

**BEFORE COMMISSIONER McKAY  
APPOINTED BY NEW PLYMOUTH DISTRICT COUNCIL**

**UNDER**

the Resource Management Act 1991 ("RMA")

**IN THE MATTER**

of an application under section 88 of the Act by **BRYAN & KIM ROACH & SOUTH TARANAKI TRUSTEES LTD** to the **NEW PLYMOUTH DISTRICT COUNCIL** for a land use consent to construct a dwelling and associated retaining and fencing at 24/26 Woolcombe Terrace, New Plymouth. (LUC24/48512)

**STATEMENT OF EVIDENCE JONATHAN (JONO) WILLIAM MURDOCH ON BEHALF OF BRYAN & KIM ROACH & SOUTH TARANAKI TRUSTEES LTD**

**1. INTRODUCTION**

1.1 My full name is Jonathan (Jono) William Murdoch. I am a Registered Architect with the New Zealand Registered Architects Board and a member of the New Zealand Institute of Architects and hold a Bachelor of Architectural Studies and a Master of Architecture from Victoria University Wellington. I've worked in the architectural industry for 15 years, and have lived and worked in New Plymouth for the past 8 years (predominately for BOON Ltd). I'm currently not an employee of BOON Ltd, but have committed to prepare and present this evidence on BOON Ltd's behalf for the applicant.

1.2 This evidence is given in support of the land use consent application ("the application") lodged by Bryan & Kim Roach, and South Taranaki Trustees Limited ("the applicant"), for a dwelling and associated retaining and fencing, located at 24/26 Woolcombe Terrace, New Plymouth (LUC24/48512).

1.3 I am authorised to give this evidence on behalf of the applicant.

**2. INVOLVEMENT IN THE PROJECT**

2.1 My involvement in the application has included:

- (a) Description of the proposed site (in the context of shadow modelling);

- (b) Outline of modelling techniques and processes;
- (c) Permitted baseline shadow study;
- (d) Conclusion.

2.2 I have also reviewed the following documents produced with the application, including:

- (a) The original application for consent and assessment of environmental effects dated 07 June 2024;
- (b) The original BOON architectural plans for the construction dated 29 May 2024;
- (c) The amended BOON architectural plans for the construction dated 6 August 2024;
- (d) The amended application for consent dated 14 August 2024; and
- (e) The amended BOON architectural plans for the construction dated 20 September 2024.

### **3. CODE OF CONDUCT**

3.1 I confirm that I have read the Code of Conduct for expert witnesses contained in the 2023 Environment Court Practice Note and that I agree to comply with it. I confirm I have considered all the material facts that I am aware of that might alter or detract from the opinions I express. In particular, unless I state otherwise, this evidence is within my sphere of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

### **4. PURPOSE AND SCOPE OF EVIDENCE**

4.1 In this matter, I have been asked by the applicant to provide evidence relevant to shadow study graphics supporting the land use consent application ("the application") lodged by Bryan & Kim Roach, and South Taranaki Trustees Limited ("the applicant"), for the dwelling, located at 24/26 Woolcombe Terrace, New Plymouth (LUC24/48512).

4.2 I confirm that I have read the submissions on the Application and the Council Officer's Report. The assumptions, assessment and conclusions set out in my evidence remain valid.

4.3 Except where my evidence relates to contentious matters I propose to only summarise the conclusions set out in my expert technical report.

4.4 My evidence is structured as follows:

- (a) Description of the proposed site (in the context of shadow modelling);
- (b) Outline of modelling techniques and processes;
- (c) Shadow study of shading on adjoining property outdoor areas;
- (d) Permitted baseline shadow study;
- (e) Conclusion.

All of the relevant shadow study graphics discussed in my evidence (including all of those submitted to New Plymouth District Council pursuant to section 92 Resource Management Act 1991 requests) are attached as Appendix 1.

## **5. DESCRIPTION OF THE PROPOSED SITE**

5.1 Description of the proposed site (in the context of shadow modelling):

- (a) The site has been well described in the Application for Resource Consent and Assessment of Environmental Effects – 24/26 Woolcombe Terrace, McKinlay Surveyors Ltd, 07 June 2024 (the application), the Officer’s Report and in the evidence of others called for the applicant.
- (b) In relation to my evidence, I would like to briefly highlight the following features of the site that have influenced my findings. This context is important to understand the results of the simulated modelling:
  - (i) The site is 904m<sup>2</sup> and flat in contour aside from the sloping entry, with an existing residential dwelling of approximately 240m<sup>2</sup> in size located on the western side of the site as shown in **SK1.0**.
  - (ii) A second dwelling was also existing on the eastern side of the site (26 Woolcombe Terrace) and was removed to allow for construction of the subject dwelling.

- (iii) A shared vehicle access point provides access to both buildings.

## **6. OUTLINE OF MODELLING**

### 6.1 Outline of modelling techniques and processes:

- (a) To simulate the potential shade effects of the dwelling I used my expertise using Autodesk Revit 2022 software which is typically used in this type of work. A fixed aerial view, or 'plan view', using a site aerial view was established within the model to generate the shadow study images.
- (b) The current topography of the property (24/26 Woolcombe Terrace) was provided by Geo Sync and BTW Company, New Plymouth, to provide accurate building outlines, heights and relative levels (as defined by BTW).
- (c) The contours of the extended neighbourhood geography and location of neighbouring properties are/were created using data from NPDC property files.
- (d) All existing neighbouring buildings (size/shape/height/location/levels etc) are shown approximate only, conservatively modelled, based on data from NPDC GIS, photographs, existing property files and observations of their relative locations (but are *not* based on surveyed information).
- (e) The generation of the shading is created via the in-built location data in the Autodesk Revit software used by BOON Ltd. As all existing neighboring buildings are modelled as approximate only, therefore all shadows generated are to be read as such. However, this is industry best practice, where further information is not available, and, in my opinion, provides an appropriate basis for the assessment of effects in a context such as this. I note that the modelling that was used did not take into account daylight savings, and is conservative on that basis.

## **7. SHADOW STUDY AGAINST BUILDINGS COMPLYING WITH THE PERMITTED STANDARD MRZ-S3**

### 7.1 This shadow study:

- (a) Adopted the relevant permitted Rules and Effects Standards under the PDP. The shadow study was undertaken to determine the potential adverse shadow effect of the development on the adjacent properties, compared to a building complying with the permitted standards in the Medium Density Residential Zone. The study identifies:
- (i) The eastern dwelling breaches the 45-degree recession plane on the eastern boundary at approximately 24m from the road frontage, based on PDP Effects Standard MRZ-S3 Height in Relation to Boundary. The breach on the eastern bounding is 7.86m in length and at its maximum extends into the recession plane by 0.629m as shown on the architectural drawings in Appendix 1.
  - (ii) If the commissioner is of the mind to include the entire building under the PDP effect standard MRZ-S3, then the maximum breach of the front section of the building is 0.56m high and 14.7m in length, or a total of 22.56m.
  - (iii) Effects Standard MRZ-S4 is applied under MRZ-R33 and is a Restricted Discretionary Activity. Therefore, this standard was not used as a comparison in the permitted baseline study (but is considered separately below).
- (b) The permitted activity baseline applies to consideration of both who is affected and whether effects are or are likely to be more than minor. The permitted baseline has been simulated as indicated in a red dashed line in Appendix 1. Page SK4.1 shows three lines:
- (i) purple being the modelled shading from a compliant building under MRZ-S3 with a setback of 1m and a height of 11m;
  - (ii) green being the as built dwelling with the infringement area having been removed; and
  - (iii) red showing the current as built with the infringement.

The difference in shading from the current as built dwelling, compared to the as built with the infringement removed, is in my professional opinion less than minor. This is confirmed further with both these shading models being less than what the PDP permits under MRZ-S3.

- (c) Pages SK4.2 and SK4.3 show the full extent of the as built buildings shading (shown in green) compared to a permitted dwelling under MRZ-S3 (shown in red) in the same location of the site. This model includes the projected shading along the full length of the adjoining boundary with 28 Woolcombe Terrace. This has been modelled over different dates representing the equinox, summer and winter solstice periods which is used to show the largest extent of shading that will occur during different periods of the year, and at no point does the as built shading extend beyond what could be permitted under MRZ-S3 of the PDP.

## **8. SHADOW STUDY OF SHADING ON ADJOINING PROPERTY OUTDOOR AREAS - ALTERNATIVE HEIGHT IN RELATION TO BOUNDARY**

- 8.1 This shadow study adopted the relevant criteria under the New Plymouth Proposed District Plan (PDP) for MRZ-R33 and MRZ-S4, commonly referred to as the Alternative Height in Relation to Boundary (AHIRB) Standard.
- 8.2 As part of the matters for discretion under MRZ-R33, adjoining neighbouring sites must retain four hours of sunlight between 9am and 4pm over 75% of their outdoor living space (if greater than 20m<sup>2</sup>).
- 8.3 39m<sup>2</sup> of outdoor area was identified on 28 Woolcombe Terrace, being the balconies on the north-western side of the property.
- 8.4 The first 20m of the subject site was modelled to determine the shading of the as built dwelling. and the extent of shading on adjoining outdoor living areas. This has been modelled on the 22<sup>nd</sup> of September as per the criteria in MRZ-R33.
- 8.5 No shading occurs on the outdoor areas of 28 Woolcombe Terrace from the as built dwelling between 9am and 4pm. Therefore, I consider that the as built dwelling meets the shading requirements of MRZ-R33.
- 8.6 3D visuals have been provided of the front yard to demonstrate no direct adverse effect of shading to the 28 Woolcombe Terrace property front yard and/or outdoor living spaces - based on the 3D simulated as-builts.

## **9. OFFICER'S REPORT**

- 9.1 In order to address the matters raised by Mr Robinson in paragraph 43 of his s 42A Report, we have updated BOON drawing SK3.0 which now shows the original ground line and is attached as **Appendix 2**.

## **10. CONCLUSION**

- 10.1 I have undertaken detailed modelling of the development and surrounding area utilising accepted and recognised industry standard software and techniques.
- 10.2 I have also used detailed CAD data provided by BOON of the proposal, and data from registered cadastral surveyors to produce a series of shadow studies and montage images that can be used by others to determine the extent of the effects of the as-built in regard to shading.
- 10.3 The as-built daylight infringement assessment in respect of shading the neighbouring property only occurs at 4pm based on the date range stipulated on the 22<sup>nd</sup> September. The affected area is located at the rear of the section and doesn't directly shade the dwelling. All other stipulated timeframes indicate no effect.
- 10.4 Based on the model simulation diagrams I prepared, and the assessment against the relevant PDP Rules and Effects Standards in the context of my evidence - the breach of daylight angle does not increase adverse shading effects on 28 Woolcombe Terrace over and above what the PDP contemplates under the relevant provisions discussed in sections 7 and 8 of my evidence above.

**Jonathan (Jono) William Murdoch  
On behalf of BOON Ltd Architects**

**12 March 2025**

**APPENDIX 1 – SHADOW STUDY GRAPHICS**



**APPENDIX 2 – UPDATED BOON DRAWING SK3.0**