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Site & Soil Classification Report

Site Address: 54 Gomana Street,
Slacks Creek, QLD

Project Details

Job No:	6839
Date:	01/07/2026
Client:	Ivan Chee
Project:	New Dwelling

SITE CLASS	ISS VALUE	YS VALUE
P	**5.0**	**60**
AS2870-2011	SHRINK-SWELL INDEX	SURFACE MOVEMENT

1 SITE INVESTIGATION & CLASSIFICATION

INVESTIGATION PARAMETER	FINDINGS	COMMENTS
Proposed/Existing Construction	New Dwelling	
Site Plan	No Plan Provided	
Lot Description	A Clear Vacant Lot	

Site Classification Results

Primary Classification

Site Class	P
Otherwise site class	H1

Technical Parameters

Iss =	5.0
Ys =	60
Bearing Capacity	>100 kPa

2 SITE ASSESSMENT CHECKLIST

Field Assessment: *The following observations were made during the site investigation to assess conditions relevant to foundation design in accordance with AS2870-2011.*

SITE CONDITIONS

Overall Topography and Slope Conditions

- ○ Near level (0-2% grade)
- ○ Gentle slope (2-8% grade)
- ☑ Moderate slope (8-15% grade)
- ○ Steep slope (15-25% grade)
- ○ Very steep slope (>25% grade)

Evidence of Recent Cut and Fill Operations

- ○ Cut only
- ○ Fill only
- ○ Cut and fill
- ☑ N/A (no evidence)

Site Drainage

- ○ Excellent (well-graded, no ponding)
- ☑ Good (adequate fall, minor ponding)
- ○ Fair (some drainage issues)
- ○ Poor (significant ponding/boggy areas)
- ○ Very poor (swampy conditions)

FILL MATERIAL ASSESSMENT

Presence of Fill Material

- ○ Yes
- ☑ No

Fill Type and Depth (if present)

- ○ Sand fill <0.8m deep
- ○ Sand fill >0.8m deep
- ○ Clay/silt fill <0.4m deep
- ○ Clay/silt fill >0.4m deep
- ○ Mixed fill materials

TREES AND VEGETATION

Evidence of Recent Tree Removal

- ○ Yes
- ☑ No

Distance of Closest Significant Tree

- ○ <5m from proposed building
- ☑ 5-10m from proposed building
- ○ 10-15m from proposed building
- ○ 15-20m from proposed building
- ○ >20m from proposed building

REACTIVE CLAY INDICATORS

Observable Features (Multiple selections possible)

- ☐ Gilgais (surface mounds and depressions)
- ☐ Deep shrinkage cracks in dry conditions
- ☐ Slickensided surfaces in clay samples
- ☐ Evidence of seasonal ground movement
- ☐ Polygonal crack patterns
- ☑ None observed

Depth of Cracked Zone Assessment

- ○ 0.0-0.5m
- ○ 0.5-1.0m
- ○ 1.0-1.5m
- ○ 1.5-2.0m
- ○ >2.0m
- ○ Unable to assess
- ☑ No cracking observed

GROUNDWATER CONDITIONS

Water Table Encountered

- ○ Yes
- ☑ No

Depth to Water Table (if encountered)

- ○ 0-1m
- ○ 1-2m
- ○ 2-3m
- ○ 3-4m
- ○ >4m

Access for Investigation Equipment

- ☑ Full access (truck-mounted equipment)
- ○ Limited access (track-mounted equipment only)
- ○ Hand equipment only
- ○ Services limiting investigation
- ○ Overhead restrictions present

Wind Classification Report

AS 4055-2021

Location Details

Latitude: -27.6302°

Longitude: 153.1211°

Elevation: 21.6m

Wind Region: B (non-cyclonic)

Non-cyclonic regions with moderate wind exposure, typically within 200km of coast between 25°S-30°S

Site Parameters

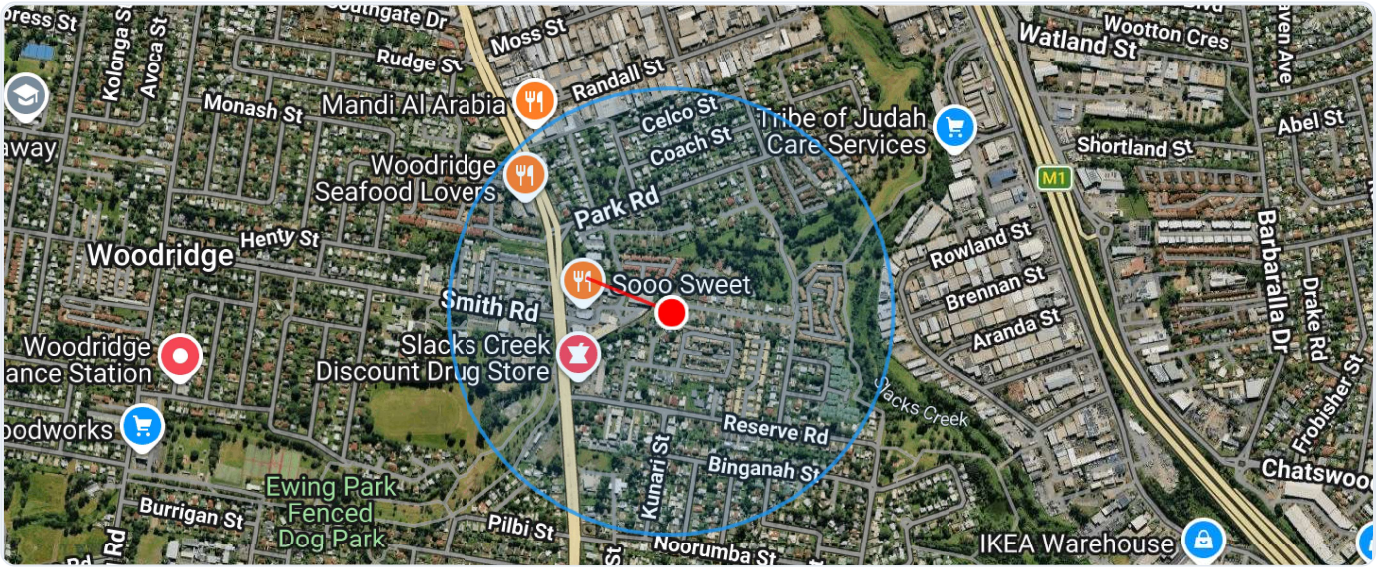
Terrain Category: TC2.5

Shielding: FS

Dense surrounding buildings or trees within 100m

Topography: T1

Hill, middle third



Wind Classification Results

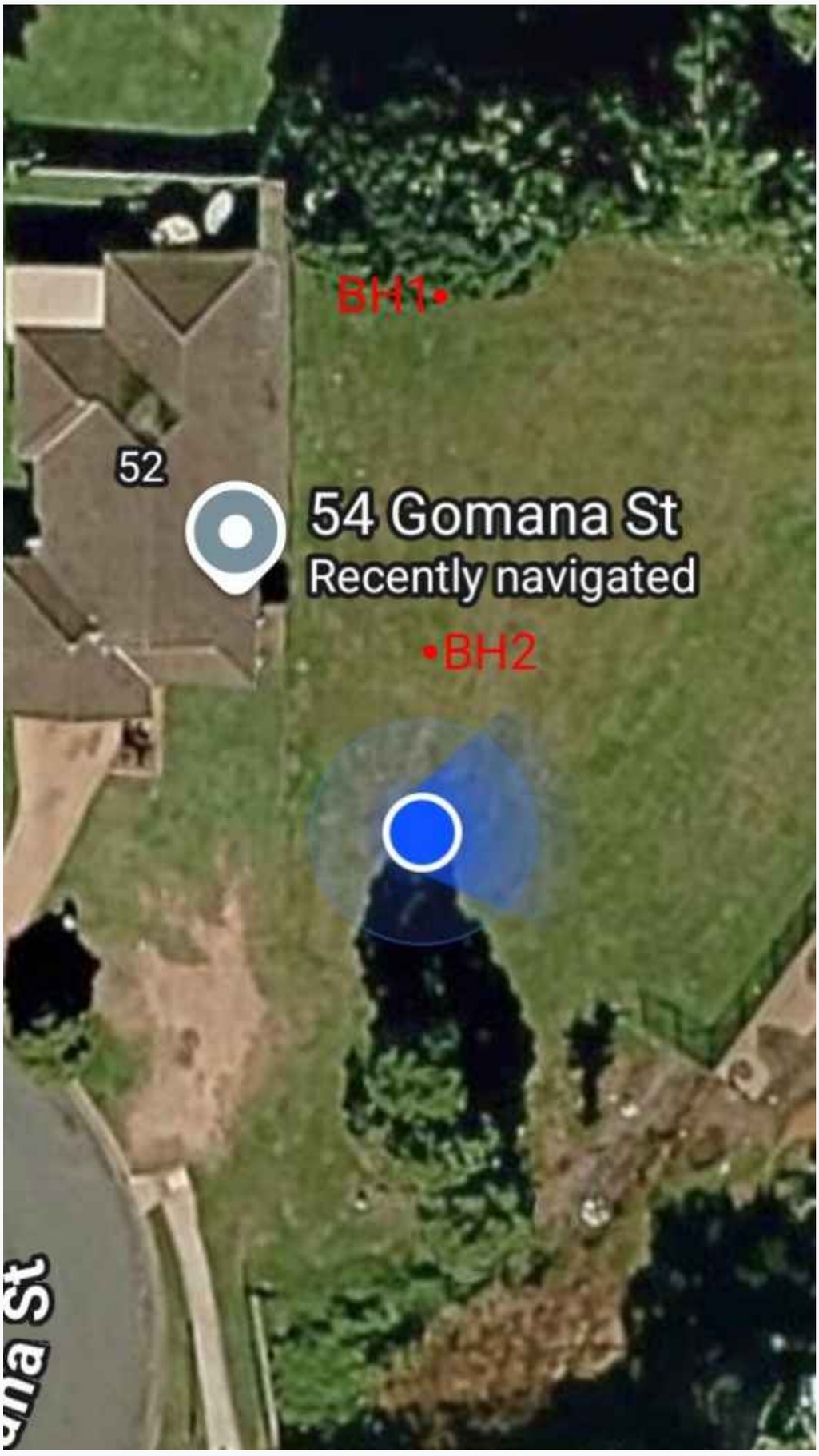
Region	Classification	Service Wind Speed	Ultimate Wind Speed
B	**N3**	**32 m/s**	**50 m/s**

Critical Direction Analysis

Direction	Max Slope	Average Slope	Elevation Change
WNW	**14.5%**	**5.6%**	**11.0m**

3 BORE HOLE LOCATIONS &LOGS

Note: Detailed bore hole location map and site photographs are provided on the following pages.



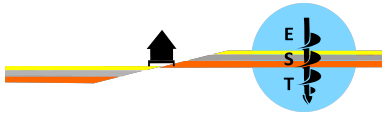








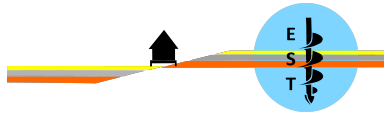
Equipement Earth Probe - DCP Logged By TB Hole Number 1



Colour	Type	Moisture	Consistency	Rock Weathering	Ground Water	Fill	DCP	Comment
0m								
Brown	CL - Inorganic clays, low plasticity, silty, sandy, gravelly clays	M	S				1	GROUPS OF 2 - 15+ METER TALL TREES ON REAR BOUNDARY
							1	
Mottled orange - red - brown	CI - Inorganic clays, medium plasticity, silty, sandy, gravelly clays	M	F				2	
							3	
							4	
0.5m								
Mottled orange - red - grey	CH - Inorganic clays of high plasticity, fat clays	M	H				4	
							4	
							5	
							5	
							6	
1.0m								
Mottled orange - red - grey	SC - Clayed sands, sand clay mixtures	D-M	VD	RS			10+	END DCP
Mottled red - grey	SM - Silty sands, sand silt mixtures	D	VD	XW				PUSH PROBE REFUSAL ON VERY DENSE WEATHERED ROCK
	END HOLE - refusal							
1.5m								
2.0m								
2.5m								
3.0m								



Equipement Earth Probe - DCP Logged By TB Hole Number 2



Depth	Colour	Type	Moisture	Consistency	Rock Weathering	Ground Water	Fill	DCP	Comment
0m	Brown	CL - Inorganic clays, low plasticity, silty, sandy, gravelly clays	M	S				1 1	
	Mottled orange - red - grey	CH - Inorganic clays of high plasticity, fat clays	M	F				2 3 4	
0.5m								5 5 4 5 6	
1.0m								7 10	
	Mottled orange - red - grey	SC - Clayed sands, sand clay mixtures	D-M	VD	RS				END DCP
1.5m	Mottled red - grey	SM - Silty sands, sand silt mixtures END HOLE - refusal	D	VD	XW				REPEAT PUSH PROBE REFUSAL ON SITE ON VERY DENSE WEATHERED ROCK
2.0m									
2.5m									
3.0m									



4 DCP vs ALLOWABLE BEARING CAPACITY

DCP Blow per 100mm	Indicative Allowable Bearing Pressure (kPa)
1	35
2	70
3	100
4	120
5	160
6	180
7	200
8	200
9	200
10	250
11	250
12	250
13	300+

Allowable Bearing Pressure calculated using the guidelines in the following paper:
Stockwell, M. J. (1977). Determination of allowable bearing pressure under small structures. New Zealand Engineering

DCP test results are to be used as a guide only to relative density and consistency of solid. Changes in moisture contents or the presence of coarse grained material can greatly influence the outcome of this test.

5 SITE CLASSIFICATION CRITERIA

Site is considered class P if any of the following criteria apply.

AS2870 Section 1.3
(Before construction)

Is the site or surrounds currently or potentially affected by any of the following which have resulted in or may result in abnormal moisture conditions.

- [x] Presence of trees on or adjacent to the site?
- [ ] Removal of trees on or adjacent to the site?
- [ ] Removal of an existing structure?
- [ ] Presence of easement with pipework in trenches reinstated with fill?

(After Construction)

- [ ] Failure to provide and maintain adequate site drainage?
- [ ] Effect of trees roots too close to footings?
- [ ] Excessive or irregular watering of gardens next to building?
- [ ] Failure to repair plumbing leaks?

(no responsibility is taken for future owners or occupiers not adequately addressing the after construction site management issues listed above and elsewhere in this report)

AS2870 Section 2.0

Is the site or surrounds currently affected or potentially affected by any of the following?

- [ ] Inadequate bearing materials?
- [ ] Soft of unstable foundations? (eg soft clay, silt, loose sand)
- [ ] Landslides?
- [ ] Collapsing soils and soils subject to erosion including coastal erosion?
- [ ] Foundation settlement due to loading of the foundation?
- [ ] Controlled* fill other than sand and deeper than 0.4m and/or uncontrolled fill deeper than 0.8m for sand and 0.4m for material other than sand?
- [ ] Excessive variability in thickness and depth to reactive clay soil or depth to rock?

*"controlled" or "structural" fill is in accordance with specifications in clause 4.3 of AS3798. Unsuitable materials in structural fill are listed in section 4.3 of AS3798.

Additional Site Observations

Record any additional observations, special conditions, or site-specific factors that may influence foundation design:

SITE CLASSIFICATION

Table 2.1 of AS2870-2011

Class	Foundation
A	Most sand and rock sites with little or no ground movement from moisture changes
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes.
M	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes.
H1	Highly reactive clay sites, which may experience high ground movement from moisture changes.
H2	Highly reactive clay sites, which may experience very high ground movement from moisture changes.
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes.

Table 2.3 of AS2870-2011

Characteristic	Site Classification
Surface Movement (Ys) mm	in Accordance with Table 2.1
0 < ys ≤ 20mm	S
20 < ys ≤ 40 mm	M
40 < ys ≤ 60 mm	H1
60 < ys ≤ 75mm	H2
ys > 75mm	E

Class P sites are classified as such due to their likely hood to possesses abnormal moisture conditions (AS2870 -2011, section 1.3.3) or sites where other factors may contribute to ground movement over and above that of normal moisture conditions (AS2870 – 2011, section 2.1.3).

KEY

Unified Soil	Plasticity	Stiffness	Grading	Moisture
Boulders	L - Low	<6	WG - Well Graded	D - Dry
Cobbles	M - Medium	6-12	PG - Poorly Graded	M - Moist
Gravels	H - High	>12	GG - Gap Graded	W - Wet
Sands			UNI - Uniform	

Group

GW	Well graded gravels and gravel sand mixtures
GP	Poorly graded gravels and gravel sand mixtures
GM	Silty gravels, gravel sand silt mixtures
GC	Clayey gravels, gravel sand clay mixtures
SW	Well graded sands
SP	Poorly graded sands and gravel sands, little or no fines
SM	Silty sand, sand silt mixtures
SC	Clayey sands, sand clay mixtures
ML	Inorganic silts and very fines sands, rock flour
CL	Clay of low plasticity
CI	Clays of medium plasticity
CH	Clays of high plasticity
OL	Organic clays of medium to high plasticity
PT	Peat

Colour

Bk	Blue
Br	Brown
Rd	Red
Or	Orange
Gy	Grey
Cr	Cream
Gn	Green
Ye	Yellow
Wh	White
Cr	Cream
MORG	Mottled Orange Red Grey
MBOR	Mottled Brown Orange Red
MGOR	Mottled Grey Orange Red

Hardness

VS	Very Soft
S	Soft
F	Firm
St	Stiff
VH	Very Stiff
H	Hard

Source

Fill	
Al	Alluvium
Co	Colluvium
Sw	Slope/wash
Rs	Residual Soil
Ts	Top Soil

Density

VL	Very Loose
L	Loose
MD	Medium Dense
D	Dense
VD	Very Dense

ROCK

Rock Type

Ig	Igneous
MS	Meta-Sediment
Sed	Sedimentary
Met	Metamorphic

Grain Size

Aph	Aphanitic
Fg	Fine Grained
Mg	Medium Grained
Cg	Coarse Grained

Texture/Fabric

Ma	Massive
Fl	Foliated
Frac	Fractured
Fn	Friable
BM	Bi-modal

Strength

EL	Extremely Low
VL	Very Low
L	Low
M	Medium
H	Hard
VH	Very Hard
EH	Extremely Hard

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