

DIRTS (QLD) Pty Ltd

Site Investigations, Soil, Aggregate & Concrete Testing

A.B.N. 47 113 364 757

4/102 Islander Rd, Hervey Bay Q 4655 (Po Box 276) Ph-41245533 Fax-41245677

SITE CLASSIFICATION

REPORT

FOR

HOLMES MCLEOD

AT

**ALDRIDGE STATE HIGH SCHOOL,
BOYS AVE, MARYBOROUGH**

SITE CLASS: "H1"

Date 15th August 2016

JOB No. 16-267

SITE CLASSIFICATION

CLIENT	<u>HOLMES MCLEOD</u>	
PROJECT	ALDRIDGE STATE HIGH SCHOOL, BOYS AVE, MARYBOROUGH	Job No. 16-267

TABLE OF CONTENTS

page number

1.0	COMMISSION	2
2.0	SITE INVESTIGATION	
	2.1 Field Investigation	2
	2.2 Laboratory Testing	2
3.0	SITE CLASSIFICATION	2
4.0	GENERAL DEFINITIONS OF SITE CLASSES	3
5.0	RECOMMENDATIONS	3

SITE CLASSIFICATION

CLIENT	HOLMES MCLEOD	
PROJECT	ALDRIDGE STATE HIGH SCHOOL, BOYS AVE, MARYBOROUGH	Job No. 16-267

1.0 COMMISSION

DIRTS (Qld) Pty Ltd has been commissioned by **HOLMES MCLEOD** on the **12th August 2016**, to undertake a site classification report. In preparing this report the following information has been supplied to us.

Property Description and site address	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
The footprint of the proposed structure	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
Any proposed cut/fill situations are to occur	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>
Existing trees on site are to be removed	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>

No trees encountered

The purpose of the investigation was to identify the sub-surface profiles and properties of soils encountered in accordance with the following Australian Standards:

- AS1726 – 1993, Geotechnical Site Investigations
- AS1289 – Testing of Soils for Engineering Purposes
- AS2870 – 2011, Residential Slab and Footings

2.0 SITE INVESTIGATION

2.1 **Field Investigation**

On-site drilling and sampling was carried out using a Rotary Drill down to the depths shown on the accompanying bore log. The locations of the boreholes are shown on the attached site plan.

Undisturbed samples were taken on representative materials encountered at the time of drilling. These samples were used for visual classifications and further laboratory testing.

No ground water was encountered in any of the boreholes at the time of this investigation.

2.2 **Laboratory Testing**

Laboratory testing was carried out on typical samples to assess the potential of the underlying soils to exhibit shrink/swell characteristics under varying moisture conditions. Details of the Laboratory Test Results are attached.

3.0 SITE CLASSIFICATION

Laboratory testing and field classifications indicate the presence of soils with a **HIGH** potential to shrink/swell under varying moisture conditions. The Characteristic Surface Movement due to changes in the soil moisture content during normal climatic changes is **40-50 mm**.

In accordance with AS2870– 2011 the Site Classification is "H1".

This classification is based on the conditions existing at the time of the investigation. It is possible that the site may exhibit conditions differing from those shown on the bore logs and used in the site evaluation. In these circumstances a re-appraisal of the Site Classification may be required.

SITE CLASSIFICATION

CLIENT	<u>HOLMES MCLEOD</u>	
PROJECT	ALDRIDGE STATE HIGH SCHOOL, BOYS AVE, MARYBOROUGH	Job No. 16-267

4.0 GENERAL DEFINITIONS OF SITE CLASSES

CLASS	FOUNDATION
A	Most sand and rock site with little or no ground movement from moisture changes.
S	Slightly reactive clay sites with only slight ground movement from moisture changes.
M	Moderately reactive clay or silt sites, which can experience moderate ground movement from moisture changes.
H	Highly reactive clay sites, which can experience high ground movement from moisture changes.
E	Extremely reactive sites, which can experience extreme ground movement from moisture changes.
P	Sites which include soft soils, such as soft clay or silt or loose sands; landslip; mine subsidence; collapsing soils; soils subject to erosion; reactive sites subject to abnormal moisture conditions or sites which cannot be classified otherwise.


5.0 RECOMMENDATIONS

We recommend that you seek advice from your design engineer with regard to any earthworks and drainage recommendations.

This report has not taken into account any trees, gardens or other structures previously or currently existing, or ones added to the site at a later stage. Your design engineer is to take into account any abnormal site conditions, which may be a result of existing or adding any of these to the site.

The owner/occupier and design engineer should take note of the details found in the CSIRO Publication on Foundation Maintenance and Footing Performance. This publication is available from CSIRO PUBLISHING, P O Box 1139, Collingwood Vic 3066. Freecall 1800-645051.

We would like to thank you for giving us this opportunity to provide this service to you and should you require any further assistance or information, please do not hesitate to contact this office.
DIRTS (QLD) Pty Ltd

 RPE 7374

Dirts(QLD) Pty Ltd




SITE CLASSIFICATION

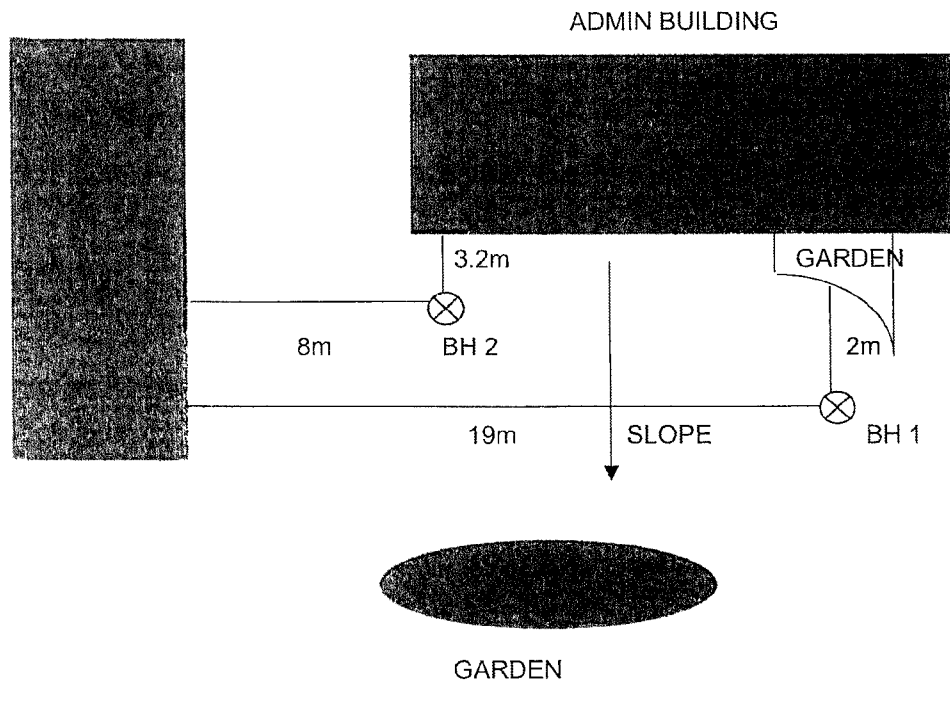
CLIENT	HOLMES MCLEOD	
PROJECT	ALDRIDGE STATE HIGH SCHOOL, BOYS AVE, MARYBOROUGH	Job No. 16-267

SITE PLAN

(Not to Scale)

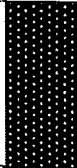
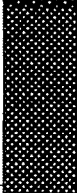

Legend

Drainage	MODERATE	TREES	
Slope Approx.	GENTLE 1:100	Extent of FILL Approx.	
Vegetation	GRASS	BOREHOLES	



SITE CLASSIFICATION

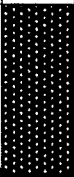
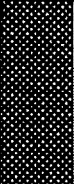

CLIENT	HOLMES MCLEOD		
PROJECT	ALDRIDGE STATE HIGH SCHOOL, BOYS AVE, MARYBOROUGH	Job No.	16-267

Investigation Method		AS1726	Bore No: 1	Date Sampled: 17/8/16	Logged By: TT
Depth	Sample, test etc	Graphical Log	Moisture	Consistency	Materials Description Soil or rock type: colour, particle size or plasticity, origin, other features, classification(Unified)
300			M	S	(SM) SILTY SAND, Low plasticity, Dark grey
700			M	S	(CI) SANDY CLAY, Moderate plasticity, Light brown grey
1800			M	F	(CH) SILTY CLAY, High plasticity, Red grey
					Hole Terminated at 1800mm
Sample: H – hand B – bulk U – undistributed		Test: V – shear vane P – penetrometer UCS – estimated		Moisture: D – dry SM – slightly moist M – moist S – saturated W – wet	Consistency: S – soft L – loose D – dense F – firm H – hard VS – very soft VL – very loose MD – mod. dense VD – very dense St – stiff VSt – very stiff

SITE CLASSIFICATION

CLIENT	HOLMES MCLEOD
PROJECT	ALDRIDGE STATE HIGH SCHOOL, BOYS AVE, MARYBOROUGH
Job No.	16-267

Investigation Method	AS1726	Bore No:	2	Date Sampled:	17/8/16	Logged By:	TT
-----------------------------	---------------	-----------------	----------	----------------------	----------------	-------------------	-----------

Depth	Sample, test etc	Graphical Log	Moisture	Consistency	Materials Description Soil or rock type: colour, particle size or plasticity, origin, other features, classification(Unified)
300			M	S	(SM) SILTY SAND, Low plasticity, Dark grey
700			M	S	(CI) SANDY CLAY, Moderate plasticity, Light brown grey
1800			M	F	(CH) SILTY CLAY, High plasticity, Red grey
					Hole Terminated at 1800mm

Sample: H – hand B – bulk U – undistributed	Test: V – shear vane P – penetrometer UCS – estimated	Moisture: D – dry SM – slightly moist M – moist S – saturated W – wet	Consistency: S – soft L – loose D – dense F – firm H – hard VS – very soft VL – very loose MD – mod. dense VD – very dense St – stiff VSt – very stiff
---	---	---	--

SITE CLASSIFICATION

CLIENT HOLMES MCLEOD

PROJECT ALDRIDGE STATE HIGH SCHOOL, BOYS AVE, MARYBOROUGH

Job No. 16-267

LABORATORY TESTING RESULTS

To explain the terms regarding the cohesive properties of a soil with respect to moisture content, your attention is drawn to the following terms: -

Liquid Limit (LL): The moisture content (%) at which the soil behaves as a liquid and has virtually no strength.

Plastic Limit (PL): The moisture content (%) at which the soil loses plasticity and becomes brittle.

Plasticity Index (PI): $LL - PL$ (Liquid Limit minus Plastic Limit). This test gives an indication of the soils ability to shrink/swell under varying moisture conditions, with larger values indicating more expansive material.

Linear Shrinkage (LS): This test gives another indication of the soils ability to shrink/swell under varying moisture conditions, with larger values indicating more expansive material.

Natural Moisture Content (NMC): The "in-situ" moisture content (%) of the soil being tested compared to the Plastic Limit and Linear Shrinkage. The NMC gives an indication of the soils potential to loose or absorb moisture and hence shrink or swell.

Shrink/Swell Index (Iss): The instability index of a soil obtained using the shrinkage strain (ϵ_{sh}) and the swell strain (ϵ_{sw}).



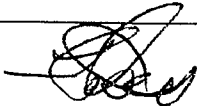
DIRTS (QLD) P/L

CLIENT	HOLMES MCLEOD	REPORT No.	S16-3130
CLIENT'S ADDRESS	328 Alice St, Maryborough Q4650	SAMPLED BY	TT
PROJECT	ALDRIDGE STATE HIGH SCHOOL	DATE SAMPLED	17/8/16
JOB No.	16-267		
SAMPLING METHOD	AS1289.1.3.1		

Sample Number	S16-3130		
Date Tested	17/8/16		
Sample Location	BH 1		
Depth Below Surface (mm)	700		
Sample Description	(CH) SILTY CLAY		
Pocket Penetrometer (kPa)	600		
Percent of Inert Inclusions (%)	0		
Initial Swell M.C (%)	25.9		
Final Swell M.C (%)	27.6		
Shrinkage M.C (%)	26.5		
Extent of Shrinkage Crumbling	NIL		
Extent of Shrinkage Cracking	NIL		
Swell Strain (%)	3.2		
Shrinkage Strain (%)	5.7		
Shrink / Swell Index (Iss)	4.1		

COMMENTS / REMARKS:

APPROVED SIGNATORY

P.KELSEY	
Date :	26-08-16



Accredited for compliance with ISO/IEC 17025.
The results of these tests, calibrations and/or
measurements included in this document are
traceable to Australian/National Standards.
Accreditation Number: 15312

TEST REPORT ON DYNAMIC CONE PENETROMETER

CLIENT	HOLMES MCLEOD	REPORT No.	S16-3129
CLIENT'S ADDRESS	328 ALICE ST, MARYBOROUGH	JOB No.	16-267
PROJECT	ALDRIDGE STATE HIGH SCHOOL (BOYS AVE, MARYBOROUGH)	DATE TESTED	17/8/16

SAMPLE NUMBER	S16-3129			
TEST LOCATION	BESIDE BH 1			
DCP NUMBER	1			
R.L OF SURFACE (mm)	-			
DEPTH BELOW SURFACE (mm)	0			
SOIL DESCRIPTION	(CI) SILTY CLAY			
WATER TABLE DEPTH (mm)	Not encountered			

Np" VALUE AT DEPTH				
150 mm	5			
450 mm	10			
750 mm	16			
1050 mm	21			
1350 mm	20			
1650 mm	23			
1950 mm				
2250 mm				

REMARKS / VARIATIONS



Accredited for compliance with ISO/IEC 17025.
 The results of these tests, calibrations and/or
 measurements included in this document are
 traceable to Australian National Standards.
 Accreditation Number: 15312

TEST METHOD

AS1289.6.3.2

AUTHORISED SIGNATORY _____

Peter Kelsey

DATE: 19/8/16