

Table 4.14: Northern Alignment Options - Engineering Comparison

Engineering Criteria	Weighting (W _c)	Option N1		Option N2		Option N3		Option N4	
		Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c
Alignment Geometry	30%	3	18	2	24	1	30	1	30
Junction with South Lantau Road	5%	3	3	3	3	3	3	3	3
Traffic Consideration	5%	3	3	3	3	3	3	3	3
Geotechnical Constraints	25%	1	25	2	20	3	15	4	10
Highway Structures	20%	1	20	3	12	4	8	2	16
Drainage Impacts	10%	3	6	2	8	3	6	1	10
Impacts on Utilities	5%	2	4	3	3	4	2	1	5
Total Weighted Score	100%		79		73		67		77

Table 4.15: Northern Alignment Options - Environmental Comparison

Environmental Criteria	Weighting (W _c)	Option N1		Option N2		Option N3		Option N4	
		Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c
Air Quality	5%	1	5	3	3	2	4	2	4
Noise	5%	2	4	3	3	1	5	1	5
Water Quality	20%	1	20	2	16	4	8	3	12
Construction Waste	10%	1	10	2	8	3	6	4	4
Ecology	35%	1	35	3	21	4	14	2	28
Landscape and Visual	15%	3	9	4	6	2	12	1	15
Heritage	5%	1	5	1	5	1	5	1	5
Hazard to Life	5%	1	5	1	5	1	5	1	5
Total Weighted Score	100%		93		67		59		78

Table 4.16: Northern Alignment Options - Land Use Comparison

Land Use Criteria	Weighting (W _c)	Option N1		Option N2		Option N3		Option N4	
		Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c
Impacts on Country Park	60%	2	48	4	24	3	36	1	60
Impacts on Private Land, etc	20%	2	16	2	16	1	20	1	20
Impacts on Burial Grounds	20%	1	20	1	20	1	20	1	20
Total Weighted Score	100%		84		60		76		100

Table 4.17: Northern Alignment Options - Costs and Programme Comparison

Costs and Programme Criteria	Weighting (W _c)	Option N1		Option N2		Option N3		Option N4	
		Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c	Rank	Score x W _c
Capital Costs	40%	1	40	2	32	3	24	4	16
Recurrent Costs	20%	1	20	2	16	3	12	4	8
Time for Construction	40%	1	40	2	32	3	24	4	16
Total Weighted Score	100%		100		80		60		40

Table 4.18: Northern Alignment Options - Overall Comparison (Base Set A)

Criteria Set	Weighting (W _s)	Option N1		Option N2		Option N3		Option N4	
		Score	Score x W _s	Score	Score x W _s	Score	Score x W _s	Score	Score x W _s
Engineering	25%	79	19.75	73	18.25	67	16.75	77	19.25
Environmental	45%	93	41.85	67	30.15	59	26.55	78	35.10
Land Use	15%	84	12.60	60	9.00	76	11.40	100	15.00
Costs and Programme	15%	100	15.00	80	12.00	60	9.00	40	6.00
Total Weighted Score	100%		89.20		69.40		63.70		75.35

Table 4.19: Northern Alignment Options - Sensitivity Testing (Test Set B - Engineering Loaded)

Criteria Set	Weighting (W _s)	Option N1		Option N2		Option N3		Option N4	
		Score	Score x W _s	Score	Score x W _s	Score	Score x W _s	Score	Score x W _s
Engineering	40%	79	31.60	73	29.20	67	26.80	77	30.80
Environmental	40%	93	37.20	67	26.80	59	23.60	78	31.20
Land Use	10%	84	8.40	60	6.00	76	7.60	100	10.00
Costs and Programme	10%	100	10.00	80	8.00	60	6.00	40	4.00
Total Weighted Score	100%		87.20		70.00		64.00		76.00

Table 4.20: Northern Alignment Options - Sensitivity Testing (Test Set C - Environment Loaded)

Criteria Set	Weighting (W _s)	Option N1		Option N2		Option N3		Option N4	
		Score	Score x W _s	Score	Score x W _s	Score	Score x W _s	Score	Score x W _s
Engineering	20%	79	15.80	73	14.60	67	13.40	77	15.40
Environmental	60%	93	55.80	67	40.20	59	35.40	78	46.80
Land Use	10%	84	8.40	60	6.00	76	7.60	100	10.00
Costs and Programme	10%	100	10.00	80	8.00	60	6.00	40	4.00
Total Weighted Score	100%		90.00		68.80		62.40		76.20

Table 4.21: Northern Alignment Options - Sensitivity Testing (Test Set D - Land Use Loaded)

Criteria Set	Weighting (W _s)	Option N1		Option N2		Option N3		Option N4	
		Score	Score x W _s	Score	Score x W _s	Score	Score x W _s	Score	Score x W _s
Engineering	20%	79	15.80	73	14.60	67	13.40	77	15.40
Environmental	40%	93	37.20	67	26.80	59	23.60	78	31.20
Land Use	30%	84	25.20	60	18.00	76	22.80	100	30.00
Costs and Programme	10%	100	10.00	80	8.00	60	6.00	40	4.00
Total Weighted Score	100%		88.20		67.40		65.80		80.60

Table 4.22: Northern Alignment Options - Sensitivity Testing (Test Set E - Costs and Programme Loaded)

Criteria Set	Weighting (W _s)	Option N1		Option N2		Option N3		Option N4	
		Score	Score x W _s	Score	Score x W _s	Score	Score x W _s	Score	Score x W _s
Engineering	20%	79	15.80	73	14.60	67	13.40	77	15.40
Environmental	40%	93	37.20	67	26.80	59	23.60	78	31.20
Land Use	10%	84	8.40	60	6.00	76	7.60	100	10.00
Costs and Programme	30%	100	30.00	80	24.00	60	18.00	40	12.00
Total Weighted Score	100%		91.40		71.40		62.60		68.60

Table 4.23: Northern Alignment Options - Summary of Assessment Results

Set	Option N1	Option N2	Option N3	Option N4
Base Set A	89.20	69.40	63.70	75.35
Test Set B - Engineering Loaded	87.20	70.00	64.00	76.00
Test Set C - Environment Loaded	90.00	68.80	62.40	76.20
Test Set D - Land Use Loaded	88.20	67.40	65.80	80.60
Test Set E - Costs and Programme Loaded	91.40	71.40	62.60	68.60