

**BEFORE THE WHANGANUI DISTRICT**

Statutory Management Committee (Independent Hearing Commissioners)

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER Plan Change 46 by Whanganui  
District Council

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STATEMENT OF EVIDENCE OF  
Shane Stanfield Civil Design Work Group

Manager

For Whanganui District Council

11 December 2017

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## **1.0 QUALIFICATIONS AND EXPERTISE**

- 1.1 My name is Shane Stanfield, and I am a Civil Design Leader at Opus International Consultants Limited.
- 1.2 I have the following qualifications and experience relevant to this evidence and project:
- 1.2.1 I have a BSc (Geol/Geog) and have completed numerous engineering courses in state highway and urban road design, road safety and general civil works.
- 1.2.2 I have 15 years' experience in civil infrastructure engineering with particular experience in traffic and roading projects within urban and rural environments. I have provided design expertise to a wide range of civil projects, land management and infrastructure projects, including preparation of design, construction drawings, and contract documentation to assist construction works.
- 1.3 I have significant experience in NZTA roading projects, ranging from state highway capital work realignment projects, including intersection development and upgrades, as well as urban roading design, including subdivision land developments.
- 1.4 Common guidelines used as part of my role at Opus are:
- NZS 4404:2010 Land Development and Subdivision Infrastructure
  - Austroads GTRD guidelines
  - NZTA State Highway Geometric Design Manual
  - Relevant Local Authority engineering supplement guidelines.
- 1.5 In this matter, I was engaged by Whanganui District Council to provide design expertise and to develop an indicative roading layout to facilitate future development of the Otamatea West Structure Plan area.

## **2.0 CODE OF CONDUCT**

- 2.1 I have read the Code of Conduct for Expert Witnesses issued as part of the Environment Court Practice Notes. I agree to comply with the code and am satisfied the matters I address in my evidence are within my expertise. I am not aware of any material facts that I have omitted that might alter or detract from the opinions I express in my evidence.

## **3.0 SCOPE OF EVIDENCE**

- 3.1 My evidence will:
- 3.1.1 Focus on the rationale for the original indicative road layout;
- 3.1.2 Provide a summary description of the design context of the area and the proposed road;
- 3.1.3 Respond to submission points for each section of road;

3.1.4 Outline my conclusions.

#### **4.0 STRUCTURE PLAN ENVIRONMENT**

- 4.1 Adjacent to State Highway 3, the Structure Plan area is developed to a residential density with some 17 individual vehicle crossings and accessways on the stretch of road between No.173 Great North Road to the intersection with Tirimoana Place.
- 4.2 Tirimoana Place is largely developed to a residential density for its full extent, with a partially open grassed swale and footpaths on one side of the road. Plans to extend the road to provide for a second stage of residential development await the outcome of this plan change process.
- 4.3 The rural character of the balance area comprises a pattern of grazed paddocks on gently rolling land with prominent stormwater drainage ponds and channels throughout the wider area. Steep drop offs to the wetland area have been observed behind the existing residential area and is wet and in places steep and unstable. Archaeological items have been recorded in this area.

#### **5.0 RATIONALE FOR INDICATIVE ROAD LAYOUT**

- 5.1 Key considerations for the roading layout were to ensure integration to the external roading network whilst limiting the number of State Highway intersections; improving the potential for a road link to a longstanding paper road extension of Taylor Road to the west of the Structure Plan area; preservation of a road link through from the northern most section (the Bristol property) to the next section to allow for future extensions without State Highway access.
- 5.2 Another key consideration to help achieve a quality urban form, was to achieve practical and feasible internal road linkages, recognizing that a fully connected network was limited by topography and finally compromised by the recent subdivision and development of residential sections at Tirimoana Place.
- 5.3 The Structure Plan is essentially divided into two indicative road systems which are connected by a network of proposed walkways, which also connect to the stormwater detention areas.
- 5.4 The NZS 4404:2010 Land Development and Subdivision Infrastructure guideline was used to help determine the roading details for this structure plan. Some of the details are as follows:
- 15.0m road reserve width
  - 7.0m new seal width
  - New kerb and channel both sides of carriageway
  - 1.5m wide footpaths both sides of the carriageway
  - Potential on street parking
  - Roading vertical profiles having maximum grade of 5.5%
  - All cul de sac heads to have 9.5m radii
  - Lighting design as per AS/NZS 1158.

## **6.0 EFFECTS OF PHYSICAL CONSTRAINTS ON ROAD LAYOUT**

### **6.1 Road 1 and Bristol property design considerations.**

The existing topography played a role in the proposed layout. The vertical change over the site is approximately 25m. Achieving acceptable vertical grades for the roading network affected the location of the roading layout in some places.

Existing archaeological sites within the study area also had to be taken into consideration when determining the road layout. No earthworks were to occur in these areas.

### **6.2 Tirimoana Place extension is proposed to link to the Bristol property to the west. This will help transportation network connectivity within the study area. Archaeological sites are located in this Tirimoana extension area also.**

The topography of this Tirimoana Place extension is less suited to residential development due to steep grades towards the south west.

### **6.3 With the removal of Road 4, there is now an increase to the intersection separation distance from the proposed Road 3 to existing intersections along the State Highway, being Mannington Rd and Eaton Crescent.**

## **7.0 SUBMISSIONS**

Below are my responses to the submissions found in Topic 2 of the Officers report:

### **7.2 Response to submissions 1,2,3:**

Council and the New Zealand Transport Agency wish to discourage further multiple/single access right of ways to properties on this stretch of Great North Road which has a posted speed of 70km/hr. The operative District Plan rules require that where potential for seven or more household units exists, a road is required and a right of way is not sufficient (Rule 13.5.9(a)). No.s 173 and 175 Great North Road each have the potential for more than seven dwellings on site. Being located within the Structure Plan area additional road access to State Highway 3 over and above those proposed within the Structure Plan will not be supported by the Council Infrastructure team nor the Agency at the time of resource consent. PC46(R1) at proposed Policy 4.3.10 encourages alternative road locations that are in general accordance with key location criteria.

I agree with the officer recommendations to insert an indicative road along the narrow strip between No.s 175 and 177 Great North Road, as per the 1969 scheme plan and the Tirimoana Place Structure Plan. This will include cul de sac links to No.s 173 and 175.

This will increase safety by relocating Road 3 PC46(R1 Appendix L) further from Eaton Crescent and in turn increasing intersection separation distance also.

### **Response to submission 4:**

To help increase lot access efficiency, I agree with the proposed indicative road being retained as far as No.s 193a – 193d. This also minimises the number of connections with the State Highway and in turn increases safety.

**Response to submission 9:**

I agree to removal of this indicative road as it has the least benefit to future development and adds a potentially unnecessary connection to the State Highway.

**Response to submission 15:**

The detailed design for new roads and intersections with the State Highway will progressively occur, as and when development of the Structure Plan area is proposed to be implemented, over the next nearly 50 years to 2065. Details will be assessed in the resource consent process for each development.

Each of the three road intersections with the State Highway have constraints to work through to achieve a satisfactory level of intersection safety. All three intersections have potential to achieve the recommended sight distance requirements which is an important part of any intersection upgrade.

From a network operating viewpoint within the Structure Plan area, I believe having three road intersections onto the State Highway would be more beneficial, as this would minimise potential congestion issues in comparison to a lesser number of access points onto the State Highway. Spreading the vehicle movements via three intersections will also help to improve intersection safety by decreasing the number of users at each.

The requirements for channelised turn bays to avoid interference with existing side roads and to protect the safety of the State Highway network, are acknowledged and would be addressed in the detailed designed at subdivision stage. At this time Council considers that such design requirements can be achieved.

**8.0 RECOMMENDATIONS ON SUBMISSIONS**

- 8.1 I confirm my support for the proposed amendments to the indicative roading layout PC46(R1) contained in Appendix L of the planning officers report.

**9.0 CONCLUSION**

- 9.1 I consider the indicative roading layout as proposed in PC46(R1 Appendix L) to be amended by submissions and if implemented will achieve a safe and efficient integrated transport network given the land configuration constraints and other physical constraints.

**Shane Stanfield**  
**30 November 2017**