

**DOCUMENT TITLE**

# Flood Risk Assessment Report

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## HISTORY

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## REFERENCED DOCUMENTS / RELATED INFORMATION

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## 1 PURPOSE

Croudace have appointed WSP Consultants to advise and produce a Flood Risk Assessment to ensure sustainable and safe development of the site East of Hermitage Lane (SS1b) in line with the NPPF and guidelines from the Environment Agency.

Third party information is used throughout; which is somewhat dated, particularly from KCC. Information supplied does not reflect local knowledge, documented ground water flooding, history of local subsidence and full details of the large raised reservoir, which is central to the developed site.

## 2 BACKGROUND INFORMATION

This high density outline planning application for 500 new homes, primary school and community centre on greenfield land, ancient woodland and orchards also incorporates a raised covered reservoir (not part of this planning application and currently owned by South East Water).

This reservoir has been confirmed to be fully operational serving Maidstone and there are no plans to decommission it. We consider development on this site has a high level of environmental risk, particularly as a primary school and play area are proposed just a short distance away.

The site is situated on agricultural land and no public surface water sewers exist at present.

In the public appeal of 2002 Croudace commissioned Canterbury Archaeology Trust to advise and report. In this report, a copy of which is in our possession, it is noted that there are **Two Springs** in evidence on the site. Local residents can confirm this. The report from WSP, whose site visit was carried out in mid-summer (July), advises that no watercourses were identified within the vicinity of the site. This is misleading and incorrect.

As was identified in Section 2 of the WSP consultants report, the site is located on top of a major aquifer (Hythe Beds) and as such there could be potential for groundwater flooding to low lying areas. Hythe Beds are subject to "cambering" causing wide fissuring or voids in the strata.

On the site's eastern boundary adjacent to Howard Drive, low lying areas are most at risk and local residents are already aware that during periods of high rainfall surface water flooding exists. The building of 500 new homes on this site will mean an even greater risk and surface water run-off will present potential for subsidence.

Should the reservoir located at the centre of the site fail and release its water, potential for further flooding exists. All the environmental agencies agree that due to climate change there is an increasing risk from high intensity rainfall and it is advisable to allow development in areas of low risk.

Due to the presence of this active Reservoir we are particularly concerned that the building of 500 new homes may cause ground movement or ground contamination to the reservoir. This view is shared in the correspondence from South East water (appendix F) who own the reservoir. This is a very real concern due to the local history of subsidence and proposed construction on "Hythe Beds." Based on the Environmental Agency's Guidelines (3.2) this site is classified as "More Vulnerable."

### 3 VULNERABILITY CLASSIFICATION (3.2)

Section 6 of the report confirms that mitigation measures should be put in place in view of the risk of flooding from the Reservoir containing 9,000m<sup>3</sup> of water in order to protect the new homes due to be built in extremely close proximity to the reservoir.

**Recommendations include raised finished floor levels.** The report concludes that this would also minimise the risk of surface water run-off entering the buildings but requests that further detailed ground investigation is necessary.

### 4 FOUL WATER

There is currently inadequate capacity within the local foul sewage network to accommodate this high density development. According to the Study into options available, it is proposed to discharge foul flow into sewage systems in nearby Howard Drive and at manhole 4701 in Corben Close.

Both of these areas have historic flooding/subsidence incidents and we can confirm that neighbours have written and photographic evidence that the local authorities are already aware of this.

Corben Close in particular has a natural spring which flows under the children's playground, currently causing the special safety surface to become raised. This is a Health and Safety hazard and has already been reported to the Parks Department. Evidence of the spring is quite visible immediately behind the playground.

Howard Drive has also been the subject of groundwater flooding and subsidence as can be confirmed by the residents, many of whom have lived there since the bungalows were built. Sewer records, provided by Southern Water, confirm that the houses in Howard Drive backing on to the site are not connected to the main public sewers.

There is further risk to the bungalows that back on to the site from Howard Drive due to the fact that it is proposed to build two large infiltration basins (balancing ponds) and separate soakaways at this boundary.

It is intended that waste water will be discharged into the existing public drainage network, already under pressure. Due to the topography a pumping station will be required close to the lowest point. This does not give adequate protection to existing residents.

### 5 SUBSIDENCE

It is noted that the specialists report confirms numerous instances of subsidence in the adjoining hospital grounds, believed to be from leaking drains, pipes and spillage from the reservoir. Due to the nature of the ground (Hythe Beds) and risk of further subsidence, some Local Authorities in the area require surface water run-off to be disposed off-site via sewers.

## 6 CONCLUSION

We are in some doubt if this greenfield agricultural site is suitable for such a high density development. There does appear to be a high risk associated with building on this land as identified by E.A. guidelines. Based on Table 2 in the technical guidelines to NPPF, the proposed development is classified as "More Vulnerable" in the flood risk vulnerability classification.

**Due to the ongoing threat of subsidence in the immediate area it is essential that surface water run-off should be disposed of via sewers. Soakaways put existing and future housing at risk in an area already well known and documented to be at risk.**

The site assessment & infiltration report from Southern Testing is 12 years out of date and should not be relied upon, particularly as only soak-away drainage is proposed for **BOTH** houses and roads, in an area which is vulnerable and at risk.

The site assessment reports (May 2001) are based on visual assessment and not fully comprehensive, only giving a brief account of ground conditions and they confirm that **further tests will need to be carried out.**

There are **THREE known natural springs** in the area and clear evidence of historic ground water flooding and numerous instances of subsidence.

The report from Southern Water confirms that the proposed development would increase pressure on the local network (already at risk) and as a result existing properties may be subject to greater flood risk.

**The report also concludes that the KCC Preliminary Flood Risk Assessment (September 2011) does not contain enough detailed information to be used and relied upon for the purpose of their assessment.**

It has also come to our attention that the raised covered Reservoir does not comply with current safety and security regulations as specified in the Reservoirs Act 1975.

The Environment Agency, who have been consulted, do not hold any information on reservoirs with a lower capacity rating but under the terms of the Flood & Water Management Act 2010 (Section 33), which has recent new regulations in force from 30/7/2013, this reservoir should be classified as "High Risk" due to the nature of the proposed development nearby.