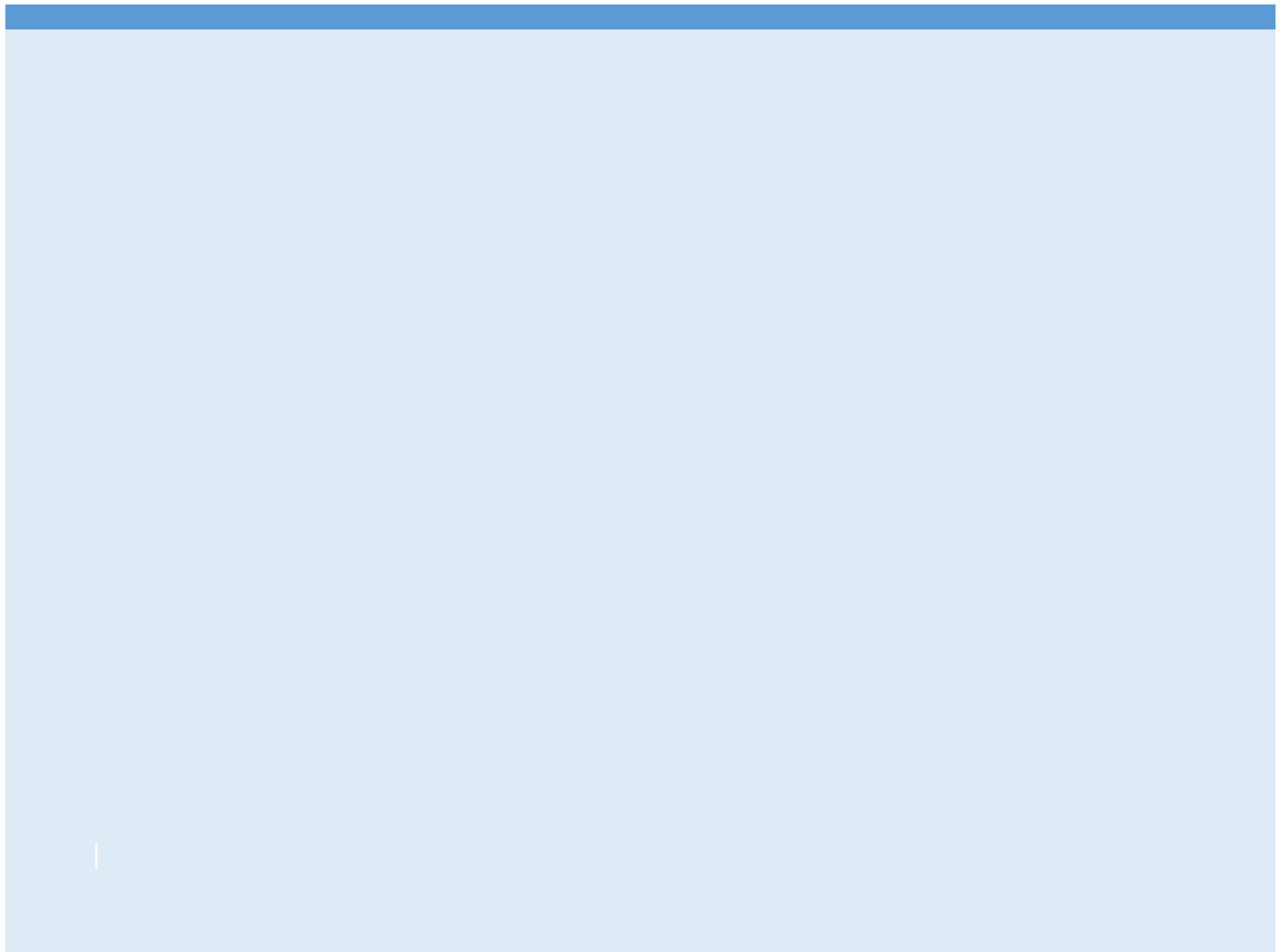


Flood Risk Assessment (FRA): Template for development in Southampton

JUNE 2015



Contents

1. Introduction to the template	1
2. Flood Risk Assessment Template	3
Introduction	3
Development site	3
Development proposals	3
Sequential Test	3
Exception Test.....	3
Site specific flood hazards.....	3
Tidal flooding.....	4
Fluvial flooding.....	4
Surface water flooding.....	4
Groundwater flooding	4
Flood control measures	5
Flood mitigation measures	5
Conclusions	5
APPENDIX 1: The Sequential Test.....	6
APPENDIX 2: The Exception Test.....	7
APPENDIX 3: Managing surface water	8
Useful contacts.....	10

NOTE:

The following documents may be of use when completing a Flood Risk Assessment:

- Southampton Level 2 Strategic Flood Risk Assessment
- Flood Risk Assessment guidance (more vulnerable development)
- Site Flood Plan guidance

Other documents which are of relevance, and should be considered, when completing a Flood Risk Assessment include:

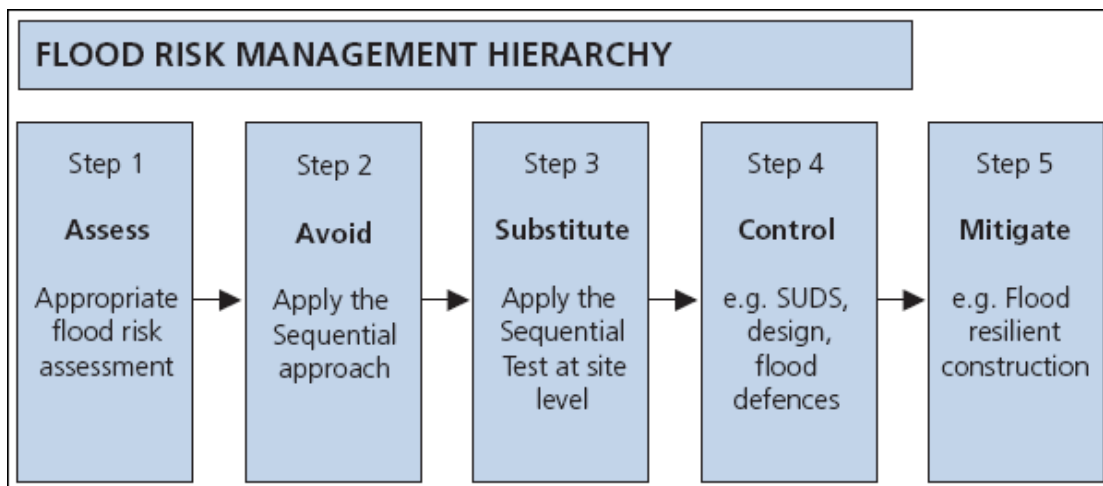
- Southampton Coastal Flood & Erosion Risk Management Strategy (2012)
- Southampton Local Flood Risk Management Strategy (2014)

All of the documents listed above are available to view/download from the Southampton City Council website at www.southampton.gov.uk/flooding.

1. Introduction to the template

Site-specific Flood Risk Assessments are required for any development located within Flood Zones 2 or 3, and for development larger than 1 hectare in size in Flood Zone 1. A Flood Risk Assessment (FRA) should first identify the level of flood risk to your property or site. This will enable you to identify the measures (*if any*) that are necessary to make your property or site safer and ensure that it will not increase the risk of flooding elsewhere. Properly prepared assessments of flood risk will inform the decision making process at all stages of development planning. Most importantly, they should be used as a tool to raise awareness of the flooding issues that could affect a particular site, its developers and eventual occupiers. It will also enable us to assess to what extent that risk is a consideration when determining your planning application.

Any FRA should be in line with the National Planning Policy Framework (NPPF) and Flood Risk and Coastal Change Planning Practice Guidance and should apply the Flood Risk Management Hierarchy i.e. assess, avoid, substitute, control & mitigate.



A Flood Risk Assessment should describe clearly the characteristics of flooding which include:

- Identify and evaluate flooding from all sources (*rivers (fluvial), sea (tidal), surface water & groundwater*);
- The worst case flooding scenario the development or users would be exposed to (i.e. depths and velocities);
- How the flood propagates (i.e. how quickly the flood spreads, the routes etc.);
- Duration (i.e. how long the flood water remains on site);
- The frequency in which the development will be exposed to flooding.

Flood zones for main rivers and the sea can be identified by viewing the 'Flood Map for Planning' on the Environment Agency website and information on all sources of flooding is available in the Southampton Level 2 Strategic Flood Risk Assessment (SFRA2). Any other sources of flooding (*e.g. groundwater*) affecting the site that you are aware of and which are not identified in the Strategic Flood Risk Assessment or on the Environment Agency website should also be included in your FRA.

New development should be designed for any flooding that may occur throughout its lifetime and be able to cope with the flooding effects described.

Please note the completion of an FRA will not automatically mean that the development is acceptable in flood risk terms. You are therefore strongly advised to agree the content of the FRA with the Environment Agency prior to its submission with the planning application to the council. The decision as to what is or is not appropriate rests with the Local Planning Authority in consultation with the Environment Agency and other relevant professional groups / agencies.

FRA's can be as simple as a short written statement, or may need detailed hydraulic modelling, depending on the level and source of flood risk for your site. The level of risk will depend on the type of development, the size of site and its location in relation to flood zones and also the amount of surface water runoff the site will discharge.

The following template provides a broad overview on the information that would be expected to be contained within a completed FRA. *You must include your FRA with your planning application.* Failure to do so may result in your application not being registered or it being refused permission.

2. Flood Risk Assessment Template

Introduction

Development site

This section should describe the site in its current state. It should include a location map which clearly indicates the development site.

The proposed development site is located at [*Insert address or grid reference here*] and is currently [*Insert existing use here, i.e. vacant, housing, shops etc.*].

Looking over the lifetime of the proposed development, the site lies within Flood Zone [*Delete as appropriate: 2 / 3 / 1 and/or is larger than 1 hectare in area*] and therefore a Flood Risk Assessment is required.

Development proposals

This section should describe the development proposals. It should include/make reference to an existing block plan and a proposed block plan.

The development proposal(s) for the above site are [*Enter a description of the proposals here*]. The proposed development is therefore classified as [*Insert flood risk vulnerability classification here – Table 2 of the Planning Practice Guidance*]. The lifetime of the proposed development is assumed to be [*Delete as appropriate: 100 years (residential) / 60 years (commercial)*].

Sequential Test

This section should demonstrate that the requirements of the sequential test (if required as detailed in the NPPF) have been met. See Appendix 1 for further information.

PLEASE NOTE: Applications for minor development or changes of use will not be subject to the sequential or exception tests, but should still meet the requirements for site-specific flood risk assessments.

Exception Test

This section should demonstrate that the requirements of the exception test have been met. See Appendix 2 for further information.

- a) Wider sustainability benefits
- b) Safe development (see Flood Control Measures & Flood Mitigation Measures sections below)

Site specific flood hazards

This section should describe the site specific flood hazards from all potential sources of flooding over the lifetime of the proposed development. It should include any evidence, such as maps showing the site with Flood Zones, any modelling data (depths and/or velocities,) and relevant data, if any, from the Southampton SFRA2.

The proposed development site lies within Flood Zone [*Delete as appropriate: 2 / 3 / 1 and/or is larger than 1 hectare in area*] with the main risk of flooding coming from a [*Delete as appropriate: tidal (sea)/fluvial (river)/surface water/groundwater*] source. The site is also at potential risk from [*Delete as appropriate: surface water/groundwater*] flooding.

Tidal flooding

Information on the tidal flood hazard may be obtained by contacting the Environment Agency using their existing flood modelling data or the sea level rise projections as well as the information within the Southampton SFRA2.

Flood model data for the site suggests that over the lifetime of the development, flood depths of around [*Insert maximum flood depth here: 0.00m*] can be expected and will be of [*Delete as appropriate: high / medium / low*] velocity. Flooding of this nature is likely to cause [*Delete as appropriate: danger for some / danger for most / danger for all*] according to table 13.1 of FD2320*.

According to the Southampton SFRA2 (2010), if such a flood event were to occur the likely duration that flood water will affect the site will be [*Delete as appropriate: less than 6 hours / greater than 6 hours*]

Fluvial flooding

Information on the fluvial flood hazard may be obtained by contacting the Environment Agency using their existing flood modelling data, or through the creation of a site specific model for the development site undertaken by the applicant.

Flood model data for the site suggests that over the lifetime of the development, flood depths of around [*Insert maximum flood depth here: 0.00m*] can be expected and will be of [*Delete as appropriate: high / medium / low*] velocity. Flooding of this nature is likely to cause [*Delete as appropriate: danger for some / danger for most / danger for all*] according to table 13.1 of FD2320*.

If such a flood event were to occur the likely duration that flood water will affect the site will be [*Delete as appropriate: less than 6 hours / greater than 6 hours*]

Surface water flooding

Information on the surface water flood hazard may be obtained by contacting the Environment Agency using their existing flood modelling data. Information on how to manage surface water can be found in Appendix 3.

Surface water at the site is currently managed by [*explain here*].

The proposals for surface water management are [*explain here*]

Groundwater flooding

[*If applicable*]

* Table 13.1 of FD2320 defines the “Danger to people for different combinations of depth and velocity” and can be found within the DEFRA report “Flood Risk Assessment Guidance for New Development” at: <http://www.hydres.co.uk/tools/FD2320%20TR2%20Final%20Jan%2006.pdf> on page 113.

Flood Risk Management

This section should describe how the development will be made safe from flooding over its lifetime. Where applicable, it should also be detailed how any off-site impacts will be prevented and how any residual risks to the site will be managed

Flood control measures

This section should include information about the flood control measures which will be utilised to manage the outlined flood hazard to the proposed development over its lifetime. These measures include any flood defences that the proposed development site may benefit from, design and layout of the development and how the flood hazard to the site will be managed i.e. raising finished floor levels, Sustainable Drainage Systems (SuDS), etc.

Flood mitigation measures

This section should include information about any flood mitigation measures, such as flood resistant and resilient construction techniques, subscription to the Environment Agency flood warning service, reference to a “Site Flood Plan” for the development etc.

Conclusions

This section should include a summary of all significant points previously identified in relation to the flood hazard, including how it can be managed.

APPENDIX 1: The Sequential Test

The Sequential Test is a tool to direct new development first to sites at the lowest probability of flooding (flood zone 1). The flood zones are the starting point for the sequential approach and are shown on the EA website with flood zone 1 being all the land falling outside zones 2, 3a and 3b. These flood zones refer to the probability of sea and river flooding only, ignoring the presence of existing defences.

The adopted Southampton Core Strategy recognises that to meet the city's housing and commercial targets, there is a general need for development in flood zones 2 / 3, particularly in central areas. This will help promote sustainable economic development and regeneration. However the sequential approach needs to be completed for identified sites, either through the Local Plan development or through planning applications. Windfall sites in the city centre and Northam will be supported if the sustainability / regeneration benefits outweigh the flood risk on that site.

A sequential approach should be used in areas known to be at risk from any form of flooding so that within the site the most vulnerable development is located in areas at lowest flood risk.

What do I need to do to pass the Sequential Test?

It is the developer's responsibility to assemble the relevant evidence in order to allow the local planning authority to consider whether the Sequential Test is satisfied. This evidence needs to be submitted with the planning application and demonstrate that there are no reasonably available alternative sites within an area of lower flood risk which can accommodate the proposal. If no such evidence is submitted with the application then permission may be refused. It is therefore recommended that applicants apply the Sequential Test to site selection early in the process (before the application is submitted) to avoid unnecessary costs.

The area of search for alternative sites will be Southampton-wide unless:

- The site is located the within the City Centre or Northam area.
- It can be demonstrated with evidence that there is a specific need within a specific area.

A pragmatic approach to the availability of alternative sites should be taken in considering, for example, planning applications for extensions of existing business premises where it might be impractical to suggest that there are more suitable alternative locations elsewhere. In such cases the developer must submit evidence with their planning application to justify the area of search and any circumstances they would like to be taken into account.

The applicant should submit the following evidence to allow us to consider the Sequential Test:

- A written statement explaining the area of search.
- A map identifying all other sites considered within lower areas of flood risk.
- A written statement explaining why the alternative sites listed within lower areas of flood risk are not reasonably available. It is advisable to provide as much evidence as possible regarding statements made on other sites to avoid delays in the planning process.

How can I identify alternative sites?

Alternative sites could be found from the evidence base / background documents that have been produced by the council to inform the emerging Local Development Framework (LDF) or Local Plan. If alternative sites cannot be identified from such documents then other sites within the area of search should be considered. To identify other sites you should contact local estate agents. It is also recommended that applicants contact us to discuss the availability of alternative sites to be considered in the Sequential Test.

What is meant by “reasonably available”?

A site is considered to be “reasonably available” if it is both ‘deliverable’ and ‘developable’ as defined within the NPPF and all of the following criteria are met:

- The site is within the agreed area of search.
- The site can accommodate the requirements of the proposed development.
- The site is either:
 - Owned by the applicant.
 - For sale at a fair market value.
 - Is publicly-owned land that has been formally declared to be surplus and available for purchase by private treaty.

Sites are excluded where they have a valid planning permission for development of a similar character and scale and which is likely to be implemented.

APPENDIX 2: The Exception Test

An Exception Test is required for development that is defined as “highly vulnerable” in flood zone 2, “essential infrastructure” in flood zones 3a and 3b and “more vulnerable development” in flood zone 3a (see table 3 of the Planning Practice Guidance).

For the Exception Test to be passed:

1. It must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk.
2. A site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere and, where possible, will reduce flood risk overall.

Both elements of the test will have to be passed for development to be permitted.

What are “wider sustainability benefits to the community”?

In the context of development proposals “sustainability benefits” could include environmental, social or economic factors, or some combination of these.

In order to pass the Exception Test the proposal must provide sustainability benefits beyond the application site for the community. Examples of benefits beyond the application site include:

- Provide affordable housing to meet an identified local need
- Remove pollution
- Assist in the regeneration of an area
- Visually enhance a site to the benefit of the character of an area
- Relocate an existing use closer to public transport thus reducing the amount of traffic on the road.

All these examples provide some benefit to the community beyond the application site.

When do such benefits outweigh the flood risk?

It is not possible to confirm that certain benefits will always outweigh the flood risk. Each case needs to be considered on its own merits taking into account the scale of the benefits compared to the scale of the development and the significance of the flood risk.

It is, however, very unlikely that the following circumstances would be considered as providing, on their own, sufficient benefits to the community to outweigh the flood risk:

1. A new open market dwelling, for example on garden land in a residential area and close to a bus stop. Whilst the location close to a bus stop is desirable it will not normally be sufficient to outweigh the flood risk.
2. An energy-efficient new building.
3. The personal circumstances of the applicant or occupier.

APPENDIX 3: Managing surface water

The FRA will need to detail how surface water runoff generated by the developed site will be managed. Surface water run-off should be controlled as close to its source as possible through the use of a sustainable drainage system (SuDS).

SuDS are an approach to managing surface water run-off which seeks to mimic natural drainage systems and retain water on or near the site as opposed to traditional drainage approaches which involve piping water off site as quickly as possible. SuDS involve a range of techniques including, but not limited to, soakaways, infiltration trenches, permeable pavements, grassed swales, ponds and wetlands. SuDS offer significant advantages over conventional piped drainage systems in reducing flood risk by attenuating the rate and quantity of surface water run-off from a site, promoting groundwater recharge, and improving water quality and amenity.

The variety of SuDS techniques available means that virtually any development should be able to include a scheme based around these principles.

Further information on SuDS can be found in:

- National Planning Policy Framework (NPPF)
- Flood Risk and Coastal Change Planning Practice Guidance
- CIRIA C522 document Sustainable Drainage Systems-design manual for England and Wales
- CIRIA C697 document SuDS manual

The Secretary of State for Communities and Local Government laid a [Written Ministerial Statement](#) in the House of Commons on 18 December 2014 setting out changes to planning that now apply to major development. Any SuDS proposals should be developed in accordance with the published [non-statutory technical standards](#) for the design, maintenance and operation of sustainable drainage systems.

Useful contacts

Southampton City Council

Bernadine Maguire
Flood Risk Management Officer

Emergency Planning

City Depot & Recycling Park
First Avenue
Southampton
SO15 0LJ

Telephone: 023 8083 2403

Email: flooding@southampton.gov.uk

Environment Agency

Telephone: 01962 76 48 78 (Mon-Fri, 8am - 6pm)

Telephone from outside the UK: 00 44 1709 389 201 (Mon-Fri, 8am - 6pm)

Minicom service: For the hard of hearing a minicom service is also available by calling 03702 422 549*

Email: planningSSD@environment-agency.gov.uk

Postal address:

Romsey Office
Canal Walk
Romsey
Hampshire
SO51 8DU

*Calls to 03 numbers cost no more than a national rate. Calls to a 01 or 02 number and must count towards any inclusive minutes in the same way as 01 and 02 calls. These rules apply to calls from any type of line including mobile, BT, other fixed line or payphone.

This document was produced in conjunction with:

