

MALONE HARRIS

13C HAVLOCK ROAD, NGARUWAHIA



FOUNDATION EXCAVATIONS CERTIFICATION FOR A PROPOSED RELOCATABLE DWELLING

> REFERENCE: R9040-2A DATE: 10 OCTOBER 2024



REPORT QUALITY CONTROL

DOCUM	ENT CONTROL			
REPORT	TITLE	Foundation Excavations Certification	ion for a Proposed Relocatable D	welling
REPORT	REFERENCE	R9040-2A		
CLIENT		Malone Harris		
REV	DATE	REVISION STATUS	AUTHOR	REVIEWER
А	10 October 2024	Issued to client	Lloyd Simmons	Luke Kennedy
APPROV	'AL			
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1 INTRODUCTION

1.1 GENERAL

Foundation excavations have been recently constructed at 13C Havlock Road, Ngaruwahia, for a proposed relocatable dwelling. The foundation excavations have been certified by Ground Consulting Limited (GCL) at the client's request, Malone Harris.

This report includes a summary of the certification investigations undertaken.

1.2 PREVIOUS INVESTIGATIONS

GCL has undertaken a geotechnical assessment for the proposed development (report ref: R9040-1B, dated 27 May 2024). The recommendations and conclusions provided in the report have provided the basis for the recent certification works undertaken.

2 CERTIFICATION INVESTIGATIONS

The foundation excavation certification investigations undertaken as part of this assessment have consisted of the following:

- Review of the previous geotechnical report for the site.
- Site mapping and reconnaissance by an Engineering Geologist.
- Completion of a series of single-point shear vane tests with a Pilcon vane within the foundation excavations.
- Completion of a series of scala penetrometer tests at the base of the pile hole foundation excavations.

The investigations have been carried out per NZS3604:2011 and the Building Code. The investigation locations are shown in the "Site Notes" (Appendix A).

3 DESCRIPTION OF WORKS

3.1 GENERAL

Thirty eight pile hole footings have been excavated within the perimeter of the building footprint to support a suspended wooden floor. The pile hole footings are between 0.6 and 0.9m deep from the finished ground level.

4 CERTIFICATION TESTING

A series of single-point shear vane tests with a Pilcon vane and scala penetrometer tests have been undertaken within the foundation excavations. Shear vane tests were undertaken within the clayey soil and scala penetrometer tests were undertaken within the sandy soils. The shear strength testing undertaken within the foundation excavations provided an undrained shear strength between 62kPa and 187kPa.

The scala penetrometer tests undertaken within the base of the pile holes provided a blow count of between 1 and 9 per 100mm.



5 CONCLUSIONS AND RECOMMENDATIONS

5.1 GENERAL

- Pile foundation excavations constructed for a proposed relocatable dwelling on 13C Havlock Road, Ngaruwahia, are founded within competent ground, suitable for residential type construction.
- The pile foundation excavations should provide an unfactored ultimate bearing capacity of 200kPa for the proposed relocatable dwelling pile foundations. This report does not provide comment on other factors, including soil expansivity and surface water controls.

5.2 EARTHWORKS

We recommend the following constraints for the construction of permanent and long term site earthworks carried out in the vicinity of the proposed dwelling:

- All unretained cut batters should be graded at no steeper than 1(v) on 2(h) and be no higher than 1.5m (i.e., a maximum cut depth of 1.5m from existing ground level).
- Cut batters should be located at least the cut batter height from the dwelling and a property boundary.
- All unretained fill batters should be graded at no steeper than 1(v) on 3(h) and be no higher than 1.5m (i.e., a maximum fill depth of 1.5m from existing ground level).
- Fill batters should be located at least the fill batter height from the dwelling and a property boundary.
- Fill providing structural support to the dwelling should be placed in an engineered manner as inspected and certified by a suitably qualified person.
- All cut and fill batters should be topsoiled & grassed and weed matted & planted on completion.
- Earthworks which does not comply with the above recommendations should be assessed by a suitably qualified person and may require retention and stabilization with an engineered structure.

6 LIMITATIONS

6.1 GENERAL

Ground Consulting Ltd has undertaken this assessment per the brief as provided, based on the site development works undertaken to date. This report has been provided for the benefit of our client and for the authoritative council to rely on to process the consent for the specific project described herein. No liability is accepted by this firm or any of its directors, servants, or agents in respect of its use by any other person, and any other person who relies upon the information contained herein does so entirely at their own risk.

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The sub-surface conditions have been extrapolated between the certification investigations undertaken. Whilst care has been taken to provide sufficient sub-surface information following best practice, no guarantee can be given on the validity of the inference made, and it must be appreciated that actual conditions could vary from the assumed model.



6.2 FURTHER INVESTIGATIONS REQUIRED

This assessment has been undertaken for the proposed site development to date. Any changes, alterations, and additions made to the proposed development should be checked by a suitably qualified person and may require further investigation, analysis, and certification.



APPENDIX A: SITE NOTES AND INVESTIGATIONS

SITE INSPECTION RECORD

Project: 29040

Inspection No.

Project No. 24045-24 Site Address: BC HAVISCH ST.

Date: 0/10/2024.



Engineer: L.S.

INSPECTION RECORD

Description of site inspections: Fundation excavations (ple hores) for poposed during - Shew we tests and Scala prevenere to Gy. - 600mm embel ven (Selan GII) regulat. 1 pataway Site inspection results: -A (3) 124 (M) - Fill Gundin Do.Br (A)A Pile Wiles. Not to empelner 10.3m 3 ->08m (B) ioo dem (60mm). ->0.9M -Most ples, are BAS6. O.7 min dele.)0.9m -> 0.8m (6) A 90 (6) These piles were marked -) o. Br A AL () and excounted 15 (2) 66 OA from felow fill. (R) D -Zostfr ultimore @98 >0.9m benny calledy of plus. 84 \$0.6m -> \$ 6.4m 0,30, 3m B) (110-) (\$) 0.4m Enst-piles we in any - reporties 76 0 - 0.9m 6)64 64 (A) 124 BA Pass/fail/further works to undertaken: PASS - However, moved our siles (10) were excounted to measure depuns (as to doin antitud in R9343-1A),



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INVESTIGATION LOG

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INVESTIGATION LOG

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SPT13

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Geology	Geological Interpretation (refer to separate Geotechnical and Geol Information sheet for further information	logical on)	Depth (m)	legend	Va 1 5(ane Shear Stre Vane No: Vane Size: 0mr 100 150	n 200	Ines	(Blow	Cala Penetrometer (Blows / 100mm) 6 8 10 12 14 16 18				
Tauranga Group	Underlying natural sandy soil.		- 1					3	4					
					Depth	tion Informati 1.2m Target depth	ON Logged By Checked By Test Pit Dime	L.S.			01/10/24 01/10/24 08/10/24			
					Test	d Auger (50mm)		Water Legend ▼ Standing Water Level <- Out flow ► In flow						

Log created: 8/10/2024 2:09:52 AM Page 1 of 1



INVESTIGATION LOG

Report Ref

R9040-2A-SIN01
Location Method (±2m)

Clie	ent	ordinates ((NZTM2000) Elev							<u>ו</u>		Location Method (±2m)					
Ma	alone Harris												MA	AP			
	ation C Havlock Road, Ngaruwahia	•															
Geology		Samples	Depth (m)	Legend	Vane Shear Strength Vane No: Vane Size: 0mm						Values (kPa)	Scala Penetrometer (Blows / 100mm)				Groundwater	
0 9 9 9	Information sheet for further information)	San	Dep	Leg		\ 50	/ane Siz 100	e: 0mm 150	200		2 Aalt	4	68	10 12	14 16 18	Grou	
Tauranga Group	End of Investigation: 1.2m Target depth											3 3 3 5					
				1	Depth		1.2m	rmatio	Logg	jed By	L.S.			Start Dat			
					Termina Machine		Target (depth		cked By Pit Dime	nsions			End Date .ogged E	01/10 Date 08/10		
				Ir	nvestig						Wate						
						land Au	uger (50	mm)			< ↓	Out	flow	Water L	evel		
							enetro	meter				In fl	ow				

APPENDIX B: PRODUCER STATEMENT (PS4)

Producer Statement Construction Review (PS4) / Statement of Completion and Compliance

Issued by: (Construction Reviewer)	Luke Kennedy			Building C	onsent num	ber:	N/A			
Company Name:	Ground Consult	ing Ltd								
	ilton City Council mes-Coromandel D	Hauraki District Co			Piako Distric Naipa Distric			-	-	District Council strict Council
Waikato Building Co	nsent Group Reg. N	No.: 0856	Expiry Dat	e: July 20	025	Other	No. (spe	ecify):		
Owner:	Nalone Harris									
Project Address:	3C Havlock Road	d, Ngaruwahia								
Lot:	3			DP:	6825					
Description of Buildir	ng Work: Constru	uction of pile hole foundc	tions							
Scope of work cover	ed by statement:	Certification of pile hol	e foundatio	on excavat	ions					
System / Product use	ed (if applicable):	n/a								
I (Construction Reviewer'	s name):	Luke Kennedy								
have been engaged	۲ by (owner/develope) by (owner/develope)	er/contractor): Owner								
To provide construct	on review services	in respect of (tick applicab	e):							
	ents of the Building (s): (Please be specific	, , , , , , , , , , , , , , , , , , ,	B1							
Alternative Sc										
for the building work	described by the di	rawings and specifications	prepared by	the design	firm titled:					
Site Investigation	Plan									
numbered: Drawi	ng 002]	Copies attached
authorised amendme (if applicable)	ent(s):]	Copies attached
with the require		ent and read the Advisory I Zealand Building Code, the								
I have remaine	d within the scope on at this Statement,	rtaken has been within the of works set for me by the *\ if accepted, may be relied	Vaikato Buil	ding Conse	nt Group Pro	oducer	Statem		•	,
	he building work co	mplies with the requiremer	ts of the Bu	ilding Cons	ent and the I	New Z	ealand l	Building	g Code.	
Signed by: (Construction Reviewer)	And the second second		Ν		nstruction Re (Print clearly)	eviewe	r: Luke	e Kenn	iedy	
Date: 10/10/202	Address:	24 Seddon Street, Puke	ekohe		(* * * * * * * * * *))					
Ph: 09 2392229	M	D:	E	x:			Email:	offic	e@gclte	ech.co.nz
	AEngNZ (PEngGeo atform developme	ol), Senior Engineering G ents	eologist &	7+ years	experience	provi	ding ce	ertifica	tion of	building
*The W	aikato Building Con	sent Group Producer Stater Ph (07) 838 6699. For inforr								

LEVEL 2, CAMPBELL TYSON BUSINESS CENTRE, 1 WESLEY STREET, PUKEKOHE POST: PO BOX 1019, PUKEKOHE, 2120 EMAIL: pukekohe@gcltech.co.nz TEL: 09 239 2229

AUCKLAND CENTRAL OFFICE UNIT 69, 210 – 218 VICTORIA STREET, AUCKLAND,

QUEENSTOWN OFFICE

157 GLENDA DRIVE, FRANKTON POST: PO BOX 2963, QUEENSTOWN 9349 EMAIL: queenstown@gcltech.co.nz TEL: 03 442 5700

6 MOANA VIEW ROAD, OKUPU POST: PO BOX 1019, PUKEKOHE, 2120 EMAIL: auckland@gcitech.co.nz

