

INFILTRATION TESTING:

For Proposed Infiltration Trench at **38 Hilltop Crescent, Fairlight**

1. Site Description

The site was inspected on the 13th May, 2025.

This residential property is on the low side of the road and has a N aspect. The land surface surrounding the house is mostly lawn or garden covered with some paved areas. There was some moderate to heavy rainfall in the weeks prior to the inspection. The soil was moist to damp at the time of the inspection.

2. 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.

3. Subsurface Investigation

One hand Auger Hole (AH) was put down to identify the soil materials. Seven 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 have been an issue for this site. The results are as follows:

TEST RESULTS ON NEXT PAGE

AUGER HOLE 1 (~RL58.1) – AH1 (Photo 1)

Depth (m) Material Encountered

0.0 to 0.6 **FILL**, sandy soil, with some rock fragments, dark brown, grey, white, orange, moist, fine to coarse grained.

Refusal @ 0.6m, auger grinding on rock. No water table encountered.

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 (~RL58.1)	DCP 2 (~RL57.2)	DCP 3	DCP 4 (~RL54.1)	DCP 5	DCP 6 (~RL52.9)	DCP 7 (~RL53.1)
0.0 to 0.3	3	Rock exposed at the surface	Rock exposed at the surface	3	Rock exposed at the surface	2	2
0.3 to 0.6	5			3		5	5
0.6 to 0.9	#			3		#	8
0.9 to 1.2				3			#
1.2 to 1.5				#			
	Refusal on Rock @ 0.6m			Refusal on Rock @ 1.0m		Refusal on Rock @ 0.4m	Refusal on Rock @ 0.8m

#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 @ 0.6m, DCP bouncing off rock surface, brown sandy soil on damp tip.

DCP2 – Medium Strength Sandstone exposed at the surface.

DCP3 – Medium Strength Sandstone exposed at the surface.

DCP4 – Refusal on rock @ 1.0m, DCP bouncing off rock surface, brown sandy soil on wet tip.

DCP5 – Medium Strength Sandstone exposed at the surface.

DCP6 – Refusal on rock @ 0.4m, DCP bouncing off rock surface, white sandstone fragments and dark brown soil on moist tip.

DCP7 – Refusal on rock @ 0.8m, DCP bouncing off rock surface, white sandstone fragments and dark brown soil on damp tip.

4. Geological Observations/Interpretation

The site is underlain by fill and a thin sandy topsoil over sandstone bedrock. Fill to an estimated maximum depth of ~1.2m provides level platforms for lawn, garden and paved areas across the property. In the test locations, where rock was not exposed, it was encountered at depths of between ~0.4m to ~1.0m below the current surface, being deeper in the filled areas and slightly variable due to the stepped nature of the rock. The sandstone exposed across the property is estimated to be Medium Strength or better and similar strength rock is expected to underlie the entire site. See Type Section attached for a diagrammatical representation of the expected ground materials.

5. Water Table

No water table was encountered in the testing that extended to a depth of ~1.0m below the current surface. Given the site's slope and elevation, the water table is expected to be many metres below the extent of the testing.

6. Recommendations

Given the shallow depth to bedrock across the site (ideally soil for infiltration trenches should be at least 1.6m deep), it is not considered suitable for infiltration. Ideally, all stormwater is to be piped to the street below the downhill neighbouring property by obtaining an easement. If this is not feasible, other methods for stormwater disposal can be considered by the stormwater engineer under the guidance of the local council stormwater disposal policy. A spreader pipe is feasible by reducing the stormwater runoff to the 'natural rate for the site' with the use of onsite detention, provided council also approve.

White Geotechnical Group Pty Ltd.



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Reviewed By:



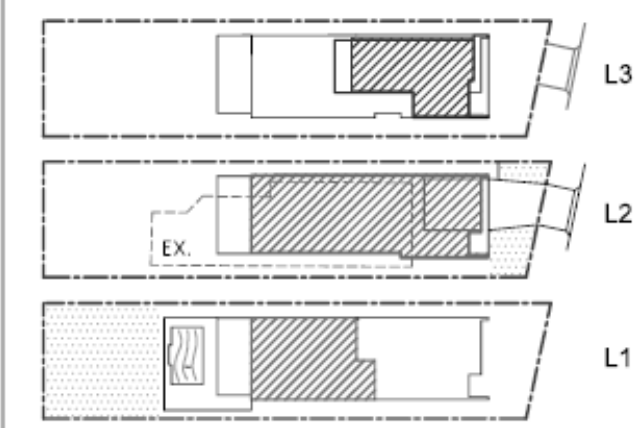
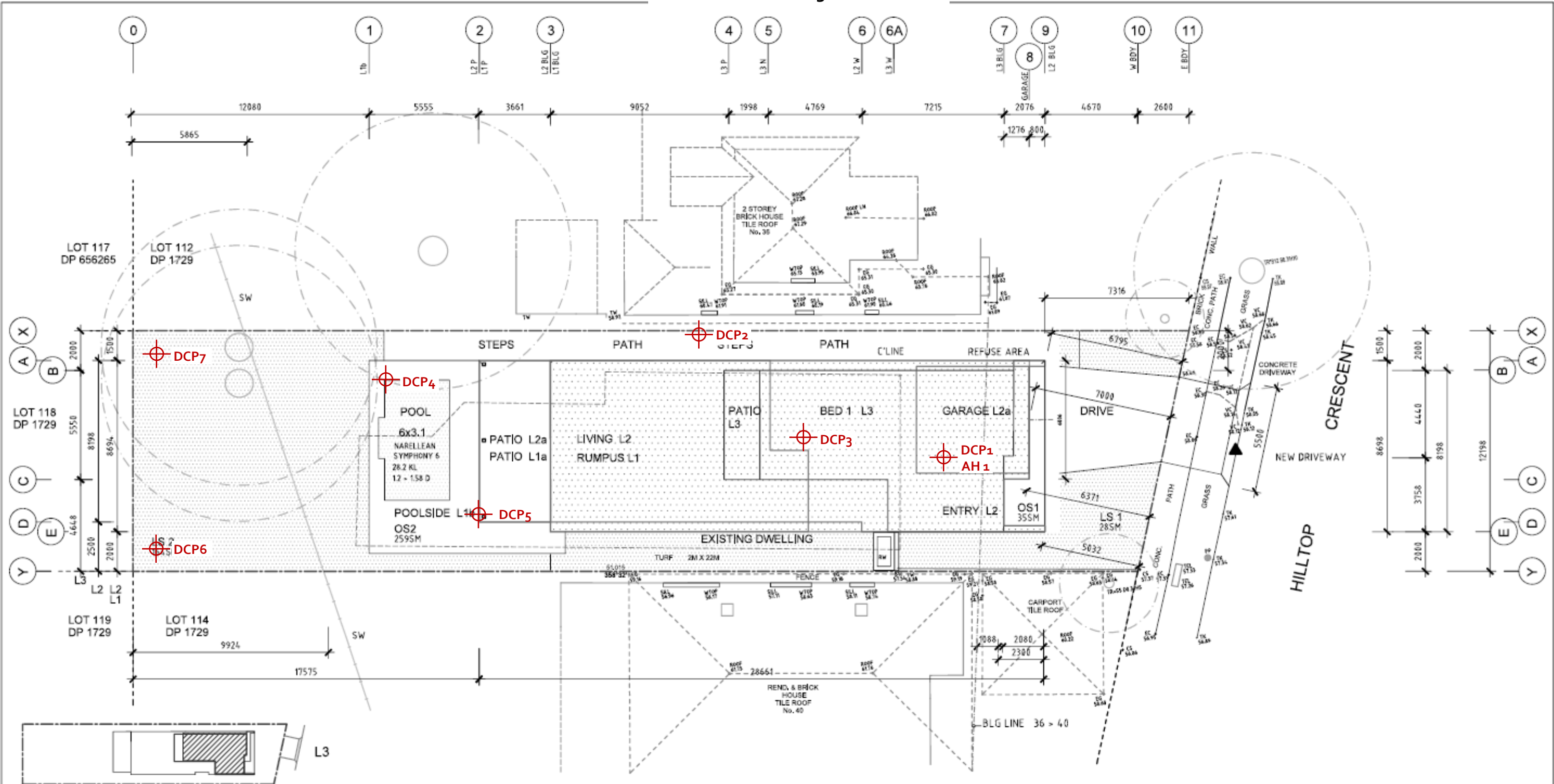
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Photo 1: AH1 – Downhole is from top to bottom.

SITE PLAN – showing test locations



CALCULATIONS

LAND	638 sm
DENSITY	1/250
MAX HEIGHT HOB	8.5RM

LANDSCAPE

OPEN SPACE / LANDSCAPE			
55%	351SM	35%	123SM
FRONT	OS1 35	LS1	28
REAR	OS2 268	LS2	165
L2 PATIO	OS3 30		
	333	123	
	52.2%	35%	
	-2.8%	complies	

PERMEABLE AREA

	LS1	LS2
FRONT	28	13
EAST	13	165
REAR	165	4.4
WEST	4.4	
PROPOSED	250	
EXISTING	250	

FLOOR AREA

	FSR	60%	382.8
LEVEL 3	66.7		
LEVEL 2	154.8		
LEVEL 1	94.8		
	316.3		
	complies		
	EXC. GARAGE, STAIR VOIDS		

BUILD AREA

	LEVEL 3	LEVEL 2	LEVEL 1
	112	240	134
	4.86		

- LEGEND**
- DEMOLISH
 - EXISTING
 - PROPOSED
 - UNDER NEW
 - UNDER EX.
 - OVER
 - EX. ROOF LINE
 - NEW ROOF LINE
 - GLASS



LOT 113
DP1729
638 sm

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ASSOCIATES



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date
MAR 2025
scale
1:200 @ A3

project no.
1128
revision
A

project
REZAI + JUNGBLUT RESIDENCE
38 HILLTOP CRESCENT, FAIRLIGHT

DRAFT
X2

title
SITE PLAN

sheet
02

SITE PLAN