



Broads Local Plan
Sequential test of allocations
November 2017 update

Introduction

Writing in red bold shows updates in November 2017.

The Sequential Test ensures that a sequential approach is followed to steer new development to areas with the lowest probability of flooding. The flood zones¹ as refined in the Strategic Flood Risk Assessment for the area provide the basis for applying the Test. The aim is to steer new development to the areas of lowest risk of flooding. The classification of the lowest risk of flooding is Flood Zone 1. Where there are no reasonably available sites in Flood Zone 1, local planning authorities in their decision making should take into account the flood risk vulnerability of land uses and consider reasonably available sites in Flood Zone 2 (areas with a medium probability of river or sea flooding), applying the Exception Test if required. Only where there are no reasonably available sites in Flood Zones 1 or 2 should the suitability of sites in Flood Zone 3 (areas with a high probability of river or sea flooding) be considered, taking into account the flood risk vulnerability of land uses and applying the Exception Test if required.

Note: Table 2² categorises different types of uses & development according to their vulnerability to flood risk. Table 3³ maps these vulnerability classes against the flood zones set out in Table 1 to indicate where development is 'appropriate' and where it should not be permitted.

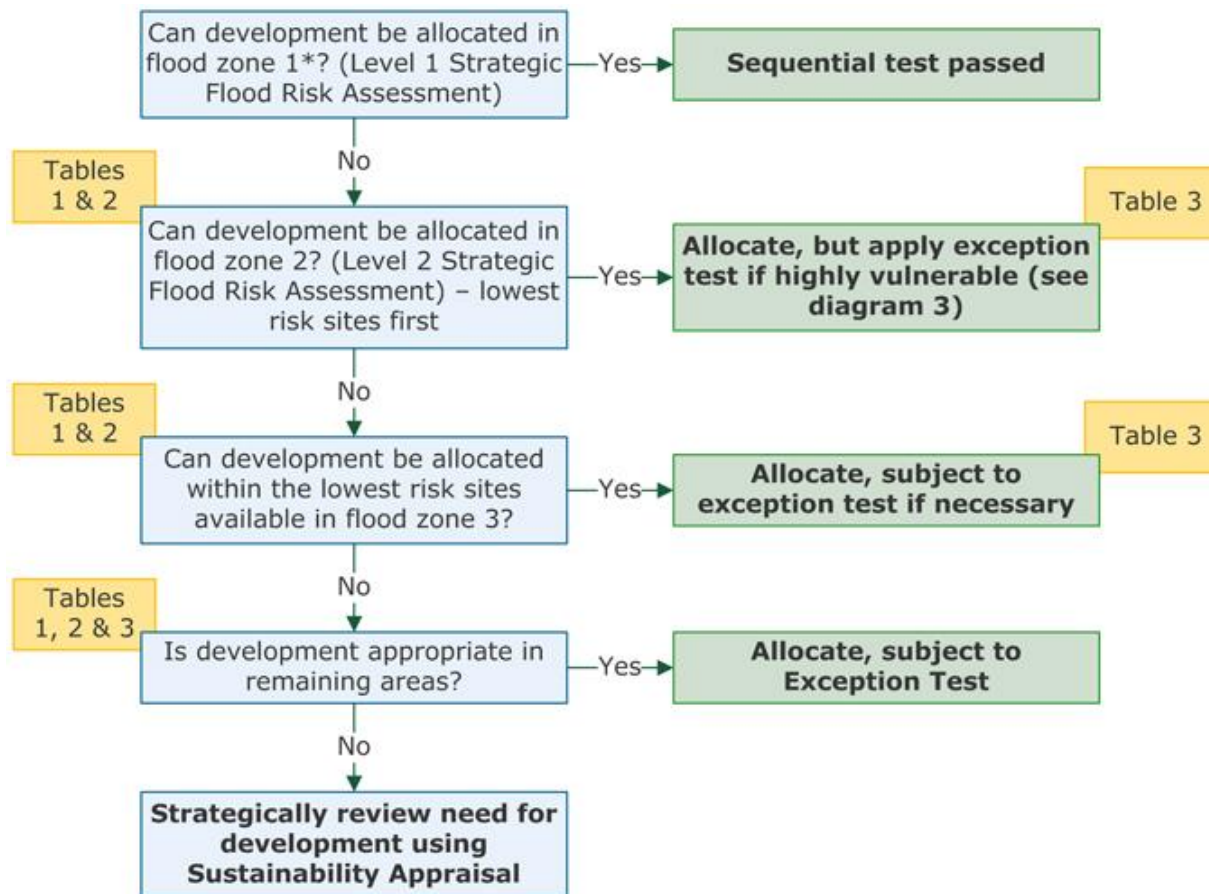
Within each flood zone, surface water and other sources of flooding also need to be taken into account in applying the sequential approach to the location of development.

The process for applying the sequential test is set out in the following diagram (taken from the NPPG).

¹ <http://planningguidance.communities.gov.uk/blog/guidance/flood-risk-and-coastal-change/flood-zone-and-flood-risk-tables/table-1-flood-zones/>

² <http://planningguidance.communities.gov.uk/blog/guidance/flood-risk-and-coastal-change/flood-zone-and-flood-risk-tables/table-2-flood-risk-vulnerability-classification/>

³ <http://planningguidance.communities.gov.uk/blog/guidance/flood-risk-and-coastal-change/flood-zone-and-flood-risk-tables/table-3-flood-risk-vulnerability-and-flood-zone-compatibility/>



This document has been updated to reflect the Strategic Flood Risk Assessments produced in November 2017. In some areas of the Broads, due to a lack of modelling, there is no detail to show if a site is in 3a or 3b. These areas are shown as indicative 3b flood zones. It is presumed that in flood zone 3:

- 3a – if have buildings on
- 3b – if do not have buildings on

Sequential Text of all Site Allocation Policies.

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
ACL1	Cemetery extension	1	Not specifically covered. Nearest seems to be amenity open space so water compatible development. It is important to note that all proposals for burial grounds need to address Environment Agency requirements relating to groundwater.	Development is appropriate	N/A	Passes sequential test
ACL2	Playing field extension.	1	Water-Compatible Development	Development is appropriate	N/A	Passes sequential test
BEC1	Reinstatement of pub (Loaves and Fishes).	3a	More vulnerable (drinking establishment). Less vulnerable (if restaurant)	Exceptions test required if more vulnerable. Less vulnerable development is compatible.	N/A	The policy seeks to regenerate a vacant building. The building is where it is and cannot be moved. The policy raises the issue of flood risk.
BEC2	Residential moorings.	3b	Aware that the EA consider	The marina assessment indicates that	No as it is people living on boats	The EA's interpretation passes the sequential test.

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
			these as effectively marinas so water compatible. But also aware that people will live on these boats so there is a residential element of it which is more vulnerable.	development is appropriate and the residential element indicates that development should not be permitted.	which then are on water.	Looking at the residential element in isolation, it does not. To reflect that this policy relates to people living on boats on water, the supporting text of the policy emphasises the issue of mooring technique and also the need for Flood Response Plans.
BRU1	Riverside chalets and moorings plots	3a – chalets 3b – mooring plots (generally free of structures)	Chalets - More vulnerable Mooring plots - presume similar to amenity open space so water compatible development	Chalets - Exception Test required Mooring plots - Development is appropriate	On site, yes	Chalets - policy states that additional more vulnerable uses will not be permitted. Relates to changes to the existing land use such as replacement or extensions and policy refers to area being constrained due to flooding. Design response to flooding is a specifics issue to be dealt with through planning application process. Mooring plots – passes the sequential test.
BRU2	Riverside estate boatyards etc	3a	Presume same as marina/ship building so water	Development is appropriate	N/A	Passes sequential test

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
			compatible development			
BRU3	Brundall mooring plots	3b (generally free of structures)	Presume similar to amenity open space so water compatible development.	Development is appropriate	N/A	Passes sequential test
BRU4	Brundall Marina	3a	Water-Compatible Development	Development is appropriate	N/A	Passes sequential test
BRU5	Land east of Yare House – amenity open space	2 (part of)	Water-Compatible Development	Development is appropriate	N/A	Passes sequential test
BRU6	Brundall Gardens residential moorings.	3b	Aware that the EA consider these as effectively marinas so water compatible. But also aware that people will live on these boats so there is a residential element of it which is more vulnerable.	The marina assessment indicates that development is appropriate and the residential element indicates that development should not be permitted.	No as it is people living on boats which then are on water.	The EA's interpretation passes the sequential test. Looking at the residential element in isolation, it does not. To reflect that this policy relates to people living on boats on water, the supporting text of the policy emphasises the issue of mooring technique and also the need for Flood Response Plans. See end of this table.
CAN1	Sugarbeet works.	Some 3a and some 1.	Less vulnerable	Development is appropriate	N/A	Passes sequential test

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
DIL1	Tyler's Cut Moorings.	Part in 3b	Presume similar to amenity open space so water compatible development.	Development is appropriate	N/A	Passes sequential test
DIT1	Sport and recreation. Main building (including a drinking establishment).	Main building and approximately half the area in flood zone 1. Most of area in flood zone 2. Part in 3a and 3b.	Drinking establishment is more vulnerable. Outdoor sport and recreation and essential facilities is water compatible.	Development is appropriate.	On site, yes if needed. All built development would be outside the flood zones – adopting a sequential approach to development on site. More vulnerable uses not appropriate in 3b for example.	Passes sequential test
DIT2	Open space, Beck and habitat area	2, 3a and 3b	Amenity open space.	Development is appropriate	N/A	Passes sequential test
FLE1	Sport and recreation. Main building (including a drinking establishment).	Part 2, part 3a (buildings) and part 3b (outdoor facilities).	Drinking establishment is more vulnerable. Outdoor sport and recreation and essential facilities is water compatible.	Development is appropriate/Exceptions Test required.	On site, yes if needed.	Passes sequential test
GTY1	Regeneration of brownfield site	Most flood zone 1, very small part	Will be more or less vulnerable	Development is appropriate/Exceptions	On site, yes if needed.	Passes sequential test

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	which is compatible with flood risk.	zone 2 and 3a (buildings) and 3b.	or water compatible as the policy states this.	Test required.		
HOR1	Car parking	1	Presume this is the same as building for storage – less vulnerable.	Development is appropriate	N/A.	Passes sequential test
HOR2	Open space	2, 3a and very small part 3b.	Water compatible.	Development is appropriate	N/A.	Passes sequential test
HOR3	Waterside plots including some buildings. General upkeep.	3a – buildings 3b – gardens/mooring plots	Buildings - more vulnerable (dwellings). Gardens – water compatible	Exception test required if new.	N/A	Passes sequential test as policy may address dwellings, but only relates to upkeep rather than new.
HOR4	Sailing club buildings.	3a and small part 3b.	Water compatible.	Development is appropriate	On site yes.	Passes sequential test
HOR5	Nature conservation.	3b	Water compatible.	Development is appropriate	N/A.	Passes sequential test
HOR6	Employment, boatyards and residential moorings.	3a and 3b	Employment – less vulnerable. Boatyards – water compatible. Residential moorings (see text at end).	Development is appropriate	Within the area allocated, yes. Less vulnerable (employment) uses will not be located in an area deemed to be FZ3b.	Passes sequential test
HOR7	Seeks minimal development.	3b	Water compatible.	Development is appropriate	N/A.	Passes sequential test

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
HOR8	Live work units.	Part in 3a.	Less vulnerable on lower floor. More vulnerable on upper floor.	Development is appropriate	N/A.	Passes sequential test
HOV1	Green Infrastructure.	Part in 3b.	Water compatible.	Development is appropriate	N/A.	Passes sequential test
HOV2	Car parking	Most in flood zone 1, small part flood zone 2 and 3a.	Presume this is the same as building for storage – less vulnerable.	Development is appropriate	N/A.	Passes sequential test
HOV3	Land on Station Road. Holiday accommodation, retail, food and drink, dwellings.	3a and 2 and 1.	Dwellings and drinking establishments: more vulnerable. Retail: less vulnerable. Restaurants: less vulnerable.	Exceptions test require for more vulnerable. Less vulnerable, development in appropriate.	On site, yes.	Passes sequential test. Note that only part of the land is in flood zone 3a. Also that the policy seeks to regenerate brownfield land which cannot move.
HOV4	BeWILDerwood Adventure Park	Some water bodies, but generally flood zone 1. Flood risk has changed over time. Previous FRAs have found parts of the area in Flood Zone 2 and 3. Much more is affected when	Office buildings: less vulnerable Eating establishments: presume cafes so less vulnerable Play areas: presume outdoor sport and recreation, so water	Development is appropriate	On site, yes if needed.	Passes sequential test

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
		considering Climate Change allowance. SFRA 2017 shows some is flood zone 2.	compatible.			
HOV5	Town Centre	Small part of wider town centre 2, 3a and 3b. Most of entire town centre is flood zone 1.	Shops in general are less vulnerable. Drinking establishments and hotels are more vulnerable. Housing is also more vulnerable.	Development is appropriate in 2 and 3a (depending on type of development).	Within the town centre, yes.	Passes sequential test. Note that the town centre is located where it is and the policy seeks to guide development and change in the town centre.
CHE1	Residential moorings at Greenway Marine	3b	Aware that the EA consider these as effectively marinas so water compatible. But also aware that people will live on these boats so there is a residential element of it which is more vulnerable.	The marina assessment indicates that development is appropriate and the residential element indicates that development should not be permitted.	No as it is people living on boats which then are on water.	The EA's interpretation passes the sequential test. Looking at the residential element in isolation, it does not.
LOD1	Residential moorings at Loddon Marina					To reflect that this policy relates to people living on boats on water, the supporting text of the policy emphasises the issue of mooring technique and also the need for Flood Response Plans. See end of this table.

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
NOR1	Mixed use scheme including dwellings.	Most 1. Very small parts 2. Small riverside strip 3b.	More vulnerable.	Exception test if in 3a. Development is appropriate in 2.	On site, yes (so can avoid areas of 3b).	Passes sequential test. Note that only part of the land is in flood zone 3a. Also that the policy seeks to regenerate brownfield land which cannot move.
NOR2	Walking and cycling route.	Part 3a. Most 2.	Water compatible as presume outdoor recreation.	Development is appropriate	N/A.	Passes sequential test
ORM1	Waterworks.	Majority 3a.	Less vulnerable and water compatible depending on precise operation.	Development is appropriate	On site, yes.	Passes sequential test
OUL1	Leisure plots.	Part 3a (structures) or 3b (no structures) and some 2.	Amenity open space so water compatible.	Development is appropriate	On site, yes.	Passes sequential test
OUL2	Mixed use scheme including dwellings and employment.	3a	Employment – less vulnerable. Dwellings – more vulnerable.	Employment – development is appropriate. Dwellings – exceptions test.	On site, yes.	Passes sequential test. Note that the policy seeks to regenerate brownfield land which cannot move.
OUL3	District Shopping Centre	3a	Shops in general are less vulnerable. Drinking	Exception test if in 3a if more vulnerable land use.	Within the district centre, yes.	Passes sequential test. Residential need to pass exceptions test. Note that the district centre is located

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			establishments and hotels are more vulnerable. Housing is also more vulnerable.			where it is and the policy seeks to guide development and change in the district centre.
POT1	Bridge Area	3a in the main, by the river and undeveloped 3b.	Shops in general are less vulnerable. Drinking establishments and hotels are more vulnerable. Housing is also more vulnerable. Boatyards (presume marinas) are water compatible.	Exception test if in 3a if more vulnerable land use. Other uses pass sequential test. Water compatible in 3b requires exception test.	Within the entire area, development could be located out of 3b. Other than that, no as the rest of the area is 3a.	Passes sequential test. But some development may need exceptions test. Note that the Bridge area is located where it is and the policy seeks to guide development and change around the Bridge area.
POT2	Waterside plots. Some with chalets, some for mooring and some undeveloped.	Undeveloped plots – 3b. With structures on – 3a.	Undeveloped, presume amenity open space so water compatible. With chalets – more vulnerable.	Undeveloped – appropriate. Chalets – exceptions test required.	No as the entire plot tends to be subject to flood risk.	Policy seeks mainly to maintain or improve the current situation. Does not seek significant change. So policy passes sequential test.
POT3	Green bank zones.	3b	Presume amenity open space so water compatible.	Development is appropriate	N/A.	Passes sequential test

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
SOL1	Moorings and mooring plots.	3b	For the mooring of boats so presume similar to boatyards and marinas so water compatible. Also part amenity open space.	Development is appropriate	N/A.	Passes sequential test
SOL2	Re-use building in a flood risk compatible way.	3a	Retail, office and restaurant – less vulnerable. Dwellings and drinking establishments – more vulnerable.	More vulnerable uses require an exceptions test. Less vulnerable – development is appropriate.	N/A.	Passes sequential test. Note that the policy seeks to regenerate brownfield land which cannot move.
STA1	Boatyard, employment use and residential moorings.	2 and 3a	Employment – less vulnerable. Boatyards – water compatible. Residential moorings (see text at end).	Development is appropriate	N/A.	Passes sequential test
STO1	Residential development	1	Residential dwellings are more vulnerable.	Development is appropriate	N/A.	Passes sequential test
TSA1	Open space	Small part 3b, most 2.	Water compatible as amenity open	Development is appropriate	N/A.	Passes sequential test

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
			space.			
TSA2	Thorpe Island	3a and 3b (where no development).	Generally, water compatible (moorings, basins and boatyards). Also some open space.	Development is appropriate. Water compatible in 3b needs exceptions test.	Potentially, on the island.	Passes sequential test. May need exceptions test.
TSA3	Boatyard and dockyard.	3a.	Docks and boatyards so water compatible.	Development is appropriate	N/A.	Passes sequential test
TSA4	Mooring plots and boatyards.	Undeveloped plots – 3b. With structures on – 3a.	Presume amenity open space so water compatible. Boatyard water compatible too.	Development is appropriate	N/A.	Passes sequential test
TSA5	Open space.	3b	Water compatible as amenity open space.	Development is appropriate	N/A.	Passes sequential test
THU1	Dwellings.	Part in 3a and some in 2.	More vulnerable.	Exception test required for part in 3a. development is appropriate for FZ 2 areas of site.	On site, yes.	Passes sequential test. Note that the policy seeks to regenerate brownfield land which cannot move.
WHI1	Country park.	Some 3a – where there are structures.	Amenity open space, recreation and sport and	Development is appropriate	N/A.	Passes sequential test

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
		Some 3b – where there is open space. Rest 1. Café and car park in flood zone 1.	changing facilities water compatible. Café less vulnerable. Car park – presume storage so less vulnerable.			
SSUT	Trinity Broads. Seeks quiet recreation.	3a and 3b.	Presume amenity open space so water compatible.	‘Development’ is appropriate.	N/A.	Passes sequential test
SSTHU	Upper Thurne. Seeks quiet recreation.	3a and 3b.	Presume amenity open space so water compatible.	‘Development’ is appropriate.	N/A.	Passes sequential test
SSCOAST	The Coast. Seeks quiet recreation and low key structures.	3a and 3b.	Presume amenity open space or structures associated with recreation so water compatible.	‘Development’ is appropriate.	N/A.	Passes sequential test
SSROADS	Main road network. Seeks to protect the network.	2, 3a and 3b.	Essential infrastructure.	Presume that the network is essential transport infrastructure. Exceptions test required if in 3a and	N/A	Policy relates to existing network which is there already. Passes sequential test

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
				3b.		
SSMILLS	Seeks to protect mills.	2, 3a and 3b.	Depends on the usage. Policy does not state what they should be used as but emphasises flood risk.	Depends on the usage.	Potentially for ancillary development, but the mills are there already.	Policy does not specify a land use. Mills are already in place. Flood risk emphasised as an issue.
SSPUBS	Seeks to protect waterside pubs.	3a and 3b	More vulnerable	Table relates mainly to new development, but policy relates to protecting what is already there. Any changes could be not appropriate or need an exceptions test.	Potentially for new development, although pubs are already there.	Note that pubs are already there and policy emphasises importance of flood risk. Passes sequential test.
Oulton Broad Development Boundary	Development boundaries in principle enable housing, employment and residential moorings but subject to other policies.	2, 3a and 3b.	Dwellings – more vulnerable Employment – less vulnerable Residential moorings – see text below.	Ranges from development being appropriate for dwelling proposals in flood zone to, to needing exceptions test for dwellings in 3a to not being appropriate in 3b.	Yes.	The Authority raises the importance of flood risk as well as other policies even though different types of development are theoretically acceptable in development boundaries. Whether the sequential test is passed or an exceptions test is needed will depend on the proposal and the location.
Horning Development Boundary						
Hoveton and Wroxham Development Boundary						
Thorpe St Andrew Development Boundary.						

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
SSSTATIONS	Stations protected in current use. Criteria for any proposals at these sites.	Wroxham/Hoveton -1 Berney Arms, Haddiscoe, Somerleyton, Buckenham – footprint of the existing buildings 3a and the wide site area may be 3b (indicative or modelled, depending on location).	Presume waiting areas and other land uses at the station could be the same as shops so less vulnerable.	Development is appropriate	N/A.	Passes sequential test
SSTRACKS	Three routes of former railways are safeguarded for future walking, cycling and horse riding routes.	Most in 2, some could be in 3a and 3b.	Presume outdoor sport and recreation so water compatible.	Development is appropriate	N/A.	Passes sequential test
SSLGS	Local Green Spaces - protected	FZ1,2,3a and 3b depending on individual sites	Water compatible.	Development is appropriate. If in 3b, any changes will need to address exceptions test.	This policy protects local green space that is already in place.	Passes sequential test. If in 3b may need exceptions test.
SSSTAITHES	Protects staithes and allows enhancements.	FZ1,2,3a and 3b depending on individual sites.	Water compatible.	Development is appropriate	N/A.	Passes sequential test
SSA47	Provides a	Current road, 3a.	Could be classed	Exception test	If dualling for	Exception test required.

Policy and location	Brief description	Flood zone	Vulnerability class	Compatibility	Can development be allocated in lowest risk sites?	Conclusions
	framework for changes to guide changes to the A47.	Changes could occur on 3b.	as essential transport infrastructure.	required.	example, no as the A47 is where it is.	
DM6	Allotments, sports fields, play areas – protected.	FZ1,2,3a and 3b depending on individual sites	Water compatible.	Development is appropriate. If in 3b, any changes will need to address exceptions test.	This policy protects open space that is already in place.	Passes sequential test. If in 3b may need exceptions test.

Residential moorings and flood risk

The Environment Agency consider residential moorings in the same way as they do marinas and boatyards and these are classed as **water compatible** by the NPPG. However, when there is a residential use of the moorings with people living on the boats that are moored as their primary residence; residential dwellings rate as **more vulnerable** by the NPPG. In reality it could be argued that the vulnerability rating of residential moorings is somewhere between water compatible and more vulnerable. That is to say that the boats are designed to float and will continue to float when there is a flood – they will not be flooded like buildings on land in an area of flood risk. That being said, there are some important considerations for boats moored at residential moorings at times of flood:

- If for example the vessel is moored too tight, it may not rise with the flood waters in a safe way and the mooring technique could cause the boat to list to one side causing safety concerns to those in the boat and resulting in damaged belongings.
- If moored too loosely the boat could be ‘hung up’ whereby it has floated onto the edge or landside of the quay heading and when water resides, could tip over and sink.
- In extreme cases, the vessel could be cast adrift and at times of flood it is not always clear where the main river channel is. Furthermore, unless under control, the vessel could collide with other vessels or objects damaging itself and the object or vessel it hits.
- The access to the vessel may be disrupted so if the occupier is on board at the time of flood, how will they escape or will they have enough provisions to be able to sit out the flood? Which is the safest option?

As such, it is proposed that the policies relating to residential moorings will have the following as part of the reasoned justification.

Reasoned Justification

Proposals for residential moorings need to ensure they have adequately considered the following:

1. The technique/method of mooring the vessel. By being too tight, the vessel could list and by being too loose the vessel could float onto the landside of the quay heading or be cast adrift at times of flooding. Both scenarios have safety concerns relating to occupiers, possessions and other objects or vessels that could be hit by a loose boat.
2. A Flood Response Plan needs to be produced. Whilst it is acknowledged that residential boats will float, the access to the boat could be disrupted at times of flood with the occupier effectively stuck on board the boat. What will the occupier do at times of flood? Will they have another way of escaping from the boat or have supplies to help them sit out the flood? Which is the safest option? The Flood Response Plan will need to address these concerns.
3. Finally, how will the boat moored at the residential mooring itself be monitored at times of flood so it does not cause damage to other vessels and also prevent damage to the belongings on board (and indeed the boat itself).