Lot 85, Discover Marong Stage 3 Marong

Site Classification for Arbor Estates

Report 18C 0402 (Lot 85)
May, 2018

GTS
GEOTECHNICAL TESTING SERVICES

Lot 85, Discover Marong Stage 3, Marong

Site Classification
for
Arbor Estates

Revision

Revision	Date	Authorised
18C 0402 (Lot 85)	31/05/18	SEH

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1 INTRODUCTION

Arbor Estates commissioned Geotechnical Testing Services to conduct a geotechnical investigation for the proposed residential development located at Lot 85, Discover Marong Stage 3, 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 by a technician on the 23rd of May, 2018 using a trailer mounted drill-rig and drilling 2 boreholes to depths of 1.5 to 3 metres within the designated area. The subsequent soil profiles are presented in page 6 and the location of the boreholes are presented on page 7.

At the time of this investigation, the type of development proposed is unknown to GTS.

3 SITE CONDITIONS

The site has had controlled fill placed (supervised and tested by GTS) to form the relatively flat surface and is currently vacant. At the time of the investigation the surface of the site was dry with no grass cover. There are no trees present in the immediate vicinity. There was no visual evidence of surface cracking or surface rock. No groundwater seepage was encountered over the investigated depths.

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

4 SITE CLASSIFICATION

After allowing due consideration to the site geology, soil conditions, the controlled fill (GTS report 18C 0399), drainage and known details of the proposed structure, the site has been classified as **Class H1-D** (AS2870 – 2011).

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

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:

- Controlled FILL: Silty CLAY, some sand and traces of gravel, medium plasticity, dark brown, very stiff
  At depth below 0.0 metres

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 founding material.

The proposed dwelling should be located a minimum distance of 1 x the mature height of all trees. This distance can be increased by 50 % for groups or lines of trees. If this distance is impeded then the size and distance from the dwelling 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 AS 2870 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.

Should you have any further queries concerning these results, please do not hesitate in contacting this office on 5441 4881

Shane Hampton BE (Hons)
Senior Geotechnical Engineer

Enclosed
Borehole Logs (Page 6)
Site Map (Page 7)

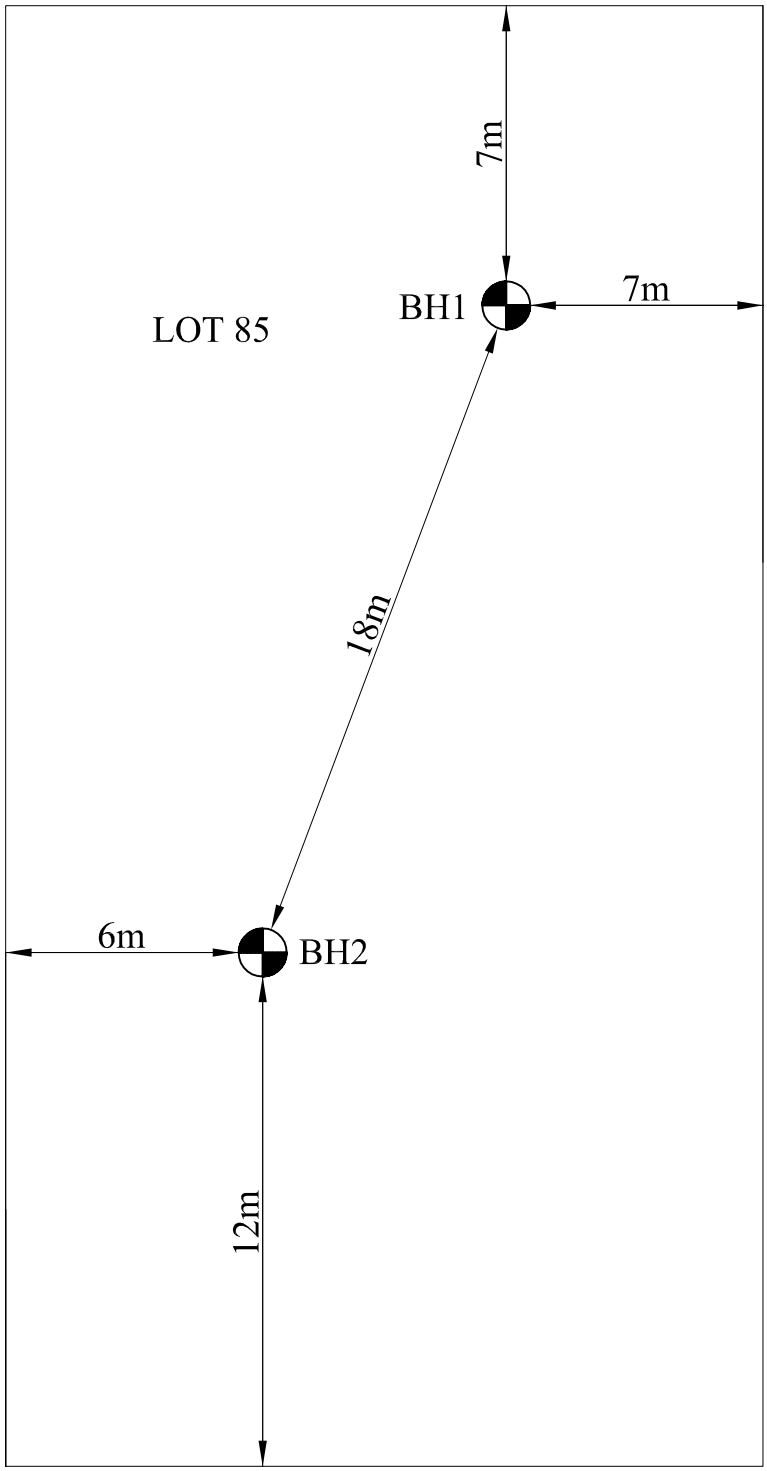
Borehole Logs

Client:	Arbor Estates	Borehole Log No.:	1-2
		Report Number:	18C 0402 (Lot 85)
		Date Drilled:	23/05/18
Project:	Lot 85, Discover Marong Stage 3, Marong	Logged By:	TP
		Drilling Method	AS

Profile (mm):	* Structure: (see key)	Material Description:	Moisture Description:	Cohesion Density:	Plasticity:	Testing / Sampling:
0 To 600	Controlled Fill	BH1 Silty CLAY Dark brown, some sand, traces of gravel	D	VSt	Medium	
To 2400	Soil Profile	Silty CLAY Red/brown, brown, pale brown, traces of gravel	M	VSt	High	
To 3000		Silty CLAY Yellow/brown, some sand	M	VSt	Medium	
0 To 400	Controlled Fill	BH2 Silty CLAY Dark brown, some sand, traces of gravel	M	VSt	Medium	
To 1500	Soil Profile	Silty CLAY Red/brown, pale brown, traces of gravel	M	VSt	High	

Key:

Drilling Method:	Moisture Condition	Cohesion:	Density:	Testing/Sampling:
AS - Auger Screwing	D - Dry	VS - Very Soft	VL - Very Loose	PP – Pocket Penetrometer
HA - Hand Auger	M - Moist	S - Soft	L - Loose	V – Hand Vane Sheer
	W - Wet	F - Firm	MD - Medium Dense	DCP – Dynamic Cone Penetrometer
		ST - Stiff	D - Dense	SPT – Standard Penetration Test
		VST - Very Stiff	VD - Very Dense	US – Undisturbed Sampling
		H - Hard		DS – Disturbed Sampling
		VH – Very hard		* See notes on borelog location page



GTS GEOTECHNICAL TESTING SERVICES

GEOTECHNICAL INVESTIGATION

APPROXIMATE LOCATIONS NOT TO SCALE

CLIENT: ARBOR ESTATES

PROJECT: LOT 85, DISCOVER MARONG STAGE 3 MARONG

GTS REF: 18C 0402

DATE: 25 MAY 2018