

PROCEDURES FOR ASSESSING PROPOSED BUILDINGS AND SUBDIVISIONS, AND TREES, AFFECTED BY AIRFIELD HEIGHT RESTRICTIONS

1. The height restrictions affect a considerable number of properties within 5.5 km of North Shore (Dairy Flat) Airfield, and within 1.2 km of Kaipara Flats and Parakai Airfields. IT IS ESSENTIAL THAT REFERENCE BE MADE TO THE PLANNING MAPS FOR ALL PROPERTIES WITHIN THESE DISTANCES TO SEE IF THEY ARE SUBJECT TO THE HEIGHT RESTRICTIONS.

2. The Planning Maps which indicate the land affected are:

North Shore (Dairy Flat)	Kaipara Flats	Parakai
Maps 26, 27, 84-86, 92, 93 and 98	Maps 13 and 14	Map 24

A 1:30,000 plan indicating the overall effect of the height controls in respect of North Shore (Dairy Flat) Airfield is included at the end of this Appendix.

3. The height restrictions consist of three separate height controls around North Shore Airfield and two around Kaipara Flats and Parakai Airfields. (Refer specification and diagram.)

- (a) **Take Off/Landing Fans**  
These fans extend for 5.5km (North Shore) and 1.2 km (Kaipara Flats and Parakai) from each end of each runway. The height limit begins at ground level and rises at a slope of 1 in 40 (North Shore) and 1 in 20 (Kaipara Flats and Parakai).

(b) **Transitional Side Surfaces**  
This height restriction runs at right angles to the runway strip and the centre line of the fans. The height limit begins at ground level at the edge of the runway strip and rises at a slope of 1 in 7 (North Shore) and 1 in 4 (Kaipara Flats and Parakai) to a maximum height of 45 metres (North Shore) and 2 metres (Kaipara Flats and Parakai) above the runway ground level. This height limit also applies from the outside edge of each fan, the side surface rising at the same slopes to a maximum height of 45 metres (North Shore) and 2 metres (Kaipara Flats and Parakai).

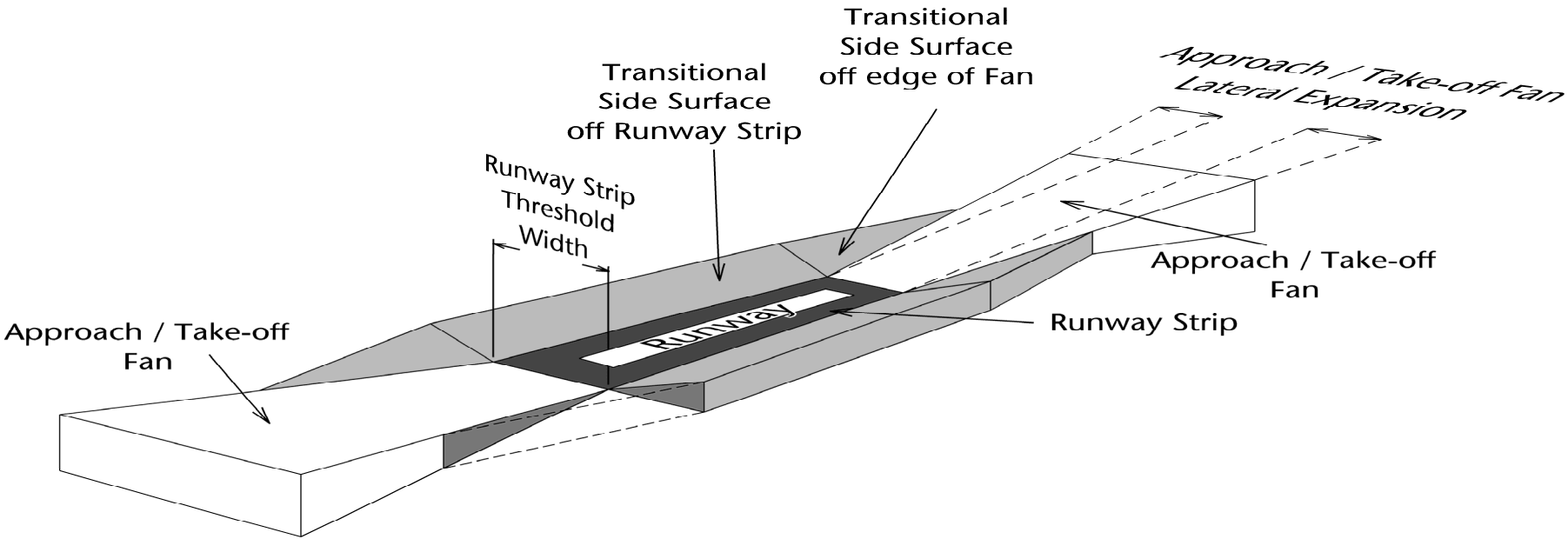
(c) **Horizontal Surface**  
All properties within 2.6 km of North Shore Airfield are subject to a horizontal height control which is 45 metres above the average runway ground level ie. 107 metres above mean sea level. There is no horizontal surface control for either Kaipara Flats or Parakai Airfields.

4. All height restrictions are affected by the elevation of the property, and height limits must be assessed in terms of elevation relative to the runway itself.

5. The following table below gives the specifications for the three airfields.

FEATURE	NORTH SHORE	KAIPARA FLATS	PARAKAI
Runway Threshold Ground Level Above Mean Sea Level	Main Runway: East End 65m West End 63m  Crosswind Runway: East End 63m West End 60m	East End 33m West End 33m	East End 5m West End 6m
Runway Strip Width	90m	100m	65m
Approach/Take-Off Fan Length (from runway threshold) Slope (rate of rise) Lateral expansion	5,500m 1 in 40 1 in 10	1,200m 1 in 20 1 in 20	1,200m 1 in 20 1 in 20
Transitional Side Surface Slope (rate of rise) Maximum height above runway	1 in 7 45m	1 in 4 2m	1 in 4 2m
Horizontal Surface Height Lateral extent	107m above sea level 2.6km from edge of runway strip	N/A N/A	N/A N/A

6. The diagram below explains the terms used.



## STEPS FOR ASSESSING A SPECIFIC PROPOSAL

1. Identify the property on the planning maps and determine whether it is affected by the height restrictions.
2. Assuming all or part of the property is affected, identify which of the three controls applies: (a) fan; (b) transitional side surface; (c) horizontal surface.
3. The following examples illustrate the restrictions as they apply to North Shore Airfield. The same method should be used at Kaipara Flats and Parakai using the gradients and heights specified for those airfields in the table on the previous page.

(a) **Land Affected by a Fan**

Determine the distance from the beginning of the fan at the runway threshold to the proposed building site or area to be planted with trees.

Calculate the permitted height ie. divide distance by 40 (1 in 40 slope)

eg. For distance of 325 metres

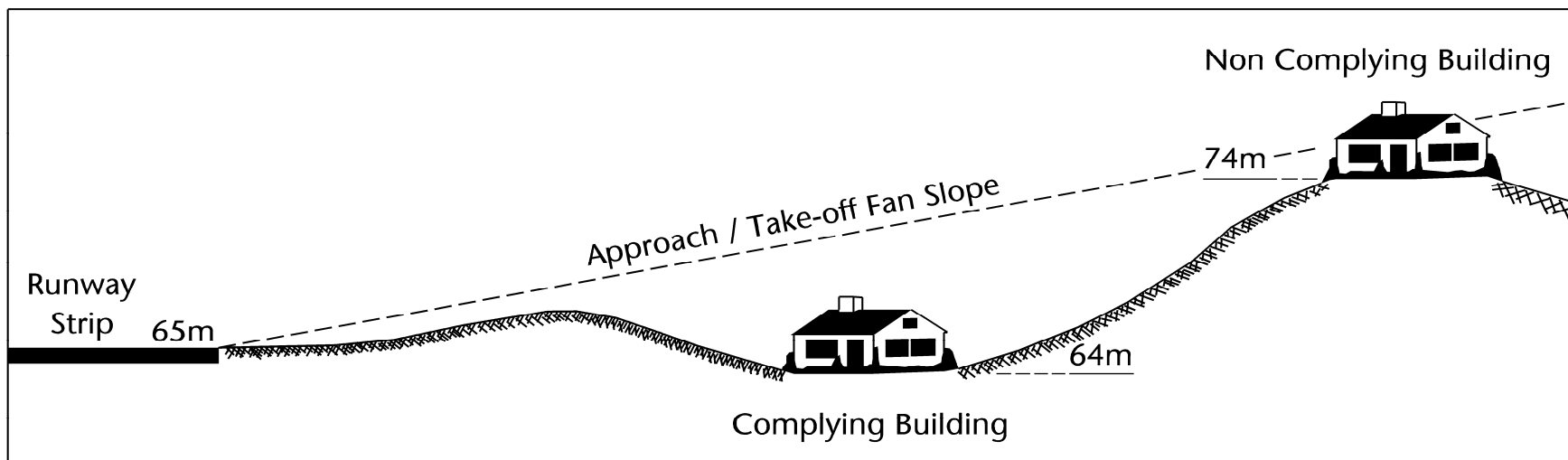
$$\text{Height is } \frac{325}{40} = 8.125 \text{ metres.}$$

Then determine the difference in ground level between the threshold of the fan and the site in question. The four threshold ground levels are shown on the 1:30,000 plan at the end of this Appendix. For the fan which passes over Wilks Road the threshold ground level is 65 metres above mean sea level.

If the ground level on a proposed site is higher than 65 metres above MSL (Mean Sea Level) the actual height limit will be 8.125 metres LESS the difference in ground level, say 3 metres, resulting in a maximum permissible height for buildings of 5.125 metres.

If the ground level on site is lower than at the threshold the difference from the fan level must be ADDED to the original calculation.

The applicant will need to confirm the ground level in terms of MSL in order to accurately determine compliance.



(b) **Land Affected by Transitional Side Surface**

(i) Beside the Runway Itself

Determine the distance from the edge of the runway strip from Map 26.

eg. For a distance of 150 metres at the slope of 1 in 7.

$$\text{Height is } \frac{150}{7} = 21.428 \text{ metres.}$$

(ii) Beside a Fan

Determine the distance from the edge of the fan(s) (a), measured at right angles to the fan centre line, AND the distance from the corresponding point on the fan centre line to the runway threshold (b) (see diagram below).

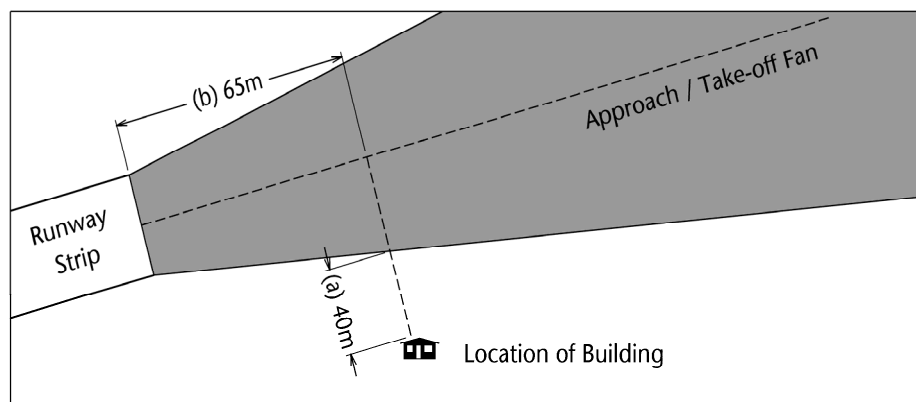
(a) = 65 metres and (b) = 40 metres

$$65 \text{ metres at } 1 \text{ in } 40 \quad \frac{65}{40} = 1.625 \text{ metres}$$

$$40 \text{ metres at } 1 \text{ in } 7 \quad \frac{40}{7} = 5.714 \text{ metres}$$

$$\underline{\underline{7.339 \text{ metres}}}$$

+ or - ground level difference.



(c) **Horizontal Surface**

This surface is located at 107 metres above MSL. Determine the ground level of the site and assess the difference between it and 107 metres to determine the maximum permitted height.

4. Relaxation of the maximum height limits may be sought by way of a resource consent for a Restricted Discretionary Activity (see Rules 7.9.2 (Activity Table 1) and 7.12.1).

In order for the Council to determine if the operation of the airfield would be adversely affected, it will consult with the North Shore Aero Club, the Rodney Aero Club, or the Parakai Parachute Centre, as relevant. Proposers of developments that might require a relaxation of a height limit are therefore advised to discuss their proposals with the relevant club before lodging an application for a resource consent.



**HEIGHT RESTRICTIONS:**  
**NORTH SHORE AIRFIELD**  
Scale 1: 30 000

130.00 Approach / Takeoff Path Height Levels  
60.0\* End Of Runway Height Above Datum

0 300 600 900 1200 Metres

- Runway Strip
- Runway
- Approach / Takeoff Path
- Runway / Strip Transition Side Surface
- Airfield Height Restriction Area





**HEIGHT RESTRICTIONS:**  
**KAIPARA FLATS AIRFIELD**  
Scale 1: 10 000

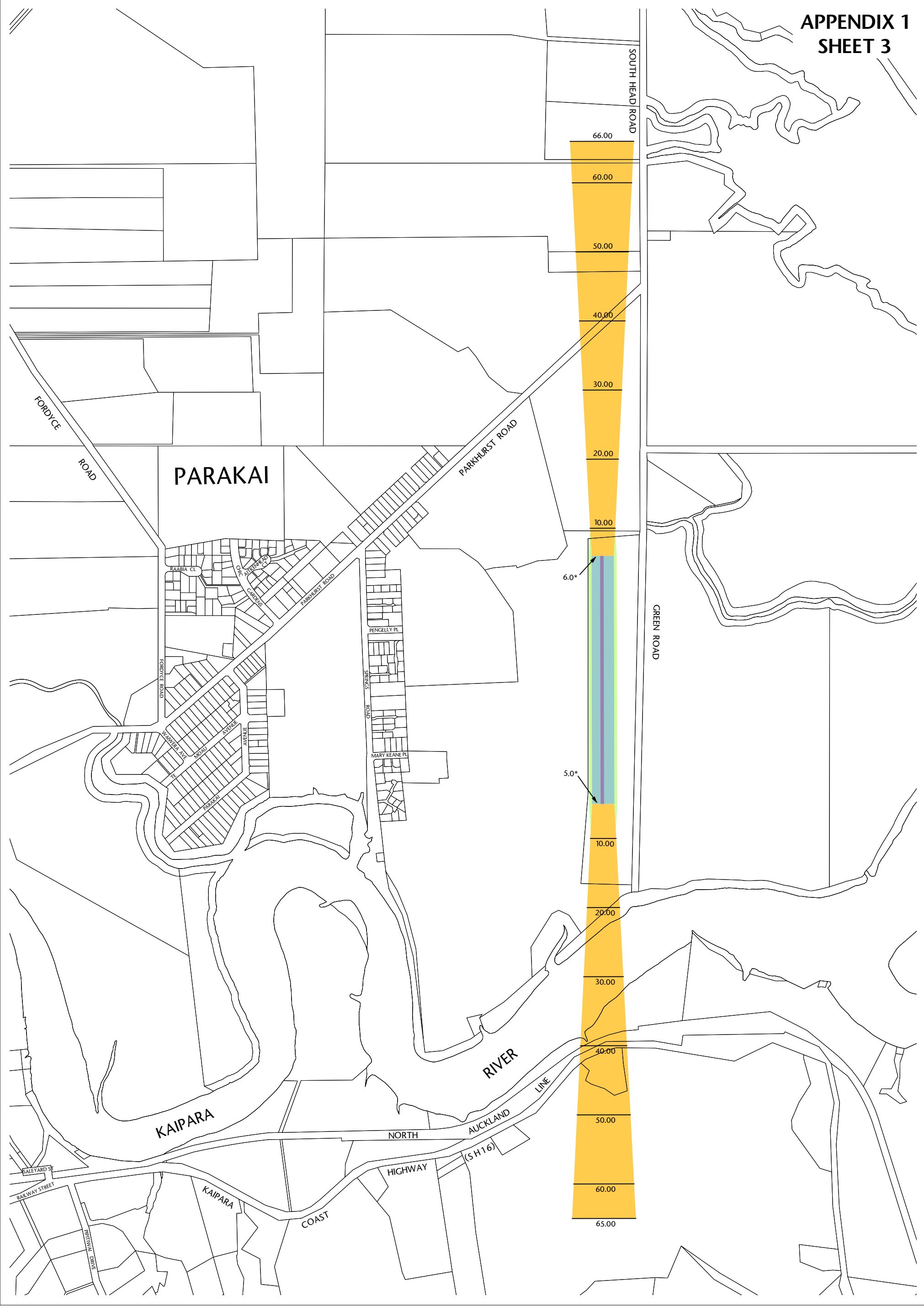
40.00 Approach / Takeoff Path Height Levels  
33.0\* End Of Runway Height Above Datum

0 100 200 300 400 Metres

Runway Strip  
Runway  
Approach / Takeoff Path  
Runway / Strip Transition Side Surface



**Auckland Council District Plan**  
**(Rodney Section) 2011**



**HEIGHT RESTRICTIONS:**

**PARAKAI AIRFIELD**

Scale 1 : 10 000

- 40.00 Approach / Takeoff Path Height Levels
- 33.0\* End Of Runway Height Above Datum

0 100 200 300 400 Metres

- Runway Strip
- Runway
- Approach / Takeoff Path
- Runway / Strip Transition Side Surface



**Auckland Council District Plan**  
(Rodney Section) 2011