

FLOOD RISK ASSESSMENT

New Dwelling on Land Adjacent to 8 Gannet Road, Weston-super-Mare

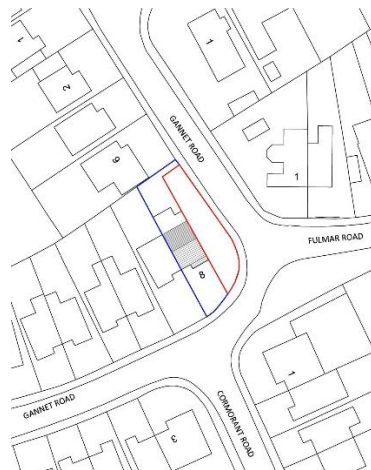
Flood Risk Assessment

The Proposal

It is proposed to construct a two-bedroom dwelling attached to the gable wall of 8 Gannet Road. Both the site and no 8 Gannet Road are in the same ownership. The site falls within the Defended Flood Zone 3 (as defined by the EA)

The Site

The site location is indicated on the location plans below. This location is in Worle, which is an area approximately in the centre of the boundaries of Weston-super-Mare. This area benefits from flood defences.



The EA and Government Flood Map only takes into account fluvial and tidal flooding. Other potential flood risks are as follows:

- Overland and Surface Water – located within a dense urban area of Weston-super-Mare, it is considered that overland flows are intercepted and diverted into existing drainage features. However, the site is deemed to have a very low risk of flooding – which is anticipated to be a maximum of 300mm and limited to the highway.
- North Somerset Council's SFRA stated that the predominant underlying ground is low permeability clay and, therefore, unlikely to create a flood risk from ground water.
- The development will result in an increase in roof water which can be managed/mitigated by the introduction of water butts and the use of permeable landscape surfaces. Consequently, this is not considered to be an additional risk.

Fluvial Flooding

The nearest watercourse for fluvial flooding information has been considered and the flood levels for the site are:

- 1 in 100 year level : 5.28m AOD
- 1 in 100 year with climate change (20%) : 5.29 AOD
- 1 in 1000 year: 5.30 AOD

Although the levels do not provides for the current guidance of 40% for climate change, if applied to this site, the change would not be greater than the 1000 year level.

The ground level adjacent to the existing dwelling is approximately 5.6m AOD. The propose floor level will be the same as that of the existing dwelling, approximately 300mm above ground level – resulting a floor level of 5.9m . The proposal will not be at risk from fluvial flooding.

Tidal Flooding

The highest recorded tidal level for Weston-super-Mare dates back to 1981 which is 8.10m AOD. This is the tidal flood level applicable to this site.

If allowance is made for climate change, the sea level rise for residential development in the South West is 1.21m over 100 years. This results in a tidal flood level of 9.31m OAD.

However, Weston-super-Mare is defended from tidal flooding with recent upgrades to the sea wall in the north of Weston Bay, providing a defence standard of 1 in 200 years. The flood defences are designed to a high level of 9.55m OAD. Due to the density of and increase in the population of Weston-super-Mare, it is anticipated that the flood defences will be maintained for the lifetime of the proposed development.

Mitigation

The following mitigation methods will be employed for this development, in accordance with best practice:

- Construction methods and techniques to be flood resilient wherever feasible/possible. http://www.planningportal.gov.uk/uploads/br/flood_performance.pdf
- The site will be signed up to the Flood Warning System for the area to ensure that occupants have sufficient time to prepare, should flooding occur. This will be in accordance with the government/EA standing advice.

Access and Egress

As flooding is, generally, predictable in advance, there will be sufficient time for residents to evacuate prior to a flood alert. The main access and egress is via the existing road network in the immediate vicinity of the site. The roads should be protected from tidal flooding by the flood defences, for the lifetime of the development.

It is likely that there will be a period of around 3.5 hours when the site is at risk from an extreme flooding event (with an allowance for climate change undefended at peak tide) , due to the nature of tidal flooding.

Conclusion

It has been established by using information from the EA and Government website that the proposed development, at 8 Gannet Road, is free from fluvial flooding and is protected from tidal flooding. As it is anticipated that the current flood defences will be maintained and/or improved during the development's lifetime, to protect the residents of the town, there is little risk of flooding.

The site has been subjected to both the Sequential Test and Exception Test (see below) and has passed both.

The conclusion reached following the above study of the site is that the development is appropriate on this site when measured against the guidance in the NPPF and PPG.

Sequential and Exception Tests

Sequential Test

The proposal is to construct a two-bedroom, two-storey dwelling attached to the East elevation of 8 Gannet Road.

The Government Flood Map states that the site falls within the Defended Flood Zone 3. Consequently, a Sequential Test is required.

Paragraph 101 of the NPPF states that: *“The aim of the sequential test is to steer new development to areas with the lowest probability of flooding. Development land should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in an area with a lower probability of flooding. The Strategic flood Risk Assessment will provide the basis for this test. A sequential approach should be used in areas known to be at risk from any sort of flooding”*

The Weston-super-Mare settlement boundary would appear to be the appropriate area to search in order to try to identify an alternative site, for this development.

Utilising the North Somerset Council’s interactive mapping and the draft strategic land availability assessment 2022, the following are potential alternative sites:

Site Ref	Site Name	Area (Ha)	Reasons for discounting
HE207	Elm Grove Nurseries	6.8	Too large and already developed
HE2027	Greenways Farm, Lyefield Road	24.66	Too large
HE20354	South of Manor Farm, Lyefield Road	2.57	Too large
HE20471	Rose Tree Farm, Lwr Norton Lane/Lyefield Rd	3.65	Too large and beyond the settlement boundary
HE20495	Land to west of Anson Road	3.95	Too large and beyond settlement boundary
HE 201030	Leighton Crescent	2.69	Too large
HE2010113	Land North of Old Mixon Road	1.54	Too large
HE202017	Grange Farm Hutton	4.4	Too large

There are other sites to the west of the M% but none of these would be suitable due to their size and/or location within the flood zones.

It should be noted that the application site for a single dwelling has an area of around 0.016 ha and, therefore, sites of an area greater than 0.1 ha has been considered too large for this development.

A search on Rightmove, for sites for single dwellings has resulted in the following 3 small sites, all of which have been considered:

- Land for Sale adjacent 65 Mead Vale. This site falls within RA Flood Zone 3. It is in a similar situation as the application site and, therefore, is not considered a better site.
- Land for sale, Station Road St Georges. Planning consent has been granted for 2 dwellings on this site and, therefore it is considered to large. It is also in SFLRA Flood Zone 3a
- Building plot for sale, Rear of Trewartha Park – a garage block being marketed as a potential conversion into a dwelling. Two applications for a new dwelling, in this location have been refused and there is no reason that a conversion into a new dwelling will receive consent.

Other searches on similar sites did not result in identifying any other available sites to consider.

In conclusion, by carrying out a detailed search of the area and referring to North Somerset’s own documentation, there are no other suitable alternative sites in the vicinity that would be appropriate for the proposed development in a lower risk Flood Zone.

When measured against the criteria set out in paragraph 102 of the NPPF, it can be deduce that the application site passes the Sequential Test and should be subject to the Exception Test.

Exception Test

Two aspects of the development will be examined under the Exception Test.

- The NPPF advises that “the site must provide wider suitability benefits”. These can be summarised as follows:
 - The proposed development will provide additional housing capacity to the area.
 - There are local amenities and facilities within easy reach.
 - The site is a brownfield site within the curtilage of an existing dwelling and, therefore, considered to be more sustainable than building on a greenfield site.

As North Somerset Council is intending to increase the housing stock by more than 20,000 across the county, by 2038, with Weston-super-Mare providing the larger share of this figure, this site will assist in reaching the housing target. The applicant has land available and is willing to provide suitable residential unit in a well-established, sustainable, residential area, A very similar site within a few approximately 60 metres of this site was recently granted permission for a chalet-style dwelling. It would be inconsistent for this development to be refused.

- The NPPF advises that a Flood Risk Assessment must prove that the site is safe for the lifetime of the building. How this site meets the criteria can be summarised as follows:
 - The site is defended from tidal flooding and not at risk of fluvial flooding resulting in the flood risk being low.
 - The site is considered to be defended for its lifetime as the defences, which protect large residential areas throughout Weston-supr-Mare, will be maintained and improved over the next 200 years
 - Mitigation measures will be incorporated into the build of the dwelling as detailed in the site-specific Flood Risk Assessment.
 - Porous materials will be utilised in the construction of the external spaces, and water butts attached to rain water pipes, to ensure surface water drainage does not increase the risk of flooding elsewhere.

Summary

The Sequential Test has been applied and, following consideration of other sites within the boundaries of Weston-super-Mare, there are no other reasonably available, and suitable, sites that would result in a decrease in the flood risk to the site. Consequently, the application site is appropriately located.

The Exception Test shows that the proposal will add to the housing stock in a sustainable location. This will assist on North Somerset Council achieving its targets. As the proposal is the development of a brown field site, and not a green field site, the location is appropriate. A suitable Flood Risk Assessment demonstrates that the flood risk can be addressed and managed.

It is deemed that the site passes both the Sequential and Exception Tests. The proposed development is, therefore, appropriate in its location.

The proposal also follows a similar development, recently approved by the council, within 60m of the site.