In-Situ Permeability

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Prepared For:

Worthington Constructions Pty Ltd



Site Address:

Lot B (11B) Hill Street, Warriewood

Ref No:

68950-IDF

Date:

March 2024





Client : Worthington Constructions Pty Ltd

Project : Soil Permeability
Location : Lot B (11B) Hill St

Lot B (11B) Hill Street, Warriewood

Ideal Job Number : **68950-IDF**Test Date : **7-Mar-24**

Test Date : 7-Mar-24
Tested By : M.Kader

Job ref / borehole ref: BH1 test location: Refer to plan

Test Method: AS /NZS 1547:2000

(refer to sketch)

Appendix 4.1F Soil Permeability measurement - constant head method

The borehole was soaked with potable water for 10 minutes prior to commencing the test.

Applies where S > 2H_c

Test Fluid : Potable water

Hole Radius, R: 0.09
Hole Depth, D: 1.50

th, D : 1.50

Depth to Water, w_d : 0.10 m Constant Head, H_c : 1.40 m

Depth to Water

Table, w (if known) : NA

date: 7/03/2024 time: 1:30pm m

	\mathbf{w}_{d}	•
w	H _c	D
water table	*	S · ▼

Reading	Elapsed	Time	Water	Discharge	
No.	Time	Interval	Added	Rate	
	t	dt	per dt		
	(mins)	(mins)	(litres)	(litres/min)	
1	1:30:00	0.00	0.000	0.00000	
2	1:30:30	0.50	0.110	0.22043	
3	1:31:00	0.50	0.110	0.22043	
4	1:31:30	0.50	0.110	0.22043	
5	1:32:00	0.50	0.110	0.22043	
6	1:32:30	0.50	0.110	0.22043	
7	1:33:00	0.50 0.11		0.22043	
8	1:33:30	0.50	0.110	0.22043	
9			0.000		
10			0.000		
11			0.000		
12			0.000		

Site conditions

soil moisture condition: Moist

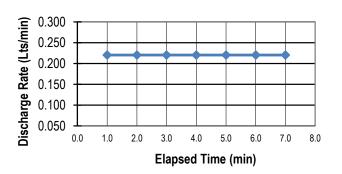
vegetaion cover at test site: Grass Cover, Trees And Shrubs

slope: 7° Towards South West

surface cracks: None Observed

water logging: No

Discharge Rate versus Time



Discharge Rate Q = 0.2204 litres/min

Hydraulic

Conductivity, K = $\frac{Q\{Sinh^{-1}(H_c/R) - 1\}}{2 \pi H^2}$

	· ·	
=	9.0E-07	m/sec
=	0.0780	m/day
=	3.25	mm/hr
=	0.023	L/m2/sec

Notes: Material Description: Natural- Clayey Sandy SILT trace Gravel overlying; Sandy Silty CLAY

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Client: Worthington Constructions Pty Ltd

Project: Soil Permeability
Location: Lot B (11B) Hill St

Lot B (11B) Hill Street, Warriewood

Ideal Job Number : **68950-IDF**Test Date : **7-Mar-24**

Test Date : 7-Mar-24
Tested By : M.Kader

Job ref / borehole ref: BH2 test location: Refer to plan

Test Method: AS /NZS 1547:2000 (refer to sketch)

Appendix 4.1F Soil Permeability measurement - constant head method

The borehole was soaked with potable water for 10 minutes prior to commencing the test.

Applies where S > 2H_c

Test Fluid : Potable water

Hole Radius, R : Hole Depth, D :

1.50

Depth to Water, w_d:

0.10

Constant Head, H_c:

1.40

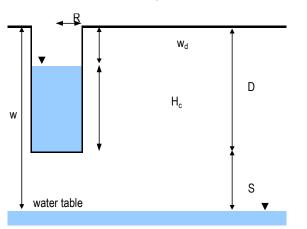
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Depth to Water

Table, w (if known):

own) : NA date: <mark>7/03/2024</mark>

time: 1:30pm



Reading	Elapsed	Time	Water	Discharge	
No.	Time	Interval Added		Rate	
	t	dt	per dt		
	(mins)	(mins)	(litres)	(litres/min)	
1	1:30:00	0.00	0.000	0.00000	
2	1:30:30	0:30 0.50 (0.22043	
3	1:31:00	0.50	0.110	0.22043	
4	1:31:30	0.50	0.096	0.19288	
5	1:32:00	0.50	0.110	0.22043	
6	1:32:30	0.50	0.110	0.22043	
7	1:33:00	0.50	0.110	0.22043	
8	1:33:30	0.50	0.110	0.22043	
9			0.000		
10			0.000		
11		·	0.000		
12			0.000		

Site conditions

soil moisture condition: Moist

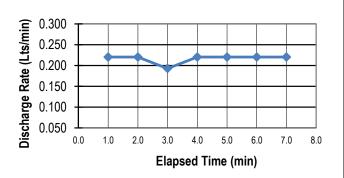
vegetaion cover at test site: Grass Cover, Trees And Shrubs

slope: 7° Towards South West

surface cracks: None Observed

water logging: No

Discharge Rate versus Time



Discharge Rate Q = **0.2158** litres/min

Hydraulic

Conductivity, K =

 $\frac{Q\{Sinh^{-1}(H_c/R)-1\}}{2\pi H^2}$

	=	
=	8.8E-07	m/sec
=	0.0764	m/day
=	3.18	mm/hr
=	0.023	L/m2/sec

Notes: Material Description: Natural-Clayey Sandy SILT trace Gravel overlying; Sandy Silty CLAY

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Title	Borehole Location Plan	Council	Northern Beaches Council	Drawn By	Ben
Project	In-Situ Permeability	Job Number	68950-IDF	Checked By	Dane
Site Address	Lot B (11B) Hill Street, Warriewood	Figure Number	Figure 1	Date	Mar-24

