



Environment Agency

Emsworth – Nore Farm Stream Flood Alleviation Scheme

Planning Application

Site Investigation

Date: 30th March 2014

Version 3.0

Application to Havant Borough Council for the installation of a Flood Alleviation Scheme and wetland habitat to the North of A27 Emsworth.

Site Investigation:

The local geology is understood to be predominantly sandy clay, previous land use is agricultural and the proposed site is expected to have low mineral content. Trenching and testing is proposed prior to construction to confirm the mineral value. Testing will also be undertaken for contaminated land.

It is intended that soil will not be removed from site and will be re-used in the construction of the storage pond embankments. The risk of land contamination is low, however the excavated material will be tested to assess its suitability for use in construction of the embankments for contamination.

Publicly available sources of information have been examined in order to provide background information on possible ground conditions within this area. The topography of the site immediately around the route of the A27 in this area falls gradually from the west to the east and rises gently away from the road to the north and south. The records which relate mostly to investigations carried out in the 1980s along the route of the then proposed A27 road. The borehole logs from the east of the area of interest consist of 0.3m to 0.5m topsoil over 1.2m to 1.5m firm to stiff sandy silty clay (River Terrace or Head Deposits) over stiff to very stiff mottled grey brown silty clay (London Clay). Towards the west of the area of interest the River Terrace Deposits include layers of sands and gravels that were observed to be 2m to 2.5m thick. It is likely that the neighbouring A27 embankment were built from locally won materials from excavations from within cuttings along the A27 route. The majority of the near surface geology within 2km to 3km includes London Clay and Head deposits locally described as silty sandy clay and it is possible that the embankments in the study area were built using such materials. Anecdotal information from the BBMMJV suggests that the embankments could contain imported chalk. This will be verified by a ground investigation which will be commissioned prior to construction to test the embankment and the drainage behind the Interbridge A27 culvert headwall.

Historical maps of the Emsworth area dating back to the 1860's show historical land-uses which may give rise to contamination in the vicinity of the proposed Flood Storage Area. There are no historic or current landfills in the vicinity and an EnviroCheck has been undertaken across the study area and this has not highlighted any further risks to ground contamination. There is the possibility of encountering filled land / made ground (former clay pit) at the North-western corner of the FSA, where Nore Farm Stream turns sharply north. Fill materials are

unknown, and contaminated leachate is possible, though not likely given the age of the feature (believed to have been filled / profiled circa 1909). The site was also marked as a 'Brick Field', where Brick production (combustion activities) may have been undertaken.

Conclusion

The high clay content even of the gravels encountered in the BHs suggests that the Flood Storage Areas can be constructed effectively and that the risk of failure by piping/leakage through gravel strata and subsequent failure of the storage area is low. As a precaution, the more clayey material can be placed on the embankment to more vulnerable areas during construction.

.