

Lot 38, Marong Run Stage 8 Marong

Geotechnical Investigation for
DPJ Civil Pty Ltd

Report 22C 0512 (Lot 38)
July 2022

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Revision

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22C 0512 (Lot 38)	BAB	18/07/2022

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GTS	On file	18/07/2022
Darren Pitson DPJ Civil Pty Ltd	Email PDF darren@kpdgroup.com.au	18/07/2022



1 INTRODUCTION

DPJ Civil Pty Ltd commissioned Geotechnical Testing Services (GTS) to conduct a geotechnical investigation for the proposed development at Lot 38, 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 14th 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 no trees near the investigation site, though 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*).

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:

- Clayey/Silty SAND, fine to medium, pale brown, medium dense, low to medium plasticity fines
At depth below 0.1 metres in the region of BH2, and below 0.3 metres in the region of BH1

and/or
- Silty CLAY, medium to high plasticity, orange/brown, pale brown, stiff to very stiff, trace to some fine sand
At depth below 0.5 to 0.6 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 : Drillman GT10 - Landcruiser Mour Job Number : 22C0512 Lot 38
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 : 3m Date : 14/07/2022

Drilling Method	Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Weathering	Moisture	Consistency	DCP	Testing
100mm SFA		0.1	Fill		SC	Clayey SAND (SC) : Loose, fine to medium grained, pale brown, low plasticity clay, Moist.		M	L		
		0.3	Fill		SC	Clayey SAND (SC) : Loose, fine grained, dark brown, low plasticity clay, Moist.		M	L		
		0.5	Natural		SC	Clayey SAND (SC) : Medium dense, fine to medium grained, pale brown, low to medium plasticity clay,			MD		
		0.5	Natural		CI	Silty CLAY (CI) : Stiff, medium plasticity, orange brown, with fine grained sand, w=PL.		w ≈ PL	St		
		1.3	Natural		CI-CH	Silty CLAY (CI-CH) : Stiff to very stiff, medium to high plasticity, pale brown mottled pale grey, trace fine grained sand, w=PL.		w ≈ PL	St-Vst		
		2.2	Natural		CI	Sandy CLAY (CI) : Stiff, medium plasticity, brown mottled grey, fine to medium grained sand, w=PL.		w ≈ PL	St		
		3				1 Terminated at 3m					
		3.5									
		4									



GTS - Bendigo

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Engineering Log - Borehole


Borehole No: 2

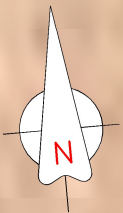
UTM : 55H Driller Rig : Drillman GT10 - Landcruiser Mour Job Number : 22C0512 Lot 38
 Easting : Driller Supplier : Geotechnical Testing Services Client : DPJ Civil Pty Ltd
 Northing : Logged By : Ben Tippett Project : Stage 8 Marong Run
 RL : N/A Reviewed By : Location : Marong
 Total Depth : 1.5m Date : 14/07/2022

Drilling Method	Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Weathering	Moisture	Consistency	DCP	Testing
100mm SFA		0.1	Fill		CL	Sandy CLAY (CL) : Firm, low plasticity, brown, fine grained sand, w=PL.		w ≈ PL	F		
			Natural		SM	Silty SAND (SM) : Loose to medium dense, fine grained, pale brown, Moist.		M	L-MD		
		0.6	Natural		CI-CH	Silty CLAY (CI-CH) : Stiff to very stiff, medium to high plasticity, pale brown to orange brown, trace 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

 BH1

BH2 



GEOTECHNICAL INVESTIGATION

APPROXIMATE LOCATIONS
NOT TO SCALE

CLIENT: DPJ CIVIL PTY LTD
PROJECT: LOT 38, MARONG RUN STAGE 8
MARONG

GTS REF: 22C 0512 (LOT 38)
CLIENT REF:

DRAWN BY: BAB
DATE: 20 JULY 2022