

**Technical memorandum for an application for subdivision consent under the Resource Management Act 1991 in respect of 42 Okura Road, Elsthorpe**

To: Ryan O'Leary, Planning Manager, The Property Group

From: Chris Rossiter, Principal Transportation Engineer, Stantec NZ

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## 1. Application details

<b>Applicant's name:</b>	SR&BJ Williams Charitable Trust Board ( <b>Applicant</b> )
<b>Application number:</b>	RM230016
<b>Activity type:</b>	Eleven lot fee simple rural subdivision (8 Rural Lifestyle Lots)
<b>Site address:</b>	42 Okura Road, Elsthorpe, , legally described as Lot 2 DP 481291 (RT 674477) ( <b>Property</b> )

## 2. Introduction

### Qualifications and relevant experience

- 2.1. My full name is Michael Christopher (Chris) Rossiter and I am a Principal Transportation Engineer at Stantec New Zealand Limited (Stantec). I have been in this position since 2013 and have been employed at Stantec (and TDG prior to its incorporation with Stantec) since 2006. Prior to joining TDG (now part of Stantec) in 2006, I was employed as a Principal Systems Engineer and Technical Manager with BAE Systems in England.
- 2.2. I hold the academic qualifications of Bachelor of Science from the University of Exeter and Bachelor of Arts (Open) from the Open University.
- 2.3. I am registered as a Chartered Engineer with Engineering New Zealand. I have over 35 years' engineering experience including 17 years' transportation engineering in New Zealand on a wide range of projects involving transportation engineering, transportation planning and assessment, analytical investigations and road safety audits. My role involves both preparing transportation assessment reports for private developers and also providing transportation engineering services for councils.
- 2.4. Within the Central Hawke's Bay district, I have provided advice to council on several residential subdivisions including a review of the Mangakuri subdivision in 2023.

## 3. Overview and scope of technical memorandum

- 3.1. The Applicant has applied for a resource consent to subdivide the Property into:

- a. 8 rural lifestyle lots;
  - b. 2 balance lots (Lots 11 and 12); and
  - c. A separate lot (Lot 13) to be amalgamated with 38 Okura Road (legally described as Lot 1 DP 25627).
- 3.2. My technical memorandum assesses the traffic effects of the Application to assist the preparation of the Central Hawke's Bay District Council's (**Council**) reporting planner's report under s 42A of the RMA and covers the following matters:
- a. Expected traffic generation and movement patterns;
  - b. Transport infrastructure;
  - c. Lot access; and
  - d. District Plan compliance.
- 3.3. In preparing this technical memorandum, I have reviewed the following documents relevant to the Application:
- a. Applicant's resource consent application (**Application**), and in particular:
    - i. Subdivision Consent Application and Assessment of Effects on the Environment, Mitchell Daysh (**AEE**).
    - ii. Land Development Report, Revision C, Strata Group (**Civil Design Report**)
    - iii. Scheme Plan 4698-30, Surveying the Bay (**Scheme Plan**)
    - iv. Engineering Plans, Project No J5864, Strata Group (**Engineering Plans**)
    - v. Traffic Impact Assessment, East Cape Consulting (**Traffic Impact Assessment or TIA**).
    - vi. Response to Traffic Peer Review, East Cape Consulting (**Traffic Response**).
  - b. Relevant supporting information with reference to the requirements of Transport and Subdivision chapters of the Central Hawke's Bay District Plan (**Operative Plan**) and the Central Hawke's Bay Proposed District Plan (**Proposed Plan**).
  - c. Other information considered in preparing this memorandum.
    - i. Hastings District Council Engineering Code of Practice, December 2020.
    - ii. Waka Kotahi NZ Transport Agency National Speed Limit Register.
    - iii. Austroads Guide to Road Design Part 4A, Unsignalised and Signalised Intersections.
    - iv. Austroads Guide to Road Design Part 4A.

#### **4. Executive Summary**

- 4.1. Many of the submissions opposing the proposed subdivision raise “traffic effects” as a reason, but do not provide any details of what these effects may be. Based on the information provided by the Applicant in the TIA and transport response as well as information in the submissions, I would expect traffic volumes on Williams Road to change by less 10 vehicle movements per day (vpd) for the majority of the year and by about 30 vpd during the peak summer period. Although the addition of 30 vpd represents a large proportional increase compared with existing traffic volumes, it only represents one extra vehicle movement every 15 minutes during the day. In my opinion, this will not contribute to a noticeable effect for visitors although I acknowledge that it may be noticeable to permanent residents who would be more accustomed to very low volumes on the road.
- 4.2. Safety concerns with Williams Road have been raised by some submitters. A Safe System Audit of Williams Road would identify potential mitigation measures and would provide a basis for apportioning costs between Council and the Applicant.
- 4.3. There are some technical design matters that will need to be addressed at the Engineering Approval stage including provision of sight distances for a 50 km/h speed environment and widening of accessways for fire appliance access. I consider that these can be addressed through conditions of consent.
- 4.4. Overall, I consider that there are no transport reasons why the subdivision consent could not be granted. If consent is to be granted, additional conditions should be imposed to address the safety concerns identified in this memorandum.

#### **5. Overview of the Application**

- 5.1. The Application describes the subdivision proposal in detail. However, by way of summary, it involves an 11-lot subdivision of land comprising of eight rural lifestyle allotments (Lots 1, 3, 4, 6 to 10), two balance allotments (Lots 11 and 12) and a separate lot (Lot 13) to be amalgamated with the adjoining property at 38 Okura Road (legally described as Lot 1 DP 25627). It is to be completed over four stages. An excerpt of the proposed scheme plan is included in **Figure 1**.
- 5.2. The Application is for subdivision consent only, and no land use consent has been applied for in relation to development of the proposed lots (e.g. for potential non-compliance of development with the Operative Central Hawke’s Bay District Plan’s Rural Zone’s permitted activity rules, such as minimum setbacks of residential dwellings from internal boundaries).
- 5.3. I understand that the subdivision proposal requires consent as a discretionary activity pursuant to rule 9.9.4 of the Operative Plan as it is unable to comply with all relevant subdivision performance standards in standards 9.10(1)(a)-(i) of the Operative Plan.

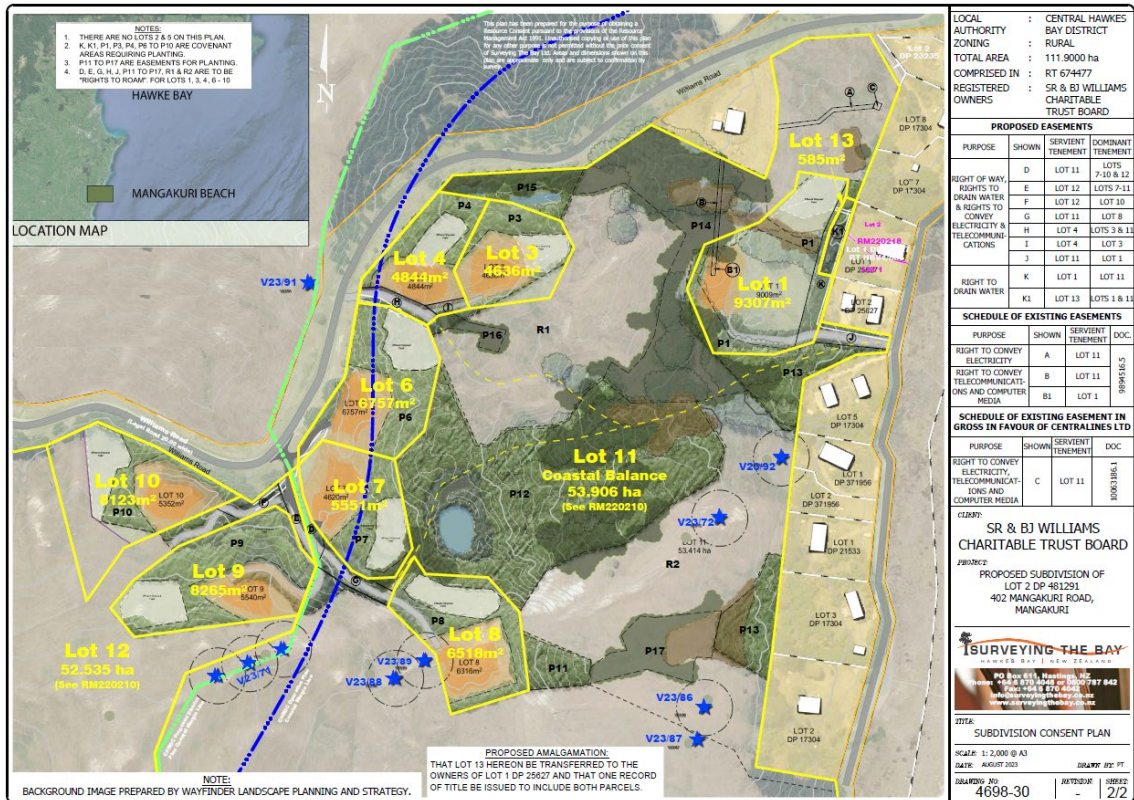


Figure 1: Subdivision Scheme Plan

- 5.4. From a transport perspective, the subdivision requires construction of two new crossings to Williams Road, one providing access to Lots 3 and 4 with the other providing access to Lots 6-10. Lot 1 will have access to Okura Road. Property access is proposed via two Right of Way (ROWS) from the new crossings.
- 5.5. Lot 11 forms a balance lot and will include all weather footpaths linking the new ROWs to Okura Road. Lot 12 forms a second balance lot.
6. **Site locality and description of the environment**
  - 6.1. Mangakuri Beach is a small coastal community that is accessed via Williams Road.
  - 6.2. The TIA reports that the road has a width of 5.8m with some sections of road being sealed. I have noted that the reported carriageway width is narrower on the MobileRoad and also NZTA Te Paparanga Ōmiki maps. Ohura Road has been formed with a single lane carriageway and runs south from its intersection with Williams Road broadly parallel to the beach.
  - 6.3. Williams Road is subject to a 100 km/h speed limit between Mangakuri Road and Okura Road. Okura Road and Williams Road north of Okura Road have signposted 30 km/h speed limits.
  - 6.4. The TIA reports that there are 27 existing properties within the small settlement. I understand that only a small number of the properties are permanently occupied with the majority being used as holiday accommodation.
  - 6.5. There are no footpaths or cycle facilities on Williams Road or Okura Road. Pedestrians and cyclists are expected to share the road with motor vehicles. There are raised platforms on Okura Road with signposted advisory speeds of 20 km/h.

## **7. Summary of transportation related aspects of the subdivision**

- 7.1. The subdivision involves formation of two new vehicle crossings to Williams Road and one crossing to Okura Road. The crossings will be designed to accommodate the movement of a Medium Length Rigid truck. The crossings on Williams Road connect to private rights of way.
- 7.2. Footpaths will be constructed through Lot 12 which forms a balance lot to remove the need for residents of Lots 3,4 and 6-10 to walk on the road to access Okura Road or the beach.

## **8. Reasons for resource consent: Transport**

- 8.1. Williams Road is subject to the general rural speed limit of 100 km/h. Since the available sight distance at the proposed new crossings does not meet the minimum sight distance requirements for this speed, resource consent is required for a Discretionary activity with discretion restricted to the effects of the shortfall in sight distance.

## **9. Technical Assessment of Effects**

- 9.1. I completed a review of the subdivision plans in March 2023. The applicant has provided a response to comments raised in that review and has also updated the subdivision plans. The primary concern raised was in relation to the available sight distances at the new crossings.

### **Sight Distances**

- 9.2. The response proposes some minor works would be required to provide an acceptable sight distance on Okura Road. This is accepted and I recommend that the works form a requirement under a condition of consent.
- 9.3. The speed surveys on Williams Road indicate that the 85<sup>th</sup> percentile speeds are well below the speed limit. On that basis, I accept that provision of a sight distance that meets the Austroads requirements for a 50 km/h, that is 97 metres, is appropriate. The transport response recommends removal of trees to achieve this requirement. I recommend that the works form a requirement under a condition of consent.

### **Gradients**

- 9.4. The engineering plans show that the ROWS will have gradients in excess of 10% with some sections being 15-18%. The Land Development Report indicates that the access routes will be constructed with a sealed surface. I consider that this is appropriate.

### **Speed Limits**

- 9.5. Since the subdivision will effectively extend the rural residential development further from the beach, I consider that there would be some merit in extending the existing 30 km/h zone. This represents a matter for council consideration rather than a matter to be addressed under this resource consent application.
- 9.6. The NZTA MegaMaps website reports a Safe and Appropriate Speed limit for Williams Road of 30 km/h along the subdivision site boundary. The reported operating speeds are generally below 40 km/h which is below the speeds recorded in the ITA.

## **10. Statutory Considerations**

### **Operative District Plan**

- 10.1. The design of proposed accessways and crossings can generally meet the transport requirements of Operative District Plan (ODP) but the crossing on Williams Road do not meet the minimum sight distance requirements for a road with a 100 km/h speed limit. In practice, the horizontal and vertical alignment of Williams Road means that vehicle speeds are much lower than 100 km/h. Based on the information provided by the applicant, a sight distance of 97 metres can be achieved at the crossings. This is appropriate for the operating speed of vehicles on Williams Road.
- 10.2. I recommend that a condition of resource consent requires the consent holder to demonstrate that this sight distance is available following any necessary works, such as minor earthworks or removal of trees.

### **Proposed District Plan**

- 10.3. The Proposed District Plan includes longer sight distance requirements than the ODP. As I have noted above, I accept that sight distances appropriate for the operating speeds can be achieved and recommend that this is required through a condition of resource consent.

## **11. Submissions**

- 11.1. I have read the submissions on the application and have the following comments. These are grouped by topic rather than individual submitter.

### **Williams Road**

- 11.2. A concern has been raised about the increased use of Williams Road and in particular, its use by heavy vehicles (#1 Ward, #22 Blundell). Construction of new dwellings and the associated accesses will involve heavy vehicles but will be a relatively short duration effect. This could be mitigated with a Construction Traffic Management Plan and a requirement for the Applicant to repair any damage to the road that can be directly attributable to the construction activity. Following construction, I would not anticipate that the additional traffic movements associated with the new dwellings would contribute to any noticeable effects on the road.
- 11.3. Since Williams Road is a council road, the council remains responsible for the maintenance of the road (#3 Anitella Trust).

### **Traffic Effects**

- 11.4. Many of submissions state that they have concerns about “traffic effects” but provide no further details (#4 Keighley, #6 Waione, #8 McClelland, #9 Tyrrell, #11 Robinson, #12 Harty, #15 Manahi, #16 Duncan, #17 Williams, #18 Allan Family Trust, #20 Aramac Trust, #21 DWBoys Tairua Family Trust, #22 Aranyi, #23 Mangakuri Beach Society).
- 11.5. Based on its location, I would expect traffic volumes on Williams Road (and Okura Road) will vary widely across the year because of the attraction of the beach during the summer. The Smith (#13) submission provides useful commentary on this. It notes that there are only 7 permanent residents and that typical daily traffic volumes are about 20 vehicle movements per day (vpd). This represents the traffic generation of 4-5 permanently occupied properties based on the traffic generation rate of 4.4 vpd per dwelling reported in the TIA and accepted by Smith.

Although this rate is below the typical rate for a rural dwelling in the NZTA Research Report 453, I consider that this rate reflects the remote location and the greater likelihood of linking trips. It represents two return trips (one outbound and one return movement per trip) per day per household on average.

- 11.6. The Smith submission suggests that the peak summer volumes on Williams Road are about 100 vpd. This would suggest that the average traffic generation rate in the summer was about 4 vpd per occupied dwelling. In my opinion, this rate is still likely to be high for holiday accommodation because some movements will be associated solely with people travelling to the beach from further afield rather than to a specific dwelling. The location of the new dwellings means that it would not be possible to differentiate between a vehicle trip to the beach from a new dwelling and a vehicle trip from a more distant location.
- 11.7. Based on the existing residency pattern reported by Smith, I consider it unlikely that all the new dwellings will be permanently occupied. This means that the additional traffic generated by the new lots is likely to be less than 30 vpd even in the peak summer period and is likely to be below 10vpd for much of the year.
- 11.8. A change in the daily traffic volume of 30 vpd represents about one extra vehicle movement every 15 minutes on average across an 8 hour day. In my opinion, this will not contribute to any noticeable effects on the operation of Williams Road. I do accept that any additional vehicle movements are likely to be more noticeable to permanent residents who will be more familiar with the seasonal variations than a visitor to the settlement.

### **Road Safety**

- 11.9. The Smith (#13) submission raises a concern about road safety on Williams Road and frequency of near-misses. The low number of reported crashes is a reflection of the low volumes using Williams Road. Crashes are not predictable and are likely to occur regardless of whether or not the subdivision is approved.
- 11.10. A Safe System Audit would provide a formal assessment of the existing road conditions and identify potential mitigation works to address concerns. I recommend that the Applicant commissions a Safe System Audit by Suitably Qualified Professional Engineers and submits this to Council. Although I do not consider that it would be appropriate for the Applicant to be responsible for mitigating any existing safety concerns with the road, I consider that where the risk of crashes will clearly be affected by the subdivision, it would be appropriate for the Applicant to contribute to mitigation works.
- 11.11. I anticipate that the auditors' recommendation would include speed reductions and additional warning signage. I have noted that alterations to speed limits would be the responsibility of Council.

### **Emergency Vehicle Access**

- 11.12. Although the ROWs meet the minimum design requirements of the ODP, they do not meet the FENZ access requirements set out in the 'Designers Guide to Firefighting Operations – Emergency Vehicle Access' (F5-02 GD, December 2021), that is 4 metre wide carriageways. I understand that this width is required wherever a fire appliance may need to stop so that the crew have good access to each side of the truck. A reduced width of 3.5 metres is acceptable at entrances provided there are no small radius turns.

11.13. The engineering plans indicate that the ROWs have widths as narrow as 3 metres (Lots 6, 8 and 10) which could affect the ability of FENZ to respond to an emergency. In my opinion, all accessways should be constructed to a minimum formed width of 3.5 metres unless the Applicant can demonstrate that a reduced width is sufficient to accommodate the vehicle tracking of a fire appliance. This would address the FENZ submission (#24).

## **12. Recommendations and Conditions**

### **Adequacy of information**

12.1. My assessment of the transport aspects of the Application is based on the information submitted as part of the Application. I consider that the information submitted is sufficient to enable consideration of transport matters. In particular, the transport response to my peer review has identified works to ensure that sight distances in accordance with the Austroads Guide to Road Design can be achieved.

### **Conditions: Transport**

- 12.2. I understand that the Application seeks the grant of resource consent subject to the Council's standard conditions for subdivision. I consider that additional conditions are required to address the matters raised in this memorandum. My recommended conditions are that:
- a. Prior to any earthworks or construction activities commencing, the consent holder shall submit a Safe System Audit of Williams Road between Mangakuri Road and Okura Road. The Safe System Audit shall be undertaken in accordance with the New Zealand Transport Agency/Waka Kotahi "Safe System audit guidelines for transport projects", published October 2022 and be completed by Suitably Qualified Professional Engineers. The purpose of this condition is to provide an assessment of the existing road conditions and identify potential mitigation works to address potential safety concerns
  - b. The consent holder shall pay for the installation of any new signage (e.g. warning signage or changes to speed limits) identified as necessary in the Safe System Audit. This signage must be installed prior to construction or earthworks activities commencing.
  - c. The Applicant shall implement any necessary works to achieve a minimum sight distance of 97 metres from the new crossings on Williams Road.
  - d. 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.

### **Conclusions**

12.3. Overall, I consider that there are no transport reasons why the subdivision consent could not be granted. If consent is to be granted, I consider that additional conditions should be imposed to address the concerns identified in this memorandum.