

BEFORE THE CENTRAL HAWKE'S BAY DISTRICT COUNCIL  
INDEPENDENT HEARINGS COMMISSIONER

**UNDER** The Resource Management Act 1991

**AND**

**IN THE MATTER OF** A NOTIFIED RESOURCE CONSENT APPLICATION FOR  
SUBDIVISION TO CREATE 11 LOTS (8 RURAL LIFESTYLE  
LOTS, 2 BALANCE LOTS, AND A LOT TO BE  
AMALGAMATED AS A BOUNDARY ADJUSTMENT) AT  
MANGAKURI ROAD (RM230016)

**BETWEEN** **SR & BJ WILLIAMS CHARITABLE TRUST BOARD**  
Applicant

**AND** 24 Submitters

**Central Hawke's Bay District Council**  
Consent Authority

**AND**

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**BRIEF OF EVIDENCE BY SIMON GABRIELLE**

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## **INTRODUCTION AND QUALIFICATIONS**

- 1 My full name is Simon Peter Gabrielle.
- 2 I am a Senior Civil Engineer at Strata Group Consulting Engineers, a locally owned multi-disciplinary Engineering Consultancy based in Hastings, with a specialist Land Development team.
- 3 I hold a Diploma in Civil Engineering from the Western Institute of Technology at Taranaki. I am a member of Engineering New Zealand and Water New Zealand.
- 4 I have 10 years' experience as a Civil Engineer in New Zealand. Seven years at Strata Group and formerly with the Napier City Council.
- 5 Since starting with Strata Group in 2017 my role has evolved into a team leader and group mentor to the Strata Group civil engineers and I have had the opportunity to work on a variety of in-depth projects including civil design and construction monitoring for lifestyle subdivisions, industrial subdivisions, residential subdivisions, and commercial and industrial developments.
- 6 At Napier City Council I was employed as CAD and Regulatory Engineer and was involved with Capital three waters projects, asset renewal programmes and assisting with external private developments.
- 7 Prior to my employment as a Civil Engineer, for 7 years I was employed as a Surveying Technician focused on construction surveying.
- 8 I have been involved with SR and BJ Williams Charitable Trust Board (The Applicant) since March 2022 to provide the Civil Engineering solutions for the proposed subdivision at 402 Mangakuri Road (The Site), including, stormwater, earthworks and access.

## **EXPERT WITNESS CODE OF CONDUCT**

- 9 I can confirm that I have read and am familiar with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. My evidence has been prepared in compliance with that Code and I agree to adhere to this Code when presenting any evidence to the Hearing.
- 10 I can confirm that my evidence is within my area of expertise except where I have stated that I am relying upon the specified evidence of another person/expert, and I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.
- 11 I understand and accept that it is my overriding duty to assist the Commissioner in matters that are within my expertise as an Engineer. I understand that I have an overriding duty to assist impartially on the relevant matters within my area of expertise and that I am not an advocate for the party that has engaged me.

## SCOPE OF EVIDENCE

- 12 This evidence relates to resource consent application RM20230016 (“Application”) by the SR and BJ Williams Charitable Trust Board (“Applicant”) to Central Hawke’s Bay District Council (“Council”) for subdivision consent to create 11 lots, being 8 lifestyle lots, 2 rural balance lots and a lot to be amalgamated with an adjoining title, from Lot 2 DP 481291 (Record of Title: 674477).
- 13 That Application was received by Council on 24 February 2023. This evidence is provided in support of the Application.
- 12 I conducted a site visit on 16 September 2022 and another on the 13<sup>th</sup> September 2023.
- 13 In preparing this evidence I have reviewed the following documents:
- a) The ‘Notification Report Pursuant to Sections 95A to 95F of the Resource Management Act 1991’ (“the Notification Report”) prepared on behalf of the Council by Ryan O’Leary, Consultant Planner.
  - b) The 24 submissions received on the application as listed in Appendix 3 of the s42A Report.
  - c) The ‘Section 42A Report of Ryan O’Leary – Planning’ (“the s42A Report”).
  - d) The ‘Technical memorandum to an application for subdivision consent under the Resource Management Act 1991 in respect of 42 Okura Road, Elsthorpe’, from:
    - Erin Griffith, Principal, Landscape and Urban Design, Natural Capital
    - Wayne Hodson, Senior Design Engineer (Three Waters), Stantec
    - Chris Rossiter, Principal Transportation Engineer, Stantec NZ
    - Lee Paterson, Senior Geotechnical Engineer, Stantec
- 14 The purpose of my evidence is to provide an assessment of the Civil Engineering related matters to this resource consent hearing. My evidence should be read in conjunction with the following documents prepared by myself.
- J5864 – Mangakuri Subdvn Land Development report – Rev C\_230811
  - J5864-Appendix A-DRG-Combined RC Plans \_230811 (Preliminary Civil Engineering Plans)
  - J5864\_3 Waters\_S92 response\_230921 (Section 92 response)
- 15 My evidence is structured as follows:
- a) Summary of stormwater design
  - b) Water and wastewater concepts
  - c) Matters relating to the Technical Memorandums received as listed in 13.d above
  - d) Summary and Conclusion

## SUMMARY OF STORMWATER DESIGN

- 16 The overall design objectives for the proposed stormwater systems are to achieve stormwater neutrality with special attention to not increase the stormwater flow rates along the eastern boundary of the development; and to manage stormwater appropriately onsite with consideration of the receiving environment. The preliminary stormwater design includes the following features.
- Utilise a consent notice to enforce stormwater detention for all Lot owners
  - Redirect stormwater run-off to the north-west where readily practicable
  - Modify the existing farm pond to utilise it for stormwater detention
  - Introduce 2 new dry ponds for stormwater detention
  - Minor discharge at Mangakuri Beach (where no practical alternative was deemed to be available).
- 17 The above features combined provide for suitable stormwater detention to limit the post development flows to predevelopment flow rates for the events analysed with a decrease in flow rates to all discharge points, except for an increase to the land located north of Williams Road – located within the Applicants Land (referred to as Point A-1 in the Strata Group Land Development report).
- 18 The detailed design will include utilising storage routing software to model flows to and from the existing and proposed ponds.

## WATER AND WASTEWATER CONCEPTS

- 19 All Lots will be responsible for their own potable water supply and rainwater harvesting. Part of the rainwater tanks will be utilised for stormwater detention as discussed in the Strata Group Land Development report.
- 20 Consent notices have been offered to require all water tanks to be constructed with a 100mm diameter firefighting coupling for firefighting purposes. This method or a communal firefighting supply (shared tanks) will be investigated during detailed design for the development ensuring compliance with SNZ PAS 4509:2008.
- 21 Wastewater servicing is outside the scope of work undertaken by Strata Group, however, after consultation with local expert Steve Crockford from EMS (Effluent Management Systems), as included in the Consent application, I prepared a plan (sheet C300) showing indicative wastewater disposal fields. As per the advice from Steve Crockford, all Lots were shown to have an area of 700m<sup>2</sup> - 1000m<sup>2</sup> (depending on the land gradient/topography) available for wastewater disposal. The preliminary disposal field size advice from Steve Crockford was based on his knowledge of *ASNZS 1547-2012 (On site domestic wastewater management)* with particular reference to table 5.2, page 55 - *Soil categories and recommended design irrigation rates for land application systems*.

## Matters relating to the Technical Memorandums

22 The following commentary in Points 23 – 34 below, has only been offered where the technical memorandum and corresponding sections of the s42A report challenges or disagrees with the submitted civil engineering design or comments made by myself in the original application documents.

### Memorandum from Wayne Hodson, Senior Design Engineer (Three Waters), Stantec.

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*“9.2.a. The basis of the wastewater disposal field sizing related to a design flow allowance including size of dwelling, number of bedrooms or population equivalent or what allowance for reserve areas, has not been included in the Civil Design Report. It is recommended that the applicant clarify the servicing basis and the size of dwelling that would be appropriate given the land limitations of each lot. This assessment should be in accordance with AS/NZS 1547 (On site domestic wastewater management) and with reference to the conditions of HBRC RRMP rule 37. Any limitations to servicing should be included in the consent notice for each individual lot.”*

**Response:** The intention of the wastewater disposal plan supplied with the application was to illustrate that a solution was achievable within the proposed parcels. Steve Crockford at Effluent Managements Systems Ltd was consulted on proposed wastewater systems and he provided direct advice based on his vast experience in Hawke’s Bay operating under the discharge requirements imposed by the HBRC planning framework. In review of the technical memorandum from Wayne Hodson, I have contacted Steve Crockford who has confirmed his original recommendations were based on a calculation for a typical 4 bedroom home, with discharge to very clayey sloping sites. A copy of the email from Steve Crockford detailing this is attached.

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*9.2.b. “Whilst not a requirement of the code of practice, calculations for pre-development runoff should consider rainfall based on historic intensity data, rather than future climate adjusted rainfall, to ensure that the development is sustainable in the longer term. Post-development and infrastructure designs should consider future climate adjusted rainfall using Representative Concentration Pathway (RCP) 8.5 at 2081-2100.”*

**Response:** As acknowledged in Mr Hodson’s memorandum, the use of historic rainfall data is not a code of practice requirement. Use of historic data adjusted for future climate change allows an appropriate comparison to be made between the expected future effects pre and post development. Ultimately the designed capacity of the infrastructure is a matter of detailed engineering design which will be developed in discussion with CHBDC Engineers.

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*9.2.f. There is no specific detail around providing access to allow for inspection and maintenance of the proposed stormwater ponds and structures. Regular inspection, maintenance and repair of the stormwater structures will be important to ensure that the effects of the subdivision can be mitigated in the longer term.*

**Response:** This can be addressed at detailed design, however, it is worth noting that any asset located on the Coastal Balance Lot 11, within the working farm will be, or already is, readily accessed via farm access routes.

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*9.3. “To clarify, it is noted that the stormwater ponds would be constructed as part of the subdivision development to mitigate the additional runoff from the proposed access right of ways and drainage development constructed as part of the subdivision development. Additional development of the building sites, including dwellings that would create additional runoff with additional mitigation measures are proposed as part of the building development and building consent stage.”*

**Response:** The post development stormwater calculations have made a generalised allowance for development at each Platform with a run-off coefficient of 0.75 applied to all design surface platform areas. This is considered to be a conservative estimate, noting *NZ Building Code, Clause E1 – Surface Water* recommends a coefficient of 0.65 be utilised for commercial or town house developments. As such, these have been conservatively considered and included in the net detention and flow calculations.

27 **10.16** *A consent condition is recommended for the applicant to prepare operation and maintenance plan (OMP) for the relevant facilities as part of the detailed design and that it is submitted and approved as part of engineering design approvals. Consent notices are included on individual property titles to require compliance by the property owner; however, compliance checks and enforcement would rely on the CHBDC.*

**Response:** I accept that an Operations and Maintenance Plan (OMP) is valid for the ongoing maintenance of stormwater assets located on the balance Lot, and this OMP can be prepared with the detailed design. I believe that the owner of Lot 11 (Balance Lot) will have a vested interest in maintaining the existing and proposed ponds and their discharge, as failure to do so would compromise their assets and their Land.

28 Section 11.2 a. – g. recommends additional consent notices are applied to address matters raised in the Wayne Hodson Memorandum. I consider these additional consent notices a reasonable request and the outcomes align with the original design intentions, with the exception of point 11.2.g.iii which is recommended to be amended as follows.

29 The civil engineering detailed design shall demonstrate compliance the New Zealand Fire Service Firefighting Water Supplies Code of Practice SNZ PAS 4509:2008. The final solution shall comply with one or more of the following conditions, noting a combination of communal and private firefighting water storage may be a viable option. The final design shall be approved by a local FENZ representative ahead of Engineering approval by CHBDC.

29.1 *All dwellings shall have a firefighting water supply that includes adequate water storage volume, pipe fittings and vehicle access for Fire and Emergency New Zealand (FENZ) to that supply, that complies with the requirements of the New Zealand Fire Service Firefighting Water Supplies Code of Practice SNZ PAS 4509:2008, or*

29.2 The civil engineering detailed design shall include provisions for a communal firefighting supply via shared water tanks that shall be for the sole purpose of firefighting and shall remain full at all times. The communal firefighting system shall comply with the New Zealand Fire Service Firefighting Water Supplies Code of Practice SNZ PAS 4509:2008.

#### Memorandum from Chris Rossiter, Principal Transportation Engineer Stantec.

30 The memorandum from Chris Rossiter is generally in support of the application. The conditions recommended in section 12.2 from the Transportation memorandum are considered to be fair with the exception of point d. (section 12.2). as per below.

*“All accessways shall be formed to a minimum width of 3.5 metres. Seal widening shall be provided at curves as necessary to ensure that an 8 metre long fire appliance can travel along the accessway without leaving the carriageway.”*

31 I propose that this condition is reworded as follows,

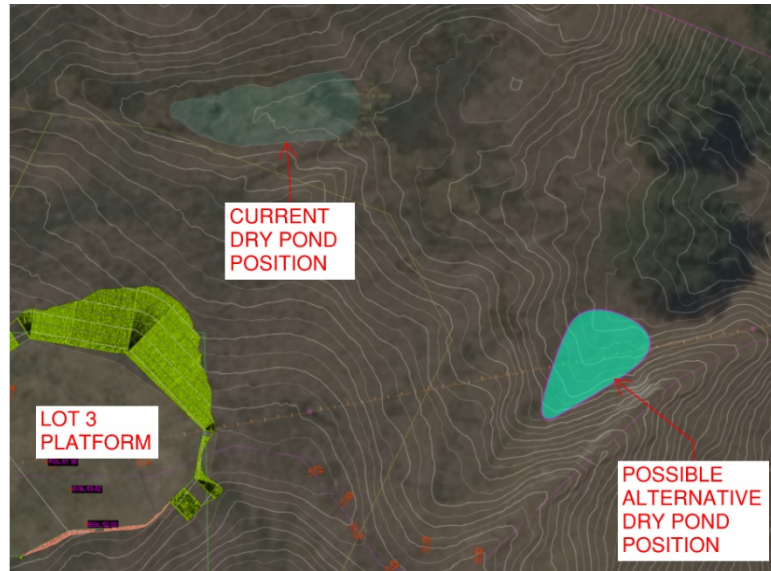
31.1 All accessways shall be formed to a minimum width of 3.5 metres **unless otherwise approved by a local FENZ representative**. Seal widening shall be provided at curves as necessary to ensure that an 8 metre long fire appliance can travel along the accessway without leaving the carriageway.

- 32 SNZ PAS 4509:2008 is the acknowledged New Zealand standard applicable, whereas F5-02 GD Designers' guide to firefighting operations – Emergency Vehicle access as referenced by Chris Rossiter (in Section 11.12) is a guide only. The minimum carriageway widths discussed in F5-02 GD are not considered applicable to the entire length of all access routes and it is anticipated that isolated widened sections of the access routes (up to 4 metres wide) would provide a safe means for working around the fire appliance, at a safe distance from the potential fire on the building platforms, whilst the balance of the access route remains at a suitable width for the fire appliance to travel, as currently accommodated in the design. Noting that all access routes have been designed to date to accommodate an 8m rigid truck – aligning with SNZ PAS 4509:2008, and in accordance with the CHBDC Operative District Plan.

### Memorandum from Erin Griffith, Principal, Landscape and Urban Design, Natural Capital

- 33 Many of the matters raised in the technical memorandum from Ms Griffith pertain to Landscaping, visual affects and matters not pertaining to the civil engineering and will be addressed by other experts within the design team. However, Section 2.58 and 2.66 of the s42A report raise the question as to whether resource consents may be required under the National Environmental Standard for Freshwater 2020 (“NES-FW”).
- 34 Regarding the proposed dry pond located in Catchment C as referenced by Ms Griffith, advice has since been sought from HBRC and based on a photograph of the site of the proposed dry pond, HBRC have advised that this area may be a natural inland wetland and that resource consent may be required under the NES-FW. The Applicant now plans to enlist the services of an ecologist to offer guidance regarding the potential wetland and explore potential improvement strategies according to the effects management hierarchy. This input will be utilized to prepare a resource consent application under regulation 45C of the NES-FW. If the ecological advice recommends against pursuing a resource consent application or indicates challenges in obtaining one in the currently proposed position north of Lot 3, alternative engineering solutions can be considered. Possible alternatives are outlined below to demonstrate the same level of stormwater detention can be achieved.
- 34.1 The Lot 3 parcel could be rearranged to allow for stormwater detention via a dry pond above the base of the gully where the dry pond has originally been proposed, avoiding any area identified as a natural inland wetland.

- 34.2 Another alternative is to relocate the proposed dry pond to the east of Lot 3 in the existing natural gully as shown in Figure 1. To achieve adequate stormwater detention, stormwater run-off from Lots 3 and 4 along with run-off generated from the accessway servicing Lots 3 and 4 could be conveyed to this pond position via pipes and or stormwater swales.



*Figure 1 - Alternative dry pond position in Catchment C*

- 34.3 Outside of the alternatives discussed above, further options could be explored, including further alternative dry pond locations and or the use of above ground or in-ground tanks. Therefore, in my opinion there are viable alternative options to the originally proposed dry pond north of Lot 3, if an alternative is required.



## SUMMARY

- 35 The stormwater has been designed to limit post development flows to the eastern bounds of the development to predevelopment flow rates for all events analysed. The detailed design will include utilising storage routing software to model flows to and from the existing and proposed ponds.
- 36 The technical memoranda received and the s42 report are generally supportive of the preliminary proposed civil engineering solutions.
- 37 The suggested additional consent notices and conditions suggested by Mr Hodson and Mr Rossiter are generally deemed fair with the exception of access width as discussed above in points 31 -32, where an alternative pathway is suggested by seeking approval of the local Fire Risk Management Officer for the access design and the final firefighting solution. Both these points will be addressed at detailed design.
- 38 The position of the dry pond currently shown north of Lot 3 may be reviewed following an ecological review of the site, and if necessary, the dry pond or an alternative solution may be sited outside any identified inland wetlands.

## CONCLUSION

- 39 From a civil engineering perspective, the servicing of the proposed development is feasible. Avoiding effects on neighbours to the proposed development has been paramount to the design and a high level of collaboration between all consultants involved has strived to achieve the best outcomes for the development.

Simon Gabrielle  
Senior Civil Engineer

