

CIVILTEST ALBURY WODONGA

Soils Engineering Laboratory

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22.5.2012

Report No. : 12CT469/95

Arbor Estates Pty Ltd
C/- EDM Group
P O Box 317
Wodonga, Vic, 3689

**Re: Site Classification for proposed residence
Lot 95 Silky Oak Estate, Stage 7
Wodonga, Vic, 3690**

An investigation was carried out on 10.5.2012 to determine a soil classification for the above site. The site is moderately sloping and lightly grassed. The surface drainage on site is good.

FIELD RESULTS

Materials encountered during the field investigation are described in the attached investigation log and in general consists of controlled fill overlaying sandy and silty clays of low to high plasticity.

SITE CLASSIFICATION

Based on the results of the investigation the site has been classified as Class "MD" Moderately Reactive-Deep site in accordance with AS 2870-2011 Residential Slabs and Footings - Site Classification by surface Movement Calculation.

Recommendations for this Site:

The footings of a conventional slab may be designed for a Class "MD" site classification with the external beams founded a minimum of 300mm below existing surface level.

If piers, stumps or strip footings are used on this site they should be founded a minimum of 600mm below existing surface level.

The external footings for a waffle pod slab may be designed for a Class "MD" site classification with the external beams founded a minimum of 300mm below existing surface level.

The site should be stripped of all vegetation and topsoil, with any areas of soft, loose or wet material selectively excavated to provide a firm, working base.

The allowable bearing pressure for this site is 125kPa from 300mm in depth.

GENERAL NOTE : FILL MATERIAL

Some building sites may contain areas of fill, which cannot be visually identified at the time of investigation. It is also often difficult to determine fill from natural insitu materials during a site investigation borehole. If fill is encountered during excavation of footings, and it is not described in the field investigation log, further advice must be obtained.

Where controlled (compacted) fill is encountered, the amount of compacted fill allowable is up to 800mm of "sand" fill or 400mm of "other" fill. AS 2870 - 2011 provides details of additional construction requirements for controlled fill sites.



P.C. Vella
Manager

PCV/pcv

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Form CT132/3

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Borehole/Trench No: 1

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INVESTIGATION LOG REPORT NO: 12CT469

| | |
|---|-------------------------------|
| Client: Arbor Estates Pty Ltd | Date Logged: 10/5/2012 |
| Investigation For: Site Classification | Logged By: PJ |
| Location: Lot 95, Silky Oak Estate, Stage 7, Wodonga | Checked By: PCV |
| Borehole/Trench Location: Centre of Lot | Date: 14/5/2012 |
| Method: <input type="checkbox"/> Hand Auger <input type="checkbox"/> Backhoe <input checked="" type="checkbox"/> Drill Rig <input type="checkbox"/> Other | |
| Alignment: 90° | |

| DEPTH mm | MATERIAL DESCRIPTION & CLASSIFICATION | MOISTURE CONDITION | CONSIST. DENSITY INDEX | VS kPa | SAMPLE TAKEN | REMARKS |
|-------------|--|-----------------------|------------------------------|-----------|-----------------|---------|
| 150 | Silty SAND, dark brown Fine to medium grained, low plasticity | Moist | Medium | | | FILL |
| 450 | Silty Sandy CLAY, red-brown Fine to medium grained, medium plasticity | | Dense | | | |
| | | | Stiff | | | |
| | Gravelly Sandy CLAY, brown Fine to coarse grained High plasticity | | Very Stiff | | | |
| 900 | Gravelly Sandy CLAY, dark grey Fine to coarse grained Medium plasticity | | Stiff | | | |
| 1200 | Gravelly Sandy CLAY, brown Fine to coarse grained Medium-high plasticity | | | | | |
| 1800 | Gravelly Sandy CLAY, red-brown Fine to coarse grained High plasticity | Very Stiff | | | | |
| 2100 | Bore Terminated at 2.1m | | | | | |

ISS - Shrink Swell Index

LL - Liquid Limit

LS - Linear Shrinkage

DRAINAGE: -General Good Fair Poor Free Water Swampy Subject to Flooding

TOPOGRAPHY:

-General Flat Undulating Hilly

-Local Flat Moderate Slope Dip Valley High Flat Low Flat Crest Steep Slope

----W---- - Water Level
 <----- - Water Inflow
 MD - Medium Dense
 Vst - Very Stiff

D - Disturbed Sample
 U50 - Undisturbed Sample 50mm dia
 CBR* - 9kg Scala Dynamic Cone
 MC - Moisture Content Taken

CIVILTEST ALBURY WODONGA

SOILS ENGINEERING LABORATORY

15 May 2012

Arbor Estates
C/o EDM Consulting
PO Box 317
Wodonga, Vic, 3689

Re: Silky Oaks Estate, Wodonga Stage 7

Attention: Mr Ralph Roberts,

Civiltest Albury Wodonga carried out supervision of the controlled fill and proof rolling on Stage 7 of Silky Oaks Estate, Wodonga.

The controlled fill works were done on the backfill to the retaining wall and the old stormwater drain that was found during the construction of the retaining wall.

The fill works were carried out during March 2012.

Civiltest Albury-Wodonga staff member Mr Brent Aldridge supervised the proof rolling and performed the density testing on site.

The equipment used for the earthworks on site included an EC210B excavator, a 12 tonne Dynapac roller, a backhoe and a tip truck to cart and move fill.

The fill materials used on site did not require much in the way of moisture conditioning to enable compaction

The bases of the excavated areas were proof rolled prior to fill being placed. A small number of soft spots were found. These were excavated to a firm surface and backfilled with suitable fill. Sandy clay fill materials were used as fill, most of which was derived from material excavated from site.

Density tests were performed as the fill was placed and the reports are included with this certification.

All density tests well exceeded the required 95% of Standard Compaction (AS1289.5.7.1) after compaction. The mean density ratio achieved in the fill material is 101.0%.

The moisture content varied between 1.5% wet to 2% dry of optimum moisture content at the time of compaction.

As the appointed Geotechnical testing authority on this project we state that the testing and supervision was carried out to Level 1, defined in AS3798-2007, Guidelines on Earthworks for Commercial and Residential Developments.

The fill placed on this site is therefore certified as controlled fill in accordance with AS2870-1996.

The tested and certified Level 1 engineered fill is capable of withstanding the loads from the proposed structures on site. All footings in the filled areas may be founded in the fill at the minimum depths itemized in the site classification reports.

If there are any questions regarding the above, please contact the undersigned.

Yours Faithfully

A handwritten signature in black ink, appearing to read "Vella".

Peter Vella
Manager