

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** of a submission in respect of the **PROPOSED WAIKATO DISTRICT PLAN** by **AMBURY PROPERTIES LIMITED** pursuant to Clause 6 of Schedule 1 of the Act to rezone 178ha of land at Ohinewai

## **STATEMENT OF REBUTTAL EVIDENCE OF AJAY DESAI**

### **1. INTRODUCTION**

- 1.1 My name is Ajay Desai. I am a Senior Technical Specialist – Three Waters at Wood and Partners Consultants Limited (“Woods”).
- 1.2 I have outlined my qualifications, experience and commitment to comply with the Environment Court Expert Witness Code of Conduct in my evidence in chief (“EIC”).
- 1.3 I have read the statements of evidence of all the following witnesses:
  - (a) Murray Grant Webby (Mercury NZ Limited);
  - (b) Angus McKenzie (Mercury NZ Limited); and
  - (c) Ghassan Wadi Basheer (Waikato Regional Council (“WRC“)).

### **Purpose and scope of rebuttal evidence**

- 1.4 Mr Stuart Penfold and I met with Mr Basheer on 20 August 2020 to discuss a number of points raised in his evidence in order to seek clarity on terminology and discuss the sharing of information. The outcome of the discussions were recorded in an email sent to Mr Basheer for confirmation (provided as **Attachment A**). The purpose of this

statement of evidence is to summarise the outcomes of those discussions and set out my position as a result of the discussions.

1.5 Specifically, I address the following:

- (a) Sharing of additional modelling undertaken by APL for sensitivity testing and the more recent detailed stop bank breach scenario (Section 2); and
- (b) Amended plan provisions relating to the agreed maximum flood level relevant to the Ohinewai Structure Plan ("OSP") area, minimum floor levels in accordance with NZS4404:2010 and minimum building platform levels (Section 3).

## 2. **MODELLING DATA SHARING**

2.1 At paragraphs 6.10-6.12 of his statement of evidence, Mr Basheer notes that while the results of the stop bank breach modelling were provided to WRC, details of subsequent remodelling of the stop bank breach scenario at a greater level of detail had not been provided to WRC.

2.2 This information has now been provided to Mr Basheer. Updated flood models and results in GIS format were shared with WRC on 20 August 2020 via Microsoft OneDrive for the following scenarios:

- (a) Effects assessment scenarios (pre and post development for rainfall events agreed with Mark Pennington);
- (b) Sensitivity assessments; and
- (c) Stop bank breach scenario.

2.3 I appreciate that this detailed information was only received by Mr Basheer and the wider WRC team the week prior to submitting this rebuttal evidence. However, I reiterate that, in my opinion the more detailed stop bank breach scenario modelling demonstrates that the OSP is not subject to flooding from such an event, provided that development areas are filled to a minimum of 8.0mRL.

### 3. **AMENDMENTS TO PLAN PROVISIONS**

#### **Finished Floor vs Building Platform**

- 3.1 Having reviewed Mr Basheer's evidence and the proposed levels set out at paragraph 6.9, I sought planning advice from Mr Penfold and Mr Olliver with respect to the implications of any proposed plan provisions and development outcomes.
- 3.2 It is my understanding that there is a preference for plan provisions to refer to 'finished floor' levels as opposed to 'building platform' levels as finished floor levels are the critical level that is required to have adequate freeboard from flood level. 'Building platform' is subject to various foundation designs in relation to the flood level, hence, there can be ambiguity with interpretation that can affect any land modification and foundation design required to comply.
- 3.3 This detail was discussed with Mr Basheer and followed up in the correspondence (**Attachment A**). It was agreed that the maximum flood level relevant to the OSP would be 8.0mRL and this can be used as the baseline for development levels.
- 3.4 At paragraph 6.9 of his evidence, Mr Basheer made a series of recommendations for plan provisions aimed at protecting the development from flooding. I agree with the intent of the plan provisions, however, it is my opinion that the plan provisions should use 'finished floor level'.
- 3.5 Although Mr Basheer's evidence suggest rules requiring minimum building platform levels, I consider it to be appropriate for the rules to relate to 'finished floor levels' as this is consistent with Clause 4.3.5.2 of the New Zealand Standard 4404:2010 and provides for clarity at building consent stage.
- 3.6 With reference to the rebuttal evidence of Mr Olliver, the proposed rules are as follows (subject to updating references):
- (a) Residential zone - 16.6.4 RD2: Any residential units (including attached garages) to have a minimum finished floor level of 8.5mRL.
  - (b) Residential zone - 16.6.4 RD3: Any non-habitable residential buildings and detached garages to have a minimum finished floor level of 8.2mRL.

- (c) Business Zone - 17.6.4 RD3: Any commercial/industrial units to have a minimum finished floor level of 8.3mRL.
- (d) Industrial Zone - 20.6.3 RD 4: Any commercial/industrial units to have a minimum finished floor level of 8.3mRL.

### **Minimum development ground levels**

- 3.7 The stop bank breach modelling (as shown in **Attachment B**) demonstrated that the development areas within the OSP area are not subject to flooding as a result of a stop bank breach of the Waikato River, provided that land modification is completed as proposed by APL.
- 3.8 The site has a proposed design terrain within the Sleepyhead Factory site in excess of 9.5mRL to match/connect the North Island Main Trunk railway existing levels. The factory design levels are well advanced with a resource consent application having been lodged on 20 August 2020 that has confirmed suitable site levels. There is no other interaction of the site with breach flows, hence the site south of the factory site is completely safe from stop bank breach flows.
- 3.9 Flows overtopping State Highway 1 follow the overland flow paths towards the northern site boundary and traverse eastwards to Lake Rotokawau and Lake Waikare without entering the site.
- 3.10 However, to ensure all of the development, including the Sleepyhead Factory site, is protected from any stop bank breach with minimum of earthworks across the site, the following rules were discussed with Mr Basheer. They have been adopted in Attachment A to the rebuttal evidence of Mr Olliver as follows:
  - (a) Residential Zone: 16.6.4 RD2: All lots must have building platforms that are above 8.0mRL.
  - (b) Business Zone: 17.6.5 RD3: All lots must have building platforms that are above 8.0mRL.
  - (c) Industrial Zone: 20.6.4 RD2: All lots must have building platforms that are above 8.0mRL.

**Ajay Desai**

**24 August 2020**

**ATTACHMENT A**  
**E-MAIL CORRESPONDENCE WITH WRC**

**ATTACHMENT B**  
**REVISED STOP BANK BREACH RESULTS**