

**Table 1: Flood zones**

*(Note: These flood zones refer to the probability of river and sea flooding, ignoring the presence of defences)*

**Zone 1 - low probability**

**Definition**

This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%).

**Appropriate uses**

All uses of land are appropriate in this zone.

**Flood risk assessment requirements**

For development proposals on sites comprising one hectare or above the vulnerability to flooding from other sources as well as from river and sea flooding, and the potential to increase flood risk elsewhere through the addition of hard surfaces and the effect of the new development on surface water run-off, should be incorporated in a flood risk assessment. This need only be brief unless the factors above or other local considerations require particular attention.

**Policy aims**

In this zone, developers and local authorities should seek opportunities to reduce the overall level of flood risk in the area and beyond through the layout and form of the development, and the appropriate application of sustainable drainage systems<sup>1</sup>.

**Zone 2 - medium probability**

**Definition**

This zone comprises land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year.

**Appropriate uses**

Essential infrastructure and the water-compatible, less vulnerable and more vulnerable uses, as set out in table 2, are appropriate in this zone. The highly vulnerable uses are only appropriate in this zone if the Exception Test is passed.

**Flood risk assessment requirements**

All development proposals in this zone should be accompanied by a flood risk assessment.

**Policy aims**

In this zone, developers and local authorities should seek opportunities to reduce the overall level of flood risk in the area through the layout and form of the development, and the appropriate application of sustainable drainage systems.

**Zone 3a - high probability**

**Definition**

This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.

**Appropriate uses**

The water-compatible and less vulnerable uses of land (table 2) are appropriate in this zone. The highly vulnerable uses should not be permitted in this zone.

The more vulnerable uses and essential infrastructure should only be permitted in this zone if the Exception Test is passed. Essential infrastructure permitted in this zone should be designed and constructed to remain operational and safe for users in times of flood.

<sup>1</sup> Sustainable drainage systems cover the whole range of sustainable approaches to surface drainage management. They are designed to control surface water run off close to where it falls and mimic natural drainage as closely as possible.

**Flood risk assessment requirements**

All development proposals in this zone should be accompanied by a flood risk assessment.

**Policy aims**

In this zone, developers and local authorities should seek opportunities to:

- reduce the overall level of flood risk in the area through the layout and form of the development and the appropriate application of sustainable drainage systems;
- relocate existing development to land in zones with a lower probability of flooding; and
- create space for flooding to occur by restoring functional floodplain and flood flow pathways and by identifying, allocating and safeguarding open space for flood storage.

**Zone 3b - the functional floodplain****Definition**

This zone comprises land where water has to flow or be stored in times of flood.

Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. But land which would flood with an annual probability of 1 in 20 (5%) or greater in any year, or is designed to flood in an extreme (0.1%) flood, should provide a starting point for consideration and discussions to identify the functional floodplain.

**Appropriate uses**

Only the water-compatible uses and the essential infrastructure listed in table 2 that has to be there should be permitted in this zone. It should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage;
- not impede water flows; and
- not increase flood risk elsewhere.

Essential infrastructure in this zone should pass the Exception Test.

**Flood risk assessment requirements**

All development proposals in this zone should be accompanied by a flood risk assessment.

**Policy aims**

In this zone, developers and local authorities should seek opportunities to:

- reduce the overall level of flood risk in the area through the layout and form of the development and the appropriate application of sustainable drainage systems;
- relocate existing development to land with a lower probability of flooding.

**Table 2: Flood risk vulnerability classification**

<p><b>Essential infrastructure</b></p> <ul style="list-style-type: none"><li>• Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk.</li><li>• Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood.</li><li>• Wind turbines.</li></ul>
<p><b>Highly vulnerable</b></p> <ul style="list-style-type: none"><li>• Police stations, ambulance stations and fire stations and command centres and telecommunications installations required to be operational during flooding.</li><li>• Emergency dispersal points.</li><li>• Basement dwellings.</li><li>• Caravans, mobile homes and park homes intended for permanent residential use<sup>2</sup>.</li><li>• Installations requiring hazardous substances consent<sup>3</sup>. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as “essential infrastructure”<sup>4</sup>).</li></ul>
<p><b>More vulnerable</b></p> <ul style="list-style-type: none"><li>• Hospitals.</li><li>• Residential institutions such as residential care homes, children’s homes, social services homes, prisons and hostels.</li><li>• Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels.</li><li>• Non-residential uses for health services, nurseries and educational establishments.</li><li>• Landfill and sites used for waste management facilities for hazardous waste<sup>5</sup>.</li><li>• Sites used for holiday or short-let caravans and camping, <i>subject to a specific warning and evacuation plan</i>.<sup>6</sup></li></ul>
<p><b>Less vulnerable</b></p> <ul style="list-style-type: none"><li>• Police, ambulance and fire stations which are <i>not</i> required to be operational during flooding.</li><li>• Buildings used for shops, financial, professional and other services,</li><li>• restaurants and cafes, hot food takeaways, offices, general industry, storage and distribution, non-residential institutions not included in “more vulnerable”, and assembly and leisure.</li><li>• • Land and buildings used for agriculture and forestry.</li><li>• • Waste treatment (except landfill and hazardous waste facilities).</li><li>• • Minerals working and processing (except for sand and gravel working).</li><li>• • Water treatment works which do not need to remain operational during times of flood.</li><li>• • Sewage treatment works (if adequate measures to control pollution and manage sewage during flooding events are in place).</li></ul>

<sup>2</sup> For any proposal involving a change of use of land to a caravan, camping or chalet site, or to a mobile home site or park home site, the Sequential and Exception Tests should be applied.

<sup>3</sup> See Circular 04/00: *Planning controls for hazardous substances* (paragraph 18) at: [www.communities.gov.uk/publications/planningandbuilding/circularplanningcontrols](http://www.communities.gov.uk/publications/planningandbuilding/circularplanningcontrols)

<sup>4</sup> In considering any development proposal for such an installation, local planning authorities should have regard to planning policy on pollution in the National Planning Policy Framework

<sup>5</sup> For definition, see *Planning for Sustainable Waste Management: Companion Guide to Planning Policy Statement 10* at [www.communities.gov.uk/publications/planningandbuilding/planningsustainable](http://www.communities.gov.uk/publications/planningandbuilding/planningsustainable)

<sup>6</sup> See footnote 3

### **Water-compatible development**

- Flood control infrastructure.
- Water transmission infrastructure and pumping stations.
- Sewage transmission infrastructure and pumping stations.
- Sand and gravel working.
- Docks, marinas and wharves.
- Navigation facilities.
- Ministry of Defence defence installations.
- Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location.
- Water-based recreation (excluding sleeping accommodation).
- Lifeguard and coastguard stations.
- Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.
- Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

#### **Notes to table 2:**

a. This classification is based partly on Department for Environment, Food and Rural Affairs and Environment Agency research on *Flood Risks to People (FD2321/TR2)*<sup>7</sup> and also on the need of some uses to keep functioning during flooding.

b. Buildings that combine a mixture of uses should be placed into the higher of the relevant classes of flood risk sensitivity. Developments that allow uses to be distributed over the site may fall within several classes of flood risk sensitivity.

c. The impact of a flood on the particular uses identified within this flood risk vulnerability classification will vary within each vulnerability class. Therefore, the flood risk management infrastructure and other risk mitigation measures needed to ensure the development is safe may differ between uses within a particular vulnerability classification.

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<sup>7</sup> See website for further details. [www.defra.gov.uk/science/Project\\_Data/DocumentLibrary/FD2320\\_3364\\_TRP.pdf](http://www.defra.gov.uk/science/Project_Data/DocumentLibrary/FD2320_3364_TRP.pdf)

**Table 3: Flood risk vulnerability and flood zone ‘compatibility’**

Flood risk vulnerability classification (see table 2)	Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood zones (see table 1)	Zone 1	✓	✓	✓	✓
	Zone 2	✓	✓	Exception test required	✓
	Zone 3a	Exception test required	✓	x	Exception test required
	Zone 3b functional floodplain	Exception test required	✓	x	x

**Key:**

- ✓ Development is appropriate.
- x Development should not be permitted.

**Notes to table 3:**

This table does not show:

- a. the application of the Sequential Test which guides development to Flood Zone 1 first, then Zone 2, and then Zone 3;
- b. flood risk assessment requirements; or
- c. the policy aims for each flood zone.