Appendix D

Short List Comparative Cost Estimates

Prefeasibility (no concept design undertaken) Rough Order Cost Estimate - Accuracy approximately +/- 30%

Short Listed Site 2 - Gibbs Road
Stage 1 - 1500m Runway — Unrestricted existing turboprop operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	720,000	$ 4.00	$ 2,880,000	
Earthworks - Fill	m3	720,000	$ 4.00	$ 2,880,000	
Earthworks - Stabilisation	m3		$ 35	$ -	
Drainage - Channel Diversion	LS	1	$ 1,000,000	$ 1,000,000	
Drainage - Culverts	LS	1	$ 1,000,000	$ 1,000,000	
Airside Pavements					
Runway 1500 x 30 (Code 3C)	m2	45,000	$ 200	$ 9,000,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C)	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	3,600	$ 120	$ 432,000	50 mm A/C shoulders
Apron (165m x 74m)	m2	12,400	$ 300	$ 3,720,000	100mm A/C Apron, 400mm PCC hardstand
Terminal and Landside Pavements					
Terminal Building	m2	2,000	$ 4,200	$ 8,400,000	
Carpark pavements and landscaping	m2	23,000	$ 120	$ 2,760,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 15,132,000	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastructure					
Airfield Lighting	LS	1	$ 800,000	$ 800,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	Assume Tanker Re-fuelling
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal (Power Lines)	LS		$ 500,000	$ -	
Subtotal				**$ 51,304,000**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 1,026,080**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 3,078,240**	
Subtotal				**$ 55,408,320**	
MSQA Fees and costs			**6%**	**$ 3,324,499**	
D&PD Fees and costs			**6%**	**$ 3,324,499**	
Subtotal				**$ 62,057,318**	
Contingency			**30%**	**$ 18,617,196**	
TOTAL				**$ 80,674,513.92**	

Short Listed Site 2 - Gibbs Road
Stage 2 - 1800m Runway — Future 90 seat+ turboprop operations and Code C jet operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	800,000	$ 4.00	$ 3,200,000	Allowance for bouldery soil
Earthworks - Fill	m3	800,000	$ 4.00	$ 3,200,000	Allowance for bouldery soil
Earthworks - Stabilisation	m3		$ 35	$ -	
Drainage - Channel Diversion	LS	1	$ 1,000,000	$ 1,000,000	
Drainage - Culverts	LS	1	$ 1,000,000	$ 1,000,000	
Airside Pavements					
Runway 1800 x 45 (Code 4C)	m2	81,000	$ 200	$ 16,200,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C) x 2 x 133	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	2,660	$ 120	$ 319,200	50 mm A/C shoulders
Apron (228m x 74m)	m2	16,900	$ 300	$ 5,070,000	100mm A/C Apron, 400mm PCC hardstar
Terminal and Landside Pavements					
Terminal Building	m2	3,500	$ 4,200	$ 14,700,000	
Carpark pavements and landscaping	m2	30,000	$ 120	$ 3,600,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 15,132,000	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastructure					
Airfield Lighting	LS	1	$ 800,000	$ 800,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal (Power Lines)	LS		$ 500,000	$ -	Not required
Subtotal				**$ 67,521,200**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 1,350,424**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 4,051,272**	
Subtotal				**$ 72,922,896**	
MSQA Fees and costs			**6%**	**$ 4,375,374**	
D&PD Fees and costs			**6%**	**$ 4,375,374**	
Subtotal				**$ 81,673,644**	
Contingency			**30%**	**$ 24,502,093**	
TOTAL				**$ 106,175,736.58**	

TOTAL Stage 2 - Stage 1 Build Cost - Excludes escalation **$ 25,501,222.66**

Whangarei District Council - Airport Locations Option Study

Prefeasibility (no concept design undertaken) Rough Order Cost Estimate - Accuracy approximately +/- 30%

Short Listed Site	**6 - Hodge Road**	
Stage	**1 - 1500m Runway**	Unrestricted existing turboprop operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	2,100,000	$ 3.00	$ 6,300,000	No saving as cut required
Earthworks - Fill	m3	2,100,000	$ 3.00	$ 6,300,000	No saving as cut required
Earthworks - Stabilisation	m3		$ 35	$ -	
Drainage - Channel Diversion	LS	1	$ 500,000	$ 500,000	
Drainage - Culverts	LS	1	$ 500,000	$ 500,000	
Airside Pavements					
Runway 1500 x 30 (Code 3C)	m2	45,000	$ 200	$ 9,000,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C)	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	3,600	$ 120	$ 432,000	50 mm A/C shoulders
Apron	m2	12,400	$ 300	$ 3,720,000	100mm A/C Apron, 400mm PCC hardstand
Terminal and Landside Pavements					
Terminal Building	m2	2,000	$ 4,200	$ 8,400,000	
Carpark pavements and landscaping	m2	23,000	$ 120	$ 2,760,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 4,495,000	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastructure					
Airfield Lighting	LS	1	$ 800,000	$ 800,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	Assume Tanker Re-fuelling
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal	LS	1	$ 200,000	$ 200,000	Trees?
Subtotal				**$ 46,707,000**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 934,140**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 2,802,420**	
Subtotal				**$ 50,443,560**	
MSQA Fees and costs			**6%**	**$ 3,026,614**	
D&PD Fees and costs			**6%**	**$ 3,026,614**	
Subtotal				**$ 56,496,787**	
Contingency			**30%**	**$ 16,949,036**	
TOTAL				**$ 73,445,823.36**	

Short Listed Site	**6 - Hodge Road**	
Stage	**2 - 1800m Runway**	Future 90 seat+ turboprop operations and Code C jet operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	2,100,000	$ 3.00	$ 6,300,000	Volcanic soil
Earthworks - Fill	m3	2,100,000	$ 3.00	$ 6,300,000	Volcanic soil
Earthworks - Stabilisation	m3		$ 35	$ -	
Drainage - Channel Diversion	LS	1	$ 500,000	$ 500,000	
Drainage - Culverts	LS	1	$ 500,000	$ 500,000	
Airside Pavements					
Runway 1800 x 45 (Code 4C)	m2	81,000	$ 200	$ 16,200,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C) x 2 x 133	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	2,660	$ 120	$ 319,200	50 mm A/C shoulders
Apron (228m x 74m)	m2	16,900	$ 300	$ 5,070,000	100mm A/C Apron, 400mm PCC hardstand
Terminal and Landside Pavements					
Terminal Building	m2	3,500	$ 4,200	$ 14,700,000	
Carpark pavements and landscaping	m2	30,000	$ 120	$ 3,600,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 4,495,000	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastructure					
Airfield Lighting	LS	1	$ 800,000	$ 800,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal	LS	1	$ 200,000	$ 200,000	Trees?
Subtotal				**$ 62,284,200**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 1,245,684**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 3,737,052**	
Subtotal				**$ 67,266,936**	
MSQA Fees and costs			**6%**	**$ 4,036,016**	
D&PD Fees and costs			**6%**	**$ 4,036,016**	
Subtotal				**$ 75,338,968**	
Contingency			**30%**	**$ 22,601,690**	
TOTAL				**$ 97,940,658.82**	

TOTAL Stage 2 - Stage 1 Build Cost - Excludes escalation **$ 24,494,835.46**

Whangarei District Council - Airport Locations Option Study

Prefeasibility (no concept design undertaken) Rough Order Cost Estimate - Accuracy approximately +/- 30%

Short Listed Site 9 - Ruatangata
Stage 1 - 1500m Runway — Unrestricted existing turboprop operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	3,900,000	$ 3.00	$ 11,700,000	Fill required so no saving
Earthworks - Fill	m3	3,900,000	$ 3.00	$ 11,700,000	Fill required so no saving
Earthworks - Stabilisation	m3		$ 35	$ -	
Drainage - Channel Diversion	LS	1	$ 1,000,000	$ 1,000,000	
Drainage - Culverts	LS	1	$ 1,000,000	$ 1,000,000	
Airside Pavements					
Runway 1500 x 30 (Code 3C)	m2	45,000	$ 200	$ 9,000,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C)	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	3,600	$ 120	$ 432,000	50 mm A/C shoulders
Apron	m2	12,400	$ 300	$ 3,720,000	100mm A/C Apron, 400mm PCC hardstand
Terminal and Landside Pavements					
Terminal Building	m2	2,000	$ 4,200	$ 8,400,000	
Carpark pavements and landscaping	m2	23,000	$ 120	$ 2,760,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 3,077,763	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastructure					
Airfield Lighting	LS	1	$ 800,000	$ 800,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	Assume Tanker Re-fuelling
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal	LS	1	$ 200,000	$ 200,000	Trees
Subtotal				**$ 57,089,763**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 1,141,795**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 3,425,386**	
Subtotal				**$ 61,656,944**	
MSQA Fees and costs			**6%**	**$ 3,699,417**	
D&PD Fees and costs			**6%**	**$ 3,699,417**	
Subtotal				**$ 69,055,777**	
Contingency			**30%**	**$ 20,716,733**	
TOTAL				**$ 89,772,510.52**	

Short Listed Site 9 - Ruatangata
Stage 2 - 1800m Runway — Future 90 seat+ turboprop operations and Code C jet operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	3,900,000	$ 3.00	$ 11,700,000	Cut to fill from adjacent site, volcanic soil
Earthworks - Fill	m3	3,900,000	$ 3.00	$ 11,700,000	Cut to fill from adjacent site, volcanic soil
Earthworks - Stabilisation	m3		$ 35	$ -	
Drainage - Channel Diversion	LS	1	$ 1,000,000	$ 1,000,000	
Drainage - Culverts	LS	1	$ 1,000,000	$ 1,000,000	
Airside Pavements					
Runway 1800 x 45 (Code 4C)	m2	81,000	$ 200	$ 16,200,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C) x 2 x 133	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	2,660	$ 120	$ 319,200	50 mm A/C shoulders
Apron (228m x 74m)	m2	16,900	$ 300	$ 5,070,000	100mm A/C Apron, 400mm PCC hardstand
Terminal and Landside Pavements					
Terminal Building	m2	3,500	$ 4,200	$ 14,700,000	
Carpark pavements and landscaping	m2	30,000	$ 120	$ 3,600,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 3,077,763	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastructure					
Airfield Lighting	LS	1	$ 800,000	$ 800,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal	LS	1	$ 200,000	$ 200,000	Trees
Subtotal				**$ 72,666,963**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 1,453,339**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 4,360,018**	
Subtotal				**$ 78,480,320**	
MSQA Fees and costs			**6%**	**$ 4,708,819**	
D&PD Fees and costs			**6%**	**$ 4,708,819**	
Subtotal				**$ 87,897,958**	
Contingency			**30%**	**$ 26,369,388**	
TOTAL				**$ 114,267,345.98**	

TOTAL Stage 2 - Stage 1 Build Cost - Excludes escalation **$ 24,494,835.46**

Whangarei District Council - Airport Locations Option Study

Prefeasibility (no concept design undertaken) Rough Order Cost Estimate - Accuracy approximately +/- 30%

Short Listed Site 22 - Rosythe Road
Stage 1 - 1500m Runway — Unrestricted existing turboprop operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	450,000	$ 7.50	$ 3,375,000	50% Imported (local) rock fill (ripped)
Earthworks - Fill	m3	450,000	$ 7.50	$ 3,375,000	50% Imported (local) rock fill (ripped)
Earthworks - Stabilisation	m3	450,000	$ 15	$ 6,750,000	Peat undercut
Drainage - Channel Diversion	LS	1	$ 500,000	$ 500,000	
Drainage - Culverts	LS	1	$ 500,000	$ 500,000	
Airside Pavements					
Runway 1500 x 30 (Code 3C)	m2	45,000	$ 200	$ 9,000,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C)	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	3,600	$ 120	$ 432,000	50 mm A/C shoulders
Apron	m2	12,400	$ 300	$ 3,720,000	100mm A/C Apron, 400mm PCC hardstand
Terminal and Landside Pavements					
Terminal Building	m2	2,000	$ 4,200	$ 8,400,000	
Carpark pavements and landscaping	m2	23,000	$ 120	$ 2,760,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 7,290,000	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastructure					
Airfield Lighting	LS	1	$ 800,000	$ 800,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	Assume Tanker Re-fuelling
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal (Power Lines)	LS	1	$ 500,000	$ 500,000	Trees
Subtotal				**$ 50,702,000**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 1,014,040**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 3,042,120**	
Subtotal				**$ 54,758,160**	
MSQA Fees and costs			**6%**	**$ 3,285,490**	
D&PD Fees and costs			**6%**	**$ 3,285,490**	
Subtotal				**$ 61,329,139**	
Contingency			**30%**	**$ 18,398,742**	
TOTAL				**$ 79,727,880.96**	

Short Listed Site 22 - Rosythe Road
Stage 2 - 1800m Runway — Future 90 seat+ turboprop operations and Code C jet operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	500,000	$ 7.50	$ 3,750,000	50% Imported (local) rock fill (ripped)
Earthworks - Fill	m3	500,000	$ 7.50	$ 3,750,000	50% Imported (local) rock fill (ripped)
Earthworks - Stabilisation	m3	500,000	$ 15	$ 7,500,000	Peat undercut
Drainage - Channel Diversion	LS	1	$ 500,000	$ 500,000	
Drainage - Culverts	LS	1	$ 500,000	$ 500,000	
Airside Pavements					
Runway 1800 x 45 (Code 4C)	m2	81,000	$ 200	$ 16,200,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C) x 2 x 133	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	2,660	$ 120	$ 319,200	50 mm A/C shoulders
Apron (228m x 74m)	m2	16,900	$ 300	$ 5,070,000	100mm A/C Apron, 400mm PCC hardstand
Terminal and Landside Pavements					
Terminal Building	m2	3,500	$ 4,200	$ 14,700,000	
Carpark pavements and landscaping	m2	30,000	$ 120	$ 3,600,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 7,290,000	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastructure					
Airfield Lighting	LS	1	$ 800,000	$ 800,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal (Power Lines)	LS	1	$ 500,000	$ 500,000	Trees
Subtotal				**$ 67,779,200**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 1,355,584**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 4,066,752**	
Subtotal				**$ 73,201,536**	
MSQA Fees and costs			**6%**	**$ 4,392,092**	
D&PD Fees and costs			**6%**	**$ 4,392,092**	
Subtotal				**$ 81,985,720**	
Contingency			**30%**	**$ 24,595,716**	
TOTAL				**$ 106,581,436.42**	

TOTAL Stage 2 - Stage 1 Build Cost - Excludes escalation **$ 26,853,555.46**

Whangarei District Council - Airport Locations Option Study
Prefeasibility (no concept design undertaken) Rough Order Cost Estimate - Accuracy approximately +/- 30%

Short Listed Site 24a - One Tree Point/West
Stage 1 - 1500m Runway — Unrestricted existing turboprop operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	180,000	$ 2.50	$ 450,000	
Earthworks - Fill	m3	180,000	$ 2.50	$ 450,000	
Earthworks - Imported rock fill	m3	180,000	$ 20	$ 3,600,000	Assumes imported rock fill
Earthworks - peat cut and backfill	m3	145,000	$ 18	$ 2,610,000	
Drainage - Channel Diversion	LS	1	$ 500,000	$ 500,000	
Drainage - Culverts	LS	1	$ 500,000	$ 500,000	
Airside Pavements					
Runway 1500 x 30 (Code 3C)	m2	45,000	$ 200	$ 9,000,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C)	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	3,600	$ 120	$ 432,000	50 mm A/C shoulders
Apron	m2	12,400	$ 300	$ 3,720,000	100mm A/C Apron, 400mm PCC hardstand
Terminal and Landside Pavements					
Terminal Building	m2	2,000	$ 4,200	$ 8,400,000	
Carpark pavements and landscaping	m2	23,000	$ 120	$ 2,760,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 7,050,000	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastrucuture					
Airfield Lighting	LS	1	$ 800,000	$ 800,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	Assume Tanker Re-fuelling
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal (Power Lines)	LS	1	$ 200,000	$ 200,000	
Subtotal				**$ 43,772,000**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 875,440**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 2,626,320**	
Subtotal				**$ 47,273,760**	
MSQA Fees and costs			**6%**	**$ 2,836,426**	
D&PD Fees and costs			**6%**	**$ 2,836,426**	
Subtotal				**$ 52,946,611**	
Contingency			**30%**	**$ 15,883,983**	
TOTAL				**$ 68,830,594.56**	

Short Listed Site 24a - One Tree Point/West
Stage 2 - 1800m Runway — Future 90 seat+ turboprop operations and Code C jet operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	200,000	$ 2.50	$ 500,000	
Earthworks - Fill	m3	200,000	$ 2.50	$ 500,000	
Earthworks - Imported rock fill	m3	200,000	$ 20	$ 4,000,000	Assumes imported rock fill
Earthworks - peat cut and backfill	m3	160,000	$ 18	$ 2,880,000	
Drainage - Channel Diversion	LS	1	$ 500,000	$ 500,000	
Drainage - Culverts	LS	1	$ 500,000	$ 500,000	
Airside Pavements					
Runway 1800 x 45 (Code 4C)	m2	81,000	$ 200	$ 16,200,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C) x 2 x 133	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	2,660	$ 120	$ 319,200	50 mm A/C shoulders
Apron (228m x 74m)	m2	16,900	$ 300	$ 5,070,000	100mm A/C Apron, 400mm PCC hardstand
Terminal and Landside Pavements					
Terminal Building	m2	3,500	$ 4,200	$ 14,700,000	
Carpark pavements and landscaping	m2	30,000	$ 120	$ 3,600,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 7,050,000	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastrucuture					
Airfield Lighting	LS	1	$ 800,000	$ 800,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	Assume Tanker Re-fuelling
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal (Power Lines)	LS	1	$ 200,000	$ 200,000	
Subtotal				**$ 60,119,200**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 1,202,384**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 3,607,152**	
Subtotal				**$ 64,928,736**	
MSQA Fees and costs			**6%**	**$ 3,895,724**	
D&PD Fees and costs			**6%**	**$ 3,895,724**	
Subtotal				**$ 72,720,184**	
Contingency			**30%**	**$ 21,816,055**	
TOTAL				**$ 94,536,239.62**	

TOTAL Stage 2 - Stage 1 Build Cost - Excludes escalation **$ 25,705,645.06**

Whangarei District Council - Airport Locations Option Study

Prefeasibility (no concept design undertaken) Rough Order Cost Estimate - Accuracy approximately +/- 30%

Short Listed Site 24b - One Tree Point/East
Stage 1 - 1500m Runway — Unrestricted existing turboprop operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	270,000	$ 2.50	$ 675,000	
Earthworks - Fill	m3	270,000	$ 2.50	$ 675,000	
Earthworks - Imported rock fill	m3	450,000	$ 20	$ 9,000,000	
Earthworks - peat cut and backfill	m3	160,000	$ 18	$ 2,880,000	
Drainage - Channel Diversion	LS	1	$ 500,000	$ 500,000	
Drainage - Culverts	LS	1	$ 500,000	$ 500,000	
Airside Pavements					
Runway 1500 x 30 (Code 3C)	m2	45,000	$ 200	$ 9,000,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C)	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	3,600	$ 120	$ 432,000	50 mm A/C shoulders
Apron	m2	12,400	$ 300	$ 3,720,000	100mm A/C Apron, 400mm PCC hardstand
Terminal and Landside Pavements					
Terminal Building	m2	2,000	$ 4,200	$ 8,400,000	
Carpark pavements and landscaping	m2	23,000	$ 120	$ 2,760,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 7,825,000	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastructure					
Airfield Lighting	LS	1	$ 800,000	$ 800,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	Assume Tanker Re-fuelling
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal (Power Lines)	LS	1	$ 10,000,000	$ 10,000,000	For dual low pylons - $20M to underground
Subtotal				**$ 60,467,000**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 1,209,340**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 3,628,020**	
Subtotal				**$ 65,304,360**	
MSQA Fees and costs			**6%**	**$ 3,918,262**	
D&PD Fees and costs			**6%**	**$ 3,918,262**	
Subtotal				**$ 73,140,883**	
Contingency			**30%**	**$ 21,942,265**	
TOTAL				**$ 95,083,148.16**	

Short Listed Site 24b - One Tree Point/East
Stage 2 - 1800m Runway — Future 90 seat+ turboprop operations and Code C jet operations

Item	Unit	Quantity	Rate	Amount	Comment
Site Preparation					
Earthworks - Cut to fill	m3	300,000	$ 2.50	$ 750,000	
Earthworks - Fill	m3	300,000	$ 2.50	$ 750,000	
Earthworks - Imported rock fill	m3	500,000	$ 20	$ 10,000,000	
Earthworks - peat cut and backfill	m3	160,000	$ 18	$ 2,880,000	
Drainage - Channel Diversion	LS	1	$ 500,000	$ 500,000	
Drainage - Culverts	LS	1	$ 500,000	$ 500,000	
Airside Pavements					
Runway 1800 x 45 (Code 4C)	m2	81,000	$ 200	$ 16,200,000	100 mm A/C runway
Runway Shoulders	m2	-	$ 120	$ -	Not required for Code C runway
Taxiway 15m (Code C) x 2 x 133	m2	4,000	$ 200	$ 800,000	100 mm A/C taxiway
Taxiway Shoulders 5.0m each side	m2	2,660	$ 120	$ 319,200	50 mm A/C shoulders
Apron (228m x 74m)	m2	16,900	$ 300	$ 5,070,000	100mm A/C Apron, 400mm PCC hardstand
Terminal and Landside Pavements					
Terminal Building	m2	3,500	$ 4,200	$ 14,700,000	
Carpark pavements and landscaping	m2	30,000	$ 120	$ 3,600,000	
Services	LS	1	$ 500,000	$ 500,000	
Landside Connections					
Approach roading and intersections	LS			$ 7,825,000	See separate spreadsheet for calc
Bridges/Culverts incl in above	LS			$ -	NZ1-14440263
Support Infrastructure					
Airfield Lighting	LS	1	$ 300,000	$ 300,000	
Navaids	LS	1	$ 500,000	$ 500,000	
Fuel infrastructure (tank farm)	LS	1	$ 750,000	$ 750,000	Assume Tanker Re-fuelling
Fence	m	5,000	$ 150	$ 750,000	
Obstacle Removal (Power Lines)	LS	1	$ 10,000,000	$ 10,000,000	For dual low pylons - $20M to underground
Subtotal				**$ 76,694,200**	
			% Allowance		
Allowance for Environmental Compliance			**2%**	**$ 1,533,884**	
Allowance for Temporary Works and Traffic Management			**6%**	**$ 4,601,652**	
Subtotal				**$ 82,829,736**	
MSQA Fees and costs			**6%**	**$ 4,969,784**	
D&PD Fees and costs			**6%**	**$ 4,969,784**	
Subtotal				**$ 92,769,304**	
Contingency			**30%**	**$ 27,830,791**	
TOTAL				**$ 120,600,095.62**	

TOTAL Stage 2 - Stage 1 Build Cost - Excludes escalation **$ 25,516,947.46**

Whangarei District Council - Airport Locations Option Study - SUMMARY

Prefeasibility (no concept design undertaken) Rough Order Cost Estimate - Accuracy approximately +/- 30%

Short Listed Site	Land Capital Value	Construction Costs		Total Cost		Ranking		Increase in cost		Total % increase	
		1500m Runway Stage 1	1800m Runway Stage 2	Stage 1	Stage 2	S1	S2	Stage 1	Stage 2	Stage 1	Stage 2
2 - Gibbs Road	$ 9,100,000	$ 80,674,514	$ 25,501,223	$ 89,774,514	$ 115,275,737	3	3	$ 5,443,919	$ 5,239,497	6.5%	4.8%
6 - Hodge Road	$ 14,900,000	$ 73,445,823	$ 24,494,835	$ 88,345,823	$ 112,840,659	2	2	$ 4,015,229	$ 2,804,419	4.8%	2.5%
9 - Ruatangata	$ 7,800,000	$ 89,772,511	$ 24,494,835	$ 97,572,511	$ 122,067,346	5	5	$ 13,241,916	$ 12,031,106	15.7%	10.9%
22 - Rosythe Road	$ 12,100,000	$ 79,727,881	$ 26,853,555	$ 91,827,881	$ 118,681,436	4	4	$ 7,497,286	$ 8,645,197	8.9%	7.9%
24a - One Tree Point/West	$ 15,500,000	$ 68,830,595	$ 25,705,645	$ 84,330,595	$ 110,036,240	1	1	$ -	$ -	0.0%	0.0%
24b - One Tree Point/East	$ 30,000,000	$ 95,083,148	$ 25,516,947	$ 125,083,148	$ 150,600,096	6	6	$ 40,752,554	$ 40,563,856	48.3%	36.9%

	Total S1+S2	Total incl land	
2 - Gibbs Road	$ 106,175,737	$ 115,275,737	**2.2%**
6 - Hodge Road	$ 97,940,659	$ 112,840,659	**0.0%**
9 - Ruatangata	$ 114,267,346	$ 122,067,346	**8.2%**
22 - Rosythe Road	$ 106,581,436	$ 118,681,436	
24a - One Tree Point/West	$ 94,536,240	$ 110,036,240	
24b - One Tree Point/East	$ 120,600,096	$ 150,600,096	

Roading upgrades and new roading infrastructure

Item No.	Site 2 - Gibbs Road					
	Item	Items to be costed	Length of Road (metres)	Rate	$Cost	Comments / Assumptions
1	Significant upgrade of intersection Puhipuhi Road/SH1	Major intersection upgrade with roundabout with SH1	1	$5M	$5,000,000	Assume large roundabout (Beca cost) $5M
2	Upgrade of Puhipuhi Road (between SH1 and Mine Road)	Upgrade of rural road from unsealed to sealed with shoulders	4,200	$446	$1,872,000	WDC estimate - excludes drainage and lighting
3	Upgrade of Mine Road (between Puhipuhi Road and start of realignment)	Upgrade of rural road from unsealed to sealed with shoulders	500	$400	$200,000	WDC estimate - excludes drainage and lighting
4	Realignment of Mine Road around airport footprint	New rural road	1,600	$4,000	$6,400,000	Beca Estimate - 2 lane Rural Rd, 8m width
5	Culvert or bridge upgrade		3	$500,000	$1,500,000	WDC Estimate for single bridge upgrade
6	Upgrade Mine Rd from realignment to airport enterance	Upgrade of rural road from unsealed to sealed with shoulders	400	$400	$160,000	Based on WDC values
					$15,132,000	

Item No.	Site 6 - Hodge Road					
	Element	Items to be costed	Length of Road (metres)	Rate	$Cost	Comments / Assumptions
1	Intersection upgrade of SH1 Kamo Bypass/Great North Road.	Major intersection upgrade with roundabout (SH1).	1	$5M	$1,700,000	Assume large roundabout (beca cost) $5M split 3 ways between developer, NZTA, WDC
2	Road upgrade of Pipiwai from Great North Rd to Three Mile Bush	Road upgrade	8,435	$148	$1,247,763	WDC Estimate. Refer to Site 9 below. Rate is averaged
3	Road upgrade of Pipiwai from Three Mile Bush Rd to airport entrance (bend north of Ruatangata township)	Road upgrade	4,000		$1,548,000	Based on WDC cost
					$4,495,763	

Item No.	Site 9 - Ruatangata Road					
	Element	Items to be costed	Length of Road (metres)	Rate	$Cost	Comments / Assumptions
1	Intersection upgrade of SH1 Kamo Bypass/Great North Road.	Major intersection upgrade with roundabout (SH1).	N/A	$5M	$1,700,000	Assume large roundabout (beca cost) $5M split 3 ways between developer, NZTA, WDC
2	Pipiwai Rd between Great North Rd and Dip Road	Road upgrade	1,675	$128	$215,563	WDC Estimate.
3	Pipiwai Rd between Crane and Matarau	Road upgrade	3,760	$170	$639,200	WDC Estimate $61,200 Bend in rd before Crane to Crane 360m, $575K for 3.400 km Crane to Matarau = $170/m
4	Pipiwai Rd between Matarau to Three Mile Bush Rd.	Road upgrade	1,900	$130	$250,000	WDC Estimate.
5	Pipiwai Road from Three Mile Bush Rd to Kokopu.	Road upgrade	1,100	$130	$143,000	WDC Estimate.
6	Kokopu Road from Pipiwai Rd to airport enterance	Road upgrade	1,000	$130	$130,000	Based on WDC Estimate for previous sectoin of road
					$3,077,763	

Item No.	Site 22 - Rosythe Road					
	Element	Items to be costed	Length of Road (metres)	Rate	$Cost	Comments / Assumptions
1	Signficant upgrade to intersection of SH1 / Mountfield Road and any upgrade would need to incorporate the existing Uretiti campground access.	Large roundabout		1	$6,000,000	Large as per Beca costs
2	Southern end of Rosythe Road will be reconfigured as a cul-de-sac x 2	Cul-de-sac	2	$15,000	$30,000	Assume cul-de-sac/minor cost to project
3	Upgrade (widening of Mountfield Road)	Widening of rural road with shoulders	900	$400	$360,000	WDC estimate. Length between SH1 and Rosythe Road. Old road 20+ years needs widening also
4	Upgrade (widening of Rosythe Road)	Widening of rural road with shoulders	1,500	$400	$600,000	Based on WCC Rates. Length between Mountfield and proposed airport access.
5	Minor upgrade of Mountfield Road / Rosythe Road Intersection	Minor upgrade of intersection		1	$300,000	
					$7,290,000	

Item No.	Site 24 (a) - One Tree Point West					
	Element	Items to be costed	Length of Road (metres)	Rate	$Cost	Comments / Assumptions
1	Possible intersection upgrade SH15/One Tree Point Road	Intersection upgrade		$3,000,000	$1,000,000	Assume semi-urban roundabout (Beca cost) $3M split 3 ways between developers, NZTA, WDC
2	Possible link road One Tree Point residential area to SH15 (links McEwan and Rauri Rd extension)	New road	1,500	$3,500	$5,250,000	Beca Estimate - 8 - 9 m wide 2 land paved rural road section = $500/m
3	New link road at Rauriri extension and McEwan Rd/Link Rd	Two intersections	2	$400,000	$800,000	
4	Extension of Rauiri Drive to Pyle Road East	New road	1,300	$0	$0	
					$7,050,000	

Item No.	Site 24 (b) - One Tree Point East					
	Element	Items to be costed	Length of Road (metres)	Rate	$Cost	Comments / Assumptions
1	Possible intersection upgrade SH15/One Tree Point Road	Intersection upgrade		$3,000,000	$1,000,000	Assume semi-urban roundabout (Beca cost) $3M split 3 ways between developers, NZTA, WDC
2	New link road between One Tree Point Road and Pyle Road East.	New road	550	$3,500	$1,925,000	Assumption is that proposed extension of Rauiri Rd to Pyle Rd east is delivered by others and is not costed
3	Realignment of One Tree Point Road around airport footprint	New road	1,400	$3,500	$4,900,000	Around airport/Resa to connect into Takahiwai
	Three intresection on relaigned road	Three intresections	3	$400,000	$1,200,000	
					$7,825,000	

Exclusions

Not costing airport access / driveways into airport from roads

Capital costs of roading infrastructure - excludes geo tech etc

Cul de sac of existing roads

Cross sections from WDC Environmental Engineering Standards - Rural road details April 2010

WDC Costs based on data provided by Whangarei District Council email dated 10/07/17