

# Warren Smith & Partners

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Wednesday, 6 February 2013

Project No.2011-3591002

Boulderstone Pty Ltd (NSW)  
Level 3  
39 Delhi Road  
NORTH RYDE, NSW 2113

Attention: Mr Stuart Hill

Dear Stuart,

**RE: CENTRAL BARANGAROO - RESPONSE TO SUBMISSIONS**

We refer to the submission made in relation to the commentary contained in our report on tidal levels:-

*In page 67 of the document, where it refers to the considerations for sea level rise as a result of climate change, it states that the 'highest astronomical tide' in 2100 is predicted to be RL 1.975. However, no value against the relevant tide gauge (Fort Denison) is provided for the RL 0 value so all values and information you provide is purely speculative. RL 0 is noted to be the mid point between the highest and lowest tides. The data from Fort Denison shows a tidal range on the 14th of December, 2012 to be from a low water of 0.08m to a high water of 2.04m.*

The levels mentioned in the report are related to Australian Height Datum (AHD) which is the datum that sets mean sea level at zero elevation. This datum has been utilised since the 1970s as the datum to which all vertical control mapping is referred to.

Fort Denison is the old zero tidal gauge and is approximately the level of the Lowest Astronomical Tide. The 'zero level' at Fort Denison is relative to -0.814m below AHD.

The high water level of 2.04m mentioned in the submission is referenced from NSW Transport Maritime NSW Tides 2012-2013 and refers to zero on the Fort Denison Tide ie. RL 1.226 AHD (2.04-0.814).

The levels adopted for central Barangaroo have a low RL set at the foreshore of 2.55m AHD which is 1.326m AHD above the referenced tide at Fort Denison and 0.575m above the Highest Astronomical Tide with Climate Change accounted for.

We therefore conclude that the RLs adopted for central Barangaroo are appropriate for the existing tidal conditions while also providing sufficient protection for Climate Change projections for sea level rise to the year 2100.

Should you require any further information or explanation could you please contact the undersigned.

Yours faithfully  
WARREN SMITH & PARTNERS PTY LIMITED



Michael Cahalane  
**Associate Civil Engineering**

**30 YEARS OF SERVICE**

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