Surface Water Flooding Proforma

NOTE: Complete this form if: **your development site is less than 1 ha in Flood Zone 1 and falls within an area that floods from Surface Water (**https://flood-warning-information.service.gov.uk/long-term-flood-risk/map?map=Reservoirs **)** then a flood risk management option must be included. Guidance Notes 1-7 are at the end of this form.

Site Name		**Planning Reference**			
Site Address		**Postcode**		**Area of site (ha)**	

1) **Does part of the site red line boundary fall in an area shown to flood from surface water (Guidance Note 6)?** Y/N ……..
The maps can be checked at this link: https://flood-warning-information.service.gov.uk/long-term-flood-risk/map?map=Reservoirs. Please use the extent of flooding.

2) **Is it possible to locate all proposed buildings wholly outside of the area shown by to be in the extent of surface water flooding**? Y/N ……
Developments that are proposing buildings (apart from knock-down rebuilds) in areas of surface water flooding are unlikely to be looked on favourably except in exceptional circumstances. Attempts should be made to locate buildings outside of surface water flooding areas (see Guidance Note 5) or, if not possible, the development must provide flood risk mitigation in accordance with Table 1 of this form. If **no** land raising or buildings are being located in areas of flooding then skip question 5-7 and sign section 9.

3) **Will the proposal involve piping/ altering/ building in any ditch/ stream/ watercourse/ river?** Y/N ……..
Note: Buildings or garages should not be located within 2m of a ditch. Ordinary Watercourse Consent may be required from Hampshire County Council for works to the watercourse. http://www3.hants.gov.uk/watercourses.htm.

4) **a. Will ground levels be raised by more than 100mm above existing levels in the surface water flooding extent?** Y/N…….
b. If the answer to 4a is yes, how much will the ground be raised by? ……
Note: Avoid land raising as this requires further mitigation (See Table 1 and Technical Note 1). Guidance Note 4 provides an alternative to land raising.

5) **If buildings are proposed within the area of flooding:**
   a. How many of the proposed buildings are within the area shown to be at low risk of surface water flooding? ……..e.g. 2 buildings
   b. State why it hasn't been possible to avoid locating buildings in the area at risk of flooding.
   ……
   ……
   ……

6) **Please identify which of the options in Table 1 (next page) will be included within your development and state which drawings or plans submitted shows the inclusion of the chosen measures.** Available options have been ranked according to the best technical options for dealing with the risk. All new builds incorporating any of the measures listed in Table 1 should be accompanied by a document aimed at the site users confirming what measures have been included in the property for flood protection, why they are important and how they should be maintained.
Note: Land raising within the area of surface water flooding is unlikely to be acceptable because it can increase offsite flood risk, unless further mitigation in the form of level for level compensation is provided. See Guidance Note 4 below.

Table 1: Mitigation Options At least one option should be selected from each section (Internal Flooding and Offsite Impacts) below.

	Ranking	Surface Water Flooding: Flood Risk Management Options	Tick to agree	Drawing Reference showing chosen option	Reason why higher ranking option not chosen
Preventing internal flooding	1st	**Raised Finished Floor Levels (Guidance Note 1):** Set finished floor levels of all buildings to above the flood mitigation level. See Table 2 below to determine this level.			N/A
	2nd	**Passive Flood Resistant Measures (Guidance Note 2):** Include **passive** flood resistant measures throughout the property up to the flood mitigation level (Table 2). This should include all external doors, air bricks, non-return valves and any other openings. These measures will not work with French Doors. The measures employed should be Kite Marked to show that they have past the industrial standards. Finished Floor Levels should be set as high as possible.			e.g. Disabled access required, ridge height restrictions
	3rd	**Flood Resilient Measures (Guidance Note 3):** Include flood resilient measures up to at least flood mitigation level (Table 2). Finished Floor levels should be set as high as possible.			e.g. Disabled access required, French doors proposed.
Preventing offsite impacts	1st	**Under floor voids (Guidance Note 4):** Openings at least 1m wide provided under the building on all sides that extend from ground level to the underside of the floor slab.			N/A
	2nd	**Level for level compensation (Guidance Note 7 & Technical Note 1):** This is the provision of onsite excavation (compensation) to balance areas of ground raising so that the same volume of flood waters can enter the site at the same ground elevations as before the development. Level for level and volume for volume compensation to be provided up to the flood mitigation level (Table 2). Areas of excavation must be located such that the area can freely fill and drain with floodwater. Where buildings have been located in flooded areas without underfloor voids, level for level compensation will be needed unless flooding is shallow (below 300mm). Compensation will not be needed where ground raising is less than 100mm.		Submit details as required by Technical Note 1	e.g. Not possible to raise Finished Floor Levels, site is within a conservation area, ground raising unavoidable.
	3rd	**No provision of voids or compensation.** Only acceptable where the existing (pre-development) low risk flood depth category is less than 300mm or ground raising is below 100mm.			e.g. Existing low risk flood depth is below 300mm, ground raising is less than 100mm.

7) **Determining Flood Mitigation Levels-** Please use the link in the Table 2 below to determine the appropriate flood mitigation level to use. This is the greatest depth of flooding where a building is proposed on site (see Guidance Note 6).

Table 2: Flood Mitigation Level

Flood Depth Category: Flood Risk from surface water- low risk depth (see Guidance Note 6) https://flood-warning-information.service.gov.uk/long-term-flood-risk/map?map=Reservoirs	**Flood Mitigation Level** [2] above surrounding ground level	**Tick to confirm** which flood mitigation level will be used at this site	[1]**NB** Underfloor Voids & Compensation will not be required where the existing **low risk** flood depth is less than 300mm. [2]**NB** If a developer considers that the flood mitigation level obtained from this table is inappropriate then evidence should be provided justifying their position.
Below 300mm	300mm (0.3m) [1]		
Between 300mm -900mm	900mm (0.9m)		
Over 900mm	1000mm (1m)		

8) **Please tick to confirm** that a copy of the Environment Agency Flood Risk from Surface Water maps covering the site in question will be submitted with this application. ☐

9) **I confirm that to the best of my knowledge the information provided in this form is true and complete by signing below.**

Name……. Signature ……

Email……. Phone Number ……

Guidance Notes

Figure a) shows a house with raised finished floor levels and voids. **Figure b)** shows some examples of resistance measures. **Figure c)** show examples of some types of resilient measures.

Guidance Note 1: Raised Finished Floor Levels

Raising finished floor levels prevents flood waters from entering the building (figure a). This is a standard mitigation measure for preventing internal flooding that is both cheap and effective. This option may not be possible if disable access is required or ridge heights are restricted. Where this is the case option 2 or 3 from Table 1 should be used instead.

Guidance Note 2: Passive Flood Resistant measures

Flood resistant measures prevent flood waters from being able to enter properties with lower floor levels through the various external openings e.g. via doors, air bricks, walls and backing up the foul sewer pipes (figure b). Surface water flooding can happen very quickly with little warning so it is important that the measures used are **'passive'** i.e. work automatically without the site users having to manually take action (although they will need to be maintained). Further advice can be found in 'Improving the Flood Performance of New Buildings Flood Resilient Construction' http://www.communities.gov.uk/publications/planningandbuilding/improvingflood
The list of all products available can be found on the National Flood Forum's Blue pages: http://www.bluepages.org.uk/

Guidance Note 3: Passive Flood Resistant measures

Flood Resilient measures are measure that minimise the damage to a property once flood waters have entered the property(see figure c). These measures include raising electrical sockets, raising kitchen cabinets and white goods/electrical, waterproofing floors and walls. Further advice can be found in 'Improving the Flood Performance of New Buildings Flood Resilient Construction' http://www.communities.gov.uk/publications/planningandbuilding/improvingflood

Guidance Note 4: Void Design

Buildings located in areas that flood, displace and deflect floodwaters onto adjacent land, increasing the frequency and depths of flooding in these locations. Providing openings beneath a building (see figure a) allows floodwaters to pass unhindered beneath the building, thereby preventing the development from increasing flood risk to

neighbouring properties and land. Underfloor voids are only viable where a gap of at least 300mm can be provided between the ground level and the underside of the floor slab.

The void openings should be at least 1 metre wide by the height of the predicted depth of flooding, extending from the existing ground level. There should be a one metre opening in every 5-metre length of wall on all sides. Voids should be open and maintained as such in perpetuity. If the void openings are a security risk, then vertical steel bars placed at 100mm centres can be installed.
Voids can only be installed where finished floor levels have been raised. The purpose of voids is to prevent flood waters being displaced onto adjacent third party land. New buildings in flooded locations, that are not replacing existing above ground level soild structures of equal or larger size, will displaced flood waters unless mitigation is provided. This is also the case with land raising in these flooded areas. If voids are not possible to include or land raising is planned then other forms of mitigation will be needed e.g. level for level and volume for volume compensation will be needed see page 96 of the Hart District Council SFRA 2016. http://www.hart.gov.uk/Evidence-base . Technical Note 1 provides guidance about how to undertake level for level compensation. If no form of mitigation to prevent these offsite impacts then Hart District Council will need to be happy that any displaced water would not leave the site boundary. Buildings without voids or level for level compensation are unlikely to be considered favourably in dense urban areas.

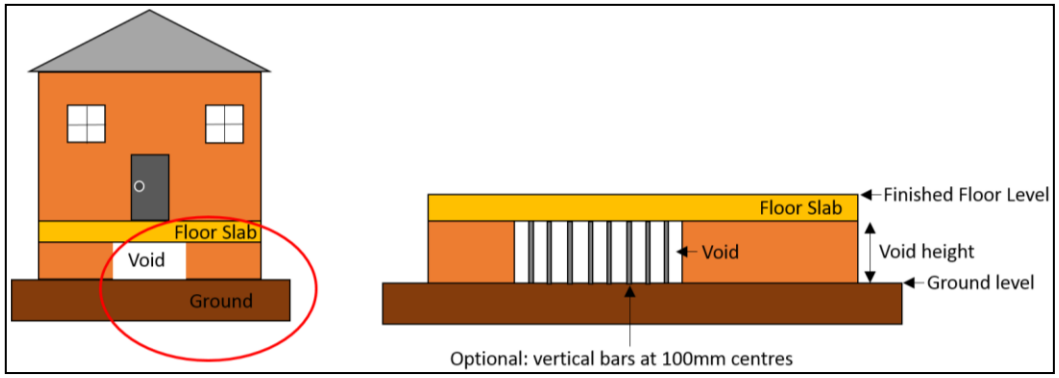

Figure d) above shows the details of an acceptable void design.

Guidance Note 5: Minimising risk through site layout

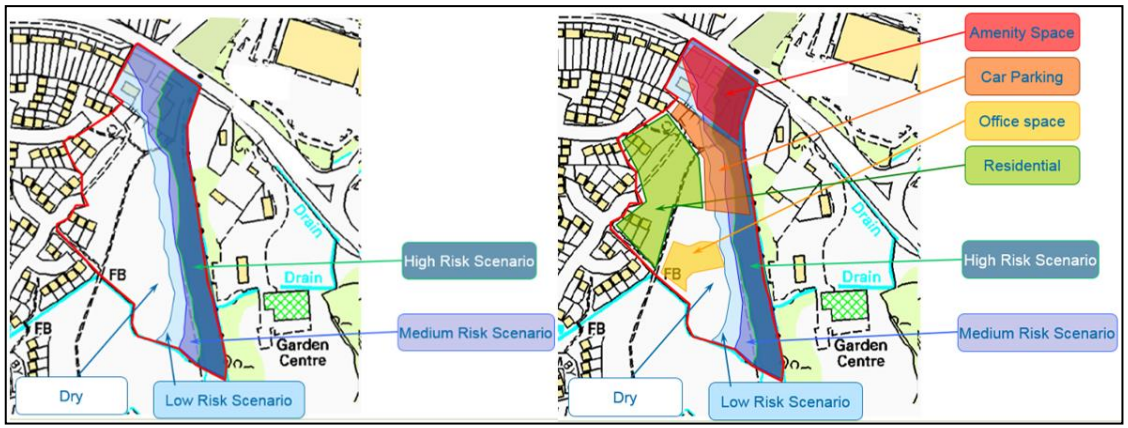

Figure e) left shows an example of how to layout a site to minimise the impact of flooding on the site.

In some cases the level of flood risk will vary across the site with some areas being more prone to flooding than others. The impact that a flood event will have on site users will vary depending on what elements of the development are affected by the flooding. Flooding of gardens and outdoor spaces has much less impact than the flooding of homes. Even if the dwelling itself remains dry, having a building in a flooded area means that site users can be cut off or trapped for the duration of the flood event. The best option is to layout the development such that the most vulnerable elements are located in the area of lowest flood risk on site.

Figure f) left indicates the vulnerability hierarchy of different elements of a development to flooding.

Guidance Note 6: Using the Environment Agency's Flood Risk from Surface Water maps

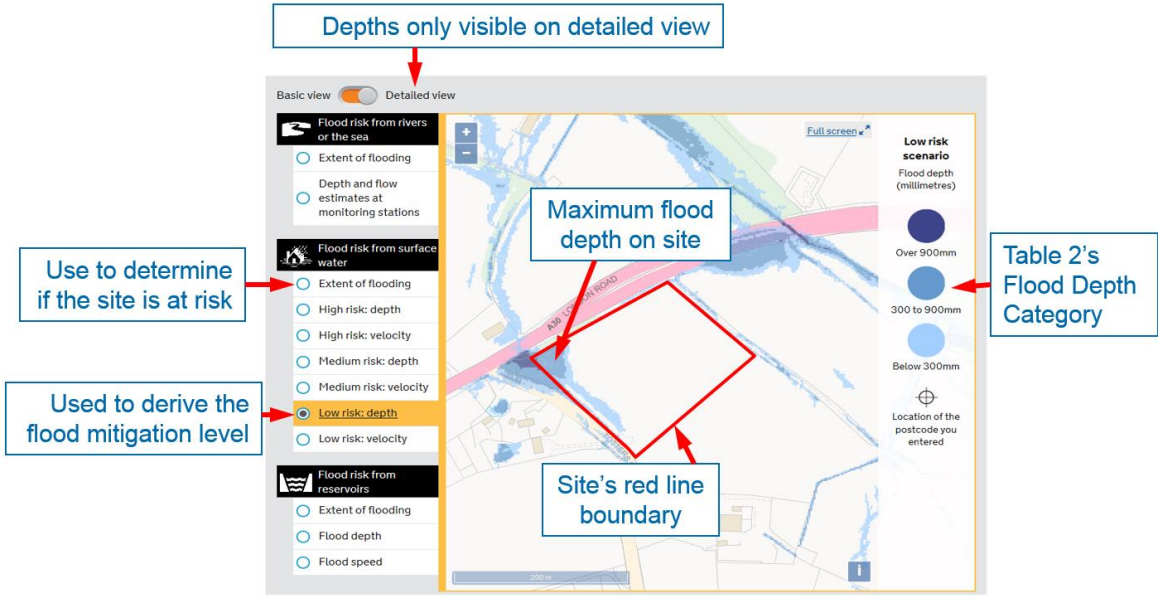

Figure g) left shows how to use the Environment Agency's website in conjunction with this form for an example site.

The Flooding from surface water maps –'extent of flooding' scenario should be used to answer question 1. The maximum flood depth that occurs on site (as shown by the 'low risk: depth' scenario) should be used to determine the flood depth category in Table 2 as shown by the example in figure g).The low risk depth must be used to fill in the proforma. Applications that use the high or medium risk depth categories to fill in the surface water flooding proforma are likely to be refused as the level of mitigation provided will be insufficient.

In order to use this mapping for the form you will need to have the detailed view selected at the top of the page. The maps can be veiwed here https://flood-warning-information.service.gov.uk/long-term-flood-risk/map?map=Reservoirs

Guidance Note 7: Level for Level Compensation

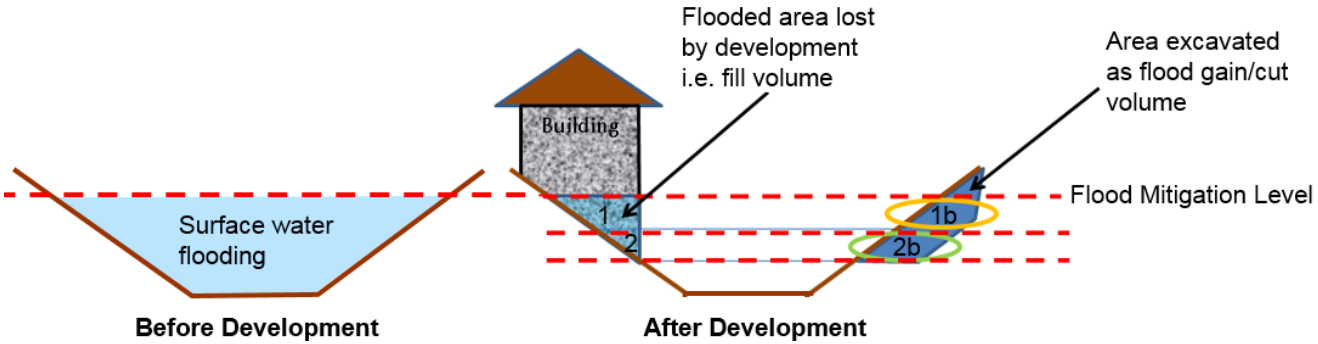

Figure h) left show an example of level for level and volume for volume compensation. The volume of ground excavated at a particular elevation is the same or bigger than the corresponding infilled volume i.e. the volume excavated from area 1b is at least equal to the area infilled in area1. The same is true for area 2b compared to area 2.

Level for level compensation is essentially about moving flood waters around a site so the same volume of flood waters can flood the site after the development as before, but just in a different location. This is important as land raising or building in a flooded area without mitigation will displace water increasing offsite flood risk. To achieve this form of mitigation parts of the site must be excavated to balance the parts of the flooded area that have been raised or infilled. This excavation should provide the same volumes of flood storage at the same ground elevations so that flooding behaves the same before and after the development. See Technical Note 1(https://www.hart.gov.uk/Current-planning-policy-guidance) for further details.

Still have questions? Please see our Frequently Asked Questions.