

Appendix 10 — Aerodrome Flight Paths Protection Area for Richard Pearce (Timaru) Airport

Buildings, structures or trees within close proximity to runways

1. No buildings, structures or tree (other than stock-fences less than 1.2m ~~metre~~ high above existing ground level) shall be erected ~~ed~~ within 500m ~~metres~~ of the ends of the future extended main runway and existing cross wind runways. ~~AND~~

Buildings, structures or trees penetrating flight paths

2. No building, structure or tree shall penetrate any of the flight paths, side clearances or horizontal and conical surfaces. For details of flight paths, side clearances and horizontal and conical surfaces described below and illustrated in Figures 7(a) and 7(b) and their associated tables.

Flight Paths

The flight paths consist of take-off and approach corridors in and out of the North South sealed runway 02-20 and East West grassed runway 11-29 together with a horizontal surface and a conical surface lying over the aerodrome.

(1) Runway 02-20

Takeoff

1. The takeoff surfaces at each end of the runway commences at the locations and levels shown in ~~Table 1~~ and continue out on the runway extended centreline for 15,000m ~~metres~~.
2. The base width at the origin is 150m ~~metres~~ (75m ~~metres~~ either side of the runway centreline) and the surface rises upwards at a gradient of 1 in 50 and each side expands at a rate of 1 in 8 to a maximum width of 1200m ~~metres~~ and then continues parallel out to a distance of 15,000m ~~metres~~ from the origin.

Approach

1. The approach surfaces at each end of the runway commence at the locations and levels shown in ~~Table 1~~ and continue out on the runway extended centreline for a distance of 15,000m ~~metres~~ from the origin. The base width at the origin is 220m ~~metres~~ (110m ~~metres~~ ~~wo~~ either side of the runway centreline) and the surface rises upwards at a gradient of 1 in 50 and each side expands at a rate of 1 in 6.6 out to a distance of 15,000m ~~metres~~ from the origin.

(2) Runway 11-29

Takeoff and Approach Path

1. The takeoff and approach surfaces at each end of the runway commence at the locations and levels shown in ~~Table 1~~ and continue out on the runway extended centreline for 2,500m ~~metres~~ from the origin.
2. The base width at the origin is 150m ~~metres~~ (75m ~~metres~~ either side of runway centreline) and the surface rises upwards at a gradient of 1 in 30 and each side expands at a rate of 1 in 6.6 out to a distance of 2,500m ~~metres~~ from the origin.

(3) Glider Grass 10

Takeoff Path

1. The takeoff surface at the east end of the runway commences at the location and level shown in ~~Table 1~~ and continues out on the runway extended centreline for 1,200 ~~m~~ metres from the origin. The west end of the runway is located as shown in ~~Table 1~~.
2. The base width at the origin is 60 ~~m~~ metres (30 ~~m~~ metres either side of runway centreline) and the surface rises upwards at a gradient of 1 in 20 and each side expands at a rate of 1 in 20 out to a distance of 1,200 ~~m~~ metres from the origin.

(4) Side Clearances

1. The side clearance surface for runway 02-20 rises at a gradient of 1 in 7 and the side clearance surface for runway 11-29 at a gradient of 1 in 5, both up to the horizontal surface. The side clearance surfaces originate at the edge of the respective runway strips.

(5) Horizontal Surface

1. This surface is located in a horizontal plane which extends over the aerodrome and surrounding land at a height of 45 ~~m~~ metres above the runways (elevation 72 ~~m~~ metres above MSL).
2. The outer limits of the horizontal surface is measured from the periphery of the strip of runway 02-20 and a locus of 3,500 ~~m~~ metres from the periphery of runway 11-29.

(6) Conical Surface

1. The conical surface slopes upwards and outwards from the periphery of the horizontal surface at a gradient of 1 in 20 up to a height of 150 ~~m~~ metres above the runways (elevation 177 ~~m~~ metres above MSL).

(7) Future Runway Extension

1. Any future development of the aerodrome will consist of lengthening of runway 02-20 to the north and south by up to 657 ~~m~~ metres in total plus 60 ~~m~~ metres grassed strip and 90 ~~m~~ metres grassed runway end safety area beyond the end of the sealed runway at each end.
2. In order to protect the aerodrome for future runway extensions no permanent structures shall be built under the flight path within the area shown on Figure 7(b).

NOTE: For the purposes of this rule the possible runway extension to the north is 262 ~~m~~ metres and to the south is 395 ~~m~~ metres.

(e) 3. See Figure 7(c) for details of proposed runway extension.

(8) Table 1: Location of takeoff and approach surface bases¹

Surface	mN (metres North)	mE (metres East)	Height (Above Mean Sea Level)
- Runway 02-20	-	-	-

¹ Millward Finlay Lobb [60.58]

North Surfaces origin - -		711855.50	313966.34	25.9m
	South Surfaces origin	710588.56	312842.67	26.7m
Runway 11-29 -	East Surfaces origin	710523.40	314079.43	22.0m
	West Surfaces origin	711156.57	313380.70	26.2m
Glider grass	10 East Surfaces origin	710475.04	314159.05	21.4m
	West Surfaces origin	710992.14	313313.80	26.3m -

<u>Surface</u>	<u>Easting (metres east)</u>	<u>Northing (metres north)</u>	<u>Height (Metres Above Mean Sea Level)</u>
<u>Runway 02-20-North Surface origin</u>	<u>1458979.89</u>	<u>5093981.55</u>	<u>25.9</u>
<u>Runway 02-20-South Surface origin</u>	<u>1457886.71</u>	<u>5092688.55</u>	<u>26.7</u>
<u>Runway 11-29-East Surface origin</u>	<u>1459124.46</u>	<u>5092652.71</u>	<u>22</u>
<u>Runway 11-29-West Surface origin</u>	<u>1458411.05</u>	<u>5093269.06</u>	<u>26.2</u>
<u>Glider grass-10 East Surface origin</u>	<u>1459205.19</u>	<u>5092606.23</u>	<u>21.4</u>
<u>Glider grass-West Surface origin</u>	<u>1458348.07</u>	<u>5093103.11</u>	<u>26.3</u>

(9) Table 2: Coordinates of points A - T on Figure 7(b) ²

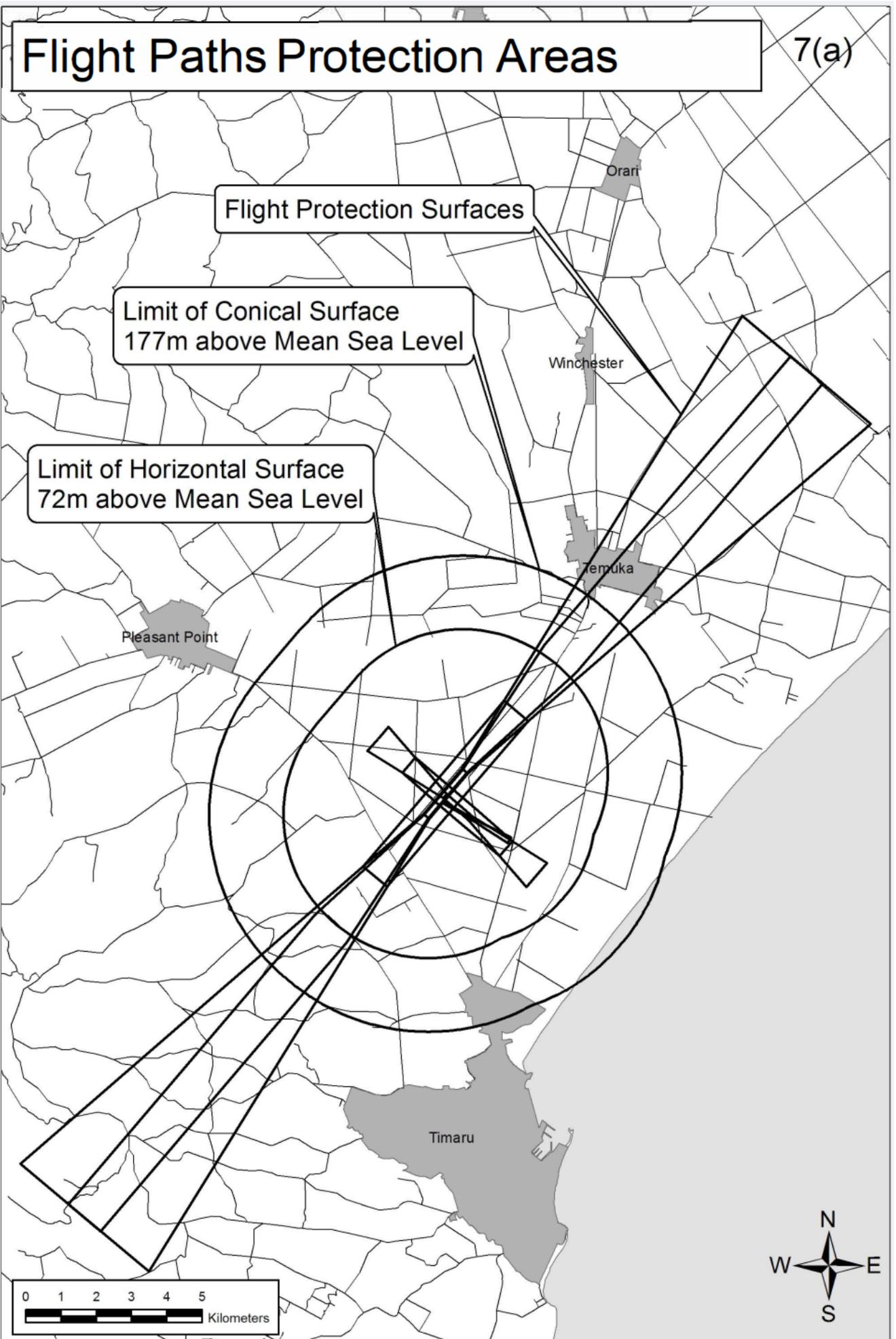
A	2368849.29	5655663.91
B	2369017.23	5655521.8
C	2369114.42	5656094.54
D	2369398.03	5655854.57
E	2369028.27	5654207.10
F	2369126.37	5654320.56

² Millward Finlay Lobb [60.59]

G	2369551.60	5654047.89
H	2369356.93	5653822.76
I	2367755.49	5654371.24
J	2367923.43	5654229.14
K	2367374.69	5654038.48
L	2367658.30	5653798.51
M	2368413.14	5654937.26
N	2368315.04	5654823.8
O	2368084.48	5655321.60
P	2367887.26	5655093.52
Q	2369173.10	5654243.26
R	2369616.67	5654011.45
S	2369562.73	5653918.51
T	2369142.98	5654191.36

<u>Point</u>	<u>Easting (metres east)</u>	<u>Northing (metres north)</u>
<u>A</u>	<u>1458895.89</u>	<u>5094052.56</u>
<u>B</u>	<u>1459063.87</u>	<u>5093910.53</u>
<u>C</u>	<u>1459160.82</u>	<u>5094483.25</u>
<u>D</u>	<u>1459444.50</u>	<u>5094243.42</u>
<u>E</u>	<u>1459075.44</u>	<u>5092595.96</u>
<u>F</u>	<u>1459173.48</u>	<u>5092709.45</u>
<u>G</u>	<u>1459598.78</u>	<u>5092436.98</u>
<u>H</u>	<u>1459404.22</u>	<u>5092211.80</u>
<u>I</u>	<u>1457802.72</u>	<u>5092759.57</u>
<u>J</u>	<u>1457970.70</u>	<u>5092617.55</u>
<u>K</u>	<u>1457422.09</u>	<u>5092426.68</u>
<u>L</u>	<u>1457705.77</u>	<u>5092186.85</u>
<u>M</u>	<u>1458460.08</u>	<u>5093325.80</u>

<u>N</u>	<u>1458362.03</u>	<u>5093212.31</u>
<u>O</u>	<u>1458131.29</u>	<u>5093709.97</u>
<u>P</u>	<u>1457934.18</u>	<u>5093481.84</u>
<u>Q</u>	<u>1459220.24</u>	<u>5092632.18</u>
<u>R</u>	<u>1459663.86</u>	<u>5092400.57</u>
<u>S</u>	<u>1459609.96</u>	<u>5092307.62</u>
<u>I</u>	<u>1459190.14</u>	<u>5092580.27</u>





UPDATED 12 OCT 2006 BASED
 ON SURVEY DATA

Timaru Airport - proposed layout of extended main runway 02-20

