GOVERNMENT OF ANGUILLA / DFID

EXTENSION TO WALLBLAKE AIRPORT RUNWAY

OPTIONS AND FUNDING STUDY: ANGUILLA

CONTRACT NUMBER: CNTR 00 1995

AMENDMENTS TO DRAFT FINAL REPORT

JUNE 2001

WS Atkins International Limited

1.0 INTRODUCTION

The draft final report for this project was issued on 24 April 2001. The report was discussed on 03 May 2001 at a meeting between the Government Review Committee and Jamie Jamieson of WS Atkins International Ltd. During the meeting, WS Atkins offered to provide clarification of certain issues raised in the draft final report. This document seeks to provide this clarification.

2.0 CLARIFICATION

The following points are offered as clarification of the draft final report:

2.1 Wind data

Attachment A to this document contains proposed Sections 3.5 and 3.6 clarifying the issue of prevailing winds etc at Wallblake Airport.

2.2 Obstacles to the west of the airport

Attachment A contains proposed Section 3.7 clarifying the status of obstacles to the west of the airport.

2.3 Comparison with previous study

Attachment B contains proposed Section 4.2.7. This section compares the runway extension options proposed in the current report with those of the June 2000 study.

2.4 Land costs, resettlement, planning and legal issues

Attachment C contains a revised Section 6 titled Land Costs, Resettlement, Planning and Legal Issues. Additionally, it includes the revised Land and Building Acquisition Cost tables for Options 1 and 2 and Option 3. The original versions of these tables were contained within Appendix F of the draft final report.

2.5 Matrix of options

Table 4.3 of the draft final report indicates the costs associated with each of the proposed options. This table has been updated and is included in Attachment D.

2.6 Maximum development heights

Drawing CK3660/09.01/010 is included in Attachment E. This drawing shows contour lines illustrating indicative maximum heights of development in the vicinity of the airport.

3.0 CONCLUSION

This document is offered for discussion in conjunction with the draft final report at the meeting to be held in Anguilla on Wednesday 06 June at 1400 hours. This meeting will be attended by representatives of the Government of Anguilla, the Department for International Development and WS Atkins International Ltd.

ATTACHMENT A

Insert after Section 3.4:

3.5 Wind Data

It is understood that the prevailing wind direction in Anguilla is such that take offs towards the west are infrequent. In this context, it should be pointed out that the aircraft performance calculations used in this section and in Section 4 are carried out assuming "no wind" conditions. Headwinds (ie those winds which have a component in the opposite direction to the aircrafts' take off run) improve payload carrying capability by offering reductions in take off distance requirements. In addition, aircraft are allowed to take off with tail wind components. This increases take off distance required, but can in some circumstance (such as at Anguilla, where westerly take offs are obstacle limited) provide better payload capability when accepting the tail wind condition taking off towards the east.

Aircraft can accept tail wind components of up to 10-15 knots, depending on individual flight manual instructions. Therefore, the number of occasions when westerly take offs are necessary at Anguilla will not be proportionate to the actual wind statistical data (for example, 5% westerly winds, 70% easterly winds, 25% light and variable), because for some of the westerly winds (with components of less than 10-15 knots down the runway), take offs towards the east will be permitted and may offer better payload capability.

Further, strong westerly winds exceeding 10-15 knots component, although necessitating take offs towards the west, will provide better payloads than the "no wind" case assumed in the aircraft performance calculations and used in the derivations of runway lengths.

3.6 Temperature

The temperature that has been used in the aircraft performance calculations is 32°C, being the accepted reference temperature for Wallblake Airport. Lower temperatures improve aircraft performance, and enable increases in payload to be utilised.

3.7 Obstacles

Wallblakes runway has a collection of obstacles located at the western end of the runway on the rising ground of George Hill. These comprise power lines, buildings and finally the terrain itself.

It would be possible to remove the power lines, which are the limiting obstacle for westerly take offs at the present time. This would provide an extra 400 pounds of take off weight for an ATR72 on westerly take offs, equivalent to reducing the take off requirements by approximately 35m (100 feet). This would cost in the order of £50,000. Further obstacle relief on this runway would require the removal of buildings and terrain, which would be expensive.

The source of this information is American Eagles Flight Safety Department.

ATTACHMENT B

Insert after Section 4.2.6:

4.2.7 Previous Study Comparison

The previous study ('Comparative Airport Study: Anguilla' dated June 2000) suggested as one option an eastern extension to the runway of 450m plus a further paved area of 60m for the runway strip requirement, plus a paved length of 90m representing the necessary Runway End Safety Area (RESA), the latter two distances providing a "starter strip" for take offs towards the west. This would give a total runway length of 450m + 60m+ 90m + 1097m = 1697 metres.

This report proposes, as Option 3, an increase of 552m (as opposed to 450m), giving the maximum ARC 2 runway length of 1799m plus a starter strip of 150m. The additional paved runway extension of 102m (552m - 450m) would provide additional flexibility in aircraft handling, with increased payload capabilities at an increased cost in the order of £750,000.

It is considered that this additional runway length would be worth providing because of the extra flexibility it would provide for future operations. Incorporation of this extra length would be most cost effectively achieved, were it to be included in the initial runway extension programme.

ATTACHMENT C

6.0 LAND COSTS, RESETTLEMENT, PLANNING AND LEGAL ISSUES

6.1 Development Options for Wallblake Airport

The development options considered for Wallblake Airport are described in Section 4 and are principally as follows:

Option 1 - An extension of the eastern end of the runway by 252m (including a 150m Starter Strip)
Option 2 - As option 1 but with re-profiling of the western end of the runway.
Option 3 - An extension of the eastern end of the runway by 852m (including a 150m Starter Strip).

6.2 Costing of Wallblake Airport Development Options

6.2.1 Land Acquisition Costs

The implementation of options 1 or 2 would affect some 26 parcels of land while the implementation of Option 3 would affect approximately 53 parcels of land (see Appendix C, Drawing CK3661/09.01/006). In the case of options 1 or 2, the parcels that would be affected are all located to the north of the existing runway. With regards to Option 3, of the 53 parcels likely to be affected, there are 37 parcels to the north, 1 (one) to the east and 15 to the south of the runway. The Crown owns only one of these parcels of land while the others are all privately owned. The majority of those to the south would be affected only in part, however, the Government may choose to acquire entire parcels of land in an effort to discourage the continuation of dense residential development in close proximity to the airport in the long term. To this end, 'whole plot' areas have been assumed for areas to the south of the runway. There is also one building housing a school, among the properties listed to the south of the runway, which would be affected by the airport expansion proposals because of its overall height regardless of the option selected.

It is assumed that all properties directly affected by the proposed airport expansion would have to be purchased on the open market or compulsorily acquired by the Government. In either case the market price of land would be the main guiding factor.

A comprehensive list of the properties affected is included in Appendix F. This list of properties includes all those lands needed to carry out the options including those likely to be affected by the transition slopes. The heights of buildings within the transition slopes would need to be controlled to ensure compliance with the UK CAA document 'CAP 168 - Licensing of Aerodromes' (CAP 168). At this stage, it has been assumed that:

- all properties in or in close proximity to the edge of the runway strip will be required for acquisition
- a clearance or buffer zone of approximately 20m is required outside the runway strip
- most of the residential buildings in the area are approximately 10ft high and would not be affected by the transition slopes if outside the 20m buffer zone
- the building housing the school is in excess of 20ft and would need to be relocated.

Where appropriate, the occupants of buildings have been identified for relocation. With respect to properties directly affected, as identified in Appendix F, these fall within the runway strip.

The costs of land acquisition have been calculated on the basis of records held by the Land and Survey Department supplemented with information from persons knowledgeable about the real estate industry in Anguilla. Information furnished on the expectations for land compensation revealed a range from £35,000 (US$50,000) per acre based on the Lands and Survey Department information base to £155,000 (US$225,000) per acre as estimated by Miss Bernice Lake.

On the basis of discussions with a wide range of people it is believed that, in general, the costs of land acquisition would likely fall between £35,000 and £50,000 per acre depending on the specific characteristics of the individual plot of land.

Every effort should be made to purchase the lands through the process of negotiated agreements rather than compulsory acquisition. The latter would be a longer process involving the law courts. In some cases, owners may opt for land exchanges rather than receive compensation. Under such circumstances, if the Government does not have access to land in the Valley area, the same monies allocated for compensation would be used by the Government to purchase land on the open market in order to facilitate the land exchange.

Costing for acquisition purposes is estimated as follows:

- Current value of land in this area would range, in general, from £35,000 to £50,000 per acre.
- In reviewing the engineering drawings in relation to the plot boundaries (see Appendix C, Drawing CK3661/09.01/006), rough estimates of the areas of land to be affected by the expansion options suggest that approximately 46 acres of land would need to be acquired from existing landowners by the Government in order to implement Option 3 as described above. If either of options 1 or 2 were implemented, however, the amount of land to be acquired would be approximately 10 acres.
- In order to implement the options, the costs of acquiring the affected land parcels would range from approximately £350,000 to £2,300,000 as shown in Table 6.1. The average costs have been used in Table 4.3, the Matrix of Options.

Development Option	No. of Parcels	Amount of Land (approx. acres)	Cost at £35,000 per acre	Cost at £50,000 per acre	Average Cost £
Option 1	26	10	350,000	500,000	425,000
Option 2	26	10	350,000	500,000	425,000
Option 3	53	46[1]	[2]1,835,000	2,300,000	2,067,500

Table 6.1: Land Acquisition Costs

[1] This estimate includes approximately 15 acres to the east of the existing runway.
[2] The additional plot of land to the east of the runway is or was formerly owned by Miss Bernice Lake. Its value has been calculated at the higher rate of £50,000 per acre.

The cost of land acquisition is largely dependent on governmental policy regarding the purchase of partial plots of land or the complete purchase of plots. Additionally, it will be effected by whether the Government undertakes deals with individual plot owners or makes a blanket proposal. For these reasons, the costs can only be considered indicative.

6.2.2 Re-housing Costs

The implementation of options 1 or 2 would both affect the same 10 buildings, 9 to the north and the school to the south of the runway. Under the acquisition procedures the government would need to replace these facilities in such a way that the occupants of the premises are no worse off than under their current circumstances. In keeping with sound planning practice, every effort should be made to relocate persons within 1km of their current location.

In the case of Option 3, there are approximately 19 buildings (homes and businesses) which would be affected by the project. There are 15 residential buildings, one school and three residential/commercial buildings which would have to be replaced in order to carry out the airport expansion. The school would need to vacate its rental accommodation and find an alternative property in a suitable location. The government is not obliged to provide this new accommodation. However, they may assist in the process. The property owners, however, would need to be appropriately compensated for the affected land and building.

A large property has recently been constructed to the east of the existing unmade public road, east of the airport. This would require re-provision if Option 3 was progressed, and a conservative preliminary cost of £200,000 has been allowed for this.

Current construction cost is on average £45 (ie US$65) per sq. ft. Based on this, the cost of re-housing would be in the range £428,000 to £1,200,000 depending on which option is implemented.

Estimated costs for building replacement are summarised in Table 6.2 below.

Options 1 and 2

Current location	N° of buildings	Average size of building	Total floor area to be replaced	Approximate cost of replacement
North of runway	09	877 sq. ft.	7,892 sq. ft	£355,140
South of runway	01	1,634 sq. ft.	1,634 sq. ft.	£73,530
Total				**£428,670**

Option 3

Current location	N° of buildings	Average size of building	Total floor area to be replaced	Approximate cost of replacement
North of runway	12	1,186 sq. ft.	14,235 sq. ft	£640,000
South of runway	6	1,347 sq. ft.	8,082 sq. ft.	£360,000
East of runway	1	N/A	N/A	£200,000
Total				**£1,200,000**

Table 6.2: Estimated Re-housing Costs

6.2.3 Resettlement Costs

The final cost of land to be purchased by the Government to facilitate land exchanges will depend on the level of infrastructure and services to the land, the location of the land and the amount being purchased for resettlement. As discussed earlier, the value of land on the open market could range between £35,000 and £50,000 per acre.

The monies required for compensation have already been discussed. The costs take account of either direct compensation or the purchase of land by the Government on the open market in order to facilitate land exchanges. It should be noted that a number of property owners affected also own other parcels of land to which they are willing to be relocated. Direct compensation is therefore relevant in these cases.

The government owns very little land in the Valley area suitable for residential development. There is, however, approximately 4-5 acres of Government owned land in the Rock Form area and this would be suitable for the negotiation of land exchanges.

Additionally, the Government may need to give consideration to providing assistance with moving costs. Assuming a current rate of £140 (ie US$200) per movement, it is estimated that approximately £840 per household should be set aside to assist the affected households with this process. A total of £8,000 for options 1 and 2 and £15,000 for Option 3 should therefore be allocated for use in re-settlement.

6.2.4 Resettlement Issues

The Project Manager of the Airport Expansion Project has reported that to date all parties to the north of the airport are willing to be relocated. The remaining issues related to resettlement are as follows:

- There is very limited land owned by the Government of Anguilla. Therefore, in order to re-house the households in the vicinity of the airport the government would have to purchase vacant land on the open market to accommodate the new facilities for the dislocated households. These lands would be privately owned, individual serviced parcels of land for the most part and not large tracts that would then need to be subdivided and serviced. This has implications for the negotiated

purchase price. It is noteworthy that there is an adequate supply of vacant land available in the Valley area for relocation for residential purposes.

- It is necessary to finalise at an early stage how many households would wish the Government to provide replacement homes and how many would prefer to be compensated and build their own homes. This would allow home replacement to commence as soon as possible.

- The Government will need to set a start-up date to implement the airport expansion that would allow for new facilities to be completed for the dislocated households prior to this date. This would affect those who have chosen to have the government provide replacement houses.

- There are three commercial activities currently operating from residences to be affected by the airport expansion. Two of these, a small neighbourhood bar and a small lumber yard, can be re-accommodated as mixed commercial/residential activities. It is hoped that the owner of the lumber shop can be re-sited to a lot very near to the airport as desired. The bar can be re-sited within the context of a new residential area as appropriate from a land use planning perspective. However, the third commercial activity is an auto repair shop which is considered unsuitable in a residential area. The planning authorities are unlikely to re-house this activity along with the owner's new residence. Suitable accommodation could be found in the commercial/light industrial area along Farrington Road or the industrial area in Corito where the Government has access to some lands. The costs of separating this business from the owner's home are difficult to assess at this stage but would have to be fully considered.

6.2.5 Planning Issues

The planning issues are wide ranging and may be summarised as follows:

- The effect which the airport will have on the school building to the south would provide the Government with an opportunity to assist the island's only private primary school in finding suitable accommodation that will allow for expansion. The school currently rents the building from a private citizen but the Government has identified an extensive area in Pope Hill which could accommodate the present and future needs of the school. The Pope Hill area has been zoned in the National Physical Development Plan for educational purposes.

- Nuisance factors related to the airport, such as noise, fumes and vibrations, may lead to planning blight of areas adjacent to the airport.

- There is a need to ensure that the proposed development respects the archaeological site to the immediate east of the airport expansion area.

- Access to the island's only land fill as well as to the Delta and Shell companies storage tank areas would need to be maintained with the proposed road closure due to airport expansion. An alternative route has been suggested involving the construction of a new road along the northern edge of the expanded airport runway. The road would be extended eastward to create a new route linking it

with an existing public road which runs north-south and offers access to the Corito area (see appendix C, Drawing CK3660/09.01/001).

- There is a major development proposed to the immediate east of the airport involving possibly some 300 acres to be used for the construction of an inland marina, hotel, residential villas and an 18-hole golf course. This development has implications for the final design of drainage facilities to service the runway expansion to the east. There are implications, also, for the upgrading of the public road to the east of the runway that is proposed to be used to accommodate heavy duty vehicles accessing the Delta and Shell bulk storage areas and the island's only landfill at Corito (see also Section 4.2.6 and Drawing CK3660/09.01/007, Appendix C).

6.2.6 Legal and Institutional Issues

No significant legal or institutional issues have been identified for the implementation of this project. It is anticipated that all the relevant procedures have been adequately covered under the Land Acquisition Ordinance Cap 273, 1959.

6.3 The Impact of the Optional Developments on Anguilla Tourism Strategy

6.3.1 Tourism is the main economic activity in Anguilla, accounting for more than half of the total employment opportunities. The basic underlying philosophy of Anguilla's tourism strategy can be summed up in the following statement that is contained in the Draft Tourism Policy (dated 18 September 2000) that is currently being circulated for comment:

Fundamental to government tourism policy has been the recognition that inappropriate and uncontrolled tourism development can produce adverse economic, environmental and social effects, and that because of its small geographic size and limited work force Anguilla cannot support or benefit from mass tourism.

Based on this, Anguilla has fashioned and marketed a product that it defines as "low volume, high yield". Simply put, fewer visitors paying high prices for a high quality vacation.

This policy is not only expressed at the political level, but is supported by many groups across the island. In the interviews undertaken for the social impact assessment (Section 9, Comparative Airport Study, WS Atkins International Limited, June 2000) respondents were convinced that they did not want mass tourism. They felt that while the island could not support a fully international airport, improvements at Wallblake would increase safety and facilitate an increase in the level of visitors consistent with the type of tourism being marketed for the island.

The relationship between tourism in Anguilla and the development of Wallblake Airport has been extensively presented in Section 4 of the Comparative Airport Study. To summarise the main points:

- In 1998 Wallblake Airport handled 89,460 air passengers of which 64.7% were visitors.

- There was a significant increase in the number of air passengers at Wallblake between 1985 and 1989, coinciding with the airport redevelopment and a direct scheduled service from San Juan by American Eagle.
- The majority of tourists visiting Anguilla are from the United States of America.
- The average annual occupancy rate for hotels in Anguilla is below the Caribbean average rate.
- Various studies have identified a number of factors that are believed to constrain the growth of tourism in Anguilla. These are limitations in the availability of labour; in the supply of development sites; local capital and access to the island by air.
- American Eagle currently provides the main air transportation to tourists to the island.

The development options proposed for the Wallblake Airport are as follows:

Option 1 - An extension of the eastern end of the runway by 252 m (including a 150m Starter Strip).

Option 2 - As Option 1, but with re-profiling of the western end of the runway.

Option 3 - An extension of the eastern end of the runway by 852m (including a 150m Starter Strip).

All three options offer viable technical solutions to the constraints imposed by the existing airport, which include:

- The fact that the runway is too short to allow the 42 seat ATR 42 aircraft operated by American Eagle to operate to and from San Juan at maximum payload in all conditions.
- The current runway cannot support the larger ATR72 aircraft that are being deployed to the San Juan hub by American Eagle to serve their Caribbean destinations.

The proposed improvements to the runway therefore ensure that that the ATR 72 can carry maximum passenger payloads (66 seats) under most conditions, thereby avoiding the restrictions on seat availability that exist at present. At the same time the options do not support the introduction of large jets or substantially increased traffic that would signal the advent of mass tourism. The optional developments are therefore consistent with the currently stated tourism policy, and should have a net positive impact on the future development of tourism on Anguilla.

APPENDIX F: EXTENSION TO WALLBLAKE AIRPORT RUNWAY - OPTIONS 1 & 2

LAND AND BUILDING ACQUISITION COSTS

PARCELS AFFECTED: **North of Runway**

Proprietor	Block & Parcel	Approx. Area acre	Sq.ft. Of Building	House Assessment Value US	Replacement House Value US
Crown	78913B 116)	0.37			
Joseph Allen Gumbs	78913B (part of)	0.19			
Poland M Arrindell	78913B 90	0.20	1,236	$56,000	$80,340
Jacob L Richardson	78913B 91	0.40			
Watkins Hodge	78913B 83	1.00			
James Lewis Lake	78913B 199 (part of)	0.25			
Carmen Violet Lake	78913B 198 (part of)	0.35		$60,000	
Mena Elvina Lake	78913B 81	0.90			
Violet Richardson	78913B82		671	$14,000	$43,615
James B Gumbs	78913B82		1,147	$50,000	$74,555
James E Gumbs	78913B82	1.25		$53,500	
Yvette Proctor	78913B 138	1.00	945	$24,000	$61,425
Gwendolyn Gumbs				$2,000	
Beryl Proctor				$27,000	
Vesta F Gumbs	78913B 137	0.25	841	$54,000	$54,665
James E Gumbs	78813B 41	0.40	735	$36,000	$47,775
James E Gumbs			855	$25,000	$55,575
Christopher I Gumbs	78813B 65 (part of)	0.38	930	$51,000	$60,450
Ruth Janet Alias	78713B 71	0.10			
Alston R Gumbs	78713B 23 (part of)	0.09			
Roderick A N Gumbs	78713B 24 (part of)	0.20			
Heather V James	78713B 25 (part of)	0.17			
Hilda Lake	78713B 88 (part of)	0.27			
Giles Faulkner	78713B 27 (part of)	0.30			
Franklyn R Richardson	78713B 28	0.30		$10,000	
Albert AR Lake	78713B 98	0.90	532		$34,580
	Total:	**9.27**	**7,892**	**$462,500**	**$512,980**

PARCELS AFFECTED: **South of Runway**

Proprietor	Block & Parcel	Approx. Area acre	Sq.ft. Of Building	House Assessment Value US	Replacement House Value US
Francis Gumbs	78813B 51	0.6	1,634	$54,888	$106,210
	Total:	**0.6**	**1,634**	**$54,888**	**$106,210**

Notes
House Assessment Value refers to a notional capital value
Replacement House Value is based on a construction cost of US$65 per sq ft

APPENDIX F: EXTENSION TO WALLBLAKE AIRPORT RUNWAY - OPTION 3

LAND AND BUILDING ACQUISITION COSTS

PARCELS AFFECTED: **North of Runway**

Proprietor	Block & Parcel	Approx. Area acre	Sq.ft. Of Building	House Assessment Value US	Replacement House Value US
George Kentish	78913B 100 (part of)	4.00	3,601	$254,000	$234,065
Guilford Gumbs	78913B 89 (part of)	0.37			
Frances T Gumbs	78913B 88	0.33			
Leopold Woods	78913B 86	0.40			
Cyril N Harris	78913B 85 (part of)	0.50			
Christopher I Gumbs	78913B84	0.90			
Crown	78913B 116)	0.37			
Joseph Allen Gumbs	78913B (part of)	0.19			
Poland M Arrindell	78913B 90	0.20	1,236	$56,000	$80,340
Jacob L Richardson	78913B 91	0.40			
Watkins Hodge	78913B 83	1.00			
James Lewis Lake	78913B 199	0.50			
Carmen Violet Lake	78913B 198	0.70		$60,000	
Mena Elvina Lake	78913B 81	0.90			
Violet Richardson	78913B82		671	$14,000	$43,615
James E Gumbs	78913B82		1,147	$50,000	$74,555
James E Gumbs	78913B82	1.25		$53,500	
Jasmine W Smith	78913B 213	0.25	1,006	$33,800	$65,390
Joyce M Gumbs	78913B 216	0.80			
Christopher I Gumbs	78913B 108	1.74			
Yvette Proctor	78913B 136	1.00	945	$24,000	$61,425
Gwendolyn Gumbs				$2,000	
Beryl Proctor				$27,000	
Vesta F Gumbs	78913B 137	0.25	841	$54,000	$54,665
James E Gumbs	78813B 41	0.40	735	$36,000	$47,775
James E Gumbs			855	$25,000	$55,575
Carlos E Gumbs	78813B 60 (part of)	0.09			
Christopher I Gumbs	78813B 65 (part of)	0.38	930	$51,000	$60,450
Calvin W Lake	78813B 38 (part of)	0.20	1,736	$56,700	$112,840
Ruth Janet Alias	78713B 71	0.10			
Alston R Gumbs	78713B 23 (part of)	0.09			
Roderick AN Gumbs	78713B 24 (part of)	0.20			
Heather V James	78713B 25 (part of)	0.17			
Hilda Lake	78713B 88 (part of)	0.27			
Giles Faulkner	78713B 27 (part of)	0.30			
Franklyn R Richardson	78713B 28	0.30		$10,000	
Albert AR Lake	78713B 98	0.90	532		$34,580
	Total:	**19.45**	**14,235**	**$809,000**	**$925,275**

PARCELS AFFECTED: **East of Runway**

Proprietor	Block & Parcel	Approx. Area acre	Sq.ft. Of Building	House Assessment Value US	Replacement House Value US
George Kentish	78913B 100 (part of)	15.00			
	Total:	**15.00**			

Note
The land to the east of the runway is valued at the higher cost of US$70,000 per acre

PARCELS AFFECTED: **South of runway**

Proprietor	Block & Parcel	Approx. Area acre	Total Area acre	Sq.ft. of Building	House Assessment Value US	Replacement House Value US
Francis Gumbs	78813B 51		0.60	1,634	$54,888	$106,210
Clara Gumbs	38813B 2		0.20			
Conrad Bradley	38813B 3 (part of)	0.15	0.40	854	$28,700	$55,510
Keith Brooks	38813B 4 (part of)	0.15	0.80	1,152	$38,700	$74,880
William H Rogers	38813B 5 (part of)	0.22	1.00	280	$9,400	$18,200
Clara Gumbs	38813B 6 (part of)	0.23	0.80			
Lena Lloyd Cholsit	38813B 7 (part of)	0.10	0.80			
Shirley B Maynard	38813B 91 (part of)	0.25	2.25	2,050	$68,800	$133,250
Phyllis C Richardson	38813B 92 (part of)	0.36	2.18	2,112	$70,900	$137,280
Robin Hicklin Richardson	38713B 49 (part of)	0.08	0.30			
Elihu Richardson (per rep)	38713B 51 (part of)	0.39	0.45			
Hilda Lake	38713B 59 (part of)	0.22	0.60			
Giles Faulkner	38713B 61 (part of)	0.24	0.60			
John Calvin Hodge	38713B 62 (part of)	0.26	0.70			
Ruth Janet Alias	38713B 50 (part of)	0.09	0.30			
	Total:	**2.74**	**11.38**	**6448**	**$139,700**	**$525,330**

Notes
House Assessment Value refers to a notional capital value
Replacement House Value is based on a construction cost of US$65 per sq ft

ATTACHMENT D

	Runway Option 1				Runway Option 2				Runway Option 3			
Runway construction (including drainage)	'Discounted' fill £1,726,000	'Bought' fill £3,130,700	'Discounted' fill £1,726,000	'Bought' fill £3,130,700	'Discounted' fill £3,187,600	'Bought' fill £6,267,600	'Discounted' fill £3,187,600	'Bought' fill £6,267,600	'Discounted' fill £11,081,300	'Bought' fill £14,161,300	'Discounted' fill £11,081,300	'Bought' fill £14,161,300
Airfield lighting	£60,856	£60,856	£60,856	£60,856	£134,671	£134,671	£134,671	£134,671	£143,316	£143,316	£143,316	£143,316
Land acquisition	£425,000	£425,000	£425,000	£425,000	£425,000	£425,000	£425,000	£425,000	£2,067,500	£2,067,500	£2,067,500	£2,067,500
Re-housing costs	£428,670	£428,670	£428,670	£428,670	£428,670	£428,670	£428,670	£428,670	£1,200,000	£1,200,000	£1,200,000	£1,200,000
Resettlement costs	£8,000	£8,000	£8,000	£8,000	£8,000	£8,000	£8,000	£8,000	£15,000	£15,000	£15,000	£15,000
Road diversion	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000
Terminal	Opt 2 £150,000	Opt 2 £150,000	Opt 3 £1,110,000	Opt 3 £1,110,000	Opt 2 £150,000	Opt 2 £150,000	Opt 3 £1,110,000	Opt 3 £1,110,000	Opt 2 £150,000	Opt 2 £150,000	Opt 3 £1,110,000	Opt 3 £1,110,000
Bulk Fuel Installation	No provision £0	No provision £0	Provided £1,410,000	Provided £1,410,000	No provision £0	No provision £0	Provided £1,410,000	Provided £1,410,000	No provision £0	No provision £0	Provided £1,410,000	Provided £1,410,000
Apron	No provision £0	No provision £0	50% addition £250,000	50% addition £250,000	No provision £0	No provision £0	50% addition £250,000	50% addition £250,000	No provision £0	No provision £0	50% addition £250,000	50% addition £250,000
Air Traffic Control Tower	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Rescue & Fire Fighting Service	£100,000	£100,000	£100,000	£100,000	£100,000	£100,000	£100,000	£100,000	£100,000	£100,000	£100,000	£100,000
Maintenance Facility	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Professional fees	£389,853	£530,323	£651,853	£792,323	£543,394	£851,394	£805,394	£1,113,394	£1,575,712	£1,883,712	£1,837,712	£2,145,712
Contingency	£857,676	£1,166,710	£1,434,076	£1,743,110	£1,195,467	£1,873,067	£1,771,867	£2,449,467	£3,466,566	£4,144,166	£4,042,966	£4,720,566
Total costs	£5,146,054	£7,000,258	£8,604,454	£10,458,658	£7,172,802	£11,238,402	£10,631,202	£14,696,802	£20,799,393	£24,864,993	£24,257,793	£28,323,393

Summary of options

Runway Option 1: Increase runway length to east by 102m (total runway length of 1199m) plus starter strip of 150m (TORA to west of 1349m, TORA to east of 1199m).
Runway Option 2: Increase runway length to east by 102m (total runway length of 1199m) plus starter strip of 150m (TORA to west of 1349m, TORA to east of 1199m). Raise west end of runway by approximately 5m.
Runway Option 3: Increase runway length to east by 702m (total runway length of 1799m) plus starter strip of 150m (TORA to west of 1949m, TORA to east of 1799m).

Terminal Option 1: 'Do nothing' option (cost: £0).
Terminal Option 2: Optimisation of existing Terminal building (approximate cost: £150,000).
Terminal Option 3: Construction of new Arrivals Terminal. Existing Terminal to solely handle departing passengers (approximate cost: £1,110,000).

Notes

1. 'Discounted' fill assumes that up to 280,000m3 of suitable fill will be made available to the airport by the developers of the proposed golf course/marina complex to the east of the airport.
2. 'Bought' fill assumes that all fill is bought at market rates.
3. Professional fees assumed to be 10% of all other costs.
4. Contingency assumed to be 20% of all other costs, including professional fees.

Table 4.3: Wallblake Airport Development - Matrix of Options

ATTACHMENT E

Note: Drawing CK3660/09.01/010 issued separately