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Report No. 22/1835
KS/ms

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SUBJECT: INFILTRATION TESTING
LOT 12, 220 POWDERWORKS ROAD, INGLESIDE

At your request, STS Geotechnics Pty Limited has conducted Infiltration testing at the above site to determine the design infiltration rate of the onsite soils.

The Sydney geological series sheet at a scale of 1:100,000 shows the site is underlain by Triassic Age Hawksbury Sandstone. Rocks within this formation comprise mainly medium to coarse grained quartz sandstone.

The subsurface conditions consist of fill and topsoil overlying silty clayey sands and silty sandy clay. Topsoil and fill materials were encountered to a depth of 0.3 and 0.4 metres. Medium dense sands were encountered below the topsoil and fill to depths of 2.0 and 2.1 metres. Very stiff silty sandy clay underlies the sands to the depth of drilling, 2.5 metres.

No groundwater was observed in the test pit during the fieldwork.

For the purpose of infiltration testing, three test pits, numbered TP1 to TP3, inclusive, were excavated in the southern portion of the block. The test pits were 0.3 metres square and were excavated to a depth 0.6 metres below the existing ground surface level.

The infiltration rate of the onsite soils was determined using the following methodology-

- The test pit as mentioned above was excavated, taking care to minimise disturbance to the surrounding soils,
- A thin layer (50 mm) of sand was spread across the bottom of each test pit,
- The test pit was filled with water to a depth of 0.3 metres above the sand and maintained at this depth for four hours,
- After four hours, the water was topped up as required to 300 mm above the surface of the sand, and

- The drop in water level was measured over a 30-minute time period and recorded.

Results of the testing identified a Design Infiltration Rate of **0.004 Litres/m²/sec** can be adopted in the design of the onsite infiltration system. During the onsite testing, the water level within the test pits was observed to drop on an average, 14 mm within the testing period.

Yours faithfully,



Krishna Shakya
Geotechnical Engineer
STS Geotechnics Pty Limited



Ian Watts
Geotechnical Engineer
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