

13 March 2013
Ref No 26366SBlet

City West Housing Pty Ltd
2/56 Harris Street
PYRMONT NSW 2009



JK Geotechnics
GEOTECHNICAL & ENVIRONMENTAL ENGINEERS

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ATTENTION: Mr Sam Galvin

Dear Sir

GROUNDWATER IMPACT ASSESSMENT
PROPOSED BUILDING D4 AFFORDABLE HOUSING
NORTH EVELEIGH PRECINCT, OFF WILSON STREET, EVELEIGH, NSW

JK Geotechnics have completed a geotechnical investigation of the above site as detailed in our report dated 13 March 2013 (Ref: 26366SBprt). This letter report should be read in conjunction with our geotechnical investigation report, but provides specific comments on the impact of the proposed development on groundwater.


As detailed within our geotechnical investigation report the subsurface conditions encountered at the site comprise fill to depths ranging from 0.5m to 1m overlying residual silty clays that grade into weathered shale at depths ranging from 0.8m to 2.4m. Groundwater was measured within standpipes installed on site at depths ranging from 2.02m to 2.7m, or \approx RL22.5m to \approx RL23.18m.

The proposed development will comprise construction of a unit building with six and seven above ground levels and a single basement level. The majority of the proposed basement will be at RL23.1m, with the eastern end at RL22.5m.

As recommended within our geotechnical investigation report, allowance should be made for seepage into the basement excavation and this will tend to occur along the soil/rock interface or through joints within the shale. Given the subsurface profile of residual silty clays and weathered shale, the seepage that does occur should be able to be adequately controlled using conventional sump and pump techniques.

In the long term, drainage should be provided as part of the basement retaining walls and below the basement slab. The completed excavation should be inspected by the hydraulic engineer to confirm that the designed drainage system is adequate for the actual water flows. Drainage below the slab will need to be connected to fail-safe pumps to prevent basement flooding. Alternatively, the basement may be designed to resist hydrostatic uplift forces, i.e. a tanked basement.

Given the subsurface conditions of residual silty clays and weathered shale and the limited extent of the basement below the groundwater levels, we do not consider that the proposed basement will be adversely affected by groundwater provided engineer designed drainage systems are constructed. Similarly, it is not expected that the basement will have an adverse effect on the regional groundwater flows given its limited extent into the groundwater.



Should you require any further information regarding the above, please do not hesitate to contact the undersigned.

Yours faithfully
For and on behalf of
JK GEOTECHNICS



Daniel Bliss
Senior Associate

Reviewed by:



Paul Stubbs
Principal