

Ref: C3388_C

Site: The Grange, Westergate Street, Westergate, PO20 3SQ

Date: 21.07.2026

Re: Brief Flood Risk Assessment – Response to Arun District Council Validation Request (Ref: AL/52/26/PL, letter dated 24 June 2026)

Dear Planning Team,

This brief flood risk assessment (FRA) has been prepared to support the proposed residential development at The Grange, Westergate Street, Westergate, PO20 3SQ (planning reference AL/52/26/PL). It is submitted in direct response to the Local Authority's validation letter dated 24 June 2026, which requested a Flood Risk Assessment on the basis that the site lies within an area identified as being at more than 25% susceptibility to groundwater flooding within the Arun District Council Strategic Flood Risk Assessment (SFRA).

This brief assessment of flood risk relates to the proposed removal of the existing mobile home and its replacement with 1 no. dwelling and associated works, as shown on the Smith Simmons & Partners application drawings 1825/DP200 Rev 01 (Location Plan), 1825/DP201 Rev 01 (Block Plan) and 1825/DP202 Rev 01 (Proposed Site and Roof Plan). The proposals comprise the removal of the existing static home, sheds and double garage, and the erection of a single dwelling with a detached double garage, parking and associated works, with access retained onto Westergate Street. The site (centred at National Grid Reference 493983/104389) is significantly less than 1 hectare in area, and the proposed dwelling is classified as 'More Vulnerable' development in accordance with Annex 3 of the NPPF. This assessment has been written in general accordance with the National Planning Policy Framework (NPPF) and its Planning Practice Guidance, Environment Agency (EA) Standing Advice, the Local Flood Risk Management Strategy (LFRMS), the Arun DC SFRA and associated guidance. This FRA has relied upon publicly available information and data provided by the EA (where relevant). The interpretation of this data has been undertaken with an understanding of its accuracy and to a level of detail deemed suitable for this development type, location and relevant flood risk.

A review of the primary sources of flooding, based on the EA's Flood Map for Planning (extract provided in Figure 1) and the EA's Long Term Flood Risk Maps (LTFRM): Risk of Flooding from Surface Water (RoFSW) (extract provided in Figure 2), shows that flood risk to the site from these major sources of flooding is very low across the development lifetime. The site is located wholly within Flood Zone 1 (low probability of fluvial or tidal flooding; less than 0.1% annual probability), as confirmed by the EA Flood Map for Planning extract obtained on 20 July 2026 (Figure 1). The nearest extents of Flood Zones 2 and 3, associated with the Lidsey Rife to the east, are well removed from the site. 'More Vulnerable' development is appropriate in Flood Zone 1 and the Sequential and Exception Tests are not required.

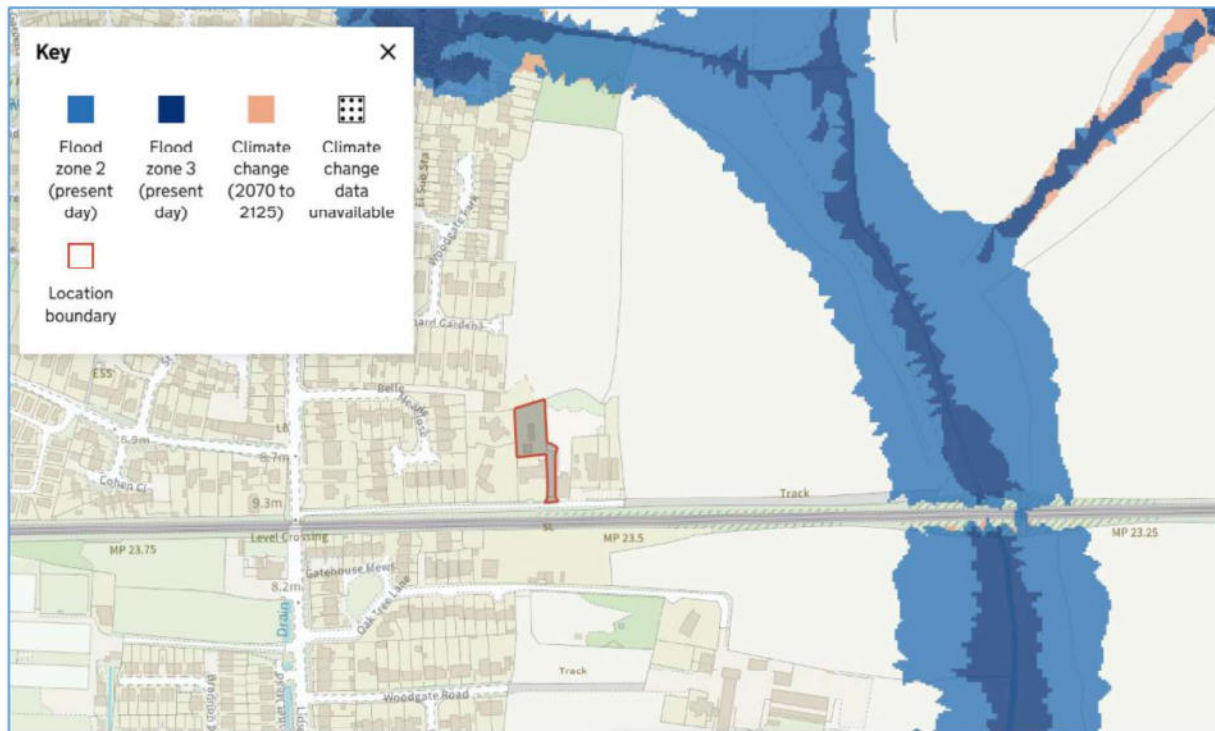


Figure 1 extract from EA Flood Maps for Planning (Source: DEFRA)

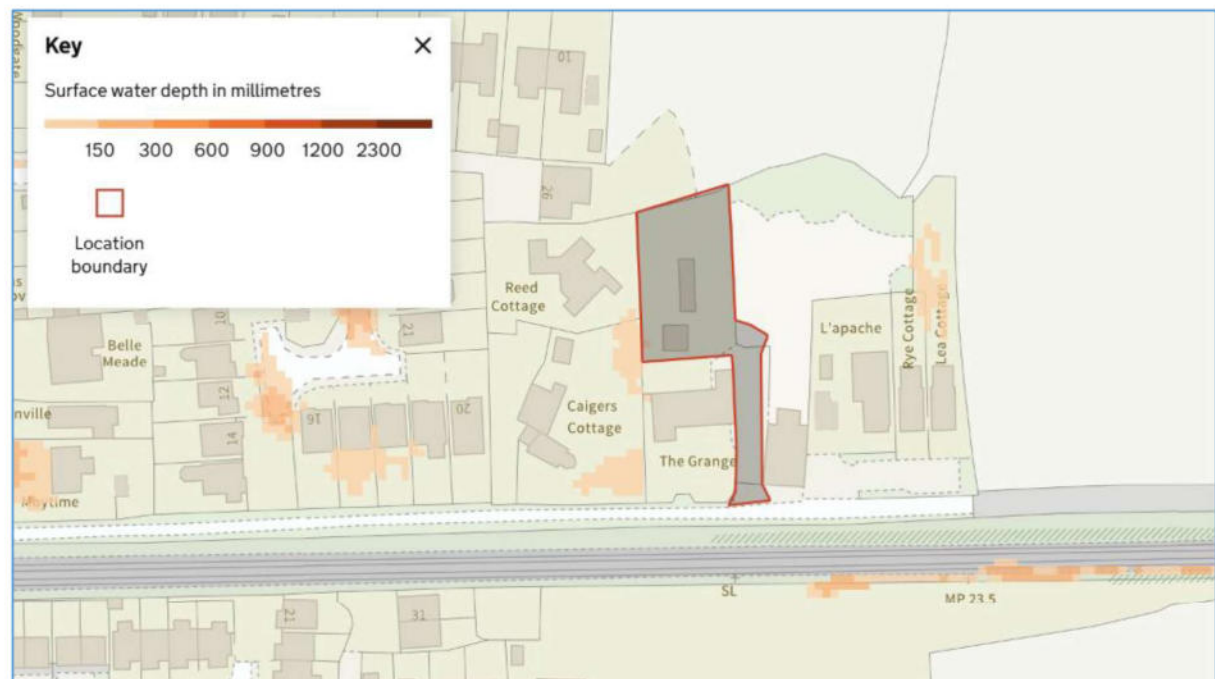


Figure 2 - extract from the EA's Surface Water (RoFSW) maps - Yearly chance of flooding between 2060 to 2125.

However, the site is shown to be within an area susceptible to groundwater flooding of greater than 75% as identified in the Arun DC SFRA Appendix F (Figure 3 below); it is this strategic designation which has triggered the Council's request for this FRA.

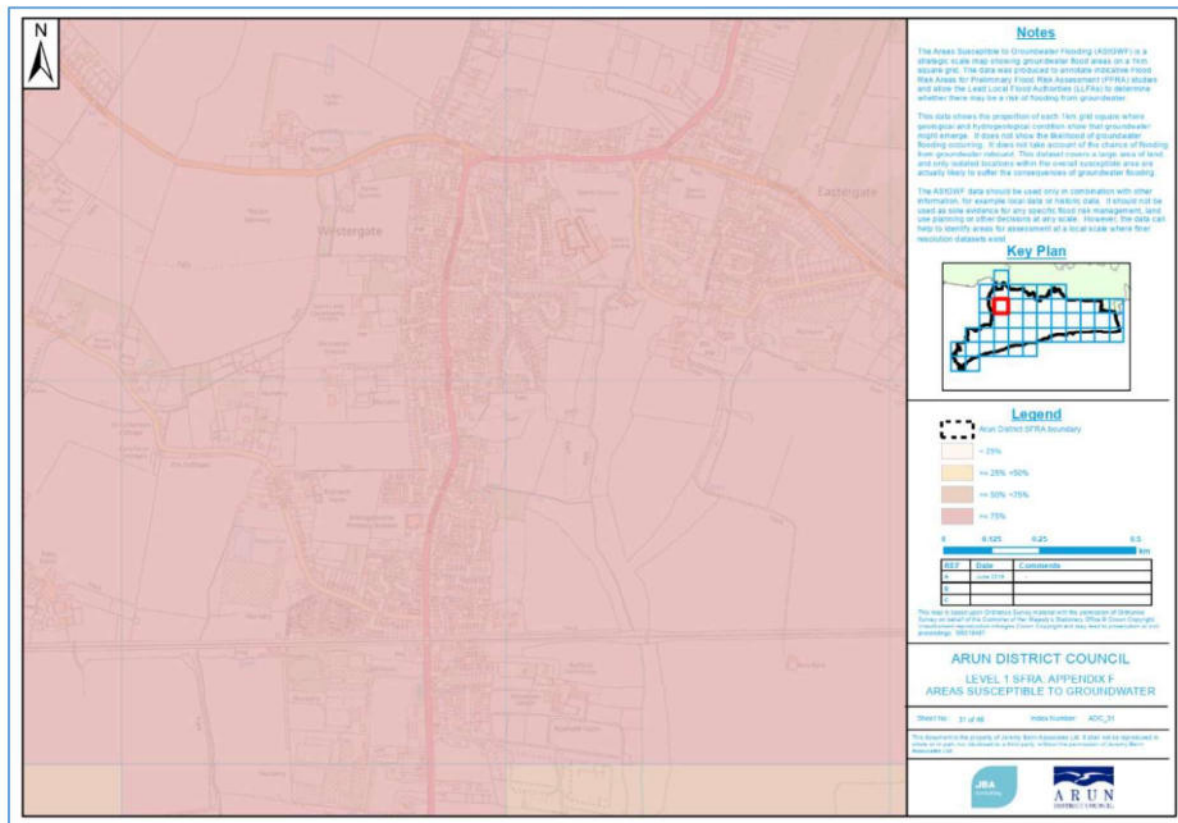


Figure 3 – extract from Arun District Council SFRA Appendix F Areas Susceptible to Groundwater

Groundwater susceptibility maps are, however, typically designed for strategic planning, identifying areas where groundwater flooding might be an issue. The computer models used to classify areas produce maps with a pixel size of approximately 50 metres. Because of this coarse resolution it is possible that the actual susceptibility at the site may be different due to small-scale variations in rock and soil type and local landscape. It is important to note that susceptibility is not the same as risk. These maps show where there is the potential for groundwater flooding but do not give any indication of the probability that it will occur.

So, although information from these maps can be used to highlight an area at risk, it is not designed to be used as a sole indicator of groundwater flooding susceptibility and risk at individual properties. The BGS and SFRAs recommend the following for assessing site specific risk:

1. Review BGS geological maps and BGS (or site-specific) borehole records for information on water strikes and groundwater levels. Where the underlying geology is sufficiently permeable, this may allow groundwater to rise more freely and frequently
2. Review the RoFSW mapping, should groundwater emerge at surface, its flow path can be estimated by looking at the RoFSW mapping. However, it should be noted that groundwater flows at surface are a lot lower than surface water runoff events, however groundwater flows may occur over a longer period. Therefore, the risk event assessed for the DFE for groundwater flooding is the high-risk surface water event (or the 1 in 30 year event).

3. Review historical records and SFRA mapping, for example, if a specific property has experienced groundwater related flood risk in the past. This is often the best indicator of site-specific risk for groundwater flooding and can carry the most weighting in assessing risk.

A review of the BGS GeoIndex: Borehole Records can provide publicly available borehole data at locations around England. These can provide general information relating to groundwater and can provide greater insight into site specific ground conditions. The BGS historical borehole nearest the site, BGS ID: 434487, BGS Reference: SU90SW56 (located approx. 380m south-west of the site), gives some insight into the ground geology and indicated resting groundwater at circa 5.5m below surface level (or approximately 2mAOD based on a LIDAR measured surface level of 7.5mAOD), assuming a relatively uniform groundwater table in the area (which is highly likely given underlying geology and topography), groundwater is expected to be approximately 6.6m below surface level of the site which sits at approximately 8.6mAOD (based on LIDAR). An extract from the BGS Borehole record is provided below:



British Geological Survey

BGS ID: 434487 : BGS Reference: SU90SW56
British National Grid (27700) : 493830, 104000

GEORGE STOW CO. LTD.

Waterworks Engineers

READING ROAD - HENLEY-ON-THAMES, OXON.

RECORD OF WELL (SHAFT OR BOREHOLE)

Borehole No. 9

DATE COMPLETED 1.8.78

All depths to be measured below Ground Level

Work carried out for Southern Water Authority, Sussex River & water Division (Drainage)

Locality (Exact Site) Woodgate, Nr. Chichester, Sussex - N.G.R. SU 90 SW (9383 0400)

Level of Ground Surface above Sea Level (O.D.) 15

Depth of Shaft 5.56 (5' 4" 1/2) m. Diameter 300 mm (12 in.)

Depth of Bore 5.56 m. Diameter: At Top 300 mm. At Bottom 300 mm.

Details of Permanent Lining Tubes

Diameter	Length Inserted	Length Inserted		Top At	Notes
		m.	ft.		
200 mm	136.65 m.	Plain	NIL	0.15	At top of shaft
150 mm					
100 mm					
75 mm					
50 mm					
25 mm					

Water Struck at depth of (in m.) X

Rest Level of Water below Ground Level 5.5 m.

Yield on X Hours test. Pumping 1000 litres per min. Date

Pump Water level 5.5 m. below Ground Level.

Figure 4 - extract from BGS Borehole Records

Table 1 below provides a summary of groundwater flood risk indicators as advised by the BGS for assessing actualised risk of groundwater flooding. It is considered that if any of these risk indicators are negative (or not present), then the overall risk of groundwater emergence is likely to be low.

Table 1 - Summary of groundwater flood risk indicators to the site

GROUNDWATER FLOOD RISK SUMMARY		
Data Source	Risk Indicator	Risk Present
BGS Geological Maps	Is the underlying geology permeable (such as gravels and sands) and may allow free flow of groundwater – BGS records suggest clays in the upper geology with chalk at depth.	No
BGS/Site Borehole Data	Is the depth to Groundwater less than 1m – BGS records suggest that main groundwater levels are more than 5m below the surface	No
Surface Water Flood Risk	Is there surface water flood risk present in the high-risk 1 in 30 year event (refer to Figure 2) – shows very low risk of flooding	No
Historical Records	Does the SFRA include any records of groundwater flooding occurring at the site – no records show the site has flooded	No
SUMMARY OF GROUNDWATER FLOOD RISK		LOW

A review of historical sources of flooding confirms that no records are held to suggest that the site has flooded before from any known source (refer to extract below).

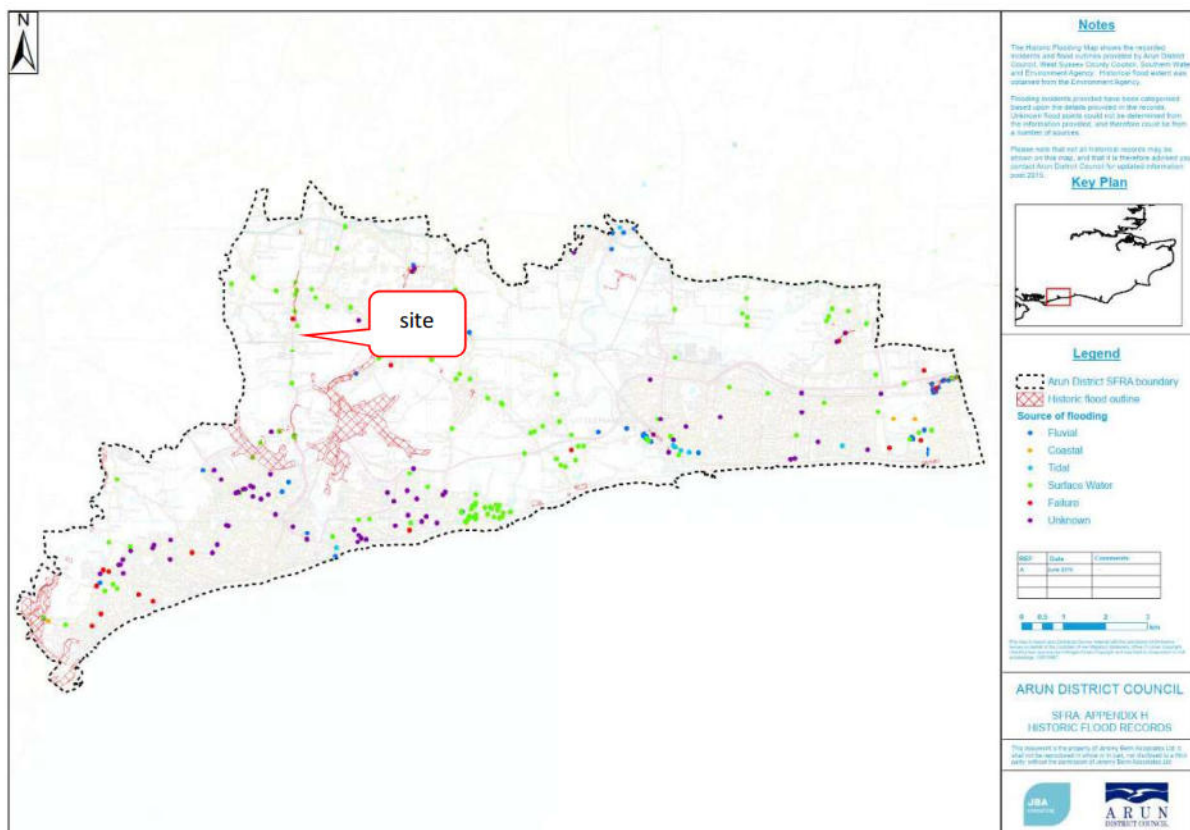


Figure 5 - extract from Arun SFRA Appendix H Historical Flood Records

The EA has undertaken failure scenarios of the UK reservoirs and summarised these extents through their Long Term Flood Risk Maps for Reservoir Flooding. This mapping confirms that the site is at low risk of flooding from this source.

Recommendations and Conclusions

Notwithstanding the low level of flood risk identified, some simple good-practice construction measures can greatly protect buildings during extreme flood events without incurring large additional construction costs. The recommendations include:

- Finished floor levels to be set a minimum of 150mm above surrounding ground levels, with external ground levels graded away from building thresholds
- The route of all electrical services will run from ceilings at ground floor (where possible), down toward sockets
- All plumbing insulation to be of closed-cell design;
- Non-return valves to be fitted to all drain and sewer outlets;

Further recommendations and material reference include:

- Standards for the installation and retrofit of resistance measures are available in British Standard 851188-1:2019+A1:2021.
- Standards for materials and design approaches that will speed the recovery of buildings after flooding are available in British Standard 85500:2025.

Based on the above review, it can be concluded that flood risk to the site is low from all known sources (including groundwater, surface water, fluvial and reservoir flood risk). The site lies wholly within Flood Zone 1, where 'More Vulnerable' residential development is appropriate without the need for the Sequential or Exception Tests. As such, it is considered that the proposed dwelling will remain at very low risk of flooding over its design life and, beyond the good-practice measures recommended above, no special mitigation measures are required.

We trust this information is sufficient to address the Flood Risk Assessment item raised in the Council's validation letter of 24 June 2026 (Ref: AL/52/26/PL) and to resolve the outstanding flood risk related matters.

Should you have any further questions, we would welcome a meeting to discuss further to clarify our assessment.

Regards,



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