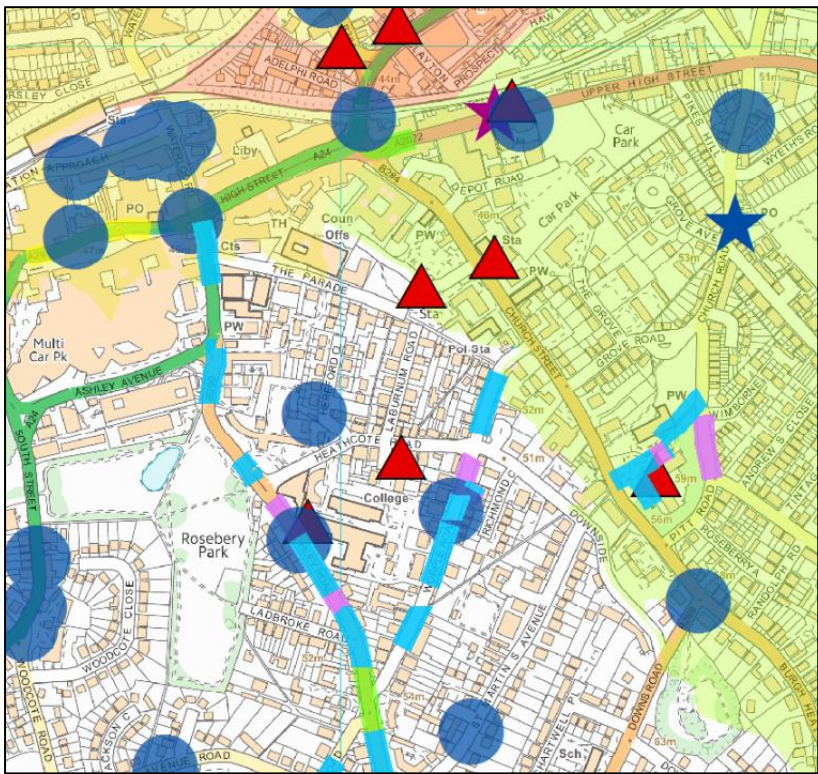


Additional Information not included in SLR's Flood Risk and Surface Water Management Statement Version 2 dated May 2022

JACOBS			
CLIENT EPSOM & EWELL BOROUGH COUNCIL			
PROJECT Epsom and Ewell SFRA			
TITLE Historic Flooding			
DRG No Figure 104			
SCALE NTS		DATE 08/05/2018	
CW DRN	MS CHK'D	MS REWD	RC APR'VD

Legend	
	Epsom & Ewell Boundary
	Main Rivers
	Ordinary Watercourses
	SCC Highways Historic Flooding Incidents - indicative
	SCC Highways flood enquiries
	SCC Highways Internal Property Flooding Roads - indicative
	SCC Highways External Property Flooding Roads - indicative
EEBC 2007 Flooding	
	Flooding (External)
	Flooding (Internal)
	Groundwater Flood Incidents 2000, 2002 & 2014
Historic TW Sewer Flooding Incidents	
	1
	2
	3
	4
	5
	6
SCC Wetspot Published Status	
	Current - wetspot is an active flooding location
	Works are scheduled or works have been carried out and require confirmation of drainage effectiveness
	Works have reduced flood risk or no significant flooding in the last 3 years



Jacob's **Groundwater Emergence Map(GEM)** is shown in **Figure 110** below. The diagonal shaded areas are the Groundwater Emergence Zone and the area around The Parade has $\geq 25\%$ risk of AStGWF (Areas Susceptible to Groundwater Flooding) shown as yellow dots. Richmond Council requires a Basement Screening Assessment as part of a Planning Application process - not as a Condition.

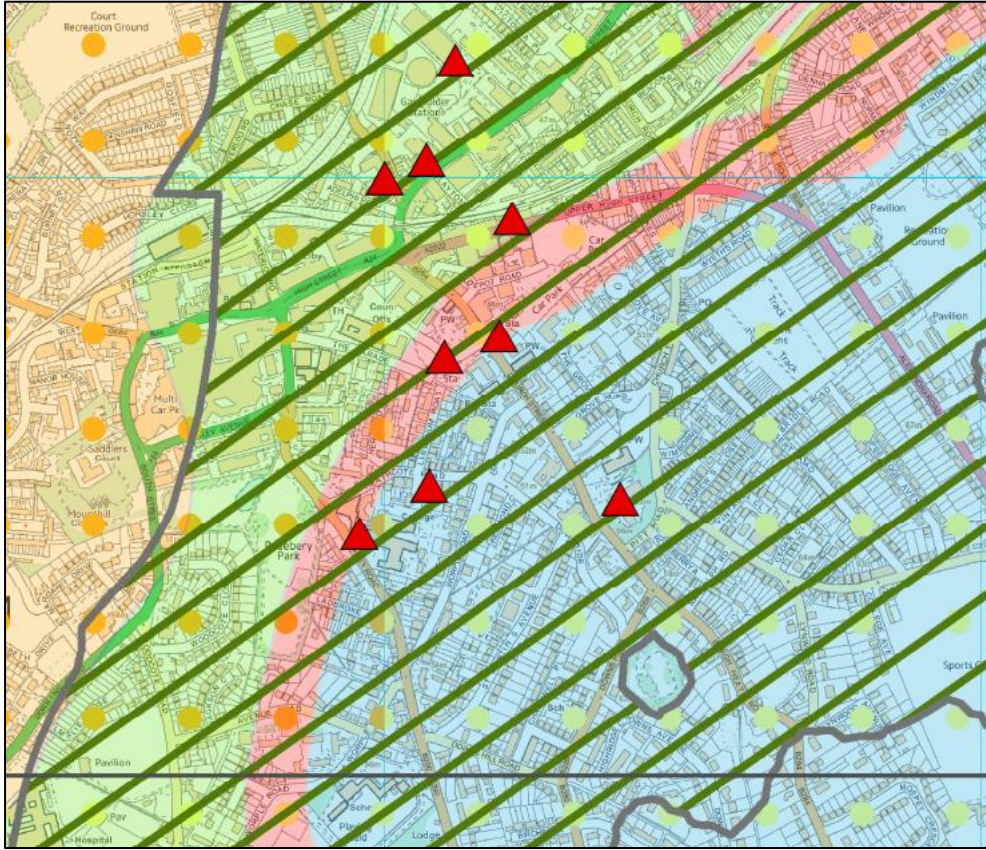
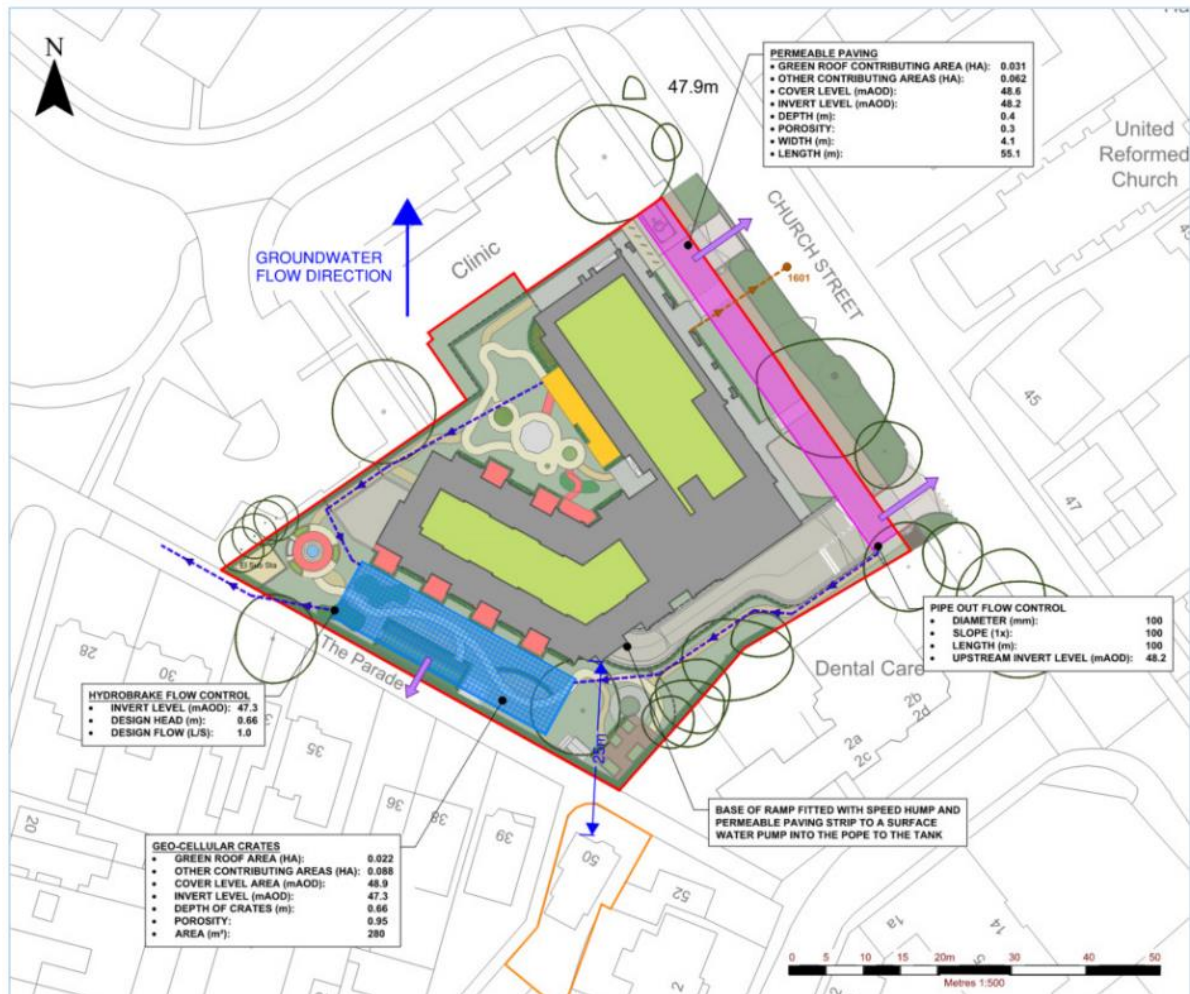


Figure 4: Site Context (Extract from Surface Water Drainage Strategy)



Care home proposal showing position of basement car park in dark grey (footprint of building) plus attenuation tank (in blue) located between the basement car park and The Parade. Also showing assumed groundwater flow direction and distance of proposed basement from our house. NB the attenuation tank is even closer than the basement car park.

Relevant Extracts from SLR's May 2022 Flood Risk Assessment Report On Groundwater Flooding that the committee report is referring to (para 17.12)

4.1.4 Flooding from Groundwater

The SFRA mapping⁸ indicates a record of groundwater flooding adjacent to the site. However, when the LLFA were contacted they outlined that they held no records of groundwater flooding in that location. No details have been identified what the event is that the SFRA refers to.

As discussed in Section 2.3, the site is underlain by permeable geology that is capable of conveying and storing significant volumes of groundwater. Winter groundwater monitoring through the winter 21/22 in two boreholes at the site (refer to Figure 4-2). In summary during the period of monitoring groundwater levels were found to be low beneath the site, with BH2 never having water of a sufficient depth to be recorded by a datalogger at 8.5m below ground level. Groundwater was encountered between 8.6 and 9.01m bgl in BH1 within the Lewes Nodular chalk formation, before

recorded as dry in the February monitoring round. We acknowledge that groundwater levels in the Chalk could conceivably rise significant during severe and prolonged wet periods. We also note that the winter of 21/22 has not experienced very high groundwater recharge with levels in the low to normal range. A data request has been placed to the Environment Agency for any long-term groundwater monitoring they may have locally, that would indicate whether the monitored winter levels represent a typical winter level or are a little lower than normal, however at time of writing no information has been provided.

Given that there is around 6m of sand and gravel (with high porosity) above the Chalk, the collected groundwater data indicates that groundwater levels would likely always remain lower than the basement. It is however not conceptually considered inconceivable that following prolonged periods of extreme high rainfall groundwater levels could reach the base of the proposed basement.

Whilst low probability, the basement would be tanked in order to prevent groundwater ingress in this scenario. The impact would result in slight increase in groundwater levels on the southern side of the building, however the chevron shape of the building would help groundwater flow around the basement to the east and west, minimise the impact of the impedance.

Given that the probability of flooding from groundwater is low the overall risk is considered low.

5.2.2 Groundwater Levels

As discussed in Section 4.1.4, groundwater levels would not prohibit near surface features.

7.1 Flood Risk Assessment

4) Groundwater level monitoring has been completed through the winter of 2021/2022 and indicates a relatively large unsaturated zone beneath the site (over 8m). However, acknowledging that the period of monitoring has not had high recharge rates, as a precautionary measure the basement will be tanked to prevent groundwater ingress.