BEFORE INDEPENDENT HEARING COMMISSIONERS AT WELLINGTON

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER the hearing of submissions on the Proposed Wellington City District Plan

STATEMENT OF EVIDENCE OF CRAIG ALAN STEWART

STRATUM MANAGEMENT LIMITED (SUBMITTER 249)

HEARING STREAM 5 – GENERAL DISTRICT WIDE MATTERS

AUGUST 2023

1. INTRODUCTION

1.1 My name is Craig Alan Stewart. I am the Director of Stratum Management Limited.

Stratum Management Ltd

1.2 Stratum Management Limited ("**Stratum**") and associated development companies have been in the property development business for over 30 years. During this time, we have completed approximately 2,500 units across 15 inner-city high-rise buildings and many multi-unit terraced housing projects ranging from 4-95 units per site.

1.3 We currently have underway an 11-storey apartment building in Willis Street; 95 unit townhouse development in Richmond Street, Petone; 85 unit townhouse development in William Earp Place, Tawa; 9 up-market houses in

Thompson Street, Mount Cook; and have just last month completed a 10-storey building in Thorndon Quay. We have recently consented an 18-storey building at the corner of Dixon and Victoria Streets – a building that is the example utilised in the attached document.

1.4 In addition to the above, and once market conditions improve, we have a pipeline of development sites that we own of approximately $400M.

Involvement in the Proposed District Plan

1.5 During the development of the Proposed District Plan ("**PDP**") over the past 18 months, I have consulted several times with the Council on various aspects of the PDP.

1.6 I presented evidence as part of Hearing Stream 4 – Centres.

Code of conduct

1.7 I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and that I agree to comply with it. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that this evidence is within my area of expertise, except where I state that I am relying on the evidence of another person.

2. SCOPE OF EVIDENCE

2.1 Stratum's submission in respect of the Three Waters chapter covered a number of points, as set out in the evidence of Mr Lewandowski. I wish to comment specifically on development certainty and costs that will be impacted by provisions relating to hydraulic neutrality and water sensitive design.

2.2 I address these aspects of the Stratum submission and note that Mr Lewandowski will further address these areas in his evidence. I also draw on technical advice that I have received and have attached as Attachment 1 in respect of how the proposed hydraulic neutrality requirements will impact the design and development of city centre buildings.

3. THREE WATERS

Hydraulic neutrality

3.1 Based on my understanding of the PDP approach, I have concerns that the requirements for hydraulic neutrality will ignore existing built development

(and other existing hard surfacing) on any given site. In my development experience, where Stratum has been required to achieve hydraulic neutrality across a number of projects, existing built development has always been acknowledged.

3.2 This approach, coupled with its proposed applicability across all zones, gives me significant concerns over how this would apply in the city centre. As I discussed as part of my evidence to Hearing Stream 4, city centre zone sites are generally small, and are required to be efficiently utilised in order to achieve successful development outcomes. Site coverage of buildings developed by Stratum is high, often at 100%.

3.3 To accommodate hydraulic neutrality as proposed would require the installation of underground or ground level tanks. The technical impacts of both options are discussed in the letter attached to my evidence.

3.4 Underground tanks will complicate already complicated and expensive foundation design and construction. This will impact on development costs and development feasibility.

3.5 Accommodating tanks at ground floor level will utilise valuable space. Again based on the advice that I have received, an area of 50m^2 would be required based on a real example of a building recently consented by Stratum. A 50m^2 area represents approximately 10% of that buildings' ground floor space. Aside from the loss of this space for alternative uses, this has economic impacts. Based on a square metre rental rate of $650 per square metre, x 50 sqaure metres, this represents lost income of $32,500 per annum. Based on a 5% yield, this will create an additional cost of $650,000 to the project feasibility. This is in addition to the actual costs of the tank and pumps etc.

3.6 These cost effects, along with others that I traversed in Hearing Stream 4 relating to outdoor open space requirements and minimum floor area requirements are all costs that fall on the development community, and are in turn reflected in apartment pricing, or a reduction in development feasibility.

Water sensitive design methods

3.7 Stratum developments, in particular multi-unit developments, have with greater frequency incorporated water sensitive design methods such as rain gardens. While increasingly these are reqirements, Stratum has also recognised and responded to the expectations of our buyers.

3.8 My concern with the proposed requirements, based on the evidence of Mr Lewandowski, is that they are uncertain in terms of outcome . In terms of the city centre, my concern relates to the ability of apartment developments to achieve these outcomes (whatever they may be). Outside of this city centre focus, the requirements appear to be unclear and set-up a situation where solutions will need to be agreed on a site-by-site basis. This is fundamentally at odds with the certainty I seek as a developer.

3.9 To set up a situation where a water sensitive desing approach will need to be negotiated and agreed on a case-by-case basis, including with Wellington Water as a third party, creates a fundamentally uncertain consenting environment.

4. CONCLUSION

4.1 I acknowledge that hydraulic neutrality and water sensitive design approaches are becoming increasingly prevalent. Stratum developments, in particular multi-unit developments, have variously incorporated these requirements both by necessity and in recognition that water sensitive design approaches in particular are of value to our buyers.

4.2 My concern with the proposed approach to both matters relates to their applicability in the city centre, and in ensuring that the requirements are certain and do not unduly impose development costs and delays.

Craig Stewart

18 July 2023

Attachment 1

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2023-07-12

Craig Stewart
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Dear Craig

WCC Draft District Plan – Three Waters Provisions

We have reviewed the impact of the sections of the Wellington City Council Draft District Plan regarding stormwater attenuation with their impact on the design of apartment buildings in mind.

Scope of Review

The section reviewed was Objective THW-O3 – Hydraulic neutrality and the policy and rules associated with this objective.

Objective THW-O3 requires that :

> *There is no increase in offsite stormwater peak flows and volumes as a result of subdivision, use and development in urban areas.*

Policy THW-P5 – Hydraulic Neutrality states:

> *Require new subdivision and development to be designed, constructed and maintained to sustainably manage the volume and rate of discharge of stormwater to the receiving environment so that the rate of offsite stormwater discharge is reduced as far as practicable to be at or below the modelled peak flow and volume for each site in an undeveloped state.*

There are then a number of rules associated with this policy depending on the size and type of the building under consideration.

The outcome of these rules is that for a multi-unit residential development in Central Wellington, stormwater attenuation will be required regardless of existing conditions or buildings on site.

Example Development

To allow specific comment in the impact of this plan change, we have conducted a review of a proposed building in Central Wellington. The building we considered is a typical building that Stratum would construct; an 18 level apartment building with retail spaces on the ground floor. The building considered covers a plan area of 660m^2, including canopies, on a ground floor footprint of 530m^2.

Attenuation Volume

A preliminary assessment of the attenuation requirements for the proposed development was undertaken. We note that details on how the attenuation volume is to be calculated for the proposed plan change are not defined at this stage and have therefore adopted assumptions regarding climate change and storm duration.

We also note that the methodology is based on the difference in runoff volume, while the requirement is based on peak runoff. A hydrodynamic assessment is required to assess the minimum attenuation volume.

The assessment was based on the following assumptions:

- Post development runoff is not to exceed the runoff of the undeveloped site for the 100yr ARI (Average Recurrence Interval) design storm event.
- Site coverage 660m2 which includes canopy.
- Runoff based on Reference Guide for Design Storm Hydrology (Wellington Water, Apr 2019)
- Runoff from undeveloped site based on current climate conditions. Runoff for the proposed development includes allowance for climate change.
- Attenuation volume is calculated as the difference in runoff from the 24hr design storm.

The results are presented in the table below and shows that an attenuation volume of approximately 60m^3 would be required. It is worth noting that this review considers plan area only, and that building height is not a consideration.

Development	% Imp Area	Rainfall Depth	Runoff Depth	Runoff Volume
Undeveloped	0%	153 mm	89 mm	59 m^3
Proposed Development	100%	186 mm	181 mm	119 m^3
Variance			92 mm	60 m^3

Impact on Building

Typically, foundations on one of your multi-storey developments will be a number of distributed bored reinforced concrete piles supporting a deep raft slab which in turn supports the building superstructure. Piles are typically spaced on a grid of between 5m and 8 m.

In order to provide a stormwater attenuation tank beneath the raft slab for a volume of 60m^3, a concrete tank with approximate dimensions of 6m by 5m and 2.2 - 2.4 m depth would be required, allowing for a water storage depth of 2m. The tank would be constructed with precast or reinforced concrete walls and slabs and would likely require a liner to mitigate against potential leakage.

This tank would need to be located to avoid the proposed pile layout or would require piles to be moved to accommodate the required area. The lateral capacity of piles located within 3 pile diameters of the tank would be reduced, increasing loads on other piles. It is likely that the walls of the tank would be separated from the raft slab over to avoid lateral loading from the building being transferred into the tank walls.

Additional excavation would be required following installation of the piles (which is undertaken from a level at the underside of the raft slab), with the edges of the excavation requiring safe battering for access to the base of the tank and the surrounding edges. In my view this would add significant cost to the foundation system for the example project. When considering that the calculation considers plan area only, this same volume would be required for shorter buildings, representing a larger increase in costs as building heights reduce.

An alternative to a buried tank would be to provide surface mounted plastic tanks within the building. Proprietary plastic tanks 4m in diameter tank and 3m high holds 30m^3, so two tanks could be provided on the ground floor to provide the 60m^3. These would need to be located in a space around 5m by 10m to allow for access around the tanks, impacting the use of the ground floor spaces. In the case of this example building

this is around 10% of the total ground floor area, but a significantly higher percentage of the area available on ground floor for use once necessary plant, access, stair, and lift areas are considered.

I trust that this letter is sufficient for you to consider the impacts of this part of the Proposed District Plan change on your future developments. Please do not hesitate to contact me should you have any further queries.

Yours sincerely

Sam Jones
Principal