

# **Auckland International Airport: 2006 Valuation of Specialised Buildings**

**Final Valuation Report**





# Auckland International Airport 2006 Valuation of Specialised Buildings.

**Final Valuation Report**

**for Auckland International Airports Limited**

Prepared By

John Vessey

Reviewed By

Richard Taylor

Opus International Consultants Limited  
Wellington Office  
Level 9, Majestic Centre  
100 Willis Street, PO Box 12-003  
Wellington, New Zealand

Telephone: +64 4 471 7000  
Facsimile: +64 4 471 1397

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30 June 2006

Auckland International Airport Limited  
PO Box 73020  
Auckland Airport



Attention: Robert Sinclair

5C1020.00

Dear Robert

### 2006 Valuation of Auckland Airport Specialised Building Assets

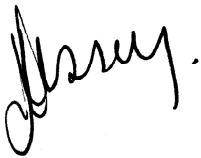
Please find attached our valuation dated 30<sup>th</sup> June 2006 of the Specialised Building Assets at Auckland International Airport, effective as at 30<sup>th</sup> June 2006. This valuation has been undertaken in accordance with AIAL's Asset Valuation Handbook dated 23<sup>rd</sup> May 2006 and for the purposes set out on page 7 of the same.

There has been a significant lift in the valuation since the previous one undertaken in 2002. The valuation has increased 38% from \$267M in 2002 to \$367M in 2006. The key differences between the two valuations are:

- Improved asset inventories which have captured significant additional detail, resulting in an increase in the quantity and scope of assets valued.
- Large capital works programme including extensions to and upgrade of the International Terminal Building.
- Significant rise in construction prices.

The attached report details the methodology, assumptions and component breakdown for the valuation. It also provides a component level comparison with the previous valuation and where possible identifies and explains the causes of variations between the two.

Yours Sincerely



John Vessey  
BE(Civil), BA(Economics), FIPENZ(Civil), CPEng.  
Principal Engineering Economist & Partner  
Opus International Consultants Limited.

Level 9, Majestic Centre  
100 Willis Street,  
PO Box 12-003  
Wellington  
Telephone +64 4 471 7000  
Facsimile + 64 4 471 1397  
Website [www.opus.co.nz](http://www.opus.co.nz)

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## EXECUTIVE SUMMARY

Opus International Consultants Limited (Opus) has undertaken a valuation of the specialised buildings owned by Auckland International Airport Limited (AIAL). The valuation has been undertaken in accordance with AIAL's Asset Valuation Handbook dated 23<sup>rd</sup> May 2006.

The valuation complies with the New Zealand Institute of Chartered Accountants (NZICA) Financial Reporting Standard No 3 (FRS-3) and the Property Institute of New Zealand (PINZ) Valuation Practice Standard No 3 (VS-3). The valuation also complies with the International Accountancy Standard (IAS) modified to New Zealand requirements (NZ IAS 16).

The specialised building valuation has been undertaken using the Optimised Depreciated Replacement Cost methodology. It has been prepared for the purposes set out on page 7 of AIAL's Asset Valuation Handbook dated 23<sup>rd</sup> May 2006. The effective date of the valuations is the 30<sup>th</sup> June 2006.

The June 2006 valuations are tabulated below. Also tabulated are the March 2006 book values (BV) and the June 2002 valuations for comparison.

*Table 1: Specialised Building Valuation (\$)*

Summary Description	Optimised Replacement Cost	Optimised Depreciated Replacement Cost
2006 Value	\$615,282,000	\$366,816,000
Book Value (March 2006)		\$307,623,000
Diff = 2006 Value - 2006 Book Value		<b>\$59,193,000</b>
2002 Value	\$366,965,000	\$266,519,000
Difference = 2006 Value - 2002 Value	<b>\$248,317,000</b>	<b>\$100,297,000</b>

The valuation has increased significantly since the previous valuation in 2002. The principle contributors to this increase are:

- High levels of capital expenditure
- Significant rise in construction costs
- Vastly improved asset inventory has led to an increase in the quantity of some asset groups from that assumed for the 2002 valuation
- More detailed modelling and increased componentisation of the building assets has led to changes in ODRC values
- Changes in valuation assumptions and parameters

## 1 Introduction

### 1.1 Scope

Opus International Consultants Limited (Opus) has been engaged by Auckland International Airport Limited (AIAL) to establish the fair value of its specialised building assets. The assets valued are summarised in Table 2 below.

*Table 2: Specialised Building Assets*

Asset Type	Asset Description
Buildings	International and Domestic terminals, Domestic car park buildings, Rescue buildings etc. including associated services.
Building Ancillary Services (BAS)	Building services and interior fit out.
Specialised equipment	Baggage handling, check-in facilities, airbridges, docking system

Plant and equipment have been excluded from the Opus valuation, being recorded in AIAL's financial statements at book value.

### 1.2 Objective

The objective of this valuation is to assess the fair value of AIAL's specialised building assets. The valuation has been prepared for the purposes set out on page 7 of AIAL's Asset Valuation Handbook dated 23<sup>rd</sup> May 2006.

The valuation has an effective date of 30<sup>th</sup> June 2006.

### 1.3 Valuation Outputs

This report describes the valuation methodology including a full explanation of the assumptions made and input parameters used in the valuation process. Key outputs from the valuation are:

- The quantity of assets included in the valuation.
- A summary of unit cost rates and service lives used in the asset valuation.
- The gross replacement cost and depreciated replacement cost, by asset type for the current valuation with a comparison to the 2002 valuation.
- An indication of the assessed accuracy of the valuation.
- A comparison with the previous (2002) valuation.

### 1.4 Report Structure

This report has been structured to address the key valuation issues.

Section 2	defines the basis of the valuation
Section 3	outlines the valuation process, including: <ul style="list-style-type: none"><li>• development of the valuation inventory</li><li>• replacement cost assessment</li><li>• consideration of optimisation</li><li>• depreciation assessment</li></ul>
Section 4	describes the building assets and provides valuation details for the main asset groups
Section 5	describes the specialised equipment and provides the valuation details
Section 6	presents the valuation results and assessed accuracy
Section 7	provides a comparison between the 2006 and 2002 valuations

Valuation spreadsheets and supporting documentation are included as appendices.



## 2 Basis of Valuation

### 2.1 Methodologies

The valuation has been performed in accordance with the terms of reference and specific instructions contained in AIAL's Asset Valuation Handbook dated 23<sup>rd</sup> May 2006. Specifically the valuation has been undertaken in accordance with Financial Reporting Standard 3 (FRS-3) "Accounting for Property, Plant and Equipment" and Valuation Standard 3 (VS-3) "Valuation for Financial Statements". The valuation also complies with the new International Financial Reporting Standard (NZ IAS 16 "Property, Plant and Equipment").

AIAL's assets incorporate a combination of specialised and market assets and therefore different methodologies are required for individual asset classes.

AIAL's assets are grouped into 5 main classes.

- Land
- Runway, taxiways and aprons
- Infrastructure
- Buildings
- Plant, machinery and equipment

This report covers the valuation of AIAL's specialised buildings assets. Valuation results include optimised replacement cost (ORC) and optimised depreciated replacement cost (ODRC). The effective date of the valuations is the 30th June 2006.

### 2.2 Business Units

For reporting purposes building assets have been grouped in accordance with AIAL's business units. These are:

- International Terminal Building
- Domestic Terminal
- Other buildings

A full listing of business unit numbers is provided in Appendix A.

### 3 Valuation Methodology

#### 3.1 Valuation Process

The specialised building assets have been valued on an ODRC basis. The process involves four main steps. These are:

1. Development of an asset inventory (description and quantity of assets).
2. Adjustment to reflect any relevant optimisation.
3. Estimation of the current replacement cost.
4. Depreciation to reflect remaining life expectancy.

#### 3.2 Asset Inventory

##### 3.2.1 General Format

The valuation schedules have been developed using a Microsoft EXCEL database, with separate spreadsheets for each asset group. The file includes a summary sheet as well as look up tables for multi-use asset data such as unit costs, asset lives, residual values etc. Spreadsheets contain three main sections:

1. Asset identification and description
2. The valuation parameters
3. Valuation outputs

##### 3.2.2 Asset Identification & Description

The column fields are:

Business Unit	- inventory number to identify geographical precinct.
Asset Class	- classification number to identify component level.
Component	- component/sub-component of the parent asset group.
Description	- asset description.

##### 3.2.3 Valuation Parameters

The column fields are:

Material	- material composition of the asset e.g. concrete, steel, timber.
Quantity	- measurement of the assets e.g. area, length, number of.
Units	- unit of measurement.
Date	-date that the current asset was constructed/supplied.
Age	- current or effective age of the asset.

Condition	- asset condition (if known or observed).
TUL	- total useful life of asset.
RL	- remaining life.
RV	- residual value at end of total useful life.

### 3.2.4 Valuation Outputs

The column fields are:

ORC	- optimised replacement cost
ODRC	- optimised depreciated replacement cost

### 3.2.5 Data Sources

The data and information used for this valuation were collected from

- Liaison and discussion with AIAL officers and their engineering consultants
- Plans, drawings, reports, photographs & other available technical documents
- AIAL's Fixed Asset Register (FAR)
- AIAL's Asset Information Management System (AIMS)
- Field observations by the Opus team
- AIAL's capital expenditure forecasts

The AIMS (Asset Information Management System) was first implemented in May 2001. It was developed from 2 software packages (GeoWater and GeoWastewater) linked to the Microstation Geographic and CAD packages. The original idea was to attribute underground services information to give intelligence to the line and point information already held by AIAL. The intent was to ensure that detailed information such as asset description, age, location etc was readily retrievable for each object contained in the AIAL graphical database of service drawings.

AIMS has since grown to now cover all underground services, fences, gates, land features and retaining walls. Tenancy lots, road designations and land parcels covering all airport land as well as tenancies in the International and Domestic Terminal Buildings and the AFC building have also been added. CAPEX costs are allocated on a proportional basis to as-built objects for each job to produce a spreadsheet that is then uploaded into the JDEdwards software package (JDE). This spreadsheet contains all costing information associated with each asset as well as the attribute information uniquely identified within JDE.

AIMS describes the object and JDE holds all the costs associated with that object. The AIMS Number provides a unique identifier which is used to link both systems.

Assets can be located, either directly using the AIMS tools or over the web via a browser interface. Relevant data about each asset can be displayed along with its location. There are plans to expand AIMS into Building Asset Management covering everything from the building structure to air conditioning. Most of the system was developed in house by AIAL. Programming assistance has been enlisted to change to VBA programming tools where future Microstation packages are being developed.

### 3.2.6 Validation

Where appropriate or possible we have verified the information and documentation provided. Data validation based on sampling was carried out along with visual assessments to verify the completeness and accuracy of information. This involved scaling areas/dimensions off plans and drawings and field inspections to ensure that location, category and description were appropriately coded and that the listed quantities are realistic. Field measurements were made where practical. Checklists were developed to facilitate the task and to improve the likelihood that the majority of assets are captured in the valuation. Adequacy of the information was reviewed including consideration of level of certainty/reliability. Data gaps were identified and substitute inputs derived for use in the valuation where information was missing or uncertain. We would stress that we cannot accept responsibility for the accuracy of any information supplied.

### 3.2.7 Information Management

Information management was considered to be a crucial aspect of the valuation process. The source of information and management of data used in developing the valuation was thoroughly assessed to ensure the robustness of the valuation schedules. All sources of information have been identified, documented and reviewed to ensure that assets and components have been correctly accounted for and appropriately valued.

## 3.3 Replacement Costs

Replacement costs were calculated by applying unit cost rates to the identified quantity of assets, with allowance for other costs such as site establishment, professional fees and financial charges.

### 3.3.1 Unit Costs

The unit costs were derived using construction cost information from a variety of sources. These included:

- Recent local competitively tendered construction works.

- Published cost information.
- Cost rates derived from recent building construction
- Opus' database of costing information and experience of typical industry rates.
- Discussions with Rawlinson's quantity surveyors and cost estimators.

Assets lacking recent cost evidence have had to rely on price indexing to update historical cost information to current values.

### 3.3.2 Allowance for Other Costs

In addition to the construction cost, the gross replacement cost includes an allowance for other costs such as development fees and charges. These include:

- a) Professional fees for planning, investigation, design and implementation.
- b) Preliminaries and site establishment (contractor set-up costs for plant and equipment, offices and sheds, fences, temporary services, insurance etc).
- c) Financial charges (costs of financing development costs through to the completion of construction).

The loading applied to the valuation to allow for these other costs has a material impact on the overall value. Each 1% change in this allowance results in a circa \$6M change in the replacement cost value of the specialised building assets.

These allowances are expressed as a percentage (%) of the construction cost. The amount can vary depending on the scale of the project and the duration of construction. Details of the allowance assumed for each asset group are included in Appendix B.

### 3.4 Optimisation

There are three accepted requirements for the optimisation of infrastructure assets.

- (a) It must represent the lowest cost of replacing the economic benefits embodied in an existing asset.
- (b) All vestiges of over-design, excess capacity (over and above that necessary for expected short term growth) and redundancy must be eliminated.
- (c) Optimisation is limited to the extent that it can occur in the normal course of business and uses commercially available technology.

The latter criterion is often called brownfield optimisation which recognises the incremental nature of infrastructure growth. Excess capacity and over-design are eliminated but the historic layout of the assets is retained. This reflects the normal process going forward where elements of the asset may be resized or reconfigured when they are replaced, but essentially the existing layout is retained.

In addition to the above requirements, there are 3 additional concepts that are often associated with optimisation.

- (i) The hypothetical new entrant test
- (ii) Used and useful
- (iii) Prudence

The first infers that an optimised asset must reflect what a hypothetical new entrant would construct if replicating the existing service (assuming the existing facility didn't already exist). The second, a concept introduced by the New Zealand Commerce Commission requires that an asset must be used or useful in terms of the services provided, if it is to be optimal. The third point requires that the optimised arrangement should reflect the actions of a prudent asset owner.

Current value of an asset should reflect the price a prudent market operator would be prepared to pay to purchase the assets. The prudent investors would not pay for any inherent inefficiency and would accordingly base their price on an optimised arrangement which replicates equivalent service at least cost. The optimised value of the infrastructure assets is calculated based on the cost of their replacement by modern equivalent assets, adjusted to eliminate over-design, surplus capacity and redundancy or obsolescence, less any appropriate allowances for depreciation. In other words it measures the minimum cost of replacing the services embodied in the assets in the most efficient way given the particular service requirements, and the age and condition of the existing assets.

A key element of the process is in deciding an appropriate level of optimisation. Greenfield optimisation reflects the least cost to design and build an entirely new facility regardless of the historical constraints that may have applied. In practice, a greenfield replacement cannot occur in the normal course of business. Consequently optimisation of large-scale infrastructure, such as an airport, is generally considered in the context of incremental brownfield development, which assumes progressive development that matches the incremental growth that would occur in normal circumstances. Under-utilised assets are replaced by assets of lower capacity and redundant assets are removed, but the historical configuration of the assets is retained. This approach recognises that there is always some degree of sub-

optimality and allowance for growth in future demand. It also reflects the historical development of the existing business, the time lag in asset planning and construction, the very long lives of these assets and the replacement of components in the normal course of business. As the facility expands and changes, a degree of sub-optimality at any point of time is inevitable and part of the cost of total output.

An incremental brownfield optimisation process has been assumed for this valuation. This optimisation process minimises the cost of replacing the services offered by AIAL, given the age and condition of the existing assets and recognising the incremental process (brownfield) associated with airport development. Costs have been assessed to reflect the replacement of current assets with modern equivalents, an optimised construction sequence and adjustment to allow for the difficulties associated with a “brownfield” environment. Where appropriate, adjustments have been made to eliminate surplus assets, obsolescence and over design.

The question of optimality of location or the impacts of site reconfiguration were considered to be outside the scope of this study, and have been assumed optimal for the purpose of this valuation.

### **3.5 Depreciation**

#### **3.5.1 Depreciation Profile**

Depreciation is an accounting mechanism for the return of capital invested in depreciable assets. The depreciation profile is generally set to reflect the wearing out of the asset and match the pattern of benefits generated by its use. The key variables that determine the depreciation amount are the initial capital cost, the total useful life of the asset (TUL), its residual value at the end of that life (RV) and the number of years of remaining life expected for that asset (RL).

Straight-line depreciation is generally accepted as suitable for the valuation of building and infrastructure assets. Its profile reflects that a uniform (constant) level of benefits is derived from the assets as they wear out. A straight-line approach has been adopted for this valuation.

#### **3.5.2 Asset Age**

Where possible, information was obtained on the construction dates for the assets or asset components. Sources included AIAL’s asset inventory, the capital expenditure programme and discussion with AIAL staff. Judgement was used during site inspections to reconcile the recorded age information with that apparent from observation.



### 3.5.3 Asset Life

Each asset (component, sub-component) was assigned an expected base life (BL). This base life was adjusted to an expected physical life (PL) to take account of the asset's age (using the method presented in the New Zealand Infrastructure Asset Management Manual). This adjustment is based on the premise that as an asset gets older, its total life expectancy increases. An initial assessment of remaining life (IRL) was then calculated as the difference between adjusted physical life and age of the asset (ie.  $IRL = PL - \text{age}$ ). A representative sample of assets was inspected and assigned condition ratings. (Condition ratings were already available for the RTA concrete slabs). Using deterioration relationship information, the remaining lives of assets were adjusted to reflect their observed condition. Further adjustments were then made to the remaining life estimate to take into account any other overriding factors that are likely to influence a particular assets life expectancy. Examples could include known changes in technology or regulations that may prematurely make an asset obsolete. Other information sources such as the 20-year maintenance programme or the airport development strategy may indicate early replacement or retirement of individual assets. The expected total useful life (TUL) is then given by the sum of expected remaining life and asset age ( $TUL = RL + \text{age}$ ).

### 3.5.4 Residual Value

Where appropriate, assets are assigned residual values to reflect their reuse value at the end of their useful lives. Assets that incur cost for their demolition and removal at the end of their lives are assigned a liability (in net present value terms) only after a firm commitment is given to incur this cost. No definitive demolitions were identified for this valuation.

Where an existing asset must be demolished and removed to enable the replacement asset to be constructed, its current book value is reduced to zero. (It is important that AIAL's accounting ledger is adjusted accordingly.) The cost of demolition and removal is regarded as part of the cost of replacement and included in the value of the replacement asset. For example say an existing internal wall of a building with a current book value of \$100 is demolished at a cost of \$45 and replaced with a wall for a cost of \$300. The current book value of this asset is now \$345 (i.e.  $\$100 - \$100 + \$45 + \$300$ ).

### 3.5.5 Capital Works Vs Operating Expense

Consideration has also been given to whether asset replacements are funded as capital works or as an operating expense. Capital funded assets are subject to a depreciation charge while work funded from an operating budget is not. This



distinction is important to avoid double counting. For example, components replaced as part of a regular maintenance plan and consumables such as filters in the air conditioning units and electrical fittings for the baggage handling system are treated as operating expenses rather than CAPEX.

### 3.6 Valuation Confidence Rating

Confidence ratings have been assigned to the source data with respect to quantities, unit cost rates, remaining lives and total life expectancies. These ratings were confirmed as part of the asset inspection process. The grading system used to rate confidence levels is summarised in the table below.

*Table 3: Confidence Rating System*

Grade	Label	Description	Accuracy
A	Accurate	Data based on reliable documents	± 10%
B	Minor inaccuracies	Data based on some supporting Documentation	± 20%
C	Significant data estimated	Data based on local knowledge	± 30%
D	All data estimated	Data based on best guess of experienced person	± 40%

Although asset types vary in construction complexity, their accuracy levels have all been assessed on the same basis. The approach taken is illustrated in the following table.

*Table 4: Application of Confidence Ratings*

Asset	Quantity	Unit Costs	Life/Rem Life	ODRC
XXXXXXXX	A, B, C or D	A, B, C or D	A, B, C or D	A, B, C or D

### 3.7 Work In Progress (WIP)

The valuation is based on a download of AIAL's asset register at 17<sup>th</sup> March 2006. It is understood that AIAL will make separate provision for the period 18<sup>th</sup> March 2006 to 30<sup>th</sup> June 2006, including WIP at cost, net of any disposals.

## 4 Specialised Building Assets

### 4.1 Building Valuation Process

Opus was responsible for the valuation of all AIAL's specialised buildings. Schedules were provided by AIAL and these were verified during the inspection process. Seagar & Partners were engaged by AIAL to inspect and value all AIAL properties able to be valued on a market related basis.

Valuations have undertaken in accordance with Financial Reporting Standard 3 (FRS3) 'Accounting for Property, Plant and Equipment' and Valuation Standard 3 (VS3) 'Valuation for Financial Statements'. All specialised buildings have been valued on Optimised Depreciated Replacement Cost (ORDC) basis. (Commercial lease and investment properties have been valued by Seagar & Partners on market-based evidence.)

The building valuation includes all construction and attachments to that structure within the building footprint. Improvements and other site works are included in the infrastructure valuation. The buildings were componentised to allow the appropriate allocation to each business unit grouping and asset category.

Building information including floor areas, structural details, services and general details were supplied by AIAL. All buildings were inspected by Opus and general structure and component detail was verified and recorded where possible. The building areas supplied by AIAL were found, from sample checking, to be essentially correct.

Data was entered into a data base and buildings were valued on a component, square metre rate or a combination of both, using costs provided by Rawlinson's and reconciled with actual airport construction costs and general market evidence. The data base enabled information to be provided at the various component levels, Business Unit level and in the appropriate format to meet financial reporting requirements.

The standard lives for the buildings were based on those for similar type/use buildings, modified where appropriate to reflect the actual or planned use and nature of the asset. This was undertaken in conjunction with discussions with AIAL staff to ensure alignment with their strategic plans. Depreciation rates were derived based on the estimated remaining / residual life expectancies for each asset. Construction types were categorised as Terminal, Warehouse, Operations, Office, Commercial, Canopy and other as appropriate. Where possible, each use type was

compared with comparable market examples. Hangers for example were assessed by comparison with the larger warehouse structures.

The condition of each building was rated using a grading criteria of 1 to 5, with one being that the assets fails in its intended function, or is in imminent danger of failing and five being that the asset is performing its function with no sign of deterioration.

The bulk of AIAL's buildings fall within the definition of Identified Airport Activities in terms of the Airport Authority Act, 1996. These include:

- Airfield activities.
- Aircraft and freight activities.
- Specified passenger terminal activities.

Other assets that are of a specialised nature associated with the above activities include car parking, offices, storage and allocated retail activity space within the Domestic and International Terminals, that exist because of the airport activities.

Tenancy arrangements in the Domestic Terminal do vary somewhat between different tenants and these have been separately identified where possible. Air New Zealand own various fixtures, fittings, plant etc. in the buildings they occupy. Generally tenant owned fittings and fixtures were identified under the appropriate building heading although AIAL have indicated they normally provide a basic fit out for the smaller tenantable areas.

## 4.2 Replacement Cost

In establishing the replacement cost of any building reference has been made to the current equivalent building costs that incorporate allowances for:

- Physical building development.
- Professional fees (engineers, architects, project management and other professional fees).
- Planning and time for associated planning approval.
- Interest and escalation costs during the construction period.
- The specific costs associated with airport construction, renewal and improvement.

In assessing the Gross Current Replacement Costs, we have used rates that take into account allowances for add-on costs associated with building construction in an airport environment. These include consideration of brownfield/greenfield costs, landside/airside costs and the costs of demolition and removal of replaced assets.

The ODRC value of the assets, although based on the modern equivalent asset (MEA), does not reflect higher service and quality standards or a greater capacity than is presently provided. To establish the MEA costs we have had regard to current building costs and specific building costs supplied by both Rawlinson's and AIAL.

In relation to the retail/commercial areas in both terminals, the structure costs have been based on a shell with the provision of power, air conditioning, normal services, perimeter walls and an automatic lockable grill. Retail space valuations assume that the tenants will undertake their own fit out as per normal industry standards.

Project cost information from recent works undertaken at both terminals and other buildings have provided a good basis for establishing unit costs. Market based construction costs have been used for the smaller scale and comparable market structures. The increase in construction costs since the last valuation as at the 30 June 2002 for a range of buildings can be illustrated by the percentage and square metre rates as follows:

*Table 5: Percentage Increase in Building Construction Costs*

<b>Building Type</b>	<b>2002/3</b>	<b>2003/4</b>	<b>2004/5</b>	<b>2005/6</b>	<b>Overall % Increase</b>
Warehouse	8%	6%	6.5%	7%	27.5%
Offices	10%	7%	7%	6%	30%
Terminals	9%	7%	7%	7%	30%
Operations	9%	7%	7%	7%	30%
Commercial	9%	6%	6%	6%	27%
Air Bridge	10%	8%	7%	7%	32%

*Table 6: Increase in Building Construction Cost Rates Costs Rates*

Building Type	2002 / m2 Rate	2006 / m2 Rate	Overall % Increase
Warehouse	\$557	\$710	27.5%
Offices	\$1,500	\$1,950	30%
Terminals	\$1,692	\$2,200	30%
Operations	\$1,765	\$2,250	30%
Commercial	\$1,575	\$2,000	27%
Air Bridge	\$800,000	\$1,000,000 / unit	32%

The above increases were compared to increases in the Statistics NZ Capital Goods Price Index (CGPI) for Non-Residential Buildings. The CGPI figures are based on Building Consent values which are often pre-estimates of the construction costs of the projects and are normally somewhat conservative. Tendered values in heated markets as we are just coming off will, as a general rule, be a little higher. Accordingly the cost increases tabulated above, and used for this valuation, are some 5 - 10% above the CGPI figures.

Building costs inflation this year will be running above the twenty year rolling average of eight percent. Historically the rolling average has maintained a level around six percent, but in 2004 and 2005 we have had figures well in advance of this due to the influence of the market pressure and labour cost corrections. There has been a slight reduction in the volumes of building construction in the Auckland Region over the last year which is starting to be reflected in the availability of contractors and an expected easing of price rises back to historic averages.

There are additional percentages that need to be applied to the above figures to reflect the different working environment and constraints between greenfield & brownfield and between landside & airside. These range from 20% for landside to 27% on airside, mainly due to security issues, time when the work can be undertaken, duplication of facilities etc. Adjustments are also made to reflect the extent of demolition of existing assets when new construction is undertaken.

### 4.3 Methodology

Apart from the technical details described in section 3, the overall methodology for the inspection and valuation of the buildings, based on the ITB structure, can be described as follows;

- The building was broken down into phases of construction & development with the relevant floor area allocated either from plans supplied or estimated.
- The building was then split into zones with building classification, general description, notes and whether greenfield ,brownfield, landside/airside - sheet one.
- Each phase/zone has the structural, external and internal finishes recorded along with the percentage renewed, year renewed, useful life, quantity, unit rate, percentage optimised and condition - sheet two.
- Each phase/zone has all the fixtures, fittings, plant, mechanical & electrical items recorded with ID/Make/Model noted if possible plus the percentage optimised and condition details recorded the same as sheet two - sheet three

The database contains both supplied information and information gathered through the physical inspections and on-site discussions with AIAL personnel and their engineering consultants. This information was entered into the data base where it was augmented with AIAL asset and CAPEX data and the component fields adjusted to match required reporting formats. Guide sheets were developed to ensure data was recorded in a consistent manor. During inspections questions where asked about capital works, state of repair, phases of development of the building, major refurbishment works on plant and building and what elements where owned by the tenants etc.

All the information collected was then incorporated into manageable sized zones, depending on the size and complexity of the building. It was then loaded into a spreadsheet designed to calculate the appropriate costs and provide a level of component breakdown required by AIAL.

AIAL Operations provided Red Coat Escorts who arranged the appropriate airside passes and security when necessary for inspections. All occupants where made aware of when the inspections were to take place.

## 4.4 Comments on Specific Buildings

### 4.4.1 International Terminal Building (BU 2960)

The valuation of this building takes into account the timing of different phases of construction and each zone is valued according to age, structural elements, fit out, and fixtures and fittings including the check-in counters.

The building has increased in floor area from around 89,000 square metres in 2002 to approximately 104,614 square metres at date of valuation. Major changes since the 2002 valuation include the baggage area extension, a new baggage system, the segregation of arrival and departure passenger movement by the addition of a second level to Pier A, and the extension of the check-in facilities by the addition of a new structure to the east wing of the terminal building.

It should be noted that where possible the various assets component types were valued separately and where this was not possible an apportionment of the total value has been applied to floor area.

Components and zones where committed work and upgrading has been identified have had their remaining useful lives adjusted to ensure appropriate depreciation rates are used for these components.

### 4.4.2 Domestic Terminal Building (BU 3590)

This building is made up of Building No.2 Air NZ Domestic Terminal Building & Building No.500 Ansett Terminal (Qantas)

AIAL have advised that the remaining life of both structures is 10 years in light of proposed strategic developments and recently announced major upgrade and retail additions linking both structures. The Qantas Terminal has been given the same ascribed remaining life as it will become one linked structure within the next eighteen months. Areas & components affected by major developments in both buildings have been assigned a zero effective remaining useful life

The air bridges and docking systems to gates 30, 32 & 33, ANZ baggage handling system, escalators, lift to the Koru Lounge and Koru Club fit out are not owned by AIAL and are therefore excluded from the valuation. Basic office fit out has been allowed for although we understand ANZ have upgraded their area over the years. The new covered walkway and office alterations adjoining the Koru Car Valet have been included in the valuation figures.



#### 4.4.3 Other Buildings

Comments on other buildings are tabulated below.

*Table 7: Comments on Specific Buildings*

Asset	Comments
<b>BU 2120</b> Building No.108 Livestock Handling Office Building No.109 Horse Boxes	The Livestock handling offices was an old house placed on site and modified.  Horse boxes were added as new.
<b>BU 2150</b> Building No.23 Rescue Fire Station Building No.34 Rescue Fire Air Boat Shed Building No.35 Rescue Fire Storage Shed Building No.36 First Aid Trailers Garage Building No.49 Rescue Fire Store Building No.64 Rescue Fire Tanker Garage Building No.150 Response Unit Training Building No.151 Response Unit Plane Building No.152 Water Treatment Plant Building No.153 Response Unit Fire House Building No.154 Response Unit Training Portacom	Buildings 150 to 154 have been added to this business unit since the last valuation.  A new foam storage shed and an ablution block nearing completion have been added since the last valuation.
<b>BU 2810</b> Building No.22 Waste Disposal Facility (Honey pot)	No major changes since last valuation. It appears that in the 2002 valuation, the improvements were included in the ITB Business Unit 2960.
<b>BU 2930</b> Building No.149 ITB Taxi Drivers Toilet	New since last valuation.
<b>BU 4010</b> Asset No.82 Medical Centre	The service is being relocated to a new building and the structure has not changed since last valuation.
<b>BU 5500</b> Building No.29 Storage Shed 1 Building No.30 AIA Archive And Storage Shed No.2 Building No.46 AIA Village Storage Shed	No building changes since last valuation at which time it was assigned a nil value.
<b>BU 5580</b> Building No.14 PC 1 (Located at the FM Depot) Building No.15 PC 7 Building No.16 PC 8 Building No.17 PC 9 Building No.18 PC 10 Building No.20 Intake Power Centre	No building changes since last valuation.  Power centres in large buildings are valued as part of the infrastructure under that Business Unit.



Asset	Comments
Building No.45 PC 22 at PO Flight Catering Building No.72 Power Centre 16 Building No.92 33Kv Sub Station Building	
<b>BU 5640</b> Building No.38 Sanitary Sewer Pumping Station At Air Freight Centre (AFCAB) Building No.51 Sanitary Sewer Pumping Station beside Budget Rental Cars 4115	No building changes since last valuation.
<b>BU 6320</b> Building No.10 Facilities Maintenance Depot	No building changes since last valuation. Was assigned a nil value in 2002.
<b>BU 6330</b> Building No.28 AIA Draughting Office	Additional Portacoms, services, fittings and chattels have been added since last valuation.

## 5 Specialised Equipment

### 5.1 Air Bridges and Docking Systems (2750)

The Air Bridges and Docking Systems used at both the ITB and DTB do not align with each other in age although the ITB aircraft docking system (APIS) to all bridges was installed in 1993.

The Aircraft Parking/Positioning & Information System (APIS) also known as Nose in Guidance System has been developed in collaboration with the Swedish Civil Aviation Administration and two Swedish airlines. It is designed to provide the aircraft pilot with quick, simple and reliable guidance when positioning an aircraft at a passenger boarding bridge before and after it has been parked. Ground personnel are also provided with information about flight number, departure point, destination etc.

Air Bridges were installed to gates 1-4 & 6 in 1979 and gates 7-10 in 1993. Gate 5 & 29 Air Bridges were installed in 1999 and 2001 respectively and include glass to gate 5 bridge and relocation of bridge to gate 29. The Qantas Terminal Air Bridges to gates 20 & 21 were installed in 1987. We understand from AIAL that as the older ones are actively replaced they will be retained for spare parts. Gate 30, 32 and 33 are owned by Air New Zealand.

The Air Bridges and Docking Systems have been valued according to age and remaining useful life data, including condition information supplied by AIAL's Infrastructure Systems department. The docking system has been incorporated into the building construction cost rather than as separate plant items as was done in the last valuation. The replacement cost of the Docking Systems is around \$120,000 per unit and the Air Bridges range between \$1.2M and \$1.6M each.

### 5.2 Baggage Handling Systems (2780)

Baggage handling equipment has been identified on a component level to include all conveyors, chutes, diverters, weigh laterals, and return conveyors.

The majority of the baggage equipment hails from two phases of development; the original installation in 1996 and the recent additions and upgrade works completed in 2006. Relatively minor extensions and additions have also occurred in 2001 with the extension of the baggage return hall and in 2005 with the extension of the check-in area. These dates have been factored into the valuations and depreciation charged accordingly.

## 6 Results

### 6.1 Building Valuation

The 2006 valuations of specialised building assets including building ancillary services (BAS) are tabulated below.

*Table 8: Valuation of Specialised Buildings (\$)*

BU No.	Asset	ORC	ODRC
2120	Building No.108 Livestock Handling Office Building No.109 Horse Boxes	\$318,000	\$278,000
2150	Building No.23 Rescue Fire Station Building No.34 Rescue Fire Air Boat Shed Building No.35 Rescue Fire Storage Shed Building No.36 First Aid Trailers Garage Building No.49 Rescue Fire Store Building No.64 Rescue Fire Tanker Garage Building No.150 Response Unit Training Building No.151 Response Unit Plane Building No.152 Water Treatment Plant Building No.153 Response Unit Fire House Building No.154 Response Unit Trng Portacom	\$3,797,000	\$1,830,000
2750	ITB – Airbridges & Docking Systems	\$31,224,000	\$8,067,000
2780	ITB Baggage Systems	\$60,909,000	\$38,693,000
2810	Building No.22 Waste Disposal Facility	\$344,000	\$233,000
2930	Building No.149 ITB Taxi Drivers Toilet	\$67,000	\$64,000
2960	Building No.1 Jean Batten Intl Terminal Building Building No.11 PC 11/Operations Building No.65 Plant Room (Extension P.C.11) Building No.138 Operations Storage Shed	\$445,098,000	\$302,031,000
3590	Building No.500 Ansett Terminal (Qantas) Building No.2 ANZ Domestic Terminal Building	\$65,559,000	\$12,297,000
4010	Building No.82 Medical Centre	\$30,000	\$30,000
4155	Le Kar Valet	\$196,000	\$186,000
5500	Building No.29 Storage Shed 1 BuildingNo.30 AIA Archive & Storage Shed No.2 Building No.46 AIA Village Storage Shed	\$155,000	\$92,000

BU No.	Asset	ORC	ODRC
5580	Building No.14 PC 1 (FM Depot)		
	Building No.15 PC 7		
	Building No.16 PC 8		
	Building No.17 PC 9		
	Building No.18 PC 10		
	Building No.20 Intake Power Centre		
	Asset No.45 PC 22 at PO Flight Catering		
	Building No.72 Power Centre 16		
	Building No.92 33Kv Sub Station Building	\$3,007,000	\$1,299,000
5640	Building No.38 Sanitary Sewer Pump Stn		
	Building No.51 Sanitary Sewer Pumping Station		
	Building No.94 Temporary Storage Building	\$67,000	\$25,000
6320	Facilities Maintenance Building	\$4,042,000	\$1,426,000
6330	Engineering Information Centre (EIC)	\$469,000	\$266,000
	<b>TOTAL</b>	<b>\$615,282,000</b>	<b>\$366,816,000</b>

## 6.2 Confidence Rating Specialised Building Valuation

The confidence ratings are tabulated below for the specialised building valuations.

*Table 9: Confidence Ratings for Specialised Building Assets*

Business Unit	Quantity	Unit Cost	Life/Rem Life	ODRC
International Terminal	A	B	B	B
Domestic Terminal	B	B	B	B
Other Buildings	B	B	B	B

The average accuracy rating for the building valuation is B i.e. around  $\pm 20\%$ .

## 7 Change in Valuation

### 7.1 Specialised Buildings

The changes in the valuations between 2002 and 2006 for the specialised building assets including BAS are given in table 10.

*Table 10: Change in Valuation of Specialised Building Assets*

BU No.	Business Unit Description	ORC		ODRC	
		2006	2002	2006	2002
2120	Livestock Handling	\$318,000	\$188,000	\$278,000	\$179,000
2150	Rescue Fire Service Facilities	\$3,797,000	\$1,667,000	\$1,830,000	\$723,000
2750	ITB – Air bridges & Docking Systems	\$31,224,000	\$13,567,000	\$8,067,000	\$6,542,000
2780	ITB Baggage Systems	\$60,909,000	\$19,944,000	\$38,693,000	\$9,603,000
2810	TSC Defined Area Services	\$344,000		\$233,000	
2930	PSVL ( Transport Licence)	\$67,000		\$64,000	
2960	ITB General	\$445,098,000	\$295,481,000	\$302,031,000	\$235,168,000
3590	DTB 1 & 2 General	\$65,559,000	\$33,247,000	\$12,297,000	\$12,677,000
4010	Medical Centre (@ Airport Shopping Centre)	\$30,000	\$254,000	\$30,000	\$228,000
4155	Le Kar Valet (Domestic car park building)	\$196,000	\$105,000	\$186,000	\$87,000
5500	Utilities & Services	\$155,000		\$92,000	
5580	Electricity (incl. Reticulation & Power Centres)	\$3,007,000	\$2,261,000	\$1,299,000	\$1,312,000
5640	Drainage & Storm water	\$67,000		\$25,000	
6320	Facilities Maintenance Building	\$4,042,000		\$1,426,000	
6330	Engineering Information Centre (EIC)	\$469,000	\$251,000	\$266,000	
	<b>TOTAL</b>	<b>\$615,282,000</b>	<b>\$366,965,000</b>	<b>\$366,816,000</b>	<b>\$266,519,000</b>

Details of the biggest changes summarized above are tabulated in section 7.3.

### 7.2 Reasons for Shift in Value

The replacement cost value has increased by \$248M since the previous valuation in 2002. The main contributors to this have been the significant increases in construction costs and a high level of capital expenditure. The ODRC value has increased by \$100M since the previous update in 2002.

There are a number of other variations between the current valuation and the 2002 values including changes to:

- Allowances for other costs

- Depreciation method
- Asset lives
- Quantity of assets

Each of these variations is discussed in detail below.

### 7.2.1 CAPEX

There has been \$100M of capital expenditure on specialised buildings, since the previous valuation. Depreciation over this period is estimated to be around \$45M with net increases in value of around \$ \$55M. The business units benefiting from this expenditure were:

- International Terminal Building \$45M
- Domestic Terminal Building \$5M
- Other Buildings & site works \$5M

### 7.2.2 Price Variation.

Rising prices have been a significant contributor to the increase in the 2006 valuation as briefly discussed in Section 4 earlier in the report.

#### Cost Drivers

High growth in economic activity in the construction sector combined with a wide range of local and international factors has resulted in large rises in construction costs over the last three to four years. A review of major roading projects by an Industry Expert (an unpublished report prepared by Transit NZ) showed that there were real increases in prices between 10% and 15% in the first half of 2004. A second review showed a further 8% to 17% increase in costs for the 04/05 year. In other words construction costs in the roading and transport sector had shown increases somewhere between 20 and 30% in the span of two years. (Similar, but slightly lower, trends are demonstrated in our table (table 6) of building construction cost increases.)

The major factors contributing to these cost escalations include:

- Legislative changes.
- International factors.
- Local factors.

### Legislative changes

The overall impact of legislative changes on prices has been significant. The Resource Management Amendment Act 2003 has been a major contributor imposing increased requirements to involve stakeholders to a greater degree in decision making (resulting in dedicated stakeholder management resources and increased project duration), increased requirements for noise mitigation and other environmental effects (e.g. dust control, air emissions etc) a lessening of objector deterrents resulting in repetitive objections and increased information processing prolonging resolution and increasing project costs adherence to the Kyoto Protocol requiring increased attention to climate change effects.

Other legislative changes include:

- Adoption of European Union Environmental Standards which are more stringent than those previously used.
- Local Government Act 2003 has driven up expectations in terms of sustainability.
- Increase in water and air quality standards.
- the new Building Act 2004 Act is having an indirect impact on civil construction costs.
- Compliance with the Holidays Act and the Employment Relations has increased the cost of labour.
- More stringent OSH requirements.

### International Factors

International factors such as the burgeoning demand from China for resources and materials and supply restraints on oil, plus many other have all contributed to escalating costs of imported materials.

The price of a barrel of crude oil has trebled in the last three years. This has led to significant increases in the trade price of diesel and bitumen. For projects with large plant and transport components, increasing fuel costs contributes in the order of 2.5% of the contract price.

The international demand for structural steel has risen at an alarming rate with prices rising between 20 and 25% in one six month period. Reinforcing steel though sourced locally also rose to match the international prices.

### Local Materials

List prices of some concrete products rose as much as 30% in the latter half of 2004 and a further 12% in early 2005 for a combined increase of 42% in one year. Quarry products (sand and aggregate) have shown significant increases. This has been driven mainly by increases in transport costs but also by the dwindling of supply from some existing sources and the higher costs to establish new sources and possibly increased travel distances.

### Market Buoyancy

The recent increase in the amount of new capital work, both Government (eg Land Transport NZs capital works budget) and private, has contributed to, and will continue to contribute to, inflating construction costs. This combined with shortages in manual workers, non-manual supervision and professional and management staff has meant that most large companies in the construction sector have been spending significant amounts on offshore recruitment and on training. The Australian construction market has also been extremely buoyant and their ability to offer higher salaries and benefits has put a further drain on the NZ pool of skilled and experienced labour. The market buoyancy has also fuelled wage and salary expectations with increase in labour costs of 10 to 15%. The high demand for construction services has increased profit margins from the traditional 2.5 to 5% to closer to 10% with predictions that these will rise higher to above 12% as the industry as a whole lifts its margins.

### Relative Contribution

The relative contribution the various factors to the overall price increases are tabulated below.

**Table 12:** *Summary of Price Rise Factors*

Factor	Contribution to Price Rise
Material Prices	35%
Wages & salaries	25%
Corporate costs & profit	40%
TOTAL	100%



## Price Indices

Construction cost indices in general have shown movements in the order of 25% over the period of 2002 to 2006. This is some 5 -10% short of the observed rise in actual cost rates over this same period. One possible reason for this is that many of these indices are input based and as such fail to pick up any additional costs incurred by the contractor such as contractor overheads, profits and trade margins. Also excluded from these input indices are all the other costs incurred by the purchaser such as professional fees (engineers, architects, lawyers etc.), land purchase costs, resource consents, planning permission, insurance etc. With the buoyancy in the construction sector over this period, it is these additional costs that have contributed disproportionately to the price rise.

The December 05 forecast for June 2006 forecasts a 26% increase in construction prices between June 2002 and June 2006 (based on the Statistics NZ CGPI for Non Residential Buildings). A comparison of forecast cost increases with actual increases, carried out by Del Hogg (Hogg D G Consultancy Ltd), showed that actual prices have consistently tracked well above forecasts for the last five years. This would suggest a price rise above the forecast 26% and supports the 27% - 32% increases adopted for this valuation.

## Forward Price Expectations

The international price drivers continue to put pressure on the costs of construction in NZ. The recent fall in the value of the NZ\$ has fed directly the rising cost of construction inputs. While the value of the NZ\$ has corrected marginally, most financial commentators predict a further weakening over the next two to three years, suggesting continued price rises, albeit at a lesser rate than that experienced over the last few years. The forecast expenditure levels for buildings and infrastructure over the next decade (particularly in the roading sector) suggest continued buoyancy in the construction industry and along with the shortages in the labour market mean that the corporate and labour cost drivers will continue to fuel price increases in the short to medium term. The October 2005 NZIER Update express the view that construction activity as a whole may be close to a plateau but need not be expected to decline significantly from current levels. The April 2006 Rider Hunt Forecast 41 makes a forward prediction of an average 5% per annum rise in construction prices over the next 4 years (based on the Statistics NZ Capital Goods Price Index for Non-Residential Buildings).

Alice Leonard writing in *Progressive BUILDING* April/May 2006, covered a presentation by Robert Mellor at the New Zealand Building & Construction Forecasting Workshop held recently in Auckland. Mr Mellor indicated that the

strong growth in the construction sector over recent years is far from over. In fact he is convinced that “infrastructure construction is expected to gather momentum over the next three years to 2008/09, with record levels of spending on roads, especially in the Auckland region. The average annual allocation over the four years to 2008/09 is a whopping \$1.42 billion which will lessen the impact of any downturn on infrastructure suppliers.”

### 7.2.3 Allowance for Other Costs

The allowances made for other costs such as fees and finance charges were not explicitly stated for the 2002 valuation. From our brief analysis it appears that the allowances we have included for the 2006 valuation are higher than those used for the previous valuation.

### 7.2.4 Depreciation Methods

The 2002 valuation set plateau values for assets at the end of their useful lives. These plateau values are set at reasonably high level (usually set at 15%). The 2006 valuation adopts a point residual value, which for most assets is set at zero for depreciable assets. This difference in approach has resulted in some changes in the ODRC values.

### 7.2.5 Asset Lives

The 2006 valuation sets base lives for each asset and then adjusts these for age of the asset (see section 3.5.3). This approach is in accordance with the AIAL Valuation Handbook. The 2002 valuation used fixed life expectancies for each asset type. The two approaches are likely to yield different asset lives and hence a source of variation in the ODRC.

### 7.2.6 Quantities

The 2006 valuation is based on more detail inventory information than was available at the time of the 2002 valuation. This has resulted in an increase in value for some assets.

There have been no significant additions to or disposals of specialised assets since the 2002 valuation. Work on the ITB is likely to have resulted in value write down where some existing assets would have been destroyed in the reconstruction process. The extent of write down is unknown.

### 7.3 Change in Value at Business Unit Level.

#### 7.3.1 International Terminal Building (2960) including Baggage Handling (2780) and Air Bridges and Docking Systems (2750)

The change in value of the ITB assets (including baggage handling plant, air bridges and docking systems) is tabulated below.

**Table 13:** Increase in Value of ITB Assets (2960, 2780 & 2750)

Output	2006	2002	Difference	
			\$	%
ORC	\$537,231,000	\$328,991,000	\$208,240,000	63%
ODRC	\$348,790,000	\$251,313,000	\$97,477,000	39%
2006 Book Value	\$295,347,000		\$53,443,000	18%

The ORC has risen by \$208M and the ODRC by \$97M. The main components of this are:

- Significant increases in construction costs
- A high level of capital expenditure. Projects include 10,612m<sup>2</sup> of new floor area, a significant upgrade of the baggage handling facility, the segregation of arrivals and departures through the addition of a second level to Pier A and the extension of the check-in facilities by the addition of a new structure to the east wing of the terminal building.
- Vastly improved asset inventory has led to an increase in the quantity of some asset groups from that assumed for the 2002 valuation
- More detailed modelling and increased componentisation of the building assets has led to changes in ODRC values
- Changes in valuation assumptions and parameters

The March 2006 book value of the ITB was \$295M. The 2006 revaluation increases this by \$53M.

#### 7.3.2 Domestic Terminal Building (3590) (Qantas & Air New Zealand)

The change in value of the DTB assets is tabulated below.

**Table 14:** *Increase in Value of DTB Assets (3950)*

Output	2006	2002	Difference	
			\$	%
ORC	\$65,559,000	\$33,247,000	\$32,312,000	97%
ODRC	\$12,297,000	\$12,677,000	-\$380,000	-3%

The ORC has risen by \$32M (97%). The main contributors to this are increased construction costs and capital expenditure. The major change in value since the 2002 valuation has been in the following areas where there has been significant expenditure:

- Toilets and general upgrade, including suspended ceilings and some air conditioning
- Floor coverings, screening and automatic doors
- New check in counters in both terminals and
- New covered walk way to the provincial services.

The ODRC value has virtually remained unchanged. Cost increases are almost totally offset by depreciation over the 4 year period.

# APPENDIX A

## AIAL Business Units

<b>BU</b>	<b>Description</b>	<b>BU</b>	<b>Description</b>
2000	AIRFIELD	4060	AVSEC HQ LAND
2001	SEABED	4040	ANZ CONTAINER PARK
2030	SECOND RUNWAY	4045	AVIALL BLDG
2120	LIVESTOCK HANDLING	4050	AVIATION COUNTRY CLUB
2150	RESCUE FIRE SERVICE FACILITIES	4055	AVIS SERVICE FACILITY
2240	WASTE RESOURCES BUILDING	4060	AVSEC HQ LAND
2600	ITB PUBLIC CARPARKS	4065	BNZ SERVICE BLDG
2750	ITB - AIRBRIDGES & DOCKING SYSTEMS	4070	BRIDGESTONE/FIRESTONE
2780	ITB BAGGAGE SYSTEMS	4075	BUDGET RENT-A-CAR FACILITY
2810	TSC DEFINED AREA SERVICES	4080	BULK FUEL INCL FUEL PIPES
2930	PSVL ( TRANSPORT LICENCE)	4085	BUTTERFLY CREEK
2960	ITB GENERAL	4090	CALTEX TRUCK STOP LAND
3050	ALL STAFF CARPARKS	4095	AIR CARGO BUILDING 1
3170	TECHNICAL & CCTV SURVEILLANCE	4100	AIR CARGO BLDG 2 - DEVON BUILDING
3290	DOMESTIC PUBLIC CARPARKS	4105	AIR CARGO BUILDING 4
3590	DTB1 & 2 GENERAL	4110	CHILD CARE CENTRE (ex LHOP)
4000	AIRPORT FREIGHT CENTRE (AFC)	4115	NZ COURIERS BLDG (WAS TSB)
4001	AIR FREIGHT NZ HANGAR	4120	FARM BLDGS & DWELLINGS (AIRSIDE)
4002	HANGAR # 6 (HART)	4125	FLIWAY (TOM PEARSE DR)
4005	AIR NZ JET BASE, HANGARS & MTCE FACILITIES	4130	FLYING FIT HEALTH CLUB
4010	MEDICAL CENTRE (now @ Airp Shopping Centre)	4135	GOLF DRIVING RANGE
4015	AIRWAYS CORP EQUIPMENT LAND LEASE	4140	DIAMOND GROUP HANGAR
4020	AIRWAYS CORP OPS BLDG & TOWER LAND	4145	HERTZ SERVICE FACILITY
4025	AIRWORK HANGAR	4150	KORU CLUB SERVICE FACILITY
4030	NZ POST DISTRIBUTION TOM PEARCE DRIVE	4155	LE KAR VALET (now incorporated in dom carp bldg)
4035	AIR NZ AMENTIES BUILDING (now moved)	4160	MAF FUMIGATION FACILITY
4040	ANZ CONTAINER PARK	4165	MANUKAU TOYOTA
4045	AVIALL BLDG	4170	MCDONALDS DRIVE THROUGH
4050	AVIATION COUNTRY CLUB	4175	NZ POST MAIL CENTRE

<b>BU</b>	<b>Description</b>	<b>BU</b>	<b>Description</b>
4055	AVIS SERVICE FACILITY	4180	NZ POST HANGAR
4185	MENZIES AVIATION BUILDING	4345	#1 LEONARD ISITT
4190	PANELBEATER	4350	KIWIBOND
4195	PRI FLIGHT CATERING	4355	UTI BUILDING
4200	QUALITY CABS BUILDING	4360	DFS BUILDING
4205	REGENCY WAREHOUSE	4365	EXEL NZ DISTRIBUTION CENTRE # 2
4210	RESIDENTIAL DWELLINGS (LANSIDE)	4370	NATIONAL CAR RENTALS
4215	SERVICE STATIONS (2X)	4375	SUPPLY CHAIN SOLUTIONS
4220	SKYCARRE BUILDINGS	4380	SUBWAY
4225	NZ POST DISTRIBUTION A. McKEE AVENUE	4385	WILSON LOGISTICS
4230	SKYWAY PARKING	4390	APEX CAR RENTALS
4235	WESTPAC RESCUE HANGAR (HANGAR 2)	4395	BARBER LOGISTICS
4245	VEHICLE TESTING STATION	4400	SMALL BLDG / GROUND LEASES
4250	TNT WAREHOUSE	4405	FLIWAY (MANU TAPU Dr)
4255	EXEL NZ DISTRIBUTION CENTRE # 1	4410	PITSTOP
4260	TWIN BUILDING	4415	J A RUSSELL
4265	MENZIES CARGO (# 5)	5500	UTILITIES & SERVICES
4275	OTHER LAND USE (YET UNDEVELOPED)	5520	ROADWAYS
4285	DHL OFFICE & WAREHOUSE	5540	GROUND CARE (was pax rest area, now carpark)
4290	ROCKGAS LAND	5580	ELECTRICITY (INCL RETICLN & POWER CTRS)
4295	FONTERRA OFFICE BUILDING	5600	WATER (INCL RETIC, RESERVOIRS & P/ STN)
4300	AIRPORT SHOPPING CENTRE	5620	GAS
4310	FEDEX	5640	DRAINAGE & STORMWATER
4315	ADVENTURE GOLF	5680	DUCTING
4320	INCINERATOR BLDG/DANGEROUS GOODS STORE	6320	FACILITIES MAINTENANCE BUILDING
4325	PRIORITY FRESH BLDG	6330	ENGINEERING INFO CENTRE (EIC)
4330	ACE TOURIST RENTAL FACILITY	6500	INFO TECH SYSTEMS
4340	ARF RENTAL CAR FACILITY	6710	ACCESS CONTROL

## **APPENDIX B**

# **Allowance for Other Costs**



<b>Specialised Buildings including Building Ancillary Services</b>			
<b>Allowances for Professional Fees and Financial Charges plus Site Establishment and Preliminary &amp; General Costs (expressed as a % of the construction cost)</b>			
<b>Allowances to account for the cost and timing of professional fees and financial charges and discounting to Present Value.</b>			
<b>Investigations (excluding consents)</b>		4%	
<b>Design</b>		4%	
<b>Construction Supervision</b>		4%	
<b>Site Establishment and Preliminary &amp; General</b>		10%	
<b>Finance Charges (%/yr)</b>			
	Cost of financing for duration of asset construction	7.0%	(ie the cost of debt)
	Discount rate to Present Value to date of first operation	10.0%	

<b>ASSET</b>		<b>Years Prior to Commissioning</b>						
		5	4	3	2	1	0.5	0
		4.5	-3.5	-2.5	-1.5	-0.75	-0.25	
<b>Terminal Buildings</b>	Investigations			3%	1%			
	Design			3%	1%			
	Constrn Supervision			1%	1%	1%	1%	
	Site Est and P&G				8%	1%	1%	
	Construction				40%	30%	30%	
	Total	0%	0%	7%	51%	32%	32%	
<b>Other Buildings</b>	Investigations				2%	2%		
	Design				3%	1%		
	Constrn Supervision				1%	2%	1%	
	Site Est and P&G				6%	3%	1%	
	Construction				25%	40%	35%	
	Total	0%	0%	0%	37%	48%	37%	

<b>Asset Group</b>	<b>Cost Adjustments</b>				
	<b>Total</b>	<b>Prof Fees</b>	<b>Site Est P &amp; G</b>	<b>Finance Charge</b>	<b>PV Discount</b>
Terminal Buildings	<b>31%</b>	<b>12%</b>	<b>10%</b>	<b>9%</b>	<b>0%</b>
Other Buildings	<b>30%</b>	<b>12%</b>	<b>10%</b>	<b>8%</b>	<b>0%</b>