KCAHL - Kapiti Coast Airport Holdings Ltd

KCAHL-001	Kapiti Coast Airport Aerodrome
Designation unique identifier	KCAHL-001 - Kāpiti Coast Airport Holdings Limited
Designation purpose	Kapiti Coast Airport Aerodrome
Site identifier	Kāpiti Road, Paraparaumu. • Part Ngārara West B4 WN46C/570 • Part Ngārara West B4 SO 20377 WN46C/569 • Part Ngārara West B4 WN46C/576 • Part Ngārara West B5 WN53D/165 • Part Ngārara West B7, 1 WN53D/165 • Part Ngārara West B7, 2A WN53D/165 • Part Ngārara West B7, 2B WN53D/165 • Part Lot 1 Block IV DP 2767 WN46C/574 • Part Lot 3 Block IV DP 2767 WN46C/575 • Lot 7 DP 367716 275109
Lapse date	Designation has been given effect to.
Designation hierarchy under section 177 of the Resource Management Act	Primary
Conditions	Yes
Additional information	Pre-National Planning Standards Reference: D0501

KCAHL-001 - Overview of take-off and approach surfaces

The physical description of the *designation* covers airspace in the vicinity of the Kapiti Coast Airport, as shown on the *designation* plan, and consists of:

- Several take-off and approach obstacle limitation surfaces;
- transitional surfaces;
- a horizontal surface;
- a conical surface;
- visual segment surfaces.

Modifications to the existing *designation* are as follows:

- Changes to the approach and take-off obstacle limitation surface origin locations for sealed runway 16/34;
- Addition of visual segment surfaces at each end of sealed runway 16/34;
- Removal of the approach, take-off and transitional obstacle limitation surfaces for sealed and grass runways 11/29;

- Inclusion of take-off, approach and transitional obstacle limitation surfaces for grass runway 12/30;
- An increase in the size of the approach obstacle limitation surfaces for sealed runway 16/34;
- A slight reduction in the size of the horizontal and conical surfaces as they are now based only on runway 16/34.
- Terminology updated by changing references to “base” and “base line” to “inner edge” and “inner edge length”, consistent with Civil Aviation Authority of New Zealand terminology.

The origin of the take-off and approach obstacle limitation and the visual segment surfaces is hereafter called the inner edge and their width at their origins is hereafter called the inner edge length.
The location co-ordinates of the take-off and approach and visual segment surfaces’ inner edges are listed in Table 1. A physical description of these locations is also given in the following sections. If there is a conflict between the Table 1 survey co-ordinates and the physical description the survey co-ordinates shall prevail.

The new specifications of the *designation* are as follows:

Runway 34 Take-off and Approach Surfaces
Runway 34 has separate take-off and approach obstacle limitation surfaces, each with an inner edge length of 150 metres located at the runway centreline positions listed in Table 1. The runway 34 takeoff surface is located at the north end of the runway and the approach surface is located at the south end. Both surfaces extend for a distance of 15,000 metres from their inner edge locations.

The runway 34 approach surface gradient and fan expansion are 1:40 and 1:6.6 respectively.[1] The approach surface curves 50 degrees to the south-west starting at a distance of 590 metres from its inner edge with a radius of turn of 2780 metres (refer to Plan 1). The runway 34 take-off surface gradient is 1:50 and the fan expansion is 1:8 to a maximum width of 1200 metres.

[1] The expansion rates specified apply to each side of the fan. Expansion rate of the total width of the fan is therefore twice the specified rate.

Runway 16 Take-off and Approach Surfaces
Runway 16 has separate takeoff and approach obstacle limitation surfaces each with an inner edge length of 150 metres located at the runway centreline positions listed in Table 1. The runway 16 takeoff surface is located at the south end of the runway and the approach surface is located at the north end. Both surfaces extend for a distance of 15,000 metres from their inner edge locations.

The runway 16 approach surface gradient is 1:40 and the fan expansion is 1:6.6.
The runway 16 take-off surface gradient is 1:50 and the fan expansion is 1:8 to a maximum width of 1800 metres. The take-off surface curves 50 degrees to the south-west starting at a distance of 590 metres from its inner edge with a radius of turn of 2780 metres (refer to Plan 1). The height of the surface drops 4.6 metres from the point where the turn commences.

Transitional Surfaces
As shown on the attached Plan 3, the sealed runways has a 1:7 gradient transitional obstacle limitation surface that extends along the length of each side of the sealed runway strip edge and the approach surfaces at each end of the runway (as shown in Plan 3).

The transitional surface is to protect the airspace from potential development being established adjacent to the runways and final approach surfaces.

The runway 16/34 strip edges are located 75 metres either side of the runway centreline. The elevation of the strip is 4.60 metres above mean sea level (AMSL) at its south end and 5.70 metres AMSL at its north end, sloping linearly between these two elevations.

The transitional surface rises upwards and outwards from the strip edges to a height of 45 metres above each strip end and intersects the approach surfaces (as shown in Plan 3).

Grass Runway Take-off and Approach Surfaces

There are two grass runways identified as 16/34 and 12/30 (refer to Grass Runway Detail A on Plan 1). Each grass runway has a combined take-off and approach surface at each end and a transitional surface along each side.

All the combined take-off and approach surfaces have gradients of 1:20, with a fan expansion of 1:20 and extend 1200 metres from their respective inner edge locations. The grass runway 16/34 surfaces have an inner edge length of 90 metres and runway 12/30 surfaces have an inner edge length of 40 metres.

The inner edge locations for each grass runway are listed in Table 1.

The grass runway 16/34 strip edges are located 45 metres either side of the runway centreline and end at the respective take-off/approach surface inner edges. The elevation of the grass runway 16/34 strip is 5.70 metres above mean sea level (AMSL) at its south end and 5.80 metres AMSL at its north end, sloping linearly between these two elevations.

The runway 12/30 strip edges are located 20 metres either side of the runway centreline and end at the respective take-off/approach surface inner edges. The elevation of the runway 12/30 strip is 6.35 metres above mean sea level (AMSL) at its east end and 5.10 metres AMSL at its west end, sloping linearly between these two elevations.

A 1:4 transitional surface rise upwards and outwards from the edges of the runway strips of each grass runway to a height of 2 metres above each strip end intersecting the combined take-off and approach obstacle limitation surface at the end of each runway.

Horizontal and Conical Surfaces

The horizontal and conical surfaces cover the airport, surrounding land and water. They are necessary to provide an aircraft with a satisfactory margin for safety while manoeuvring at low altitude in the vicinity of the airport.

The horizontal surface is located 45 metres above the airport. The average height of airport land is 5 metres above mean sea level (AMSL) and therefore the horizontal surface is 50 metres AMSL. The horizontal surface extends 4000 metres out from the runway 16/34 strip edges on each side of the runway and the approach surface inner edges at each end of the runway. The perimeter of the 50 metre AMSL horizontal surface is shown on the attached Plan 1.

The conical surface extends outwards and upwards at a 1:20 gradient from the periphery of the 50 metre high horizontal surface to reach a height of 150 metres above the airport (155 metres AMSL — see Plan 1).

Sealed Runway 16 Approach Visual Segment Surface

Runway 16 has a visual segment surface that is asymmetric in shape with an inner edge length of 150 metres located as listed in Table 1. The surface extends for a distance of 4200 metres from the inner edge location and the upwards gradient is 1:30.

The fan expands to the west at an offset angle of 8.5 degrees and to the east at an offset angle of 23.5 degrees both measured relative to the runway extended centreline.

Runway 34 Approach Visual Segment Surface (VSS)

Runway 34 has a visual segment surface that is asymmetric in shape with an inner edge length of 150 metres as listed in Table 1. The surface extends for a distance of 4200 metres from the inner edge location and the upwards gradient is 1:30.

The fan expands to the west at an offset angle of 38.5 degrees and to the east at an offset angle of 8.5 degrees both measured relative to the runway extended centreline.

Nature of works and proposed restrictions

Nature of Work
The nature of the work is to protect the airspace in the vicinity of the airport and provide adequate safety for aircraft movements.

There are no known works proposed within the Kapiti Coast Airport area.

Restrictions
The Council will restrict the construction of any building or structure and the *height* of trees beneath the take-off approach, transitional, horizontal and conical and visual segment surfaces with the exception that objects up to 19 metres AMSL may be permitted to encroach through the visual segment surface.

The construction of any part of the structure, including *aerial*s or antenna, or any other object that may encroach into any of the surfaces described in this section herein and illustrated on the Kapiti Coast Airport take-off and approach obstacle limitation surfaces Plans 1,2, 3 and 4 (below), will be a discretionary activity.

The encroachment of trees into the surfaces will be prohibited with the exception that trees up to 19 metres AMSL may be permitted to encroach through the visual segment surface. Landowners will be required to trim the trees accordingly, unless the trees were planted prior to the airport becoming established in 1939.

Environmental *effect*s of the proposed obstacle limitation surfaces
The proposed obstacle limitation surfaces may restrict the *height* of any proposed development, buildings, structures or trees located under the surfaces. In particular, proposed developments, buildings, structures or trees might be affected under the runway 16/34 take-off and approach obstacle limitation surfaces from the runway ends to the point where the surfaces reach the coast.

The surface gradients proposed include a safety margin beyond the normal operational take-off or approach gradients that aircraft fly. This will allow unrestricted operations during an emergency. The area protected conforms to *aerodrome* design standards issued by the Civil Aviation Authority of New Zealand.

Additional resource consents required
Where a development is proposed in the coastal marine area and may be located under or encroach into a surface, a coastal permit will have to be sought from the Wellington Regional Council.

Additional information
Survey reference points are listed in Table 1 to inform the general public of the location and height above sea level of the surface inner edges. This data is required by surveyors to ensure that a proposed development, buildings, structures or trees will not encroach into the protection surface.

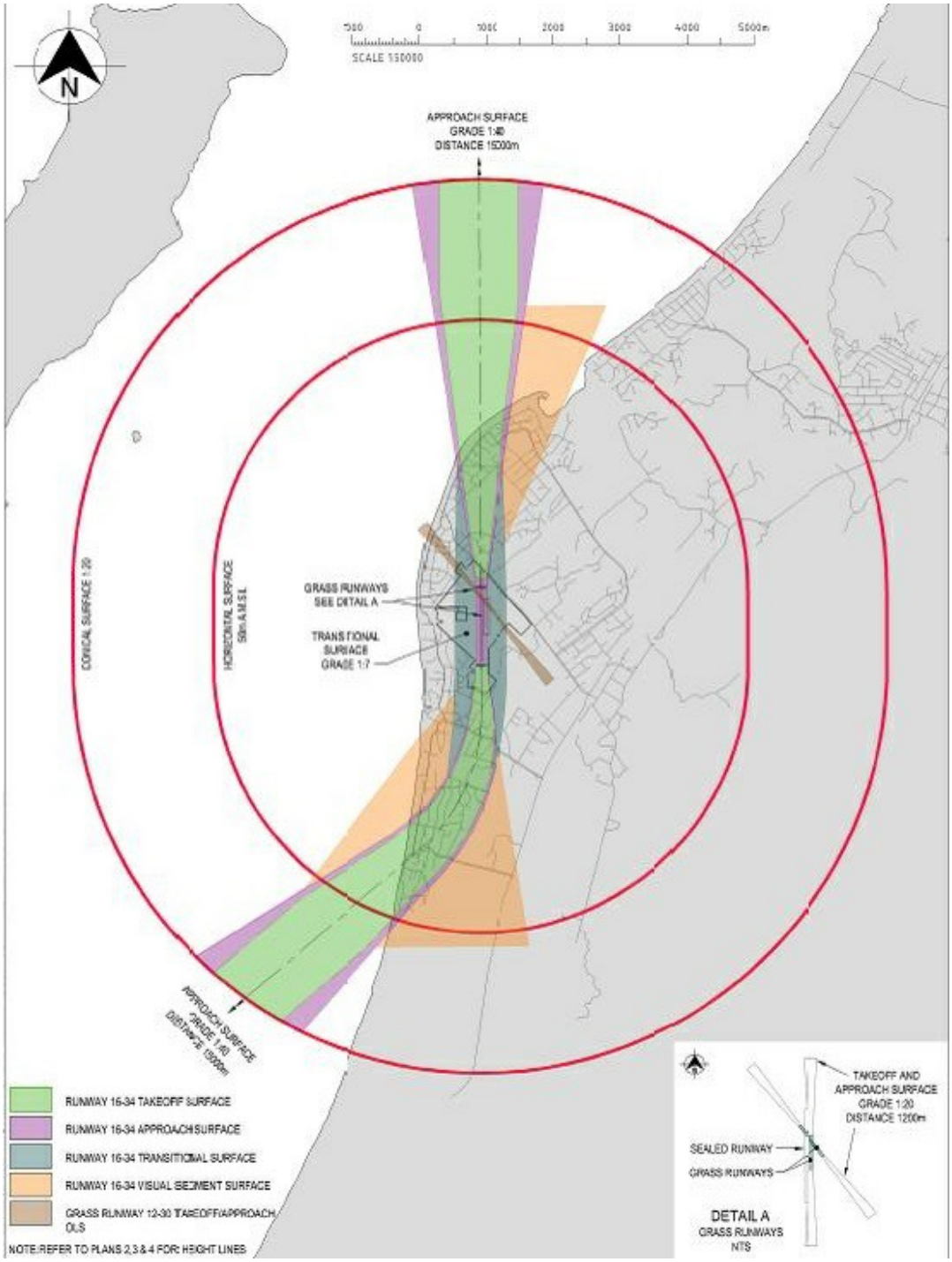
Regulatory authority
Civil Aviation Authority Rule Part 139 and associated Advisory Circulars

KCAHL-Table 1 - Survey reference points and *aerodrome* heights

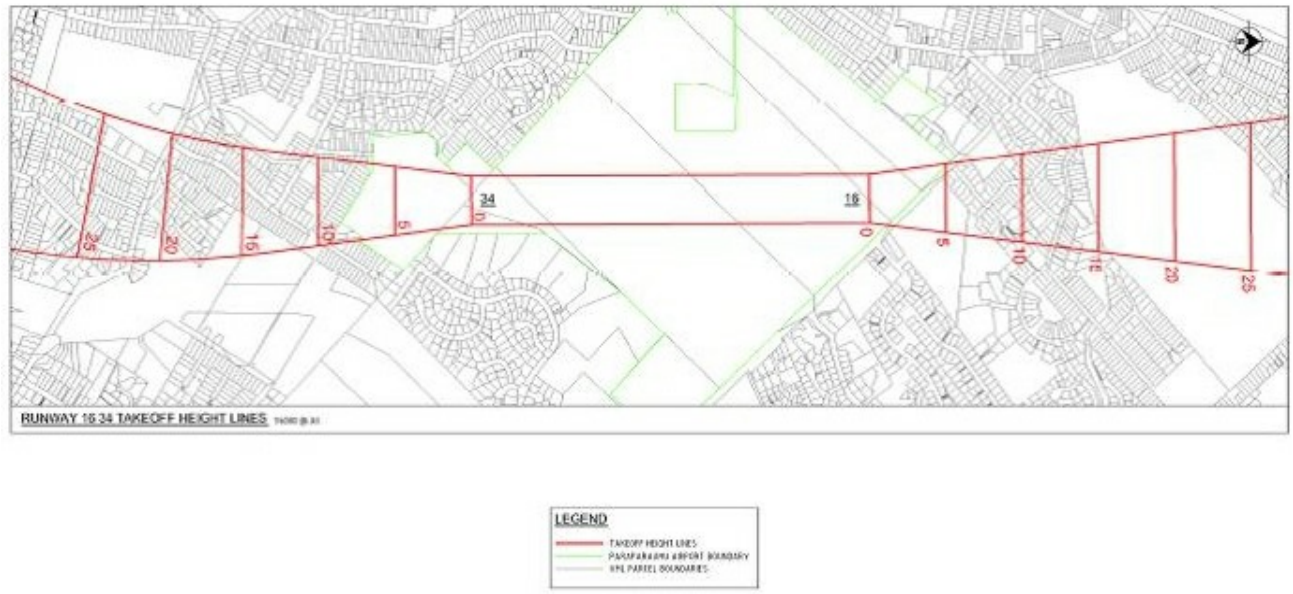
PT No.	Northing Pt Origin	Easting Pt	Height (metres above mean sea level)	Inner edge description
	NZGD2000 (Wanganui Circuit).			
	726859.00	357858.02	5.50	Sealed runway 34 take-off

PT No.	Northing Pt Origin	Easting Pt	Height (metres above mean sea level)	Inner edge description
	NZGD2000 (Wanganui Circuit).			
	725552.02	357864.23	4.60	Sealed runway 34 approach and visual segment surface
	725552.02	357864.23	4.60	Sealed runway 16 take-off
	726725.30	357858.66	5.70	Sealed runway 16 approach and visual segment surface
	726559.27	357938.40	5.80	Grass runway 34 take-off and grass runway 16 approach
	726022.27	357940.76	5.70	Grass runway 16 take-off and grass runway 34 approach
	726231.30	358144.30	6.35	Grass runway 12 take-off and grass runway 30 approach
	726706.70	357754.65	5.10	Grass runway 30 take-off and grass runway 12 approach

KCAHL-Figure 1 - Kapiti Coast Airport take-off and approach obstacle limitation surfaces

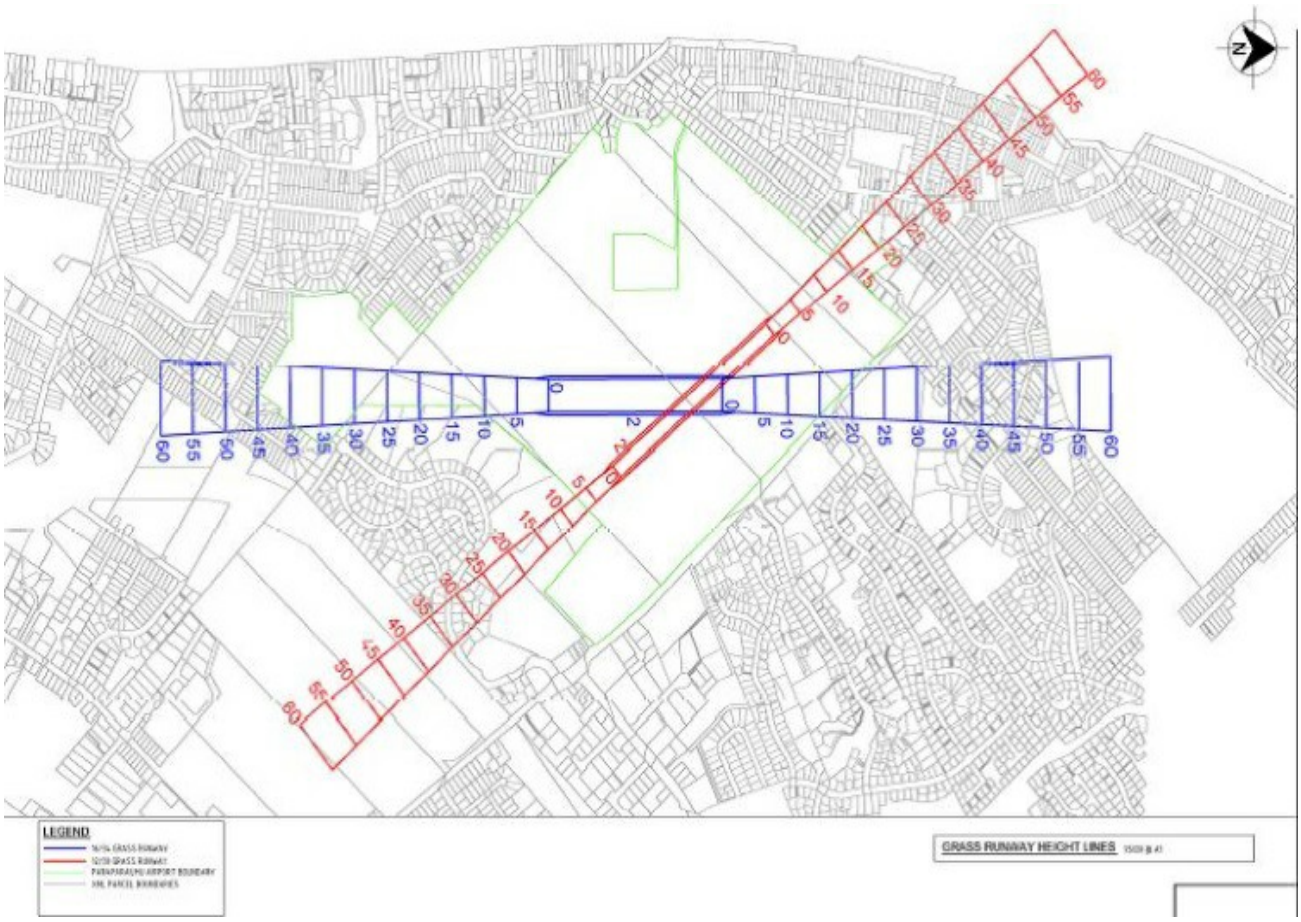


KCAHL-Figure 2 - Kapiti Coast Airport take-off and approach obstacle limitation surfaces



KCAHL-Figure 3 - Kapiti Coast Airport take-off and approach obstacle limitation surfaces

KCAHL-Figure 4 - Kapiti Coast Airport take-off and approach obstacle limitation surfaces


N
LEGEND
GRASS RUNWAY HEIGHT LINES