

GROUND TESTING:

New first floor addition at **23 Dobroyd Road, Balgowlah Heights**

1. Scope

The aim of this assessment is to determine the ground conditions across the area of the proposed works and provide foundation recommendations.

The site was inspected on the 30th April, 2021.

2. Proposed Development

- 2.1** Construct a new first floor addition.
- 2.2** Besides those for footings, no excavations are required. No fills are shown on the plans.
- 2.3** Details of the proposed development are shown on 2 drawings prepared by Your Style, Project number STI 0311 DA, drawings numbered 1 and 3, Revision 1, dated 12/7/2011.

3. Geology

The Sydney 1:100 000 Geological sheet indicates the site is underlain by Hawkesbury Sandstone. It is described as a medium to coarse grained quartz sandstone with very minor shale and laminite lenses.

4. Subsurface Investigation

Four Dynamic Cone Penetrometer (DCP) tests were put down to determine the relative density of the overlying soil and the depth to bedrock. The locations of the tests are shown on the site plan attached. It should be noted that a level of caution should be applied when interpreting DCP test results. The test will not pass through hard buried objects so in some instances it can be difficult to determine whether refusal has occurred on an obstruction in the profile or on the natural rock surface. This is not expected to be an issue for the testing

on this site. However, excavation and foundation budgets should always allow for the possibility that the interpreted ground conditions in this report vary from those encountered during excavations. See the appended "Important information about your report" for a more comprehensive explanation. The results are as follows:

DCP TEST RESULTS – Dynamic Cone Penetrometer				
Equipment: 9kg hammer, 510mm drop, conical tip.			Standard: AS1289.6.3.2 - 1997	
Depth(m) Blows/0.3m	DCP 1 (~RL72.5)	DCP 2 (~RL72.2)	DCP 3 (~RL71.6)	DCP 4 (~RL71.2)
0.0 to 0.3	11	11	2	8
0.3 to 0.6	6	6	4	#
0.6 to 0.9	9	20	15	
0.9 to 1.2	36	32	18	
1.2 to 1.5	38	36	6	
1.5 to 1.8	34	33	#	
1.8 to 2.1	12	20		
2.1 to 2.4	#	#		
	Refusal on Rock @ 1.95m	Refusal on Rock @ 2.0m	Refusal on Rock @ 1.3m	Refusal on Rock @ 0.2m

#refusal/end of test. F=DCP fell after being struck showing little resistance through all or part of the interval.

DCP Notes:

DCP1 – Refusal on rock @ 1.95m, DCP bouncing off rock surface, red and grey sand on wet tip.

DCP2 – Refusal on rock @ 2.0m, DCP bouncing off rock surface, red and grey sand on wet tip.

DCP3 – Refusal on rock @ 1.3m, DCP bouncing off rock surface, brown and red sandy clay on damp tip.

DCP4 – Refusal on rock @ 0.2m, DCP bouncing off rock surface, yellow impact dust on dry tip.

5. Geological Observations and Interpretations

The surface features of the block are controlled by the outcropping and underlying sandstone bedrock that steps up the property forming sub-horizontal benches between the steps. Where the grade is steeper, the steps are larger and the benches narrower. Where the slope eases, the opposite is true. Sandstone bedrock was observed to be outcropping across the downhill side of the property. Where the rock is not exposed, it is overlain by sandy soil and sandy clays that fill the bench step formation. Filling has been placed across the property for landscaping. In the test locations, the depth to rock ranged between 0.2 to 2.0m below the current surface, being deeper in some locations due to the presence of fill and due to the stepped nature of the underlying bedrock. The outcropping sandstone on the property is estimated to be medium strength or better and similar strength rock is expected to underlie the entire site.

6. Foundations

We envisage the perimeter walls are supported on a combination of foundation materials ranging from Medium Strength Sandstone on the downhill side, Very Low Strength Sandstone as the slope rises beside the house and clay on the uphill side.

It is recommended any additional foundations that may be required are supported on Very Low Strength Sandstone. Should Medium Strength Sandstone be encountered in any proposed foundations all foundations are to be taken to Medium Strength rock.

A maximum allowable bearing pressure of 600kPa can be assumed for footings on Very Low Strength Sandstone. A maximum allowable bearing pressure of 1000kPa can be assumed for footings on Medium Strength Sandstone.

Naturally occurring vertical cracks (known as joints) commonly occur in sandstone. These are generally filled with soil and are the natural seepage paths through the rock. They can extend to depths of several metres and are usually relatively narrow but can range between 0.1 to 0.8m wide. If a footing falls over a joint in the rock, the construction process is simplified if

with the approval of the structural engineer the joint can be spanned or alternatively the footing can be repositioned so it does not fall over the joint.

NOTE: If the contractor is unsure of the footing material required it is more cost-effective to get the geotechnical consultant on site at the start of the footing excavation to advise on footing depth and material. This mostly prevents unnecessary over-excavation in clay-like shaly rock but can be valuable in all types of geology.

7. Inspections

The following inspection is recommended and if geotechnical certification is desired, it is a requirement.

- All footings are to be inspected and approved by the geotechnical consultant while the excavation equipment is still onsite and before steel reinforcing is placed or concrete is poured.

White Geotechnical Group Pty Ltd.



Ben White M.Sc. Geol.,
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No. 222757
Engineering Geologist

Important Information about Your Report

It should be noted that Geotechnical Reports are documents that build a picture of the subsurface conditions from the observation of surface features and testing carried out at specific points on the site. The spacing and location of the test points can be limited by the location of existing structures on the site or by budget and time constraints of the client. Additionally, the test themselves, although chosen for their suitability for the particular project, have their own limiting factors. The testing gives accurate information at the location of the test, within the confines of the test's capability. A geological interpretation or model is developed by joining these test points using all available data and drawing on previous experience of the geotechnical consultant. Even the most experienced practitioners cannot determine every possible feature or change that may lie below the earth. All of the subsurface features can only be known when they are revealed by excavation. As such, a Geotechnical report can be considered an interpretive document. It is based on factual data but also on opinion and judgement that comes with a level of uncertainty. This information is provided to help explain the nature and limitations of your report.

With this in mind, the following points are to be noted:

- If upon the commencement of the works the subsurface ground or ground water conditions prove different from those described in this report, it is advisable to contact White Geotechnical Group immediately, as problems relating to the ground works phase of construction are far easier and less costly to overcome if they are addressed early.
- If this report is used by other professionals during the design or construction process, any questions should be directed to White Geotechnical Group as only we understand the full methodology behind the report's conclusions.
- The report addresses issues relating to your specific design and site. If the proposed project design changes, aspects of the report may no longer apply. Contact White Geotechnical if this occurs.
- This report should not be applied to any other project other than that outlined in section 1.0.
- This report is to be read in full and should not have sections removed or included in other documents as this can result in misinterpretation of the data by others.

- It is common for the design and construction process to be adapted as it progresses (sometimes to suit the previous experience of the contractors involved). If alternative design and construction processes are required to those described in this report, contact White Geotechnical Group. We are familiar with a variety of techniques to reduce risk and can advise if your proposed methods are suitable for the site conditions.

SITE PLAN – showing test locations

Sub-Zone 5

Site area = 594.4m²

Floor Space Ratio = 0.38:1

- Floor Area = 225m²

- Site Area = 594m²

Open Space = 61% (as per existing)

- Open Space Area = 365m²

- Site Area = 594m²

Soft Open Space = 33% (as per existing)

- Soft Open Space = 197m²

- Site Area = 594m²

SCHEDULE OF WINDOWS

No.	SILL RL	HEAD RL
1	73.88	74.57
2	73.27	74.59
3	72.82	74.86
4	76.97	77.58
5	73.22	74.86
6	73.22	74.86

* DENOTES PALM

SCHEDULE OF TREES & PALMS

No.	DIAMETER	SPREAD	HEIGHT
1	0.2	4	10
2 *	0.25	5	12
3	0.2	4	7
4	0.15	3	4
5 *	0.2	3	4
6	0.1	1	4
7 *	0.35	5	10
8 *	0.35	5	12
9 *	0.2	3	4
10 *	0.15	1	4
11 *	0.25	4	10

NOTES:

- THE POSITION OF IMPROVEMENTS TO BOUNDARIES ARE DIAGRAMATIC ONLY
- POSITION OF RIDGE LINES ARE DIAGRAMATIC ONLY (NOT TO SCALE)
- NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. RELEVANT AUTHORITIES ARE TO BE NOTIFIED PRIOR TO ANY DEVELOPMENT
- ALL DIMENSIONS ARE BY TITLE ONLY & SUBJECT TO FINAL SURVEY
- CONTOURS ARE INDICATIVE OF GROUND FORM ONLY. ONLY SPOT LEVELS SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION
- NO INVESTIGATIONS HAVE BEEN MADE OF BUILDING RESTRICTIONS WHICH MAY APPLY TO THIS LAND
- CONTOUR INTERVAL 0.5m MINOR 1.0m MAJOR
- ORIGIN OF LEVELS: 55M 5230 R.L. 71.66 A.H.D.
- THE SPREAD AND HEIGHT OF TREES SHOWN ARE INDICATIVE ONLY AND CANNOT BE SHOWN ACCURATELY WITHOUT ADDITIONAL DETAILED SURVEY.
- BEARINGS SHOWN ARE RELATED TO MAGNETIC MERIDIAN

LEGEND

AC	AIR CONDITIONER	MH	MANHOLE
DPC	DAMP PROOF COURSE	PE	POWER BOX
EBOK	ELECTRICITY BOX	PC	POWER CROSSING
EP	ELECTRICITY PIT	PP	POWER POLE
FL	FLOOR LEVEL	SMH	SEWER MANHOLE
GAS	GAS METER	SO	STORMWATER OUTLET
GP	GULLY PIT	SV	STOP VALVE
HW	HOT WATER HEATER	SW	STORMWATER
HYD	HYDRANT	TEL	TELECOMMUNICATIONS PIT
IC	INSPECTION COVER	VC	VEHICLE CROSSING
LH	LAMP HOLE	WM	WATER METER
LP	LIGHT POLE	WS	WATER SERVICE

REFERENCE:
7746/11

REG'D SURVEYOR

STUTCHBURY JACQUES PTY LTD
LAND SURVEYING CONSULTANTS
P.O. BOX 7249, BROOKVALE NSW 2100

PH: 8976 1600 FAX: 8976 1655 E-MAIL: info@stutchbury.net.au

DATE: 01/05/2011

SCALE: 1:100

DATUM: A.H.D.

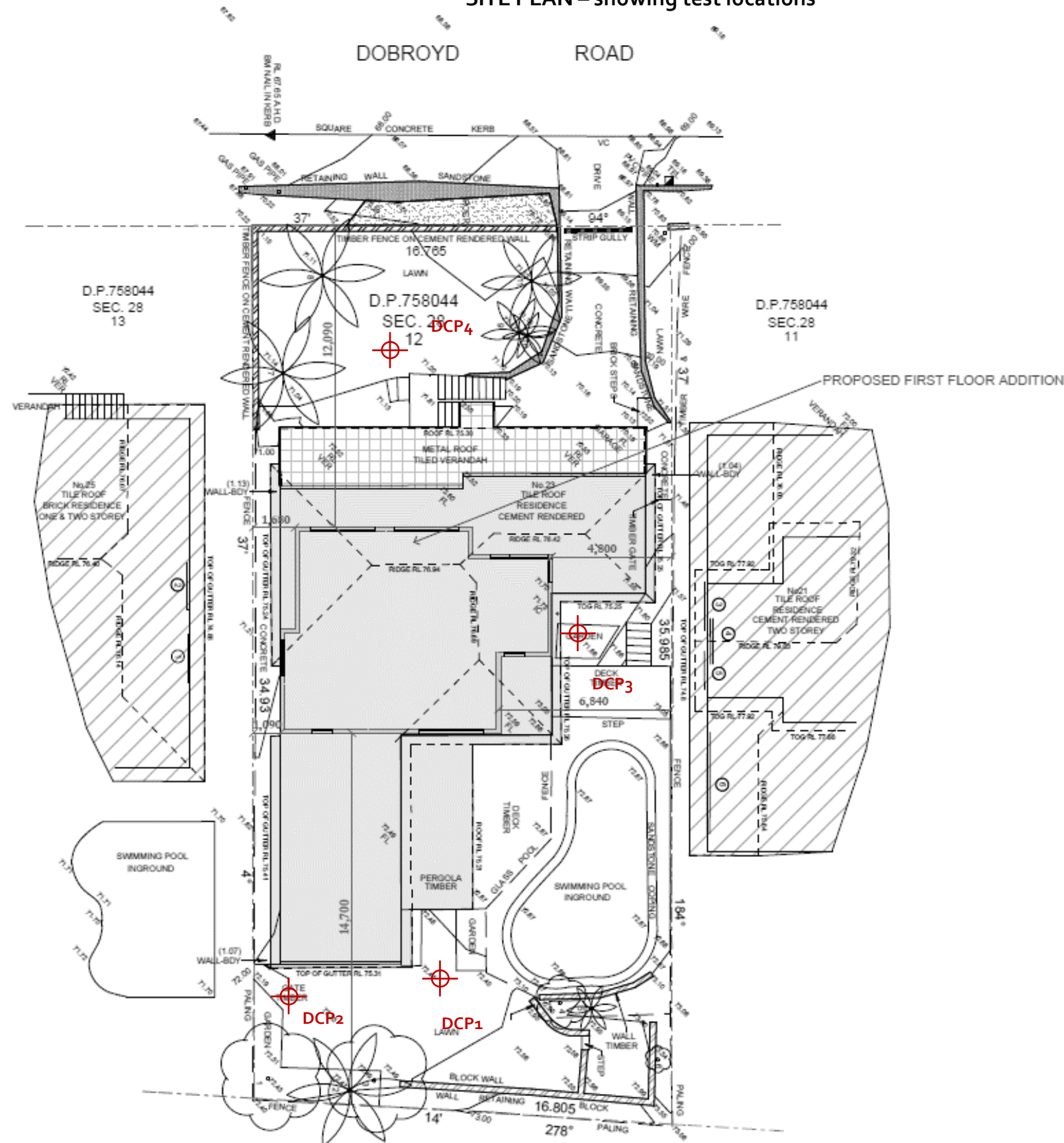
SITE AREA: 594.4m²

SHEET 1 OF 1 SHEETS

CLIENT: YOURSTYLE

PROJECT: DETAIL & LEVEL SURVEY
LOT 12 SEC. 28 DP 758044
No 23 DOBROYD ROAD, BALGOWLAH HEIGHTS

LGA: MANLY



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BUILDER LICENCE • 60007C
A DIVISION OF TAG TEAM CONSTRUCTIONS PTY LTD

Client Name: Scott & Lauren Still

Client Address: 23 Dobroyd Road, Balgowlah 2093

Client No.: STI 0311 DA

All construction work to be performed in accordance with Australian Standards and Building Code of Australia 2010.

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Project Number: STI 0311 DA

Included Pages: 1-

Signed: Date: Tuesday, 12 July 2011

Client's signature

Project Acceptance

We agree to these works in accordance with Your Style's Building Specification & Quote Document and this Design.

Signed: Date: Tuesday, 12 July 2011

Your Style Designer Home Additions

Signed: Date: Tuesday, 12 July 2011

Client's signature

Signed: Date: Tuesday, 12 July 2011

Client's signature

Project Name: First Floor Addition

Drawing Title: SITE ANALYSIS

Architect: Darren Tye

Scale: 1:200

Status: DA

Plot Date: Tuesday, 12 July 2011

Drawing No.: 3

File Location: STI 0311 DA.pln

Your Style Construction Certificate Exclusions:

Items in red and/or listed here do not form part of Your Style's Construction Certificate and will not be approved for construction under Your Styles Construction Certificate: CC# and will require a separate CC Application.