Hill
- Low permeability superficial deposits are present in the Wallington valley and at the foot of Portsdown Hill. This can potentially make the installation of Sustainable Drainage Systems (SUDS) difficult in attempting to reduce the flood risk to 'downstream' sites when promoting new development.

Vulnerability to Climate Change

- The areas most vulnerable to rising sea levels as a result of Climate Change are Portchester (both to the north and west of Portchester Castle), the village of Wallington and the frontage between Town Quay and Hoeford Lake in Fareham.

[1] PUSH SFRA 2016. https://www.push.gov.uk/wp-content/uploads/2018/05/Fareham.pdf

- Climate Change will result in an increase in fluvial flood flows which may put additional pressure on settlements which are adjacent to rivers such as Wallington Village and Titchfield.

Update Work

The Partnership for South Hampshire (PfSH) has begun the initial preparatory work to produce a complete update to the existing SFRA for the region. At the time of writing, an initial brief outlining the work to be conducted has been produced. Once complete the new SFRA for PfSH will include a refresh of the mapping and modelling work carried out in 2007, taking into account new and future releases in climate change allowances for flood risk. Due to the length of time required to undertake the update work for the PfSH SFRA and the timing of the emerging Fareham Local Plan, this Local Sites SFRA is being carried out in advance of the PfSH SFRA update work. However the Environment Agency have suggested a suitable way forward to enable this Local Sites SFRA to take into account some of major changes that will come through the revised PfSH SFRA.

Hampshire Local Flood Risk Management Strategy (July 2013).

The Hampshire Local Flood Risk Management Strategy (LFRMS) (2013)[2] identifies the wards within Hampshire with the highest overall potential flood risk (using combined groundwater, the HCC flooding database and EA surface water mapping) and the highest risk of flooding from groundwater. Fareham East (Fareham) in particular, Wallington Village and parts of South Fareham at the coast have been highlighted as being at the highest overall risk of flooding. The economic cost of flooding for these areas is estimated to be in the region of £130- 153k.

The LFRMS Action Plan sets out both county wide measures and ward specific actions which may be pursued to mitigate and reduce the identified risk in high risk wards. The Lead Local Flood Authority has been consulted at every stage of the Local Plan and their comments and views have been taken on board each time.

[2] https://documents.hants.gov.uk/flood-water-management/LFRMSdocument.pdf

Fareham Local Plan 2037

Below is an extract of the proposed policy within the emerging Local Plan that deals with managing flood risk and sustainable drainage for new development. The policy as proposed, would cover the risk of all sources of flooding to development whilst also ensuring that development counters any risks posed from flooding both to itself and to others in the vicinity, with the use of natural means as much as possible.

Policy CC2: Managing Flood Risk and Sustainable Drainage Systems

Subject to development proposals meeting the sequential and exception tests as set out in the NPPF, planning permission will be granted where:

- **The proposal does not prejudice land required for current or future flood management, including natural floodplains;**
- **The development will be safe over its lifetime, taking into account the increased risk of flooding due to climate change and without increasing flood risk elsewhere;**
- **Any proposed flood protection, prevention and resilience measures address the specific requirements of the site and are appropriate to the character and biodiversity of the area;**
- **Run-off rates from proposed development do not exceed existing run-off rates; and**
- **Onsite surface water run-off is managed as close to the source as possible;**

All developments that are required to incorporate Sustainable Drainage Systems shall ensure that:

- **They are designed in accordance with the CIRIA C753 SuDs Manual or equivalent national or local guidance;**
- **Surface run-off rates mirror greenfield rates before development;**
- **Priority is given to SuDS which mimic and reflect natural drainage processes;**

Details for future maintenance over the lifetime of the development must be included with the proposal.

Local Plan Sustainability Appraisal

Flood Risk was considered as part of the Sustainability Appraisal accompanying the Local Plan 2037. The SA framework contained a Sustainability Objective which included Flood Risk.

Sustainability Appraisal Objective 5: minimising carbon emissions and promote adaptation to climate change.

- Ensure risk of flooding is not increased ether on site or downstream) and where possible , reduce flood risk;
- Support adaptation to climate change.

If the Plan, its Policies or Development Allocations were not supportive and in conformity to SA Objective 5 then this would result in a significant negative effect scoring being given attributed to the plan against this particular objective. The Sustainability Report which accompanies the Publication Plan provides a commentary on the predicted significant positive and negative effects of the Publication Plan on each SA Objective. In relation to SA Objective 5, paragraph 6.8.2 states "For the most part the preferred development strategy successfully avoids locations at risk from fluvial or tidal flooding and coastal erosion except for a few minor exceptions". The few minor exceptions where development is proposed which cannot completely avoid areas of flood risk fluvial or tidal flooding are documented later on in this Local Sites SFRA; along with an appropriate way forward to ensure development is safe from flooding from fluvial and tidal sources over the course of its lifetime.

The need for this review

During the Regulation 18 Consultation on the draft Local Plan, the Environment Agency (EA) raised concern that certain development allocations that were being considered could be at risk of flooding both now and in the future. This document has been developed working alongside and in agreement with the Environment Agency to satisfy these concerns.

SFRA Site Review

The Council applied a multi-stage process for this Local Plan Sites SFRA.

Stage 1- Site Screening

The first stage was to compile a spreadsheet of all the potential allocation sites (Housing and Employment) in the Borough. With the help of GIS mapping, these sites were overlaid onto EA Flood Zone mapping (showing areas of Flood Zone 2 &3 for tidal and fluvial sources)[3]. This layer allowed the Council to identify those sites at risk of flooding now from these main sources. The results of this process for all submitted sites that have not been chosen for allocation is shown within the Strategic Housing and Employment Land Availability Assessment accompanying the Plan.

Surface Water

Surface water flood map from Hampshire County Council (as Lead Local Flood Authority) was used to highlight sites with potential surface water flooding issues which applicants will have to be aware of and address. However, as presented above, the emerging Local Plan proposes a policy to deal with flooding from this source by not permitting development that

[3] Flood Map for Planning: https://flood-map-for-planning.service.gov.uk/

cannot be made safe over its lifetime from flooding and requiring the installation of Sustainable Drainage Systems (SuDS) where appropriate. It is expected that development compliant with this particular policy will be able to adequately manage flooding risk from this particular source and therefore it does not pose a major issue for allocations in the emerging Plan.

Groundwater Flooding

Groundwater flood maps were consulted when carrying out this local sites SFRA. No development has been promoted to the Council in any areas at major risk of flooding from groundwater sources. As a result, the risk of flooding from Groundwater sources has been screened out from any further assessment.

Climate Change Allowances

The Environment Agency, in response to the Local Plan consultations, has advised the Council takes into account new climate change allowances for sea levels when carrying out its Local Sites SFRA. Revised sea level predictions are particularly important when considering if new development will be at future risk from tidal flooding.

Detailed modelling work factoring in these new climate allowances will be carried out as part of the PfSH SFRA update to be completed over the next few years. However, the Council in advance of this report, has worked with the Environment Agency to identify a suitable method to produce this Local Sites SFRA which accompanies the emerging Fareham Local Plan. It is recognised that the SFRA will have to be updated as more data becomes available from Environment Agency on climate change allowances.

The Environment Agency noted that there are large parts of the Borough that are not a risk from flooding and at present, the majority of sites submitted to the Council for consideration were not within any areas of predicted future or current flood risk. Therefore the Council has taken the Environment Agency's advised approach explained below to ensure that the Local Plan takes into account the new amendments in climate change allowances ahead of the detailed modelling work in the emerging PfSH SFRA.

The new climate change allowances for the south-east of England predict a cumulative increase in sea levels in the next 100 years of between 0.1m - 0.5m (for the upper end and higher central allowances respectively) from the previous 2007 PUSH SFRA predicted tide level (4.3m Above Ordnance Datum) for the 0.5% probability event in 2115. Figure 1 below, demonstrates that using the 2007 PfSH SFRA predictions for the 0.5% probability event in the year 2115 without the new allowances, some areas up to 4.3m AOD (Above Ordnance Datum) would have been a risk of future flooding from tidal sources.

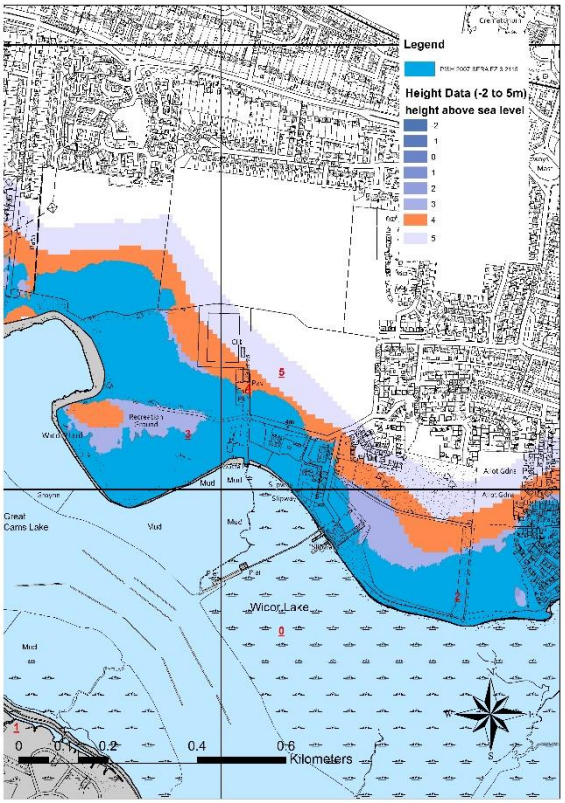


Figure 1: Maps showing future tidal flood risk areas affecting areas of land up to 4.3m AOD (using previous estimates on future sea levels in the 2007 PfSH SFRA)

Because an additional 0.1m - 0.5m increase in sea level is now predicted, it has been assumed that areas of the Borough that are up to and around 5m above current sea levels could now be at risk of future flooding (4.3 + 0.1m / 4.3m + 0.5m). 5m AOD was chosen because it is suitably precautionary, allowing for variations in the predicted increases as well as taking into account other environmental variables that influence tidal flood risk such as wave height, wind speeds, and storm surges etc.

A detailed terrain model was used within GIS to highlight all areas within the Borough that are between -2m and 5m AOD. These are the areas that would be at the greatest risk of future flooding given the new allowances. Potential allocations were overlaid onto the terrain model to allow the Council to identify those sites that could be at future risk of flooding from tidal sources because they were situated in areas that are in or less than 5m AOD.

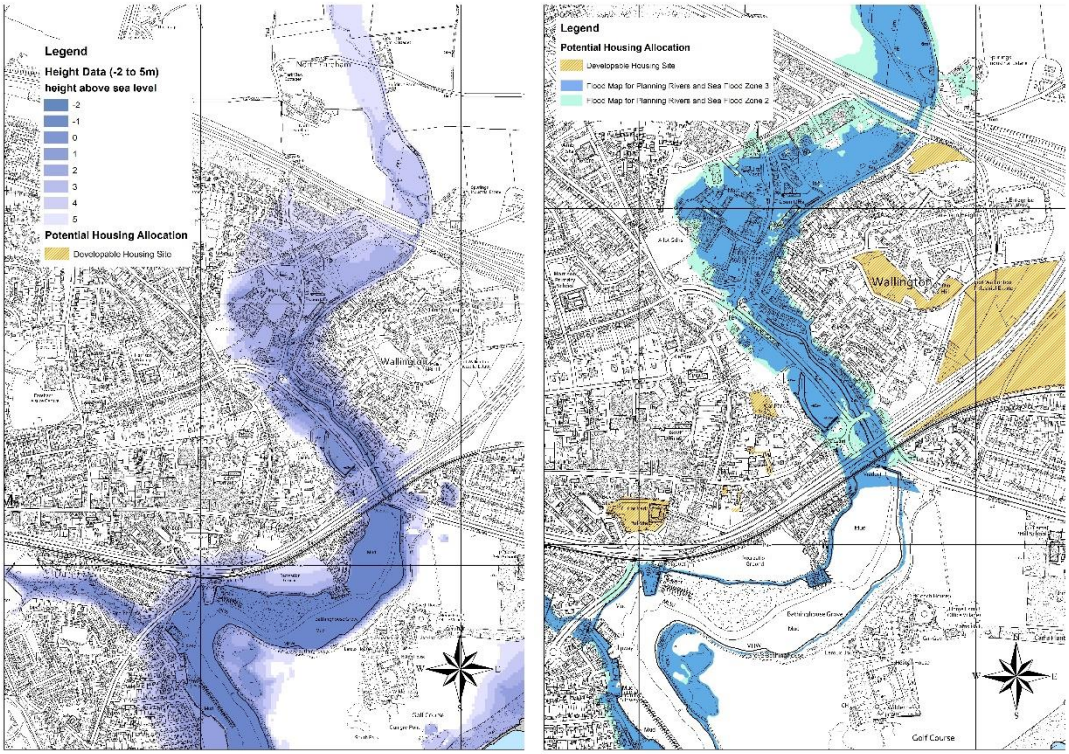


Figure 2: Showing -2m to 5m in height above current sea levels and current EA flood zones for rivers and sea.

New climate change allowances for flooding from fluvial sources were not available at the time of writing. Therefore the existing predictions within the PfSH SFRA for fluvial sources and climate change predictions have been used. However as already stated, it is recognised that the SFRA will have to be updated as more data becomes available from Environment Agency particularly on climate change allowances.

In line with the flood risk management hierarchy, the starting point was to make the assumption that only those sites where flood risk could be avoided should be considered for taking forward. This is in line with national guidance on applying the sequential test for site selection for the Local Plan[4].

[4] https://www.gov.uk/guidance/flood-risk-and-coastal-change

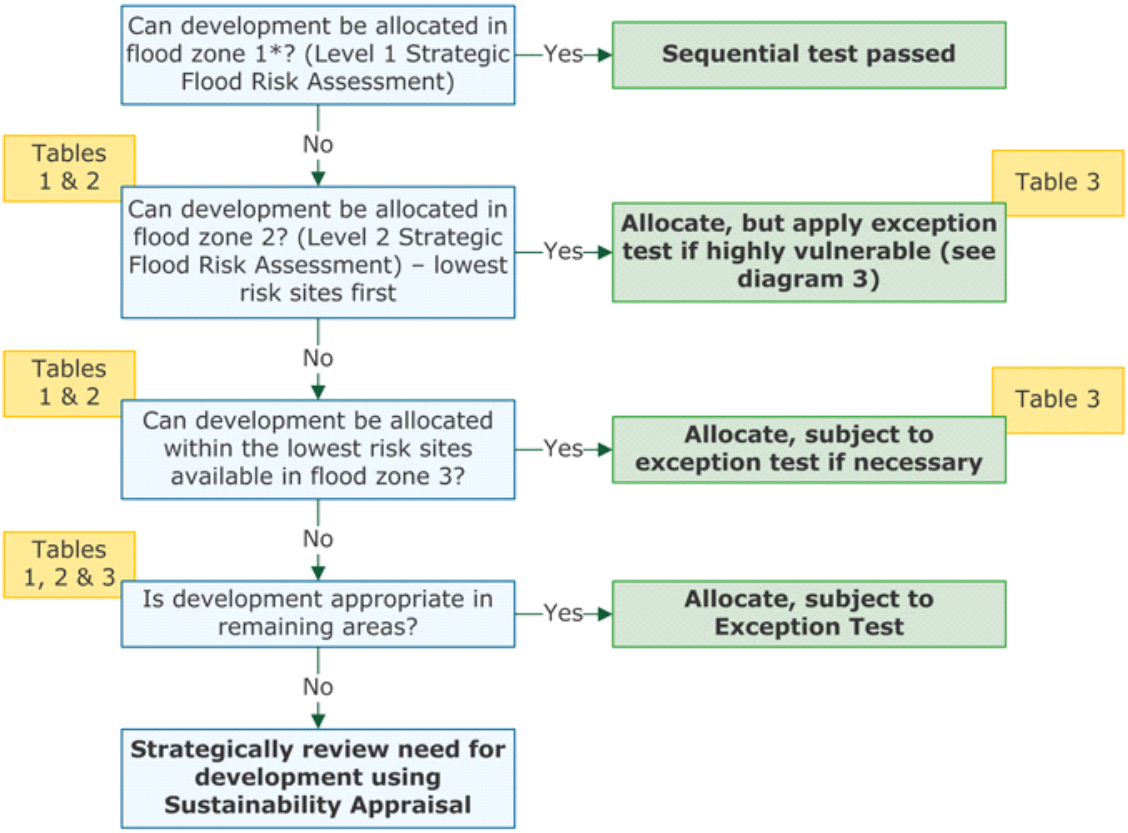


Figure 3: Application of the Sequential Test for Local Plan preparation

The site screening therefore focussed first on identifying those sites not at risk of flooding – these are the sequentially preferable sites. They are highlighted within Table 1.

This sift showed that of the sites under consideration for allocation, around 39 had no flood risk constraints now or in the future from primary sources of flooding (rivers and sea), and as a result would not require further consideration through the SFRA. The rest would be taken forward into stage 2 for a more detailed review. Commentary on surface water flood risk is presented in Table 1, with recommendations that allocations which might have surface water flooding issues or will lead to an overall increase in surface water run-off, include the provision of Sustainable Drainage Systems (SuDS).

Stage 2: Specific Site Review

Stage 2 involved taking all the sites which are chosen to be taken forward as allocations in the plan but have been identified as being affected by flood zones 2 and 3 (for fluvial and tidal sources), and are at/or below the 5m above sea level threshold or raised by the Environment Agency as of concern, and reviewing the flood risk situation more thoroughly.

These specific sites have had a fact sheet produced. The sheets for each of the sites are found at Appendix 1. They record factual information initially, and then go on to assess for each site whether:

- The sequential test could be passed
- The exception test could be passed
- There was a reasonable prospect of delivering safe development.

Sequential Test Approach at Site Level

In the first instance, the review of individual selected sites for allocation focussed on establishing whether it was possible to avoid flood risk by taking the sequential approach within the site. On this basis, the extent of the area affected by flood risk for each site was mapped, making it possible to establish those sites which only had very small areas affected by flood risk now and in the future. These sites are considered appropriate to be taken forward in the Local Plan, with appropriate policy safeguards in the allocation policies.

Alternatively, where a greater part of the site was affected, it was considered whether a site area remained which would make a viable allocation, taking into account the proposed use, site size, access points, possible SuDS and Open Space layout etc. These sites are also considered appropriate to be taken forward in the Local Plan, with appropriate policy safeguards in the allocation policies to ensure development is safe throughout its lifetime.

The Exception Test at Site Level

Taking this sequential approach within each site was not possible in all cases. Where flood risk could not be avoided in this way, further evidence (Flood Risk Assessments (FRA) from current and past planning applications, Site specific FRA information from site promoters) and advice from the Environment Agency was sought to understand whether other methods could be employed to make the site safe for development. Where supported by evidence, sites with a reasonable prospect of delivering safe development were considered appropriate for inclusion in the Local Plan. If no or insufficient evidence were available, then these sites would have not been further considered for inclusion in the Local Plan, unless the Council considered there to be an overriding sustainability reason for their inclusion.

Site Review Tables

The tables below present the findings from the described stages above. It is important to note that the sites listed below are the ones selected by the Council as potential development allocations in the emerging Local Plan. For a full list of development sites that were considered by the Council but were discounted for a variety of reasons some due to flooding, see the Strategic Housing and Employment Land Availability Assessment.

Table 1 Site Review of Development Allocations

SHELAA Ref	LP Housing	Name	Sequential Test Commentary	Sequential Test Passed?	Exemption Test Commentary	Possible to Pass exemption Test	Prospect of Safe Delivery and inclusion FBLP2037
3126	HA1	North and South of Greenaway Lane	In FZ1 - Sequentially Preferable site and greater than 5m Above Ordnance Datum (AOD) to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified. Major development on greenfield, SuDS likely to be incorporated as matter of policy.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
1291	HA3	Southampton Road	FZ 2&3 however on a very small part of eastern boundary. There is scope within site to adequately avoid this area and safely accommodate proposed levels of development. Site greater than 5m AOD to avoid being at risk of future flooding from climate change. Small area of surface water flood risk potential identified on eastern boundary of site. Major development on greenfield, SuDS to be incorporated to mitigate any risk from surface water flooding	No	Safe development is achievable by taking the sequential approach on site.	Yes	Yes- Allocate. Policy to stipulate that areas at risk of flooding now and in the future must be avoided.
3088	HA7	Warsash Maritime Academy	FZ 2&3 coverage on western part of site. The western part of site is also below the 5m AOD threshold meaning this part of the site would be at risk from future flooding. However, redevelopment of the site to only involve reuse of existing buildings which are not within FZs so a sequential approach on site is possible to provide safe development. No major surface water flooding issues identified.	No	Safe development is achievable by taking the sequential approach on site.	Yes	Yes- Allocate. A full Flood Risk Assessment is required. Policy to stipulate that areas at risk of flooding now and in future must be avoided.
1007	HA9	Heath Road	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified. Major development on greenfield, SuDS likely to be incorporated as matter of policy.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
3121	HA10	Funtley Road South	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Small area of surface water	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate. Major development on greenfield, SuDS to be

			flood risk potential identified. Major development on greenfield, SuDS to be incorporated to mitigate any risk from surface water flooding				incorporated to mitigate any risk from surface water flooding.
3032	HA12	Moraunt Drive	No current FZ 2&3 coverage but more than half of the site is under 5m AOD so at risk of future flooding from climate change. Taking a sequential approach on site is possible allowing safe development. No major surface water flooding issues identified. Major development on greenfield, SuDS likely to be incorporated as matter of policy.	No	SFRA for planning application on site concludes that development can be sequentially located away from areas of flood risk. EA raised no objection.	Not Required	Yes- Allocate. A full Flood Risk Assessment is required. Policy to stipulate that areas at risk of flooding now and in future must be avoided.
3051	HA13	Hunts Pond Road	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified. Major development on greenfield, SuDS likely to be incorporated as matter of policy.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
1360	HA15	Beacon Bottom West	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Small area of surface water flood risk potential identified. Major development on greenfield, SuDS to be incorporated to mitigate any risk from surface water flooding.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
3023	HA17	69 Botley Road	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified. Major development on greenfield, SuDS likely to be incorporated as matter of policy.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
1072	HA19	399-409 Hunts Pond Road	Greater than 5m AOD to avoid being at risk of future flooding from climate change. FZ 2&3 on Eastern Boundary. It is very likely a sequential approach on site is possible allowing safe development. Small area of	No	Safe development is achievable by taking the	Yes	Yes- Allocate. A full Flood Risk Assessment is required. Policy to stipulate that areas at

			surface water flood risk potential identified. Major development on greenfield, SuDS to be incorporated to mitigate any risk from surface water flooding.		sequential approach on site.		risk of flooding must be avoided.
1058	HA22	Wynton Way	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Small area of low surface water flood potential identified. Brownfield site no risk to development if policy compliant with CC2.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
1078	HA23	Stubbington Lane	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified. Major development on greenfield, SuDS likely to be incorporated as matter of policy.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
1076	HA24	335-357 Gosport Road	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
3049	HA26	Beacon Bottom East	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Area of surface water flood risk potential identified. Greenfield site, development must ensure compliance with policy CC2.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
1168	HA27	Rookery Avenue	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified. Major development on greenfield, SuDS likely to be incorporated as matter of policy.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
203	HA28	1-33 West Street, Portchester	In FZ 2&3 and site is less than 5m AOD. There is a risk of flooding both now and in the future. Area of surface water flood risk potential identified. Brownfield site, must ensure development is policy compliant with CC2.	No	SFRA accompanying the planning application for the site recommended certain mitigation measures to	Yes	Yes- Allocate. Policy to stipulate that mitigation measures recommended by the EA and contained within the Flood Risk Assessment accompanying the application shall be fully

					ensure flood risk is adequately mitigated. Environment Agency raised no objection providing certain conditions are implemented and maintained.		implemented prior to occupation and subsequently in accordance with the timing/phasing arrangements of any scheme. The measures shall be retained and maintained thereafter throughout the lifetime of the development.
1070	HA29	Land East of Church Road	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified. Major development on greenfield, SuDS likely to be incorporated as matter of policy.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
1075	HA30	33 Lodge Road	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Area of surface water flood risk potential on western boundary. Brownfield site, must ensure development is policy compliant with CC2.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
93	HA31	Hammond Industrial Estate	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Area of surface water flood potential identified. Brownfield site, must ensure development is policy compliant with CC2.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
2890	HA32	Egmont Nursery	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
3018	HA33	Land East of Bye Road	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Area of surface water flood risk potential on southern boundary. Greenfield site, development must ensure compliance with policy CC2	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.

3036	HA34	Land South West of Sovereign Crescent	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified. Major development on greenfield, SuDS likely to be incorporated as matter of policy.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
3149	HA35	Former Scout Hut, Coldeast Way	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
3227	HA36	Locks Heath District Centre	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Area of surface water flood potential identified. Brownfield site, must ensure development is policy compliant with CC4.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
3235	HA37	Former Locks Heath Filing Station	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
3228	HA38	68 Titchfield Park Road	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Area of surface water flood risk potential. Brownfield site, must ensure development is policy compliant with CC2.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
3231	HA39	Land at 51 Greenaway Lane	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
3040	HA40	Land West of Northfield Park	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Area of surface water flood risk potential identified. Major development on greenfield, SuDS to be incorporated to mitigate any risk from surface water flooding.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
3206	HA41	22-27a Stubbington Green	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Area of surface water flood risk	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.

			potential. Brownfield site, must ensure development is policy compliant with CC2.				
2843	HA42	Cams Alders	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Area of surface water flood risk potential identified. Major development on greenfield, SuDS to be incorporated to mitigate any risk from surface water flooding.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.
1002	HA43	Corner of Station Rd, Portchester	In FZ 2 on southern boundary only. Site is less than 5m AOD. There is a risk of flooding both now and in the future. Small area of low surface water flood risk potential identified. Brownfield site, must ensure development is policy compliant with CC2.	No	Safe development is achievable by taking the sequential approach on site.	Yes	Yes- Allocate. A full Flood Risk Assessment is required. Policy to stipulate that areas at risk of flooding must be avoided.
3244	HA44	Assheton Court	Partly in FZ 2&3 and whole site is less than 5m AOD. There is a risk of flooding both now and in the future. Brownfield site, must ensure development is policy compliant with CC2.		A suite of mitigation measures is recommended to ensure flood risk is adequately mitigated.	Yes	Yes- Allocate. A full Flood Risk Assessment is required. Any mitigation measures required to manage flood risk shall be fully implemented prior to occupation and subsequently in accordance with the timing/phasing arrangements of any scheme. The measures shall be retained and maintained thereafter throughout the lifetime of the development.
3138	HA44	77 Burridge Road, Burridge, Fareham	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change.	Yes	Not needed- sequential test passed	Not Required	Yes- Allocate.

3233	FTC1	Palmerston Car Park	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Small area of surface water flood risk potential. Brownfield site, must ensure development is policy compliant with CC2.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
1425	FTC2	Market Quay	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
211	FTC3	Fareham Station East	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Area of surface water flood risk potential. Brownfield site, must ensure development is policy compliant with CC2.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
212	FTC4	Fareham Station West	Greater than 5m AOD to avoid being at risk of future flooding from climate change. However, FZ2 at the Southern end of site where access would be located. Small area of surface water flood risk potential. Brownfield site, must ensure development is policy compliant with CC2.	No	Safe development is achievable by taking the sequential approach on site.	Yes	Yes- Allocate. A full Flood Risk Assessment is required. Any mitigation measures required to manage flood risk shall be fully implemented prior to occupation and subsequently in accordance with the timing/phasing arrangements of any scheme. The measures shall be retained and maintained thereafter throughout the lifetime of the development.
1325	FTC5	Crofton Conservatories	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Small Area of surface water flood risk potential. Brownfield site, must ensure development is policy compliant with CC2.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.

3070	FTC6	Magistrates Court	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Small area of surface water flood risk potential. Brownfield site, must ensure development is policy compliant with CC2.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.

Table 2 Employment Allocations

SHELAA Ref	LP Employment	Name	Sequential Test Commentary	Sequential Test Passed?	Exemption Test Commentary	Possible to Pass exemption Test	Prospect of Safe Delivery and inclusion FBLP2037
3113	E1	Faraday Business Park	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Some areas of surface water flood risk potential. Brownfield site, must ensure development is policy compliant with CC2.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
3114	E2	Swordfish Business Park	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. Some areas of surface water flood risk potential. Brownfield site, must ensure development is policy compliant with CC2.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
124	E3	Solent 2	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.
20	E4	Standard Way	In FZ1 - Sequentially Preferable site and greater than 5m AOD to avoid being at risk of future flooding as a result of climate change. No major surface water flooding issues identified.	Yes	Not needed - sequential test passed	Not Required	Yes- Allocate.

Summary findings.

This review has pulled together flood risk information for the sites proposed for allocation in the Fareham Borough Local Plan 2037

Some sites have been shown to be free from the risk of tidal or fluvial flooding both now and in future. For others, it is possible to avoid flood risk within the site which make them acceptable for allocation. There were some sites with more fundamental issues and the prospect of safe delivery has to be assessed in greater detail. Only those sites, where either further evidence has shown that there is a reasonable prospect that flood risk may be overcome have been chosen to become allocations in the emerging plan.

This documents views flood risk in isolation. This is of course not the only factor to be considered in determining whether to take forward a site as a development allocation in the Local Plan. There are many other factors which influence the Council's final choice of development allocations. The Council's Strategic Housing and Employment Land Availability Assessment as well as the Sustainability Appraisal for the Local Plan details the process and justification for site selection.

The Local Plan Next Steps.

For sites that are subject to flood risk, even where it has been determined through this assessment that safe delivery is possible, the site allocation policy will need to highlight the flood risk and set a development requirement that it must be dealt with satisfactorily before development can go ahead. There may be additional site-specific requirements that are determined as necessary by the Environment Agency at the planning application stage.

This assessment has focussed on tidal and fluvial flood risk in particular. However as highlighted, at site specific level, other forms of flooding, including from surface water are equally important to be considered. TAs shown, the Local Plan includes a policy covering Flood Risk and the provision of Sustainable Drainage Systems. This policy will ensure developers fully consider flood risk and drainage and deliver a package of measures to ensure sites are safe from flooding and flood risk and drainage is adequately managed onsite into the future.

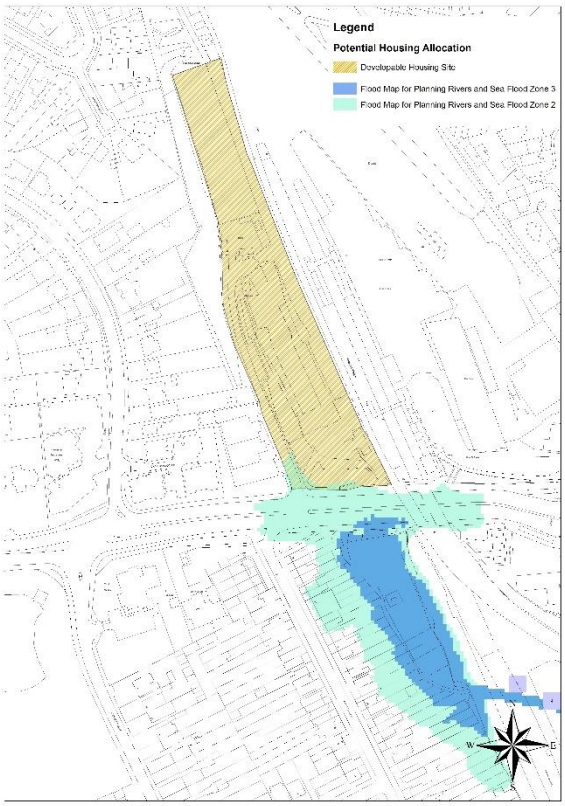
The Council will continue to work with its partners to bring about strategic flood risk management schemes, including contribution towards the update of the PfSH SFRA, and coastal and fluvial defence schemes which are highlighted within the Council's Infrastructure Delivery Plan and relevant policies in the plan. Land for these schemes will be safeguarded for their delivery.

Future Planning Applications

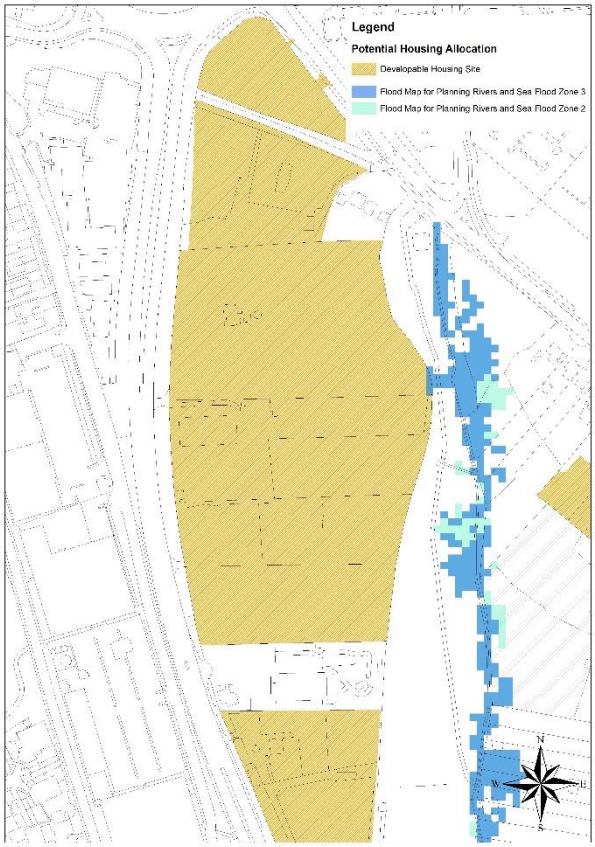
The information presented in this Local Sites SFRA demonstrates the decisions on the strategic allocation of sites for future development in Fareham's emerging Local Plan. This SFRA does not preclude the need for developers to undertake individual site-specific flood risk assessments. This document is a Strategic- high level assessment of flood risk for the purposes of producing a new Local Plan. It does not provide sufficiently detailed information to satisfy all of the requirements of a site-specific flood risk assessment as outlined in the National Planning Policy Framework. As such these will still be required on sites in FZ 2&3 or of 1 ha or more in size. They will also have to consider all sources of flooding.

Appendix Detailed Site Reviews.

Housing Allocations

Site Name: FTC4 Fareham Station West
SHELAA Reference: 212 Area: 1.05 ha Proposed Use: Residential ('More Vulnerable') 94 dwellings Planning Status: None
Flood Risk Information
Pathway: The dominant source of potential flooding to this site is from fluvial sources. There is a stream that is culverted under the site and appears just south of the site. The site is greater than 5m above sea level so is not considered at risk of future flooding from tidal sources as a result of climate change. However due to the culverted stream, there is the potential for future flooding from this source as a result of climate change. Level of Risk: Flood Zones 2 on southern boundary of site. Primary access to the site is also within flood zone 2   
Sequential Approach - Can areas of flood risk be avoided?
A suitable buffer on the southern boundary can ensure that development itself is accommodated away from the area at risk of flooding. However the entrance to the site will still be within FZ2.

The presence of the culverted watercourse beneath the site will need to remain free from development with a suitable buffer as well.
If flood risk cannot be avoided, what is the preferred approach?
Planning application for the site must take into account the impact of climate change (as a result of increased peak river flows) to the access route of the site. Current climate change guidance requires consideration of the 105% and 45% peak river flow allowances. If this will result in depths/velocities hazardous to people over the lifetime of the development on the access route, there may have to be a reliance on an appropriate safe refuge within the site.
Conclusion on prospect of safe development in light of flood risk and inclusion within the Local Plan
Current flood risk can be avoided on the site with the provision of a suitable buffers to the area where there is known flood risk. Development proposals will have to provide a buffer to the culverted watercourse beneath the site and take into account the impact of climate change on this water course to ensure safe access to the site and its residents. Providing this is satisfactorily achieved, the site can accommodate safe development and is included within the Local Plan for allocation.

Site Name: HA3 Southampton Road
SHELAA Reference: 3128 (Incorporating 2976, 3020, 3044 and 3125) Area: 7.6 ha Proposed Use: Residential ('More Vulnerable') 336 dwellings Planning Status: P/18/0897/FP, P/18/0068/OA- Permission Granted , P/19/1322/OA
Flood Risk Information
Pathway: The dominant source of potential flooding to this site is from fluvial sources. There is a stream that runs along the eastern boundary of the site. Level of Risk: There is a very small amount of the site that is within Flood Zones 2&3   
Sequential Approach - Can areas of flood risk be avoided?
Yes- The area of flood risk does not affect the proposed location for access. The eastern part of the development site will have a suitable ecological buffer to prevent any impacts on the adjacent Site of Importance for Nature Conservation habitat which will cover the area at risk of flooding.
If flood risk cannot be avoided, what is the preferred approach?
N/A
Conclusion on prospect of safe development in light of flood risk and inclusion within the Local Plan
Flood Risk can easily be avoided on the site with a suitable buffer to adjacent SINC. Site can accommodate safe development and is included within the Local Plan for allocation.

Site Name: HA7 Warsash Maritime Academy

SHELAA Reference: 3088

Area: 2.5 ha

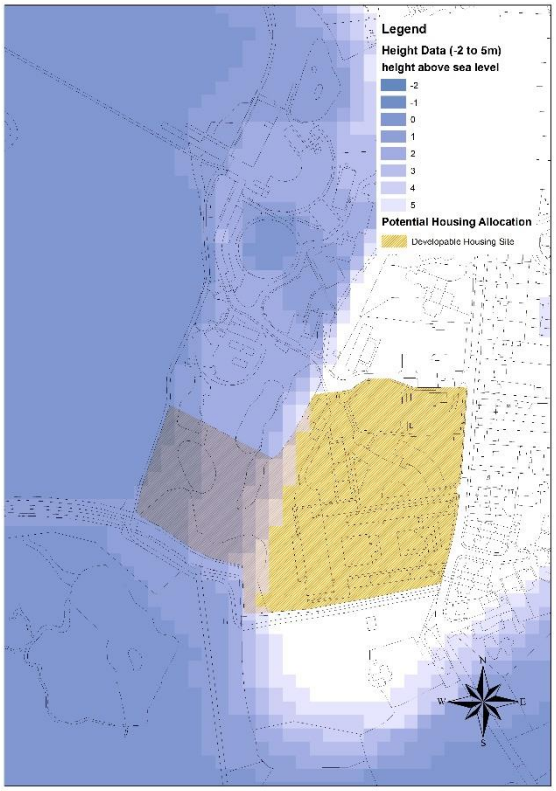
Proposed Use: Residential ('More Vulnerable') 100 dwellings

Planning Status: None

Flood Risk Information

Pathway: The dominant source of potential flooding to this site is from tidal sources. The Hamble/Solent coastline is immediately adjacent to the site.

Level of Risk: Flood Zones 2&3 on western half of site. The western part of site is also below the 5m above sea level threshold meaning this part of the site could also be at risk from future flooding as a result of climate change.



Sequential Approach - Can areas of flood risk be avoided?

Yes- Redevelopment of the site to only be located on the eastern half of site and will primarily involve the reuse of existing buildings which are all not within FZs and is above 5m in sea level so not at risk of future flooding as a result of climate change.

If flood risk cannot be avoided, what is the preferred approach?

N/A

Conclusion on prospect of safe development in light of flood risk and inclusion within the Local Plan

Flood risk can be avoided on the site with development being focused entirely on the eastern portion. Site can accommodate safe development and is included within the Local Plan for allocation.

Site Name: HA12 Moraunt Drive

SHELAA Reference: 3032

Area: 1.6 ha

Proposed Use: Residential ('More Vulnerable') 48 dwellings

Planning Status: P/18/0654/FP- Resolution to Grant Permission

Flood Risk Information

Pathway: The dominant source of potential flooding to this site is from tidal sources. The Portsmouth Harbour coastline is approximately 220m from the site.

Level of Risk: No current FZ 2&3 coverage but majority of site is below the 5m above sea level threshold meaning this part of the site could also be at risk from future flooding as a result of climate change.

Sequential Approach - Can areas of flood risk be avoided?

Yes- This site benefits from a current planning application which has resolution to grant planning permission by the Council's Planning Committee. The Environment Agency raised no objection to the application stating that it was satisfied that a sequential approach was taken on the site and development is located where there is the lowest risk of flooding. The accompanying Flood Risk Assessment also contained mitigation that was appropriate to mitigate any residual flood risk on the site which the Environment Agency raised no objection to.

If flood risk cannot be avoided, what is the preferred approach?

N/A

Conclusion on prospect of safe development in light of flood risk and inclusion within the Local Plan

Development is located where there is the lowest risk of flooding and the Environment Agency have not raised any objection in relation to the site. It can accommodate safe development and is included within the Local Plan for allocation.

Site Name: HA19 399-409 Hunts Pond Road
SHELAA Reference: 1072 Area: 2.5 ha Proposed Use: Residential ('More Vulnerable') 16 dwellings Planning Status: None
Flood Risk Information
Pathway: The dominant source of potential flooding to this site is from fluvial sources. There is a stream that flows past the eastern boundary of the site. The site is greater than 5m above sea level so is not considered at risk of future flooding as a result of climate change. Level of Risk: Flood Zones 2&3 on eastern boundary of site.   
Sequential Approach - Can areas of flood risk be avoided?
Yes- development of the site to be buffered from flood risk on eastern boundary. Site has sufficient space to accommodate proposed levels of development.
If flood risk cannot be avoided, what is the preferred approach?
N/A
Conclusion on prospect of safe development in light of flood risk and inclusion within the Local Plan

Flood risk can be avoided on the site with the provision of a suitable buffer to the eastern boundary. Site can accommodate safe development and is included within the Local Plan for allocation.

Site Name: HA28 3-33 West Street, Portchester

SHELAA Reference: 203

Area: 2.5 ha

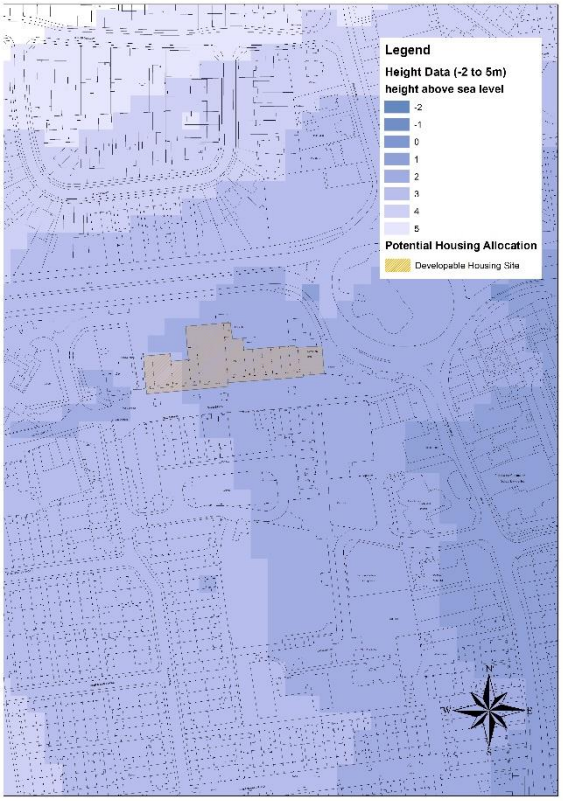
Proposed Use: Residential ('More Vulnerable') 16 dwellings

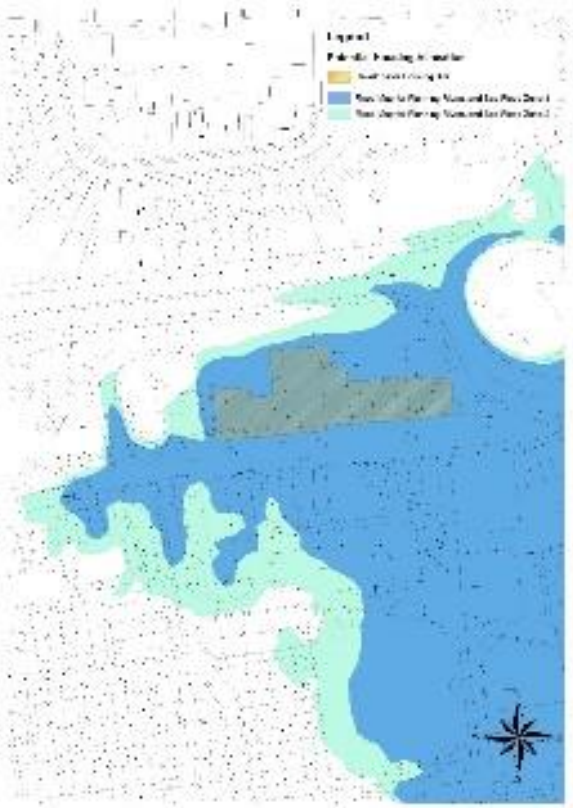
Planning Status: P/19/1040/OA

Flood Risk Information

Pathway: The dominant source of potential flooding to this site is from tidal sources. The site is approximately 600m away from the coast of Portsmouth Harbour.

Level of Risk: The whole area is within Flood Zones 2&3 and less than 5m above sea level meaning it is also at risk for future flooding as a result of climate change.





Sequential Approach - Can areas of flood risk be avoided?

The whole site is under flood zone 2&3 and less than 5m above sea level so development is potentially at risk of flooding both now and in the future.

If flood risk cannot be avoided, what is the preferred approach?

The Environment Agency in their response to planning application:
P/19/1040/OA stated no objection to the proposed development, subject to the inclusion of the following conditions, if permission is granted.

- All sleeping accommodation to be set a minimum of 600mm above the 2115 epoch, 1 in 200 year (0.5% AEP) tidal flood level (Flood Level = 3.98mAOD, Finished Floor Level = 4.58mAOD)
- All plumbing insulation to be of closed-cell design
- Non-return valves to be fitted to drain and sewer outlets
- Anti-syphon fitted to all toilets.
- Site owners/residents will be required to sign up to the EA Flood Warning Service.
- Upon receipt of a flood warning, and following liaison and agreement with the Emergency Services, the site should be evacuated. Evacuation should only occur if there is no flood water evident on the ground to a depth that exceeds 25cm.
- If flood waters along the proposed evacuation route have exceeded 25cm, site users are advised to seek refuge at the upper floors on site.

These mitigation measures shall be fully implemented prior to occupation and subsequently in accordance with the scheme's timing/phasing arrangements. The measures detailed above shall be retained and maintained thereafter throughout the lifetime of the development.

Conclusion on prospect of safe development in light of flood risk and inclusion within the Local Plan

Providing the recommended conditions stipulated by the Environment Agency are met, flood risk can be avoided on the site and safe development can be accommodated. It is therefore included within the Local Plan for allocation.

Site Name: HA43 Corner of Station Road, Portchester

SHELAA Reference: 1002

Area: 0.22 ha

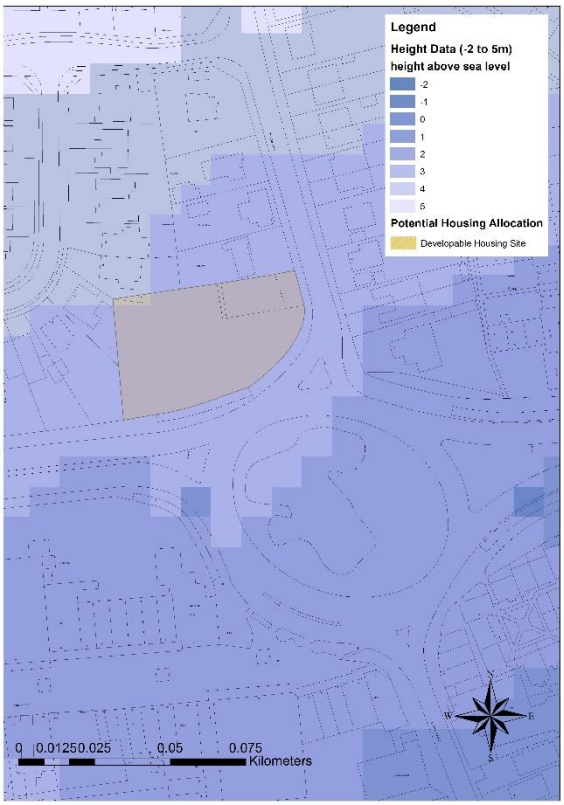
Proposed Use: Residential ('More Vulnerable') 16 dwellings

Planning Status: Planning Permission Granted (P/19/0840/FP)

Flood Risk Information

Pathway: The dominant source of potential flooding to this site is from tidal sources. The site is approximately 650m away from the coast of Portsmouth Harbour.

Level of Risk: A small amount of Flood Zone 2 on southern boundary of site. However the site is less than 5m above sea level meaning it is at risk of future flooding as a result of climate change.



Sequential Approach - Can areas of flood risk be avoided?

A suitable buffer on the southern boundary can ensure that development is accommodated away from the area at risk of flooding at present. However it still remains less than 5m AOD.

If flood risk cannot be avoided, what is the preferred approach?

The Environment Agency in their response to planning application: P/19/0840/FP stated no objection to the proposed development, subject to the inclusion of the following conditions, if permission is granted.

- The development shall be carried out in accordance with the submitted flood risk assessment (ref MJEL/16/D1146/FRA3.0, issue 4, titled “Merjen Engineering, Station Road, Portchester, Fareham, PO16 8BG Proposed Residential Development Flood Risk Assessment”, dated 08/10/2019 and as compiled by RGP Design Limited).

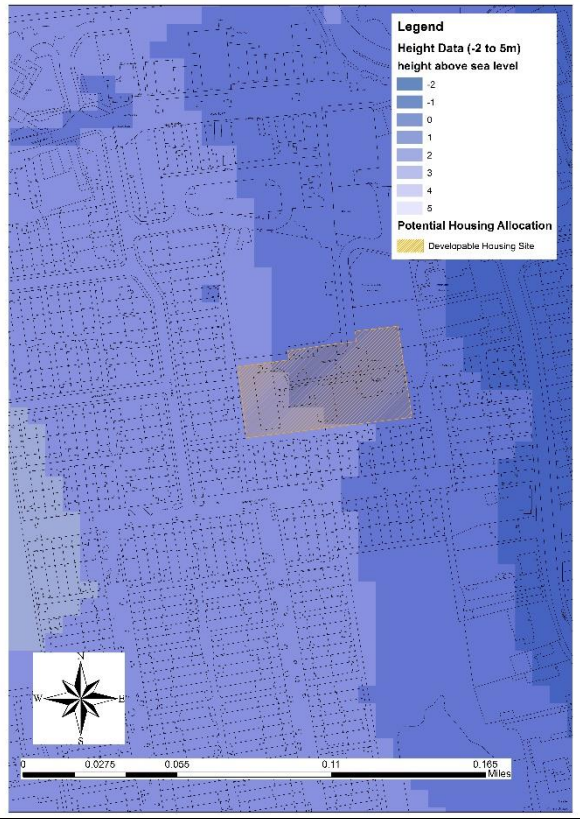
The following mitigation measures contained within the submitted flood risk assessment are required.

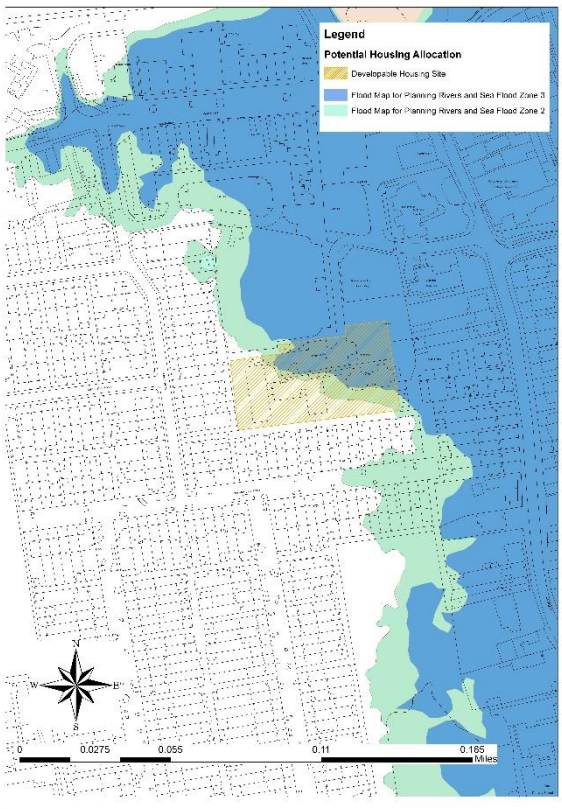
- Finished floor levels shall be set no lower than 4.55 metres above Ordnance Datum (AOD)
- The proposed flood wall shall be set no lower than 4.55 metres above Ordnance Datum (AOD)

These mitigation measures shall be fully implemented prior to occupation and subsequently in accordance with the scheme’s timing/phasing arrangements. The measures detailed above shall be retained and maintained thereafter throughout the lifetime of the development.

The planning application that has since been granted.
Conclusion on prospect of safe development in light of flood risk and inclusion within the Local Plan
Flood risk can be avoided on the site and safe development can be accommodated. It is therefore included within the Local Plan for allocation.

Site Name: HA44 Assheton Court Portchester
SHELAA Reference: 3244 Area: 0.44 ha Proposed Use: Residential ('More Vulnerable') 60 units Planning Status: None
Flood Risk Information
Pathway: The dominant source of potential flooding to this site is from tidal sources. The site is approximately 650m away from the coast of Portsmouth Harbour. Level of Risk: A small amount of Flood Zone 2 on southern boundary of site. However the site is less than 5m above sea level meaning it is at risk of future flooding as a result of climate change.





Sequential Approach - Can areas of flood risk be avoided?
The whole site is under flood zone 2&3 and less than 5m above sea level so development is potentially at risk of flooding both now and in the future.
If flood risk cannot be avoided, what is the preferred approach?
In order to conclude that there is a prospect of safe delivery, a full Flood Risk Assessment is required. In addition, the following measures are also considered as possible mitigation to ensure development is safe from flooding both now and in the future. • All sleeping accommodation to be set above the estimated future tidal flood level • Raising of the finished floor level above the estimated future tidal flood level • Use flood resistant/resilient construction measures • All plumbing insulation to be of closed-cell design • Non-return valves to be fitted to drain and sewer outlets • Anti-syphon fitted to all toilets. • Site owners/residents will be required to sign up to the EA Flood Warning Service. • Upon receipt of a flood warning, and following liaison and agreement with the Emergency Services, the site should be evacuated. Evacuation should only occur if there is no flood water evident on the ground to a depth that exceeds 25cm. • If flood waters along the proposed evacuation route have exceeded 25cm, site users are advised to seek refuge at a designated area such as at the upper floors on site. • Installation of onsite Sustainable Urban Drainage system Further refinement and selection of mitigation measures may be required at the time of submitting a planning application to ensure development can be made safe from flooding throughout its lifetime. Any mitigation proposed measures proposed for the site shall be fully implemented prior to occupation and subsequently in accordance with the scheme's timing/phasing arrangements. The measures shall be retained and maintained throughout the lifetime of the development.
Conclusion on prospect of safe development in light of flood risk and inclusion within the Local Plan
Providing the recommended conditions stipulated by the Environment Agency are met, flood risk can be avoided on the site and safe development can be accommodated. It is therefore included within the Local Plan for allocation.