INFILTRATION TESTING:

For proposed infiltration trench at **160 Allambie Road, Allambie Heights**

1. Site Description

The site was inspected on the 7th September, 2016.

This residential property is on the low side of the road and has a NE aspect. The land surface surrounding the house and driveway is mostly lawn covered with a scattering of trees. Some rock exposures are visible above the house and near the lower boundary. There had been some showers on the previous Friday and Saturday but the weather was dry in the days prior to 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

Dynamic Cone Penetrometer (DCP) testing was carried out across the site to determine the depth to bedrock. Seven DCP tests were recorded though double this number were carried out looking for areas of thicker soil on the site. The location of the recorded tests are shown on the site plan and the depth to rock at each test is shown below:

DCP	Depth to rock	DCP	Depth to rock
DCP1	0.4m	DCP5	0.1m
DCP2	0.3m	DCP6	0.3m
DCP3	0.2m	DCP7	0.6m
DCP4	0.1m		

4. Geological Interpretation

In the test locations a shallow sandy topsoil overlies medium strength sandstone encountered at shallow depths below the current surface. This site has a very shallow soil cover over the underlying bedrock.

5. Conclusion

After it was determined from the ground testing that uniform very shallow soils underlie the site it became apparent the site is not considered suitable for infiltration following Warringah Council's stormwater disposal guidelines. As such to minimise cost to the client we did not proceed with infiltration testing.

Other methods for stormwater disposal can be considered by the stormwater engineer under the guidance of the Warringah Council stormwater disposal policy.

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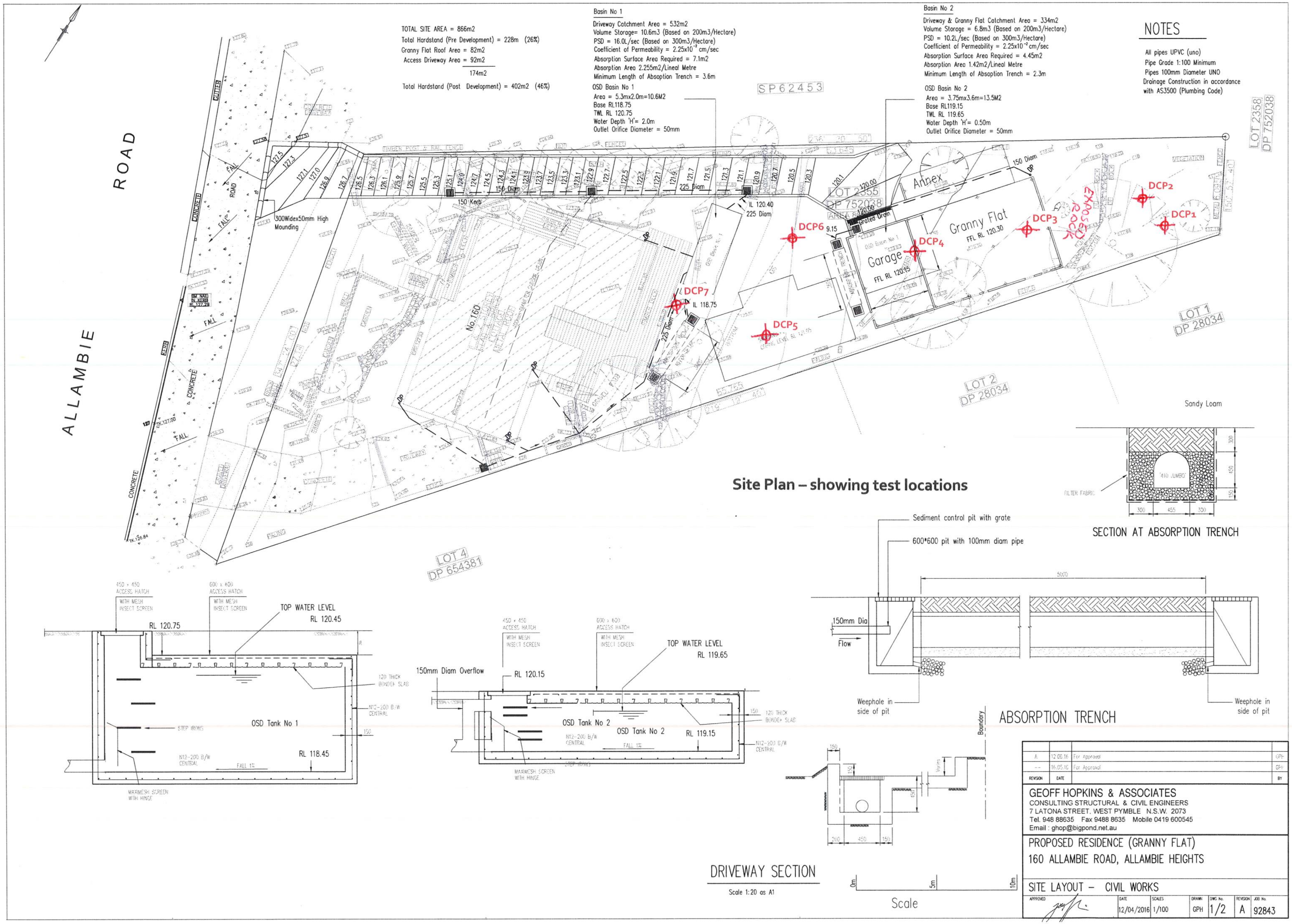
TOTAL SITE AREA = 866m2
Total Hardstand (Pre Development) = 228m (26%)
Granny Flat Roof Area = 82m2
Access Driveway Area = 92m2
174m2
Total Hardstand (Post Development) = 402m2 (46%)
Basin No 1
Driveway Catchment Area = 532m2
Volume Storage= 10.6m3 (Based on 200m3/Hectare)
PSD = 16.0L/sec (Based on 300m3/Hectare)
Coefficient of Permeability = 2.25x10⁻³ cm/sec
Absorption Surface Area Required = 7.1m2
Absorption Area 2.255m2/Lineal Metre
Minimum Length of Absoption Trench = 3.6m
OSD Basin No 1
Area = 5.3mx2.0m=10.6M2
Base RL118.75
TWL RL 120.75
Water Depth 'H'= 2.0m
Outlet Orifice Diameter = 50mm
Basin No 2
Driveway & Granny Flat Catchment Area = 334m2
Volume Storage = 6.8m3 (Based on 200m3/Hectare)
PSD = 10.2L/sec (Based on 300m3/Hectare)
Coefficient of Permeability = 2.25x10⁻³ cm/sec
Absorption Surface Area Required = 4.45m2
Absorption Area 1.42m2/Lineal Metre
Minimum Length of Absoption Trench = 2.3m
OSD Basin No 2
Area = 3.75mx3.6m=13.5M2
Base RL119.15
TWL RL 119.65
Water Depth 'H'= 0.50m
Outlet Orifice Diameter = 50mm
NOTES
All pipes UPVC (uno)
Pipe Grade 1:100 Minimum
Pipes 100mm Diameter UNO
Drainage Construction in accordance with AS3500 (Plumbing Code)
SP62453
LOT 2358
DP 752038
ALLAMBIE ROAD
300Widex50mm High Mounding
150 Kerb
150 Diam
225 Diam
IL 120.40
225 Diam
IL 118.75
No.160
LOT 2355
DP 752038
Annex
Granny Flat
FFL RL 120.30
Garage
FFL RL 120.15
Grated Drain
DCP1
DCP2
DCP3
DCP4
DCP5
DCP6
DCP7
Exposed Rock
LOT 1
DP 28034
LOT 2
DP 28034
LOT 4
DP 654381
Sandy Loam
Site Plan – showing test locations
FILTER FABRIC
'410 JUMBO'
SECTION AT ABSORPTION TRENCH
Sediment control pit with grate
600*600 pit with 100mm diam pipe
150mm Dia
Flow
Weephole in side of pit
ABSORPTION TRENCH
Boundary
TOP WATER LEVEL
RL 120.45
RL 120.75
450 x 450 ACCESS HATCH WITH MESH INSECT SCREEN
600 x 600 ACCESS HATCH WITH MESH INSECT SCREEN
120 THICK BONDEK SLAB
STEP IRONS
OSD Tank No 1
N12-200 B/W CENTRAL
RL 118.45
FALL 1%
MAXIMESH SCREEN WITH HINGE
150mm Diam Overflow
RL 120.15
TOP WATER LEVEL
RL 119.65
OSD Tank No 2
RL 119.15
DRIVEWAY SECTION
Scale 1:20 as A1
Scale
A 12.05.16 For Approval GPH
-- 16.05.16 For Approval GPH
REVISION DATE BY
GEOFF HOPKINS & ASSOCIATES
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PROPOSED RESIDENCE (GRANNY FLAT)
160 ALLAMBIE ROAD, ALLAMBIE HEIGHTS
SITE LAYOUT – CIVIL WORKS
APPROVED DATE 12/04/2016 SCALES 1/100 DRAWN GPH DWG No. 1/2 REVISION A JOB No. 92843