BEFORE THE NORTHLAND REGIONAL COUNCIL HEARINGS COMMISSIONER

IN THE MATTER of an application under section 88 of the Resource Management Act 1991 (Act)

AND an application by Doug's Opua Boatyard for resource consents relating to the redevelopment of the boatyard located at 1 Richardson Street, Opua.

FURTHER STATEMENT FROM JOHN PAPESCH IN RESPONSE TO QUESTIONS FROM THE COMMISSIONER

Dated this 15th day of September 2020

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Introduction

1. This further statement has been prepared by John Papesch (on behalf of DOBY) in response to a question raised by the Commissioner for resource consents relating to the redevelopment of the boatyard at 1 Richardson Street, Opua.

2. My statement of qualifications and experience is provided in my evidence dated the 20th July 2020. In preparing this further statement, I have read and agree to comply with the Code of Conduct for expert witnesses as set out in the Environment Court's Practice Note 2014. Any opinions expressed in this evidence are my own and are not influenced by the client or their agents. This evidence is within my area of expertise, except where I state that I am relying on the evidence of others. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

3. This response is in relation to Minute #4A, point 17;

   'Mr Papesch, in his Further Statement included with the RoR, stated "*The gravity component of the stormwater discharge is subject to the positioning of the stormwater treatment system as is currently before the Environment Court*". The proposed position being within the Reserve between Area A and the coast. I request further information from Mr Papesch on why its proposed position is so critical and whether it would work equally well in positions further up the slope of the reserve (e.g. within Area A or within Mr Schmuck's property).

4. I have also reviewed Mr Hartstones response dated 7 September 2020 and comment on the amended wording to condition 62.

Stormwater 360 position as proposed

5. The position of the stormwater 360 system is shown on Thomson Survey plan included as attachment 1 and 2 to my evidence in chief. The Thomson Survey plan shows the position of the sump and treatment device located underground, near the bottom of the

slipway on the Reserve. The position of the stormwater 360 system is consistent with the concept plan shown in the Vision report[1].

6. One of the main advantages of this approach is that stormwater collected from the vessel working areas would be gravity fed into a sump and treatment device located underground. A stormwater system reliant on gravity reduces the risk of uncontrolled discharges to the CMA in the event of heavy rainfall or pump failure.

7. The existing system (which has now been removed) relied on a series of pumps to collect wash down water from the turntable and the grated channel drain located 10 m from the mean high-water mark. Whilst it is possible to reintroduce a system that is reliant on pumps, I consider it is more appropriate to adopt a gravity solution.

Alternative Stormwater 360 position

8. I have considered whether the treatment system can be moved upslope (west) into area A or within Mr Schmuck's property. This can be readily achieved if the system was reliant on pumping. If the system is to be reliant on gravity, careful consideration of the levels is required in order to check system hydraulics.

9. The level of the catchment grate at 10 m from the mean high-water mark is 2.5 m One Tree Point (OTP) datum. The ground level at the position of the stormwater 360 system is 2.0 m OTP. The mean high-water level is 1.0 m OTP, with a current 1% AEP storm tide water level of 1.7 m OTP. Sea level rise is provisioned for a potential increase of 0.4 m of water level in 2065 and of 1.0 m in 2100. [2]

10. The stormwater 360 literature for the Stormfilter contained in Appendix C to the Vision report confirms that the system can operate with tail water (e.g. tidal conditions) with a low hydraulic effect with as low as 350 mm head loss.

11. Given the level of the grated channel drain, the storm tide level(s) and the head loss required for the treatment system to operate, I

[1] Stormwater and Wastewater Management Report, Vision Consulting Limited, 7 June 2019 ('the Vision report')
[2] Coastal Flood Hazard Zones for Select Northland Sites, 2017 Updated, prepared for Northland Regional Council, Tonkin & Taylor Ltd

consider it is possible to locate the treatment device just above the grated channel drain, within Area A.

12. The Vision design has been laid out to avoid vessel loads from the rails being transferred to the treatment system. Locating the treatment system in Area A will require specific design to avoid excess surcharge loads being applied to the treatment system. I consider this could be achieved with piled foundations or similar to support the rails on the underlying bedrock outside of the zone of influence of the tanks.

13. I do not consider it practical to position the stormwater 360 device on Mr Schmuck's property without introducing stormwater pumping. The slipway slopes at 1:6 up to where it is to be flattened in Mr Schmuck's property at 4.0 to 4.4 m OTP. The surrounding ground levels vary from 4.5 to 5.5 m OTP. Gravity pipes running against the slope with associated head losses coupled with the depth makes positioning of a gravity system on Mr Schmuck's property too problematic.

14. For completeness, I also considered whether the grated channel drain could be moved up slope from the demarcated position which is 10 m from the mean high-water mark. The distance from the grated channel drain to the entrance to the boat shed is 26 m. Mr Schmuck has advised me that DOBY accommodates vessels up to 18 m, but that the full length of the slipway is required to accommodate the bowsprit, davits and working area.

15. I have been advised by counsel for DOBY that locating the treatment device in the reserve is a private property matter. Further, I understand that underground infrastructure such as the stormwater 360 system is a permitted activity under the Far North District Plan. I consider a treatment device which is located underground can be operated and maintained with minimal disruption to the use of the reserve in the preferred position.

16. In my opinion, the installation of the treatment device near the bottom of the slipway that relies on gravity remains the recommended solution. Whilst I consider it is possible to locate the treatment device slightly up-slope of the grated channel drain, I do not consider this

alternative position as robust as the recommended position down-slope in the reserve.

Condition 62 – Amended Wording

17. The Commissioner sought amended words for condition 62 from Mr Hartstone, to reflect the intent that the first 10 mm of rainfall is to be discharged to trade waste in addition to all wash water. I agree with the intent of the condition, but I do not consider the amended wording by Mr Hartstone achieves the objectives. I recommend the following amended wording for condition 62;

'All stormwater from areas of land used for the maintenance of vessels shall be directed to a proprietary stormwater treatment system for treatment prior to discharge to the coastal marine area. That proprietary stormwater treatment system shall utilise a demand driven diversion valve that shall automatically direct ~~a minimum of 2.4m3 of~~ wash down water (trade waste) to the public sanitary sewer ~~system as a 'first flush' when the water blaster is activated~~. In addition, ~~specific provision shall be made for a~~ the 'first flush' of 10 mm of rainfall shall be directed to the public sanitary sewer. The consent holder shall ensure that the slipway is cleaned after any water blasting of vessels.

John Francis Papesch

Dated this 15th day of September 2020