

C1 Whangarei Airport Location Options Study – Short Listed Sites Whangarei

Reporting officer Simon Weston (Group Manager Infrastructure and Services)

Date of meeting 8 December 2016

1 Purpose

To update Council on progress with the Whangarei Airport Options Study Phase 2. Phase 1 related to an assessment of the adequacy of the existing airport at Onerahi and a possible replacement site at Port Nikau. Work commenced on Phase 2 in mid-2015 following the further engagement of Beca Ltd as principal consultant.

2 Project Objectives

The overall objective is “To identify a suitable site for a new airport which meets the long-term air transport needs of Whangarei and the wider region”.

In addition, to the overall objective there are 15 further objectives covering aspects of environmental, aeronautical, cultural, social and economic matter.

3 Phase 2 Tasks

A report to the Infrastructure Focus Group meeting of November 2015, listed the six tasks to be undertaken as part of the Phase 2 work. These are set out below:

1. Project objectives and defining requirements
2. Reviewing existing transportation strategies and developing site evaluation criteria.
3. Initial site identification to produce a long list (20 to 30 sites)
4. Coarse screening of long list to produce a short list (6 to 8 sites)
5. Comparative evaluation of shortlisted sites to produce preferred sites (1 to 2 sites)
6. Final reporting in a consolidated form

Tasks 1 to 4 have been completed and the outputs have been peer reviewed and discussed with the Project Control Group (PCG), Project Advisory Group (PAG) and the Manawhenua Advisory Group (MAG).

4 Developing the Long List

4.1 Aeronautical Requirements

The first step was to establish what type of aircraft were expected to be using the proposed aerodrome. This was based on discussions with Air New Zealand and a review of available and proposed passenger aircraft. This is included in sections 7 and 8 of the earlier Phase 1 project report entitled Whangarei Airport (Onerahi) Assessment, and has been reconfirmed during Phase 2.

Attention then focused on meeting national and international civil aviation requirements. These are referred to as aeronautical requirements. The key elements and the optimum requirement are as follows:

• Runway length	1,800 m
• Runway width	45 m
• Total strip length	1,920 m
• RESA length (at each end of the runway)	240 m
• Runway Usability Factor	95%
• Runway take-off and approach slopes	2%
• Take-off and approach surface lengths	15,000 m

These requirements have been subjected to a peer review process by Opus International Consultants and Astral Aviation (project reviewers).

4.2 Other Criteria for Developing the Long List

A further set of non-aeronautical requirements was developed:

1. Does the site contain sufficient land within the slope characterisation area to provide a platform for the proposed runway/runway strip/RESA?
2. Is there a logical alignment of the runway that clears major terrain and fits within the general prevailing wind direction of South–West/North East quadrants?
3. Does the site cross any major rivers?
4. Is the site within the Whangarei District Council boundaries?

To aid the site identification process Beca developed a GIS Viewer that would enable the above four tests to be applied in a reliable and efficient manner. Below is a screen shot of the viewer used along with some of the GIS layers able to be analysed. This GIS tool was also used to assess the aeronautical requirements.

- ▶ Layers
- ▼ Legend
- Airport Sites
- Airport Sites
 - Port Nikau - OLS Example
 - OLS Fan
 - OLS Penetration
- Analysis
 - Grids within Slope Threshold (2%)
 - Grid 300mx300m(intersecting Slope < 2%)
 - Slope Categorisation
 - Slope <2%
- Index
 - TA_Boundaries
- Cadastral
 - LINZ (Updated July 2015)
 - State Highway Centreline (NZTA)
- ▶ Zoom to Site



The above site selection criteria (including the aeronautical) were applied to possible sites throughout the district to develop a possible long list of up to 30 sites.

4.3 Long Listed sites

Using the criteria in the previous section, a total of 27 sites were eventually selected for more detailed evaluation as part of Task 4. The sites included one site in the Far North District with the balance reasonably well spread across the Whangarei District. The map below shows the general location of these sites.



5 Long List Evaluation Criteria

The long list evaluation criteria were developed and presented to PCG, PAG and MAG as well as having been peer reviewed. The evaluation criteria were as simple and clear-cut as possible to facilitate robust preliminary site screening.

The purpose of the criteria is to provide a framework to evaluate the sites identified, and to enable a short list of sites to be selected. The table below sets out the criteria used.

Category	Key Evaluation Criteria	Typical Questions/ Constraints
Operational Suitability (As defined in Aerodrome Selection Criteria)	<ul style="list-style-type: none"> • Provision of Obstacle Protection Surfaces • Runway usability • Area to meet long term infrastructure requirements 	<ul style="list-style-type: none"> • Does the site's surrounding terrain provide an OLS to support an acceptable operational capability? • Can runway alignment(s) reasonably be expected to provide a high usability factor? • Does the site constrain ultimate development?
Planning Issue and Requirements, Consentability	<ul style="list-style-type: none"> • Land Ownership and zoning • Cultural significance • Heritage sites • Environmental sensitivity • Protected/scheduled sites and features 	<ul style="list-style-type: none"> • Is the site highly unlikely to be available for purchase? • Site is evaluated as un-consentable • Is the site located on an area of significant to Maori? • Is the site located in an area of outstanding natural features and/or landscapes? • Is the site located on Crown land managed by Department of Conservation?
Engineering Feasibility	<ul style="list-style-type: none"> • Clash with significant existing infrastructure • Clash with existing built-up areas • Scope of land improvements required • Scope of water-course diversion required • Geology/soil type 	<ul style="list-style-type: none"> • Does the site clash with transmission corridors, significant urban areas, industrial complexes, arterial roads etc.? • Does the site require prohibitive scope/cost for earthworks and/or drainage and flood protection works etc. to provide the airport platform? • Is the site likely to contain deep deposits of alluvium ie. soft compressible soils.
Land Transportation Links	<ul style="list-style-type: none"> • Proximity to Whangarei • Site accessibility 	<ul style="list-style-type: none"> • Does the Travel time for 65% of district population (Approximate Whangarei component of population) very likely to exceed 10, 20, 30 minutes? • Does land access require major investment in roading infrastructure not currently planned for?

The sites were evaluated initially by Beca staff against their ability to meet each essential criterion. The draft evaluation results were presented in a tabular format, with each site receiving a rating from 1 to 3 or a 'red flag' and associated comments against each criterion. Following on from the initial evaluation the results were tested by the PCG, PAG, MAG and the Reviewers.

6 Short Listed Sites

Each site was evaluated and a score out of 100 was agreed upon for the sites that did not fail one or more of the criteria. This resulted to 17 sites which scored between 57 and 81 out of 100 as shown in the table below.

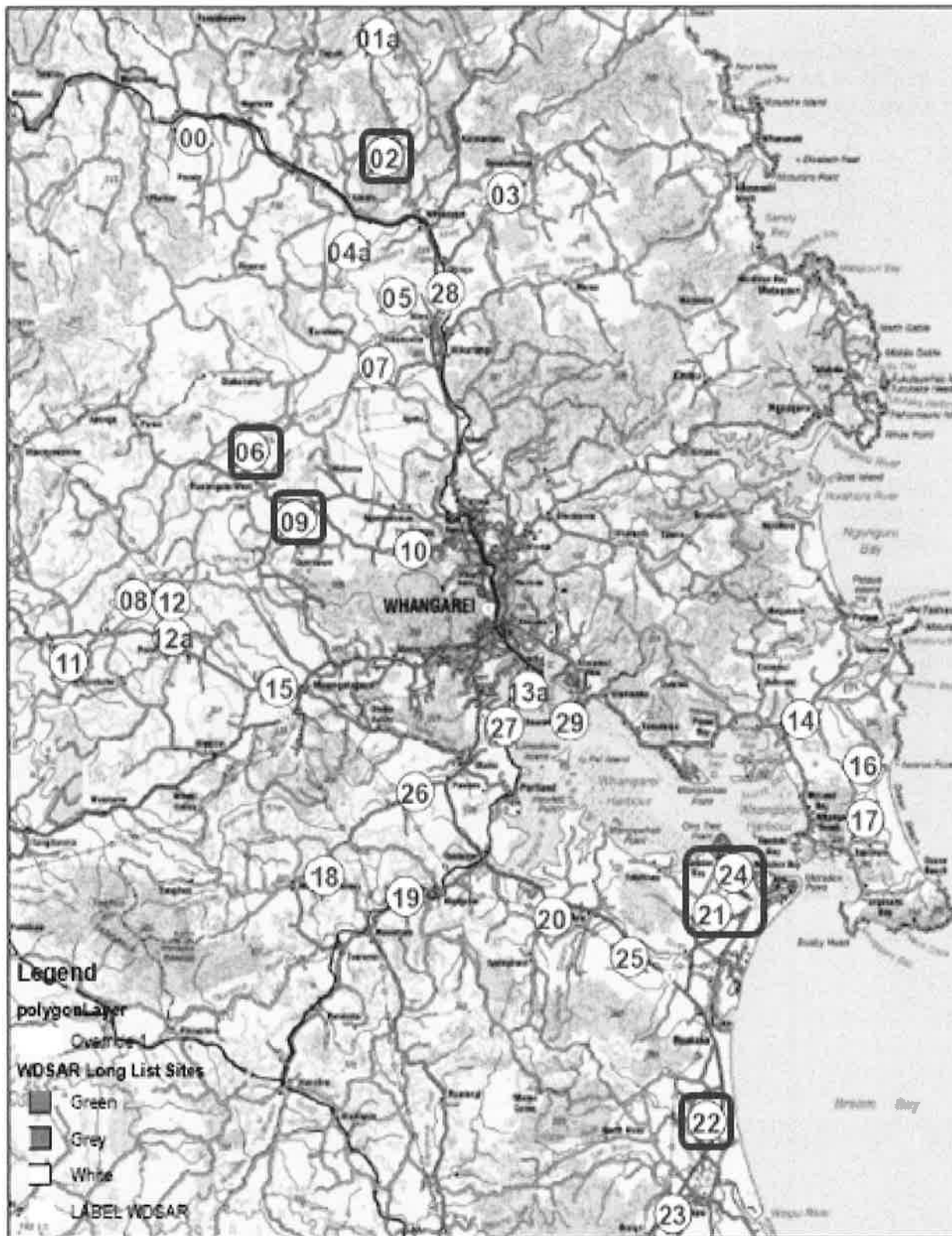
Rank	Site	Name`	Score
1.	6	Hodge Road	80.8%
2.	9	Ruatangata	77.9%
3.	2	Gibbs Road	75.4%
4.	21	One Tree Point (1)	74.6%
5.	22	Rosythe Road	73.8%
6.	24	One Tree Point (2)	72.9%
7.	11	Titoki	72.5%
8.	1	Puhipuhi Road	71.7%
9.	19	Mangapai	70.0%
10.	8	Kokopu Road	69.6%
11.	5	Otonga Stream	64.6%
12.	4	Forsythe Road	64.6%
13.	25	Crow Road	62.5%
14.	14	Campbell Road	62.1%
15.	12	Poroit	58.8%
16.	15	Maungatapere	57.9%
17.	20	Springfield Road	56.7%

From these 17 sites, a short list of 5 sites was selected based on their score and subsequent ranking. These are set out below as:

- Site 2 Gibbs Road
- Site 6 Hodge Road
- Site 9 Ruatangata
- Sites 21/24 One Tree Point
- Site 22 Rosythe Rd.

Sites 21 and 24 are located in the One Tree Point area and it is proposed as part of Task 5 to refine these two sites into one site.

Map of Proposed Site Locations with the short listed areas highlighted



7 Current Work and Future Work

The next step (Task 5) is to undertake a more detailed evaluation of these five sites and reduce the list to two or three sites (preferred sites). This will involve more work against the four categories set out in Section 5. The evaluation work will include:

- Refinement of the runway alignment/ apron /taxiways/ terminal and other land side development
- Estimating land procurement costs
- Cultural and Economic Assessments
- Refining land transport linkages
- Refining planning issues and consentability
- Defining major engineering works and associated risks
- Defining operational issues and risks
- Estimating of costs of development will be prepared for each site
- Developing a preliminary economic analysis of the project and the short listed sites

It is expected that the first draft evaluation of the short list will be available in November. This will be followed up by presentation of the results to the PCG, and then a peer review. It is expected that the short list evaluation will be presented to the MAG and PAG in February next year for their inputs.

Once the preferred sites have been identified it is proposed to engage in discussion with affected landowners and the communities in those locations. The results of this consultation will be used to review the preferred sites after which a further report will be brought back to the Council.

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1. Report: Whangarei District Council Workshop Thursday 8 December 2016

Report of a Workshop of the Whangarei District Council held in the Council Chamber, Forum North on Thursday 8 December 2016 at 9.00am

Present:

Her Worship the Mayor S L Mai, Crs Stu Bell, Crichton Christie, Vince Cocurullo (9.13am), Tricia Cutforth, Shelley Deeming, Sue Glen, Jayne Golightly, Phil Halse, Cherry Hermon, Greg Innes, Greg Martin, Sharon Morgan and Anna Murphy

Also present:

Graeme Roberts and Rick Pemberton (Beca Consultants), Fraser Campbell (Project Manager), Pita Cherrington (Manawhenua Advisory Group Member)

In Attendance:

Chief Executive (Rob Forlong), Group Manager Infrastructure (Simon Weston), Group Manager Support Services (Alan Adcock), Group Manager Positive Growth (Jude Thompson), Maori Engagement Manager (Solomon Tipene), Property Manager (Mike Hibbert), Policy and Monitoring Manager (Paul Waanders) and Executive Assistant (Tanja Sullivan)

1. Whangarei Airport Location Options Study – Short listed sites Whangarei

Facilitators: Greg Martin
Simon Weston

Cr Martin convened the Workshop.

Following introductions, S Weston provided an overview of the project from the outset and advised participants in the project to date. Mr Weston then covered the content of the workshop as outlined in the agenda report and presentation (attached).

Questions/comments/feedback included:

- RESA = Runway End Safe Areas – further clarification provided
- The aim of the new airport is to provide a national service.
- Port Nikau site included in the evaluation, initially excluded but decided to include
- Clarification on members of the MAG group provided.
- Air NZ's preference is for larger aircrafts
- Auckland Airport runway is 4km long (longest in NZ)
- Pro's / con's of flying to Auckland vs travelling by road discussed
- Mr Roberts outlined the consequences of Whangarei not having an airport and reiterated some of the potential economic effects
- Site 9 – Ruatangata was included after the peer review
- 6 options to begin with – to be narrowed down to the most favourable sites
- Evaluations include costs involved? Yes. First step has been to investigate location options, infrastructure costs will be evaluated next.

- Cost of roads and site maintenance been considered? All evaluations and criterias have been considered. No one site is perfect, however some sites are better than others depending on the criteria.
- Confirmed accessibility was evaluated from a regional perspective. However, Whangarei has the highest population and has been the focus of the evaluation regarding accessibility.
- What involvement/input have ecologists had? NRC staff (with ecological skill set) have been involved. Ecological criteria have been considered eg DoC reserves, kiwi habitat etc.
- Potentially affected landowners have not yet been consulted – the process to approach landowners was explained during the presentation.
- Fuel efficiency has been included in discussions / considerations.
- Discussion on target market.
- Indicative timeframe – 8-10 years.
- Government involvement? Prepared to contribute? Or ratepayer funded?
- Air New Zealand has been involved in the discussion on the proposed new airport and are assisting with information to include in the analysis.
- Ministry of Transport have been involved in discussions - no indication they will favour funding.
- Titoki site – can be considered further.
- Should Kaipara and Far North be involved in the discussions for a Regional Airport?

The project at this stage is considered confidential, those present were reminded the information is to remain confidential at this stage.

Beca and the team were acknowledged for their work on the project to date.

The workshop closed at 11.38am.