

Stratford Aerodrome

Strategic Development Plan

9 November 2011



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1 Scope of Review

1.1. Introduction

Stratford District Council (“the Council”) has engaged Airbiz to prepare a Strategic Development Plan for Stratford Aerodrome.

The brief is for the Development Plan to address:

- An overview of the current aerodrome infrastructure and facilities and issues arising therefrom
- Identification and high level assessment of aerodrome development and business opportunities, and
- An aerodrome land use plan
- Identify whether any of the Council’s farmland surrounding the aerodrome is needed for future aerodrome activities

As well as receiving long term planning advice, the Council is seeking two important outputs from the Strategic Development Plan so as to assist in their own long term planning process, viz:

- Issues for the aerodrome – should all or part of the Council owned farm land surrounding the aerodrome be sold or leased?
- More clearly understand the significance of the aerodrome with respect to long term economic, employment and tourism development within the region.

1.2. Work Stages

The project commenced with a full briefing, information gathering and SWOT analysis session in Stratford with council officers.

Whilst in Stratford, consultation with key stakeholders was also undertaken where comment was sought on operational issues as well as the role of and aspirations for the aerodrome.

The draft Strategic Development Plan assessments and outcomes were later discussed with key Council officers which led to refinement and endorsement of the following Stratford Aerodrome Strategic Development Plan.

2 Aerodrome Facilities Review

2.1. General

Stratford Aerodrome is a General Aviation (GA) aerodrome located 4kms northeast of Stratford township and some 40kms southeast of New Plymouth Airport.

Stratford is primarily a rural support centre servicing the strong regional agricultural economy. The town is located midway between New Plymouth and Hawera; and east of Mount Egmont in Taranaki.

Whilst dairy farming is the mainstay of the region, Stratford, as the gateway to Egmont and Whanganui National Parks, provides a reasonable level of tourist activity.

Stratford township has a population of 5,300 and the wider Stratford District a population of 8,900.

2.2. Airfield

Stratford Aerodrome occupies 17 hectares of land area and is enclosed in a 130 hectare dairy farm at Flint Road, all owned by the District Council. The Council's Properties Activity Management Plan states:

When the land was purchased for the aerodrome in the 1940's, the surplus land was to be farmed and the income from the farm was to be used to fund the aerodrome operating costs. This principle still applies today, and almost all of the costs are met from that source.¹

Primary data of the Aerodrome is as follows:

- NZCAA² Non-Certificated and unattended
- Grass Runway 09/27 (900m x 45m) is the primary runway and is favourably positioned for prevailing wind conditions
- Grass Runway 16/34 (507m x 52m) is a cross runway
- No navigational aids on Aerodrome or nearby.
- The main runway has lighting operated manually from the ground
- AIP³ notes a caution that there may be soft patches on runways during winter months

¹ Stratford District Council – Properties Draft Activity Management Plan 2010, Page 8.

² New Zealand Civil Aviation Authority

³ Aeronautical Information Publication (Airways)

- Refuelling facilities are available on site – Jet A1 and Avgas.

Figure 2-1 below shows location of the Aerodrome, the surrounding Council farm and road distances.

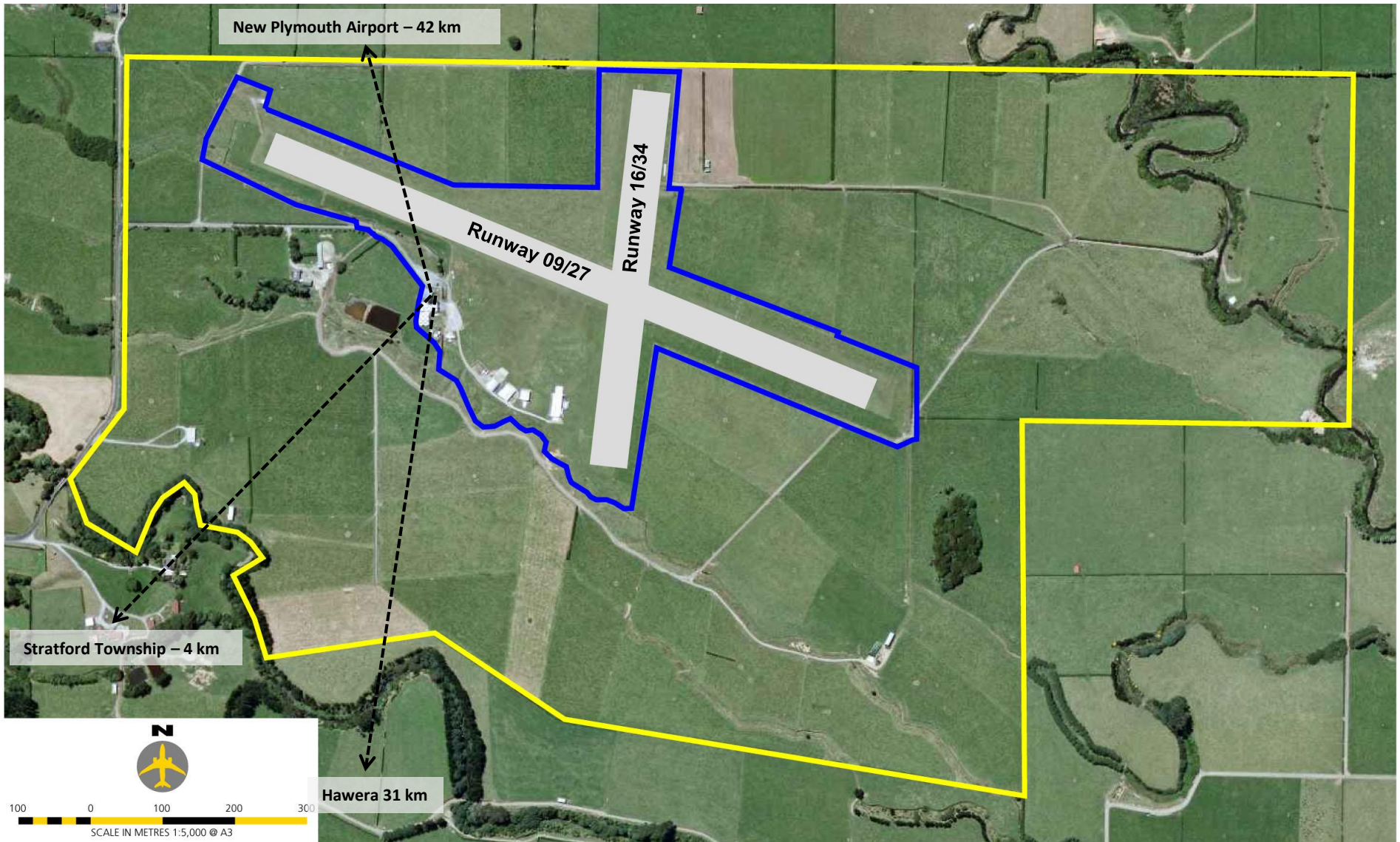


FIGURE 2-1 STRATFORD AERODROME

2.3. Aerodrome Facilities: Review and assessment

The following overview comments are based on an observation of the airfield facilities, comments from stakeholders and a review of research material.

Access Road

Access to the Aerodrome is from the west via Flint Road. This is the only access point into the Aerodrome. The road is sealed, well maintained and presents no issues.

Runways

There are two grass runways at Stratford Aerodrome:

— Main Runway	09/27	900 x 45 metres
— Cross Wind runway	16/34	507 x 52 metres

Prevailing winds are from the northwest; therefore Runway 27 is the most frequently used. User feedback indicates the runways are ideally aligned and are of sufficient length and width for current and foreseeable operations.

Users have commented on drainage issues on main Runway 09/27 at the western end as aircraft have been known to bog down and require assistance after an extended wet spell. There is also uneven terrain at the eastern end of Runway 09/27, which can create a porpoising effect for aircraft, thereby leading to the occasional aborted take-off.

Both runways are mowed regularly by the Council and are otherwise in good condition with little weed and a full coverage of grass. Well maintained grass runways are suitable for current and foreseeable purposes. This position is unlikely to change, unless a major aeronautical development such as a live-in flying school, economically justifies serious money being spent on sealing the main runway.

It is recommended that Council immediately undertake an engineering assessment of Runway 09/27 to resolve the identified issues of poor drainage and uneven levels.

Obstacle Limitation Surfaces (OLS)

The approach and departure paths of aircraft in the vicinity of the airport are protected by Obstacle Limitation Surfaces. These are complex

imaginary three dimensional surfaces surrounding an airport and include take-off and landing surfaces that project from the end of the runway strips.

The intent of these surfaces is to limit the heights of objects (buildings, towers, trees, etc.) within their bounds.

Stratford District Plan identifies Non-Complying activities as any obstacle or structure within:

- Take-off climb and approach obstacle limitation surfaces, commencing at ground level at the end of each runway, rising at a gradient of 1 in 40 (1 in 20 for runway 16/34) for a horizontal distance of 2,500m splaying out at 1:10 from the from the end of each runway; and
- Side surfaces, commencing at the edge of each runway and rising at a gradient of 1 in 5 from the edge of each runway.

The bounds specified within the District Plan are reasonable and within Civil Aviation Authority guidelines.

It is observed, as well as commented by the users of this aerodrome, that there are currently no obstacles within these bounds.

Aero Club

The Aero Club building (see Figure 2-2), originally constructed in 1939, has been expanded throughout the years to now include kitchen and bathroom facilities, several operational rooms, together with a spacious general clubroom. Nearby are two hangars, housing the club's two aircraft.

All of these facilities are owned and maintained by members and are adequate for current and foreseeable requirements.



FIGURE 2-2 AERO CLUB AND HANGARS

Taranaki Gliding Club

The Gliding Club hangar fronts Runway 16/34, adjacent to Runway 34 threshold, enabling direct access to runways. It is the largest hangar at the aerodrome and is owned and maintained by the gliding club.

Hangars

There are currently four privately owned hangars at the Aerodrome (see Figure 2-3); two for fixed wing aircraft and two for helicopters. All hangars appear to be in good condition.

Hangar owners pay a ground lease to Council and all are on 20 year ground leases.



FIGURE 2-3 PRIVATE HANGARS

Aircraft Parking Positions

In front of the hangars through to the quadrant formed by Runways 09 and 34 there is a grassed area sized approximately 75 x 150 metres. This is where itinerant aircraft park.

There are no fixed tie-downs, but this is not an issue as visiting aircraft would normally have their own tie-down pegs.

This area may be relatively well used for the annual air show; otherwise it is a wide open space.

Agriculture Planes

Wanganui Aero Works normally overnight a top-dressing aircraft in a permanent tie-down hard stand relatively adjacent to the Aero Club hangars.

This tie-down position is proximate to parked loader trucks and in a central position from an overnight security perspective.

The Council provides a fertiliser bin adjacent to Runway 09 threshold. The operators are happy with this location.

Agriculture Truck Parking

The two agriculture companies operating out of Stratford Aerodrome (Wanganui Aero Works and Super Air) will often have four fertiliser loading trucks parked at the Aerodrome. Currently they are parked between the Aero Club and private hangars.

This parking area has been identified as the site of a new hangar for Tony Rawlinson, therefore a parking site has to be identified elsewhere. It is suggested that provision be made for six loader parking slots for all companies.

The issue of location is covered off in the Land Use Plan review in Section 6 of this report.

Refuelling Facility

A refuelling facility is available at the aerodrome providing both Avgas and Jet A1.

Fuel companies have withdrawn providing services at many GA airports nationally and the strong comment from many at the consultation meeting was that the provision of fuel at Stratford is a major strength for the Aerodrome.

It is highly desirable that the provision of fuel at the Aerodrome be continued, otherwise potential hangar developers may be turned off and the aerodrome cease to be a stopover point for transiting aircraft.

It is apparent however that the fuel pad in particular is in very poor condition, as evidenced in Figure 2-4 and Figure 2-5.



FIGURE 2-4 REFUELLING FACILITY

Fixed wing operators close their engine down outside of the area and roll their aircraft onto the pad.

Helicopters find this process more difficult and as a result the downdraft from the helicopter may cause significant dust and stone dispersement, particularly to the nearby Aero Club hangars.

For planning purposes the refuelling area must be sufficiently sized to enable fuel truck manoeuvring and the concrete pad of sufficient strength to withstand fuel trucks tightly circling within the area.

An urgent review of the refuelling facility should be undertaken by Council



FIGURE 2-5 REFUELLING FACILITY

Remote Controlled Model Aircraft

Egmont Modellers Club fly their remote controlled model aircraft off Runway 34 and in an area south of Runway 34 as shown in AIP. Refer Figure 4-1.

The relationship between the Modellers Club and other operators at the airfield is excellent and no operational or conflict issues are apparent.

Other Facilities

It was noted in the consultation meeting that an external ablution block would be a further attraction for itinerant users of the airfield as there are many hours of the day when the club rooms may be locked and unmanned.

This is a positive suggestion as it would be in the best interests of Stratford to be known as a transiting aerodrome, with key services available.

In conjunction with an ablution block, it is also suggested that an Information Board be constructed. This may be self-funding as motels and the local taxi company may be willing to contribute a share of its cost.

It is recommended that Council progress the construction of an ablution block and Information Board.

3 SWOT Analysis

3.1. Introduction

Following is a SWOT analysis covering aviation and associated business activities at Stratford Aerodrome.

3.2. SWOT Analysis Strengths

- Current runway lengths adequate for current and foreseeable operations:
 - Main runway 09/27 900 x 45 metres
 - Cross runway 16/34 507 x 52 metres
- Uncrowded airspace
- Space available for hangar expansions
- Demand for additional hangar space
- No obstacle clearance issues
- Low aerodrome closure rate from wind or low cloud
- Cross runway, safe terrain and low levels of air traffic provide ideal conditions for flight training
- No air traffic control limitations. No conflict with New Plymouth airspace
- Known stop-over airfield within the aviation community
- Refuelling facility at the aerodrome
- Main runway manual lighting in place
- No serious bird problems
- Viewed within the Council as a strategic asset
- Strong Council
- Community support
- Aerodrome is easily accessible to the catchment area
- Always regarded and accepted as a site for an Aerodrome by the community

Weaknesses

- Runway drainage issues on Runway 09/27 at the western end. Aircraft have been known to bog down and require assistance
- Uneven terrain on Runway 09/27, creating a porpoising effect for aircraft using this runway. Has led to aborted take-offs.
- No Aeronautical Navigational Aids on Aerodrome or nearby
- No definitive development plan layouts
- Development to date has occurred in a relatively haphazard manner
- No external ablation block
- Refuelling facility inadequate, with surrounding ground conditions a major issue for aircraft using the facility. Also can create dust issues for nearby hangars
- A few security concerns
- Proximity to Hawera and New Plymouth airports
- \$5,000 annual revenue streams versus costs of \$50,000
- Aerodrome requires significant cross subsidisation from the surrounding farm profits.

Opportunities

- Developments undertaken in a planned manner, leading to operationally sound layouts for the foreseeable future
- Targeted marketing of the aerodrome for hangar developments and as a stopover point, Examples may include targeting users of nearby aerodromes and articles in industry magazines extolling the virtues of Stratford as a stopover point
- Growth in hangar developments leading to expanded operations, a stronger Aero Club and an improved revenue stream for the aerodrome
- Upgrading of the refuelling facility and construction of an external ablation block and information board. Assisting in making Stratford a preferred stop over point for itinerant aircraft and as a refuelling stop for helicopters operating in the region

- Greater activity at the aerodrome assisting in reducing security concern issues
- Greater activity leading to an increased level of aircraft maintenance being undertaken at the aerodrome
- Review of aerodrome charges leading to a reduced cross subsidisation from the farm
- Stratford aerodrome marketed as the ideal place for flight training so as to take advantage of the cross runway, safe terrain and low levels of air traffic.
- Operational and financial agreements reached with other airports or training groups wherein Stratford aerodrome is being used for flight training such as “touch and goes”
- Introducing tourist / charter activities at the aerodrome to link in with the demand for helicopter flights around the mountain
- Create an Aerodrome User Group to meet on a quarterly basis and identify opportunities and issues and coordinate actions with council and aerodrome users

Threats

- Hangar development in a haphazard manner resulting in inefficient use of land or operationally poor layouts
- Council limiting or slowing down developments due to non-focus or lack of commitment
- A substantial increase in charges lessening the attractiveness of the aerodrome for users
- The development of nearby residential growth resulting in the imposition of flight restrictions or curfews
- Traffic expansion leading to congested airspace
- Flight path obstacles created such as an increase in the height of boundary hedges and trees or the inappropriate construction of buildings
- Farm sold or leased without adequate covenants placed on the property to safeguard flight paths

- Council and the Aerodrome Users Group should monitor flight path obstacles, such as the height of boundary hedges and trees, or new constructions.

3.3. Actions to capitalise on strengths and opportunities

- An Aerodrome User Group formed and to meet on a quarterly basis to identify issues, opportunities and actions. Participants should include representatives from the Council, Aeroclub, Gliding Club, hangar owners, Model Aircraft Club and the top dressing and helicopter operators.
- Completion of the Strategic Development Plan and the support of positive Stakeholders provide a very strong base to continue property and aviation related developments on the Aerodrome.
- An upgrade of the refuelling facility and the construction of an ablution block and Information Board will improve the attractiveness of the Aerodrome for current and potential users of the aerodrome. Explore the opportunity to have a Community Trust finance these upgrades
- Upon completion of the Strategic Development Plan, Council should proactively communicate with potential hangar developers to facilitate further developments on the Aerodrome.
- Council in conjunction with Venture Taranaki and the Aerodrome Users Group should explore the opportunities for tourist / charter activities at the aerodrome
- Council should review charges at the Aerodrome

3.4. Mitigation of Weaknesses and Threats

- Council should adopt the Strategic Development Plan and ensure all developments are consistent with the Plan
- Remedy the deficiencies in the current refuelling facility
- Council should review and remedy the current runway drainage and uneven terrain issues
- Council needs to be mindful of the potential conflict between residential developments and aircraft operations
- Council should ensure covenants are properly placed on the surrounding farmland to safeguard flight paths in the event of lease or sale of the farm

4 Land Use Planning

4.1. Introduction

This section describes the aviation parameters used in providing protection for the airfield and planning for future aerodrome developments. Subsequently, potential parcels of land for development are identified.

4.2. Planning Parameters

Aviation Planning Standards

1. Main runway 09-27
Consistent with NZCAA AC139-6 – Aerodrome Design Requirements – Aeroplanes above 5700kg Maximum Take-off Weight (MTOW) and for night landings under visual rules.
2. Cross runway 16-34
Consistent with NZCAA AC139-7 – Aerodrome Design Requirements – Aeroplanes below 5700kg MTOW and for day or non-instrument operations only.

Aerodrome Reference Codes

NZCAA define runways under a code structure. Stratford Aerodrome Runway Categories are:

- Runway 09-27 Code 2B
- Runway 16-34 Code 1A

Aircraft

The majority of movements at Stratford Aerodrome are single engine recreational aircraft such as Cessna 180's.

The largest aircraft expected to use the airfield on a regular basis is the Pacific Aerospace Cresco PAC-750 XSTOL top dressing aircraft. This aircraft has a Maximum Take-off Weight (MTOW) of 3,402kg.

In addition, larger aircraft such as the RNZAF Beechcraft KingAir B200 with a MTOW of 5,650kg may infrequently use the airfield.

Figure 4-1 shows the listing of typical smaller aircraft and their weight and runway requirement characteristics. Whilst practically all movements at Stratford Aerodrome fall in the runway 1A category, runway 09-27 having 2B category characteristics is a positive for future aircraft developments and the possible long term introduction at the Aerodrome of slightly larger aircraft.

AEROPLANE TYPE	REF CODE	AEROPLANE CHARACTERISTICS					Existing 900m
		MTOW	Seats	Engine Type	ARFL	Corrected Runway Length	
		(kg)			(m)	(m)	
DHC2 Beaver	1A	2490	6	Single-Piston	381	410	ok
Beechcraft 58 (Baron)	1A	2449	5	Twin-Piston	701	750	ok
Beechcraft KingAir 100	1A	5352	13	Twin-Prop	628	680	ok
Britten Norman Islander	1A	2850	9	Single-Piston	353	380	ok
Cessna 172	1A	1066	3	Single-Piston	272	300	ok
Cessna 206	1A	1639	5	Single-Piston	274	300	ok
Cessna 310	1A	2359	4	Twin-Piston	518	560	ok
Cessna 404	1A	3810	10	Twin-Piston	721	770	ok
Piper PA 31 (Navajo)	1A	2950	7	Twin-Piston	639	690	ok
Piper PA 34 (Seneca)	1A	1814	5	Twin-Piston	378	410	ok
Piper PA-31T Cheyenne II	1A	4082	6	Twin-Prop			ok
Piper PA-31-350 Chieftain	1A	3200	8	Twin-Piston			ok
Piper PA-39 Twin Comanche	1A	1690	6	Twin-Piston			ok
Cessna 208B	1B	3970	9	Single-Prop			ok
Pilatus PC-12	1B	4740	9	Single-Prop	701	750	ok
Beechcraft KingAir 200	1B	5670	13	Twin-Prop	592	640	ok
Cessna 208A (Caravan)	1B	3310	10	Single-Prop	296	320	ok
Cessna 402C	1B	3107	9	Twin-Piston	669	720	ok
Cessna 441	1B	4468	10	Twin-Prop	544	590	ok
DHC 6 Twin Otter	1B	5670	19	Twin-Piston	695	750	ok
Dornier 228-200	1B	5700	19	Twin-Prop	525	570	ok
DHC-7	1C	19505	50	Quad-Prop	689	740	ok
Lear Jet 28/29	2A	6804	4/8	Twin-Jet	912	980	9%
Beechcraft 1900	2B	7530	19	Twin-Prop	1098	1180	31%
Embraer EMB110	2B	5670	19	Twin-Prop	1199	1280	42%
Metro II	2B	5670	19	Twin-Prop	800	860	ok
Metro III	2B	6577	19	Twin-Prop	991	1060	18%
ATR 42-200	2C	16150	50	Twin-Prop	1010	1080	20%
Cessna 550 (II / Bravo)	2C	6033	8	Twin-Jet	912	980	9%
Dash8-100	2C	15650	37	Twin-Prop	948	1020	13%
Dash8-300	2C	18642	50	Twin-Prop	1122	1200	33%

FIGURE 4-1 AIRCRAFT CHARACTERISTICS

Runways

The runway dimensions are sufficient to accommodate aircraft types operating at Stratford Aerodrome today and for the foreseeable future.

With the relatively small regional population and New Plymouth airport only 30 minutes away, it is extremely unlikely that Air New Zealand or any other commercial carrier would commence regular commuter services out of Stratford aerodrome. There is therefore no need to extend the runway for Type 2B aircraft operations, such as Air New Zealand's Beech 1900D.

The orientation of both runways are considered ideal for prevailing wind conditions.

Retention of the cross runway is strongly recommended as it provides

- Safe operating conditions under various wind directions,
- The ability to train cross-wind take-offs and landings, and the
- Separation of glider and fixed wing operations on busy days.

Cross runway 16-34 with a width of 52 metres exceeds NZCAA minimum standards, however as glider aircraft are frequent users of this runway and these aircraft may have a substantial wing span, there is no imperative for the width of this runway to be reduced.

Main runway holding bays

Airbiz supports a suggestion from the resident gliding community that areas be provided adjacent to both thresholds on the main runway 09-27, to act as holding bays for glider aircraft whilst they are preparing for take-off.

User comments suggest that aircraft wishing to land may on occasion be delayed whilst glider aircraft are undergoing the relatively time consuming task of being turned at the end of the runways in preparation for take-off.

These areas are identified in Figure 4-2 Future Hangar Development Zones.

Airfield boundaries

Current runway lengths and widths have been adopted for planning purposes as noted in Section 4.3. In addition current external boundaries of the Aerodrome conform to planning parameters and require no amendment, other than noted below.

A 0.8ha area in the north western runway intersection of the Aerodrome could temporarily be converted to farm use until such time as this parcel of land (in Zone C, as defined in the following section) is needed for long term aerodrome developments.

4.3. Hangar development land parcels

Currently on Aerodrome there are 7 hangars: 2 owned by the Aero Club, 1 by the gliding club and 4 privately owned. One additional private hangar has been granted construction approval and Council also has in hand enquiries for additional hangar developments, which is a positive indicator for future development.

Three parcels of land have been identified as potential sites for future hangar developments.

Zone A

The area of land immediately in front of the present hangars through to the intersection of the two runways. This is a grassed 1.8 hectare site.

Zone B

An area of land immediately west of the Aero Club rooms. This 0.9 hectare site is outside of the Aerodrome boundary and currently in farm use.

Zone C

All of the Council farm land in the north western quadrant bounded by the two runways, totalling 7.7 hectares.

The three identified sites, together with runway height clearances and principal OLS, are illustrated in Figure 4-2.

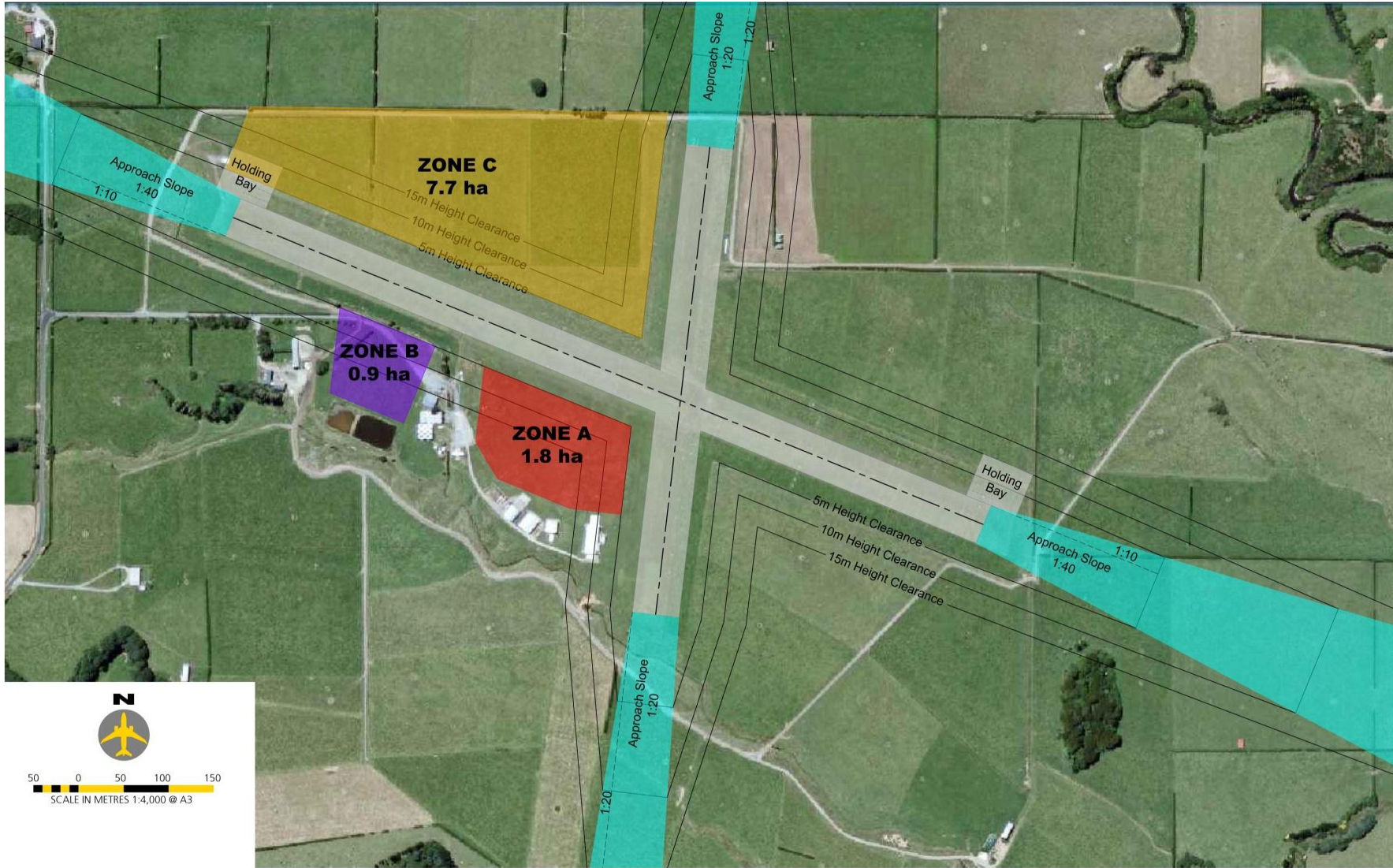


FIGURE 4-2 FUTURE HANGAR DEVELOPMENT ZONES

4.4. Sites review

Zone A

Positives

- Within the current Aerodrome boundary
- Adjacent to present hangars
- Concentration of services such as electrical and water supply
- Served from current access road
- More secure through concentration of hangars
- Minimal earthworks needed

Negatives

- Current hangar sight lines and access to main runway impeded
- Sight lines between thresholds 09 and 34 potentially further impeded
- Space used for itinerant parking
- Relocation of Ag truck parking is required.

Zone B

Positives

- Nearby to current facilities and services
- Served from current access road

Negatives

- Currently farm land
- Cost associated with ducting and filling in the drainage ditch between site and Runway 09-27.
- Realignment of access road within the Aerodrome boundary
- Site backs onto effluent ponds
- Earthwork costs associated with site levelling and the creation of roadways and car-park

Zone C

Positives

- Ample space
- Provides unrestricted space for larger long term developments such as a flight training school, maintenance facilities, or an aeronautical industrial park

Negatives

- Currently farm land
- Cattles races to north eastern sections of farmland may need realignment
- Requires separate access road
- Separate from current hangars, Aero Club and refuelling facilities
- No electrical, drainage or sewerage facilities in the area
- Earthwork costs unknown
- Sight lines between thresholds 09 and 16 may be impeded

4.5. Sight lines between runways

Various Users have highlighted concern with constructing hangars in Zone A – ie in front of the existing hangars.

Additional hangars will impede sight lines between the main and cross runways and as a result the principle of “see and be seen” may be compromised

Feedback from Users is important therefore it is appropriate that the following observations are made:

- Safety is paramount and should there be any real or perceived risk it is important that actions are taken to eliminate or at least mitigate the risk to acceptable levels
- Sight lines between thresholds 09 and 34 are already partially impeded by the Gliding Club hangar

- Operators are presumably already very aware of this current partial sight impairment and therefore everyone ensures that clear radio communication is undertaken prior to aircraft movements
- The airfield layout suggests that the main and cross runway groupings would be 09/16 and 27/34. Concurrent operations on runways 09 and 34 are likely to be very limited
- Development in Zone C may present a similar sight impairment issue between the two runways
- The only non-controlled airfield in New Zealand identified as having sight impairment between two runways is Kaitaia, however certainly in Australia, at least, there are various airfields where this occurs. Examples include Bourke and Taree in NSW, Portland and Wangaratta in VIC and Balgo Hill in WA.

The Aeronautical Information Publications (AIP's) for these airfields do not make mention of any potential sight impairment issue, which suggests that it is accepted by the regulators and operators that normal radio communication mitigates the possibility of operational conflict

- Should it be determined that full development of Zone A presents an unacceptable risk to operations, there still remains the possibility of at least 3-4 hangars being constructed parallel to the current hangars, commencing from the aeroclub end, without further compromising sight lines between the two runways

4.6. Site Development Phasing

Suggestions for the phasing of site development are as follows:

Phase One

Recognising the issues raised by the Users, the recommended first area for future hangar development is partial development of Zone A; being 3-4 hangars immediately in front of the current hangars. A possible layout is provided as Option 8 in Section 4.7

The positives noted in Section 4.4 favour Zone A as being the first for development. It is currently within the Aerodrome boundary, minimal earthworks are needed and the area is adjacent to facilities, current hangars and services.

Whilst undertaking partial development of Zone A, it is recommended that Council and Users continually reassess the issue of sight line impairment between the runways, so as to establish limitations of Zone A development

It is essential that future developments are in accordance with a long term plan, wherein the location of hangars, itinerant aircraft parking and agriculture truck parking are all identified.

Alternative layout plans are provided in Section 4.8. These suggest Zone A has space for an additional 8-9 hangars, if fully developed, versus the initial 3-4 hangars as recommended.

Phase Two

Once Zone A is fully utilised, to the extent determined as acceptable, the next phase of development is recommended to be within Zone B.

This will firstly necessitate the Zone B parcel of land being transferred from farm use to the Aerodrome.

As noted in Section 4.4, the opening up of Zone B will be subject to earthworks to fill in open drains and the relocation of a cattle race and the entrance road.

Development of this site is also dependent on mitigating the problem of being adjacent to the farm effluent ponds. Should this matter be unresolvable, then Zone B may be unacceptable to future developers and the area unfortunately discarded for future hangar developments

Layout plans for this area are also provided in Section 4.7. These suggest that 5 hangars could comfortably be located within Zone B.

A further alternative to consider is for Zone B to be used for itinerant aircraft parking only and more of Zone A's area utilised for hangar development.

An example of this alternative is provided in Section 4.7 as Option 7.

Phase Three

The third area earmarked for development is Zone C.

This substantial 7.9 hectare parcel of land is currently in farm use.

No layout plans are provided within this report for Zone C; rather the recommendation is Council reserves this parcel of land for potential long term Aerodrome development.

This parcel of land is also ideal for any major developments such as a significant flight training school, helicopter training and operations, maintenance facilities or an aeronautical industrial park. Top dressing operators may also be interested in developing stand-alone operations within this Zone.

It is therefore possible that the start of Zone C development could be relatively soon and concurrent with the development of Zones A and B

It is recommended that Council review and decide on the Site Development Phasing.

If Zone A is accepted as the first phase of development, Council should review the alternative layout plans and thereafter a decision made on a long term layout plan for the area.

4.7. Hangar layouts – Zones A and B

Alternative layouts for Zones A and B for consideration by Council are provided in Section 4.7. It should be noted that the plans note height restrictions and taxiway clearances, and these are based on a Code A aircraft.

A specific layout is not recommended in this report. This decision is best left to Council and Aerodrome users, as they are the parties familiar with detailed issues, such as prevailing wind directions and day to day operational matters.



FIGURE 4-3 OPTION 1

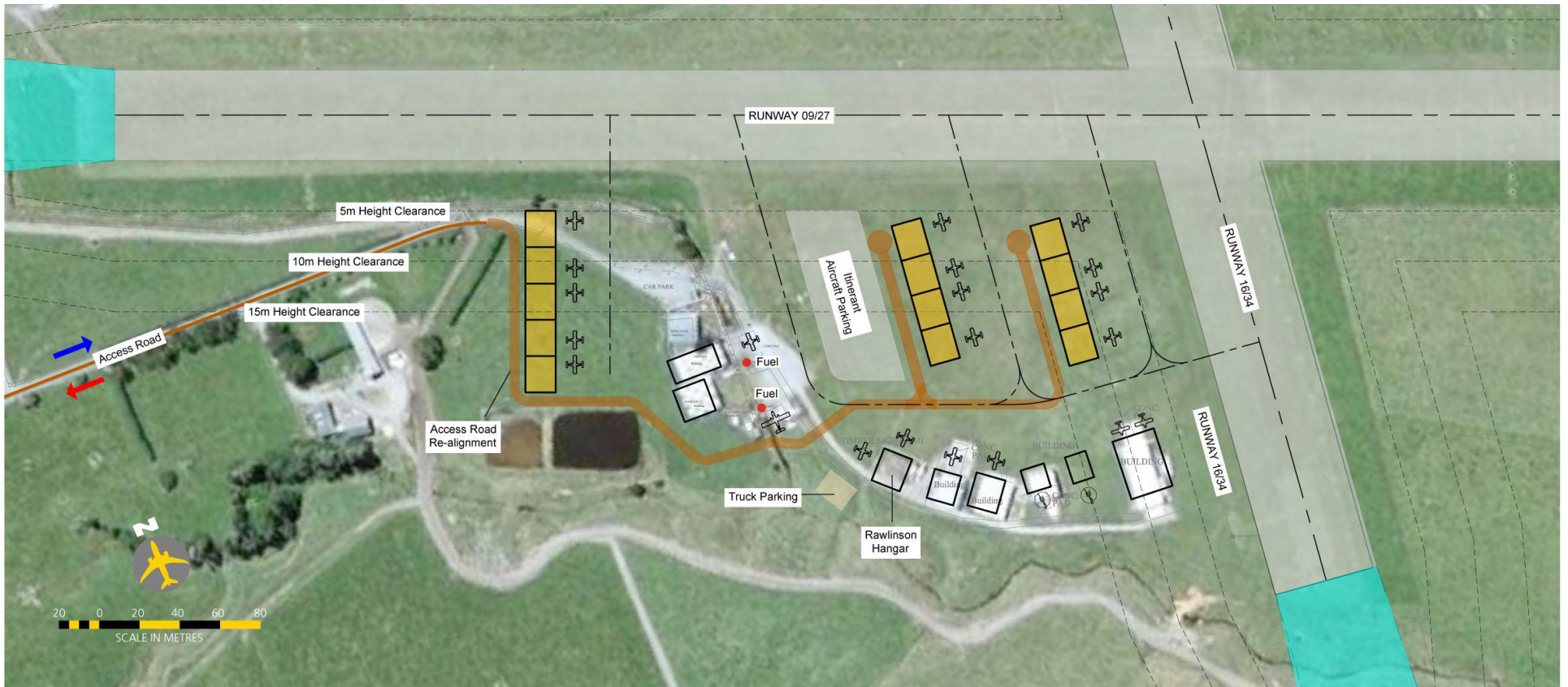


FIGURE 4-4 OPTION 2

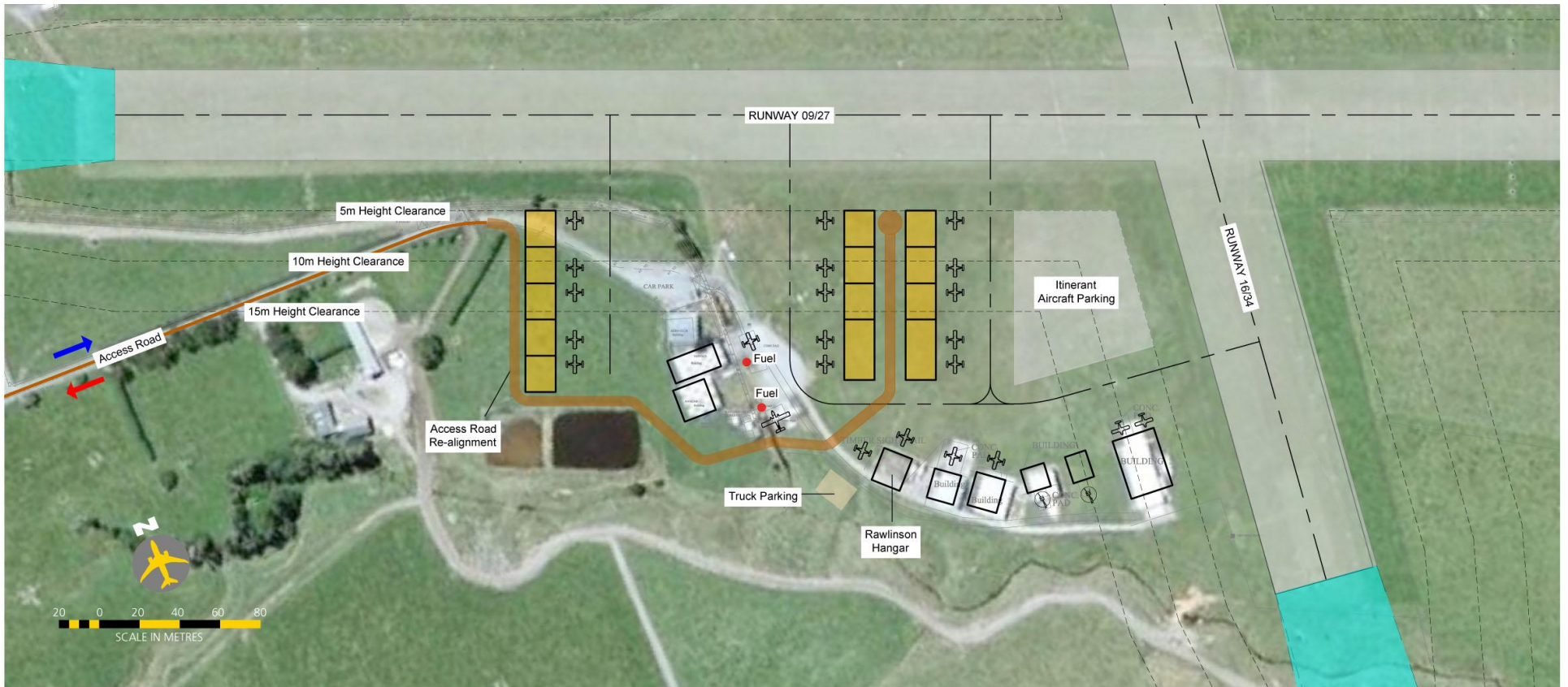


FIGURE 4-5 OPTION 3

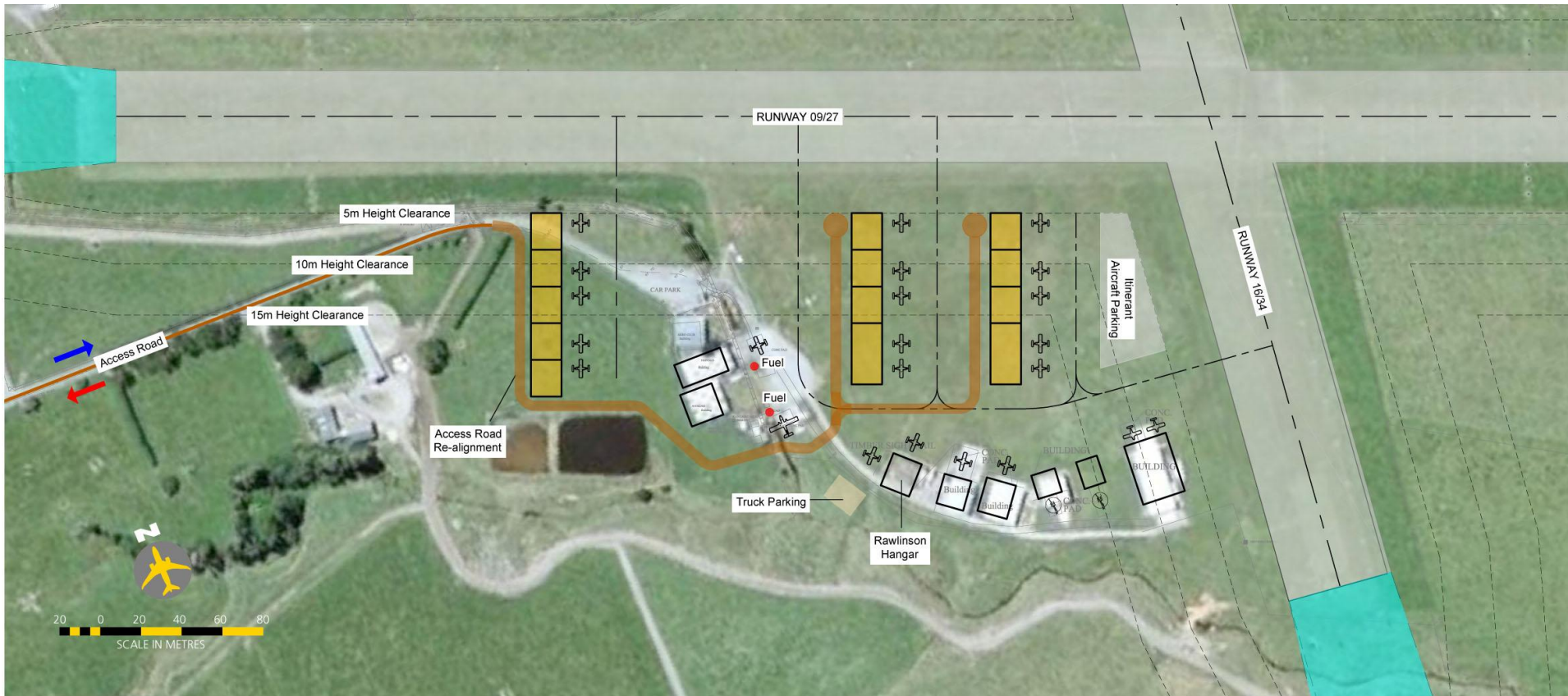


FIGURE 4-6 OPTION 4

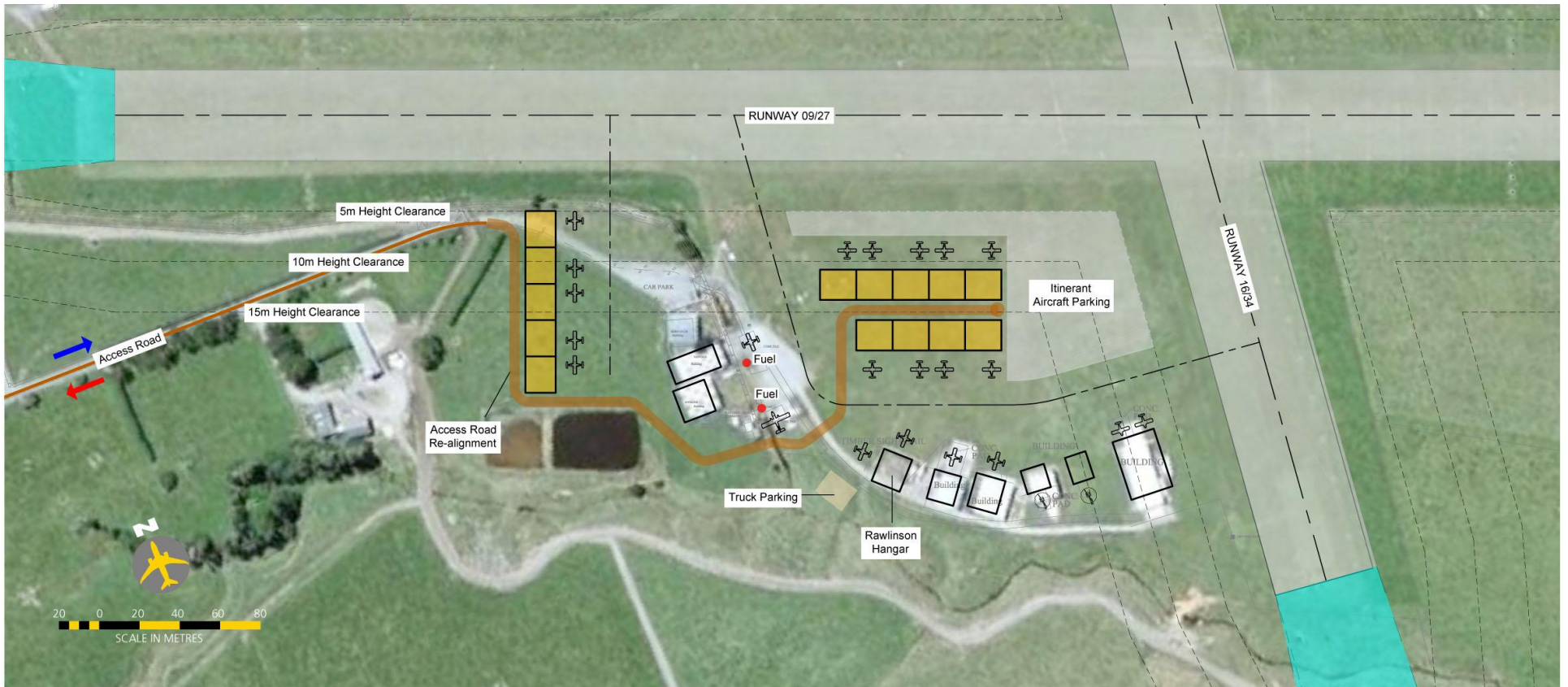


FIGURE 4-7 OPTION 5

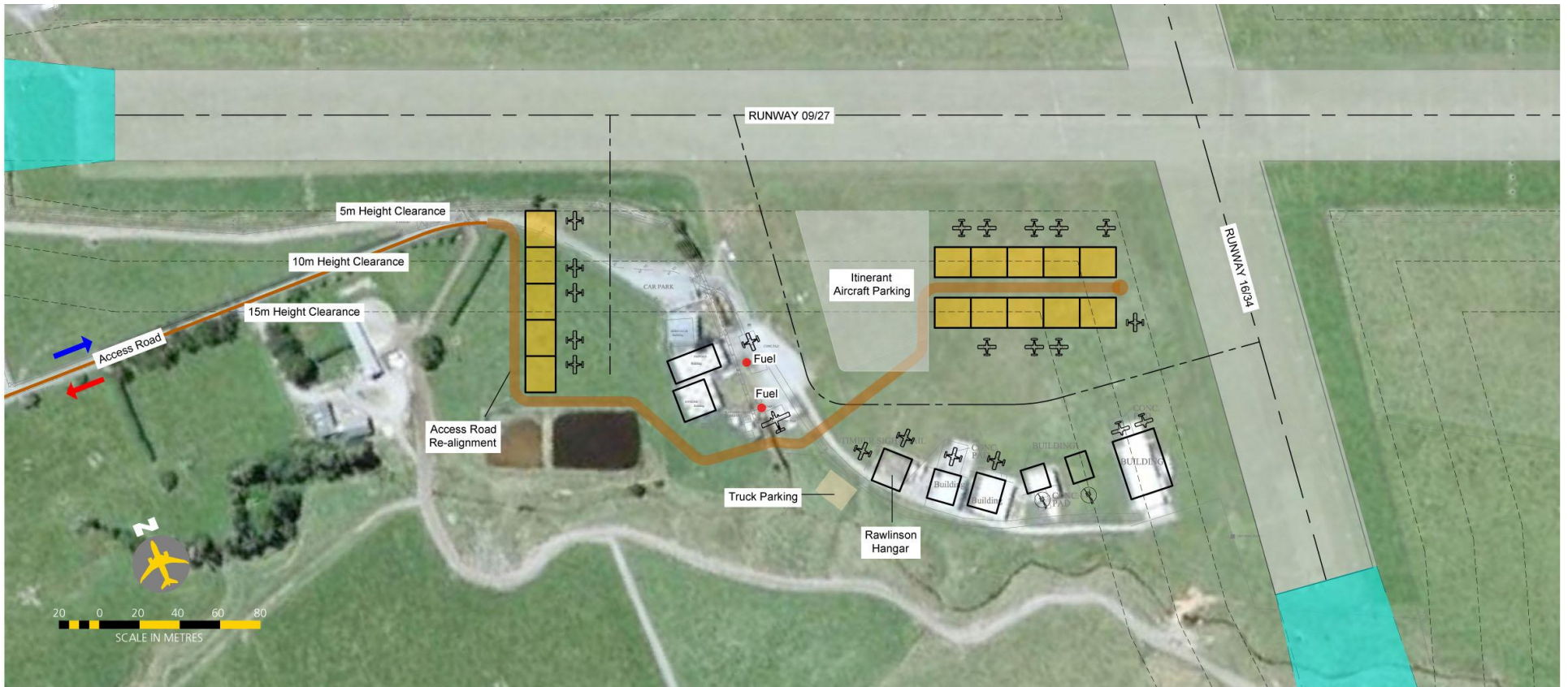


FIGURE 4-8 OPTION 6

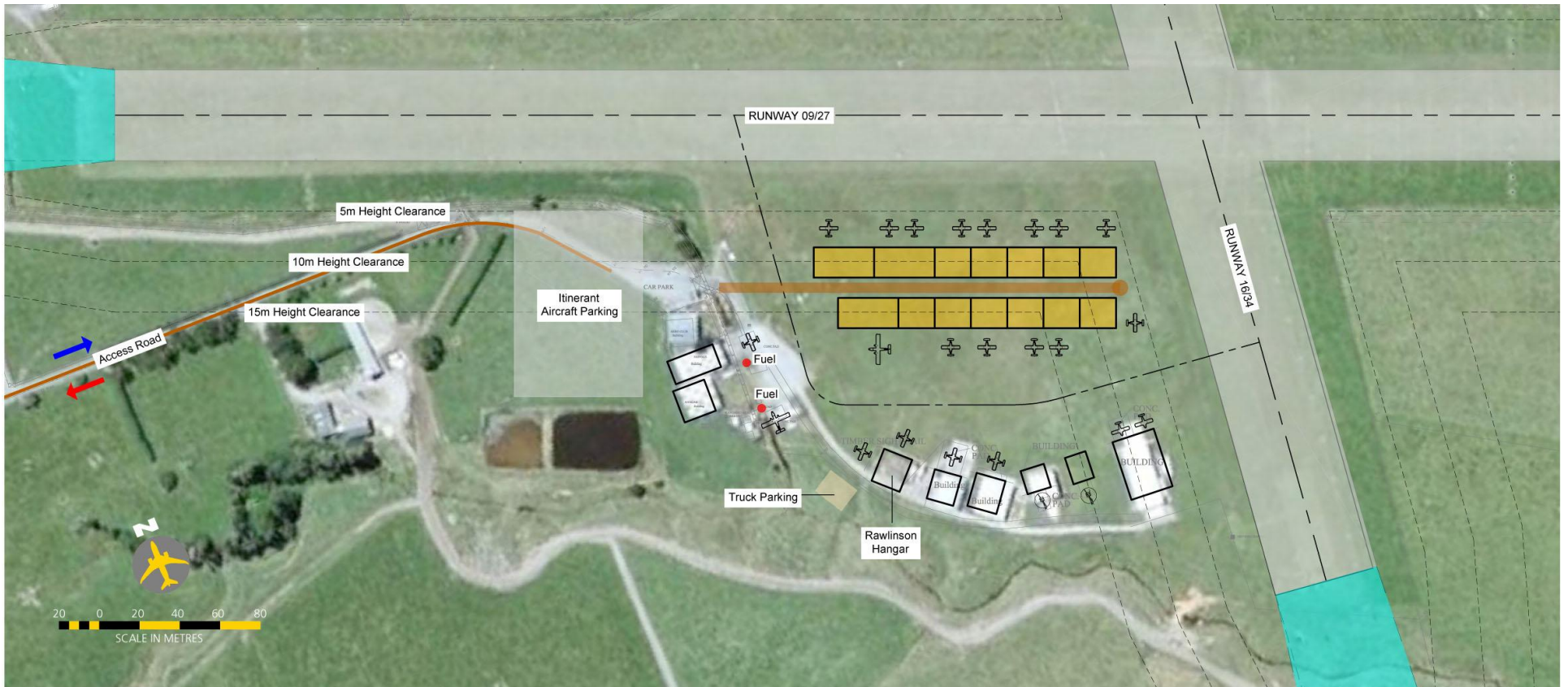


FIGURE 4-9 OPTION 7

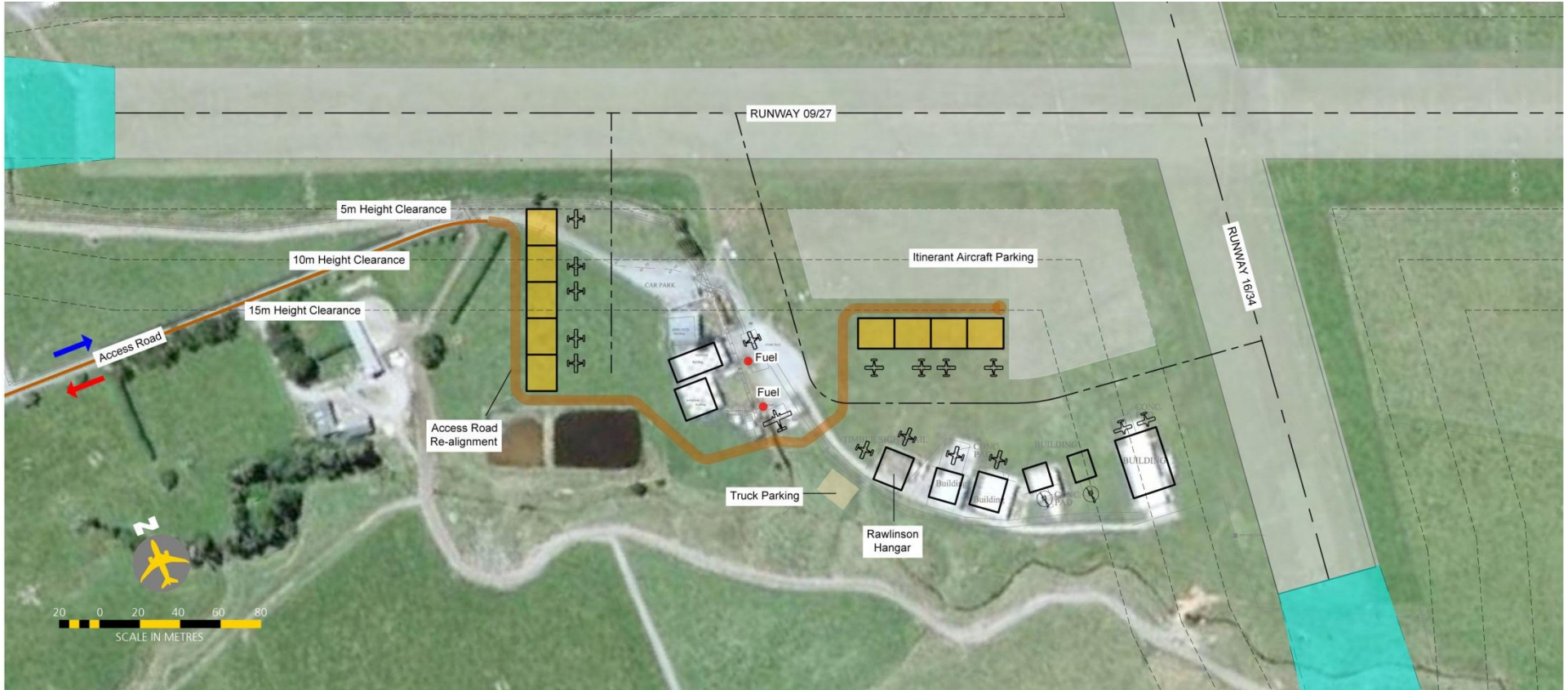


FIGURE 4-10 OPTION 8

5 Charging Regimes

5.1. Introduction

As background, landing charges are the normal means by which an airport covers costs and makes a return on its aeronautical assets, such as the runway, roads, fencing and services. These are the areas not covered by other specific charging regimes such as ground rental charges.

Stratford Aerodrome has a nil landing charging regime therefore the Council has no return at all on the majority of its assets and in fact comes nowhere near covering the cost of running the aerodrome.

Current annual Council revenues from the Aerodrome are in the region of \$5,000, versus annual costs of \$50,000. The major cost item is the mowing of the grass runway and surrounds - \$36,000 pa.

This revenue/cost imbalance was however envisaged from inception of the aerodrome, as noted in section 1, namely:

“When the land was purchased for the aerodrome in the 1940’s, the surplus land was to be farmed and the income from the farm was to be used to fund the aerodrome operating costs. This principle still applies today, and almost all of the costs are met from that source. The balance of the farm income is applied to rate mitigation.”¹

Whilst still recognising the original intent, Council has requested that a review of charges be undertaken so as to establish whether users and ground lease holders at the aerodrome are paying a fair and reasonable level of charge and making their rightful contribution to the running of the aerodrome.

5.2. Ground Rental Rates

Commercial ground rental rates nationally would typically be in the region of 6.5% - 7.5%.

The following criteria⁴ need to be considered in establishing an appropriate ground rental rate at Stratford Aerodrome:

Underlying value of land	\$103,000 per ha
Cost of land improvement	\$25,000 per ha
Rates of return	6.5% - 7.5%
Indicative ground rental rates (excl GST)	\$8.30 - \$9.60 per m ²

⁴ As provided by Stratford District Council.

The current ground rental rates are below these indicative levels and this suggests justification for a review.

The area charged in ground rentals covers both the building footprint and the parking pads in front of each hangar. The parking pads are areas exclusively dedicated and used by the ground lessee and as such should continue to be included in the ground rental.

Many aerodromes would also recover, by means of a multiplier on the ground rental, the cost of providing the extra land that specifically services the rental lots. These areas may include access ways to the runway, roads, and carparking. For Stratford Aerodrome these areas are currently relatively minor, however there may still be a case to apply a multiplier to the ground rental rates to recover the cost of providing these parcels of land.

It is recommended that the Council undertake a detailed review of ground rental rates at the first available opportunity.

5.3. Landing Charges

There currently is no landing charge regime in place, other than an annual strip hire fee charged to the Stratford Aero Club, Wanganui Aero Works and Super Air.

In deciding whether there is justification in introducing a landing charge regime, various issues need to be taken into account by Council, such as:

- The continuation (or not) of the cross subsidisation from farm income policy
- Council may consider the asset value as a “sunk cost” from which no return is expected
- Comparison with the charging regimes at other aerodromes and in particular those that may be considered “competitors”
- The probable impact of a landing charge regime on current users and on future hangar demand
- Whether a nil landing charging regime materially impacts on the number of itinerant aircraft transiting the Aerodrome. If not, would a simple honesty box system be appropriate?
- For regular users with no hangar at the Aerodrome whether it is appropriate to introduce an annual charge of say \$50

- The administration of a landing charge regime may be difficult and costly and more than offset revenues collected from a landing charge regime

It is recommended that the Council carefully consider all of these issues before making a decision on the introduction of any landing charge regime.

Rather than an across the board system there may be at least justification to introduce an honesty box system for itinerants and an annual charge for non-hangared regular users.

6 Farm Property

6.1. Introduction

Stratford Aerodrome occupies land area of 17 hectares and is enclosed in a 130 hectare dairy farm at Flint Road, owned by the Council.

Council wishes to understand issues for the Aerodrome, should all or part of the Council owned farm land surrounding the Aerodrome be sold or leased.

6.2. Operational and planning Issues District Plan – Land Use and Zoning

Within the District Plan, Stratford Aerodrome is currently zoned as Aerodrome and the Council-owned farm surrounding the Aerodrome is zoned as Rural.

There is as presumption that a designation of the Aerodrome itself will restrict surrounding land subdivision potential. Only a Plan Change will normally achieve that result.

Whilst the District Plan defines obstacle within the OLS and the defined gradient side surfaces as being non-complying activities, most airports around New Zealand now have them designated and include specific no-building restrictions in the immediate vicinity of the thresholds.

Airport planning designation matters would also normally cover noise effect issues and include:

- Permitted uses and development density within defined noise boundaries
- Requirements for titles within the noise boundaries to carry covenants precluding action in any form against the airport's operation
- Noise abatement construction standards.

The current external development risk to Stratford Aerodrome is minimal, with low aviation activity and practically all operations within daylight hours.

The risk increases, however, when aviation activity grows or should a new maintenance facility create noise at night. The greater the number of neighbours within a noise boundary with clear title, the greater the risk of the Aerodrome's operational activity being restricted.

It is highly likely that a flight training school or a major maintenance provider, as examples, would seek comfort on a continuation of unimpeded operations, prior to committing to Stratford Aerodrome.

It is important that Council be fully aware of potential long term land use conflict issues should all or part of the Council farm be sold or leased.

6.3. Commercial Issues

As noted previously, on purchase of the property in the 1940's the intent was for the surplus land to be farmed and income from the farm used to fund the aerodrome operating costs.

This principle continues today, with the current aerodrome operating deficit of \$45,000 pa funded by farm income.

Should all or part of the farm be leased or sold, Council must appreciate that Aerodrome subsidies must either be eliminated or funded from other sources.

Acceleration in developments at the Aerodrome will greatly assist in improving revenues and lessening the deficit over time, however without a radical policy shift in the charging regime, it is difficult to envisage the elimination of subsidy at least in the short term.

6.4. Development Zones

Section 4 Land Use Planning identified parcels of land that could be used for long term hangar developments.

Zones B and C are outside of the current Aerodrome boundaries but within the surrounding Council owned farmland.

It is recommended that the Council excludes Zones B and C from any possible future sale or long term lease of the Flint Road farm. Council could always short term lease Zone B and C parcels of land until such time as they are needed for aeronautical use.

6.5. Aerodrome Access

It is important that free and ready public access be maintained to the current Aerodrome footprint as well as Zones B and C as identified in Section 4 Land Use Plan.

7 Aviation-Related Business Opportunities

This section outlines identified potential aviation related business opportunities that could occur over time at Stratford Aerodrome.

7.1. Hangar Development

There is currently demand at Stratford Aerodrome for hangar developments and new enquiries continue to be made with Council.

This continuing demand is consistent with other aerodromes throughout the country where there is available space, safe flying conditions, an on-site refuelling facility and reasonable commercial terms.

It is in the best interests of all stakeholders that solid growth in hangar developments continue as it provides:

- An improvement in revenue levels for the Council
- A stronger aviation community at the Aerodrome
- A catalyst over time for the introduction at the Aerodrome of related aviation businesses, such as maintenance activities.

Upon adoption by the Council of this Strategic Development Plan and its associated hangar layout plan, Council should proactively communicate with potential hangar developers so as to facilitate further developments on the Aerodrome.

7.2. Hangar facilities – ownership

Currently all hangars are owned by the respective ground lessees.

The Council, up to now, has expressed no desire to own any of the buildings.

For most potential lessees, the ground lease option is likely to have greater appeal than a full lease of ground and building. This view would arise from the lessee wanting control on design and construction costs and by the likely perception that the Council would seek high commercial rates to cover their return criteria, should the hangar be owned by the Council.

Situations may arise, however, where in order to attract say maintenance or flight training facilities, it may be necessary for the Council to finance such developments.

Another scenario justifying Council involvement may be for a common use hangar, housing aircraft on both short and longer term arrangements. In

this scenario the council could fund the development and the facility managed by say the Aero Club.

Under either of these scenarios, the first task for Council would be to establish a business case justifying their involvement.

It is recommended that the Council continues its current policy of involvement with ground rentals only, other than where demand and commercial returns justify the construction of a Council-owned building, or is the means of fulfilling other important Council criteria, such as regional economic development.

7.3. Maintenance Facilities

With an increasing number of aircraft based on Aerodrome over time, an aircraft light maintenance facility may become economically viable.

Through the proposed Users Group, Council can receive on-going feedback as to possible opportunities in this area and explore how they can influence or assist a potential start-up maintenance business.

7.4. Scenic Flights

Venture Taranaki has commented that national and international surveys confirm a scenic flight around the mountain as being the number one tourist experience in the region.

The majority of these flights operate out of New Plymouth Airport. Therefore, in order to take advantage of the demand, Stratford Aerodrome could assess the opportunity for a helicopter operation based at the Aerodrome.

Council, in conjunction with *Venture Taranaki* and the Aerodrome Users Group, should explore the opportunities for tourist / charter activities at the Aerodrome and how they could encourage operators.

7.5. Flight Training

Stratford Aerodrome is an ideal place for flight training, as it has a main runway, cross runway, safe surrounding terrain and low levels of air traffic.

Flight training is targeted by economic development agencies nationally as a growth business opportunity. The business can take the form of a fully-

fledged live-in facility for overseas students through to a smaller flight training school based out of an aero club.

This is an area that Council and *Venture Taranaki* should explore in more depth, with possibly the first point of call being a discussion with the CTC Aviation Training (NZ) in Hamilton.

7.6. Arrangements with external flight training organisations

Flight training organisations, such as the CTC training school based at Hamilton, on occasion use Stratford Aerodrome for touch-and-go's and landing/take-off training.

Air Force training aircraft also infrequently use the Aerodrome for the same purpose.

Use of the Aerodrome for training would normally attract some form of charge to the organisation. There may be an opportunity to reach an agreement with these organisations where they have unlimited access to the airfield based on an annual fee.