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2nd April 2013

M van Wieringen
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Consulting Geotechnical Engineers
Camps Bay

Dear Sir

West Coast Fossil Park: Interpretive Centre: The dynamic compaction founding option

I refer to discussions between you, the West Coast Fossil Park Trust and Jo Noero Architects regarding the founding options for the Interpretive Centre for the West Coast Fossil Park.

You will recall that there were two founding options proposed, the piling option and the compaction option. Your report of 22nd January 2013 stated that piles would guarantee stability but would require a suspended ground floor. Deep compaction would enable use of surface beds but increase the risk of differential settlements. Subsequent to this report at a meeting held on 25th March it was concluded that the piling option would now be required to penetrate the pit floor, potentially containing in situ fossiliferous remains. The piling option which from a heritage perspective was considered to have strong advantages, now seemed less so.

You concluded by stating that dynamic compaction option will not affect fossiliferous remains beneath the pit floor level and that “footing schemes requiring less compaction may be considered more practical”.

On the basis of this that it was decided that the opinion of an expert independent palaeontologist be sought with a view to assessing both options including their impact on the palaeontological levels as well as loose remnants not in situ which remained within the overburden mound.

Dr Deano Stynder was appointed on 26th March to undertake this assessment and provide comment.. The intention was not only to assess impact on the palaeontological record of both options but to ensure that whatever option was chosen would carry with it a degree of expert support. This would assist the heritage authorities in the making of a decision about impact on highly significant palaeontological resources with a degree of comfort.

Your geotechnical report and the summary of the meeting of 25th March were passed on to Dr Stynder for review of the impact on the palaeontological level. His report on 28th March is attached. He supports the dynamic compaction option but with a reservation.

He noted firstly that dynamic compaction will destroy archaeological material and fragment fossils within the overburden mound but believes this is an acceptable loss as the material is not *in situ*. Secondly in terms of the impact of compaction on fossiliferous levels he is more circumspect and requires further clarification. He would like to know the types and strengths of the dynamic compaction model to be used and the distances and stresses involved, as they may have a bearing on stress waves affecting the fossiliferous floor. He notes “the geotechnical engineers would have to be absolutely certain about wave penetration depth to prevent destruction of fossil material.”

This matter was discussed with *NM and Associates Planners and Urban Designers* and it was decided to request a statement from you explaining the method and force of compaction used; and the provision of an assurance that the mechanisms of compaction used will not penetrate the pit floor in sufficient force to adversely affect potential sensitive fossil remains.

A further matter of concern is the type of compaction to be used on the creation of ‘laterite stabilised’ pathways and parking areas. Obviously we would like to ensure that any compaction required for the proposed paths and parking areas would not have a significant impact on fossil remains as well.

I would be very grateful if the reservations/point of clarity raised by Dr Stynder could be responded to with an explanatory note from you. We would like to have this statement by Friday 5th April.

Yours sincerely

Melanie Attwell
Heritage Consultant

Cc *NM and Associates Planners and Designers*