STAFF REPORT

TO: Chair and Members, Engineering Services Committee

FROM: Gary Clark, Transportation Manager

REFERENCE: R865

SUBJECT: **TAKAKA AERODROME**
Report prepared for meeting of 21 January 2010

PURPOSE

The purpose of this report is to provide information relating to the cross runway at Takaka Aerodrome and recommend an appropriate approach to ensure a safe runway is provided.

BACKGROUND

The Takaka Airport Company wishes to seal the grass cross runway to provide a safer and easier facility when there are strong cross-winds in Golden Bay. The company has obtained a quote for Sollys to carry out the work which has been previously presented to Council.

Engineering staff were asked to investigate the appropriateness of the construction methods detailed in the quote. We also considered it important to determine whether the design and strength of the new pavement for the cross runway was fit-for-purpose.

MWH have checked the proposed design and reviewed the requirements of the Civil Aviation Authority.

COMMENT

The Takaka Aerodrome is a non-certificated aerodrome. The AIP (information for aircraft) currently states that the cross runway is a gravel surface.

The Civil Aviation Authority does not have a specific standard for this “grade” of aerodrome. There is a responsibility on both parties with the pilot to ensure the area is safe for landing and the aerodrome authority to maintain in a condition suitable for the aircraft to land (usually through AIP).

The Civil Aviation Authority advises their circular 139-7 is applicable which states the following:

"**CHAPTER 2 — PHYSICAL CHARACTERISTICS (from Advisory Circular 139-7)**
Runway surface
2.1.2 The runway surface should be without irregularities and of sufficient strength for the takeoff and landing of aeroplanes."

The Civil Aviation Authority acknowledges that there is little other guidance available. They advise that there are a number of small aerodromes of similar use as Takaka that have chip sealed surfaces. The chip seal is likely to be suitable for the type of aircraft currently using the aerodrome.

The issue may arise if aircraft with an engine such that the engine may 'suck' stones in and potentially cause damage (eg, some of the "war-bird" aircraft).

CONSIDERATIONS

a) Pavement behaviour once sealed

The existing cross runway is behaving much like an unsealed road with a partially stabilised layer. It is considered that milling the top 50mmm only and sealing is likely to raise integrity issues with the pavement. A more substantial pavement is required. As Sollys have advised, their experience is that the cement layer is thin and overlies a variable pit gravel layer. Ripping a deeper layer will not only disturb a well-bedded sub-base but could raise material that is very difficult to manage. A possible solution to mitigate this issue is to add AP 20/40 material initially to shape then milling to 100mm depth and final shaping, compaction and seal.

b) Holding Seal on pavement

The milled surface will be difficult to hold a chip seal on; hence the use of additional material to provide a greater proportion of stone surface for the adherence of bitumen. Potholing and/or loss of seal could be a safety issue for aircraft as well more loose material that could interfere/damage some props etc.

c) Chip sealing versus smooth surface - Grass or Asphalt

See note above – the intent would be to provide a surface that would reduce maintenance risks and provide a reasonable life over time.

CONCLUSION

I do not see any reason a well prepared and maintained chip seal surface could not be used. I believe there is a risk to Council if a well constructed surface is not provided and the information to aircraft (AIP) is then changed to advise of the particular runway surface.

RECOMMENDATION

THAT this report be received.

Gary Clark
Transportation Manager