



Florida digs deep for bridge project

SOME OF the deepest piles ever used in Florida have been installed for the 213m four-lane bridge over Lake Bosse on State Route 414.

The bridge has seven "bents" (transverse spans) that will be supported by 142 piles. One of the piles goes to 195m. This beats the previous land pile record of 106m, set 30 years ago on construction of Disney World in central Florida.

The bents are supported by 500mm diameter, 6mm wall, open-ended, spiral welded pipes, chosen because they can be driven in variable ground conditions. The

end bents are each supported on 12 piles and the others on either 22 or 26. Pile design loads were 1157kN, with maximum down-drag loads of 445kN, and no scour consideration for any of the piles.

Pile Dynamics' Pile Driving Analyzer7 and its CAPWAP7 data analysis package were used on the driving of seven test piles, one in each bent.

Results showed that soil variability and ground conditions meant conventional geotechnical evaluations were insufficient for prediction of pile length and capacity. Blow counts confirmed the need for longer piles.