

# Lot 90, Discover Marong Stage 4 Marong

Site Classification for  
Arbor Estates

Report 18C 0868 (Lot 90)  
November 2018

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## Site Classification for Arbor Estates

### Revision

| Revision          | Date    | Authorised |
|-------------------|---------|------------|
| 18C 0868 (Lot 90) | 9/11/18 | SEH        |

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| Recipient     | Format    | Date    |
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## 1 INTRODUCTION

Arbor Estates commissioned Geotechnical Testing Services to conduct a geotechnical investigation for the proposed development located at Lot 90, Discover Marong Stage 4, 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 23<sup>rd</sup> October 2018 using a trailer mounted drill-rig and drilling 2 boreholes to depths of 1.5 to 3.0 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 is relatively flat and is currently vacant. It is noted that controlled fill has been placed across the front of the lot. 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 visual evidence of surface cracking but no evidence of 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, drainage and known details of the proposed development, 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:

- Silty CLAY, high plasticity, pale brown to brown, very stiff, traces of fine to medium gravel  
At depth below 0.1 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.

Whilst the controlled fill was not encountered during this investigation, it may encroach into the building footprint. As such, the controlled fill in the front of the site is a suitable founding medium should it be encountered.

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 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 in contacting this office on 5441 4881.

**Prepared by:**



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Enclosed

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

# Borehole Logs

|          |                                            |                   |                   |
|----------|--------------------------------------------|-------------------|-------------------|
| Client:  | Arbor Estates                              | Borehole Log No.: | 1-2               |
|          |                                            | Report Number:    | 18C 0868 (Lot 90) |
|          |                                            | Date Drilled:     | 23/10/18          |
| Project: | Lot 90, Discover Marong Stage 4,<br>Marong | Logged By:        | TP                |
|          |                                            | Drilling Method   | AS                |

| Profile (mm):                              | * Structure: (see key) | Material Description:                                                  | Moisture Description: | Cohesion Density: | Plasticity: | Testing / Sampling: |
|--------------------------------------------|------------------------|------------------------------------------------------------------------|-----------------------|-------------------|-------------|---------------------|
| 0<br>To<br>100<br>To<br>2500<br>To<br>3000 | Fill                   | <b>BH1</b><br>Gravelly Silty CLAY<br>Dark brown, fine to medium gravel | D                     | St                | Medium      |                     |
|                                            | Soil profile           | Silty CLAY<br>Pale brown/brown, trace fine gravel                      | M                     | VSt               | High        |                     |
|                                            |                        | Silty CLAY<br>Pale brown, some fine to coarse sand, trace fine gravel  | D                     | VSt               | Medium      |                     |
| 0<br>To<br>100<br>To<br>1500               | Fill                   | <b>BH2</b><br>Gravelly Silty CLAY<br>Dark brown, fine to medium gravel | D                     | St                | Medium      |                     |
|                                            | Soil profile           | Silty CLAY<br>Pale brown/brown, trace fine 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 Shear                  |
|                     | 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 |

