

Lot 43, Marong Run Stage 8 Marong

Geotechnical Investigation for
DPJ Civil Pty Ltd

Report 22C 0512 (Lot 43)
July 2022

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Geotechnical Investigation for DPJ Civil Pty Ltd

Revision

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22C 0512 (Lot 43)	BAB	28/07/2022

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GTS	On file	28/07/2022
Darren Pitson DPJ Civil Pty Ltd	Email PDF darren@kpdgroup.com.au	28/07/2022



1 INTRODUCTION

DPJ Civil Pty Ltd commissioned Geotechnical Testing Services (GTS) to conduct a geotechnical investigation for the proposed development at Lot 43, Marong Run Stage 8, Marong.

The investigation has been conducted for the purpose of assessing general subsurface conditions at the site and consequently assigning a Site Classification in accordance with *AS2870 – 2011 Residential Slabs and Footings*.

2 INVESTIGATION

The investigation was conducted on the 20th July 2022 using a vehicle mounted drill rig to drill 2 boreholes to depths of 1.5 to 3.0 metres within the designated area. The soil profiles and borehole locations are presented at the end of this report.

At the time of this investigation, the type of development proposed is understood by GTS to be a new residential building. If the actual construction varies from this, then changes may be necessary to this classification report.

3 SITE CONDITION

The site is relatively flat and is currently vacant. At the time of the investigation, the surface of the site was moist with no grass cover. There were several small to large trees near the investigation site in the reserve to the rear of the property, and a review of aerial photography indicates several small to medium trees were removed from at or near the site sometime during 2018. There was no visual evidence of surface cracking or surface rock. No groundwater seepage was encountered over the investigated depths.

Full details of the soil conditions are presented in the borehole logs.

4 SITE CLASSIFICATION

After allowing due consideration to the site geology, soil conditions, drainage, vegetation and known details of the proposed development, the site has been classified as **Class H1-D** (*AS2870 – 2011 Table D1; >1.5 metres of Group (2) soils over Group (4) soils*), though it is noted that if the structures are placed within 1.5 times the mature height of any existing tree (even if removed prior to construction commencing), this should be taken into account when designing the foundations.

Foundations designed in accordance with this classification are to be subject to the overriding conditions of Section 5.

5 DISCUSSION

Particular attention should be paid to the design of footings as required by *AS2870 – 2011*.

In addition to the normal founding requirements arising from the above classification, particular conditions at the site dictate that the founding medium and minimum depth below existing surface levels for all footings should be as follows:

- Silty CLAY, high plasticity, brown, pale brown or dark brown, hard
At depth below 0.3 to 0.4 metres in the region of BH1 & BH2

An allowable bearing pressure of 100kPa is available for edge beams, strips and stump footings founded as above. All foundations should extend a minimum of 100mm into the above foundation material. The base of all footing excavations must be free of tree roots.

The proposed development should be located a minimum distance of 1 x the mature height of all trees. This distance should be increased by 50% for groups or lines of trees. If this distance is impeded, then the size and distance from the development of the tree(s) needs to be taken into account when designing the foundation.

6 IMPORTANT NOTES ABOUT THIS REPORT

- The site classification presented in Section 4 assumes that the current natural drainage and infiltration conditions at the site will not be markedly affected by the proposed site development work. Care should therefore be taken to ensure that surface water is not permitted to collect adjacent to the structure and that significant changes to seasonal soil moisture equilibria do not develop as a result of service trench construction or tree root action.
- Attention is drawn to Appendix B of AS2870 and CSIRO document *BTF 18 – Foundation Maintenance and Footing Performance: A Homeowner’s Guide* as a guide to maintenance requirement for the proposed structure.
- This is not a comprehensive investigation nor is it economic or practical to determine every subsurface feature on the site. Although this investigation indicates that soil conditions are relatively uniform across the site, it is recommended that the base of all footing excavations be inspected to ensure that the founding medium meets that requirements referenced herein with respect to type and strength of founding materials. If further variations in descriptions in soil types, colour or depths are discovered during construction, this office should be notified immediately so that potential influence on the footings may be assessed.
- The soil colours provided in the borehole logs attached may vary with soil moisture content and individual interpretation, therefore colour alone should not be used to identify these soils.

- Strength characteristics of soils often exhibit a large variation between wet and dry conditions. Soil characteristics of a soil profile are given on the soil conditions at the time of the investigation.
- In the event of significant earthworks being undertaken on the site after this investigation, this report may require an amendment if appropriate.
- If FILL is found during this investigation, it is an indication of what was found during the investigation and it may vary over the site. It may be in the best interest of the buyer/seller to undertake a more detailed investigation, in this instance.

Should you have any further queries concerning these results, please do not hesitate to contact GTS on 03 5441 4881.



Benj Beatty BA/BSc (Hons), MPA, MAusIMM
Senior Engineering Geologist



GTS - Bendigo

13 Alstonvale Court East Bendigo VIC 3550
Phone: 03 5441 4881

Engineering Log - Borehole

Borehole No: 1

UTM : 55H	Driller Rig : Gemco HS7 - Landcruiser Mount	Job Number : 22C0512 Lot 43
Easting : 0.0	Driller Supplier : Geotechnical Testing Services	Client : DPJ Civil Pty Ltd
Northing : 0.0	Logged By : Ben Tippett	Project : Stage 8 Marong Run
RL : N/A	Reviewed By :	Location : Marong
Total Depth : 3m	Date : 20/07/2022	

Drilling Method	Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Weathering	Moisture	Consistency	DCP	Testing	
100mm SFA		0.4	Fill		SC	Clayey SAND (SC) : Medium dense, fine grained, pale brown, low plasticity clay, Moist.		M	MD			
		0.5	Natural		CH	Silty CLAY (CH) : Hard, high plasticity, brown, w=PL.		w ≈ PL	H			
		0.8	Natural		CH	Silty CLAY (CH) : Hard, high plasticity, dark brown, w<PL.		w < PL	H			
		2.0	Natural		CI	Sandy CLAY (CI) : Very stiff, medium plasticity, pale brown, fine grained sand, w<PL.		w < PL	Vst			
		3.0	1 Terminated at 3m									
		3.5										
		4.0										



GTS - Bendigo

13 Alstonvale Court East Bendigo VIC 3550

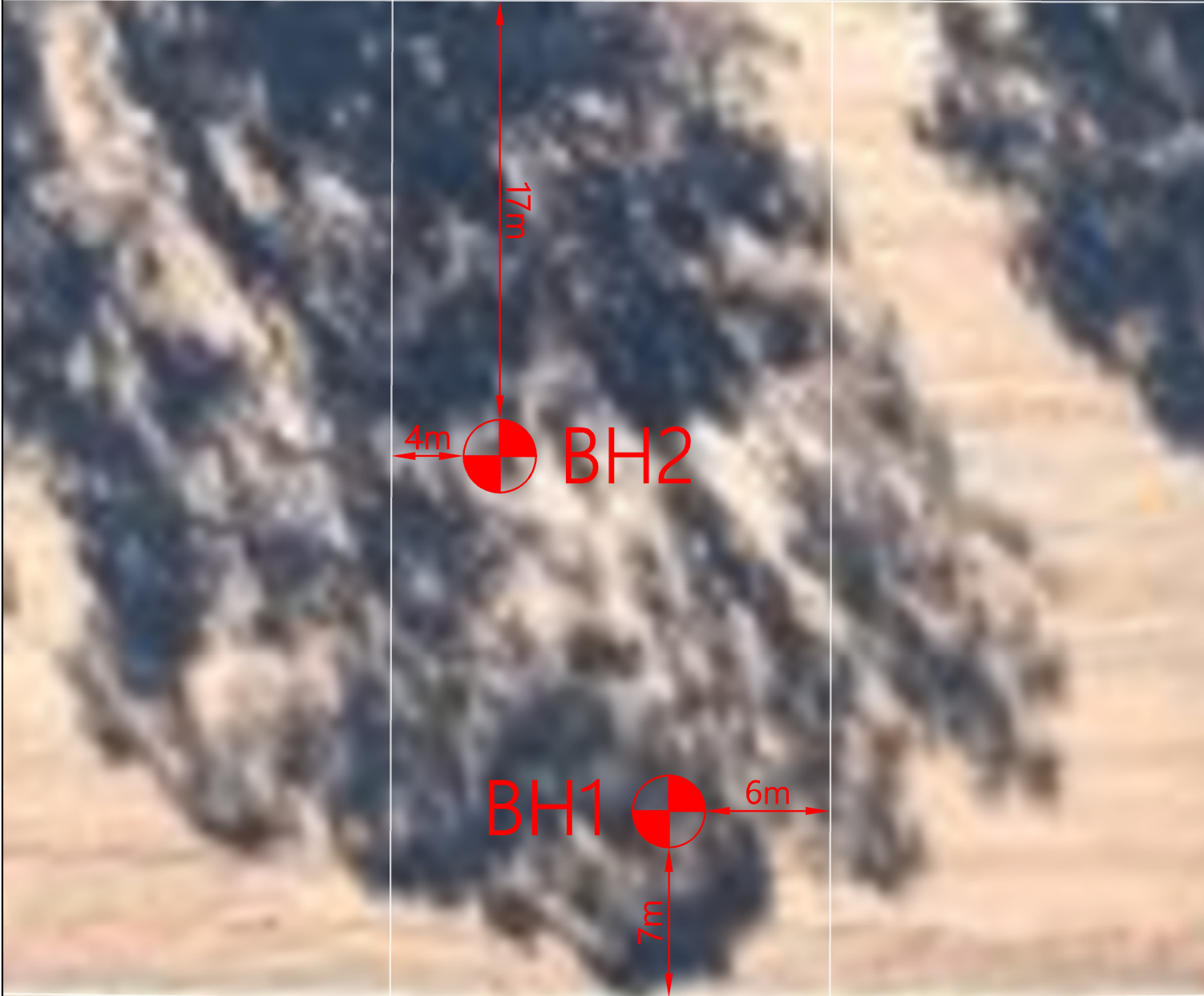
Phone: 03 5441 4881

Engineering Log - Borehole

Borehole No: 2

UTM : 55H Driller Rig : Gemco HS7 - Landcruiser Mount Job Number : 22C0512 Lot 43
 Easting : Driller Supplier : Geotechnical Testing Services Client : DPJ Civil Pty Ltd
 Northing : Logged By : Ben Tippett Project : Stage 8 Marong Run
 RL : N/A Reviewed By : Location : Marong
 Total Depth : 1.5m Date : 20/07/2022

Drilling Method	Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Weathering	Moisture	Consistency	DCP	Testing
100mm SFA		0.3	Fill		CI	Sandy to gravely CLAY (CI) : Firm to stiff, medium plasticity, brown, fine to medium sized gravel, fine to medium grained sand, w=PL.		w ≈ PL	F-St		
		0.5	Natural		CH	Silty CLAY (CH) : Hard, high plasticity, pale brown, w<PL.		w < PL	H		
		1.3	Natural		CI	Silty CLAY (CI) : Stiff to very stiff, medium plasticity, pale brown, with fine grained sand, w<PL.		w < PL	St-VSt		
		1.5				2 Terminated at 1.5m					
		2									
		2.5									
		3									
		3.5									
		4									



OSCAR DRIVE



GEOTECHNICAL INVESTIGATION

APPROXIMATE LOCATIONS
NOT TO SCALE

CLIENT: DPJ CIVIL PTY LTD
PROJECT: LOT 43, MARONG RUN STAGE 8
MARONG

GTS REF: 22C 0512 (LOT 43)
CLIENT REF:

DRAWN BY: BAB
DATE: 28 JULY 2022