

FLOOD RISK ASSESSMENT

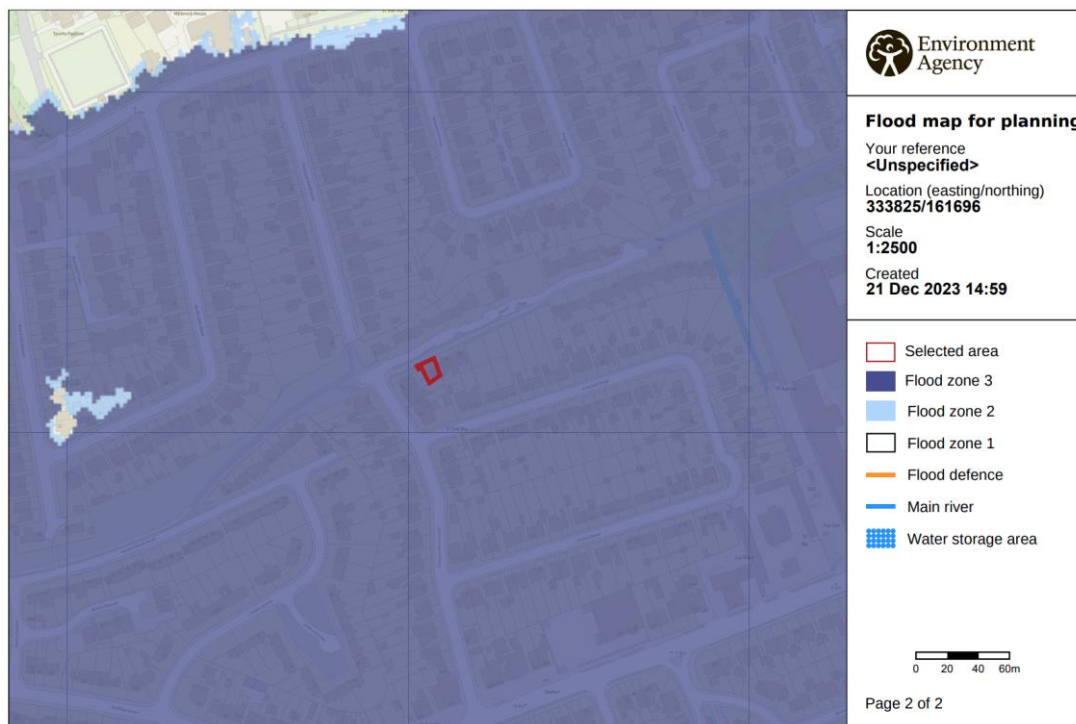
16A Chesham Road South, Weston-super-Mare, BS22 8LP

Contents

Introduction	1
Site and Context.....	2
Proposal	2
Flood Risk Sequential Test/Flood Risk Exception Test.....	2
Flood Risk Exception Test.....	2
Flood Risk and Resultant Measures	4
Flood Warning and Evacuation	5
Tidal Flood Depths and Levels for the Site.....	5
Conclusion.....	6

Introduction

This Flood Risk Assessment has been produced on behalf of Mr. Lloyd Griffiths and should be read in conjunction with this application and drawings numbers PO600-001 (proposed site plan), PO600-002 (proposed floor plans), PO600-003 (proposed elevations) PO600-004 (existing site plan), PO600-005 (location plan), PO600-006 (existing garage floor plans and elevations)



FLOOD RISK ASSESSMENT

16A Chesham Road South, Weston-super-Mare, BS22 8LP

Site and Context

Proposal

Demolition of existing double garage and erection of 1no. dwelling with the creation of access in the land to the side and rear of 16A Chesham Road South, Weston-super-Mare, BS22 8LP.

Flood Risk Sequential Test/Flood Risk Exception Test

The position of the proposed property is sited within both SFRA tidal and fluvial flood zones 3 – though in an area benefiting from flood defences – as identified by the Environment Agency map.

The Planning Portal offers a description of the interpretation of ‘Previously Developed’ or ‘Brownfield’ land: which is or was occupied by a permanent structure, including the curtilage of the developed land and any associated fixed surface infrastructure. There is an existing property and a side/ear garden area on the site.

The proposal is therefore technically previously developed residential land. The land is also effectively a small ‘Windfall’ site that was not previously identified by North Somerset as available for re-development and is bringing an under used resource into a positive use.

To apply the Sequential Test questions for this development:

- 1) It can be highlighted from the North Somerset Council core strategy that new development should be focused in strategic areas, one such being the re-use of previously developed land and existing buildings in preference to the loss of green field sites. The site falls within the settlement boundary for Weston-Super-Mare where development is deemed acceptable in principle and is in accordance with policy CS28 of the Core Strategy. By means of this policy it should be taken that any development in such areas would contribute to the North Somerset Core strategy. The proposed windfall development is considered to be within a sustainable location by means of the above and is within public transport routes and set amongst other local amenities and services designed and created specifically to service these areas by North Somerset Council.
- 2) The National Planning Policy Framework (paragraphs 161) ascertains that a new dwelling house ‘more vulnerable’ development (such as this proposal) within flood zones 2 and 3 and that an Exception Test is required.

Flood Risk Exception Test

There are 2 points under the National Planning Policy Framework (NPPF) that require passing for a development site to be considered permitted:

- 1) Demonstrate that the site provides wider sustainability benefits that outweigh the flood risk.**

As noted in the above Sequential Test, new Housing Development should be targeted specifically into re-use of previously developed land and existing buildings. One of these areas highlighted in North

FLOOD RISK ASSESSMENT

16A Chesham Road South, Weston-super-Mare, BS22 8LP

Somerset Core Strategy CS1 is specifically the existing built environment areas within the settlement boundaries.

By means of these policies it should be taken that any development in the existing development zone contributes to the North Somerset Core strategy – as the proposed development is considered to be:

- within a sustainable location by means of the above land allocation statement.
- the properties by their size and nature will become a valued starter home market dwelling.
- both of the properties have space for home working to assist in the delivery of home working and not adding to out-of-town commuting.
- is within the North Somerset settlement boundary and within the town of Weston-Super-Mare.
- will be built to the current Building Regulations and if necessary, offer a minimum of 10% renewable energy standards.
- the storm water drainage and run off provision is over and above that currently provided on the site.
- within existing public transport routes specifically to service the location by North Somerset Council strategic plan and assist in reducing carbon footprints.
- within easy distance of local amenities, services and employment opportunities created specifically to service the area.
- the site is currently vacant, and the proposal will significantly enhance the visual appearance of the locality and be in keeping with the design, materials, detailing and finishing.
- the site has been acquired by the applicant and is available and deliverable.

2) Demonstrate via a site-specific FRA that the development will be safe for its lifetime and will not increase flood risk elsewhere

The position of the proposed redevelopment is sited within either a flood zone 2 or 3 – as identified by the North Somerset Strategic Flood Risk Assessment. The greatest flood risk to this site is from tidal, though there have in the last few years been a significant enhancement to the coast sea defences in Weston-Super-Mare, with the site being within an area benefitting from these works, thus enabling effective defences until 2126 and to provide protection up to and including the 0.5% Annual Exceedance Probability (AEP) of tidal flood event.

The Strategic Flood Risk Assessment (SFRA) for North Somerset considers the design life for a residential development such as this proposal is 100 years. The SFRA also notes that the standard of protection from the new tidal defences is 200 years – which is in excess of the development lifespan.

Flood risk from the proposed development, due to its design and unchanged rainwater measures, should not increase the flood risk in the nearby area, but actively reduce it by the lifting of concrete hardstanding (front of property) and inclusion of permeating gravel.

The ground floor flat will have a place of safe refuge up the stairs in the communal hallway as per the plan drawings

Therefore, it is proposed that the above prove satisfaction to the required Exception Test.

FLOOD RISK ASSESSMENT

16A Chesham Road South, Weston-super-Mare, BS22 8LP

The following is a list of the collective Estate Agent internet searches – to determine whether there are any reasonably available alternative sites to develop within a lower flood risk area such as flood zone 1. This search was carried out November 2023.

www.zoopla.co.uk, www.rightmove.co.uk, www.purplebricks.co.uk, www.onthemarket.co.uk.

Note that the land/building plots search was based on the following interpretation of a ‘fair and reasonable alternative’ criteria:

- Search area to be in the location of Weston-Super-Mare only, and not to any outlying settlements – to a 5 mile radius of the site postcode.
- Alternative developable properties only applicable if they have the capacity to deliver the equivalent requirements of this proposed development.

The results are as follows:

- 49a Stafford Road, BS23 3BS Weston-Super-Mare, PLOT for single dwelling, £70,000, Flood Zone 3A
- Ashcombe Road, Weston-Super-Mare Garage, PLOT for sale, £100,000, Flood Zone 3A

In conclusion: there are no alternative sites within the search area that can accommodate the proposal and that are located in an area of lower flood risk.

Flood Risk and Resultant Measures

According to the environmental agency flood evaluation tool, and as stated above, the risk of flooding in this postcode is considered high, however, the greatest flood risk is tidal. In recent years there has been significant investment and enhancement of the coast sea defences in Weston-Super-Mare with the application site benefiting from these works.

The proposed ground floor level will be set no lower than the existing ground floor level (4.78m AOD¹) (finished first floor level, 7.38m AOD), and would benefit from the following measures:




- waterproofed plaster.
 - removable water barriers to doors and air bricks.
 - electrical sockets and fuse boxes set above EA predicted flood level.
 - non-return valves to drains.
 - ground floor external walls to be of facing brick cavity wall construction.
 - water pipework insulation replaced with flood resistant closed cell material below expected flood level.
 - external surfaces to be constructed with water permeable material joints for soakaway.
 - all surface water drainage to be taken to existing system.
-
-

FLOOD RISK ASSESSMENT

16A Chesham Road South, Weston-super-Mare, BS22 8LP

Flood Warning and Evacuation

It is recommended that the site should sign up for the Environment Agency’s flood warning system for the area. This will ensure prior warnings of a possible flood event and allow adequate time to prepare for any arising situation. Environmental Agency advice is given below:

		
FLOOD ALERT	FLOOD WARNING	SEVERE FLOOD WARNING
<p>What it means Flooding is possible. Be prepared.</p>	<p>What it means Flooding is expected. Immediate action required</p>	<p>What it means Severe flooding. Danger to life.</p>
<p>What to do</p> <ul style="list-style-type: none"> • Be prepared to act on your flood plan. • Prepare a flood kit of essential items. • Monitor local water levels on our website. 	<p>What to do</p> <ul style="list-style-type: none"> • Protect yourself, your family and help others. • Move family, pets and valuables to a safe place. • Keep a flood kit ready. • Turn off gas, electricity and water supplies if safe to do so. • Put flood protection equipment in place. 	<p>What to do</p> <ul style="list-style-type: none"> • Stay in a safe place with a means of escape. • Be ready should you need to evacuate from your home. • Co-operate with the emergency services. • Call 999 if you are in immediate danger.

Tidal Flood Depths and Levels for the Site

The EA tidal flood levels do not include an allowance for climate change. An allowance for sea level rise due to climate change over the lifetime of the development should be considered. Information on climate change allowances has been outlined by the Environment Agency within the ‘Flood risk assessments: climate change allowances’ guidance shown online. According to Table 3 of this document it is estimated that the sea level rise for a residential property in South-West England is 1.21m over 100 years. Therefore, the tidal flood level with an allowance for climate change is 7.25m AOD.

The site is currently defended from tidal flooding and is only at risk of flooding when considering the undefended scenario.

Defended

AEP	Maximum depth (in metres)	Maximum level (mAOD)
0.5% (1 in 200)	0.00	0.00

Undefended

AEP	Maximum depth (in metres)	Maximum level (mAoD)
0.5% (1 in 200)	0.45	6.04
0.1% (1 in 1000)	0.79	6.38

FLOOD RISK ASSESSMENT

16A Chesham Road South, Weston-super-Mare, BS22 8LP

Weston-Super-Mare is defended from tidal flooding. The Sea Wall in the North of the Bay was upgraded in 2010 to provide a defence standard of a 1 in 200 year return period. The minimum design level of the Weston-Super-Mare sea wall is 9.05m AOD but has been designed to be raised to a level of 9.55m AOD.

It is anticipated that defences will be maintained for the lifetime of the development due to the high population density of Weston-Super-Mare which is being protected by the current defences.

Conclusion

By using information from the Environmental Agency, this investigation has shown that the proposed development at 16A, Chesham Road South, Weston-super-Mare, BS22 8LP, is free from all considered forms of flooding and is currently protected from tidal flooding. It is anticipated that the site would be protected from tidal flooding for the lifetime of the development as the current defences protect the entire area and population of Weston-Super-Mare. The site is at residual risk of tidal flooding if defences were to fail.

Despite the site being protected from tidal flooding, mitigation measures have been recommended which include the use of flood resilient measures where appropriate. The proposed scheme allows for a safe refuge area at first floor level for the use of all occupants.

The main access and egress route for the site is via Chesham Road South. It is anticipated that inhabitants would receive sufficient flood warning in order to undertake evacuation prior to a tidal flood event by following mitigation measures of being connected to the Environment Agency's flood warning system for the area. If the residents have not evacuated, then it is advised to stay in the refuge area on the first floor of the property until flooding at the access and egress subsides.

The development is located in Flood Zone 3 and therefore a Sequential and Exception Tests applies, which have been shown above.

Based on the findings in this document, with regard to the criteria outlined in both the guidance outline by NPPF and planning policy guidelines, the development is deemed appropriate on this site from a flood risk perspective.
