INFILTRATION TESTING:

For Proposed Infiltration Trench at **52 Seaview Street, Balgowlah**

1. Site Description

The site was inspected on the 28th July, 2023.

This residential property is on the low side of the road and has an E aspect. The land surface surrounding the house and driveway is mostly lawn-covered with some paved areas. It was clear on the day of the inspection and it had been dry in the weeks prior. The soil was dry 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 laminate lenses.

3. Subsurface Investigation

One hand Auger Hole (AH) was put down to identify the soil materials. Four Dynamic Cone Penetrometer (DCP) tests were put down to determine the density of the soil and the depth to bedrock and to determine the suitability of installing the infiltration trench. 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. The results are as follows:

GROUND TEST RESULTS ON THE NEXT PAGE

AUGER HOLE 1 (~RL62.4) **–** AH1 (Photo 1)

Depth (m)	Material Encountered
0.0 to 0.4	**SOIL**, sandy, brown, medium grained, fine trace of organic matter, dry.
0.4 to 0.7	**SAND**, clayey, orange, coarse grained, medium dense, dry.

Refusal on rock @ 0.7m. Auger grinding. 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** (~RL62.3)	**DCP 2** (~RL62.2)	**DCP 3** (~RL62.3)	**DCP 4** (~RL62.4)
0.0 to 0.3	1	1	1	2
0.3 to 0.6	2	2	4	5
0.6 to 0.9	1	5	#	#
0.9 to 1.2	#	2		
1.2 to 1.5		#		
	Refusal on Rock @ 0.7m	Refusal on Rock @ 1.0m	Refusal on Rock @ 0.5m	Refusal on Rock @ 0.5m

#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 @ 0.7m, DCP bouncing on Rock, orange clay on dry tip.
DCP2 – Refusal on Rock @ 1.0m, DCP bouncing on Rock, orange sandy clay on dry tip.
DCP3 – Refusal on Rock @ 0.5m, DCP bouncing on Rock, orange sandy clay on dry tip.
DCP4 – Refusal on Rock @ 0.5m, DCP bouncing on Rock, orange sandy clay on dry tip.

4. Geological Interpretation

In the test locations, soil and clayey sand overlies Medium Strength Sandstone encountered at depths of between 0.5 to 1.0m below the current surface. Rock is expected at shallow depths across the entire property.

5. Water Table

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

6. Infiltration Rate

The ground testing revealed shallow rock at a maximum depth of ~0.7m below the current surface in the area of the proposed trench. In order to complete the infiltration testing, sandy soil overburden must extend to a depth of at least 0.8m. Thus, the infiltration testing was not performed.

7. Recommendations

Given the shallow depth to bedrock across the slope below the house (ideally for infiltration trenches soil should be at least 1.6m deep), it is not considered suitable for infiltration.

Ideally, all stormwater is to be piped to the street drainage system that runs below the downhill neighbouring property. 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/dispersal trench is feasible by reducing the stormwater runoff to the natural rate for the site with the use of tanks and an orifice provided council also approve.

White Geotechnical Group Pty Ltd.

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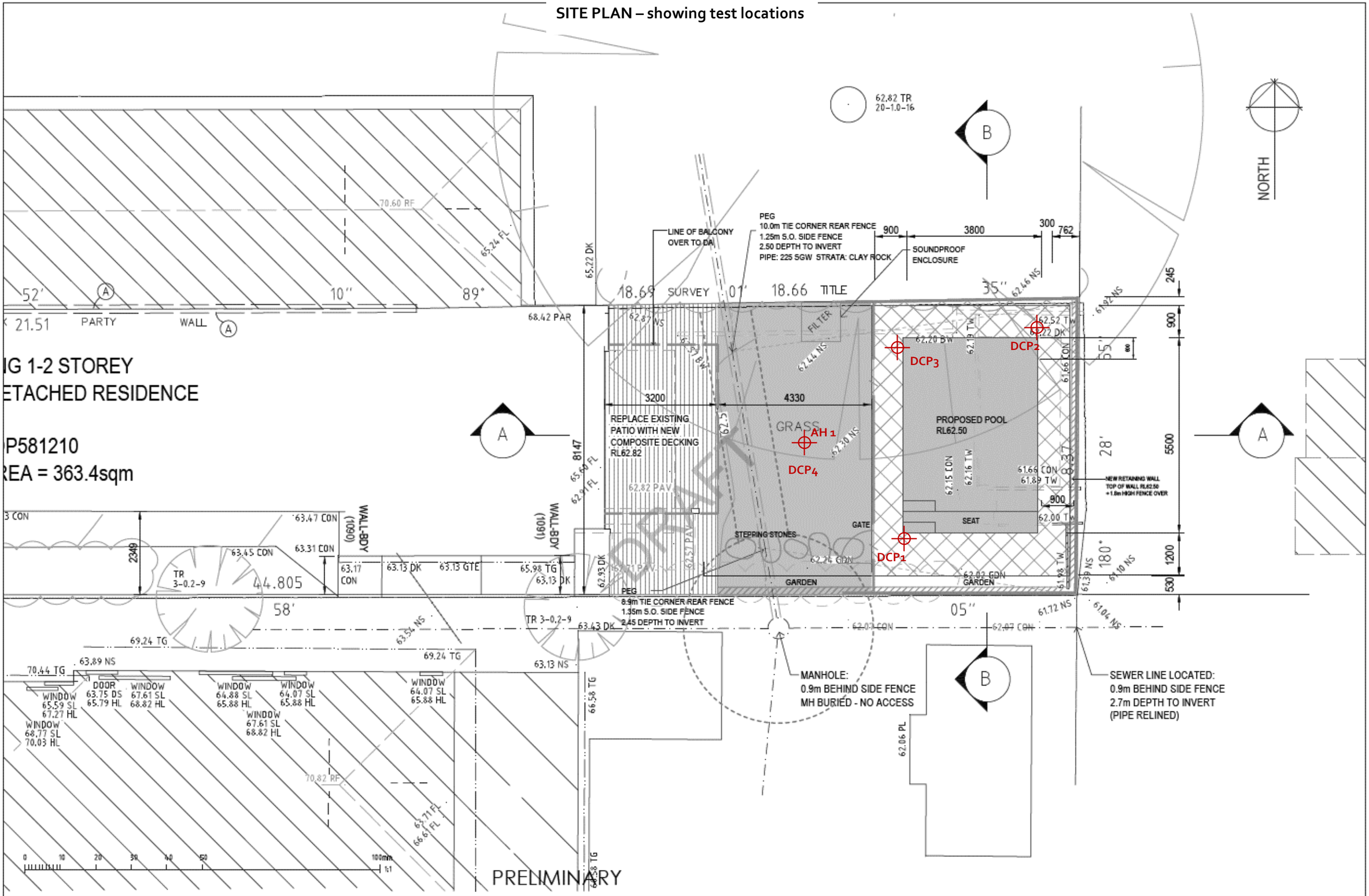
Photo 1

SITE PLAN – showing test locations



IG 1-2 STOREY
ETACHED RESIDENCE

P581210
REA = 363.4sqm

PRELIMINARY

RIGHT ANGLE
DESIGN & DRAFTING PTY LTD

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MEMBER: SWIMMING POOL & SPA ASSOCIATION
BUILDING DESIGNERS ASSOCIATION AUSTRALIA

REVISIONS:

WE APPROVE THE PLANS IN THEIR CURRENT FORM , TO BE LODGED AT COUNCIL AS A DEVELOPMENT APPLICATION OR CERTIFIER FOR BUILDING APPROVAL.

PROPOSED FRONT FENCE, BALCONY, DECK, SWIMMING POOL & LANDSCAPING
CLIFFORD & PENELOPE LEESON
LOT 2 DP581210
No. 52 SEAVIEW STREET BALGOWLAH 2093

DWG NAME
PLAN AT REAR YARD

DATE	SCALE AT A3	JOB NUMBER	DWG NUMBER
FEB 2023	1:100	RADD23003	P2