

Flood Risk Assessment

To accompany a planning at
20 Denmark Road, Twickenham,
TW2 5EN

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1 Executive Summary

- A This is minor development;
- B There are no identified flood risks to the site;
- C There is no extension of built footprint;
- D The development does not impact on flood risk elsewhere;
- H The proposed minor development to an existing dwelling is considered acceptable.

2 Introduction

2.1 Site location

The project is at 20 Denmark Road, Twickenham, TW2 5EN (see Figure 1).



Figure 1: Site location plan, as indicated with North topmost. (source: Open Streetmap)

2.2 Development description

The proposal is for minor development.

The proposed layouts and proposed sections are as provided under separate cover.

2.3 Site geology

Geological mapping data from within the vicinity indicate Taplow Gravel Member - Sand and gravel., however this would require confirmation on site. If available on site, the superficial deposits will offer medium - good permeability. Infiltration SuDS may therefore be viable (subject to site testing).

3 Policies

In preparation for this Flood Risk Assessment (FRA), National Planning Policy Framework^[2] and British Standards on Assessing and Managing Flood Risk^[1] were reviewed, and

their related policies are, where applicable, referred to in this report.

The Environment Agency has been consulted in order to establish the flood zone of the proposed site.

In addition, planning policies from the Local Authority were also reviewed including its Strategic Flood Risk Assessment.

Some of key policies are summarised as below.

3.1 Standing Advice

Generally the following applies: “Apart from habitable basements, domestic extensions within the curtilage of the dwelling (see GDPO definition of, minor development) and non-domestic extensions with a footprint of less than 250 m² will not require a detailed FRA. These applications should demonstrate that the risk of flooding from all sources has been assessed. The main sources of flooding are likely to be tidal, surface water and sewer flooding.”

3.2 Environment Agency Guidance on Standing Advice

- You need to provide a plan showing the finished floor levels and the estimated flood levels.
- Make sure that floor levels are either no lower than existing floor levels or 300 millimetres (mm) above the estimated flood level. If your floor levels aren't going to be 300mm above existing flood levels, you need to check with your local planning authority if you also need to take flood resistance and resilience measures.
- State in your assessment all levels in relation to Ordnance Datum (the height above average sea level). You may be able to get this information from the Ordnance Survey. If not, you'll need to get a land survey carried out by a qualified surveyor.
- Your plans need to show how you've made efforts to ensure the development won't be flooded by surface water runoff, eg. by diverting surface water away from the property or by using flood gates.
- If your minor extension is in an area with increased flood risk as a result of multiple minor extensions in the area, you need to include an assessment of the off-site flood risk. Check with your local planning authority if this applies to your development.

- Make sure your flood resistance and resilience plans are in line with the guidance on improving the flood performance of new buildings.

For all relevant vulnerable developments (ie more vulnerable, less vulnerable and water compatible), you must follow the advice for:

- surface water management
- access and evacuation
- floor levels
- extra flood resistance and resilience measures

4 Flood risk analysis

4.1 Sources of potential flooding

Flood risk from various sources to the site are analysed in this section.

4.1.1 Flood risk from sea and rivers

Flooding can occur from the sea due to a particularly high tide or surge, or combination of both.

The site is not at risk from tidal flooding.

Flooding can also take place from flows that are not contained within the channel due to high levels of rainfall in the catchment.

With reference to the Environment Agency Flood Map, Figure 2, the site lies in Flood Zone 1. Hence the site is not at risk from fluvial flooding.



Figure 2: Zone 1 Flood Mapping from the EA online data

4.1.2 Flood risk from groundwater

Groundwater flooding occurs when water levels in the ground rise above surface levels. It is most common in low-lying areas underlain by permeable rock (aquifers), usually due to extended periods of wet weather. The site's geology is classified as having a High susceptibility to groundwater flooding ($\geq 50\% < 75\%$).

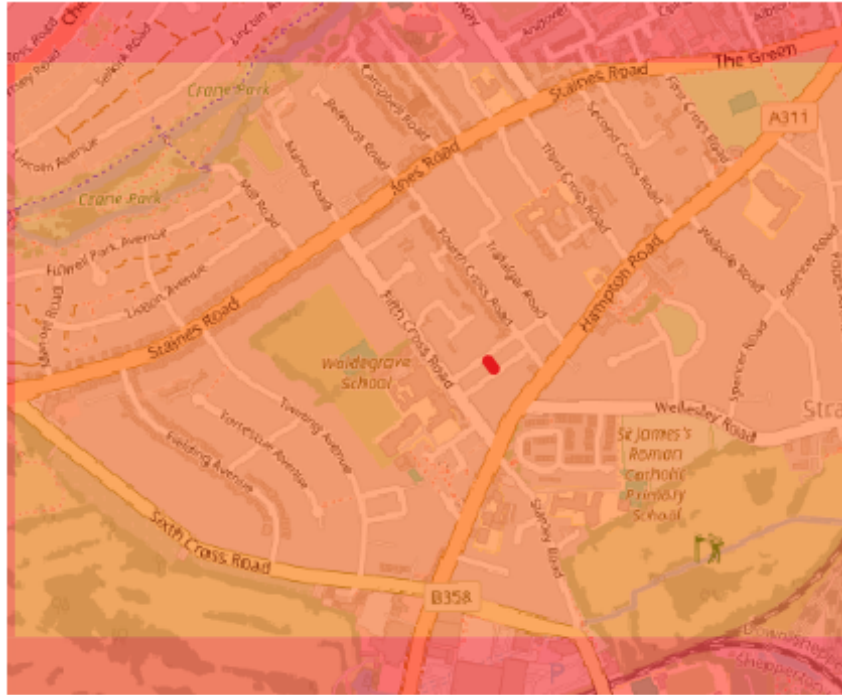


Figure 3: Susceptibility to ground water flooding. The site falls within an area at Low risk

Since the proposed development does not involve any basement elements, the impact of groundwater flooding on the proposed site will be minimal.

Hence, the risk of groundwater flooding on the proposed site can be considered to be negligible.

4.1.3 Flood risk from sewer and highway drains

Flooding occurs when combined, foul or surface water sewers and highway drains are temporarily over-loaded due to excessive rainfall or due to blockage.

There are no indicators to Sewer flooding at the site.

Hence, the risk of sewer and highway flooding to the proposed site can be considered to be Low.

4.1.4 Flooding risk from surface water

Flooding occurs when rainfall fall on a surface (on or off the site) which acts as run-off which has not infiltrated into the ground or entered into a drainage system.

With reference to the E.A online mapping, the rear of the site is not at risk from surface water flooding, Figure 4.

4.2 EA summary of flood risk

20, Denmark Road, Twickenham, TW2 5EN

This information tells you the flood risk of an area, not a specific property.

We have [paused updates to information about flood risk](#) from rivers and the sea and surface water while we get ready for new data.

► [How we assess an area's flood risk](#)

Surface water [More about your surface water flood risk](#)

Yearly chance of flooding

Very low Low Medium High

What surface water is

Surface water flooding is sometimes known as flash flooding. It happens when rainwater cannot drain away through normal drainage systems.

► [Why surface water flooding is a problem](#)

Rivers and the sea [More about your rivers and sea flood risk](#)

Yearly chance of flooding

Very low Low Medium High

What makes rivers and sea flooding more likely

Low-lying areas that are close to rivers or the sea are more likely to flood when water levels rise.

This information takes into account any flood defences.

► [Why flood defences cannot completely prevent flooding](#)

Other flood risks [More about groundwater and reservoirs](#)

Groundwater	Flooding from groundwater is unlikely in this area.
Reservoirs	Flooding from reservoirs is unlikely in this area.

Figure 6: EA summary of flood risk to the site

4.3 Surface water management

4.3.1 Generation of Run-off

The post-development surface water run-off volume will not increase when compared to the pre-development level because there is an overall reduction in permeable areas hence the development will not increase flood risk.

5 Levels

5.1 Flood level data

No predicted flooding on site.

5.2 Floor level data

N/A

6 Management of flood risk

No identified risk to manage.

7 Conclusions

Given that:

- This is minor development;
- There are no identified flood risks to the site;
- There is no extension of built footprint;
- The development does not impact on flood risk elsewhere;

hence the proposed minor development to an existing dwelling is considered acceptable.

Signed:



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Date: 22nd July, 2024

References

- [1] BSI. BS 8533:2011. Technical report, 2011.
- [2] Ministry of Housing, Communities and Local Government. National planning policy framework. 2021.