



22 July 2013

Our Ref: 56104-1

Liverpool City Council
Locked Bag 7064
LIVERPOOL BC 1871

Attention: Zeaul Hoque

Property: Viscount Place, Warwick Farm

Further to Council's emails 21/5/13 & 5/7/13 and our subsequent meetings to discuss this proposal I now enclose the following:-

1. Site plan showing the following:-
 - (a) Existing levels.
 - (b) Interpolated 5% contours from information provided by Council.
 - (c) Interpolated 1% contours from information provided by Council.
2. Driveway and drainage plan for the proposed carpark with the existing levels 5% contour and 1% contours added. The carpark is designed so its minimum level is equal to the 5% level. The carpark is above the 5% and therefore impacts on the 1% storage.
3. Plan showing site of proposed compensatory storage area to give a volume of approximately 1200 cubic metres on Lot 101 DP 1043160 to the north (same owner).
4. Volume Calculations for the following:-
 - (a) From the existing surface to the 5% flood storage surface (annexure 1)
 - (b) From the existing surface to the 1% flood storage surface (annexure 2)
 - (c) From the design surface to the 1 % flood storage surface (annexure 3)

We have undertaken calculations to provide a design and compensatory works to ensure the post flood storage is maintained at its pre flood storage. The flood levels adopted for this assessment have been provided by Council from the adopted Cabramatta Creek Flood Study and Basin Strategy Review, July 2010.

Based on that information and the provided calculations above we have determined the following:-

- (1) The amount of pre flood storage in the 5% flood event to the existing ground surface is 384m³
- (2) The amount of pre flood storage in the 1% flood event to the existing ground surface is 2614m³
- (3) The amount of pre flood storage in the 1% flood event remaining above the proposed carpark design. This is calculated as shown below:-

Pre 1% flood storage	2614m ³
Available flood storage remaining based on the design levels	<u>1477m³</u>
Amount of flood storage loss due to the proposed design	1137m ³

Amount of compensatory flood storage made available on Lot 104 in DP 1043160 will be 1200m³.

The above ensures that:-

- (1) There is no loss of flood storage as a result of the development and the current situation is slightly improved by providing additional storage.
- (2) There is no increase in flood levels.
- (3) The site filling is contained within the proposed carpark area only.

As discussed the increase in flood levels of approximately 800mm from the earlier figures provided by Council (2009) has been caused by the stockpile of fill on the adjoining property (same owner) to the north.

The client will be engaging a hydraulics engineer to undertake the remodelling of this section of Cabramatta Creek without the fill stockpile to reassess the flood levels. This report will be made available to Council for assessment and if satisfactory to be adopted by Council. It is expected that the levels will drop to be closer to the earlier 2009 levels. If this occurs it would make the existing basement carpark, the adjoining concrete carpark and this proposed carpark flood free.

The client will be undertaking the removal of the stockpiled material to a new site in the near future (subject to material validation and Council approval).

The carrying out of this work will assist in reinstating the original flood levels in this vicinity.

Can you please review the above and if satisfactory provide advice to Council's planners for the issue of the development consent.

Yours faithfully

LEAN LACKENBY & HAYWARD L'POOL PTY LTD

STEPHEN ABBOTT
Registered Land Surveyor
under the Surveying and Spatial
Information Act, 2002

SJA/cz