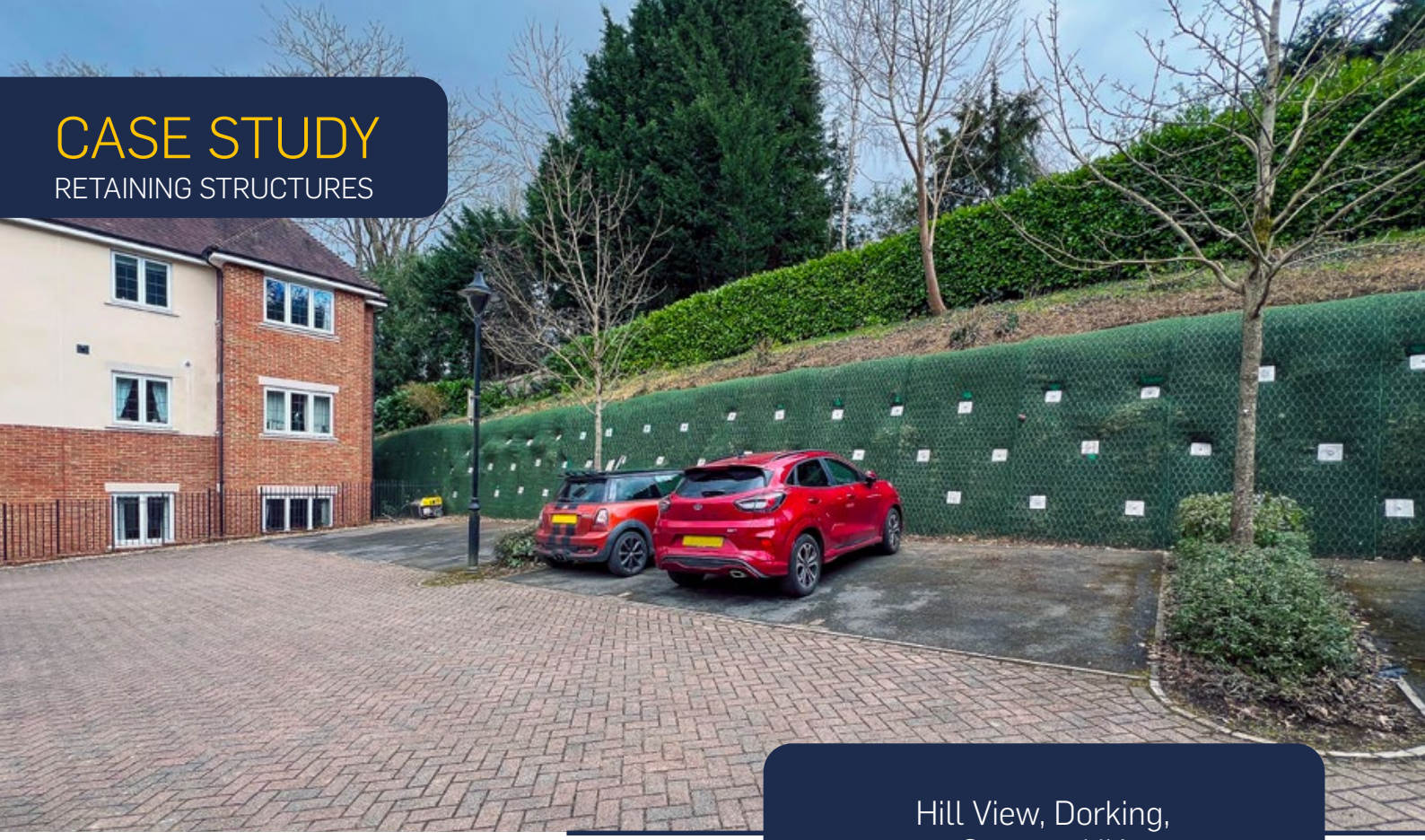
# CASE STUDY

RETAINING STRUCTURES



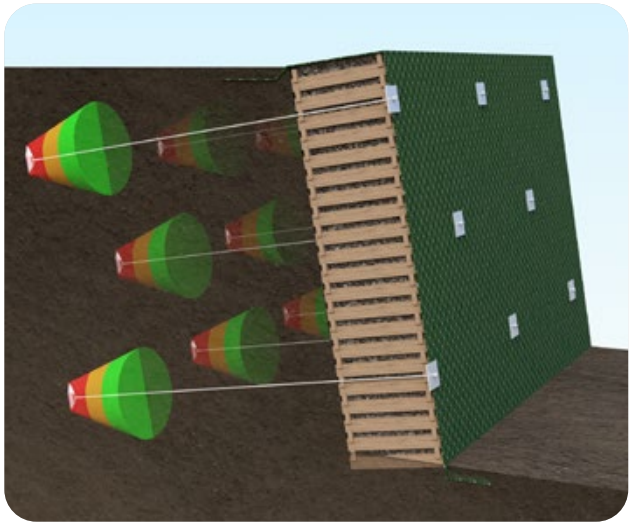
Hill View, Dorking,
Surrey - UK

## OVERVIEW >>>>

This timber crib wall, built in 2007, had failed prematurely, with some areas showing full saturation, and other areas experiencing fungal growth leading to structural decay. This meant timber elements were approaching or had reached the end of their lifespan, with localised failures having already occurred. The structure, constructed from pine and backfilled with aggregate, varied in height from 0.3m to 5m tall, with a linear extent of 124m, requiring anchoring. Replacement of localised failures would not prove cost-effective or meaningfully increase the lifespan of the wall, and rebuilding with traditional masonry would be prohibitively expensive. Due to site boundary lines, all anchor drive depths would be limited to stay within these whilst providing suitable performance.

# SOLUTION >>>>

Anchor suitability tests were conducted behind the wall at the distance and depth where anchors would be driven, allowing the Platipus Geotechnical Team to devise a suitable anchoring scheme. As a cost-effective solution, a reinforced geomat was laid over the face of the structure to distribute the load and prevent significant deformation of the timber crib wall. 222 Platipus Stealth anchors were driven through the structure and loadlocked at working loads between 5kN and 39kN. Where the height did not exceed 1m only one row of anchors was specified, for heights between 1m and 3m two rows were specified, and for sections greater than 3m high, three rows of anchors were specified. Some parts of the wall presented limited access with adjacent buildings nearby, to overcome this, anchors were driven using a combination of handheld machinery, tracked excavator, and Brokk machine. This provided a cost-effective permanent solution to mitigate the failure of this timber crib wall.



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