RED LEAF
GROUP LTD

2022

# LOAD TEST REPORT

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MC Hall Ltd
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Summary of static load test

ULS compressive or tensile resistance of piles, “Bearing Capacity” are executed according to BS EN 1997-1:2004 Eurocode 7 - Section 7 (EC 7.7)

BS EN 1997-1:2004 states design is permitted based on the following approach to determine axial endurance.

The results of static load tests, which have been demonstrated, by means of calculations or otherwise, to be consistent with other relevant experience

Empirical or analytical calculation methods whose validity has been demonstrated by static load tests in comparable situations

The results of dynamic load tests whose validity has been demonstrated by static load tests in comparable situations The pile load test procedure, particularly with respect to the number of load steps and the application of load cycles shall be such that conclusions can be drawn about the deformation behaviour, creep and rebound of a piled foundation from the independent measurements of the pile.

Analysis undertaken

To test the viability of screw pile under a controlled compression test using test beam and 8000 kg press.

Screw piles installed using hydraulic 10000nm torque machine. Screw pile put under load and movement measured by laser. Screws are tested and recorded in Kilograms for weight and millimetres for movement. Kilograms converted into Kilonewtons for reporting purposes.

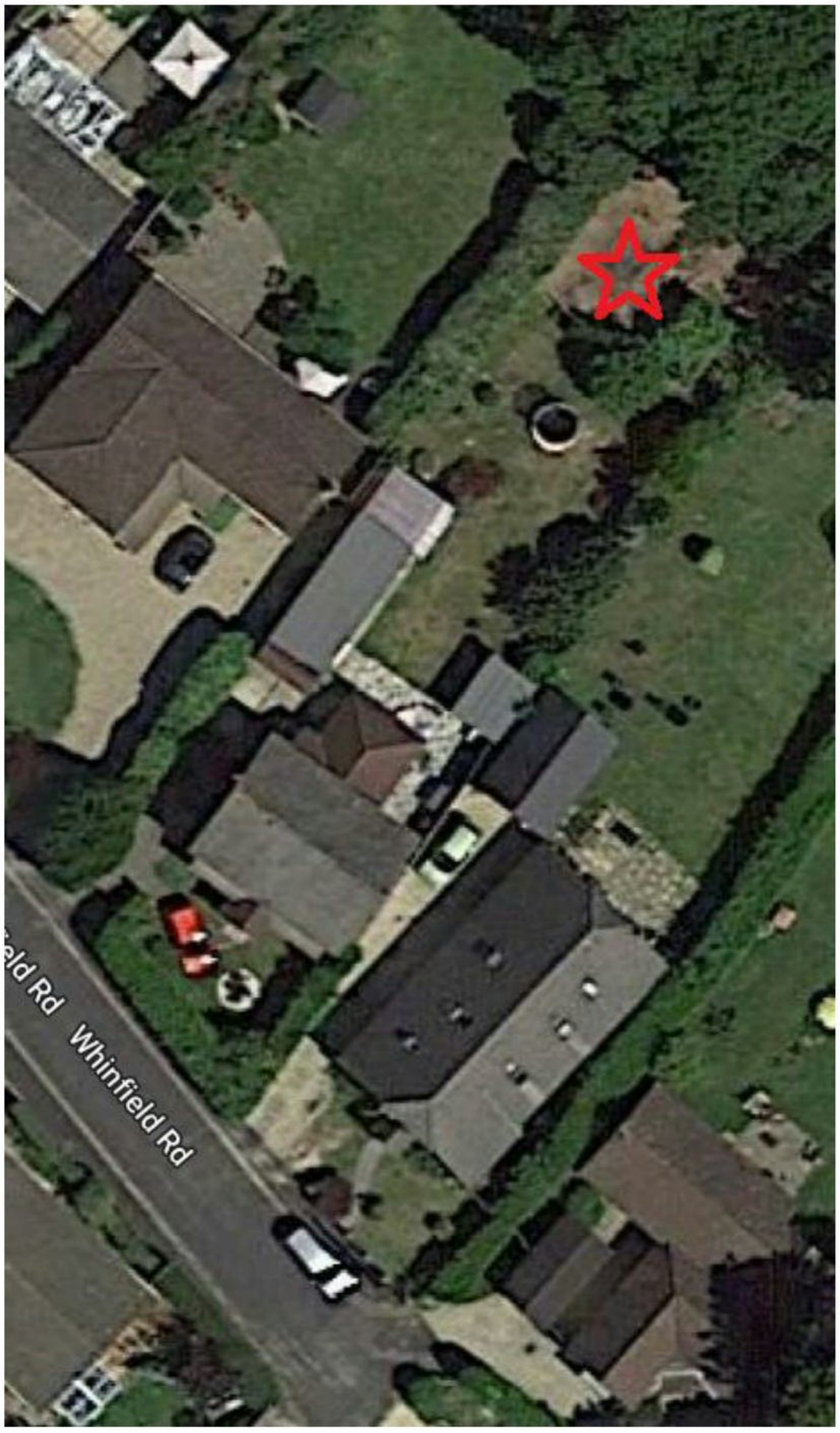
Screw piles are tested to a maximum deflection of 10% of diameter of screw

Areas under test: 1

Screw pile under test: RDX PRO RF140 M16 1,250mm long screw.

Diameter of screw pile: 76mm

Test Location: SO45 4QH



Area 1

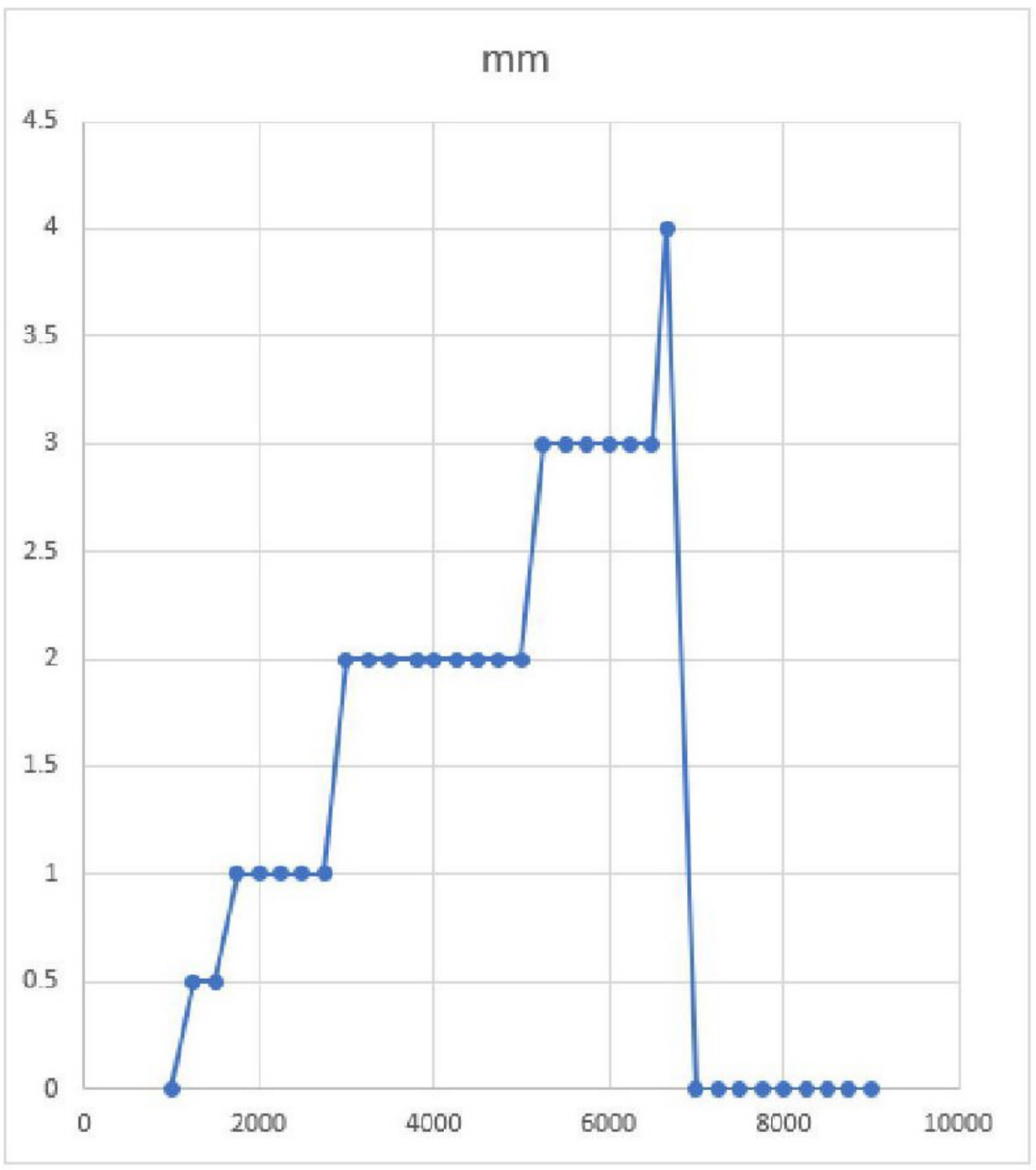
Screw depth of screw installed: 1,250mm

Test area 1


Summary and conclusion of test results Test area 1

Screw type: Radix Pro RF140 M16 1,250mm long screw piles. Depth of screw installed: 1,250mm Test type: Compression

| kgs | mm | Notes |
|---|---|---|
| 1000 | 0 | |
| 1250 | 0.5 | Pressure held for 1 min |
| 1500 | 0.5 | Pressure held for 1 min |
| 1750 | 1 | Pressure held for 1 min |
| 2000 | 1 | Pressure held for 1 min |
| 2250 | 1 | Pressure held for 1 min |
| 2500 | 1 | Pressure held for 1 min |
| 2750 | 1 | Pressure held for 1 min |
| 3000 | 2 | Pressure held for 1 min |
| 3250 | 2 | Pressure held for 1 min |
| 3500 | 2 | Pressure held for 1 min |
| 3800 | 2 | Pressure held for 1 min |
| 4000 | 2 | Pressure held for 1 min |
| 4250 | 2 | Pressure held for 1 min |
| 4500 | 2 | Pressure held for 1 min |
| 4750 | 2 | Pressure held for 1 min |
| 5000 | 2 | Pressure held for 1 min |
| 5250 | 3 | Pressure held for 1 min |
| 5500 | 3 | Pressure held for 1 min |
| 5750 | 3 | Pressure held for 1 min |
| 6000 | 3 | Pressure held for 1 min |
| 6250 | 3 | Pressure held for 1 min |
| 6500 | 3 | Pressure held for 1 min |
| 6660 | 4 | Pressure held for 10 min |
| 7000 | 0 | |
| 7250 | 0 | |
| 7500 | 0 | |
| 7750 | 0 | |
| 8000 | 0 | |
| 8250 | 0 | |
| 8500 | 0 | |
| 8750 | 0 | |
| 9000 | 0 | |




Conclusion: The Ultimate limit state value of compression capacity: 65.31kN (Point load)

No damage to screw tip. Ground dry.

**Engineers report:** Christian Alexander

House garden situated in SO45 4QH. Site access is okay, house located in quiet residential street, close to dead end. Installation of screw piles can be done with tracked machine; however, access is extremely tight.

Screws to be utilised for garden vehicle storage unit.

Ground conditions are good. May change if drainage works carried out.

No factor of safety has been included in our calculations. All screws sizes and calculations are advisories and may need to be checked by the client's structural engineer.

Name C Alexander Signat [redacted]