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ESS Australia PO Box 156, CARRINGTON NSW 2294

24 September 2014

Attention: Jacob Whiting

Dear Mr Whiting

RE: Mining Subsidence Mitigation Plan
18 Honeysuckle Drive Newcastle NSW2300

Coffey Geotechnics Pty Ltd was engaged by the Hunter Development Corporation in October 2008 to undertake a mine subsidence assessment for several lots on Honeysuckle Drive, including number 18 Honeysuckle Drive (also referred to as Lot 230).

The study identified the location to be within a designated Mine Subsidence District as defined by the Mine Subsidence Board (MSB) and that the MSB is a consent authority for any development application.

The report prepared by Coffey referenced GEOTWARA20878AA-AN 'Proposed Mine Subsidence Mitigation Plan – Honeysuckle', dated 20 December 2010, presented recommendations for subsidence mitigation works that included a programme of grouting. Specifically a 'strategic' grouting plan was recommended, targeting areas of potential further subsidence.

The remediation plan was given "approval in principle" by the MSB; the report presented conditions of the Board's approval and it outlined advice on the required strategy. This was received in respect to the condition for the 'removal of mine subsidence by grouting mine workings', as a grouting remediation programme is to be completed prior to building works.

We state that the scope of analysis and recommendations presented in the report GEOTWARA20878AA-AN remain appropriate and we are not aware of any change to the MSB approval in principle of the remediation strategy.

The report referred to geotechnical investigations undertaken by Coffey in 2009, and also earlier work undertaken by others (Douglas Partners Pty Ltd) reported in 2008.

Coffey stands available to assist with the commissioning of remediation works for the 18 Honeysuckle Drive site specifically, in accordance with the agreed strategy as we work to satisfy current and potential further requirements of the MSB and other stakeholders.

In order to satisfy MSB requirements for geotechnical investigation and reporting, a project specific strategy document will be prepared. This will be based on the same recommendations that have received MSB approval in principle.

The document will refer to the design, noting the structural design is to be undertaken by AWT Consulting Engineers Pty Ltd (AWT). Coffey will be pleased to work with AWT to allow calculated, though unlikely, residual ground movement to be tolerable in their building design. I refer to AWT Consulting Engineers correspondence dated 1 August 2014, Ref, 149011. The document will also refer to the planning approval building height, recognising that the building height and plan area are critical considerations of the MSB.

As works proceed and reach completion, Coffey will be able to provide verification of them being undertaken in accordance with the approved procedures outlined in the site specific strategy that will reiterate the requirements of the MSB approval.

A verification document will be prepared, recording the satisfactory completion of grouting mitigation works. It will discuss factors such as the need for final design drawings to be submitted for MSB acceptance (i.e. a stage beyond the current approval in principle) and that the drawings and accompanying notes will require details of survey points to allow any building movement to be assessed against baseline records through their subsequent monitoring. A structural engineer's verification report will similarly be sought by the MSB.

Please contact us with any questions concerning the geological modelling and geotechnical (mine subsidence remediation) recommendations.

For and on behalf of Coffey

Iain Turner

Principal Engineering Geologist



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01/08/14 149011

Doma Constructions Pty Ltd 18 National Cct Barton ACT 2600

CONSULTING ENGINEERS

Attention: Gavin Edgar

**RE:** 18 Honeysuckle Drive Newcastle

**RE:** Mine Subsidence

Dear Gavin

AWT structural engineers have been engaged to complete the structural design of the proposed development at 18 Honeysuckle Drive, Newcastle.

We hereby verify that the design of the structure has been undertaken and certified to meet the above residual subsidence conditions in the Proposed Mine Subsidence Mitigation Plan (GEOTWARA20878AA-AN) prepared by Coffey Geotechnics, dated 20 December 2010. This report required any future development be designed for residual subsidence only, with the following estimated mine subsidence parameters:

- Maximum surface subsidence (Smax) of 0.08m;
- Maximum surface tensile strain (+Emax) of 0.7mm/m;
- Maximum surface compressive strain (-Emax) of 0.7mm/m;
- Maximum surface tilt (Gmax) of 2.7mm/m.

Further to that we also confirm that we have been in dialogue with both the Geotechnical Engineers, Douglas Partners (who completed the Geotechnical Investigation) and the Mine Subsidence Board to ensure that we satisfy all or any further requirements of the Mine Subsidence Board of New South Wales ("MSB").

Structural Certification upon completion of the development will also be provided to the developer.

**AWT Consulting Engineers Pty Ltd** 

Alan Tingcombe B.E. (Hons) F.I.E. Aust

Director

Mengcanhe