



GEOTECHNICAL
TESTING SERVICES
SOUTHERN

SITE CLASSIFICATION

Client: Arbor Estates Pty Ltd
24 Jewell Court
East Bendigo, Vic 3550

Date: 23 December 2015

Project: Lot 47 Brooklands Drive, Canterbury Estate

1 INTRODUCTION

Arbor Estates commissioned Geotechnical Testing Services to conduct a geotechnical investigation for the proposed residential development located at Lot 47 Brooklands Drive, Canterbury Estate.

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 16th of December, 2015 using a vehicle mounted drill-rig and drilling 3 boreholes to depths between 1.5 metres and 3 metres within the designated area. The subsequent soil profiles are presented in page 4 and the location of the boreholes are presented on page 5.

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

3 SITE CONDITIONS

The site has a natural slight fall to the west that has had controlled fill (supervised and tested by GTS) placed to backfill the creek to form the current surface levels. At the time of the investigation the surface of the site was dry with no grass cover. There are no trees present in the near vicinity. There was no visual evidence of surface cracking or surface rocks. Groundwater seepage was not encountered over the investigated depths.

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



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4 SITE CLASSIFICATION

After allowing due consideration to the site geology, soil conditions, the controlled fill (GTS report 15C 0806), drainage and known details of the proposed structure, the site has been classified as **Class M - 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:

- Silty CLAY, medium plasticity, orange/brown, very stiff
At depths below 0.1 metres in the region of BH1 or
- Controlled FILL: Gravelly Silty CLAY, medium plasticity, orange/brown/yellow, very stiff
At depths below 0.1 metres in the region of BH2 and 3

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.



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- 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 borelogs 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

Yours faithfully

Shane Hampton BE (Hons)
Senior Geotechnical Engineer

Enclosed

Borelogs (Page 4)

Brief Site Map (Page 5)



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Borehole Logs

Client:	Arbor Estates	Borehole Log No.:	1 - 3
		Report Number:	15C 0992
		Date Drilled:	14/12/15
Project:	Lot 47 Brooklands Drive, Canterbury Estate	Logged By:	ML
		Drilling Method	AS

Profile (mm):	* Structure: (see key)	Material Description:	Moisture Description:	Cohesion Density:	Plasticity:	Testing / Sampling:
0 To 100	Fill	BH1 Sandy SILT Grey	D	MD	-	-
100 To 900	Soil Profile	Silty CLAY Orange/brown	M	VST	Medium	-
900 To 1300	Soil Profile	Silty CLAY/SILTSTONE Orange/white	M	VST	Medium	-
1300 To 1500	Rock	SANDSTONE Extremely weathered, orange	M	Soft Rock	-	-
0 To 100	Fill	BH2 Sandy SILT Grey	D	MD	-	-
100 To 1200	Controlled Fill	Gravelly Sandy Silty CLAY Orange/brown/yellow	M	VST	Medium	-
1200 To 1600	Soil Profile	Silty CLAY Orange/brown, trace of gravel	M	VST	Medium	-
1600 To 2400		Silty CLAY/SILTSTONE Orange/brown/white	M	VST	Medium	-
2400 To 3000	Rock	SILTSTONE Extremely weathered, brown	M	Soft Rock	-	-
0 To 100	Fill	BH3 Sandy SILT Grey	D	MD	-	-
100 To 600	Controlled Fill	Gravelly Sandy Silty CLAY Orange/brown/white/yellow	M	VST	Medium	-
600 To 1300	Soil Profile	Silty CLAY Orange/brown, trace of sand/gravel	M	VST	Medium	-
1300 To 1800		CLAY/SILTSTONE/SANDSTONE Orange/white	M	VST	Medium	-
1800 To 2000	Rock	SILTSTONE/SANDSTONE White/orange	M	Soft Rock	-	-

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



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Key:

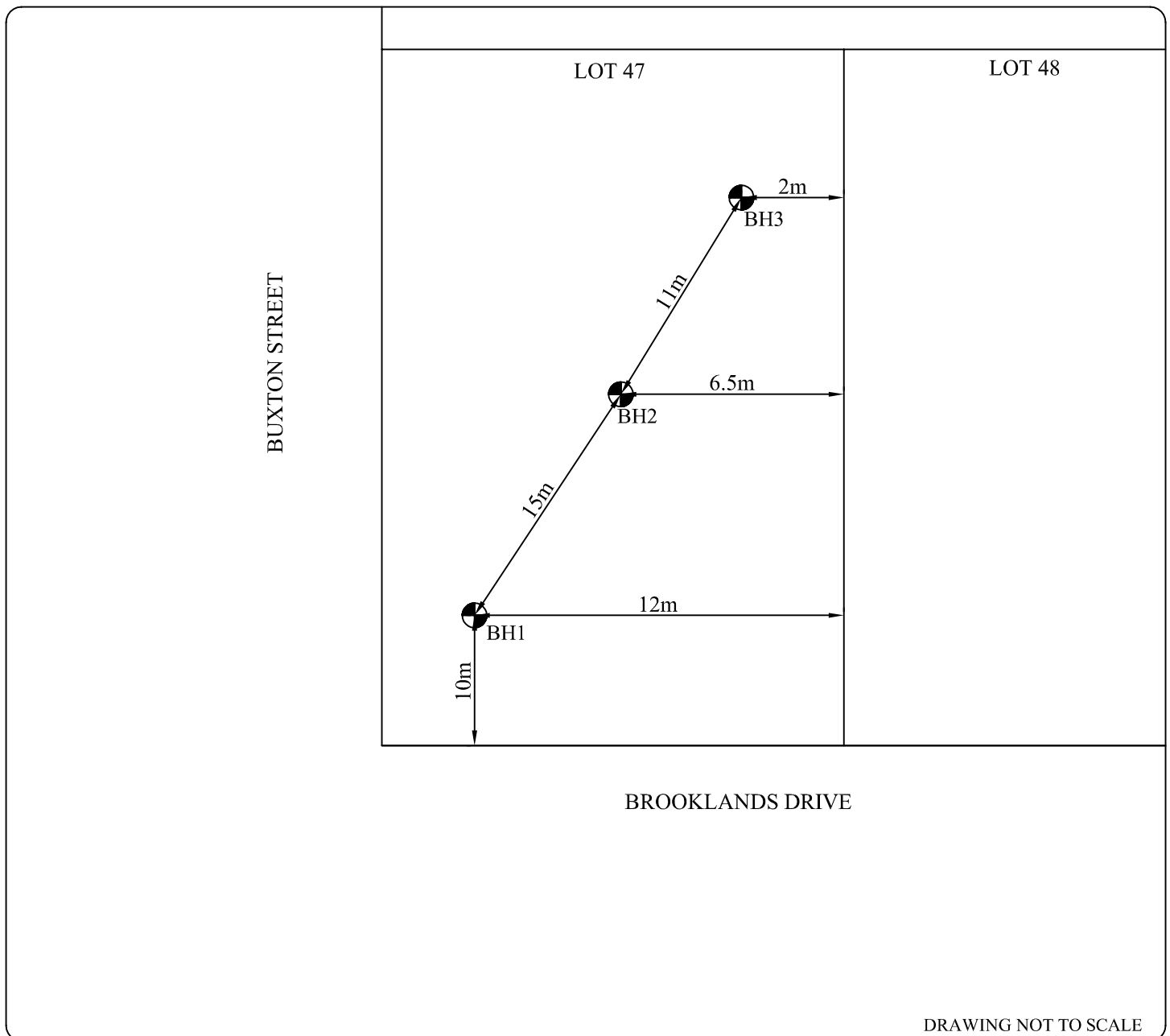
Drilling Method:	Moisture Condition	Cohesion:	Density:	Testing/Sampling:
AS - Auger Screwing	D - Dry	VS - Very Soft	VL - Very Loose	PP – Pocket Penetrometer
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		ST - Stiff	D - Dense	SPT – Standard Penetration Test
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		H - Hard		DS – Disturbed Sampling
		VH – Very hard		* See notes on borelog location page



Borehole Locations

Client :	ARBOR ESTATES
Project:	LOT 47 BROOKLANDS DRIVE CANTERBURY ESTATE

Borehole No. :	1 - 3
Report No. :	15C 0992
Date Drilled :	16/12/15
Operator:	ML
Drilling Method:	A.S
Page No.:	5 of 5



DRAWING NOT TO SCALE

(T) = TREES