

Statement of Professional Opinion – Floor Re-levelling and Associated Repairs

Project: 18 Downing Street, Hoon Hay, Christchurch

Client: Hayden Bryson & Anna Bryson

Prepared by: Frankie Chen

Date: 27/07/2026

Background

This statement relates to floor re-levelling, subfloor foundation works, and associated lining/cladding repairs undertaken at the property. The works were directly commissioned by the property owner and carried out by a third-party contractor. Cephas Rock Limited was not engaged to provide full construction monitoring for the complete works sequence, but did attend site to review completed visible works, inspect exposed new pile footings, and carry out supplementary geotechnical soil testing.

Our reference documents include:

- Cephas Rock Limited *Structural Assessment Report* dated 30 July 2018 (Job No. 18-324), including floor level survey data, recommended jacking/packing methodology, and remediation guidance;
- MBIE *Repairing and Rebuilding of Houses Affected by the Canterbury Earthquakes – Technical Guidance*;
- Our site inspection records, exposed footing measurements, and geotechnical soil test results dated 15th July 2026.
- Contractor's visible works as inspected on the above date.
- Sinclair Builders' variation submittal.
- Producer Statement Construction (PS3) from the house lifter.

Professional Opinion

Based on our site observations and comparison against the above reference material:

1. **Floor Levels:** Measured floor level variations and slopes generally align with the indicative thresholds set out in the MBIE Guidance (≤ 50 mm overall differential and slopes generally $\leq 1:200$). The floor levels measured across the timber floor of the dwelling showed a maximum variation of 20 mm (+14 mm / - 6 mm). The localised sagging previously identified in the northwest area of the lounge has been adjusted relative to our 2018 survey datum.
2. **Subfloor Works:** Visible subfloor packers, DPC placement, bearer-to-pile connections, and bracing details are generally consistent with the repair recommendations in our 2018 report. Timber packers appear to be solid H3.2 treated sections, with DPC installed between the packers and concrete piles.
3. **New Timber Piles and Footings:** Exposed excavations confirmed that the new timber piles are supported by concrete footings measuring 500 mm $\times$ 500 mm $\times$ 500 mm deep. The observed bearer-to-pile connection details appear to comply with the requirements of NZS 3604:2011.
4. **Geotechnical Capacity:** Supplementary soil testing confirmed a minimum bearing capacity of 200 kPa at 500 mm below ground level. This capacity is considered sufficient to support the design loads for the new timber piles.
5. **Non-structural Element Repairs:** Previously recorded cracking and misalignment to internal linings, skirting, scotia, door frames, and external cladding have been remediated.
6. **Detached Garage:** No remediation works have been carried out to the garage. A 10 mm vertical offset remains observable along the concrete slab construction joint. Our recommended remediation for the garage remains consistent with the advice provided in our 2018 report.

This assessment is limited to the dwelling only and excludes the detached garage, except where specifically noted above. On the basis of the evidence available, it is my professional opinion that the visible completed dwelling works appear consistent with the approved repair intent, relevant standards, and confirmed geotechnical capacity.

Limitations

- This opinion is based on visual inspection, exposed footing measurements, and limited geotechnical testing carried out at the time of our visit. We have not verified fully concealed works including full pile embedment depth, installation sequence, or material certification for all components.
- This statement is provided as a professional opinion only; it does not constitute formal building code compliance sign-off or a PS4 (Construction Review) certificate under the New Zealand Building Act.
- Cephas Rock Limited accepts no liability for future settlement, re-cracking, or performance issues arising from works completed outside our direct supervision scope, or from the unremediated garage slab condition.

Inspection and report by,



Frankie Chen
Structural Engineer
BEng(Hons)

Checked and approved by,



Joshua Wong
Structural Engineer / Director
BEng(Hons) CPEng (NZ)

Appendix



Photo 1. 18 Downing Street, Hoon Hay, Christchurch (Google Maps).



Photo 2. View of the dwelling from the driveway.



Photo 3. View of repaired cladding.



Photo 4. View of repaired cladding.

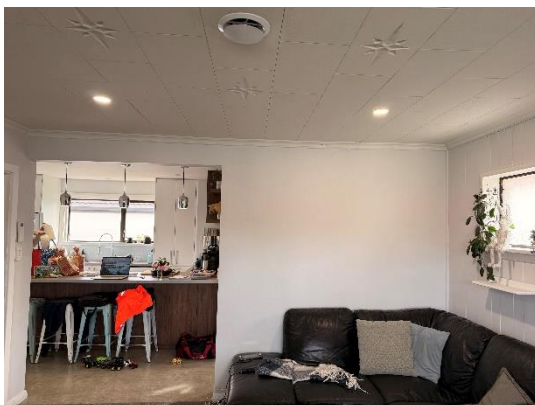


Photo 5. Internal lining has been repaired



Photo 6. Internal lining has been repaired



Photo 7. Internal lining has been repaired.



Photo 8. Internal pile footing size.



Photo 9. View of internal pile packer.



Photo 10. View of internal pile packer.



Photo 11. View of internal pile.

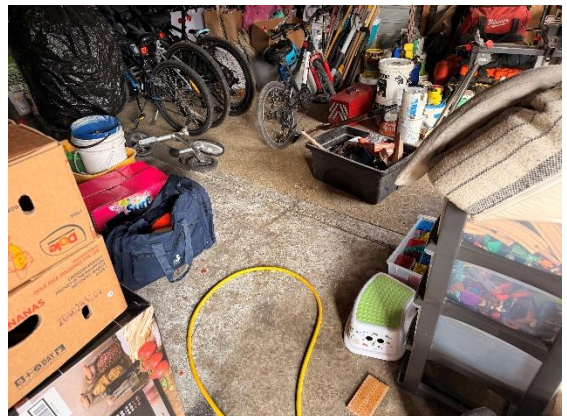
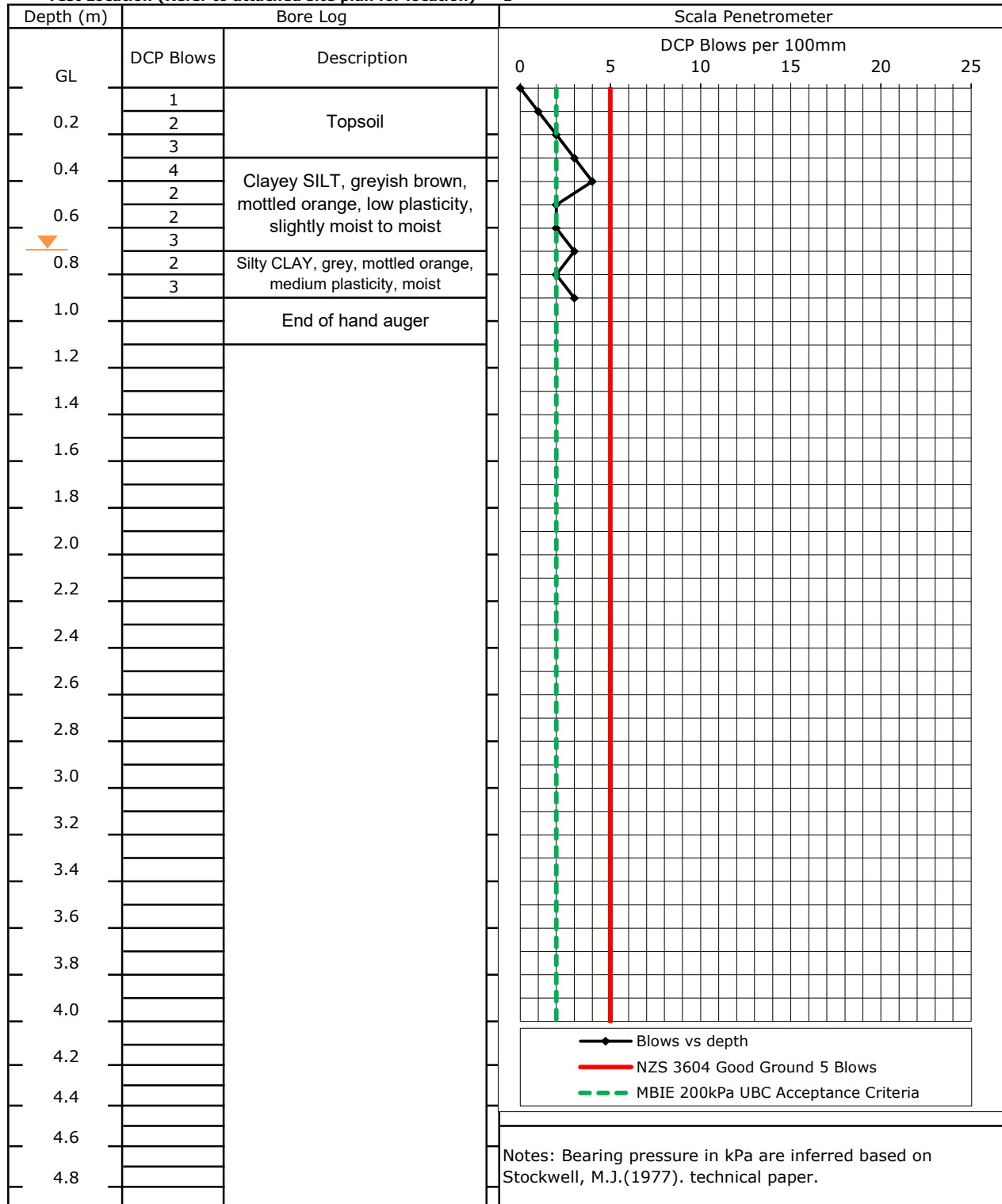


Photo 12. View of garage slab control joint.

LEVEL SURVEY PLAN (NTS)

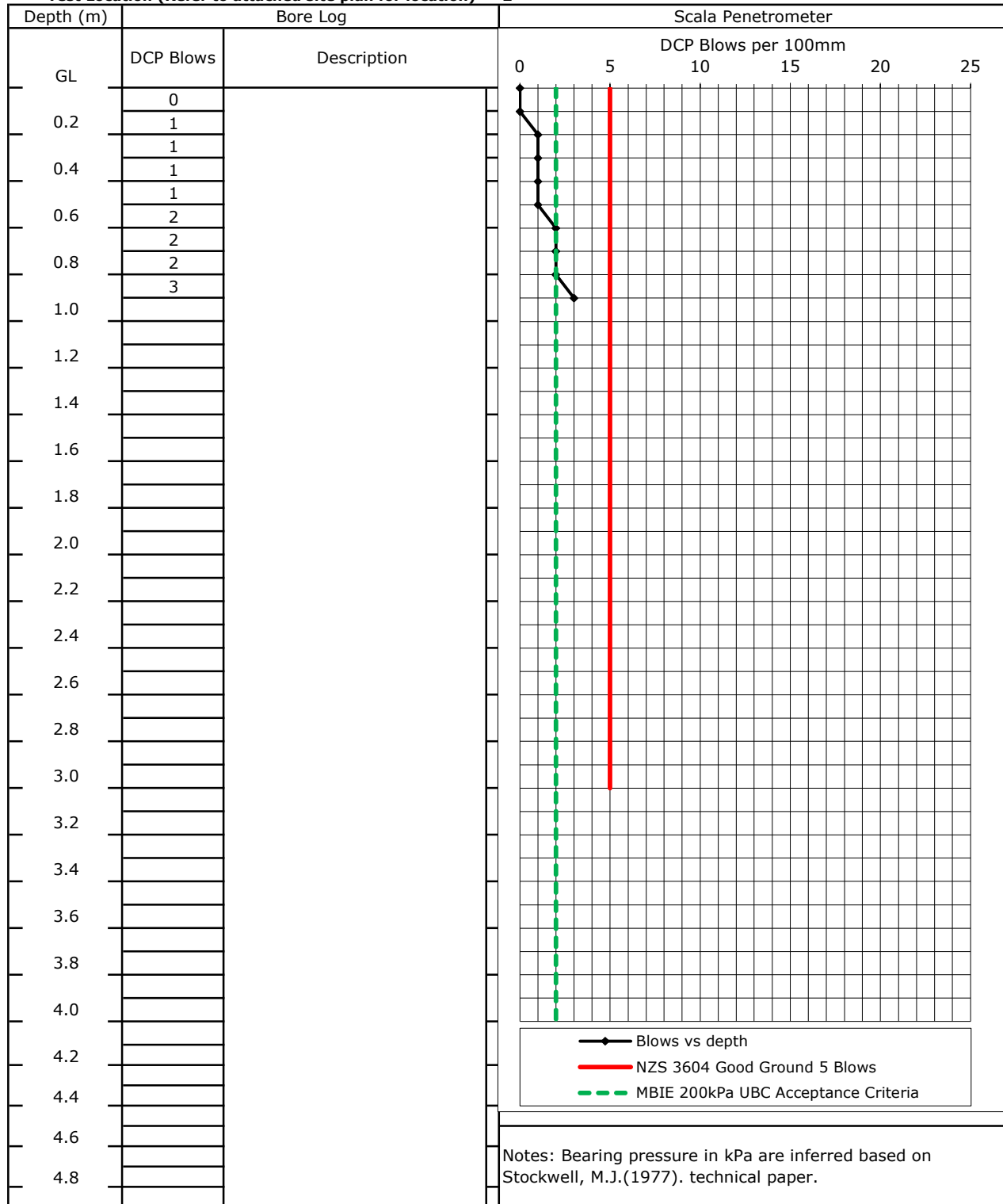
project	18 Downing Street, Hoon Hay, Christchurch	no.	1
ref	26-194	date	15/07/2026
by	ML	checked	Joshua Wong

Test Location (Refer to attached site plan for location) 1



project	18 Downing Street, Hoon Hay, Christchurch	no.	2
ref	26-194	date	15/07/2026
by	ML	checked	Joshua Wong

Test Location (Refer to attached site plan for location) 2





Cephas Rock Limited
Structural Engineers

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PROJECT: Shallow Soil Test

ADDRESS: 18 Downing St, Hoon Hay

JOB NO: 26-194

DRAWN BY: FC

DATE: 15/07/2026

CHECKED BY: JW

PAGE:

SK 01

n ⊗ - Test Location



Test Location Plan
(N.T.S.)



Job Number: 26-194
Job Name: 18 Downing St
Description: Foundation Design - Internal piles
Date: 21-Jul-26
Designer: F.C.

Input Data

G load	Load (kPa)	Load D1 (m)	Load D2 (m)	Load (kN)
Wall	0.50	2.00	2.40	2.40
125 square pile	2.75	0.13	0.13	0.04
Footing 400deep	12.00	0.50	0.50	3.00
Floor	0.50	1.50	1.50	1.13
				0.00
				0.00

Q Load				
Floor	1.50	1.50	1.50	3.38
				0.00

Su Load				
Roof				

Wu				
Roof				

Loads

Dead, G 6.57 kN
 Live, Q_b 3.38 kN
 Snow, S_s 0.00 kN
 Wind Uplift Serv, W_{serv} 0.00 kN
 Wind Uplift Ult, W_{ult} 0.00 kN

Soil Data

Allowable soil bearing capacity 67 kPa
 Ultimate soil bearing capacity 200 kPa
 @ 500 depth

Ultimate

Load Combinations

1.35G	8.87 kN	Critical Case	12.94 kN
1.2G&1.5Q	12.94 kN		
0.9G&Wu	5.91 kN		
1.2G&S _u &ψ _c Q	9.23 kN		

Serviceability

Load Combinations

G	6.57 kN	Critical case	8.93 kN
G&ψ _i Q	7.92 kN		
G&ψ _s Q	8.93 kN		
G&ψ _s S	6.57 kN		
G&W _s	6.57 kN		

Pad size:	425 mm square	Psls =	49.4 kPa
	A = 0.180625 m ²	Puls =	71.7 kPa

Min. Pad Area (ULT)	0.0647 m ²
Min. Pad Area (SLT)	0.1340 m ²

Hence the minimum pad size is 0.3660 m (square pad)

Adopt 500mm square footings