



Norfolk Island Airport Construction Contract

FORMAL INSTRUMENT OF AGREEMENT

This Agreement is made on 17 day of OCTOBER 2019

Between

NORFOLK ISLAND REGIONAL COUNCIL (ABN 60 103 855 713) of 9 New Cascade Road,
Norfolk Island, Australia 2899 ('Principal')

And

BORAL RESOURCES (QLD) PTY LIMITED (ABN 46 009 671 809) 202 Cullen Avenue
West, Whinstanes, Qld, 4007 ("Contractor")

It is agreed:

1 Interpretation

In this *Formal Instrument of Agreement*, unless the contrary intention appears:

- 1.1 "General Conditions" means the General Conditions of Contract GC21 (Edition 2) as amended and annexed to this document; and
- 1.2 other words and expressions used in this document have the same meaning as given in the General Conditions.

2 Contract

- 2.1 The *Contract Price*, which is subject to adjustment in accordance with the *Contract* and recalculation where the *Contract* includes *Rate Items*, amounts to \$44,956,207.00 excluding GST.
- 2.2 The *Contract Price* for each *Separable Portion* equates to the following:
 - (a) *Separable Portion* no. 1 – - \$18,202,628
 - (b) *Separable Portion* no. 2 – - \$619,667
 - (c) *Separable Portion* no. 3 – - \$23,083,890
 - (d) *Separable Portion* no. 4 – - \$710,981
 - (e) *Separable Portion* no. 5 – - \$2,339,041

3 Contract Documents

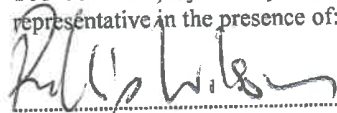
The *Contract* comprises this *Formal Instrument of Agreement* plus the *Contract Documents* as referenced in clause 7.1 of the General Conditions.

4 Works prior to execution date

The terms of the *Contract* apply to all of the Works even if it was performed prior to the date of execution of this *Formal Instrument of Agreement*. Any payment made to the *Contractor* by the *Principal* prior to the date of execution of this *Formal Instrument of Agreement* in connection with the Works will be treated as a payment under the *Contract* and will discharge the *Principal's* obligation to pay the *Contract Price* to the extent of the payment.

EXECUTED AS AN AGREEMENT

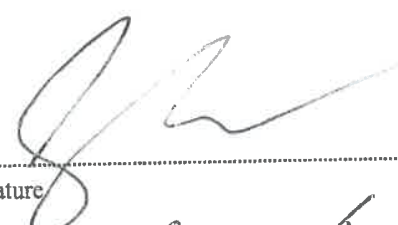
EXECUTED for and on behalf of **NORFOLK ISLAND REGIONAL COUNCIL (ABN 60 103 855 713)** by its duly authorised representative in the presence of:



Signature of witness


PHILIP WILSON 1/11/19
Name of witness (please print)

Signature


BRUCE GOSSE TAYLOR 01/11/19
Name of witness (please print)
Secretary

EXECUTED by **BORAL RESOURCES (QLD) PTY LIMITED (ABN 46 009 671 809)** pursuant to s.127 of Corporations Act 2001 (Cth):

Signature of Director/Secretary


ANTHONY P. JOYCE
Name of Director/Secretary (please print)

Signature of Director


JASON A. MAKI-NESTE
Name of Director (please print)

5 Amendments

No modification, alteration of or addition to the *Contract* shall be binding on the parties unless it is in writing and signed or acknowledged by an authorised person on behalf of each of the parties.

6 Costs

Each party shall bear its own legal costs and disbursements in relation to the negotiation, preparation and execution of the *Contract*.

7 Relationship between parties

The parties acknowledge and agree that the *Contract* and the performance of the *Contract* does not represent or imply a partnership, agency, fiduciary relationship, employment relationship, joint venture, distribution or any other category of commercial or personal relationship between the parties recognised at law or in equity as giving rise to forms of specific rights and obligations.

8 Severability

Any provision of, or a right or remedy arising under, the *Contract* which is prohibited or unenforceable in any jurisdiction is ineffective in that jurisdiction only to the extent of that prohibition or unenforceability.

If any provision of the *Contract* is unenforceable in any jurisdiction, it does not affect the enforceability of that provision in any other jurisdiction or the enforceability of the remaining provisions in any jurisdiction.

9 Counterparts

The *Contract* may be signed in any number of counterparts with the same effect as if the separate signatures or executions were on the same agreement.

10 Further assurance

Each party to the *Contract* from time to time and at all times either before or after the date of the *Contract*, at the cost and expense of that party, must make do and execute or cause to be made done or executed all such acts instruments assurances and writings as may be necessary or desirable to perfect or give effect to the provisions of the *Contract*.

11 Failure to enforce strict compliance

In the absence of an express provision to the contrary, failure or omission by a party to the *Contract* at any time to enforce or require strict or timely compliance with any provision of the *Contract* or any related document shall not impair the ability of that party to exercise the rights and remedies it otherwise has in respect of a breach of any such provision.

12 Entire agreement

The *Contract* supersedes all previous agreements in respect of its subject matters and embodies the entire agreement between the parties in relation to its subject matter.

Schedule 19**Site Drawings****Norfolk Island Airport Site****Ball Bay Site**

Apron

PAVING

CH	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	44.5	Ave.
0						60	87	81	75	85	60	83	64	78	79				75.2
5						68	77	79	73	66	82	67	64	71	79				72.6
10						78	83	77	89	69	83	66	62	73	82	112	158	172	92.6
15						85	85	60	63	60	63	60	60	60	61	69	76	95	69.0
20					68	71	60	60	60	60	61	61	72	68	60	61	74	89	66.1
25					83	82	60	61	64	65	72	96	105	103	73	70	83	83	78.6
30					106	87	64	79	75	76	87	84	105	100	91	80	87	100	87.2
35					85	77	81	84	79	76	82	81	78	88	84	80	86	77	81.3
40				112	60	72	84	86	79	71	71	78	77	80	89	83	84	71	79.8
45				60	60	79	90	92	80	67	60	68	76	78	89	82	84	78	76.2
50			96	60	60	83	92	82	73	72	61	69	77	79	81	76	80	86	76.7
55		124	60	62	68	88	91	77	82	88	84	80	80	82	85	75	80	78	81.4
60	129	72	62	68	76	89	84	82	85	92	116	119	90	93	89	84	85	62	87.6
65	71	62	70	77	77	101	87	88	87	99	123	124	93	79	82	77	86	94	87.6
70	76	77	82	81	79	87	78	86	90	100	122	103	74	63	77	83	98	110	87.0
75	72	83	88	80	66	76	70	77	86	89	60	75	60	60	76	85	99	127	79.4
80	60	77	91	70	75	60	60	60	72	69	60	60	60	69	82	78	73	118	71.9
85	60	90	102	94	97	80	64	66	76	88	78	92	102	102	106	92	80	97	87.0
90	75	107	114	103	92	92	80	83	92	101	95	109	127	132	133	112	102	88	102.1
95	100	115	114	92	84	92	70	74	96	113	108	111	118	121	135	117	99	79	102.1
100	94	107	101	85	81	97	72	74	82	99	97	104	105	94	108	93	85	60	91.0
105	91	93	94	98	84	98	74	74	79	98	94	102	94	89	82	68	72	60	85.8
110			96	84	82	93	83	83	79	91	72	72	69	62	77	69	66	88	79.1
115						84	81	73	77	81	60	60	60	60	61	67	74		69.8
Ave.	82.8	91.5	90.0	81.7	78.1	82.5	77.4	76.6	78.9	82.3	81.3	84.3	82.2	82.7	85.9	82.4	86.9	91.0	82.8

Yellow indicates 70-80mm.
Red indicates greater than 80mm.

Apron

MILLING

CH	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	44.5
0						14	7	7	7	7	9	7	7	7	7			
5						7	7	7	7	7	7	7	7	7	7			
10						7	7	7	7	7	7	7	7	7	7	7	7	7
15						7	7	7	7	12	7	16	16	9	7	7	7	7
20					7	7	8	23	14	13	7	7	7	7	12	7	7	7
25					7	7	7	7	7	7	7	7	7	7	7	7	7	7
30					7	7	7	7	7	7	7	7	7	7	7	7	7	7
35					7	7	7	7	7	7	7	7	7	7	7	7	7	7
40					7	23	7	7	7	7	7	7	7	7	7	7	7	7
45					14	18	7	7	7	7	7	7	7	7	7	7	7	7
50			7	9	11	7	7	7	7	7	7	7	7	7	7	7	7	7
55		7	12	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
60	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
65	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
70	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
75	7	7	7	7	7	7	7	7	7	7	7	7	22	7	7	7	7	7
80	15	7	7	7	7	9	20	7	7	7	11	17	7	7	7	7	7	7
85	20	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
90	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
95	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
100	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	12	12
105	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
110		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
115						7	7	7	7	7	16	11	8	15	7	7	7	

Red indicate more than nominal 7mm texturing.

Apron

CROSS FALLS

CH	-40.0	-35.0	-30.0	-25.0	-20.0	-15.0	-10.0	-5.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	44.5
0				-0.7	-0.7	-0.7	-0.7	-0.7	-1.0	-1.0	-1.1	-1.1	-0.7	-0.9			
5				-0.6	-0.6	-0.7	-0.7	-0.7	-1.0	-1.0	-1.1	-1.0	-0.9	-0.9			
10				-0.4	-0.4	-0.7	-0.8	-0.8	-1.0	-1.0	-1.0	-1.0	-0.8	-0.9	-0.9	-1.1	-1.5
15				-0.4	-0.4	-0.7	-0.9	-0.9	-1.0	-1.0	-0.9	-1.0	-0.8	-0.9	-1.0	-1.1	-1.5
20				-0.5	-0.5	-0.7	-0.9	-0.9	-1.0	-1.0	-0.9	-1.1	-0.9	-0.9	-1.0	-1.1	-1.5
25				-0.5	-0.5	-0.8	-1.0	-1.0	-1.0	-1.0	-0.9	-1.2	-1.0	-0.9	-1.1	-1.1	-1.5
30				-0.5	-0.5	-0.8	-0.9	-0.9	-1.0	-1.0	-1.0	-1.1	-0.9	-0.9	-1.2	-1.1	-1.6
35				-0.5	-0.5	-0.8	-0.8	-0.8	-1.0	-1.0	-1.0	-1.0	-0.9	-0.9	-1.2	-1.1	-1.6
40				-0.5	-0.5	-0.7	-0.8	-0.8	-1.0	-1.0	-1.0	-1.0	-0.9	-0.9	-1.1	-1.1	-1.7
45				-0.5	-0.5	-0.7	-0.8	-0.8	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.1	-1.1	-1.7
50				-0.5	-0.5	-0.7	-0.7	-0.7	-0.8	-0.8	-0.8	-0.8	-0.9	-0.9	-1.1	-1.1	-1.8
55			-1.0	-0.5	-0.5	-0.7	-0.7	-0.7	-0.8	-0.8	-1.0	-0.7	-0.8	-0.9	-1.1	-1.1	-1.8
60		-1.0	-0.9	-0.5	-0.5	-0.7	-0.7	-0.7	-0.8	-0.8	-1.0	-0.7	-0.8	-0.9	-1.1	-1.1	-1.9
65	-1.5	-1.0	-0.9	-0.5	-0.5	-0.6	-0.6	-0.6	-0.7	-0.7	-1.1	-0.2	-0.9	-0.9	-1.0	-1.0	-2.0
70	-1.3	-1.0	-1.0	-0.5	-0.5	-0.6	-0.6	-0.6	-0.6	-0.6	-0.8	-0.3	-0.9	-0.8	-1.0	-1.0	-2.0
75	-1.2	-1.1	-1.1	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	-0.4	-0.5	-0.8	-0.8	-1.0	-1.0	-1.9
80	-1.2	-1.3	-1.2	-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	-0.6	-0.2	-0.5	-0.8	-0.7	-1.0	-0.9	-1.8
85	-1.3	-1.2	-1.3	-0.3	-0.3	-0.5	-0.5	-0.5	-0.5	-0.6	-0.3	-0.4	-0.7	-0.6	-1.0	-0.9	-1.6
90	-1.2	-1.3	-1.2	-0.3	-0.3	-0.6	-0.6	-0.6	-0.5	-0.6	-0.5	-0.4	-0.6	-0.5	-1.0	-1.0	-1.5
95	-1.2	-1.3	-1.2	-0.2	-0.2	-0.7	-0.6	-0.6	-0.5	-0.6	-0.5	-0.3	-0.5	-0.5	-1.0	-1.0	-1.3
100	-1.3	-1.2	-1.3	-0.2	-0.2	-0.8	-0.8	-0.8	-0.5	-0.5	-0.3	-0.2	-0.3	-0.3	-1.0	-1.1	-1.3
105	-0.9	-1.1	-1.1	-0.2	-0.2	-0.7	-0.8	-0.8	-0.4	-0.5	0.0	0.0	-0.1	-0.3	-1.0	-1.2	-1.5
110			-1.0	-0.2	-0.2	-0.7	-0.7	-0.7	-0.5	-0.3	0.4	0.4	-0.1	-0.2	-1.0	-1.4	-1.8
115				-0.2	-0.2	-0.7	-0.7	-0.7	-0.5	-0.2	0.8	0.8	0.0	0.0	-1.0	-1.6	

Apron

LIFT FROM EXISTING

CH	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	44.5
0						46	80	74	68	78	51	76	57	71	72			
5						61	70	72	66	59	75	60	57	64	72			
10						71	76	70	82	62	76	59	55	66	75	105	151	165
15						78	78	53	56	48	56	44	44	51	54	62	69	88
20					61	64	52	37	46	47	54	54	65	61	48	54	67	82
25					76	75	53	54	57	58	65	89	98	96	66	63	76	76
30					99	80	57	72	68	69	80	77	98	93	84	73	80	93
35					78	70	74	77	72	69	75	74	71	81	77	73	79	70
40				105	37	65	77	79	72	64	64	71	70	73	82	76	77	64
45				46	42	72	83	85	73	60	53	61	69	71	82	75	77	71
50			89	51	49	76	85	75	66	65	54	62	70	72	74	69	73	79
55		117	48	55	61	81	84	70	75	81	77	73	73	75	78	68	73	71
60	122	65	55	61	69	82	77	75	78	85	109	112	83	86	82	77	78	55
65	64	55	63	70	70	94	80	81	80	92	116	117	86	72	75	70	79	87
70	69	70	75	74	72	80	71	79	83	93	115	96	67	56	70	76	91	103
75	65	76	81	73	59	69	63	70	79	82	53	68	38	53	69	78	92	120
80	45	70	84	63	68	51	40	53	65	62	49	43	53	62	75	71	66	111
85	40	83	95	87	90	73	57	59	69	81	71	85	95	95	99	85	73	90
90	68	100	107	96	85	85	73	76	85	94	88	102	120	125	126	105	95	81
95	93	108	107	85	77	85	63	67	89	106	101	104	111	114	128	110	92	72
100	87	100	94	78	74	90	65	67	75	92	90	97	98	87	101	86	78	48
105	84	86	87	91	77	91	67	67	72	91	87	95	87	82	75	61	65	48
110			89	77	75	86	76	76	72	84	65	65	62	55	70	62	59	81
115						77	74	66	70	74	44	49	52	45	54	60	67	

Yellow Indicates less than 53mm (requiring more than nominal 7mm texturing).

Red Indicates more than 73mm (requiring correction).

Areas for concrete pad construction have not been excluded from this design.

Runway 04-22

PAVING THICKNESS

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
1210	54	66	76	73	72	71	62	62	59
1215	52	68	75	73	74	74	65	65	66
1220	52	72	75	76	77	77	67	65	63
1225	69	77	75	76	77	74	65	63	59
1230	48	80	72	75	78	70	65	61	57
1235	71	78	75	75	77	71	67	64	58
1240	75	77	76	76	76	73	69	67	61
1245	77	75	76	75	76	73	68	67	62
1250	78	73	74	72	74	72	64	66	61
1255	81	75	73	72	72	72	66	66	64
1260	82	74	69	68	66	68	64	62	68
1265	79	73	63	63	62	65	61	61	58
1270	70	74	56	58	58	60	57	59	57
1275	67	74	58	60	59	60	59	59	57
1280	64	74	60	62	59	59	58	56	57
1285	68	75	58	58	58	56	56	59	56
1290	66	71	55	53	55	53	55	63	55
1295	69	72	57	57	58	53	55	59	59
1300	68	70	59	60	58	51	54	53	61
1305	69	70	58	59	59	51	54	53	62
1310	67	68	56	58	57	49	50	51	59
1315	51	58	57	58	58	47	57	51	56
1320	32	48	58	55	58	46	62	50	51
1325	32	49	58	59	58	50	55	53	53
1330	32	48	57	62	59	56	49	55	52
1335	32	48	56	56	56	54	54	54	58
1340	32	48	56	50	51	52	60	53	60
1345	32	48	56	55	53	55	60	53	54
1350	32	46	54	56	52	55	57	51	46
1355	32	51	53	55	55	55	54	54	45
1360	32	55	49	52	57	53	51	57	35
1365	32	54	54	54	58	55	55	59	43
1370	32	50	57	54	57	56	58	60	50
1375	32	49	58	58	57	58	58	57	41
1380	32	47	58	59	54	57	55	52	33
1385	32	49	56	57	56	56	56	50	34
1390	32	47	50	50	54	50	51	44	37
1395	32	51	57	58	58	57	58	47	40
1400	32	53	64	62	60	61	64	53	43
1405	32	54	64	63	59	64	66	58	43
1410	32	56	64	60	53	64	69	66	48
Ave.	40.8	58.2	62.6	66.0	64.2	63.1	60.8	57.9	40.1
Ave.					57.1				

Yellow indicates 25mm rolled over edge.

Green indicates 60-80mm.

Red indicates greater than 80mm (so correction required).

Runway 04-22

PAVING THICKNESS

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
945	53	69	74	78	74	80	71	72	51
950	52	58	68	71	73	84	73	74	47
955	51	59	68	70	76	79	73	71	51
960	48	58	68	69	78	74	71	66	53
965	51	60	67	70	78	71	67	61	53
970	53	62	66	71	77	68	62	56	51
975	51	60	67	73	76	70	61	54	53
980	48	58	68	74	75	71	60	53	51
985	46	58	66	72	77	71	64	55	53
990	45	59	64	71	80	71	69	57	53
995	54	62	68	74	79	69	72	58	52
1000	60	63	69	74	78	66	73	59	53
1005	61	63	71	76	80	68	73	61	57
1010	60	63	73	77	81	68	71	61	60
1015	64	66	74	76	79	71	69	56	52
1020	69	69	76	77	78	74	67	55	55
1025	72	74	80	77	75	75	67	59	55
1030	72	76	85	77	72	77	67	61	54
1035	67	73	82	81	77	77	69	64	60
1040	63	72	80	86	82	76	71	66	65
1045	60	70	77	81	82	75	69	64	62
1050	59	68	74	77	82	75	68	62	61
1055	58	64	72	79	81	75	69	63	60
1060	57	60	69	80	79	75	68	63	57
1065	56	59	70	80	81	72	67	61	58
1070	53	56	69	79	85	69	65	56	58
1075	56	60	70	79	81	69	63	56	54
1080	57	62	69	77	76	66	61	56	53
1085	57	62	69	75	79	67	63	55	54
1090	52	59	69	72	81	68	63	53	54
1095	51	63	71	74	79	68	64	57	57
1100	52	67	72	78	75	66	65	61	60
1105	51	65	70	76	76	66	63	58	59
1110	50	64	68	75	76	66	62	55	58
1115	53	66	71	77	80	69	61	57	56
1120	55	69	74	79	83	72	62	59	55
1125	54	70	77	80	83	72	65	60	58
1130	52	72	81	80	82	72	66	59	62
1135	53	72	77	79	82	72	64	60	60
1140	55	73	74	79	82	73	63	61	59
1145	54	69	75	77	81	71	62	57	51
1150	52	65	75	76	79	69	60	54	44
1155	52	66	76	76	79	70	59	50	50
1160	57	69	77	76	78	71	58	47	55
1165	51	70	76	77	79	71	58	50	61
1170	46	71	74	78	79	73	59	54	68
1175	58	74	77	79	83	76	63	60	62
1180	68	74	79	79	86	79	64	65	53
1185	60	74	82	80	83	78	67	66	54
1190	56	76	83	79	80	74	67	65	57
1195	63	73	78	79	78	75	65	62	51
1200	72	72	76	81	76	77	65	61	52
1205	63	69	76	77	75	74	64	63	55

Runway 04-22

PAVING THICKNESS

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
680	32	68	70	67	65	69	73	65	32
685	32	63	61	62	59	56	62	50	32
690	32	56	53	59	56	49	60	48	32
695	32	56	57	58	57	58	74	51	32
700	32	58	60	56	57	65	81	50	32
705	32	58	58	56	58	70	84	53	32
710	32	56	55	52	61	76	87	56	32
715	32	59	61	60	58	76	83	54	32
720	32	63	65	67	54	74	79	52	32
725	32	59	60	60	58	70	75	48	32
730	32	58	56	56	60	66	72	48	32
735	32	59	58	57	59	63	70	47	32
740	32	59	57	58	58	59	69	48	32
745	35	54	56	58	59	64	71	57	32
750	43	48	56	59	60	68	73	64	32
755	46	51	57	59	57	69	75	77	36
760	52	52	56	57	52	66	71	85	37
765	55	53	53	55	55	66	76	88	43
770	55	48	46	49	53	64	76	88	51
775	68	46	53	51	51	63	67	76	55
780	72	61	64	59	61	63	70	73	60
785	73	71	69	76	79	74	69	68	69
790	66	67	74	72	74	66	69	66	56
795	65	67	72	75	76	68	65	66	65
800	69	73	76	77	79	72	67	69	66
805	70	71	74	75	78	76	75	77	74
810	76	77	77	76	77	76	76	76	74
815	75	78	83	85	79	76	73	74	71
820	70	76	81	84	83	84	84	79	71
825	78	78	83	81	82	82	84	80	69
830	73	80	90	90	87	82	84	85	72
835	76	59	76	77	84	86	78	89	57
840	83	59	72	77	79	80	75	70	62
845	78	64	69	72	79	73	63	55	48
850	74	55	67	74	77	68	58	51	45
855	72	60	69	76	76	73	64	55	49
860	72	65	73	79	77	79	69	61	55
865	73	60	70	80	81	81	71	61	55
870	79	61	71	83	83	81	73	62	53
875	91	63	71	83	82	82	72	66	73
880	67	67	71	83	79	82	69	69	52
885	62	70	79	91	80	82	70	67	74
890	54	72	84	94	79	79	68	63	62
895	49	72	85	91	80	86	80	68	58
900	52	72	84	88	81	92	91	72	57
905	50	69	83	90	81	93	94	74	58
910	50	69	83	95	83	94	95	73	57
915	55	71	81	88	76	90	85	61	51
920	60	76	81	84	72	88	78	54	49
925	57	75	80	82	74	87	77	61	53
930	53	71	79	82	75	84	73	65	55
935	52	74	80	84	75	84	71	64	55
940	53	79	80	84	73	82	74	66	53

Runway 04-22

PAVING THICKNESS

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
415	32	46	61	70	59	60	60	63	32
420	32	48	62	72	56	64	60	64	32
425	32	52	58	72	58	60	61	59	32
430	32	53	53	70	60	59	63	55	32
435	32	53	54	69	59	59	61	58	32
440	32	49	54	68	59	60	59	60	32
445	32	50	51	72	58	58	57	55	32
450	32	49	48	75	58	55	54	48	32
455	32	51	50	80	56	56	57	55	32
460	32	49	47	79	49	53	54	57	32
465	32	56	54	80	61	58	57	62	32
470	32	60	57	78	70	60	55	66	32
475	32	59	58	72	65	63	60	59	32
480	32	65	64	72	64	71	70	53	32
485	32	66	67	74	58	63	64	60	32
490	32	68	71	78	56	58	62	69	32
495	32	61	61	72	55	55	56	61	32
500	32	53	51	64	50	47	49	54	32
505	32	56	55	62	56	55	54	56	32
510	32	55	55	55	56	56	53	53	32
515	32	55	55	55	58	59	58	56	32
520	32	53	56	55	61	63	61	56	32
525	32	55	57	59	59	59	59	58	32
530	32	55	54	61	58	57	58	60	32
535	32	61	60	58	57	58	59	59	32
540	32	64	61	51	52	57	57	56	32
545	32	60	61	62	60	60	59	55	32
550	32	55	62	73	68	64	61	55	32
555	32	51	63	71	68	56	55	56	32
560	32	48	61	70	68	49	52	61	32
565	32	53	66	65	66	53	54	57	32
570	32	53	65	60	62	56	55	57	32
575	32	60	70	67	65	54	55	56	32
580	32	65	71	70	64	47	52	52	32
585	32	57	67	63	62	53	56	56	32
590	32	49	65	52	57	59	60	62	32
595	32	49	62	59	63	56	56	56	32
600	32	53	66	69	72	58	55	56	32
605	32	55	67	71	70	53	51	54	32
610	32	56	67	73	69	48	49	54	32
615	32	52	64	67	67	50	51	51	32
620	32	57	60	64	67	54	55	52	32
625	32	60	57	56	61	59	62	60	32
630	32	56	53	47	53	64	68	71	32
635	32	54	59	57	60	64	64	72	32
640	32	53	63	63	62	60	59	72	32
645	32	52	61	61	63	58	52	64	32
650	32	52	58	60	65	57	47	56	32
655	32	51	56	56	63	54	51	51	32
660	32	50	54	55	60	61	66	59	32
665	32	50	56	58	60	70	73	64	32
670	32	47	58	60	59	75	77	62	32
675	32	57	63	63	61	75	78	68	32

Runway 04-22

PAVING THICKNESS

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
150	25	56	62	59	48	74	67	46	25
155	25	56	61	54	54	66	64	47	25
160	25	60	63	47	55	57	56	49	25
165	25	48	52	53	53	55	51	47	25
170	25	41	45	62	56	55	47	40	25
175	25	53	48	55	55	55	51	46	25
180	25	63	50	51	59	56	56	52	25
185	25	59	55	53	56	55	57	55	25
190	25	51	55	51	50	52	56	56	25
195	25	45	56	56	52	55	60	55	25
200	25	44	53	58	49	54	58	48	25
205	25	44	52	52	53	54	50	43	25
210	25	46	52	47	58	55	42	40	25
215	25	53	52	50	53	61	44	43	25
220	25	61	52	53	48	66	45	48	25
225	25	57	53	55	52	71	49	48	25
230	25	61	56	61	56	75	53	48	25
235	25	54	53	51	54	72	46	43	25
240	25	51	48	42	52	68	42	42	25
245	25	49	52	49	51	73	50	52	25
250	25	46	55	52	48	74	56	61	25
255	25	54	54	54	52	66	56	57	25
260	25	63	55	59	54	57	56	55	25
265	25	53	52	55	53	50	51	50	25
270	25	41	48	53	54	44	49	48	25
275	25	41	43	51	53	48	51	53	25
280	25	42	42	53	56	52	54	59	25
285	25	43	41	53	53	55	53	51	25
290	25	49	42	55	51	62	53	45	25
295	25	50	51	60	50	51	51	49	25
300	25	45	53	59	46	41	50	53	25
305	25	45	56	69	52	43	47	49	25
310	25	43	58	77	55	45	42	44	25
315	25	42	55	70	58	42	44	47	25
320	25	47	51	64	60	40	46	50	25
325	25	45	51	63	56	50	50	51	25
330	25	43	50	60	50	57	52	52	25
335	32	52	62	63	58	61	61	63	32
340	32	52	65	57	58	55	60	64	32
345	32	47	60	57	59	57	57	59	32
350	32	45	56	57	61	59	60	52	32
355	32	48	58	58	59	60	63	53	32
360	32	49	58	59	57	59	67	53	32
365	32	54	56	64	59	61	68	56	32
370	32	57	52	67	58	62	68	58	32
375	32	52	52	64	58	58	62	56	32
380	32	48	53	61	60	55	56	54	32
385	32	55	55	68	59	59	58	57	32
390	32	60	56	75	58	62	58	55	32
395	32	57	59	77	56	56	55	55	32
400	32	52	61	80	53	47	50	54	32
405	32	51	63	74	56	52	55	57	32
410	32	49	62	70	61	58	60	65	32

Runway 04-22

PAVING THICKNESS

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
-115	25	49	47	49	52	52	49	53	25
-110	25	74	57	57	65	66	42	72	25
-105	25	65	56	59	60	66	49	67	25
-100	25	63	61	66	62	71	49	54	25
-95	25	56	55	54	58	64	57	56	25
-90	25	48	46	43	54	58	58	52	25
-85	25	56	59	54	58	59	65	65	25
-80	25	59	65	62	58	57	67	74	25
-75	25	59	56	57	53	54	58	64	25
-70	25	54	44	53	47	52	59	64	25
-65	25	48	47	52	49	49	55	53	25
-60	25	44	46	53	49	44	53	49	25
-55	25	50	55	55	53	55	50	46	25
-50	25	55	66	56	59	67	49	47	25
-45	25	51	58	53	60	70	47	54	25
-40	25	49	51	48	64	68	41	57	25
-35	25	54	59	54	58	70	46	53	25
-30	25	57	69	58	53	74	54	53	25
-25	25	55	59	59	53	73	51	57	25
-20	25	55	51	64	52	70	47	55	25
-15	25	57	51	55	54	67	49	61	25
-10	25	63	52	53	57	65	51	65	25
-5	25	62	58	55	55	71	51	56	25
0	25	69	68	62	53	83	59	55	25
5	25	55	57	57	50	66	57	56	25
10	25	54	58	58	52	61	65	67	25
15	25	50	62	60	62	57	54	54	25
20	25	51	68	62	72	53	42	41	25
25	25	45	62	63	69	43	41	47	25
30	25	41	61	67	76	43	47	59	25
35	25	46	66	72	72	44	59	64	25
40	25	46	66	73	64	40	65	63	25
45	25	52	74	71	60	48	59	54	25
50	25	60	85	71	54	53	55	44	25
55	25	50	63	71	62	45	47	50	25
60	25	46	43	75	76	41	41	58	25
65	25	45	53	74	62	46	49	54	25
70	25	44	65	74	49	45	52	42	25
75	25	46	65	77	51	46	54	52	25
80	25	46	64	76	48	44	55	60	25
85	25	46	60	66	65	47	50	59	25
90	25	41	53	56	79	47	46	54	25
95	25	43	49	50	62	45	51	60	25
100	25	47	49	46	47	45	55	64	25
105	25	56	55	54	51	51	55	56	25
110	25	58	59	55	48	54	51	47	25
115	25	59	58	59	58	54	53	48	25
120	25	56	57	61	69	58	65	57	25
125	25	52	57	58	59	49	57	57	25
130	25	55	63	61	58	44	53	57	25
135	25	46	55	56	55	48	49	47	25
140	25	40	49	54	57	57	51	42	25
145	25	50	57	57	55	67	61	46	25

Runway 04-22

MILLING (NOMINAL 7mm ON ASPHALT AND NO MILLING ON SEAL)

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
1185	7	7	7	7	7	7	7	7	7
1190	7	7	7	7	7	7	7	7	7
1195	7	7	7	7	7	7	7	7	7
1200	7	7	7	7	7	7	7	7	7
1205	7	7	7	7	7	7	7	7	7
1210	7	7	7	7	7	7	7	7	7
1215	7	7	7	7	7	7	7	7	7
1220	7	7	7	7	7	7	7	7	7
1225	7	7	7	7	7	7	7	7	7
1230	7	7	7	7	7	7	7	7	7
1235	7	7	7	7	7	7	7	7	7
1240	7	7	7	7	7	7	7	7	7
1245	7	7	7	7	7	7	7	7	7
1250	7	7	7	7	7	7	7	7	7
1255	7	7	7	7	7	7	7	7	7
1260	7	7	7	7	7	7	7	7	7
1265	7	7	7	7	7	7	7	7	7
1270	7	7	7	7	7	7	7	7	7
1275	7	7	7	7	7	7	7	7	7
1280	7	7	7	7	7	7	7	7	7
1285	7	7	7	7	7	7	7	7	7
1290	7	7	7	7	7	7	7	7	7
1295	7	7	7	7	7	7	7	7	7
1300	7	7	7	7	7	7	7	7	7
1305	7	7	7	7	7	7	7	7	7
1310	7	7	7	7	7	7	7	7	7
1315	7	7	7	7	7	7	7	7	7
1320	7	7	7	7	7	7	7	7	7
1325	7	7	7	7	7	7	7	7	7
1330	7	7	7	7	7	7	7	7	7
1335	7	7	7	7	7	7	7	7	7
1340	7	7	7	7	7	7	7	7	7
1345	7	7	7	7	7	7	7	7	7
1350	7	7	7	7	7	7	7	7	7
1355	7	7	7	7	7	7	7	7	7
1360	7	7	7	7	7	7	7	7	7
1365	7	7	7	7	7	7	7	7	7
1370	7	7	7	7	7	7	7	7	7
1375	7	7	7	7	7	7	7	7	7
1380	7	7	7	7	7	7	7	7	7
1385	7	7	7	7	7	7	7	7	7
1390	7	7	7	7	7	7	7	7	7
1395	7	7	7	7	7	7	7	7	7
1400	7	7	7	7	7	7	7	7	7
1405	7	7	7	7	7	7	7	7	7
1410	7	7	7	7	7	7	7	7	7

Transition from seal to asphalt is estimated and must be confirmed on site.

Runway 04-22

MILLING (NOMINAL 7mm ON ASPHALT AND NO MILLING ON SEAL)

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
925	7	7	7	7	7	7	7	7	7
930	7	7	7	7	7	7	7	7	7
935	7	7	7	7	7	7	7	7	7
940	7	7	7	7	7	7	7	7	7
945	7	7	7	7	7	7	7	7	7
950	7	7	7	7	7	7	7	7	7
955	7	7	7	7	7	7	7	7	7
960	7	7	7	7	7	7	7	7	7
965	7	7	7	7	7	7	7	7	7
970	7	7	7	7	7	7	7	7	7
975	7	7	7	7	7	7	7	7	7
980	7	7	7	7	7	7	7	7	7
985	7	7	7	7	7	7	7	7	7
990	7	7	7	7	7	7	7	7	7
995	7	7	7	7	7	7	7	7	7
1000	7	7	7	7	7	7	7	7	7
1005	7	7	7	7	7	7	7	7	7
1010	7	7	7	7	7	7	7	7	7
1015	7	7	7	7	7	7	7	7	7
1020	7	7	7	7	7	7	7	7	7
1025	7	7	7	7	7	7	7	7	7
1030	7	7	7	7	7	7	7	7	7
1035	7	7	7	7	7	7	7	7	7
1040	7	7	7	7	7	7	7	7	7
1045	7	7	7	7	7	7	7	7	7
1050	7	7	7	7	7	7	7	7	7
1055	7	7	7	7	7	7	7	7	7
1060	7	7	7	7	7	7	7	7	7
1065	7	7	7	7	7	7	7	7	7
1070	7	7	7	7	7	7	7	7	7
1075	7	7	7	7	7	7	7	7	7
1080	7	7	7	7	7	7	7	7	7
1085	7	7	7	7	7	7	7	7	7
1090	7	7	7	7	7	7	7	7	7
1095	7	7	7	7	7	7	7	7	7
1100	7	7	7	7	7	7	7	7	7
1105	7	7	7	7	7	7	7	7	7
1110	7	7	7	7	7	7	7	7	7
1115	7	7	7	7	7	7	7	7	7
1120	7	7	7	7	7	7	7	7	7
1125	7	7	7	7	7	7	7	7	7
1130	7	7	7	7	7	7	7	7	7
1135	7	7	7	7	7	7	7	7	7
1140	7	7	7	7	7	7	7	7	7
1145	7	7	7	7	7	7	7	7	7
1150	7	7	7	7	7	7	7	7	7
1155	7	7	7	7	7	7	7	7	7
1160	7	7	7	7	7	7	7	7	7
1165	7	7	7	7	7	7	7	7	7
1170	7	7	7	7	7	7	7	7	7
1175	7	7	7	7	7	7	7	7	7
1180	7	7	7	7	7	7	7	7	7

Runway 04-22

MILLING (NOMINAL 7mm ON ASPHALT AND NO MILLING ON SEAL)

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
665	7	7	7	7	7	7	7	7	7
670	7	7	7	7	7	7	7	7	7
675	7	7	7	7	7	7	7	7	7
680	7	7	7	7	7	7	7	7	7
685	7	7	7	7	7	7	7	7	7
690	7	7	7	7	7	7	7	7	7
695	7	7	7	7	7	7	7	7	7
700	7	7	7	7	7	7	7	7	7
705	7	7	7	7	7	7	7	7	7
710	7	7	7	7	7	7	7	7	7
715	7	7	7	7	7	7	7	7	7
720	7	7	7	7	7	7	7	7	7
725	7	7	7	7	7	7	7	7	7
730	7	7	7	7	7	7	7	7	7
735	7	7	7	7	7	7	7	7	7
740	7	7	7	7	7	7	7	7	7
745	7	7	7	7	7	7	7	7	7
750	7	7	7	7	7	7	7	7	7
755	7	7	7	7	7	7	7	7	7
760	7	7	7	7	7	7	7	7	7
765	7	7	7	7	7	7	7	7	7
770	7	7	7	7	7	7	7	7	7
775	7	7	7	7	7	7	7	7	7
780	7	7	7	7	7	7	7	7	7
785	7	7	7	7	7	7	7	7	7
790	7	7	7	7	7	7	7	7	7
795	7	7	7	7	7	7	7	7	7
800	7	7	7	7	7	7	7	7	7
805	7	7	7	7	7	7	7	7	7
810	7	7	7	7	7	7	7	7	7
815	7	7	7	7	7	7	7	7	7
820	7	7	7	7	7	7	7	7	7
825	7	7	7	7	7	7	7	7	7
830	7	7	7	7	7	7	7	7	7
835	7	7	7	7	7	7	7	7	7
840	7	7	7	7	7	7	7	7	7
845	7	7	7	7	7	7	7	7	7
850	7	7	7	7	7	7	7	7	7
855	7	7	7	7	7	7	7	7	7
860	7	7	7	7	7	7	7	7	7
865	7	7	7	7	7	7	7	7	7
870	7	7	7	7	7	7	7	7	7
875	7	7	7	7	7	7	7	7	7
880	7	7	7	7	7	7	7	7	7
885	7	7	7	7	7	7	7	7	7
890	7	7	7	7	7	7	7	7	7
895	7	7	7	7	7	7	7	7	7
900	7	7	7	7	7	7	7	7	7
905	7	7	7	7	7	7	7	7	7
910	7	7	7	7	7	7	7	7	7
915	7	7	7	7	7	7	7	7	7
920	7	7	7	7	7	7	7	7	7

Runway 04-22

MILLING (NOMINAL 7mm ON ASPHALT AND NO MILLING ON SEAL)

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
405	7	7	7	7	7	7	7	7	7
410	7	7	7	7	7	7	7	7	7
415	7	7	7	7	7	7	7	7	7
420	7	7	7	7	7	7	7	7	7
425	7	7	7	7	7	7	7	7	7
430	7	7	7	7	7	7	7	7	7
435	7	7	7	7	7	7	7	7	7
440	7	7	7	7	7	7	7	7	7
445	7	7	7	7	7	7	7	7	7
450	7	7	7	7	7	7	7	7	7
455	7	7	7	7	7	7	7	7	7
460	7	7	7	7	7	7	7	7	7
465	7	7	7	7	7	7	7	7	7
470	7	7	7	7	7	7	7	7	7
475	7	7	7	7	7	7	7	7	7
480	7	7	7	7	7	7	7	7	7
485	7	7	7	7	7	7	7	7	7
490	7	7	7	7	7	7	7	7	7
495	7	7	7	7	7	7	7	7	7
500	7	7	7	7	7	7	7	7	7
505	7	7	7	7	7	7	7	7	7
510	7	7	7	7	7	7	7	7	7
515	7	7	7	7	7	7	7	7	7
520	7	7	7	7	7	7	7	7	7
525	7	7	7	7	7	7	7	7	7
530	7	7	7	7	7	7	7	7	7
535	7	7	7	7	7	7	7	7	7
540	7	7	7	7	7	7	7	7	7
545	7	7	7	7	7	7	7	7	7
550	7	7	7	7	7	7	7	7	7
555	7	7	7	7	7	7	7	7	7
560	7	7	7	7	7	7	7	7	7
565	7	7	7	7	7	7	7	7	7
570	7	7	7	7	7	7	7	7	7
575	7	7	7	7	7	7	7	7	7
580	7	7	7	7	7	7	7	7	7
585	7	7	7	7	7	7	7	7	7
590	7	7	7	7	7	7	7	7	7
595	7	7	7	7	7	7	7	7	7
600	7	7	7	7	7	7	7	7	7
605	7	7	7	7	7	7	7	7	7
610	7	7	7	7	7	7	7	7	7
615	7	7	7	7	7	7	7	7	7
620	7	7	7	7	7	7	7	7	7
625	7	7	7	7	7	7	7	7	7
630	7	7	7	7	7	7	7	7	7
635	7	7	7	7	7	7	7	7	7
640	7	7	7	7	7	7	7	7	7
645	7	7	7	7	7	7	7	7	7
650	7	7	7	7	7	7	7	7	7
655	7	7	7	7	7	7	7	7	7
660	7	7	7	7	7	7	7	7	7

Runway 04-22

MILLING (NOMINAL 7mm ON ASPHALT AND NO MILLING ON SEAL)

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
145	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0
185	0	0	0	0	0	0	0	0	0
190	0	0	0	0	0	0	0	0	0
195	0	0	0	0	0	0	0	0	0
200	0	0	0	0	0	0	0	0	0
205	0	0	0	0	0	0	0	0	0
210	0	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	0
220	0	0	0	0	0	0	0	0	0
225	0	0	0	0	0	0	0	0	0
230	0	0	0	0	0	0	0	0	0
235	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0
245	0	0	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0	0	0
255	0	0	0	0	0	0	0	0	0
260	0	0	0	0	0	0	0	0	0
265	0	0	0	0	0	0	0	0	0
270	0	0	0	0	0	0	0	0	0
275	0	0	0	0	0	0	0	0	0
280	0	0	0	0	0	0	0	0	0
285	0	0	0	0	0	0	0	0	0
290	0	0	0	0	0	0	0	0	0
295	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0
305	0	0	0	0	0	0	0	0	0
310	0	0	0	0	0	0	0	0	0
315	0	0	0	0	0	0	0	0	0
320	0	0	0	0	0	0	0	0	0
325	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0
335	7	7	7	7	7	7	7	7	7
340	7	7	7	7	7	7	7	7	7
345	7	7	7	7	7	7	7	7	7
350	7	7	7	7	7	7	7	7	7
355	7	7	7	7	7	7	7	7	7
360	7	7	7	7	7	7	7	7	7
365	7	7	7	7	7	7	7	7	7
370	7	7	7	7	7	7	7	7	7
375	7	7	7	7	7	7	7	7	7
380	7	7	7	7	7	7	7	7	7
385	7	7	7	7	7	7	7	7	7
390	7	7	7	7	7	7	7	7	7
395	7	7	7	7	7	7	7	7	7
400	7	7	7	7	7	7	7	7	7

Runway 04-22

MILLING (NOMINAL 7mm ON ASPHALT AND NO MILLING ON SEAL)

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
-115	0	0	0	0	0	0	0	0	0
-110	0	0	0	0	0	0	0	0	0
-105	0	0	0	0	0	0	0	0	0
-100	0	0	0	0	0	0	0	0	0
-95	0	0	0	0	0	0	0	0	0
-90	0	0	0	0	0	0	0	0	0
-85	0	0	0	0	0	0	0	0	0
-80	0	0	0	0	0	0	0	0	0
-75	0	0	0	0	0	0	0	0	0
-70	0	0	0	0	0	0	0	0	0
-65	0	0	0	0	0	0	0	0	0
-60	0	0	0	0	0	0	0	0	0
-55	0	0	0	0	0	0	0	0	0
-50	0	0	0	0	0	0	0	0	0
-45	0	0	0	0	0	0	0	0	0
-40	0	0	0	0	0	0	0	0	0
-35	0	0	0	0	0	0	0	0	0
-30	0	0	0	0	0	0	0	0	0
-25	0	0	0	0	0	0	0	0	0
-20	0	0	0	0	0	0	0	0	0
-15	0	0	0	0	0	0	0	0	0
-10	0	0	0	0	0	0	0	0	0
-5	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0

Runway 04-22

CROSS FALLS

CH	-14.80	-11.25	-7.50	-3.75	3.75	7.50	11.25	14.80
1210	-2.0	-1.6	-1.3	-1.4	-1.4	-1.5	-1.4	-1.5
1215	-2.0	-1.6	-1.2	-1.3	-1.4	-1.4	-1.4	-1.5
1220	-2.0	-1.5	-1.2	-1.2	-1.4	-1.4	-1.4	-1.4
1225	-2.0	-1.4	-1.2	-1.1	-1.4	-1.4	-1.4	-1.4
1230	-2.0	-1.3	-1.2	-1.0	-1.4	-1.4	-1.4	-1.4
1235	-2.0	-1.4	-1.2	-1.0	-1.4	-1.4	-1.4	-1.4
1240	-2.0	-1.3	-1.3	-1.0	-1.4	-1.4	-1.4	-1.4
1245	-2.0	-1.4	-1.3	-1.0	-1.4	-1.4	-1.4	-1.4
1250	-2.0	-1.3	-1.4	-1.0	-1.4	-1.4	-1.4	-1.4
1255	-2.0	-1.4	-1.4	-1.0	-1.4	-1.4	-1.4	-1.5
1260	-2.0	-1.4	-1.3	-1.1	-1.3	-1.3	-1.4	-1.5
1265	-2.0	-1.4	-1.3	-1.1	-1.3	-1.3	-1.4	-1.5
1270	-2.0	-1.3	-1.3	-1.1	-1.2	-1.2	-1.4	-1.5
1275	-1.9	-1.3	-1.3	-1.1	-1.2	-1.2	-1.4	-1.5
1280	-1.9	-1.2	-1.3	-1.1	-1.3	-1.3	-1.4	-1.4
1285	-1.9	-1.1	-1.2	-1.1	-1.3	-1.3	-1.4	-1.5
1290	-1.9	-1.1	-1.3	-1.1	-1.3	-1.3	-1.5	-1.5
1295	-1.9	-1.1	-1.3	-1.0	-1.3	-1.3	-1.5	-1.5
1300	-1.9	-1.1	-1.2	-1.0	-1.3	-1.3	-1.5	-1.5
1305	-2.0	-1.2	-1.2	-1.0	-1.3	-1.3	-1.5	-1.5
1310	-2.0	-1.4	-1.2	-1.0	-1.3	-1.3	-1.5	-1.6
1315	-2.0	-1.5	-1.2	-1.0	-1.3	-1.3	-1.6	-1.6
1320	-2.1	-1.7	-1.1	-1.0	-1.2	-1.3	-1.6	-1.6
1325	-2.3	-1.8	-1.1	-1.0	-1.2	-1.4	-1.5	-1.6
1330	-2.3	-1.9	-1.1	-1.0	-1.1	-1.4	-1.6	-1.6
1335	-2.4	-1.9	-1.1	-1.1	-1.1	-1.4	-1.5	-1.6
1340	-2.5	-2.0	-1.1	-1.1	-1.1	-1.4	-1.5	-1.6
1345	-2.5	-2.0	-1.1	-1.0	-1.1	-1.4	-1.6	-1.6
1350	-2.5	-2.0	-1.1	-1.0	-1.0	-1.5	-1.6	-1.7
1355	-2.8	-2.0	-1.1	-0.9	-1.0	-1.5	-1.6	-1.7
1360	-3.0	-2.0	-1.2	-0.8	-1.0	-1.5	-1.7	-1.8
1365	-2.7	-2.0	-1.3	-0.7	-1.0	-1.5	-1.7	-1.9
1370	-2.7	-2.0	-1.4	-0.7	-1.0	-1.5	-1.7	-1.9
1375	-2.6	-2.0	-1.4	-0.8	-1.0	-1.5	-1.7	-1.8
1380	-2.3	-2.0	-1.5	-0.9	-1.0	-1.5	-1.7	-1.7
1385	-2.4	-2.0	-1.5	-0.8	-1.0	-1.6	-1.7	-1.7
1390	-2.3	-1.9	-1.6	-0.9	-1.0	-1.7	-1.7	-1.7
1395	-2.2	-1.9	-1.7	-0.8	-1.0	-1.7	-1.8	-1.6
1400	-2.1	-1.9	-1.6	-0.8	-1.1	-1.6	-1.7	-1.6
1405	-1.9	-1.8	-1.7	-0.7	-1.0	-1.5	-1.5	-1.7
1410	-1.8	-1.7	-1.6	-0.6	-0.9	-1.3	-1.4	-1.7

Red indicates exceeding MOS 139 maximum crossfall.

Yellow indicates falls below MOS 139 minimum crossfall.

Runway 04-22

CROSS FALLS

CH	-14.80	-11.25	-7.50	-3.75	3.75	7.50	11.25	14.80
945	-2.1	-1.8	-1.3	-1.3	-0.5	-0.5	-0.5	-1.4
950	-2.1	-1.8	-1.3	-1.3	-0.5	-0.6	-0.7	-1.5
955	-2.1	-1.8	-1.3	-1.3	-0.6	-0.6	-0.8	-1.5
960	-2.1	-1.8	-1.3	-1.3	-0.7	-0.8	-0.9	-1.4
965	-2.1	-1.8	-1.3	-1.3	-0.9	-0.9	-1.0	-1.3
970	-2.1	-1.8	-1.3	-1.3	-1.0	-1.0	-1.1	-1.3
975	-2.1	-1.8	-1.3	-1.3	-1.1	-1.1	-1.3	-1.3
980	-2.1	-1.8	-1.3	-1.3	-1.1	-1.1	-1.3	-1.3
985	-2.1	-1.8	-1.3	-1.3	-1.1	-1.1	-1.4	-1.4
990	-2.1	-1.8	-1.3	-1.3	-1.1	-1.1	-1.5	-1.5
995	-2.1	-1.8	-1.3	-1.3	-1.1	-1.1	-1.5	-1.5
1000	-2.1	-1.8	-1.3	-1.3	-1.2	-1.1	-1.6	-1.5
1005	-2.1	-1.8	-1.3	-1.3	-1.2	-1.2	-1.6	-1.5
1010	-2.1	-1.8	-1.3	-1.3	-1.2	-1.2	-1.6	-1.5
1015	-2.1	-1.8	-1.3	-1.4	-1.3	-1.3	-1.7	-1.7
1020	-2.1	-1.8	-1.3	-1.4	-1.4	-1.3	-1.7	-1.7
1025	-2.1	-1.7	-1.4	-1.3	-1.4	-1.3	-1.7	-1.7
1030	-2.1	-1.8	-1.3	-1.3	-1.4	-1.4	-1.7	-1.7
1035	-2.1	-1.8	-1.3	-1.4	-1.4	-1.4	-1.7	-1.7
1040	-2.1	-1.8	-1.3	-1.4	-1.4	-1.4	-1.7	-1.7
1045	-2.1	-1.7	-1.3	-1.4	-1.4	-1.4	-1.7	-1.7
1050	-2.1	-1.7	-1.4	-1.3	-1.4	-1.5	-1.7	-1.7
1055	-2.1	-1.8	-1.3	-1.4	-1.4	-1.5	-1.7	-1.7
1060	-2.1	-1.8	-1.3	-1.4	-1.4	-1.5	-1.7	-1.7
1065	-2.1	-1.8	-1.3	-1.3	-1.4	-1.5	-1.7	-1.7
1070	-2.1	-1.8	-1.3	-1.4	-1.4	-1.5	-1.7	-1.7
1075	-2.1	-1.7	-1.4	-1.3	-1.4	-1.5	-1.7	-1.7
1080	-2.1	-1.8	-1.3	-1.4	-1.5	-1.5	-1.7	-1.7
1085	-2.1	-1.7	-1.4	-1.3	-1.5	-1.5	-1.7	-1.6
1090	-2.1	-1.8	-1.3	-1.4	-1.5	-1.5	-1.6	-1.6
1095	-2.1	-1.8	-1.3	-1.4	-1.5	-1.6	-1.6	-1.6
1100	-2.1	-1.7	-1.4	-1.3	-1.5	-1.6	-1.5	-1.6
1105	-2.1	-1.7	-1.4	-1.3	-1.5	-1.6	-1.5	-1.5
1110	-2.1	-1.8	-1.3	-1.4	-1.5	-1.6	-1.5	-1.5
1115	-2.1	-1.8	-1.3	-1.4	-1.5	-1.6	-1.5	-1.5
1120	-2.1	-1.7	-1.3	-1.4	-1.5	-1.6	-1.5	-1.5
1125	-2.1	-1.7	-1.4	-1.3	-1.5	-1.6	-1.5	-1.5
1130	-2.1	-1.8	-1.3	-1.3	-1.5	-1.6	-1.5	-1.5
1135	-2.1	-1.8	-1.3	-1.4	-1.5	-1.6	-1.5	-1.5
1140	-2.1	-1.7	-1.3	-1.4	-1.5	-1.6	-1.5	-1.5
1145	-2.1	-1.7	-1.3	-1.4	-1.5	-1.6	-1.5	-1.5
1150	-2.1	-1.7	-1.3	-1.4	-1.6	-1.5	-1.5	-1.5
1155	-2.1	-1.8	-1.3	-1.4	-1.6	-1.6	-1.5	-1.5
1160	-2.0	-1.7	-1.3	-1.4	-1.6	-1.7	-1.5	-1.5
1165	-2.1	-1.8	-1.3	-1.4	-1.6	-1.7	-1.5	-1.5
1170	-2.1	-1.8	-1.3	-1.4	-1.5	-1.7	-1.5	-1.5
1175	-2.1	-1.8	-1.3	-1.4	-1.5	-1.6	-1.5	-1.5
1180	-2.0	-1.8	-1.3	-1.4	-1.5	-1.6	-1.5	-1.5
1185	-2.0	-1.9	-1.3	-1.4	-1.4	-1.6	-1.5	-1.5
1190	-2.0	-1.9	-1.3	-1.4	-1.5	-1.6	-1.5	-1.5
1195	-2.0	-1.8	-1.3	-1.4	-1.5	-1.6	-1.5	-1.5
1200	-2.0	-1.8	-1.3	-1.4	-1.4	-1.5	-1.5	-1.5
1205	-2.0	-1.7	-1.3	-1.4	-1.4	-1.5	-1.5	-1.5

Runway 04-22

CROSS FALLS

CH	-14.80	-11.25	-7.50	-3.75	3.75	7.50	11.25	14.80
680	-2.1	-1.3	-0.7	-0.5	0.3	0.2	-0.5	-1.8
685	-2.3	-1.1	-0.7	-0.5	0.2	0.2	-0.6	-1.5
690	-2.3	-1.1	-0.7	-0.5	0.3	0.3	-0.7	-1.5
695	-2.5	-1.0	-0.8	-0.5	0.3	0.4	-0.8	-1.5
700	-2.9	-0.9	-0.9	-0.5	0.3	0.3	-0.8	-1.2
705	-3.3	-0.8	-1.0	-0.4	0.4	0.3	-0.9	-1.0
710	-2.5	-0.7	-1.0	-0.5	0.4	0.3	-1.0	-0.8
715	-2.5	-0.7	-0.9	-0.6	0.4	0.3	-0.9	-0.8
720	-2.5	-0.7	-0.9	-0.7	0.4	0.3	-0.8	-0.7
725	-2.4	-0.7	-0.9	-0.7	0.3	0.3	-0.8	-0.4
730	-2.3	-0.7	-0.8	-0.7	0.4	0.3	-0.6	-0.2
735	-2.3	-0.7	-0.7	-0.6	0.4	0.3	-0.5	-0.1
740	-2.3	-0.7	-0.7	-0.6	0.3	0.3	-0.2	-0.1
745	-2.4	-0.7	-0.7	-0.7	0.4	0.4	0.0	-0.3
750	-2.3	-0.7	-0.7	-0.7	0.5	0.4	0.2	-0.4
755	-2.2	-0.7	-0.7	-0.7	0.5	0.4	0.3	-0.6
760	-1.9	-0.7	-0.8	-0.7	0.5	0.4	0.4	-0.8
765	-1.6	-0.7	-0.8	-0.7	0.5	0.5	0.5	-0.7
770	-1.3	-0.8	-0.8	-0.8	0.5	0.5	0.5	-0.5
775	-1.0	-0.8	-0.9	-0.8	0.5	0.5	0.5	-0.3
780	-0.7	-0.8	-0.9	-0.8	0.5	0.5	0.6	0.0
785	-0.6	-0.7	-0.9	-0.8	0.5	0.5	0.6	0.2
790	-0.5	-0.8	-0.8	-0.8	0.5	0.5	0.6	0.4
795	-0.7	-0.8	-0.8	-0.7	0.5	0.5	0.6	0.6
800	-0.7	-0.7	-0.7	-0.8	0.5	0.5	0.7	0.6
805	-0.8	-0.8	-0.7	-0.7	0.6	0.6	0.7	0.6
810	-0.8	-0.7	-0.7	-0.7	0.6	0.6	0.6	0.6
815	-0.8	-0.8	-0.7	-0.7	0.7	0.7	0.6	0.6
820	-0.8	-0.8	-0.7	-0.8	0.7	0.7	0.6	0.5
825	-0.9	-0.8	-0.7	-0.8	0.7	0.7	0.6	0.4
830	-0.9	-0.9	-0.7	-0.8	0.7	0.8	0.6	0.4
835	-0.9	-1.0	-0.7	-0.9	0.7	0.7	0.5	0.3
840	-1.0	-1.0	-0.8	-0.9	0.7	0.7	0.5	0.5
845	-1.0	-1.0	-0.9	-1.0	0.6	0.6	0.5	0.5
850	-1.0	-1.0	-1.0	-1.1	0.6	0.6	0.5	0.5
855	-1.1	-1.1	-1.1	-1.1	0.6	0.6	0.5	0.5
860	-1.1	-1.2	-1.2	-1.3	0.6	0.5	0.5	0.5
865	-1.2	-1.3	-1.3	-1.3	0.6	0.5	0.5	0.5
870	-1.3	-1.4	-1.3	-1.3	0.6	0.5	0.5	0.4
875	-1.3	-1.5	-1.3	-1.4	0.5	0.5	0.5	0.2
880	-1.6	-1.5	-1.4	-1.3	0.5	0.5	0.5	0.1
885	-1.8	-1.6	-1.4	-1.3	0.5	0.5	0.5	-0.2
890	-2.1	-1.6	-1.3	-1.4	0.5	0.5	0.4	-0.4
895	-2.1	-1.6	-1.3	-1.4	0.5	0.5	0.3	-0.6
900	-2.1	-1.6	-1.4	-1.4	0.5	0.5	0.2	-0.6
905	-2.1	-1.6	-1.3	-1.4	0.5	0.5	0.0	-0.7
910	-2.1	-1.6	-1.4	-1.4	0.5	0.4	-0.2	-0.7
915	-2.1	-1.6	-1.4	-1.3	0.5	0.2	-0.3	-0.6
920	-2.1	-1.5	-1.4	-1.3	0.4	0.0	-0.5	-0.7
925	-2.1	-1.6	-1.3	-1.4	0.3	-0.2	-0.5	-0.8
930	-2.1	-1.7	-1.4	-1.3	0.1	-0.4	-0.5	-0.9
935	-2.1	-1.8	-1.3	-1.3	-0.1	-0.5	-0.5	-1.0
940	-2.1	-1.8	-1.3	-1.3	-0.3	-0.5	-0.5	-1.3

Runway 04-22

CROSS FALLS

CH	-14.80	-11.25	-7.50	-3.75	3.75	7.50	11.25	14.80
415	-1.2	-1.8	-1.5	-1.5	-1.2	-1.6	-1.7	-0.8
420	-1.1	-1.6	-1.5	-1.5	-1.3	-1.5	-1.5	-1.0
425	-0.9	-1.4	-1.5	-1.5	-1.3	-1.5	-1.3	-1.0
430	-1.1	-1.3	-1.5	-1.5	-1.3	-1.4	-1.1	-1.1
435	-1.2	-1.1	-1.5	-1.5	-1.2	-1.4	-0.9	-1.7
440	-1.2	-1.0	-1.5	-1.5	-1.1	-1.3	-0.8	-2.4
445	-1.6	-1.0	-1.5	-1.5	-1.0	-1.2	-0.8	-2.3
450	-2.0	-1.0	-1.5	-1.5	-1.0	-1.1	-0.9	-2.1
455	-2.3	-1.0	-1.4	-1.5	-0.9	-1.0	-1.0	-2.1
460	-2.5	-1.1	-1.4	-1.4	-0.8	-0.9	-1.1	-1.9
465	-2.6	-1.1	-1.4	-1.4	-0.7	-0.9	-1.1	-2.1
470	-2.6	-1.2	-1.3	-1.3	-0.7	-0.8	-1.1	-2.3
475	-2.4	-1.3	-1.3	-1.3	-0.8	-0.9	-1.0	-2.1
480	-2.5	-1.3	-1.2	-1.3	-0.9	-0.9	-1.0	-2.1
485	-2.7	-1.3	-1.1	-1.2	-0.9	-1.0	-1.0	-2.4
490	-2.9	-1.3	-1.1	-1.1	-0.9	-1.0	-1.1	-2.9
495	-3.0	-1.3	-1.1	-1.1	-0.9	-1.0	-1.2	-2.7
500	-3.0	-1.3	-1.0	-1.1	-0.8	-1.0	-1.2	-2.6
505	-2.9	-1.3	-0.9	-1.0	-0.8	-0.9	-1.1	-2.9
510	-2.7	-1.3	-0.8	-0.9	-0.8	-0.9	-1.0	-2.9
515	-2.7	-1.3	-0.8	-0.9	-0.8	-0.8	-1.0	-2.7
520	-2.6	-1.3	-0.8	-0.9	-0.8	-0.8	-0.9	-2.3
525	-2.7	-1.3	-0.8	-0.9	-0.8	-0.8	-0.9	-2.5
530	-2.7	-1.4	-0.8	-0.9	-0.8	-0.9	-0.9	-2.6
535	-2.8	-1.5	-0.9	-1.0	-0.7	-0.9	-0.9	-2.6
540	-2.7	-1.5	-0.9	-1.0	-0.7	-0.9	-0.8	-2.6
545	-2.8	-1.6	-1.0	-1.0	-0.6	-0.9	-0.9	-2.6
550	-2.9	-1.7	-1.0	-1.1	-0.5	-0.9	-1.0	-2.7
555	-2.8	-1.8	-1.0	-1.1	-0.5	-1.0	-1.2	-2.4
560	-2.7	-1.8	-1.2	-1.1	-0.4	-1.1	-1.3	-2.2
565	-2.8	-1.9	-1.3	-1.1	-0.4	-1.1	-1.4	-2.6
570	-2.7	-1.9	-1.5	-1.1	-0.5	-1.2	-1.4	-3.1
575	-2.9	-2.0	-1.7	-1.0	-0.5	-1.2	-1.3	-2.7
580	-2.9	-2.0	-1.8	-0.9	-0.5	-1.2	-1.1	-2.3
585	-2.8	-2.0	-1.9	-0.7	-0.6	-1.1	-1.2	-2.5
590	-2.7	-2.0	-1.8	-0.6	-0.6	-1.0	-1.3	-2.8
595	-2.8	-1.9	-1.6	-0.5	-0.6	-0.9	-1.3	-3.4
600	-2.9	-1.9	-1.3	-0.5	-0.6	-0.8	-1.3	-2.5
605	-3.1	-2.0	-1.1	-0.5	-0.5	-0.7	-1.2	-2.5
610	-3.2	-2.0	-0.9	-0.5	-0.5	-0.6	-1.1	-2.6
615	-3.0	-2.1	-0.8	-0.5	-0.5	-0.7	-1.1	-2.5
620	-3.0	-2.0	-0.9	-0.5	-0.6	-0.7	-1.2	-2.6
625	-3.1	-1.9	-0.9	-0.5	-0.6	-0.7	-1.3	-2.7
630	-3.1	-2.0	-1.0	-0.5	-0.5	-0.7	-1.2	-3.0
635	-3.2	-1.9	-1.0	-0.5	-0.6	-0.7	-1.2	-3.1
640	-3.3	-1.7	-0.9	-0.5	-0.6	-0.6	-1.1	-3.1
645	-3.1	-1.6	-0.8	-0.5	-0.5	-0.5	-0.9	-3.0
650	-2.9	-1.5	-0.7	-0.5	-0.5	-0.4	-0.8	-3.0
655	-2.8	-1.4	-0.7	-0.5	-0.5	-0.3	-0.7	-2.6
660	-2.8	-1.3	-0.6	-0.5	-0.2	-0.2	-0.5	-2.6
665	-2.4	-1.3	-0.6	-0.5	0.2	-0.1	-0.3	-2.4
670	-1.9	-1.2	-0.6	-0.5	0.4	0.0	-0.2	-1.9
675	-2.0	-1.2	-0.6	-0.5	0.5	0.1	-0.3	-2.0

Runway 04-22

CROSS FALLS

CH	-14.80	-11.25	-7.50	-3.75	3.75	7.50	11.25	14.80
150	-3.5	-2.2	-1.7	-1.5	-0.8	-0.7	-2.0	-3.5
155	-3.5	-2.1	-1.8	-1.5	-0.9	-0.7	-2.0	-3.4
160	-3.7	-2.0	-1.7	-1.4	-1.0	-0.8	-1.9	-3.2
165	-3.4	-1.9	-1.4	-1.3	-1.0	-0.9	-1.8	-3.2
170	-3.2	-1.8	-1.3	-1.2	-1.0	-0.9	-1.9	-3.0
175	-3.4	-1.8	-1.1	-1.1	-1.0	-1.0	-1.9	-2.8
180	-3.5	-1.8	-1.2	-1.1	-1.1	-1.0	-2.0	-2.6
185	-3.4	-1.8	-1.3	-1.1	-1.2	-1.1	-2.0	-2.3
190	-3.2	-1.8	-1.4	-1.1	-1.3	-1.2	-2.0	-2.4
195	-3.1	-1.8	-1.5	-1.1	-1.3	-1.2	-1.8	-2.7
200	-3.1	-1.7	-1.6	-1.1	-1.4	-1.1	-1.8	-2.7
205	-3.1	-1.9	-1.6	-1.1	-1.4	-1.1	-1.7	-2.6
210	-3.0	-2.1	-1.6	-1.1	-1.3	-1.1	-1.5	-2.6
215	-3.1	-2.3	-1.6	-1.1	-1.3	-1.1	-1.6	-2.5
220	-3.1	-2.4	-1.6	-1.1	-1.3	-1.1	-1.5	-2.6
225	-3.0	-2.4	-1.5	-1.2	-1.2	-1.1	-1.5	-2.4
230	-3.0	-2.3	-1.6	-1.1	-1.2	-1.1	-1.5	-2.1
235	-2.5	-2.3	-1.6	-1.1	-1.2	-1.2	-1.5	-2.2
240	-2.0	-2.1	-1.7	-1.1	-1.1	-1.1	-1.4	-2.3
245	-2.1	-1.9	-1.6	-1.1	-1.1	-1.1	-1.5	-2.4
250	-1.5	-1.8	-1.5	-1.2	-1.0	-1.0	-1.6	-2.4
255	-1.5	-1.7	-1.4	-1.3	-1.0	-1.0	-1.7	-2.5
260	-1.6	-1.7	-1.2	-1.3	-0.9	-1.0	-1.7	-2.7
265	-1.9	-1.7	-1.1	-1.2	-0.7	-1.0	-1.8	-2.7
270	-2.3	-1.6	-1.1	-1.1	-0.6	-1.1	-1.8	-2.7
275	-2.5	-1.5	-1.0	-1.0	-0.5	-1.1	-1.7	-2.7
280	-2.7	-1.5	-1.0	-1.0	-0.6	-1.0	-1.7	-2.8
285	-2.6	-1.5	-1.1	-1.1	-0.7	-1.0	-1.7	-2.7
290	-2.6	-1.5	-1.2	-1.2	-0.7	-1.0	-1.7	-2.8
295	-2.7	-1.5	-1.3	-1.3	-0.7	-1.1	-1.7	-2.8
300	-2.7	-1.4	-1.4	-1.4	-0.6	-1.1	-1.8	-2.7
305	-2.8	-1.7	-1.5	-1.5	-0.6	-1.1	-1.8	-2.5
310	-2.5	-1.9	-1.5	-1.5	-0.6	-1.1	-1.9	-2.2
315	-2.4	-2.2	-1.4	-1.4	-0.6	-1.2	-2.0	-2.2
320	-2.3	-2.3	-1.4	-1.4	-0.6	-1.4	-2.1	-2.3
325	-2.7	-2.5	-1.3	-1.4	-0.6	-1.5	-2.1	-2.3
330	-3.0	-2.6	-1.3	-1.4	-0.6	-1.5	-2.1	-2.3
335	-2.9	-2.5	-1.3	-1.4	-0.6	-1.6	-2.1	-2.3
340	-2.9	-2.5	-1.4	-1.4	-0.7	-1.7	-2.0	-2.3
345	-2.9	-2.4	-1.4	-1.3	-0.7	-1.8	-1.8	-2.0
350	-2.9	-2.3	-1.4	-1.3	-0.8	-1.8	-1.8	-1.7
355	-3.1	-2.2	-1.3	-1.3	-0.8	-1.8	-1.8	-1.9
360	-3.3	-2.2	-1.3	-1.3	-0.9	-1.7	-1.7	-2.1
365	-3.2	-2.1	-1.3	-1.3	-0.9	-1.7	-1.7	-2.1
370	-3.0	-2.0	-1.3	-1.3	-0.9	-1.7	-1.7	-1.9
375	-2.7	-2.0	-1.3	-1.3	-0.9	-1.7	-1.7	-1.8
380	-2.5	-1.9	-1.3	-1.3	-0.9	-1.7	-1.6	-1.6
385	-2.1	-1.9	-1.3	-1.3	-0.9	-1.7	-1.6	-2.0
390	-1.7	-1.9	-1.4	-1.3	-0.9	-1.6	-1.7	-2.2
395	-1.6	-1.9	-1.4	-1.4	-0.9	-1.7	-1.8	-1.7
400	-1.3	-1.9	-1.4	-1.4	-0.9	-1.7	-1.8	-1.2
405	-1.4	-1.9	-1.4	-1.4	-1.0	-1.6	-1.9	-1.0
410	-1.4	-1.8	-1.4	-1.4	-1.1	-1.6	-1.8	-0.8

Runway 04-22

CROSS FALLS

CH	-14.80	-11.25	-7.50	-3.75	3.75	7.50	11.25	14.80
-115	-2.7	-0.7	-1.3	-0.7	-0.5	-1.1	-1.1	-2.2
-110	-2.9	-1.1	-1.2	-0.5	-0.5	-0.8	-1.2	-3.1
-105	-3.2	-1.4	-1.1	-0.4	-0.5	-0.5	-1.3	-3.2
-100	-3.8	-1.7	-1.1	-0.3	-0.5	-0.6	-1.4	-3.1
-95	-3.6	-1.8	-1.0	-0.2	-0.5	-0.6	-1.5	-2.8
-90	-3.3	-1.8	-1.1	-0.2	-0.5	-0.8	-1.5	-2.4
-85	-3.1	-1.9	-1.2	-0.3	-0.5	-1.0	-1.7	-2.3
-80	-2.9	-2.0	-1.3	-0.5	-0.6	-1.3	-1.8	-2.2
-75	-3.2	-2.1	-1.3	-0.6	-0.7	-1.5	-1.9	-2.5
-70	-3.4	-2.2	-1.4	-0.7	-0.7	-1.5	-1.9	-3.0
-65	-3.3	-2.1	-1.6	-0.6	-0.6	-1.4	-1.7	-3.3
-60	-3.3	-1.9	-1.9	-0.5	-0.6	-1.2	-1.4	-3.7
-55	-3.2	-1.6	-2.3	-0.2	-0.5	-0.9	-1.2	-3.7
-50	-3.0	-1.4	-2.6	0.0	-0.4	-0.7	-1.0	-3.8
-45	-3.0	-1.3	-2.8	0.1	-0.2	-0.5	-1.0	-4.1
-40	-3.1	-1.1	-3.0	0.1	-0.3	-0.3	-1.0	-4.4
-35	-2.9	-1.1	-3.0	-0.1	-0.4	-0.4	-0.9	-4.1
-30	-2.6	-1.3	-2.8	-0.3	-0.5	-0.4	-0.8	-3.8
-25	-2.5	-1.5	-2.6	-0.6	-0.6	-0.5	-0.7	-3.8
-20	-2.5	-1.9	-2.5	-0.7	-0.7	-0.5	-0.8	-3.6
-15	-2.3	-2.2	-2.3	-0.7	-0.9	-0.6	-0.9	-4.0
-10	-2.2	-2.4	-2.3	-0.6	-1.0	-0.8	-1.0	-4.2
-5	-2.6	-2.4	-2.4	-0.4	-1.1	-1.0	-1.2	-3.9
0	-3.1	-2.4	-2.3	-0.2	-1.1	-1.0	-1.4	-4.4
5	-3.3	-2.3	-2.3	0.0	-1.1	-1.0	-1.5	-4.9
10	-3.6	-2.4	-2.1	0.2	-1.0	-1.0	-1.7	-4.4
15	-3.9	-2.5	-1.9	0.2	-0.9	-1.0	-1.9	-4.4
20	-4.4	-2.5	-1.7	0.1	-0.8	-1.0	-2.1	-4.3
25	-4.3	-2.4	-1.4	0.1	-0.7	-1.0	-2.1	-4.4
30	-4.1	-2.3	-1.1	-0.2	-0.6	-1.1	-2.1	-4.7
35	-4.1	-2.4	-1.0	-0.5	-0.5	-1.2	-2.1	-4.3
40	-3.9	-2.4	-1.0	-0.9	-0.5	-1.3	-2.1	-3.8
45	-3.7	-2.5	-1.0	-1.0	-0.5	-1.3	-2.1	-3.8
50	-3.5	-2.7	-1.0	-1.0	-0.5	-1.1	-2.1	-3.9
55	-2.9	-2.7	-0.9	-0.9	-0.5	-1.0	-2.1	-3.9
60	-2.5	-2.7	-0.9	-0.9	-0.5	-0.9	-2.1	-4.0
65	-2.9	-2.7	-0.9	-0.9	-0.5	-1.0	-2.1	-3.9
70	-3.3	-2.7	-1.0	-1.0	-0.7	-1.2	-2.1	-3.5
75	-3.1	-2.6	-0.9	-1.0	-0.9	-1.3	-2.1	-3.3
80	-3.0	-2.5	-0.8	-1.0	-1.0	-1.3	-2.0	-3.2
85	-3.4	-2.3	-0.7	-1.0	-0.9	-1.3	-2.0	-3.6
90	-3.5	-2.2	-0.7	-0.9	-0.9	-1.3	-2.1	-3.7
95	-3.2	-2.1	-0.8	-1.0	-0.9	-1.2	-2.1	-4.1
100	-3.2	-1.9	-0.9	-1.0	-0.9	-1.2	-2.2	-4.4
105	-3.7	-1.9	-1.0	-1.1	-0.9	-1.2	-2.3	-4.0
110	-3.9	-1.9	-1.1	-1.2	-0.9	-1.1	-2.3	-3.6
115	-3.7	-1.9	-1.1	-1.2	-0.7	-1.0	-2.2	-3.3
120	-3.3	-2.0	-1.2	-1.3	-0.5	-0.7	-2.1	-3.4
125	-2.9	-2.0	-1.2	-1.3	-0.4	-0.6	-2.0	-3.3
130	-2.7	-2.0	-1.3	-1.4	-0.4	-0.6	-2.0	-3.2
135	-2.7	-2.0	-1.4	-1.5	-0.5	-0.6	-2.0	-3.0
140	-2.7	-2.0	-1.5	-1.5	-0.6	-0.6	-2.0	-2.9
145	-3.2	-2.1	-1.6	-1.6	-0.7	-0.7	-2.0	-3.3

Runway 04-22

LIFT FROM EXISTING

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
1210	47	59	69	66	65	64	55	55	52
1215	45	61	68	66	67	67	58	58	59
1220	45	65	68	69	70	70	60	58	56
1225	62	70	68	69	70	67	58	56	52
1230	41	73	65	68	71	63	58	54	50
1235	64	71	68	68	70	64	60	57	51
1240	68	70	69	69	69	66	62	60	54
1245	70	68	69	68	69	66	61	60	55
1250	71	66	67	65	67	65	57	59	54
1255	74	68	66	65	65	65	59	59	57
1260	75	67	62	61	59	61	57	55	61
1265	72	66	56	56	55	58	54	54	51
1270	63	67	49	51	51	53	50	52	50
1275	60	67	51	53	52	53	52	52	50
1280	57	67	53	55	52	52	51	49	50
1285	61	68	51	51	51	49	49	52	49
1290	59	64	48	46	48	46	48	56	48
1295	62	65	50	50	51	46	48	52	52
1300	61	63	52	53	51	44	47	46	54
1305	62	63	51	52	52	44	47	46	55
1310	60	61	49	51	50	42	43	44	52
1315	44	51	50	51	51	40	50	44	49
1320	25	41	51	48	51	39	55	43	44
1325	25	42	51	52	51	43	48	46	46
1330	25	41	50	55	52	49	42	48	45
1335	25	41	49	49	49	47	47	47	51
1340	25	41	49	43	44	45	53	46	53
1345	25	41	49	48	46	48	53	46	47
1350	25	39	47	49	45	48	50	44	39
1355	25	44	46	48	48	48	47	47	38
1360	25	48	42	45	50	46	44	50	28
1365	25	47	47	47	51	48	48	52	36
1370	25	43	50	47	50	49	51	53	43
1375	25	42	51	51	50	51	51	50	34
1380	25	40	51	52	47	50	48	45	26
1385	25	42	49	50	49	49	49	43	27
1390	25	40	43	43	47	43	44	37	30
1395	25	44	50	51	51	50	51	40	33
1400	25	46	57	55	53	54	57	46	36
1405	25	47	57	56	52	57	59	51	36
1410	25	49	57	53	46	57	62	59	41

Yellow indicates 25mm rolled over edge.

Green indicates 60-80mm.

Red indicates greater than 80mm (so correction required).

Runway 04-22

LIFT FROM EXISTING

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
945	46	62	67	71	67	73	64	65	44
950	45	51	61	64	66	77	66	67	40
955	44	52	61	63	69	72	66	64	44
960	41	51	61	62	71	67	64	59	46
965	44	53	60	63	71	64	60	54	46
970	46	55	59	64	70	61	55	49	44
975	44	53	60	66	69	63	54	47	46
980	41	51	61	67	68	64	53	46	44
985	39	51	59	65	70	64	57	48	46
990	38	52	57	64	73	64	62	50	46
995	47	55	61	67	72	62	65	51	45
1000	53	56	62	67	71	59	66	52	46
1005	54	56	64	69	73	61	66	54	50
1010	53	56	66	70	74	61	64	54	53
1015	57	59	67	69	72	64	62	49	45
1020	62	62	69	70	71	67	60	48	48
1025	65	67	73	70	68	68	60	52	48
1030	65	69	78	70	65	70	60	54	47
1035	60	66	75	74	70	70	62	57	53
1040	56	65	73	79	75	69	64	59	58
1045	53	63	70	74	75	68	62	57	55
1050	52	61	67	70	75	68	61	55	54
1055	51	57	65	72	74	68	62	56	53
1060	50	53	62	73	72	68	61	56	50
1065	49	52	63	73	74	65	60	54	51
1070	46	49	62	72	78	62	58	49	51
1075	49	53	63	72	74	62	56	49	47
1080	50	55	62	70	69	59	54	49	46
1085	50	55	62	68	72	60	56	48	47
1090	45	52	62	65	74	61	56	46	47
1095	44	56	64	67	72	61	57	50	50
1100	45	60	65	71	68	59	58	54	53
1105	44	58	63	69	69	59	56	51	52
1110	43	57	61	68	69	59	55	48	51
1115	46	59	64	70	73	62	54	50	49
1120	48	62	67	72	76	65	55	52	48
1125	47	63	70	73	76	65	58	53	51
1130	45	65	74	73	75	65	59	52	55
1135	46	65	70	72	75	65	57	53	53
1140	48	66	67	72	75	66	56	54	52
1145	47	62	68	70	74	64	55	50	44
1150	45	58	68	69	72	62	53	47	37
1155	45	59	69	69	72	63	52	43	43
1160	50	62	70	69	71	64	51	40	48
1165	44	63	69	70	72	64	51	43	54
1170	39	64	67	71	72	66	52	47	61
1175	51	67	70	72	76	69	56	53	55
1180	61	67	72	72	79	72	57	58	46
1185	53	67	75	73	76	71	60	59	47
1190	49	69	76	72	73	67	60	58	50
1195	56	66	71	72	71	68	58	55	44
1200	65	65	69	74	69	70	58	54	45
1205	56	62	69	70	68	67	57	56	48

Runway 04-22

LIFT FROM EXISTING

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
680	25	61	63	60	58	62	66	58	25
685	25	56	54	55	52	49	55	43	25
690	25	49	46	52	49	42	53	41	25
695	25	49	50	51	50	51	67	44	25
700	25	51	53	49	50	58	74	43	25
705	25	51	51	49	51	63	77	46	25
710	25	49	48	45	54	69	80	49	25
715	25	52	54	53	51	69	76	47	25
720	25	56	58	60	47	67	72	45	25
725	25	52	53	53	51	63	68	41	25
730	25	51	49	49	53	59	65	41	25
735	25	52	51	50	52	56	63	40	25
740	25	52	50	51	51	52	62	41	25
745	28	47	49	51	52	57	64	50	25
750	36	41	49	52	53	61	66	57	25
755	39	44	50	52	50	62	68	70	29
760	45	45	49	50	45	59	64	78	30
765	48	46	46	48	48	59	69	81	36
770	48	41	39	42	46	57	69	81	44
775	61	39	46	44	44	56	60	69	48
780	65	54	57	52	54	56	63	66	53
785	66	64	62	69	72	67	62	61	62
790	59	60	67	65	67	59	62	59	49
795	58	60	65	68	69	61	58	59	58
800	62	66	69	70	72	65	60	62	59
805	63	64	67	68	71	69	68	70	67
810	69	70	70	69	70	69	69	69	67
815	68	71	76	78	72	69	66	67	64
820	63	69	74	77	76	77	77	72	64
825	71	71	76	74	75	75	77	73	62
830	66	73	83	83	80	75	77	78	65
835	69	52	69	70	77	79	71	82	50
840	76	52	65	70	72	73	68	63	55
845	71	57	62	65	72	66	56	48	41
850	67	48	60	67	70	61	51	44	38
855	65	53	62	69	69	66	57	48	42
860	65	58	66	72	70	72	62	54	48
865	66	53	63	73	74	74	64	54	48
870	72	54	64	76	76	74	66	55	46
875	84	56	64	76	75	75	65	59	66
880	60	60	64	76	72	75	62	62	45
885	55	63	72	84	73	75	63	60	67
890	47	65	77	87	72	72	61	56	55
895	42	65	78	84	73	79	73	61	51
900	45	65	77	81	74	85	84	65	50
905	43	62	76	83	74	86	87	67	51
910	43	62	76	88	76	87	88	66	50
915	48	64	74	81	69	83	78	54	44
920	53	69	74	77	65	81	71	47	42
925	50	68	73	75	67	80	70	54	46
930	46	64	72	75	68	77	66	58	48
935	45	67	73	77	68	77	64	57	48
940	46	72	73	77	65	75	67	59	46

Runway 04-22

LIFT FROM EXISTING

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
415	25	39	54	63	52	53	53	56	25
420	25	41	55	65	49	57	53	57	25
425	25	45	51	65	51	53	54	52	25
430	25	46	46	63	53	52	56	48	25
435	25	46	47	62	52	52	54	51	25
440	25	42	47	61	52	53	52	53	25
445	25	43	44	65	51	51	50	48	25
450	25	42	41	68	51	48	47	41	25
455	25	44	43	73	49	49	50	48	25
460	25	42	40	72	42	46	47	50	25
465	25	49	47	73	54	51	50	55	25
470	25	53	50	71	63	53	48	59	25
475	25	52	51	65	58	56	53	52	25
480	25	58	57	65	57	64	63	46	25
485	25	59	60	67	51	56	57	53	25
490	25	61	64	71	49	51	55	62	25
495	25	54	54	65	48	48	49	54	25
500	25	46	44	57	43	40	42	47	25
505	25	49	48	55	49	48	47	49	25
510	25	48	48	48	49	49	46	46	25
515	25	48	48	48	51	52	51	49	25
520	25	46	49	48	54	56	54	49	25
525	25	48	50	52	52	52	52	51	25
530	25	48	47	54	51	50	51	53	25
535	25	54	53	51	50	51	52	52	25
540	25	57	54	44	45	50	50	49	25
545	25	53	54	55	53	53	52	48	25
550	25	48	55	66	61	57	54	48	25
555	25	44	56	64	61	49	48	49	25
560	25	41	54	63	61	42	45	54	25
565	25	46	59	58	59	46	47	50	25
570	25	46	58	53	55	49	48	50	25
575	25	53	63	60	58	47	48	49	25
580	25	58	64	63	57	40	45	45	25
585	25	50	60	56	55	46	49	49	25
590	25	42	58	45	50	52	53	55	25
595	25	42	55	52	56	49	49	49	25
600	25	46	59	62	65	51	48	49	25
605	25	48	60	64	63	46	44	47	25
610	25	49	60	66	62	41	42	47	25
615	25	45	57	60	60	43	44	44	25
620	25	50	53	57	60	47	48	45	25
625	25	53	50	49	54	52	55	53	25
630	25	49	46	40	46	57	61	64	25
635	25	47	52	50	53	57	57	65	25
640	25	46	56	56	55	53	52	65	25
645	25	45	54	54	56	51	45	57	25
650	25	45	51	53	58	50	40	49	25
655	25	44	49	49	56	47	44	44	25
660	25	43	47	48	53	54	59	52	25
665	25	43	49	51	53	63	66	57	25
670	25	40	51	53	52	68	70	55	25
675	25	50	56	56	54	68	71	61	25

Runway 04-22

LIFT FROM EXISTING

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
150	25	56	62	59	48	74	67	46	25
155	25	56	61	54	54	66	64	47	25
160	25	60	63	47	55	57	56	49	25
165	25	48	52	53	53	55	51	47	25
170	25	41	45	62	56	55	47	40	25
175	25	53	48	55	55	55	51	46	25
180	25	63	50	51	59	56	56	52	25
185	25	59	55	53	56	55	57	55	25
190	25	51	55	51	50	52	56	56	25
195	25	45	56	56	52	55	60	55	25
200	25	44	53	58	49	54	58	48	25
205	25	44	52	52	53	54	50	43	25
210	25	46	52	47	58	55	42	40	25
215	25	53	52	50	53	61	44	43	25
220	25	61	52	53	48	66	45	48	25
225	25	57	53	55	52	71	49	48	25
230	25	61	56	61	56	75	53	48	25
235	25	54	53	51	54	72	46	43	25
240	25	51	48	42	52	68	42	42	25
245	25	49	52	49	51	73	50	52	25
250	25	46	55	52	48	74	56	61	25
255	25	54	54	54	52	66	56	57	25
260	25	63	55	59	54	57	56	55	25
265	25	53	52	55	53	50	51	50	25
270	25	41	48	53	54	44	49	48	25
275	25	41	43	51	53	48	51	53	25
280	25	42	42	53	56	52	54	59	25
285	25	43	41	53	53	55	53	51	25
290	25	49	42	55	51	62	53	45	25
295	25	50	51	60	50	51	51	49	25
300	25	45	53	59	46	41	50	53	25
305	25	45	56	69	52	43	47	49	25
310	25	43	58	77	55	45	42	44	25
315	25	42	55	70	58	42	44	47	25
320	25	47	51	64	60	40	46	50	25
325	25	45	51	63	56	50	50	51	25
330	25	43	50	60	50	57	52	52	25
335	25	45	55	56	51	54	54	56	25
340	25	45	58	50	51	48	53	57	25
345	25	40	53	50	52	50	50	52	25
350	25	38	49	50	54	52	53	45	25
355	25	41	51	51	52	53	56	46	25
360	25	42	51	52	50	52	60	46	25
365	25	47	49	57	52	54	61	49	25
370	25	50	45	60	51	55	61	51	25
375	25	45	45	57	51	51	55	49	25
380	25	41	46	54	53	48	49	47	25
385	25	48	48	61	52	52	51	50	25
390	25	53	49	68	51	55	51	48	25
395	25	50	52	70	49	49	48	48	25
400	25	45	54	73	46	40	43	47	25
405	25	44	56	67	49	45	48	50	25
410	25	42	55	63	54	51	53	58	25

Runway 04-22

LIFT FROM EXISTING

CH	-14.8	-11.25	-7.5	-3.75	0	3.75	7.5	11.25	14.8
-115	25	49	47	49	52	52	49	53	25
-110	25	74	57	57	65	66	42	72	25
-105	25	65	56	59	60	66	49	67	25
-100	25	63	61	66	62	71	49	54	25
-95	25	56	55	54	58	64	57	56	25
-90	25	48	46	43	54	58	58	52	25
-85	25	56	59	54	58	59	65	65	25
-80	25	59	65	62	58	57	67	74	25
-75	25	59	56	57	53	54	58	64	25
-70	25	54	44	53	47	52	59	64	25
-65	25	48	47	52	49	49	55	53	25
-60	25	44	46	53	49	44	53	49	25
-55	25	50	55	55	53	55	50	46	25
-50	25	55	66	56	59	67	49	47	25
-45	25	51	58	53	60	70	47	54	25
-40	25	49	51	48	64	68	41	57	25
-35	25	54	59	54	58	70	46	53	25
-30	25	57	69	58	53	74	54	53	25
-25	25	55	59	59	53	73	51	57	25
-20	25	55	51	64	52	70	47	55	25
-15	25	57	51	55	54	67	49	61	25
-10	25	63	52	53	57	65	51	65	25
-5	25	62	58	55	55	71	51	56	25
0	25	69	68	62	53	83	59	55	25
5	25	55	57	57	50	66	57	56	25
10	25	54	58	58	52	61	65	67	25
15	25	50	62	60	62	57	54	54	25
20	25	51	68	62	72	53	42	41	25
25	25	45	62	63	69	43	41	47	25
30	25	41	61	67	76	43	47	59	25
35	25	46	66	72	72	44	59	64	25
40	25	46	66	73	64	40	65	63	25
45	25	52	74	71	60	48	59	54	25
50	25	60	85	71	54	53	55	44	25
55	25	50	63	71	62	45	47	50	25
60	25	46	43	75	76	41	41	58	25
65	25	45	53	74	62	46	49	54	25
70	25	44	65	74	49	45	52	42	25
75	25	46	65	77	51	46	54	52	25
80	25	46	64	76	48	44	55	60	25
85	25	46	60	66	65	47	50	59	25
90	25	41	53	56	79	47	46	54	25
95	25	43	49	50	62	45	51	60	25
100	25	47	49	46	47	45	55	64	25
105	25	56	55	54	51	51	55	56	25
110	25	58	59	55	48	54	51	47	25
115	25	59	58	59	58	54	53	48	25
120	25	56	57	61	69	58	65	57	25
125	25	52	57	58	59	49	57	57	25
130	25	55	63	61	58	44	53	57	25
135	25	46	55	56	55	48	49	47	25
140	25	40	49	54	57	57	51	42	25
145	25	50	57	57	55	67	61	46	25

Taxiway

270	72	76	74	78	67	86	75
275	73	74	73	78	73	89	75
280	80	77	78	82	84	96	78
285	72	73	77	79	77	92	81
290	69	74	82	82	75	93	92
295	68	72	80	80	73	88	80
300	73	76	86	85	77	90	81
305	83	77	85	81	72	86	79
310	101	83	92	84	73	91	84
315	97	89	94	79	68	75	78
320	94	106	105	82	71	66	81
325	84	93	97	76	72	68	77
330	85	89	97	77	78	71	70
335	86	93	87	75	74	73	74
340	84	104	85	77	70	72	75
345	74	88	76	73	75	73	85
350	73	75	74	78	83	78	93
355	56	52	63	76	73	109	92
360	50	50	68	76	73	95	105

75.1 75.2 79.2 77.7 76.6 81.3 76.8
77.4

Red indicates greater than 80mm.
Yellow indicates 70-80mm
Green indicates less than 60mm

Taxiway

PAVING

CH	-11.3	-8.0	-4.0	0.0	4.0	8.0	11.6
20	78	79	76	76	76	76	76
25	80	77	71	67	67	67	67
30	80	73	70	76	53	53	53
35	77	76	73	70	78	86	86
40	73	75	71	76	76	88	84
45	97	91	71	76	82	90	83
50	78	72	67	72	79	91	78
55	79	75	73	73	82	96	77
60	79	73	75	71	82	97	79
65	71	75	78	75	85	94	78
70	60	72	76	74	85	88	72
75	63	76	78	74	85	88	74
80	65	78	78	72	82	85	72
85	70	77	79	75	82	80	69
90	70	74	76	74	78	71	64
95	78	75	79	78	82	76	73
100	79	69	75	75	81	74	72
105	82	75	77	77	86	74	70
110	78	76	73	71	83	67	59
115	82	77	78	76	79	75	76
120	80	74	80	77	70	77	81
125	82	77	84	79	77	80	79
130	82	78	85	79	81	78	78
135	78	78	89	78	80	79	81
140	76	78	91	76	78	79	83
145	87	76	84	77	75	78	83
150	75	72	77	77	70	77	82
155	69	72	79	76	70	115	74
160	70	72	80	76	70	66	68
165	72	70	78	73	70	69	71
170	77	69	77	72	71	71	76
175	69	69	77	78	76	75	79
180	68	74	80	86	84	80	77
185	65	70	78	85	85	81	80
190	70	72	83	88	90	84	81
195	68	69	82	87	85	85	76
200	72	72	87	91	85	90	74
205	67	68	85	85	83	87	70
210	66	68	87	86	85	90	76
215	69	66	78	79	80	82	72
220	76	68	75	81	81	81	76
225	70	65	72	78	79	75	73
230	73	70	76	81	83	74	74
235	73	70	76	77	75	72	73
240	82	77	82	79	73	74	73
245	74	72	76	75	68	75	70
250	76	75	78	78	69	82	79
255	69	69	74	74	66	80	73
260	69	72	78	78	68	84	76
265	67	70	73	76	64	82	72

Taxiway

270	7	7	7	7	7	7	7
275	7	7	7	7	7	7	7
280	7	7	7	7	7	7	7
285	7	7	7	7	7	7	7
290	7	7	7	7	7	7	7
295	7	7	7	7	7	7	7
300	7	7	7	7	7	7	7
305	7	7	7	7	7	7	7
310	7	7	7	7	7	7	7
315	7	7	7	7	7	7	7
320	7	7	7	7	7	7	7
325	7	7	7	7	7	7	7
330	7	7	7	7	7	7	7
335	7	7	7	7	7	7	7
340	7	7	7	7	7	7	7
345	7	7	7	7	7	7	7
350	7	7	7	7	7	7	7
355	7	7	7	7	7	7	7
360	19	8	7	7	7	7	7

Red indicates more than nominal 7mm texturing.

Taxiway

MILLING

CH	-11.3	-8.0	-4.0	0.0	4.0	8.0	11.6
20	7	7	7	7	7	7	7
25	7	7	7	7	7	7	7
30	7	7	7	7	7	7	7
35	7	7	7	7	7	7	7
40	7	7	7	7	7	7	7
45	7	7	7	7	7	7	7
50	7	7	7	7	7	7	7
55	7	7	7	7	7	7	7
60	7	7	7	7	7	7	7
65	7	7	7	7	7	7	7
70	7	7	7	7	7	7	7
75	7	7	7	7	7	7	7
80	7	7	7	7	7	7	7
85	7	7	7	7	7	7	7
90	7	7	7	7	7	7	7
95	7	7	7	7	7	7	7
100	7	7	7	7	7	7	7
105	7	7	7	7	7	7	7
110	7	7	7	7	7	7	7
115	7	7	7	7	7	7	7
120	7	7	7	7	7	7	7
125	7	7	7	7	7	7	7
130	7	7	7	7	7	7	7
135	7	7	7	7	7	7	7
140	7	7	7	7	7	7	7
145	7	7	7	7	7	7	7
150	7	7	7	7	7	7	7
155	7	7	7	7	7	7	7
160	7	7	7	7	7	7	7
165	7	7	7	7	7	7	7
170	7	7	7	7	7	7	7
175	7	7	7	7	7	7	7
180	7	7	7	7	7	7	7
185	7	7	7	7	7	7	7
190	7	7	7	7	7	7	7
195	7	7	7	7	7	7	7
200	7	7	7	7	7	7	7
205	7	7	7	7	7	7	7
210	7	7	7	7	7	7	7
215	7	7	7	7	7	7	7
220	7	7	7	7	7	7	7
225	7	7	7	7	7	7	7
230	7	7	7	7	7	7	7
235	7	7	7	7	7	7	7
240	7	7	7	7	7	7	7
245	7	7	7	7	7	7	7
250	7	7	7	7	7	7	7
255	7	7	7	7	7	7	7
260	7	7	7	7	7	7	7
265	7	7	7	7	7	7	7

Taxiway

270	-1.9	-1.5	-1.5	1.0	1.0	-1.6
275	-1.9	-1.5	-1.5	1.0	1.0	-1.4
280	-1.9	-1.5	-1.5	1.0	1.0	-1.4
285	-1.9	-1.5	-1.5	1.0	1.0	-1.4
290	-1.9	-1.6	-1.5	1.1	1.0	-1.3
295	-1.9	-1.6	-1.6	1.1	1.1	-1.3
300	-1.9	-1.6	-1.6	1.1	1.1	-1.3
305	-1.9	-1.6	-1.6	1.1	1.1	-1.3
310	-1.9	-1.6	-1.6	1.1	1.1	-1.3
315	0.8	-1.6	-1.6	1.1	1.1	-1.3
320	3.5	-1.6	-1.6	1.1	1.1	-1.3
325	3.5	-1.7	-1.7	1.2	1.2	-1.1
330	3.5	-1.7	-1.7	1.1	1.1	-1.1
335	3.5	-1.6	-1.6	1.1	1.1	-1.1
340	3.1	-1.5	-1.5	1.0	1.0	-1.1
345	2.7	-1.3	-1.4	0.9	0.9	-1.1
350	2.3	-1.2	-1.2	0.8	0.8	-1.3
355	1.7	-1.1	-1.1	0.6	0.6	-1.4
360	1.0	-1.0	-1.0	0.5	0.5	-1.5

Red indicates greater than 2.0
Yellow indicates less than 1.0

Taxiway

CROSS FALLS

CH	-11.3	-8.0	-4.0	4.0	8.0	11.6
20						
25	-1.6					
30	-1.8	-1.1				
35	-1.8	-1.1	-1.1			
40	-1.8	-1.1	-1.1			
45	-1.8	-1.2	-1.2	1.0		
50	-1.8	-1.2	-1.2	1.0	1.0	
55	-1.8	-1.2	-1.2	1.0	1.0	0.6
60	-1.8	-1.3	-1.3	1.0	1.0	0.6
65	-1.9	-1.3	-1.3	1.0	1.0	0.6
70	-1.9	-1.3	-1.3	1.0	1.0	0.6
75	-1.9	-1.3	-1.3	1.0	1.0	0.6
80	-1.9	-1.3	-1.3	1.0	1.0	0.6
85	-1.9	-1.3	-1.3	1.0	1.0	0.6
90	-1.9	-1.3	-1.3	1.0	1.0	0.6
95	-1.9	-1.2	-1.2	1.0	1.0	0.6
100	-1.9	-1.2	-1.2	1.1	1.0	0.6
105	-1.9	-1.2	-1.2	1.1	1.0	0.3
110	-1.9	-1.2	-1.2	1.1	1.1	-0.1
115	-1.9	-1.2	-1.2	1.1	1.1	-0.4
120	-1.9	-1.2	-1.2	1.1	1.0	-0.7
125	-2.0	-1.2	-1.2	1.0	1.1	-0.8
130	-2.0	-1.2	-1.2	1.0	1.0	-0.9
135	-2.0	-1.2	-1.2	1.0	1.0	-1.1
140	-2.0	-1.2	-1.2	1.0	1.0	-1.2
145	-2.0	-1.2	-1.3	1.0	1.0	-1.3
150	-2.0	-1.3	-1.3	1.0	1.0	-1.4
155	-2.0	-1.3	-1.3	1.0	1.0	-1.4
160	-2.0	-1.3	-1.3	1.1	1.0	-1.3
165	-2.0	-1.4	-1.4	1.1	1.1	-1.4
170	-1.9	-1.4	-1.4	1.1	1.1	-1.4
175	-1.9	-1.5	-1.5	1.2	1.2	-1.4
180	-1.9	-1.5	-1.5	1.2	1.2	-1.4
185	-1.9	-1.5	-1.5	1.3	1.3	-1.5
190	-1.9	-1.5	-1.5	1.3	1.3	-1.5
195	-1.9	-1.5	-1.5	1.3	1.3	-1.5
200	-1.9	-1.5	-1.4	1.3	1.3	-1.6
205	-1.9	-1.4	-1.4	1.3	1.3	-1.6
210	-1.9	-1.4	-1.5	1.2	1.3	-1.6
215	-1.9	-1.4	-1.4	1.3	1.3	-1.6
220	-1.9	-1.4	-1.4	1.2	1.3	-1.5
225	-1.9	-1.4	-1.4	1.2	1.2	-1.5
230	-1.9	-1.4	-1.4	1.2	1.2	-1.5
235	-1.9	-1.4	-1.4	1.2	1.2	-1.5
240	-1.9	-1.3	-1.3	1.2	1.2	-1.5
245	-1.9	-1.3	-1.3	1.1	1.1	-1.5
250	-1.9	-1.3	-1.3	1.1	1.1	-1.6
255	-1.9	-1.4	-1.4	1.1	1.1	-1.6
260	-1.9	-1.4	-1.4	1.0	1.0	-1.6
265	-1.9	-1.5	-1.5	1.0	1.0	-1.6

Taxiway

270	65	69	67	71	60	79	68
275	66	67	66	71	66	82	68
280	73	70	71	75	77	89	71
285	65	66	70	72	70	85	74
290	62	67	75	75	68	86	85
295	61	65	73	73	66	81	73
300	66	69	79	78	70	83	74
305	76	70	78	74	65	79	72
310	94	76	85	77	66	84	77
315	90	82	87	72	61	68	71
320	87	99	98	75	64	59	74
325	77	86	90	69	65	61	70
330	78	82	90	70	71	64	63
335	79	86	80	68	67	66	67
340	77	97	78	70	63	65	68
345	67	81	69	66	68	66	78
350	66	68	67	71	76	71	86
355	49	45	56	69	66	102	85
360	31	42	61	69	66	88	98

Red indicates less than 43mm (requires more than nominal 7mm texturing).
Yellow indicates greater than 73mm (requires correction).

Taxiway

LIFT FROM EXISTING

CH	-11.3	-8.0	-4.0	0.0	4.0	8.0	11.6
20	71	72	69	69	69	69	69
25	73	70	64	60	60	60	60
30	73	66	63	69	46	46	46
35	70	69	66	63	71	79	79
40	66	68	64	69	69	81	77
45	90	84	64	69	75	83	76
50	71	65	60	65	72	84	71
55	72	68	66	66	75	89	70
60	72	66	68	64	75	90	72
65	64	68	71	68	78	87	71
70	53	65	69	67	78	81	65
75	56	69	71	67	78	81	67
80	58	71	71	65	75	78	65
85	63	70	72	68	75	73	62
90	63	67	69	67	71	64	57
95	71	68	72	71	75	69	66
100	72	62	68	68	74	67	65
105	75	68	70	70	79	67	63
110	71	69	66	64	76	60	52
115	75	70	71	69	72	68	69
120	73	67	73	70	63	70	74
125	75	70	77	72	70	73	72
130	75	71	78	72	74	71	71
135	71	71	82	71	73	72	74
140	69	71	84	69	71	72	76
145	80	69	77	70	68	71	76
150	68	65	70	70	63	70	75
155	62	65	72	69	63	108	67
160	63	65	73	69	63	59	61
165	65	63	71	66	63	62	64
170	70	62	70	65	64	64	69
175	62	62	70	71	69	68	72
180	61	67	73	79	77	73	70
185	58	63	71	78	78	74	73
190	63	65	76	81	83	77	74
195	61	62	75	80	78	78	69
200	65	65	80	84	78	83	67
205	60	61	78	78	76	80	63
210	59	61	80	79	78	83	69
215	62	59	71	72	73	75	65
220	69	61	68	74	74	74	69
225	63	58	65	71	72	68	66
230	66	63	69	74	76	67	67
235	66	63	69	70	68	65	66
240	75	70	75	72	66	67	66
245	67	65	69	68	61	68	63
250	69	68	71	71	62	75	72
255	62	62	67	67	59	73	66
260	62	65	71	71	61	77	69
265	60	63	66	69	57	75	65

Runway 11-29

PAVING DEPTHS after MILLING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1925	61	59	68	85	76	85	72	79	62	55	60
1930	59	57	68	86	74	89	72	79	62	54	62
1935	60	57	65	85	74	86	74	78	64	58	66
1940	58	54	61	83	74	82	74	75	63	57	63
1945	59	60	64	83	76	81	76	79	60	60	59
1950	60	66	66	83	75	78	78	81	55	60	52
1955	66	66	68	83	78	82	78	82	61	58	59
1960	72	67	68	82	77	84	76	81	64	52	62
1965	73	70	73	87	78	87	81	86	69	65	67
1970	78	74	76	88	78	87	82	90	72	76	68
1975	75	64	72	87	70	92	78	88	71	73	74
1980	68	53	66	78	59	92	69	82	67	67	76
1985	62	56	72	76	60	91	75	83	67	67	73
1990	52	55	74	71	59	87	77	80	67	66	72
1995	60	55	72	72	59	81	75	77	60	62	61
2000	64	52	69	72	60	75	73	73	54	59	53
2005	96	69	95	100	84	98	75	83	73	68	81
2010	127	87	123	129	110	123	79	97	93	78	116
Ave.	62.5	61.3	67.2	81.1	80.2	84.7	78.4	78.6	63.0	59.2	62.4
Ave.						70.8					

Red indicates greater than 80mm.

Yellow indicates 70-80mm

Green indicates less than 60mm

Runway 11-29

PAVING DEPTHS after MILLING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1650	63	58	61	83	84	81	86	77	60	54	55
1655	60	57	61	83	82	84	83	78	60	52	57
1660	58	58	64	85	81	88	83	80	60	50	59
1665	62	57	63	88	82	90	85	82	62	52	61
1670	68	56	62	90	82	91	87	84	64	55	65
1675	64	54	61	85	79	85	84	83	63	55	61
1680	62	55	62	83	78	80	82	81	61	58	59
1685	59	55	61	83	79	85	85	86	63	57	63
1690	62	56	61	83	82	89	88	91	65	57	67
1695	63	58	61	87	87	89	91	90	67	63	69
1700	64	61	61	91	91	89	94	90	69	68	70
1705	62	63	61	87	86	90	90	86	66	66	70
1710	60	66	63	84	82	92	87	83	65	65	72
1715	63	60	61	84	81	90	84	80	60	60	70
1720	62	52	57	83	79	87	81	79	56	56	68
1725	61	56	62	84	83	91	85	83	62	61	65
1730	56	59	66	84	87	94	87	87	67	65	60
1735	62	60	67	84	85	91	85	85	64	62	59
1740	64	58	67	83	82	87	82	82	60	56	56
1745	61	60	66	80	80	87	83	84	62	56	57
1750	57	61	65	80	78	87	84	87	62	55	59
1755	58	59	62	80	78	84	82	84	59	55	59
1760	60	57	62	78	78	82	81	81	58	56	63
1765	57	56	60	73	77	81	79	80	58	56	59
1770	55	56	60	68	76	79	78	79	60	58	56
1775	58	56	59	70	75	77	77	77	60	57	58
1780	57	55	57	71	74	75	77	76	63	58	61
1785	54	55	57	71	72	76	75	75	63	59	59
1790	47	55	58	72	70	77	74	75	63	60	56
1795	55	55	57	72	70	76	75	74	60	57	59
1800	65	57	57	72	70	75	75	75	59	57	62
1805	62	57	58	76	73	76	78	73	60	59	66
1810	59	56	59	80	74	77	81	72	60	60	68
1815	62	58	58	79	71	78	75	74	60	61	63
1820	66	60	58	79	67	78	71	74	62	60	58
1825	63	63	60	81	71	80	73	76	61	61	60
1830	61	65	62	84	76	81	76	75	60	60	59
1835	57	59	62	82	77	81	78	76	59	56	56
1840	54	54	62	80	78	81	80	78	60	53	57
1845	54	58	62	80	78	79	75	78	58	57	54
1850	56	63	64	81	80	77	72	79	59	62	55
1855	61	65	67	83	82	78	73	80	61	61	57
1860	63	65	68	84	86	79	76	80	63	63	59
1865	60	71	65	79	82	84	86	89	66	63	67
1870	54	75	59	72	78	88	95	96	68	63	75
1875	57	63	58	72	74	81	83	81	62	57	66
1880	60	51	58	74	72	73	73	67	58	51	63
1885	57	53	60	77	74	73	72	69	58	53	63
1890	58	57	63	80	76	73	70	72	57	55	62
1895	60	58	64	81	77	81	69	73	61	56	59
1900	63	59	65	83	78	89	67	75	63	58	60
1905	61	57	65	81	75	86	69	76	63	58	61
1910	61	56	66	79	72	84	74	78	63	59	66
1915	61	57	67	81	75	83	72	79	62	58	61
1920	62	61	69	85	78	81	72	80	63	56	57

Runway 11-29

PAVING DEPTHS after MILLING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1375	55	58	65	75	75	83	81	81	69	68	70
1380	55	53	61	69	71	83	78	76	69	70	72
1385	59	55	64	75	71	87	77	76	66	66	66
1390	63	57	66	79	71	90	76	75	64	64	61
1395	62	57	67	78	73	89	77	79	66	68	69
1400	64	57	67	76	75	88	78	82	66	69	72
1405	59	58	67	77	74	85	82	83	69	67	71
1410	56	60	68	79	72	82	86	84	70	67	70
1415	59	62	69	80	74	84	84	84	74	67	71
1420	62	65	71	82	76	85	82	85	78	69	71
1425	58	61	66	81	74	85	81	86	75	68	67
1430	52	56	62	81	69	83	79	84	70	67	63
1435	60	60	67	82	74	85	83	82	71	69	72
1440	72	65	71	81	76	87	83	81	71	68	80
1445	63	59	66	80	76	84	83	84	69	66	75
1450	54	55	62	81	74	80	81	84	66	63	70
1455	57	55	61	79	74	81	80	81	63	61	63
1460	59	54	60	76	72	80	76	78	58	59	58
1465	64	51	61	76	74	81	80	79	61	59	61
1470	69	50	62	76	76	81	85	80	63	58	66
1475	64	50	62	78	79	84	85	80	65	61	62
1480	61	54	64	79	82	87	87	80	66	64	60
1485	59	53	62	78	79	84	84	79	62	62	53
1490	58	53	62	77	76	81	84	78	60	61	49
1495	59	57	62	77	76	80	80	76	58	62	53
1500	64	64	66	80	77	79	78	75	59	64	57
1505	61	59	63	77	78	81	75	77	62	64	63
1510	60	54	61	73	79	81	71	78	65	65	71
1515	59	54	61	71	74	77	68	76	64	65	71
1520	67	59	67	73	74	73	67	74	65	66	73
1525	63	58	63	74	70	78	69	74	63	67	76
1530	65	58	61	73	67	83	72	74	60	68	78
1535	65	61	64	75	68	79	72	75	62	68	63
1540	62	61	65	75	70	75	72	74	62	67	49
1545	64	65	65	77	73	78	67	74	67	73	58
1550	64	66	63	78	76	80	60	71	70	76	66
1555	63	61	62	77	75	79	69	72	64	72	57
1560	59	52	57	74	72	75	75	70	56	66	46
1565	70	58	61	76	73	77	76	72	64	70	60
1570	77	60	62	78	73	76	74	69	68	71	71
1575	74	61	64	79	76	80	71	74	64	69	66
1580	71	63	66	82	80	84	68	78	62	67	62
1585	74	57	63	83	81	84	78	79	64	62	60
1590	78	53	61	84	83	84	88	79	68	59	59
1595	71	59	65	85	82	87	87	82	66	61	60
1600	62	63	67	86	81	89	86	86	65	62	61
1605	63	60	64	83	79	88	85	87	62	59	61
1610	69	61	65	82	79	87	88	91	62	59	63
1615	63	60	63	80	79	85	88	90	64	56	58
1620	58	59	60	78	78	81	88	91	66	54	56
1625	59	55	59	79	77	84	85	86	64	54	61
1630	57	51	57	80	77	85	83	82	62	54	68
1635	56	55	59	80	78	81	81	80	60	53	59
1640	55	60	61	79	80	75	78	75	55	51	47
1645	58	58	61	81	82	78	82	75	57	52	51

Runway 11-29

PAVING DEPTHS after MILLING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1100	63	64	76	87	85	81	78	76	72	73	67
1105	65	68	81	91	87	83	79	79	75	70	60
1110	70	70	85	95	87	85	80	81	76	67	54
1115	68	78	92	96	91	81	81	84	75	67	54
1120	64	83	98	94	93	77	82	86	72	69	55
1125	62	89	100	99	90	80	80	83	75	70	59
1130	68	96	101	102	85	82	78	80	77	69	61
1135	69	98	98	96	86	81	77	79	76	71	73
1140	75	106	91	90	86	78	75	76	72	71	54
1145	77	103	91	88	84	78	79	79	78	72	52
1150	76	95	89	84	81	77	82	82	76	70	56
1155	71	100	94	89	80	77	77	79	70	61	55
1160	74	105	99	94	78	77	73	77	68	59	56
1165	76	104	99	89	77	79	77	77	68	63	54
1170	80	103	100	91	76	79	81	78	69	59	64
1175	68	105	100	91	79	79	80	77	65	56	57
1180	78	108	100	92	83	79	79	76	64	55	54
1185	56	101	101	94	83	78	76	74	66	54	51
1190	73	98	102	96	84	76	72	73	68	52	48
1195	66	94	104	100	87	78	73	73	66	53	54
1200	64	87	104	102	89	79	72	72	61	51	58
1205	56	87	104	101	89	84	73	72	61	52	56
1210	64	87	103	98	89	87	74	72	62	53	57
1215	65	92	107	104	96	86	80	72	63	51	56
1220	68	96	112	110	105	86	87	73	66	50	57
1225	72	95	107	107	106	90	88	76	64	50	56
1230	72	91	97	102	105	94	89	79	62	52	54
1235	80	86	92	98	104	98	93	81	64	55	60
1240	72	78	83	92	100	101	95	81	63	57	64
1245	77	73	75	88	99	104	95	82	64	59	60
1250	75	66	68	87	99	107	93	80	63	58	54
1255	70	64	67	84	102	106	96	80	66	59	57
1260	61	65	67	83	106	104	98	77	66	57	59
1265	59	62	73	90	108	104	95	80	64	55	60
1270	60	60	79	96	109	104	91	82	62	53	60
1275	56	59	79	97	107	105	94	84	59	53	61
1280	56	58	76	95	103	104	95	85	55	53	61
1285	56	60	78	95	100	102	95	83	57	52	57
1290	53	61	76	94	96	99	93	79	57	50	52
1295	54	60	76	95	94	96	88	80	56	51	56
1300	55	58	75	93	91	93	83	79	54	53	60
1305	57	56	70	89	87	92	83	79	54	52	55
1310	57	53	63	83	82	91	83	77	55	51	49
1315	71	55	71	84	87	95	89	86	57	50	60
1320	67	60	80	86	91	100	96	95	60	50	75
1325	56	58	75	87	93	100	97	90	59	52	64
1330	47	56	72	90	96	100	98	84	58	60	56
1335	49	57	74	88	93	100	96	84	63	64	60
1340	48	60	76	89	91	99	92	83	67	68	63
1345	63	63	78	87	88	95	91	85	71	70	66
1350	72	67	80	88	86	90	89	87	73	73	70
1355	66	64	73	84	82	88	89	86	69	67	71
1360	65	62	67	82	77	86	88	84	64	60	71
1365	63	63	68	81	78	85	86	84	66	63	71
1370	55	63	68	79	78	83	82	83	68	66	68

Runway 11-29

PAVING DEPTHS after MILLING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
825	58	51	58	78	76	84	70	79	61	64	79
830	63	53	57	81	77	90	73	84	67	69	83
835	60	51	61	83	77	88	74	80	62	64	82
840	57	50	64	86	77	85	77	77	58	61	83
845	59	54	64	90	80	83	75	76	58	63	85
850	60	59	63	90	80	82	75	76	59	66	85
855	66	60	67	92	81	92	79	78	61	65	81
860	70	59	71	93	82	100	81	80	65	63	79
865	66	61	68	92	84	93	79	81	66	60	79
870	62	62	66	91	86	85	76	81	67	56	80
875	68	66	65	90	82	85	73	80	67	54	79
880	73	67	63	86	77	84	69	79	64	51	78
885	68	62	60	83	79	84	67	75	62	53	79
890	64	57	58	79	80	82	66	72	61	56	80
895	65	63	58	81	80	82	72	77	62	55	84
900	63	69	58	83	80	82	76	81	63	54	88
905	62	69	60	83	81	84	72	78	63	54	83
910	63	70	62	83	81	86	69	78	66	56	79
915	55	67	63	79	75	83	71	76	62	57	76
920	48	65	64	75	71	81	73	75	58	59	72
925	48	64	63	79	73	80	75	75	62	59	71
930	47	63	62	82	76	81	77	75	64	59	68
935	54	64	64	80	78	81	83	80	65	60	66
940	57	61	66	78	81	81	88	83	65	60	62
945	65	60	65	80	78	83	88	81	63	59	61
950	76	59	66	82	78	84	88	78	62	59	60
955	68	58	65	83	82	85	87	79	62	57	64
960	66	58	64	87	87	86	87	81	62	56	67
965	65	58	65	87	90	89	88	80	61	51	68
970	67	59	66	88	93	94	89	77	60	50	68
975	60	55	69	85	94	90	83	75	56	50	64
980	51	50	72	82	94	85	78	75	55	50	63
985	47	53	68	75	86	87	77	73	56	50	55
990	49	58	63	67	76	87	75	71	58	50	51
995	53	59	67	69	76	91	75	72	61	53	53
1000	56	58	66	69	74	92	74	72	62	52	53
1005	54	56	67	74	82	95	80	80	66	61	54
1010	53	56	70	81	88	99	84	86	68	70	57
1015	55	57	71	81	85	96	86	85	70	70	60
1020	58	58	70	80	80	94	85	83	72	69	64
1025	51	53	70	79	80	94	82	79	71	65	62
1030	47	51	71	77	79	95	79	76	70	64	60
1035	52	51	69	76	80	88	79	72	68	63	58
1040	55	51	65	72	79	81	80	69	67	61	54
1045	52	50	65	72	79	81	76	69	64	60	57
1050	49	51	65	74	79	82	71	67	58	59	58
1055	49	51	66	76	82	80	73	71	60	57	59
1060	51	50	68	78	85	78	74	74	60	54	61
1065	54	50	70	79	84	79	76	73	57	53	59
1070	56	50	72	79	83	80	77	71	51	52	59
1075	64	54	73	82	82	82	77	73	56	56	60
1080	64	60	73	84	81	83	76	74	61	59	61
1085	56	64	75	86	84	81	75	78	65	64	66
1090	53	67	76	87	85	78	74	80	69	68	69
1095	50	65	76	87	86	80	77	78	70	69	65

Runway 11-29

PAVING DEPTHS after MILLING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
550	73	66	64	77	76	85	69	71	54	53	54
555	71	65	65	77	76	84	73	75	54	51	55
560	72	63	65	76	76	83	78	78	54	50	57
565	68	57	61	75	77	81	77	78	54	52	58
570	65	52	58	76	79	81	78	78	54	54	60
575	64	57	57	75	78	81	74	80	55	53	61
580	63	62	57	75	77	82	71	84	58	53	65
585	65	59	60	73	77	82	73	80	59	53	63
590	70	58	65	72	77	83	75	78	60	55	61
595	75	59	62	74	77	83	76	77	58	56	59
600	76	63	61	79	79	83	77	77	58	58	58
605	68	58	61	78	81	82	78	83	64	59	54
610	65	55	61	80	86	82	77	89	69	60	49
615	63	58	62	81	81	81	76	85	69	62	51
620	62	61	63	83	77	81	75	79	70	64	56
625	70	57	61	84	77	81	79	79	65	65	62
630	82	53	59	84	79	81	83	79	61	65	70
635	77	56	59	84	80	83	84	79	60	64	64
640	77	59	59	85	81	84	85	77	59	63	61
645	83	61	60	84	82	82	80	80	60	62	59
650	87	60	58	81	82	81	79	83	63	64	61
655	77	59	60	81	80	83	78	82	64	62	63
660	73	60	63	83	79	86	78	81	67	62	70
665	71	60	62	82	78	83	75	76	61	58	67
670	69	59	58	79	78	82	74	71	57	55	65
675	72	62	59	78	78	81	72	71	55	54	62
680	74	64	58	79	78	80	72	73	55	55	58
685	74	62	61	77	80	84	74	76	58	57	64
690	76	60	63	74	79	88	77	81	61	58	70
695	81	61	63	74	79	83	75	82	60	56	68
700	80	61	62	73	78	78	74	82	57	52	65
705	76	58	62	74	81	81	72	82	61	54	66
710	69	54	61	74	83	84	71	80	65	56	63
715	74	57	61	75	79	83	71	80	63	56	67
720	77	58	59	74	75	82	69	79	60	55	70
725	85	61	64	77	77	84	72	80	59	60	72
730	91	63	68	79	79	85	74	81	58	66	72
735	73	62	71	77	81	83	73	78	56	59	64
740	57	60	72	74	81	81	73	76	55	54	63
745	61	62	68	76	82	84	72	75	56	58	60
750	64	62	63	77	82	86	71	72	54	60	59
755	62	61	62	77	81	85	71	79	57	61	58
760	55	60	64	76	80	83	72	86	60	61	59
765	60	62	64	78	78	82	71	79	57	61	61
770	63	64	64	79	76	81	71	73	55	60	61
775	65	62	63	78	76	82	72	73	56	59	61
780	65	59	61	76	74	83	74	72	57	57	56
785	62	57	61	77	72	80	73	72	56	60	61
790	61	55	62	77	71	79	71	70	55	62	65
795	59	58	59	77	74	80	73	70	56	60	66
800	55	62	59	78	78	82	75	70	58	59	68
805	56	60	62	75	74	81	72	70	56	61	71
810	55	58	64	74	72	82	69	67	55	64	71
815	54	54	61	73	73	79	68	71	55	61	72
820	51	50	58	75	74	78	67	74	54	58	73

Runway 11-29

PAVING DEPTHS after MILLING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
275	53	50	58	74	77	83	78	77	61	51	67
280	55	50	58	74	76	84	77	76	60	55	65
285	56	52	56	75	76	84	77	76	58	54	57
290	58	56	54	76	75	84	77	77	59	53	49
295	58	56	56	79	78	89	75	78	58	51	48
300	61	57	57	81	82	94	76	80	59	51	50
305	62	56	56	84	83	91	79	80	59	54	58
310	65	56	56	88	83	89	84	82	59	56	66
315	62	53	57	83	86	90	83	83	61	57	63
320	59	50	56	79	88	90	81	84	63	58	62
325	68	50	52	77	75	93	81	78	56	51	62
330	76	50	50	76	62	97	81	72	50	50	61
335	69	50	53	74	70	93	80	73	53	51	57
340	60	50	57	72	78	89	80	74	56	56	56
345	61	50	55	79	77	90	84	75	59	55	56
350	63	53	53	84	77	91	87	76	61	52	59
355	61	55	57	84	79	95	86	76	64	56	58
360	59	56	60	83	83	97	86	76	68	60	58
365	61	53	56	76	81	92	80	73	63	57	64
370	65	50	53	68	77	87	74	71	59	53	68
375	64	52	55	70	79	87	74	70	57	57	65
380	64	53	57	72	81	85	73	68	55	61	63
385	65	55	57	75	80	87	72	72	57	59	70
390	68	58	59	80	79	89	71	76	59	57	74
395	67	56	60	78	83	89	76	74	55	57	70
400	66	56	62	77	86	89	80	72	52	57	66
405	66	56	64	77	85	91	78	74	55	56	68
410	67	57	68	78	82	93	75	77	59	56	69
415	70	63	63	73	80	89	75	80	62	56	71
420	70	67	57	70	79	86	75	84	66	56	73
425	67	65	57	70	78	85	75	77	61	51	72
430	63	64	57	71	79	83	75	70	54	50	69
435	55	58	56	75	76	82	74	71	55	50	66
440	49	51	54	79	74	82	73	72	57	53	61
445	56	53	58	79	77	84	74	70	55	54	63
450	61	56	62	77	81	87	75	69	54	56	66
455	62	56	59	78	81	85	71	69	57	52	69
460	66	58	57	79	81	84	68	72	59	50	70
465	64	59	60	81	82	85	69	74	60	50	66
470	65	60	63	84	82	87	70	75	61	50	63
475	65	63	65	82	81	87	70	77	61	52	62
480	65	65	67	81	79	88	70	79	61	56	61
485	68	66	67	80	78	85	71	76	63	56	62
490	70	67	68	81	77	82	70	73	63	56	60
495	65	63	63	80	77	83	71	72	59	55	57
500	60	59	59	78	77	82	71	72	55	54	55
505	66	59	63	80	78	80	73	76	62	54	58
510	73	58	66	81	79	78	76	80	67	53	59
515	69	60	66	78	78	81	77	80	62	54	62
520	65	63	67	77	79	82	79	79	57	54	63
525	68	62	63	75	76	83	77	79	55	50	62
530	68	61	58	74	70	83	75	77	52	50	61
535	68	62	59	74	71	82	76	78	54	50	57
540	67	61	59	72	69	80	77	79	56	52	53
545	72	63	60	74	72	82	73	75	54	52	53

Runway 11-29

PAVING DEPTHS after MILLING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
0	61	52	61	55	50	62	52	59	62	50	67
5	68	61	65	63	54	72	64	70	69	50	61
10	60	57	56	58	56	67	63	69	63	50	49
15	64	64	74	75	74	77	71	79	75	62	59
20	56	57	79	80	81	77	67	80	77	70	59
25	52	59	74	83	80	77	65	81	77	70	53
30	50	64	71	87	80	79	65	83	81	74	50
35	55	66	73	88	86	86	69	85	84	78	54
40	56	64	70	87	86	88	69	84	87	84	57
45	56	64	71	87	92	92	79	86	85	86	61
50	54	61	69	83	94	92	84	84	82	84	61
55	49	58	66	81	89	91	82	86	81	80	61
60	42	52	61	77	82	88	81	87	79	74	60
65	49	55	63	79	84	90	86	85	73	73	58
70	55	57	64	79	83	92	90	82	67	72	56
75	52	55	65	81	84	89	87	78	70	71	55
80	54	58	70	83	87	89	84	74	72	68	51
85	57	57	72	85	90	87	82	74	72	68	51
90	57	55	73	85	93	86	80	74	73	68	49
95	56	56	74	83	87	84	77	75	68	64	46
100	54	58	77	83	83	83	76	77	67	65	48
105	49	54	71	77	80	78	76	73	65	62	53
110	49	54	69	74	79	73	78	71	65	57	53
115	51	51	72	79	79	79	78	77	69	58	49
120	54	50	75	84	79	87	81	85	75	62	44
125	55	50	71	82	78	85	81	81	71	62	55
130	58	50	70	82	77	84	82	78	67	63	68
135	57	55	70	80	80	85	83	82	66	62	67
140	57	61	70	79	82	86	84	87	64	59	66
145	59	59	75	81	80	83	85	87	61	54	62
150	58	54	77	84	78	80	84	87	58	50	56
155	60	60	76	84	80	83	85	89	61	51	56
160	60	67	73	84	80	85	86	92	65	54	59
165	63	67	75	87	85	90	87	91	66	53	58
170	67	66	75	88	89	93	88	91	68	54	58
175	65	66	75	84	89	88	87	89	70	54	55
180	65	66	76	83	92	85	89	87	72	53	55
185	63	68	75	86	92	83	87	85	74	55	57
190	64	70	74	88	92	82	85	85	75	55	60
195	65	70	76	85	91	81	83	84	73	54	59
200	68	69	77	83	91	79	81	84	71	55	58
205	53	72	75	83	90	82	81	84	73	57	59
210	40	75	74	82	90	83	80	84	74	58	61
215	50	75	77	84	84	83	81	82	70	56	58
220	60	74	81	85	79	83	82	79	66	56	56
225	60	70	74	80	79	82	75	74	57	50	54
230	60	66	68	75	79	81	67	68	50	50	54
235	60	63	65	71	76	84	70	76	57	52	57
240	61	59	65	68	74	85	75	84	64	56	58
245	62	60	66	71	76	82	78	80	62	57	65
250	63	59	67	73	77	79	80	76	60	57	70
255	59	55	64	74	77	81	78	77	57	52	66
260	54	51	59	75	77	83	74	77	52	50	60
265	55	51	59	75	78	82	76	78	58	50	65
270	54	50	58	74	78	83	78	79	62	50	69

Runway 11-29

MILLING DEPTHS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1925	7	7	7	7	7	7	7	7	7	7	7
1930	7	7	7	7	7	7	7	7	7	7	7
1935	7	7	7	7	7	7	7	7	7	7	7
1940	7	7	7	7	7	7	7	7	7	7	7
1945	7	7	7	7	7	7	7	7	7	7	7
1950	7	7	7	7	7	7	7	7	7	7	7
1955	7	7	7	7	7	7	7	7	7	7	7
1960	7	7	7	7	7	7	7	7	7	7	7
1965	7	7	7	7	7	7	7	7	7	7	7
1970	7	7	7	7	7	7	7	7	7	7	7
1975	7	7	7	7	7	7	7	7	7	7	7
1980	7	7	7	7	7	7	7	7	7	7	7
1985	7	7	7	7	7	7	7	7	7	7	7
1990	7	7	7	7	7	7	7	7	7	7	7
1995	7	7	7	7	7	7	7	7	7	7	7
2000	7	7	7	7	7	7	7	7	7	7	7
2005	7	7	7	7	7	7	7	7	7	7	7
2010	7	7	7	7	7	7	7	7	7	7	7

Red indicates more than nominal 7mm texturing.

Runway 11-29

MILLING DEPTHS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1650	7	7	7	7	7	7	7	7	7	7	7
1655	7	7	7	7	7	7	7	7	7	7	7
1660	7	7	7	7	7	7	7	7	7	8	7
1665	7	7	7	7	7	7	7	7	7	7	7
1670	7	7	7	7	7	7	7	7	7	7	7
1675	7	7	7	7	7	7	7	7	7	7	7
1680	7	7	7	7	7	7	7	7	7	7	7
1685	7	7	7	7	7	7	7	7	7	7	7
1690	7	7	7	7	7	7	7	7	7	7	7
1695	7	7	7	7	7	7	7	7	7	7	7
1700	7	7	7	7	7	7	7	7	7	7	7
1705	7	7	7	7	7	7	7	7	7	7	7
1710	7	7	7	7	7	7	7	7	7	7	7
1715	7	7	7	7	7	7	7	7	7	7	7
1720	7	7	7	7	7	7	7	7	7	7	7
1725	7	7	7	7	7	7	7	7	7	7	7
1730	7	7	7	7	7	7	7	7	7	7	7
1735	7	7	7	7	7	7	7	7	7	7	7
1740	7	7	7	7	7	7	7	7	7	7	7
1745	7	7	7	7	7	7	7	7	7	7	7
1750	7	7	7	7	7	7	7	7	7	7	7
1755	7	7	7	7	7	7	7	7	7	7	7
1760	7	7	7	7	7	7	7	7	7	7	7
1765	7	7	7	7	7	7	7	7	7	7	7
1770	7	7	7	7	7	7	7	7	7	7	7
1775	7	7	7	7	7	7	7	7	7	7	7
1780	7	7	7	7	7	7	7	7	7	7	7
1785	7	7	7	7	7	7	7	7	7	7	7
1790	7	7	7	7	7	7	7	7	7	7	7
1795	7	7	7	7	7	7	7	7	7	7	7
1800	7	7	7	7	7	7	7	7	7	7	7
1805	7	7	7	7	7	7	7	7	7	7	7
1810	7	7	7	7	7	7	7	7	7	7	7
1815	7	7	7	7	7	7	7	7	7	7	7
1820	7	7	7	7	7	7	7	7	7	7	7
1825	7	7	7	7	7	7	7	7	7	7	7
1830	7	7	7	7	7	7	7	7	7	7	7
1835	7	7	7	7	7	7	7	7	7	7	7
1840	7	7	7	7	7	7	7	7	7	7	7
1845	7	7	7	7	7	7	7	7	7	7	7
1850	7	7	7	7	7	7	7	7	7	7	7
1855	7	7	7	7	7	7	7	7	7	7	7
1860	7	7	7	7	7	7	7	7	7	7	7
1865	7	7	7	7	7	7	7	7	7	7	7
1870	7	7	7	7	7	7	7	7	7	7	7
1875	7	7	7	7	7	7	7	7	7	7	7
1880	7	7	7	7	7	7	7	7	7	7	7
1885	7	7	7	7	7	7	7	7	7	7	7
1890	7	7	7	7	7	7	7	7	7	7	7
1895	7	7	7	7	7	7	7	7	7	7	7
1900	7	7	7	7	7	7	7	7	7	7	7
1905	7	7	7	7	7	7	7	7	7	7	7
1910	7	7	7	7	7	7	7	7	7	7	7
1915	7	7	7	7	7	7	7	7	7	7	7
1920	7	7	7	7	7	7	7	7	7	7	7

Runway 11-29

MILLING DEPTHS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1375	7	7	7	7	7	7	7	7	7	7	7
1380	7	7	7	7	7	7	7	7	7	7	7
1385	7	7	7	7	7	7	7	7	7	7	7
1390	7	7	7	7	7	7	7	7	7	7	7
1395	7	7	7	7	7	7	7	7	7	7	7
1400	7	7	7	7	7	7	7	7	7	7	7
1405	7	7	7	7	7	7	7	7	7	7	7
1410	7	7	7	7	7	7	7	7	7	7	7
1415	7	7	7	7	7	7	7	7	7	7	7
1420	7	7	7	7	7	7	7	7	7	7	7
1425	7	7	7	7	7	7	7	7	7	7	7
1430	7	7	7	7	7	7	7	7	7	7	7
1435	7	7	7	7	7	7	7	7	7	7	7
1440	7	7	7	7	7	7	7	7	7	7	7
1445	7	7	7	7	7	7	7	7	7	7	7
1450	7	7	7	7	7	7	7	7	7	7	7
1455	7	7	7	7	7	7	7	7	7	7	7
1460	7	7	7	7	7	7	7	7	7	7	7
1465	7	7	7	7	7	7	7	7	7	7	7
1470	7	8	7	7	7	7	7	7	7	7	7
1475	7	7	7	7	7	7	7	7	7	7	7
1480	7	7	7	7	7	7	7	7	7	7	7
1485	7	7	7	7	7	7	7	7	7	7	7
1490	7	7	7	7	7	7	7	7	7	7	7
1495	7	7	7	7	7	7	7	7	7	7	7
1500	7	7	7	7	7	7	7	7	7	7	7
1505	7	7	7	7	7	7	7	7	7	7	7
1510	7	7	7	7	7	7	7	7	7	7	7
1515	7	7	7	7	7	7	7	7	7	7	7
1520	7	7	7	7	7	7	7	7	7	7	7
1525	7	7	7	7	7	7	7	7	7	7	7
1530	7	7	7	7	7	7	7	7	7	7	7
1535	7	7	7	7	7	7	7	7	7	7	7
1540	7	7	7	7	7	7	7	7	7	7	7
1545	7	7	7	7	7	7	7	7	7	7	7
1550	7	7	7	7	7	7	7	7	7	7	7
1555	7	7	7	7	7	7	7	7	7	7	7
1560	7	7	7	7	7	7	7	7	7	7	7
1565	7	7	7	7	7	7	7	7	7	7	7
1570	7	7	7	7	7	7	7	7	7	7	7
1575	7	7	7	7	7	7	7	7	7	7	7
1580	7	7	7	7	7	7	7	7	7	7	7
1585	7	7	7	7	7	7	7	7	7	7	7
1590	7	7	7	7	7	7	7	7	7	7	7
1595	7	7	7	7	7	7	7	7	7	7	7
1600	7	7	7	7	7	7	7	7	7	7	7
1605	7	7	7	7	7	7	7	7	7	7	7
1610	7	7	7	7	7	7	7	7	7	7	7
1615	7	7	7	7	7	7	7	7	7	7	7
1620	7	7	7	7	7	7	7	7	7	7	7
1625	7	7	7	7	7	7	7	7	7	7	7
1630	7	7	7	7	7	7	7	7	7	7	7
1635	7	7	7	7	7	7	7	7	7	7	7
1640	7	7	7	7	7	7	7	7	7	7	7
1645	7	7	7	7	7	7	7	7	7	7	7

Runway 11-29

MILLING DEPTHS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1100	7	7	7	7	7	7	7	7	7	7	7
1105	7	7	7	7	7	7	7	7	7	7	7
1110	7	7	7	7	7	7	7	7	7	7	7
1115	7	7	7	7	7	7	7	7	7	7	7
1120	7	7	7	7	7	7	7	7	7	7	7
1125	7	7	7	7	7	7	7	7	7	7	7
1130	7	7	7	7	7	7	7	7	7	7	7
1135	7	7	7	7	7	7	7	7	7	7	7
1140	7	7	7	7	7	7	7	7	7	7	7
1145	7	7	7	7	7	7	7	7	7	7	7
1150	7	7	7	7	7	7	7	7	7	7	7
1155	7	7	7	7	7	7	7	7	7	7	7
1160	7	7	7	7	7	7	7	7	7	7	7
1165	7	7	7	7	7	7	7	7	7	7	7
1170	7	7	7	7	7	7	7	7	7	7	7
1175	7	7	7	7	7	7	7	7	7	7	7
1180	7	7	7	7	7	7	7	7	7	7	7
1185	7	7	7	7	7	7	7	7	7	7	7
1190	7	7	7	7	7	7	7	7	7	7	7
1195	7	7	7	7	7	7	7	7	7	7	7
1200	7	7	7	7	7	7	7	7	7	7	7
1205	7	7	7	7	7	7	7	7	7	7	7
1210	7	7	7	7	7	7	7	7	7	7	7
1215	7	7	7	7	7	7	7	7	7	7	7
1220	7	7	7	7	7	7	7	7	7	7	7
1225	7	7	7	7	7	7	7	7	7	7	7
1230	7	7	7	7	7	7	7	7	7	7	7
1235	7	7	7	7	7	7	7	7	7	7	7
1240	7	7	7	7	7	7	7	7	7	7	7
1245	7	7	7	7	7	7	7	7	7	7	7
1250	7	7	7	7	7	7	7	7	7	7	7
1255	7	7	7	7	7	7	7	7	7	7	7
1260	7	7	7	7	7	7	7	7	7	7	7
1265	7	7	7	7	7	7	7	7	7	7	7
1270	7	7	7	7	7	7	7	7	7	7	7
1275	7	7	7	7	7	7	7	7	7	7	7
1280	7	7	7	7	7	7	7	7	7	7	7
1285	7	7	7	7	7	7	7	7	7	7	7
1290	7	7	7	7	7	7	7	7	7	7	7
1295	7	7	7	7	7	7	7	7	7	7	7
1300	7	7	7	7	7	7	7	7	7	7	7
1305	7	7	7	7	7	7	7	7	7	7	7
1310	7	7	7	7	7	7	7	7	7	7	7
1315	7	7	7	7	7	7	7	7	7	10	7
1320	7	7	7	7	7	7	7	7	7	12	7
1325	7	7	7	7	7	7	7	7	7	7	7
1330	7	7	7	7	7	7	7	7	7	7	7
1335	7	7	7	7	7	7	7	7	7	7	7
1340	7	7	7	7	7	7	7	7	7	7	7
1345	7	7	7	7	7	7	7	7	7	7	7
1350	7	7	7	7	7	7	7	7	7	7	7
1355	7	7	7	7	7	7	7	7	7	7	7
1360	7	7	7	7	7	7	7	7	7	7	7
1365	7	7	7	7	7	7	7	7	7	7	7
1370	7	7	7	7	7	7	7	7	7	7	7

Runway 11-29

MILLING DEPTHS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
825	7	7	7	7	7	7	7	7	7	7	7
830	7	7	7	7	7	7	7	7	7	7	7
835	7	7	7	7	7	7	7	7	7	7	7
840	7	8	7	7	7	7	7	7	7	7	7
845	7	7	7	7	7	7	7	7	7	7	7
850	7	7	7	7	7	7	7	7	7	7	7
855	7	7	7	7	7	7	7	7	7	7	7
860	7	7	7	7	7	7	7	7	7	7	7
865	7	7	7	7	7	7	7	7	7	7	7
870	7	7	7	7	7	7	7	7	7	7	7
875	7	7	7	7	7	7	7	7	7	7	7
880	7	7	7	7	7	7	7	7	7	7	7
885	7	7	7	7	7	7	7	7	7	7	7
890	7	7	7	7	7	7	7	7	7	7	7
895	7	7	7	7	7	7	7	7	7	7	7
900	7	7	7	7	7	7	7	7	7	7	7
905	7	7	7	7	7	7	7	7	7	7	7
910	7	7	7	7	7	7	7	7	7	7	7
915	7	7	7	7	7	7	7	7	7	7	7
920	7	7	7	7	7	7	7	7	7	7	7
925	7	7	7	7	7	7	7	7	7	7	7
930	7	7	7	7	7	7	7	7	7	7	7
935	7	7	7	7	7	7	7	7	7	7	7
940	7	7	7	7	7	7	7	7	7	7	7
945	7	7	7	7	7	7	7	7	7	7	7
950	7	7	7	7	7	7	7	7	7	7	7
955	7	7	7	7	7	7	7	7	7	7	7
960	7	7	7	7	7	7	7	7	7	7	7
965	7	7	7	7	7	7	7	7	7	7	7
970	7	7	7	7	7	7	7	7	7	13	7
975	7	7	7	7	7	7	7	7	7	12	7
980	7	8	7	7	7	7	7	7	7	10	7
985	7	7	7	7	7	7	7	7	7	10	7
990	7	7	7	7	7	7	7	7	7	8	7
995	7	7	7	7	7	7	7	7	7	7	7
1000	7	7	7	7	7	7	7	7	7	7	7
1005	7	7	7	7	7	7	7	7	7	7	7
1010	7	7	7	7	7	7	7	7	7	7	7
1015	7	7	7	7	7	7	7	7	7	7	7
1020	7	7	7	7	7	7	7	7	7	7	7
1025	7	7	7	7	7	7	7	7	7	7	7
1030	7	7	7	7	7	7	7	7	7	7	7
1035	7	7	7	7	7	7	7	7	7	7	7
1040	7	7	7	7	7	7	7	7	7	7	7
1045	7	7	7	7	7	7	7	7	7	7	7
1050	7	7	7	7	7	7	7	7	7	7	7
1055	7	7	7	7	7	7	7	7	7	7	7
1060	7	7	7	7	7	7	7	7	7	7	7
1065	7	8	7	7	7	7	7	7	7	7	7
1070	7	10	7	7	7	7	7	7	7	7	7
1075	7	7	7	7	7	7	7	7	7	7	7
1080	7	7	7	7	7	7	7	7	7	7	7
1085	7	7	7	7	7	7	7	7	7	7	7
1090	7	7	7	7	7	7	7	7	7	7	7
1095	7	7	7	7	7	7	7	7	7	7	7

Runway 11-29

MILLING DEPTHS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
550	7	7	7	7	7	7	7	7	7	7	7
555	7	7	7	7	7	7	7	7	7	7	7
560	7	7	7	7	7	7	7	7	7	8	7
565	7	7	7	7	7	7	7	7	7	7	7
570	7	7	7	7	7	7	7	7	7	7	7
575	7	7	7	7	7	7	7	7	7	7	7
580	7	7	7	7	7	7	7	7	7	7	7
585	7	7	7	7	7	7	7	7	7	7	7
590	7	7	7	7	7	7	7	7	7	7	7
595	7	7	7	7	7	7	7	7	7	7	7
600	7	7	7	7	7	7	7	7	7	7	7
605	7	7	7	7	7	7	7	7	7	7	7
610	7	7	7	7	7	7	7	7	7	7	7
615	7	7	7	7	7	7	7	7	7	7	7
620	7	7	7	7	7	7	7	7	7	7	7
625	7	7	7	7	7	7	7	7	7	7	7
630	7	7	7	7	7	7	7	7	7	7	7
635	7	7	7	7	7	7	7	7	7	7	7
640	7	7	7	7	7	7	7	7	7	7	7
645	7	7	7	7	7	7	7	7	7	7	7
650	7	7	7	7	7	7	7	7	7	7	7
655	7	7	7	7	7	7	7	7	7	7	7
660	7	7	7	7	7	7	7	7	7	7	7
665	7	7	7	7	7	7	7	7	7	7	7
670	7	7	7	7	7	7	7	7	7	7	7
675	7	7	7	7	7	7	7	7	7	7	7
680	7	7	7	7	7	7	7	7	7	7	7
685	7	7	7	7	7	7	7	7	7	7	7
690	7	7	7	7	7	7	7	7	7	7	7
695	7	7	7	7	7	7	7	7	7	7	7
700	7	7	7	7	7	7	7	7	7	7	7
705	7	7	7	7	7	7	7	7	7	7	7
710	7	7	7	7	7	7	7	7	7	7	7
715	7	7	7	7	7	7	7	7	7	7	7
720	7	7	7	7	7	7	7	7	7	7	7
725	7	7	7	7	7	7	7	7	7	7	7
730	7	7	7	7	7	7	7	7	7	7	7
735	7	7	7	7	7	7	7	7	7	7	7
740	7	7	7	7	7	7	7	7	7	7	7
745	7	7	7	7	7	7	7	7	7	7	7
750	7	7	7	7	7	7	7	7	7	7	7
755	7	7	7	7	7	7	7	7	7	7	7
760	7	7	7	7	7	7	7	7	7	7	7
765	7	7	7	7	7	7	7	7	7	7	7
770	7	7	7	7	7	7	7	7	7	7	7
775	7	7	7	7	7	7	7	7	7	7	7
780	7	7	7	7	7	7	7	7	7	7	7
785	7	7	7	7	7	7	7	7	7	7	7
790	7	7	7	7	7	7	7	7	7	7	7
795	7	7	7	7	7	7	7	7	7	7	7
800	7	7	7	7	7	7	7	7	7	7	7
805	7	7	7	7	7	7	7	7	7	7	7
810	7	7	7	7	7	7	7	7	7	7	7
815	7	7	7	7	7	7	7	7	7	7	7
820	7	7	7	7	7	7	7	7	7	7	7

Runway 11-29

MILLING DEPTHS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
275	7	8	7	7	7	7	7	7	7	7	7
280	7	8	7	7	7	7	7	7	7	7	7
285	7	7	7	7	7	7	7	7	7	7	7
290	7	7	7	7	7	7	7	7	7	7	7
295	7	7	7	7	7	7	7	7	7	7	7
300	7	7	7	7	7	7	7	7	7	7	7
305	7	7	7	7	7	7	7	7	7	7	7
310	7	7	7	7	7	7	7	7	7	7	7
315	7	7	7	7	7	7	7	7	7	7	7
320	7	8	7	7	7	7	7	7	7	7	7
325	7	8	7	7	7	7	7	7	7	7	7
330	7	9	9	7	7	7	7	7	7	11	7
335	7	10	7	7	7	7	7	7	7	7	7
340	7	12	7	7	7	7	7	7	7	7	7
345	7	8	7	7	7	7	7	7	7	7	7
350	7	7	7	7	7	7	7	7	7	7	7
355	7	7	7	7	7	7	7	7	7	7	7
360	7	7	7	7	7	7	7	7	7	7	7
365	7	7	7	7	7	7	7	7	7	7	7
370	7	7	7	7	7	7	7	7	7	7	7
375	7	7	7	7	7	7	7	7	7	7	7
380	7	7	7	7	7	7	7	7	7	7	7
385	7	7	7	7	7	7	7	7	7	7	7
390	7	7	7	7	7	7	7	7	7	7	7
395	7	7	7	7	7	7	7	7	7	7	7
400	7	7	7	7	7	7	7	7	7	7	7
405	7	7	7	7	7	7	7	7	7	7	7
410	7	7	7	7	7	7	7	7	7	7	7
415	7	7	7	7	7	7	7	7	7	7	7
420	7	7	7	7	7	7	7	7	7	7	7
425	7	7	7	7	7	7	7	7	7	7	7
430	7	7	7	7	7	7	7	7	7	12	7
435	7	7	7	7	7	7	7	7	7	7	7
440	7	7	7	7	7	7	7	7	7	7	7
445	7	7	7	7	7	7	7	7	7	7	7
450	7	7	7	7	7	7	7	7	7	7	7
455	7	7	7	7	7	7	7	7	7	7	7
460	7	7	7	7	7	7	7	7	7	10	7
465	7	7	7	7	7	7	7	7	7	9	7
470	7	7	7	7	7	7	7	7	7	8	7
475	7	7	7	7	7	7	7	7	7	7	7
480	7	7	7	7	7	7	7	7	7	7	7
485	7	7	7	7	7	7	7	7	7	7	7
490	7	7	7	7	7	7	7	7	7	7	7
495	7	7	7	7	7	7	7	7	7	7	7
500	7	7	7	7	7	7	7	7	7	7	7
505	7	7	7	7	7	7	7	7	7	7	7
510	7	7	7	7	7	7	7	7	7	7	7
515	7	7	7	7	7	7	7	7	7	7	7
520	7	7	7	7	7	7	7	7	7	7	7
525	7	7	7	7	7	7	7	7	7	7	7
530	7	7	7	7	7	7	7	7	7	11	7
535	7	7	7	7	7	7	7	7	7	8	7
540	7	7	7	7	7	7	7	7	7	7	7
545	7	7	7	7	7	7	7	7	7	7	7

Runway 11-29

MILLING DEPTHS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
0	7	7	7	7	20	7	7	7	7	18	7
5	7	7	7	7	7	7	7	7	7	7	7
10	7	7	7	7	7	7	7	7	7	11	7
15	7	7	7	7	7	7	7	7	7	7	7
20	7	7	7	7	7	7	7	7	7	7	7
25	7	7	7	7	7	7	7	7	7	7	7
30	7	7	7	7	7	7	7	7	7	7	7
35	7	7	7	7	7	7	7	7	7	7	7
40	7	7	7	7	7	7	7	7	7	7	7
45	7	7	7	7	7	7	7	7	7	7	7
50	7	7	7	7	7	7	7	7	7	7	7
55	7	7	7	7	7	7	7	7	7	7	7
60	7	7	7	7	7	7	7	7	7	7	7
65	7	7	7	7	7	7	7	7	7	7	7
70	7	7	7	7	7	7	7	7	7	7	7
75	7	7	7	7	7	7	7	7	7	7	7
80	7	7	7	7	7	7	7	7	7	7	7
85	7	7	7	7	7	7	7	7	7	7	7
90	7	7	7	7	7	7	7	7	7	7	7
95	7	7	7	7	7	7	7	7	7	7	7
100	7	7	7	7	7	7	7	7	7	7	7
105	7	7	7	7	7	7	7	7	7	7	7
110	7	7	7	7	7	7	7	7	7	7	7
115	7	7	7	7	7	7	7	7	7	7	7
120	7	8	7	7	7	7	7	7	7	7	7
125	7	9	7	7	7	7	7	7	7	7	7
130	7	9	7	7	7	7	7	7	7	7	7
135	7	7	7	7	7	7	7	7	7	7	7
140	7	7	7	7	7	7	7	7	7	7	7
145	7	7	7	7	7	7	7	7	7	7	7
150	7	7	7	7	7	7	7	7	7	9	7
155	7	7	7	7	7	7	7	7	7	7	7
160	7	7	7	7	7	7	7	7	7	7	7
165	7	7	7	7	7	7	7	7	7	7	7
170	7	7	7	7	7	7	7	7	7	7	7
175	7	7	7	7	7	7	7	7	7	7	7
180	7	7	7	7	7	7	7	7	7	7	7
185	7	7	7	7	7	7	7	7	7	7	7
190	7	7	7	7	7	7	7	7	7	7	7
195	7	7	7	7	7	7	7	7	7	7	7
200	7	7	7	7	7	7	7	7	7	7	7
205	7	7	7	7	7	7	7	7	7	7	7
210	8	7	7	7	7	7	7	7	7	7	7
215	7	7	7	7	7	7	7	7	7	7	7
220	7	7	7	7	7	7	7	7	7	7	7
225	7	7	7	7	7	7	7	7	7	7	7
230	7	7	7	7	7	7	7	7	8	12	7
235	7	7	7	7	7	7	7	7	7	7	7
240	7	7	7	7	7	7	7	7	7	7	7
245	7	7	7	7	7	7	7	7	7	7	7
250	7	7	7	7	7	7	7	7	7	7	7
255	7	7	7	7	7	7	7	7	7	7	7
260	7	7	7	7	7	7	7	7	7	10	7
265	7	7	7	7	7	7	7	7	7	9	7
270	7	7	7	7	7	7	7	7	7	9	7

Runway 11-29

CROSS FALLS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	4.50	9.00	13.50	18.00	22.30
1925	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
1930	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-1.9
1935	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-2.0
1940	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
1945	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
1950	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
1955	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
1960	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
1965	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
1970	-2.0	-1.9	-1.8	-1.4	-1.3	-1.4	-1.4	-1.9	-2.0	-2.0
1975	-1.9	-1.9	-1.8	-1.3	-1.3	-1.4	-1.4	-1.9	-2.0	-2.0
1980	-1.9	-1.9	-1.7	-1.3	-1.3	-1.4	-1.4	-1.9	-2.0	-2.0
1985	-1.9	-1.9	-1.6	-1.3	-1.3	-1.4	-1.4	-1.9	-2.0	-2.0
1990	-1.9	-1.9	-1.6	-1.3	-1.3	-1.4	-1.4	-1.8	-2.0	-2.0
1995	-1.8	-1.8	-1.5	-1.3	-1.3	-1.3	-1.4	-1.8	-2.0	-2.0
2000	-1.8	-1.8	-1.4	-1.3	-1.3	-1.3	-1.3	-1.8	-2.0	-2.0
2005	-1.8	-1.8	-1.4	-1.3	-1.3	-1.3	-1.3	-1.8	-2.0	-2.0
2010	-1.8	-1.8	-1.3	-1.3	-1.3	-1.3	-1.3	-1.8	-2.0	-2.0

Runway 11-29

CROSS FALLS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	4.50	9.00	13.50	18.00	22.30
1650	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
1655	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.4	-2.0	-2.0	-2.0
1660	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.4	-2.0	-2.0	-2.0
1665	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.4	-2.0	-2.0	-2.0
1670	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.5	-2.0	-2.0	-2.0
1675	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1680	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1685	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1690	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1695	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1700	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1705	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1710	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1715	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1720	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1725	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1730	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1735	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1740	-1.9	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
1745	-1.9	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-1.9	-2.0
1750	-1.9	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-1.9	-1.9
1755	-1.9	-1.9	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-1.9	-1.9
1760	-1.9	-1.9	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-1.9
1765	-1.9	-1.9	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-1.9
1770	-1.9	-1.9	-1.9	-1.4	-1.4	-1.4	-1.5	-1.9	-1.9	-1.9
1775	-1.9	-1.9	-1.8	-1.4	-1.4	-1.5	-1.5	-1.9	-1.9	-1.9
1780	-1.9	-1.9	-1.8	-1.4	-1.4	-1.5	-1.5	-1.9	-1.9	-1.9
1785	-1.9	-1.9	-1.8	-1.4	-1.4	-1.5	-1.5	-1.8	-1.9	-1.9
1790	-1.9	-1.9	-1.9	-1.4	-1.4	-1.5	-1.5	-1.8	-1.9	-1.9
1795	-1.9	-1.9	-1.9	-1.4	-1.4	-1.5	-1.5	-1.8	-1.9	-1.9
1800	-1.9	-1.9	-1.8	-1.4	-1.4	-1.5	-1.5	-1.8	-1.9	-1.9
1805	-1.9	-1.9	-1.8	-1.4	-1.4	-1.5	-1.5	-1.7	-1.9	-1.9
1810	-1.9	-1.9	-1.8	-1.4	-1.4	-1.5	-1.4	-1.8	-1.9	-1.9
1815	-1.9	-1.9	-1.8	-1.4	-1.4	-1.5	-1.4	-1.8	-1.9	-1.9
1820	-1.9	-1.9	-1.8	-1.4	-1.4	-1.4	-1.5	-1.8	-1.9	-1.9
1825	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-1.9
1830	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-1.9
1835	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-1.9
1840	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-1.9
1845	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-1.9
1850	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-1.9
1855	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-1.9
1860	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.8	-1.9	-2.0
1865	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.8	-2.0	-2.0
1870	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.8	-2.0	-2.0
1875	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.8	-2.0	-2.0
1880	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.7	-2.0	-2.0
1885	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.7	-2.0	-2.0
1890	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.8	-2.0	-2.0
1895	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.8	-2.0	-2.0
1900	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.8	-2.0	-2.0
1905	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.8	-2.0	-2.0
1910	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-1.9
1915	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
1920	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0

Runway 11-29

CROSS FALLS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	4.50	9.00	13.50	18.00	22.30
1375	-1.7	-1.8	-1.6	-1.2	-1.2	-1.1	-1.1	-1.6	-1.7	-1.7
1380	-1.8	-1.8	-1.6	-1.2	-1.2	-1.2	-1.2	-1.6	-1.7	-1.7
1385	-1.8	-1.8	-1.6	-1.2	-1.2	-1.2	-1.2	-1.6	-1.7	-1.7
1390	-1.8	-1.8	-1.6	-1.2	-1.2	-1.2	-1.2	-1.6	-1.7	-1.7
1395	-1.8	-1.9	-1.6	-1.2	-1.2	-1.2	-1.2	-1.6	-1.7	-1.7
1400	-1.9	-1.9	-1.7	-1.3	-1.3	-1.3	-1.3	-1.6	-1.7	-1.8
1405	-1.9	-1.9	-1.7	-1.3	-1.3	-1.3	-1.3	-1.7	-1.8	-1.7
1410	-1.9	-1.9	-1.7	-1.3	-1.3	-1.3	-1.4	-1.7	-1.8	-1.8
1415	-1.9	-1.9	-1.8	-1.4	-1.3	-1.4	-1.4	-1.7	-1.8	-1.8
1420	-1.9	-1.9	-1.8	-1.4	-1.4	-1.4	-1.4	-1.7	-1.8	-1.8
1425	-1.9	-1.9	-1.8	-1.4	-1.4	-1.4	-1.4	-1.8	-1.8	-1.8
1430	-1.9	-1.9	-1.9	-1.4	-1.4	-1.4	-1.4	-1.8	-1.8	-1.8
1435	-1.9	-2.0	-1.9	-1.4	-1.4	-1.4	-1.5	-1.8	-1.8	-1.8
1440	-1.9	-2.0	-1.9	-1.4	-1.5	-1.5	-1.5	-1.8	-1.9	-1.8
1445	-1.9	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.9	-1.9	-1.9
1450	-2.0	-2.0	-2.0	-1.5	-1.5	-1.5	-1.5	-1.9	-1.9	-1.9
1455	-2.0	-2.0	-2.0	-1.5	-1.5	-1.5	-1.5	-1.9	-1.9	-1.9
1460	-2.0	-2.0	-2.0	-1.5	-1.5	-1.5	-1.5	-1.9	-1.9	-1.9
1465	-2.0	-2.0	-2.0	-1.5	-1.5	-1.5	-1.5	-1.9	-1.9	-1.9
1470	-2.0	-2.0	-2.0	-1.5	-1.5	-1.5	-1.5	-2.0	-1.9	-1.9
1475	-2.0	-2.0	-2.0	-1.5	-1.5	-1.5	-1.5	-2.0	-1.9	-1.9
1480	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-2.0	-1.9	-1.9
1485	-1.9	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-2.0	-1.9	-1.9
1490	-2.0	-1.9	-1.9	-1.5	-1.5	-1.5	-1.5	-2.0	-1.9	-1.9
1495	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-2.0	-1.9	-1.9
1500	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-2.0	-1.9	-2.0
1505	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
1510	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
1515	-2.0	-2.0	-1.8	-1.5	-1.5	-1.5	-1.4	-1.8	-2.0	-2.0
1520	-2.0	-2.0	-1.8	-1.5	-1.5	-1.5	-1.4	-1.8	-2.0	-2.0
1525	-2.0	-2.0	-1.8	-1.5	-1.5	-1.5	-1.4	-1.7	-2.0	-2.0
1530	-2.0	-2.0	-1.7	-1.5	-1.5	-1.5	-1.4	-1.7	-2.0	-2.0
1535	-2.0	-2.0	-1.7	-1.5	-1.4	-1.4	-1.4	-1.7	-2.0	-2.0
1540	-2.0	-2.0	-1.8	-1.5	-1.4	-1.4	-1.5	-1.7	-2.0	-2.0
1545	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.5	-1.7	-1.9	-1.9
1550	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.7	-1.9	-1.9
1555	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.8	-1.9	-1.9
1560	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.8	-1.9	-1.9
1565	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.8	-1.9	-1.9
1570	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.8	-1.9	-1.9
1575	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.9	-1.9	-1.9
1580	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.9	-1.9	-1.9
1585	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.9	-1.9	-1.9
1590	-2.0	-2.0	-2.0	-1.4	-1.4	-1.5	-1.5	-1.9	-1.9	-1.9
1595	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.9	-1.9	-2.0
1600	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.9	-2.0	-2.0
1605	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
1610	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
1615	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
1620	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
1625	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
1630	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
1635	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.9	-2.0	-2.0
1640	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.9	-2.0	-2.0
1645	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.9	-2.0	-2.0

Runway 11-29

CROSS FALLS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	4.50	9.00	13.50	18.00	22.30
1100	-0.7	-0.5	-0.1	0.3	0.4	-0.6	-0.6	-0.8	-0.9	-0.9
1105	-0.7	-0.4	0.0	0.4	0.4	-0.6	-0.6	-0.7	-0.9	-0.9
1110	-0.5	-0.3	0.1	0.5	0.5	-0.6	-0.6	-0.7	-0.8	-0.8
1115	-0.5	-0.2	0.2	0.5	0.5	-0.6	-0.6	-0.7	-0.8	-0.8
1120	-0.4	-0.1	0.3	0.5	0.5	-0.6	-0.6	-0.8	-0.8	-0.8
1125	-0.4	0.0	0.4	0.5	0.5	-0.6	-0.6	-0.8	-0.8	-0.8
1130	-0.4	0.1	0.4	0.5	0.5	-0.6	-0.6	-0.8	-0.8	-0.8
1135	-0.4	0.3	0.5	0.5	0.5	-0.6	-0.6	-0.7	-0.8	-0.7
1140	-0.5	0.4	0.5	0.5	0.5	-0.6	-0.6	-0.7	-0.8	-0.7
1145	-0.5	0.4	0.5	0.5	0.5	-0.6	-0.6	-0.7	-0.8	-0.7
1150	-0.5	0.5	0.5	0.5	0.5	-0.6	-0.6	-0.7	-0.8	-0.7
1155	-0.5	0.5	0.5	0.5	0.6	-0.6	-0.6	-0.8	-0.8	-0.7
1160	-0.5	0.5	0.5	0.6	0.6	-0.6	-0.6	-0.8	-0.8	-0.8
1165	-0.5	0.5	0.5	0.6	0.6	-0.6	-0.6	-0.8	-0.8	-0.8
1170	-0.5	0.5	0.6	0.6	0.6	-0.6	-0.6	-0.8	-0.8	-0.8
1175	-0.5	0.5	0.6	0.5	0.6	-0.6	-0.6	-0.9	-0.9	-0.9
1180	-0.5	0.4	0.5	0.5	0.6	-0.6	-0.6	-0.9	-0.9	-0.9
1185	-0.5	0.2	0.5	0.5	0.5	-0.6	-0.6	-0.9	-0.9	-0.9
1190	-0.5	0.1	0.5	0.5	0.5	-0.7	-0.6	-0.9	-0.9	-0.9
1195	-0.5	0.0	0.5	0.5	0.5	-0.7	-0.7	-0.9	-0.9	-0.9
1200	-0.5	-0.2	0.5	0.4	0.5	-0.7	-0.7	-1.0	-1.0	-1.0
1205	-0.5	-0.3	0.4	0.4	0.4	-0.7	-0.7	-1.0	-1.0	-1.0
1210	-0.5	-0.4	0.4	0.4	0.4	-0.8	-0.7	-1.0	-1.0	-1.0
1215	-0.5	-0.4	0.3	0.3	0.4	-0.8	-0.8	-1.0	-1.0	-1.0
1220	-0.5	-0.5	0.2	0.2	0.4	-0.8	-0.8	-1.0	-1.0	-1.0
1225	-0.5	-0.5	0.0	0.1	0.3	-0.8	-0.8	-1.0	-1.0	-1.0
1230	-0.6	-0.5	-0.2	0.0	0.2	-0.8	-0.8	-1.0	-1.0	-1.0
1235	-0.6	-0.5	-0.2	-0.1	0.1	-0.8	-0.8	-1.0	-1.0	-1.0
1240	-0.7	-0.5	-0.4	-0.2	-0.1	-0.9	-0.9	-1.0	-1.0	-1.0
1245	-0.8	-0.6	-0.5	-0.3	-0.2	-0.9	-0.9	-1.0	-1.1	-1.0
1250	-0.9	-0.7	-0.6	-0.4	-0.3	-1.0	-1.0	-1.1	-1.1	-1.0
1255	-0.9	-0.8	-0.7	-0.5	-0.5	-1.0	-1.0	-1.1	-1.1	-1.1
1260	-1.1	-1.0	-0.7	-0.5	-0.6	-1.0	-1.0	-1.1	-1.2	-1.1
1265	-1.2	-1.1	-0.8	-0.5	-0.6	-1.0	-1.0	-1.2	-1.2	-1.1
1270	-1.3	-1.3	-0.8	-0.6	-0.6	-1.0	-1.0	-1.2	-1.2	-1.2
1275	-1.4	-1.4	-0.9	-0.6	-0.6	-1.0	-1.0	-1.2	-1.3	-1.2
1280	-1.5	-1.5	-1.0	-0.6	-0.6	-1.0	-1.0	-1.3	-1.3	-1.3
1285	-1.6	-1.6	-1.0	-0.6	-0.6	-1.0	-1.0	-1.3	-1.3	-1.3
1290	-1.7	-1.6	-1.1	-0.7	-0.7	-1.0	-1.0	-1.3	-1.4	-1.4
1295	-1.8	-1.7	-1.1	-0.7	-0.7	-1.0	-1.0	-1.3	-1.4	-1.4
1300	-1.9	-1.8	-1.2	-0.8	-0.8	-1.0	-1.0	-1.3	-1.4	-1.4
1305	-1.9	-1.8	-1.2	-0.8	-0.8	-1.0	-1.0	-1.4	-1.4	-1.5
1310	-1.9	-1.8	-1.3	-0.9	-0.9	-1.0	-1.0	-1.3	-1.5	-1.5
1315	-1.9	-1.8	-1.4	-0.9	-0.9	-1.0	-1.0	-1.4	-1.5	-1.5
1320	-1.9	-1.8	-1.4	-1.0	-1.0	-1.0	-1.0	-1.4	-1.5	-1.5
1325	-1.9	-1.7	-1.4	-1.0	-1.0	-1.0	-1.0	-1.4	-1.6	-1.6
1330	-1.8	-1.7	-1.5	-1.0	-1.0	-1.0	-1.0	-1.4	-1.6	-1.6
1335	-1.7	-1.7	-1.5	-1.0	-1.0	-1.0	-1.0	-1.4	-1.6	-1.6
1340	-1.7	-1.6	-1.5	-1.0	-1.0	-1.0	-1.0	-1.4	-1.6	-1.6
1345	-1.6	-1.6	-1.5	-1.1	-1.1	-1.0	-1.0	-1.4	-1.6	-1.6
1350	-1.6	-1.6	-1.5	-1.1	-1.1	-1.0	-1.0	-1.5	-1.6	-1.7
1355	-1.6	-1.6	-1.5	-1.1	-1.1	-1.0	-1.0	-1.5	-1.6	-1.7
1360	-1.6	-1.6	-1.5	-1.1	-1.1	-1.0	-1.1	-1.5	-1.7	-1.7
1365	-1.7	-1.6	-1.5	-1.1	-1.1	-1.1	-1.1	-1.5	-1.7	-1.7
1370	-1.7	-1.7	-1.5	-1.2	-1.2	-1.1	-1.1	-1.5	-1.7	-1.7

Runway 11-29

CROSS FALLS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	4.50	9.00	13.50	18.00	22.30
825	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
830	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
835	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
840	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
845	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
850	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
855	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
860	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
865	-2.0	-2.0	-2.0	-1.5	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
870	-2.0	-2.0	-2.0	-1.5	-1.4	-1.4	-1.5	-2.0	-2.0	-2.0
875	-2.0	-2.0	-2.0	-1.5	-1.4	-1.4	-1.5	-2.0	-2.0	-2.0
880	-2.0	-2.0	-2.0	-1.5	-1.5	-1.5	-1.5	-2.0	-2.0	-2.0
885	-2.0	-2.0	-2.0	-1.5	-1.5	-1.5	-1.5	-2.0	-2.0	-2.0
890	-2.0	-2.0	-2.0	-1.5	-1.5	-1.5	-1.5	-2.0	-2.0	-2.0
895	-2.0	-2.0	-2.0	-1.5	-1.5	-1.4	-1.5	-2.0	-2.0	-2.0
900	-2.0	-2.0	-2.0	-1.5	-1.5	-1.5	-1.4	-1.9	-2.0	-2.0
905	-2.0	-2.0	-2.0	-1.5	-1.5	-1.5	-1.4	-1.9	-2.0	-2.0
910	-2.0	-2.0	-2.0	-1.5	-1.5	-1.4	-1.4	-1.9	-2.0	-2.0
915	-1.9	-1.9	-1.9	-1.5	-1.5	-1.4	-1.4	-1.8	-2.0	-2.0
920	-1.9	-1.9	-1.9	-1.5	-1.5	-1.4	-1.4	-1.8	-2.0	-2.0
925	-1.9	-1.9	-1.9	-1.5	-1.5	-1.4	-1.4	-1.8	-2.0	-2.0
930	-1.9	-1.9	-1.9	-1.5	-1.5	-1.4	-1.4	-1.9	-2.0	-2.0
935	-1.9	-1.9	-1.9	-1.5	-1.5	-1.4	-1.4	-1.9	-2.0	-2.0
940	-1.9	-1.9	-1.9	-1.5	-1.5	-1.4	-1.4	-1.9	-2.0	-2.0
945	-1.9	-1.9	-2.0	-1.5	-1.5	-1.4	-1.4	-1.9	-2.0	-2.0
950	-1.9	-2.0	-2.0	-1.5	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
955	-2.0	-2.0	-2.0	-1.5	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
960	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
965	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
970	-2.0	-2.0	-2.0	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
975	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
980	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
985	-2.0	-2.0	-1.9	-1.3	-1.3	-1.4	-1.4	-2.0	-2.0	-2.0
990	-1.9	-2.0	-1.9	-1.3	-1.3	-1.3	-1.3	-2.0	-2.0	-2.0
995	-1.9	-1.9	-1.8	-1.2	-1.2	-1.3	-1.3	-1.9	-1.9	-1.9
1000	-1.9	-1.8	-1.8	-1.2	-1.2	-1.2	-1.2	-1.9	-1.8	-1.8
1005	-1.8	-1.8	-1.8	-1.2	-1.1	-1.2	-1.2	-1.8	-1.8	-1.8
1010	-1.7	-1.7	-1.7	-1.1	-1.1	-1.1	-1.1	-1.7	-1.7	-1.7
1015	-1.7	-1.7	-1.6	-1.0	-1.0	-1.1	-1.1	-1.6	-1.6	-1.7
1020	-1.6	-1.6	-1.6	-1.0	-1.0	-1.0	-1.0	-1.6	-1.6	-1.6
1025	-1.5	-1.5	-1.5	-0.9	-0.9	-1.0	-1.0	-1.5	-1.5	-1.5
1030	-1.4	-1.4	-1.4	-0.8	-0.9	-1.0	-1.0	-1.4	-1.4	-1.4
1035	-1.3	-1.3	-1.3	-0.8	-0.8	-0.9	-1.0	-1.3	-1.3	-1.3
1040	-1.3	-1.2	-1.2	-0.7	-0.7	-0.9	-0.9	-1.3	-1.3	-1.3
1045	-1.2	-1.2	-1.1	-0.7	-0.6	-0.8	-0.8	-1.2	-1.3	-1.2
1050	-1.1	-1.1	-1.0	-0.6	-0.6	-0.8	-0.8	-1.2	-1.2	-1.2
1055	-1.1	-1.0	-0.9	-0.5	-0.5	-0.8	-0.8	-1.2	-1.2	-1.2
1060	-1.0	-0.9	-0.8	-0.4	-0.4	-0.7	-0.7	-1.1	-1.2	-1.2
1065	-0.9	-0.9	-0.8	-0.3	-0.2	-0.7	-0.7	-1.1	-1.1	-1.1
1070	-0.9	-0.8	-0.7	-0.2	-0.1	-0.7	-0.7	-1.1	-1.1	-1.1
1075	-0.8	-0.8	-0.6	-0.1	0.0	-0.6	-0.7	-1.0	-1.1	-1.0
1080	-0.8	-0.7	-0.5	0.0	0.0	-0.6	-0.6	-1.0	-1.0	-1.0
1085	-0.8	-0.6	-0.4	0.1	0.1	-0.6	-0.6	-0.9	-1.0	-1.0
1090	-0.8	-0.6	-0.3	0.2	0.2	-0.6	-0.6	-0.9	-1.0	-1.0
1095	-0.7	-0.6	-0.2	0.3	0.3	-0.6	-0.6	-0.8	-1.0	-1.0

Runway 11-29

CROSS FALLS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	4.50	9.00	13.50	18.00	22.30
550	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
555	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
560	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
565	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
570	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
575	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
580	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
585	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
590	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
595	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
600	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
605	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
610	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
615	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
620	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.9	-2.0	-1.9
625	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.9	-1.9	-2.0
630	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.9	-1.9	-1.9
635	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-1.9	-2.0
640	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-1.9
645	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
650	-2.0	-2.0	-1.8	-1.3	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
655	-2.0	-2.0	-1.8	-1.4	-1.3	-1.5	-1.5	-2.0	-2.0	-2.0
660	-2.0	-2.0	-1.8	-1.3	-1.3	-1.5	-1.5	-2.0	-2.0	-2.0
665	-2.0	-2.0	-1.8	-1.3	-1.3	-1.5	-1.5	-2.0	-2.0	-2.0
670	-2.0	-2.0	-1.8	-1.3	-1.3	-1.5	-1.5	-2.0	-2.0	-2.0
675	-2.0	-2.0	-1.8	-1.3	-1.3	-1.5	-1.5	-2.0	-2.0	-2.0
680	-2.0	-2.0	-1.8	-1.3	-1.3	-1.5	-1.5	-2.0	-2.0	-2.0
685	-2.0	-2.0	-1.8	-1.3	-1.3	-1.5	-1.5	-2.0	-2.0	-2.0
690	-2.0	-2.0	-1.8	-1.3	-1.3	-1.5	-1.5	-2.0	-2.0	-2.0
695	-2.0	-2.0	-1.8	-1.3	-1.3	-1.5	-1.5	-2.0	-2.0	-2.0
700	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
705	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
710	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
715	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.5	-2.0	-2.0	-2.0
720	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.4	-2.0	-2.0	-2.0
725	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
730	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
735	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
740	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
745	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
750	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
755	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
760	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
765	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
770	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
775	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
780	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
785	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
790	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
795	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
800	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
805	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
810	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
815	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
820	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0

Runway 11-29

CROSS FALLS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	4.50	9.00	13.50	18.00	22.30
275	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
280	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
285	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
290	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
295	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
300	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
305	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
310	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
315	-2.0	-2.0	-1.9	-1.5	-1.5	-1.4	-1.4	-1.9	-2.0	-2.0
320	-2.0	-2.0	-1.9	-1.5	-1.5	-1.4	-1.4	-1.9	-2.0	-2.0
325	-2.0	-2.0	-1.9	-1.5	-1.5	-1.4	-1.4	-1.9	-2.0	-2.0
330	-2.0	-2.0	-1.9	-1.5	-1.5	-1.4	-1.5	-1.9	-2.0	-2.0
335	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.4	-1.9	-2.0	-2.0
340	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
345	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
350	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
355	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
360	-2.0	-2.0	-1.8	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
365	-2.0	-2.0	-1.8	-1.5	-1.5	-1.5	-1.5	-1.8	-2.0	-2.0
370	-2.0	-2.0	-1.8	-1.5	-1.5	-1.5	-1.5	-1.8	-2.0	-2.0
375	-2.0	-2.0	-1.8	-1.5	-1.5	-1.5	-1.5	-1.8	-2.0	-2.0
380	-2.0	-2.0	-1.8	-1.5	-1.5	-1.5	-1.5	-1.7	-2.0	-2.0
385	-2.0	-2.0	-1.8	-1.5	-1.5	-1.5	-1.5	-1.7	-2.0	-2.0
390	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.7	-2.0	-2.0
395	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.7	-2.0	-2.0
400	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.7	-2.0	-2.0
405	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.8	-2.0	-2.0
410	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.8	-2.0	-2.0
415	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.8	-2.0	-2.0
420	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.8	-2.0	-2.0
425	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.7	-1.9	-2.0
430	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.7	-1.9	-2.0
435	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.7	-1.9	-2.0
440	-2.0	-2.0	-1.9	-1.5	-1.5	-1.5	-1.5	-1.7	-2.0	-2.0
445	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.7	-2.0	-2.0
450	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.7	-2.0	-2.0
455	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.7	-2.0	-2.0
460	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.8	-2.0	-2.0
465	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.8	-2.0	-2.0
470	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.9	-2.0	-2.0
475	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.9	-2.0	-2.0
480	-2.0	-2.0	-1.9	-1.4	-1.4	-1.5	-1.5	-1.9	-2.0	-2.0
485	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.5	-1.9	-2.0	-2.0
490	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
495	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
500	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
505	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
510	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
515	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
520	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
525	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
530	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
535	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
540	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
545	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0

Runway 11-29

CROSS FALLS

CH	-22.30	-18.00	-13.50	-9.00	-4.50	4.50	9.00	13.50	18.00	22.30
0	-1.6	-1.6	-1.2	-1.2	-1.2	-1.3	-1.3	-1.3	-2.0	-2.0
5	-1.7	-1.7	-1.4	-1.3	-1.3	-1.3	-1.3	-1.4	-1.9	-1.9
10	-1.8	-1.8	-1.6	-1.3	-1.4	-1.4	-1.4	-1.5	-1.8	-1.8
15	-1.9	-1.9	-1.6	-1.3	-1.4	-1.4	-1.4	-1.5	-1.8	-1.8
20	-2.0	-2.0	-1.6	-1.4	-1.3	-1.4	-1.4	-1.5	-1.7	-1.7
25	-2.0	-2.0	-1.7	-1.4	-1.4	-1.5	-1.5	-1.6	-1.8	-1.7
30	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.7	-1.8	-1.8
35	-2.0	-2.0	-1.8	-1.4	-1.4	-1.5	-1.5	-1.7	-1.8	-1.8
40	-2.0	-2.0	-1.8	-1.3	-1.4	-1.5	-1.5	-1.7	-1.8	-1.8
45	-2.0	-2.0	-1.8	-1.3	-1.3	-1.5	-1.5	-1.8	-1.8	-1.8
50	-2.0	-2.0	-1.8	-1.3	-1.3	-1.5	-1.5	-1.8	-1.8	-1.8
55	-2.0	-2.0	-1.7	-1.3	-1.3	-1.5	-1.5	-1.8	-1.8	-1.9
60	-2.0	-2.0	-1.7	-1.3	-1.3	-1.5	-1.5	-1.8	-1.8	-1.9
65	-2.0	-2.0	-1.6	-1.3	-1.2	-1.5	-1.5	-1.8	-1.8	-1.9
70	-2.0	-2.0	-1.6	-1.2	-1.2	-1.5	-1.5	-1.8	-1.8	-1.9
75	-2.0	-2.0	-1.6	-1.2	-1.2	-1.5	-1.5	-1.8	-1.8	-1.8
80	-2.0	-2.0	-1.5	-1.2	-1.2	-1.5	-1.5	-1.8	-1.9	-1.8
85	-2.0	-2.0	-1.5	-1.2	-1.2	-1.5	-1.5	-1.8	-1.8	-1.9
90	-2.0	-2.0	-1.5	-1.3	-1.2	-1.5	-1.5	-1.8	-1.8	-1.9
95	-2.0	-2.0	-1.5	-1.3	-1.3	-1.5	-1.5	-1.8	-1.9	-1.8
100	-2.0	-2.0	-1.5	-1.3	-1.3	-1.5	-1.5	-1.8	-1.8	-1.8
105	-2.0	-2.0	-1.6	-1.3	-1.3	-1.5	-1.5	-1.8	-1.8	-1.8
110	-2.0	-2.0	-1.6	-1.3	-1.3	-1.5	-1.5	-1.8	-1.8	-1.8
115	-2.0	-2.0	-1.6	-1.4	-1.3	-1.5	-1.5	-1.8	-1.8	-1.8
120	-1.9	-1.9	-1.6	-1.4	-1.3	-1.5	-1.5	-1.8	-1.8	-1.9
125	-1.9	-1.9	-1.6	-1.4	-1.4	-1.5	-1.5	-1.8	-1.8	-2.0
130	-1.8	-1.8	-1.6	-1.4	-1.4	-1.5	-1.5	-1.8	-1.9	-2.0
135	-1.8	-1.8	-1.6	-1.4	-1.4	-1.5	-1.5	-1.9	-1.9	-2.0
140	-1.8	-1.8	-1.6	-1.4	-1.4	-1.5	-1.5	-1.9	-1.9	-2.0
145	-1.8	-1.8	-1.6	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
150	-1.8	-1.8	-1.7	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
155	-1.8	-1.8	-1.7	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
160	-1.9	-1.8	-1.7	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
165	-1.8	-1.8	-1.7	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
170	-1.8	-1.8	-1.7	-1.4	-1.4	-1.5	-1.5	-2.0	-2.0	-2.0
175	-1.8	-1.8	-1.7	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
180	-1.8	-1.8	-1.7	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
185	-1.8	-1.8	-1.7	-1.5	-1.5	-1.6	-1.5	-1.8	-2.0	-2.0
190	-1.8	-1.8	-1.7	-1.5	-1.5	-1.6	-1.5	-1.8	-1.9	-1.9
195	-1.8	-1.8	-1.7	-1.5	-1.5	-1.6	-1.5	-1.8	-1.9	-1.9
200	-1.8	-1.8	-1.7	-1.5	-1.5	-1.5	-1.5	-1.8	-1.9	-1.9
205	-1.8	-1.8	-1.7	-1.5	-1.5	-1.5	-1.5	-1.8	-1.9	-1.9
210	-1.8	-1.8	-1.7	-1.5	-1.5	-1.5	-1.5	-1.8	-1.9	-2.0
215	-1.8	-1.8	-1.7	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
220	-1.8	-1.8	-1.7	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
225	-1.9	-1.9	-1.7	-1.5	-1.5	-1.5	-1.5	-1.9	-2.0	-2.0
230	-1.9	-1.9	-1.8	-1.4	-1.5	-1.5	-1.4	-1.9	-2.0	-2.0
235	-2.0	-1.9	-1.8	-1.4	-1.5	-1.5	-1.4	-1.9	-2.0	-2.0
240	-2.0	-2.0	-1.7	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
245	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
250	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-2.0	-2.0	-2.0
255	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
260	-2.0	-2.0	-1.8	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
265	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0
270	-2.0	-2.0	-1.9	-1.4	-1.4	-1.4	-1.4	-1.9	-2.0	-2.0

Runway 11-29

LIFT FROM EXISTING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1925	54	52	61	78	69	78	65	72	55	48	53
1930	52	50	61	79	67	82	65	72	55	47	55
1935	53	50	58	78	67	79	67	71	57	51	59
1940	51	47	54	76	67	75	67	68	56	50	56
1945	52	53	57	76	69	74	69	72	53	53	52
1950	53	59	59	76	68	71	71	74	48	53	45
1955	59	59	61	76	71	75	71	75	54	51	52
1960	65	60	61	75	70	77	69	74	57	45	55
1965	66	63	66	80	71	80	74	79	62	58	60
1970	71	67	69	81	71	80	75	83	65	69	61
1975	68	57	65	80	63	85	71	81	64	66	67
1980	61	46	59	71	52	85	62	75	60	60	69
1985	55	49	65	69	53	84	68	76	60	60	66
1990	45	48	67	64	52	80	70	73	60	59	65
1995	53	48	65	65	52	74	68	70	53	55	54
2000	57	45	62	65	53	68	66	66	47	52	46
2005	89	62	88	93	77	91	68	76	66	61	74
2010	120	80	116	122	103	116	72	90	86	71	109

Red indicates less than 43 mm (requiring more than nominal 7 mm texturing).

Yellow indicates greater than 73 mm (requiring corrector).

Runway 11-29

LIFT FROM EXISTING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1650	56	51	54	76	77	74	79	70	53	47	48
1655	53	50	54	76	75	77	76	71	53	45	50
1660	51	51	57	78	74	81	76	73	53	42	52
1665	55	50	56	81	75	83	78	75	55	45	54
1670	61	49	55	83	75	84	80	77	57	48	58
1675	57	47	54	78	72	78	77	76	56	48	54
1680	55	48	55	76	71	73	75	74	54	51	52
1685	52	48	54	76	72	78	78	79	56	50	56
1690	55	49	54	76	75	82	81	84	58	50	60
1695	56	51	54	80	80	82	84	83	60	56	62
1700	57	54	54	84	84	82	87	83	62	61	63
1705	55	56	54	80	79	83	83	79	59	59	63
1710	53	59	56	77	75	85	80	76	58	58	65
1715	56	53	54	77	74	83	77	73	53	53	63
1720	55	45	50	76	72	80	74	72	49	49	61
1725	54	49	55	77	76	84	78	76	55	54	58
1730	49	52	59	77	80	87	80	80	60	58	53
1735	55	53	60	77	78	84	78	78	57	55	52
1740	57	51	60	76	75	80	75	75	53	49	49
1745	54	53	59	73	73	80	76	77	55	49	50
1750	50	54	58	73	71	80	77	80	55	48	52
1755	51	52	55	73	71	77	75	77	52	48	52
1760	53	50	55	71	71	75	74	74	51	49	56
1765	50	49	53	66	70	74	72	73	51	49	52
1770	48	49	53	61	69	72	71	72	53	51	49
1775	51	49	52	63	68	70	70	70	53	50	51
1780	50	48	50	64	67	68	70	69	56	51	54
1785	47	48	50	64	65	69	68	68	56	52	52
1790	40	48	51	65	63	70	67	68	56	53	49
1795	48	48	50	65	63	69	68	67	53	50	52
1800	58	50	50	65	63	68	68	68	52	50	55
1805	55	50	51	69	66	69	71	66	53	52	59
1810	52	49	52	73	67	70	74	65	53	53	61
1815	55	51	51	72	64	71	68	67	53	54	56
1820	59	53	51	72	60	71	64	67	55	53	51
1825	56	56	53	74	64	73	66	69	54	54	53
1830	54	58	55	77	69	74	69	68	53	53	52
1835	50	52	55	75	70	74	71	69	52	49	49
1840	47	47	55	73	71	74	73	71	53	46	50
1845	47	51	55	73	71	72	68	71	51	50	47
1850	49	56	57	74	73	70	65	72	52	55	48
1855	54	58	60	76	75	71	66	73	54	54	50
1860	56	58	61	77	79	72	69	73	56	56	52
1865	53	64	58	72	75	77	79	82	59	56	60
1870	47	68	52	65	71	81	88	89	61	56	68
1875	50	56	51	65	67	74	76	74	55	50	59
1880	53	44	51	67	65	66	66	60	51	44	56
1885	50	46	53	70	67	66	65	62	51	46	56
1890	51	50	56	73	69	66	63	65	50	48	55
1895	53	51	57	74	70	74	62	66	54	49	52
1900	56	52	58	76	71	82	60	68	56	51	53
1905	54	50	58	74	68	79	62	69	56	51	54
1910	54	49	59	72	65	77	67	71	56	52	59
1915	54	50	60	74	68	76	65	72	55	51	54
1920	55	54	62	78	71	74	65	73	56	49	50

Runway 11-29

LIFT FROM EXISTING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1375	48	51	58	68	68	76	74	74	62	61	63
1380	48	46	54	62	64	76	71	69	62	63	65
1385	52	48	57	68	64	80	70	69	59	59	59
1390	56	50	59	72	64	83	69	68	57	57	54
1395	55	50	60	71	66	82	70	72	59	61	62
1400	57	50	60	69	68	81	71	75	59	62	65
1405	52	51	60	70	67	78	75	76	62	60	64
1410	49	53	61	72	65	75	79	77	63	60	63
1415	52	55	62	73	67	77	77	77	67	60	64
1420	55	58	64	75	69	78	75	78	71	62	64
1425	51	54	59	74	67	78	74	79	68	61	60
1430	45	49	55	74	62	76	72	77	63	60	56
1435	53	53	60	75	67	78	76	75	64	62	65
1440	65	58	64	74	69	80	76	74	64	61	73
1445	56	52	59	73	69	77	76	77	62	59	68
1450	47	48	55	74	67	73	74	77	59	56	63
1455	50	48	54	72	67	74	73	74	56	54	56
1460	52	47	53	69	65	73	69	71	51	52	51
1465	57	44	54	69	67	74	73	72	54	52	54
1470	62	42	55	69	69	74	78	73	56	51	59
1475	57	43	55	71	72	77	78	73	58	54	55
1480	54	47	57	72	75	80	80	73	59	57	53
1485	52	46	55	71	72	77	77	72	55	55	46
1490	51	46	55	70	69	74	77	71	53	54	42
1495	52	50	55	70	69	73	73	69	51	55	46
1500	57	57	59	73	70	72	71	68	52	57	50
1505	54	52	56	70	71	74	68	70	55	57	56
1510	53	47	54	66	72	74	64	71	58	58	64
1515	52	47	54	64	67	70	61	69	57	58	64
1520	60	52	60	66	67	66	60	67	58	59	66
1525	56	51	56	67	63	71	62	67	56	60	69
1530	58	51	54	66	60	76	65	67	53	61	71
1535	58	54	57	68	61	72	65	68	55	61	56
1540	55	54	58	68	63	68	65	67	55	60	42
1545	57	58	58	70	66	71	60	67	60	66	51
1550	57	59	56	71	69	73	53	64	63	69	59
1555	56	54	55	70	68	72	62	65	57	65	50
1560	52	45	50	67	65	68	68	63	49	59	39
1565	63	51	54	69	66	70	69	65	57	63	53
1570	70	53	55	71	66	69	67	62	61	64	64
1575	67	54	57	72	69	73	64	67	57	62	59
1580	64	56	59	75	73	77	61	71	55	60	55
1585	67	50	56	76	74	77	71	72	57	55	53
1590	71	46	54	77	76	77	81	72	61	52	52
1595	64	52	58	78	75	80	80	75	59	54	53
1600	55	56	60	79	74	82	79	79	58	55	54
1605	56	53	57	76	72	81	78	80	55	52	54
1610	62	54	58	75	72	80	81	84	55	52	56
1615	56	53	56	73	72	78	81	83	57	49	51
1620	51	52	53	71	71	74	81	84	59	47	49
1625	52	48	52	72	70	77	78	79	57	47	54
1630	50	44	50	73	70	78	76	75	55	47	61
1635	49	48	52	73	71	74	74	73	53	46	52
1640	48	53	54	72	73	68	71	68	48	44	40
1645	51	51	54	74	75	71	75	68	50	45	44

Runway 11-29

LIFT FROM EXISTING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
1100	56	57	69	80	78	74	71	69	65	66	60
1105	58	61	74	84	80	76	72	72	68	63	53
1110	63	63	78	88	80	78	73	74	69	60	47
1115	61	71	85	89	84	74	74	77	68	60	47
1120	57	76	91	87	86	70	75	79	65	62	48
1125	55	82	93	92	83	73	73	76	68	63	52
1130	61	89	94	95	78	75	71	73	70	62	54
1135	62	91	91	89	79	74	70	72	69	64	66
1140	68	99	84	83	79	71	68	69	65	64	47
1145	70	96	84	81	77	71	72	72	71	65	45
1150	69	88	82	77	74	70	75	75	69	63	49
1155	64	93	87	82	73	70	70	72	63	54	48
1160	67	98	92	87	71	70	66	70	61	52	49
1165	69	97	92	82	70	72	70	70	61	56	47
1170	73	96	93	84	69	72	74	71	62	52	57
1175	61	98	93	84	72	72	73	70	58	49	50
1180	71	101	93	85	76	72	72	69	57	48	47
1185	49	94	94	87	76	71	69	67	59	47	44
1190	66	91	95	89	77	69	65	66	61	45	41
1195	59	87	97	93	80	71	66	66	59	46	47
1200	57	80	97	95	82	72	65	65	54	44	51
1205	49	80	97	94	82	77	66	65	54	45	49
1210	57	80	96	91	82	80	67	65	55	46	50
1215	58	85	100	97	89	79	73	65	56	44	49
1220	61	89	105	103	98	79	80	66	59	43	50
1225	65	88	100	100	99	83	81	69	57	43	49
1230	65	84	90	95	98	87	82	72	55	45	47
1235	73	79	85	91	97	91	86	74	57	48	53
1240	65	71	76	85	93	94	88	74	56	50	57
1245	70	66	68	81	92	97	88	75	57	52	53
1250	68	59	61	80	92	100	86	73	56	51	47
1255	63	57	60	77	95	99	89	73	59	52	50
1260	54	58	60	76	99	97	91	70	59	50	52
1265	52	55	66	83	101	97	88	73	57	48	53
1270	53	53	72	89	102	97	84	75	55	46	53
1275	49	52	72	90	100	98	87	77	52	46	54
1280	49	51	69	88	96	97	88	78	48	46	54
1285	49	53	71	88	93	95	88	76	50	45	50
1290	46	54	69	87	89	92	86	72	50	43	45
1295	47	53	69	88	87	89	81	73	49	44	49
1300	48	51	68	86	84	86	76	72	47	46	53
1305	50	49	63	82	80	85	76	72	47	45	48
1310	50	46	56	76	75	84	76	70	48	44	42
1315	64	48	64	77	80	88	82	79	50	40	53
1320	60	53	73	79	84	93	89	88	53	38	68
1325	49	51	68	80	86	93	90	83	52	45	57
1330	40	49	65	83	89	93	91	77	51	53	49
1335	42	50	67	81	86	93	89	77	56	57	53
1340	41	53	69	82	84	92	85	76	60	61	56
1345	56	56	71	80	81	88	84	78	64	63	59
1350	65	60	73	81	79	83	82	80	66	66	63
1355	59	57	66	77	75	81	82	79	62	60	64
1360	58	55	60	75	70	79	81	77	57	53	64
1365	56	56	61	74	71	78	79	77	59	56	64
1370	48	56	61	72	71	76	75	76	61	59	61

Runway 11-29

LIFT FROM EXISTING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
825	51	44	51	71	69	77	63	72	54	57	72
830	56	46	50	74	70	83	66	77	60	62	76
835	53	44	54	76	70	81	67	73	55	57	75
840	50	42	57	79	70	78	70	70	51	54	76
845	52	47	57	83	73	76	68	69	51	56	78
850	53	52	56	83	73	75	68	69	52	59	78
855	59	53	60	85	74	85	72	71	54	58	74
860	63	52	64	86	75	93	74	73	58	56	72
865	59	54	61	85	77	86	72	74	59	53	72
870	55	55	59	84	79	78	69	74	60	49	73
875	61	59	58	83	75	78	66	73	60	47	72
880	66	60	56	79	70	77	62	72	57	44	71
885	61	55	53	76	72	77	60	68	55	46	72
890	57	50	51	72	73	75	59	65	54	49	73
895	58	56	51	74	73	75	65	70	55	48	77
900	56	62	51	76	73	75	69	74	56	47	81
905	55	62	53	76	74	77	65	71	56	47	76
910	56	63	55	76	74	79	62	71	59	49	72
915	48	60	56	72	68	76	64	69	55	50	69
920	41	58	57	68	64	74	66	68	51	52	65
925	41	57	56	72	66	73	68	68	55	52	64
930	40	56	55	75	69	74	70	68	57	52	61
935	47	57	57	73	71	74	76	73	58	53	59
940	50	54	59	71	74	74	81	76	58	53	55
945	58	53	58	73	71	76	81	74	56	52	54
950	69	52	59	75	71	77	81	71	55	52	53
955	61	51	58	76	75	78	80	72	55	50	57
960	59	51	57	80	80	79	80	74	55	49	60
965	58	51	58	80	83	82	81	73	54	44	61
970	60	52	59	81	86	87	82	70	53	37	61
975	53	48	62	78	87	83	76	68	49	38	57
980	44	42	65	75	87	78	71	68	48	40	56
985	40	46	61	68	79	80	70	66	49	40	48
990	42	51	56	60	69	80	68	64	51	42	44
995	46	52	60	62	69	84	68	65	54	46	46
1000	49	51	59	62	67	85	67	65	55	45	46
1005	47	49	60	67	75	88	73	73	59	54	47
1010	46	49	63	74	81	92	77	79	61	63	50
1015	48	50	64	74	78	89	79	78	63	63	53
1020	51	51	63	73	73	87	78	76	65	62	57
1025	44	46	63	72	73	87	75	72	64	58	55
1030	40	44	64	70	72	88	72	69	63	57	53
1035	45	44	62	69	73	81	72	65	61	56	51
1040	48	44	58	65	72	74	73	62	60	54	47
1045	45	43	58	65	72	74	69	62	57	53	50
1050	42	44	58	67	72	75	64	60	51	52	51
1055	42	44	59	69	75	73	66	64	53	50	52
1060	44	43	61	71	78	71	67	67	53	47	54
1065	47	42	63	72	77	72	69	66	50	46	52
1070	49	40	65	72	76	73	70	64	44	45	52
1075	57	47	66	75	75	75	70	66	49	49	53
1080	57	53	66	77	74	76	69	67	54	52	54
1085	49	57	68	79	77	74	68	71	58	57	59
1090	46	60	69	80	78	71	67	73	62	61	62
1095	43	58	69	80	79	73	70	71	63	62	58

Runway 11-29

LIFT FROM EXISTING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
550	66	59	57	70	69	78	62	64	47	46	47
555	64	58	58	70	69	77	66	68	47	44	48
560	65	56	58	69	69	76	71	71	47	42	50
565	61	50	54	68	70	74	70	71	47	45	51
570	58	45	51	69	72	74	71	71	47	47	53
575	57	50	50	68	71	74	67	73	48	46	54
580	56	55	50	68	70	75	64	77	51	46	58
585	58	52	53	66	70	75	66	73	52	46	56
590	63	51	58	65	70	76	68	71	53	48	54
595	68	52	55	67	70	76	69	70	51	49	52
600	69	56	54	72	72	76	70	70	51	51	51
605	61	51	54	71	74	75	71	76	57	52	47
610	58	48	54	73	79	75	70	82	62	53	42
615	56	51	55	74	74	74	69	78	62	55	44
620	55	54	56	76	70	74	68	72	63	57	49
625	63	50	54	77	70	74	72	72	58	58	55
630	75	46	52	77	72	74	76	72	54	58	63
635	70	49	52	77	73	76	77	72	53	57	57
640	70	52	52	78	74	77	78	70	52	56	54
645	76	54	53	77	75	75	75	73	53	55	52
650	80	53	51	74	75	74	72	76	56	57	54
655	70	52	53	74	73	76	71	75	57	55	56
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665	64	53	55	75	71	76	68	69	54	51	60
670	62	52	51	72	71	75	67	64	50	48	58
675	65	55	52	71	71	74	65	64	48	47	55
680	67	57	51	72	71	73	65	66	48	48	51
685	67	55	54	70	73	77	67	69	51	50	57
690	69	53	56	67	72	81	70	74	54	51	63
695	74	54	56	67	72	76	68	75	53	49	61
700	73	54	55	66	71	71	67	75	50	45	58
705	69	51	55	67	74	74	65	75	54	47	59
710	62	47	54	67	76	77	64	73	58	49	56
715	67	50	54	68	72	76	64	73	56	49	60
720	70	51	52	67	68	75	62	72	53	48	63
725	78	54	57	70	70	77	65	73	52	53	65
730	84	56	61	72	72	78	67	74	51	59	65
735	66	55	64	70	74	76	66	71	49	52	57
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745	54	55	61	69	75	77	65	68	49	51	53
750	57	55	56	70	75	79	64	65	47	53	52
755	55	54	55	70	74	78	64	72	50	54	51
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780	58	52	54	69	67	76	67	65	50	50	49
785	55	50	54	70	65	73	66	65	49	53	54
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805	49	53	55	68	67	74	65	63	49	54	64
810	48	51	57	67	65	75	62	60	48	57	64
815	47	47	54	66	66	72	61	64	48	54	65
820	44	43	51	68	67	71	60	67	47	51	66

Runway 11-29

LIFT FROM EXISTING

CH	-22.30	-18.00	-13.50	-9.00	-4.50	0.00	4.50	9.00	13.50	18.00	22.30
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280	48	42	51	67	69	77	70	69	53	48	58
285	49	45	49	68	69	77	70	69	51	47	50
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295	51	49	49	72	71	82	68	71	51	44	41
300	54	50	50	74	75	87	69	73	52	44	43
305	55	49	49	77	76	84	72	73	52	47	51
310	58	49	49	81	76	82	77	75	52	49	59
315	55	46	50	76	79	83	76	76	54	50	56
320	52	42	49	72	81	83	74	77	56	51	55
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335	62	40	46	67	63	86	73	66	46	44	50
340	53	38	50	65	71	82	73	67	49	49	49
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350	56	46	46	77	70	84	80	69	54	45	52
355	54	48	50	77	72	88	79	69	57	49	51
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365	54	46	49	69	74	85	73	66	56	50	57
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375	57	45	48	63	72	80	67	63	50	50	58
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410	60	50	61	71	75	86	68	70	52	49	62
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435	48	51	49	68	69	75	67	64	48	43	59
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450	54	49	55	70	74	80	68	62	47	49	59
455	55	49	52	71	74	78	64	62	50	45	62
460	59	51	50	72	74	77	61	65	52	40	63
465	57	52	53	74	75	78	62	67	53	41	59
470	58	53	56	77	75	80	63	68	54	42	56
475	58	56	58	75	74	80	63	70	54	45	55
480	58	58	60	74	72	81	63	72	54	49	54
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490	63	60	61	74	70	75	63	66	56	49	53
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525	61	55	56	68	69	76	70	72	48	43	55
530	61	54	51	67	63	76	68	70	45	39	54
535	61	55	52	67	64	75	69	71	47	42	50
540	60	54	52	65	62	73	70	72	49	45	46
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Runway 11-29

LIFT FROM EXISTING

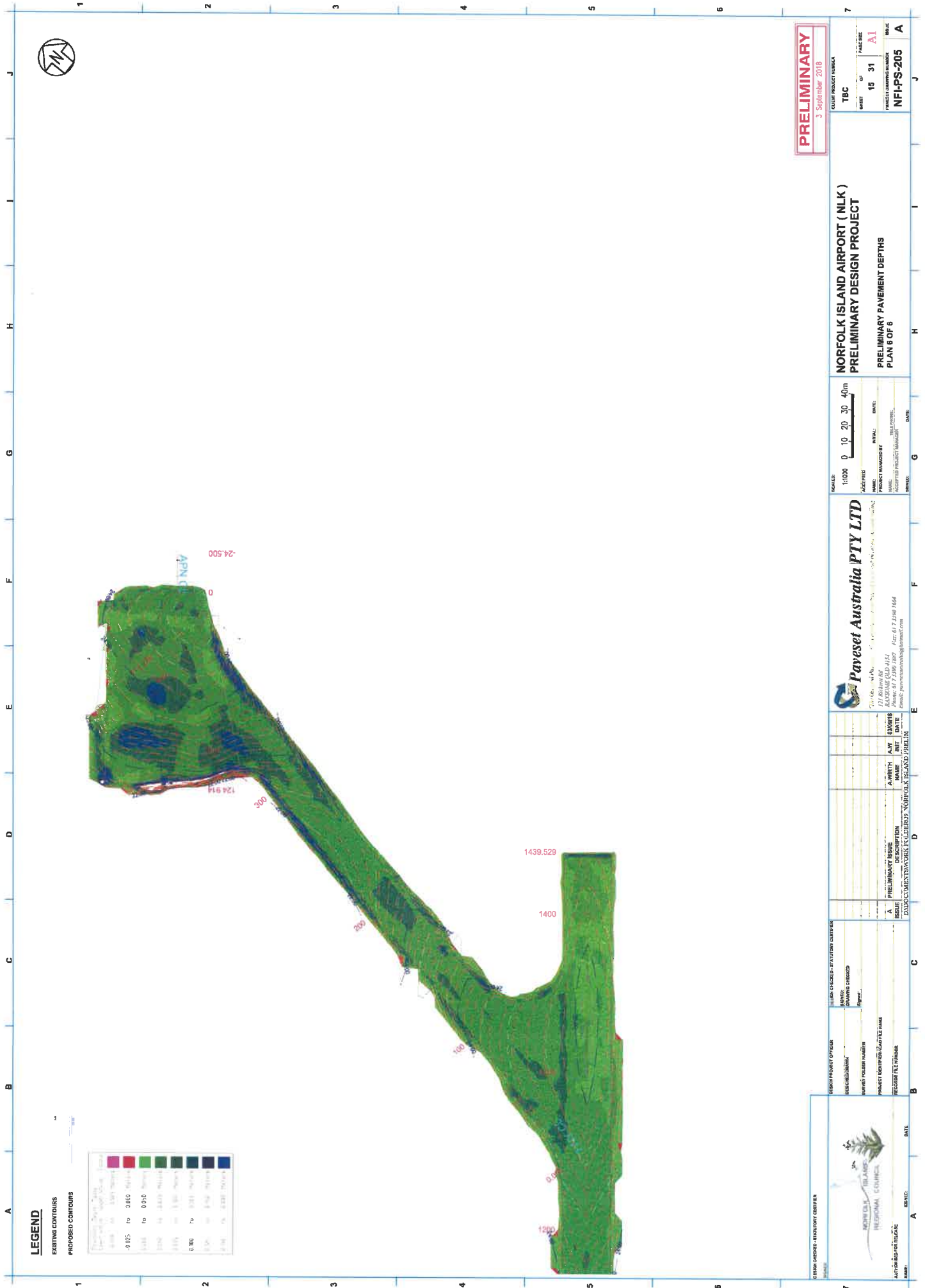
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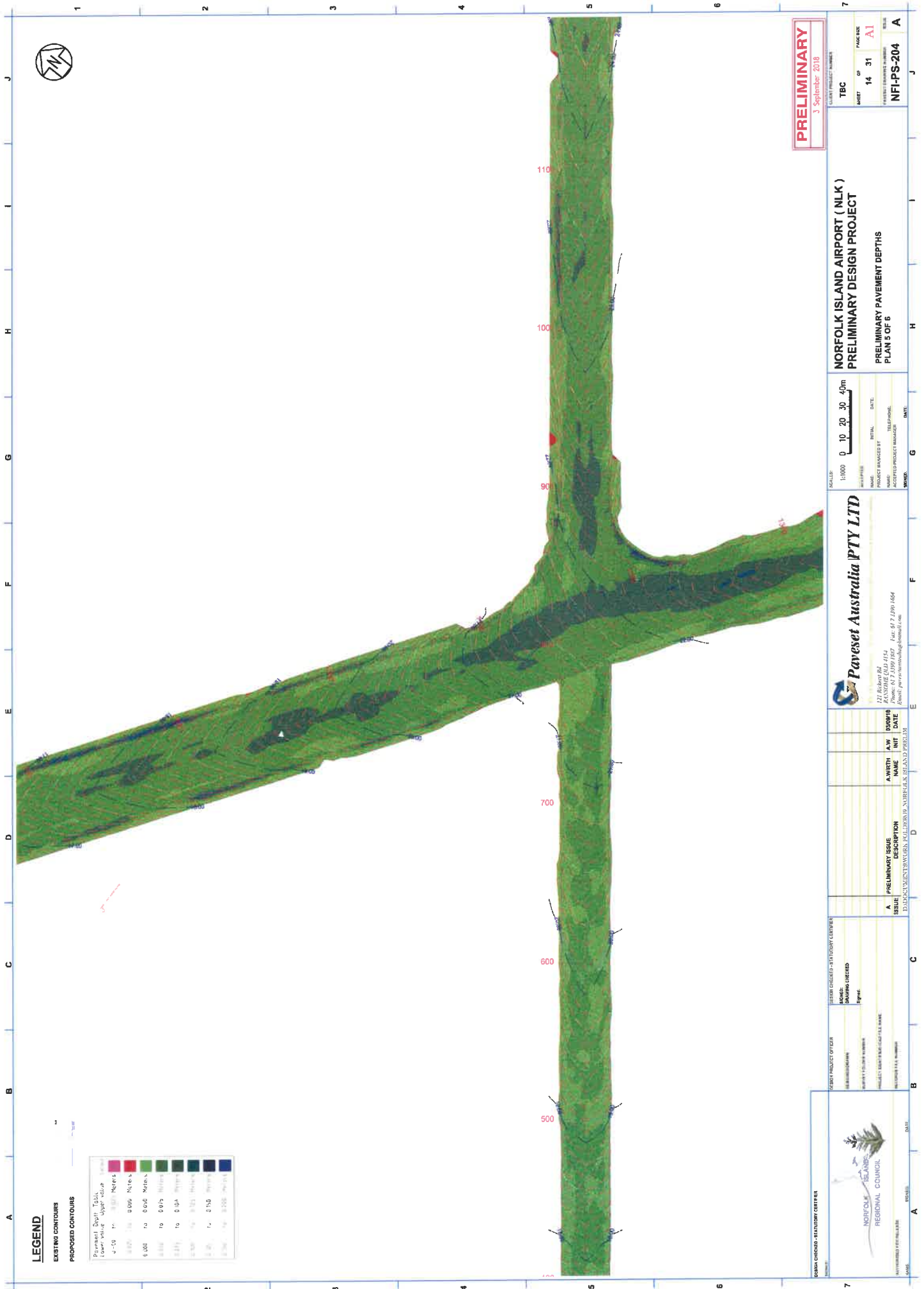


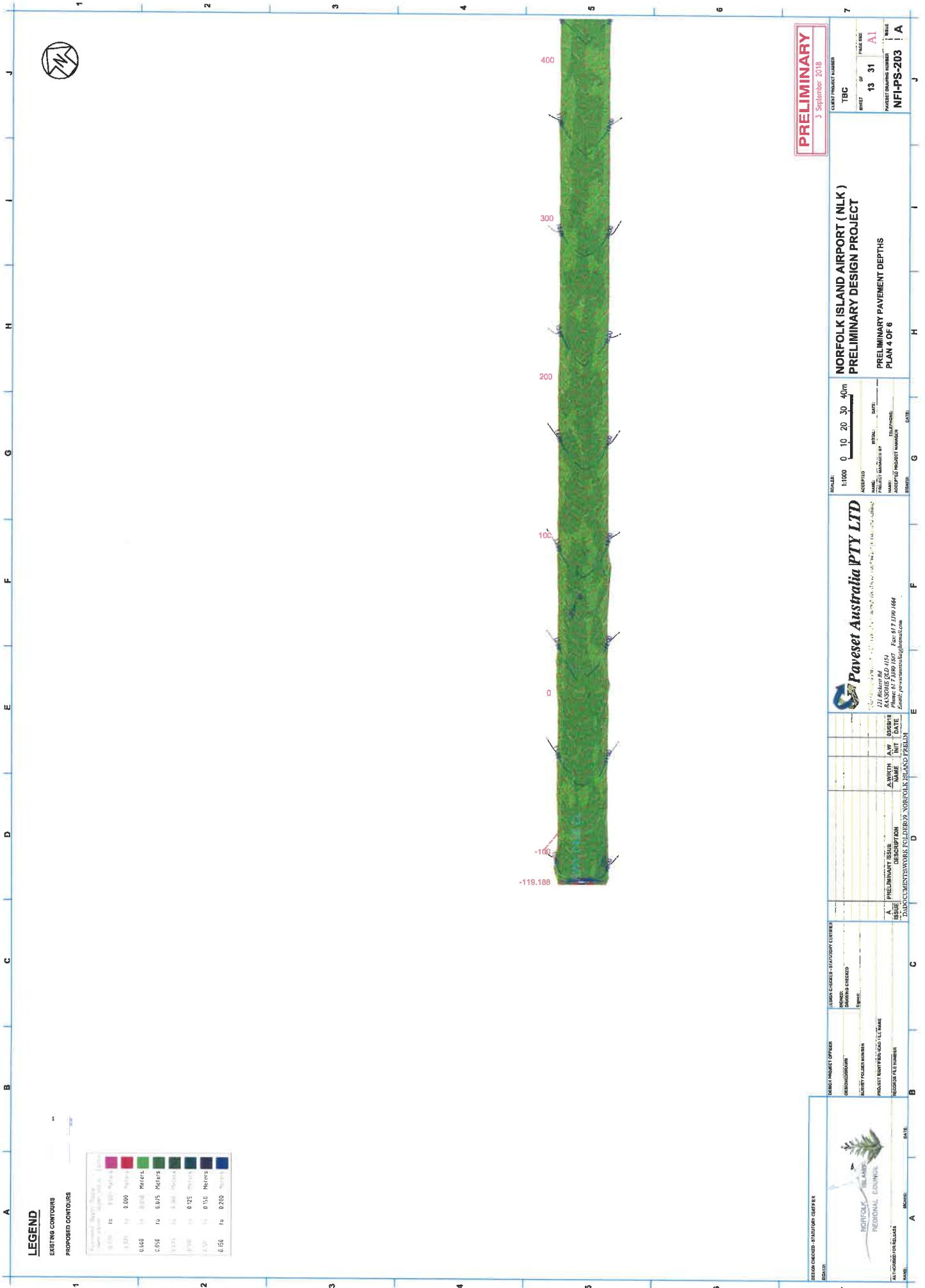
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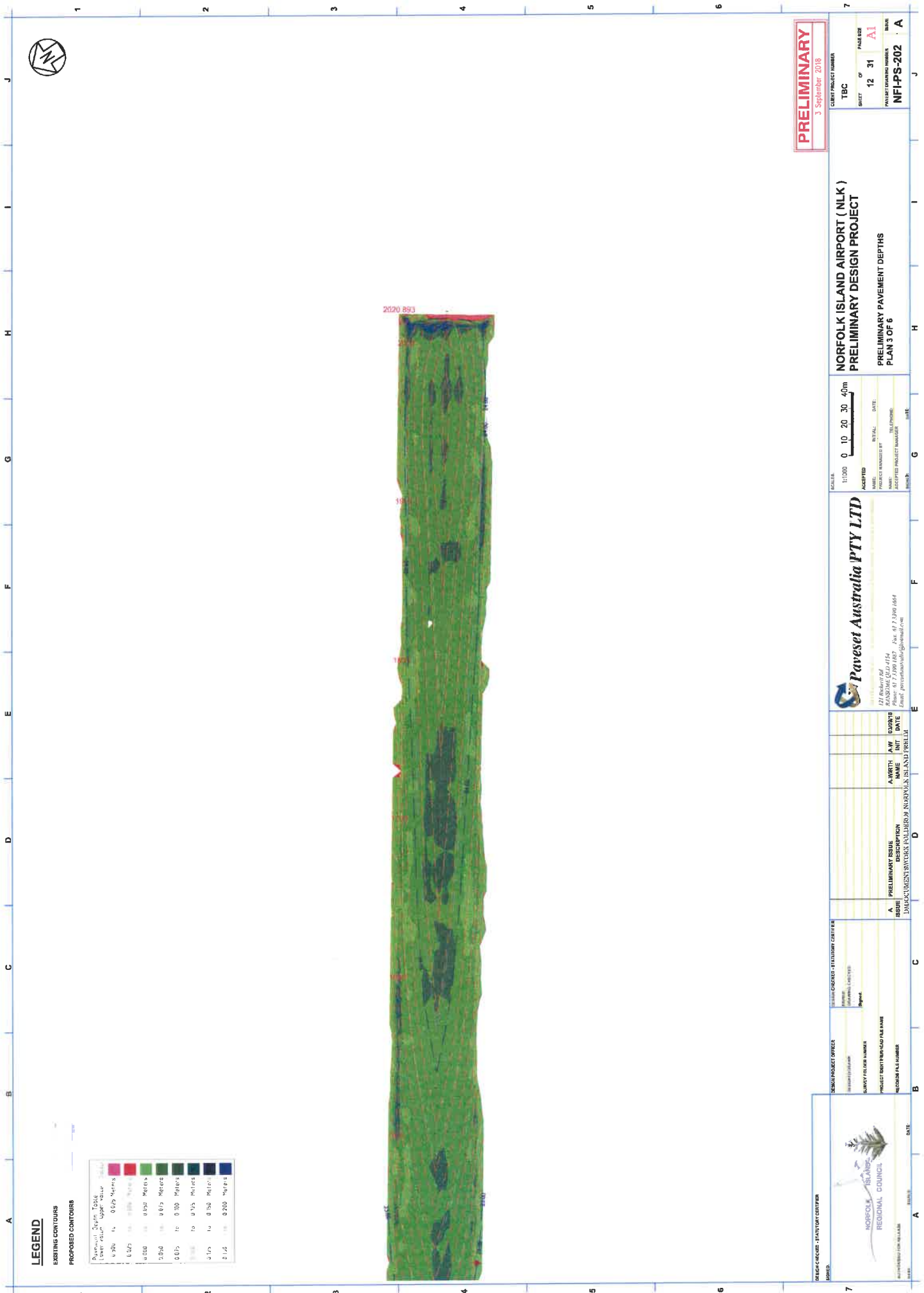
APPENDIX 5

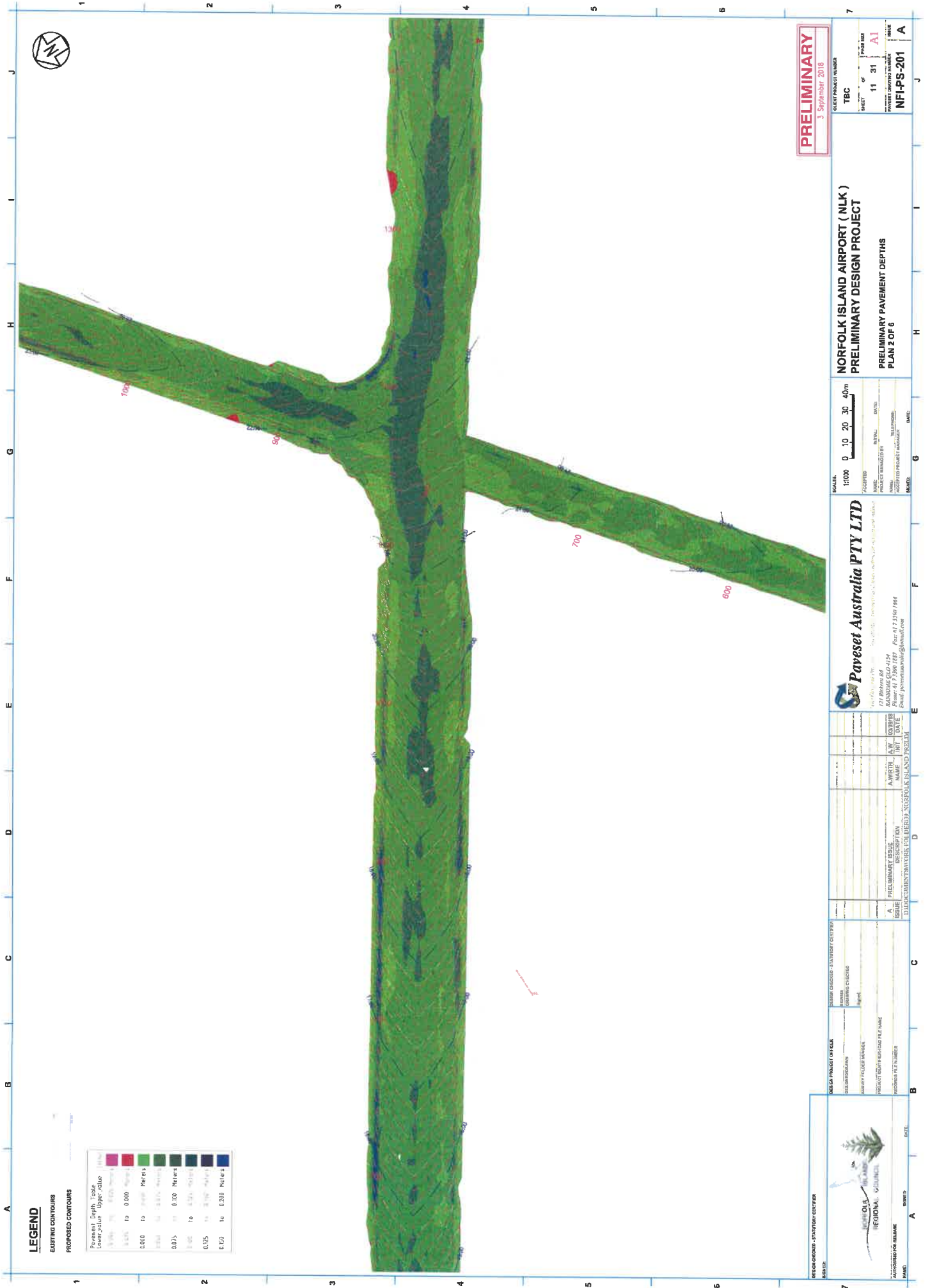
Preliminary geometric design











PRELIMINARY
3 September 2018

**NORFOLK ISLAND AIRPORT (NILK)
PRELIMINARY DESIGN DEPTHS**

**PRELIMINARY PAVEMENT DEPTHS
PLAN 2 OF 6**

SCALE:	1:1000	0 10 20 30 40m
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NAME:	NAME OF PROJECT	DATE:
NAME:	NAME OF PROJECT	DATE:

Paveset Australia PTY LTD

121 Belmont Rd
RANDOLPH QLD 4114
Phone: 08 7330 1887
Email: paveset@paveset.com.au

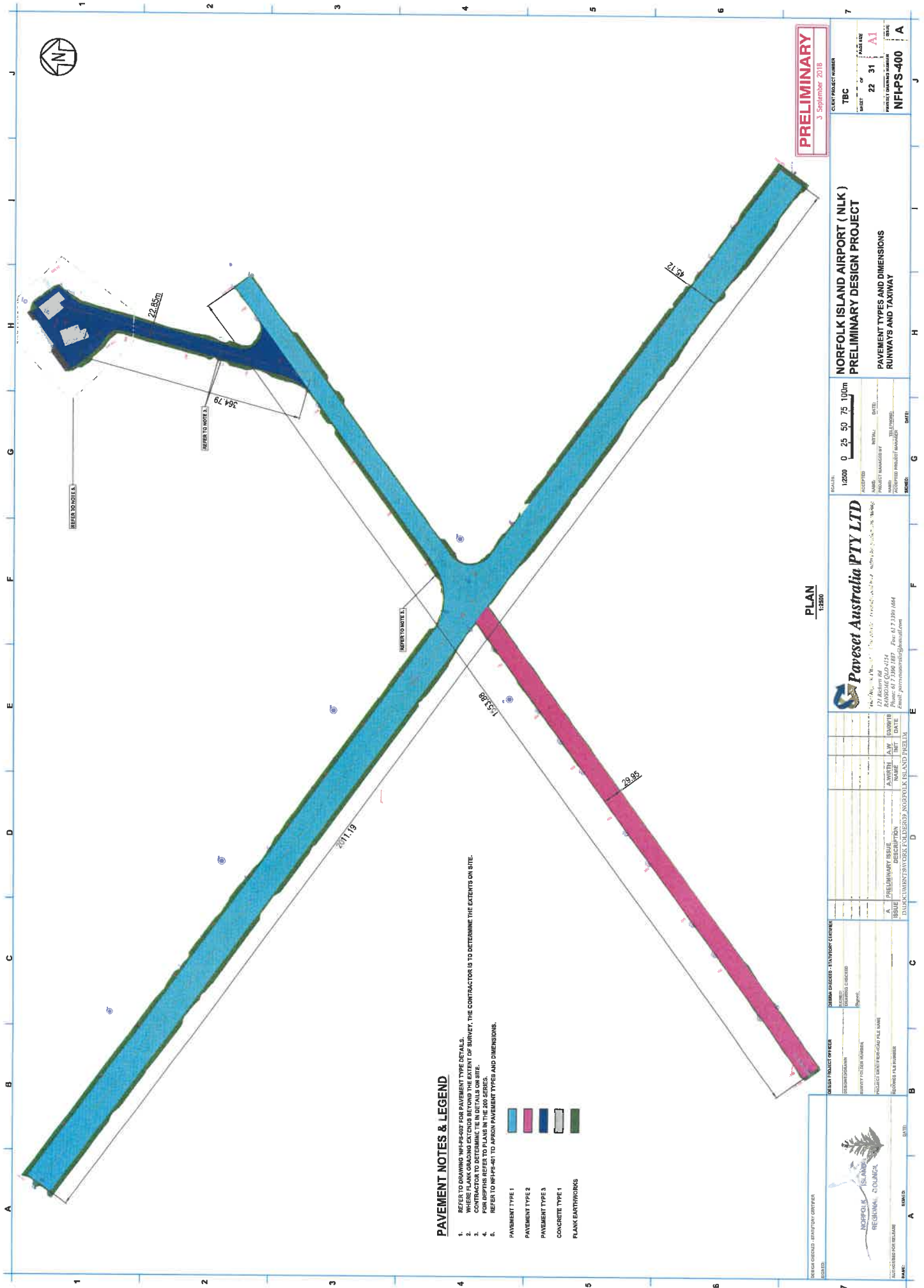
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A	PRELIMINARY ISSUE			

PROJECT	CLIENT	DATE	BY	CHECKED

NORFOLK ISLAND REGIONAL COUNCIL

121 Belmont Rd
RANDOLPH QLD 4114
Phone: 08 7330 1887
Email: paveset@paveset.com.au





PAVEMENT NOTES & LEGEND

1. REFER TO DRAWING NFI-PS-4007 FOR PAVEMENT TYPE DETAILS.
2. PAVEMENT GRADING EXTENDS BEYOND THE EXTENT OF SURVEY. THE CONTRACTOR IS TO DETERMINE THE EXTENTS ON SITE.
3. CONTRACTOR TO VERIFY ALL DIMENSIONS AND LOCATIONS OF PAVEMENT TYPES AND DIMENSIONS.
4. FOR REVISIONS REFER TO PLANS IN THE 200 SERIES.
5. REFER TO NFI-PS-401 TO APRON PAVEMENT TYPES AND DIMENSIONS.

- PAVEMENT TYPE 1
- PAVEMENT TYPE 2
- PAVEMENT TYPE 3
- CONCRETE TYPE 1
- FLANK EARTHWORKS

PRELIMINARY
3 September 2018

NORFOLK ISLAND AIRPORT (NLK)
PRELIMINARY DESIGN PROJECT

PAVEMENT TYPES AND DIMENSIONS
RUNWAYS AND TAXIWAY

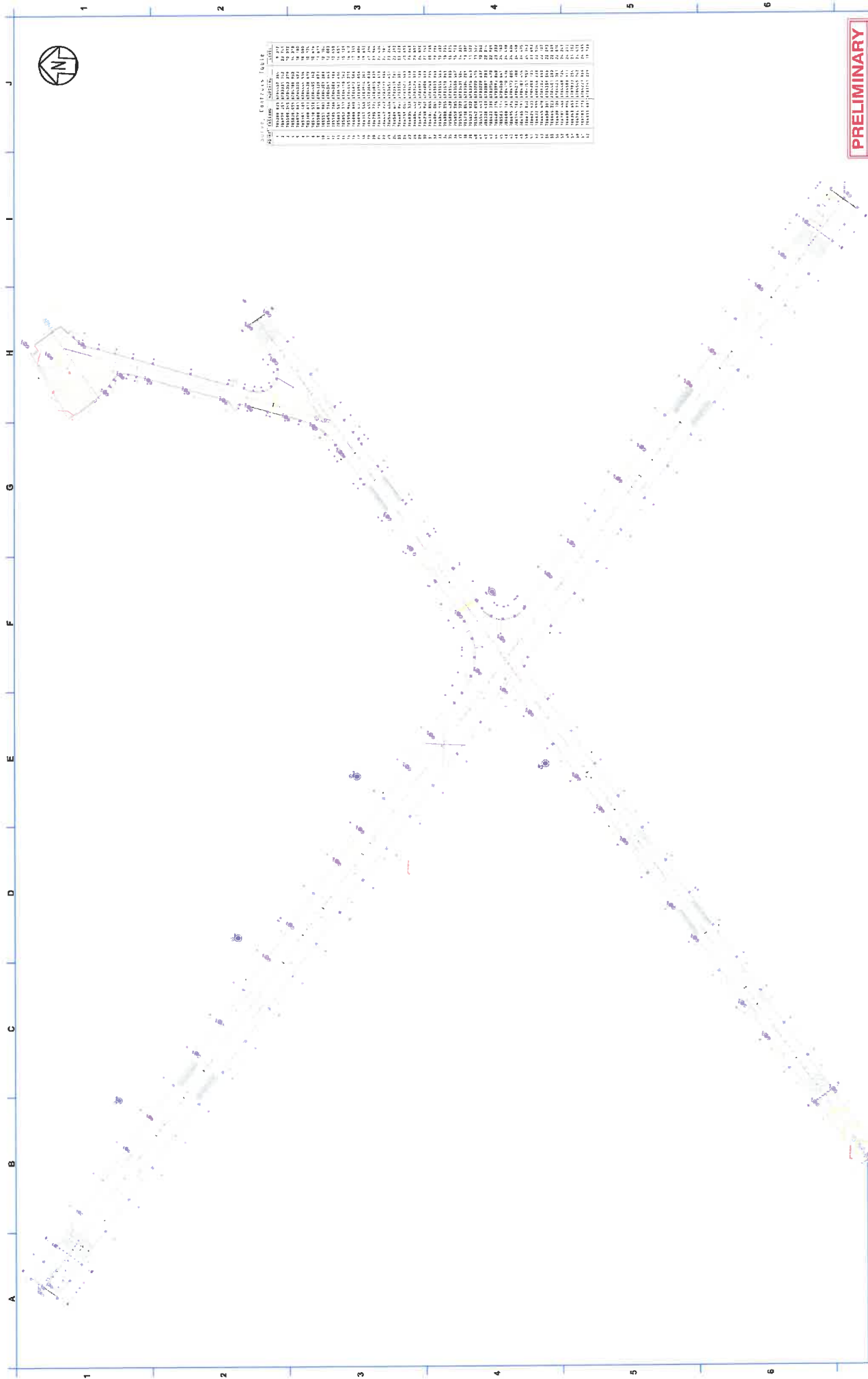
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PROJECT MANAGER						
PROJECT MANAGER						
PROJECT MANAGER						

Paveset Australia PTY LTD
121 Belconn Rd
RAVENSHEED QLD 4119
Ph: 07 3389 1444
Email: paveset@paveset.com.au

ISSUE	DESCRIPTION	DATE	INITIALS
A	PRELIMINARY ISSUE		

DESIGN CHECKED	DESIGN CHECKED	DESIGN CHECKED	DESIGN CHECKED

NAME	DATE

[illegible]

<p>PRELIMINARY 3 September 2018</p>		<p>CLIENT PROJECT NUMBER TBC</p>		<p>PAGE SIZE A1</p>		<p>PROJECT NUMBER NUMBER NFI-S-002</p>		<p>ISSUE J</p>	
<p>NORFOLK ISLAND AIRPORT (NLIK) PRELIMINARY DESIGN PROJECT</p>		<p>FULL EXISTING SITE WITH SURVEY CONTROL</p>		<p>SCALE 1:2500</p>		<p>0 25 50 75 100m</p>		<p>H</p>	
<p>Paveset Australia PTY LTD</p>		<p>ACCEPTED</p>		<p>DATE</p>		<p>DATE</p>		<p>G</p>	
<p>12 Bickford Rd Sydney NSW 1565 Phone: 61 2 9390 1684 Email: paveset@paveset.com.au</p>		<p>PROJECT MANAGED BY ILLUMINO</p>		<p>DATE</p>		<p>DATE</p>		<p>F</p>	
<p>PRELIMINARY ISSUE</p>		<p>DATE</p>		<p>DATE</p>		<p>DATE</p>		<p>E</p>	
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APPENDIX 4

Preliminary design drawings

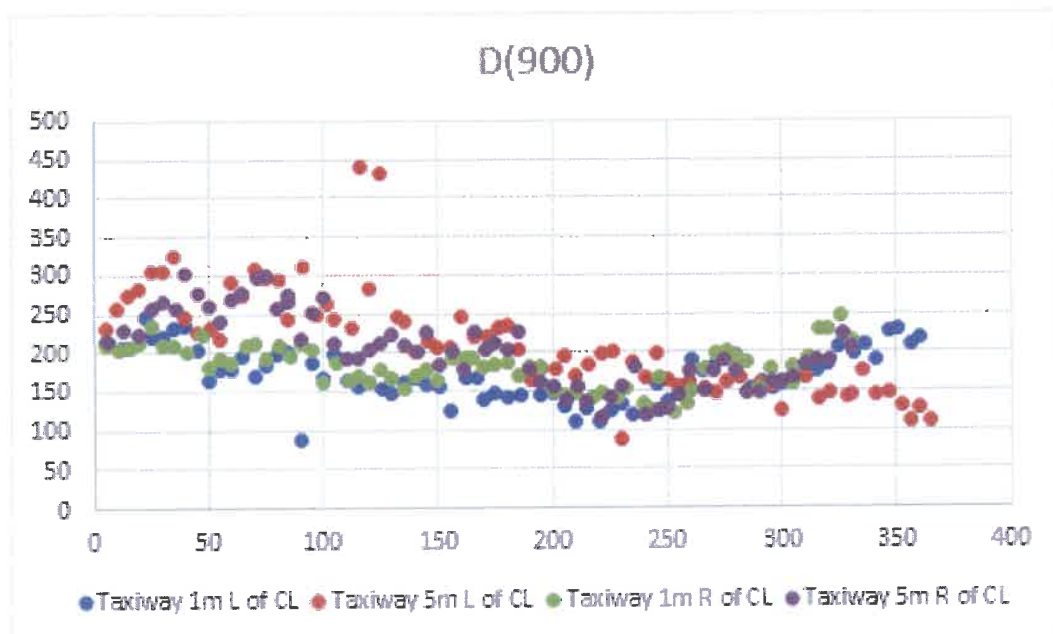
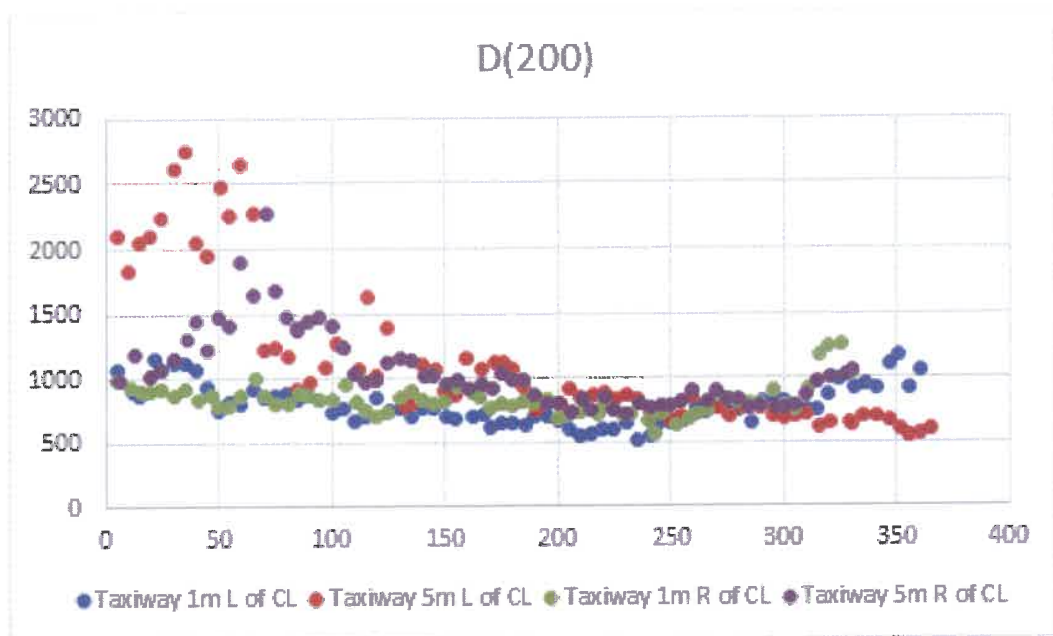


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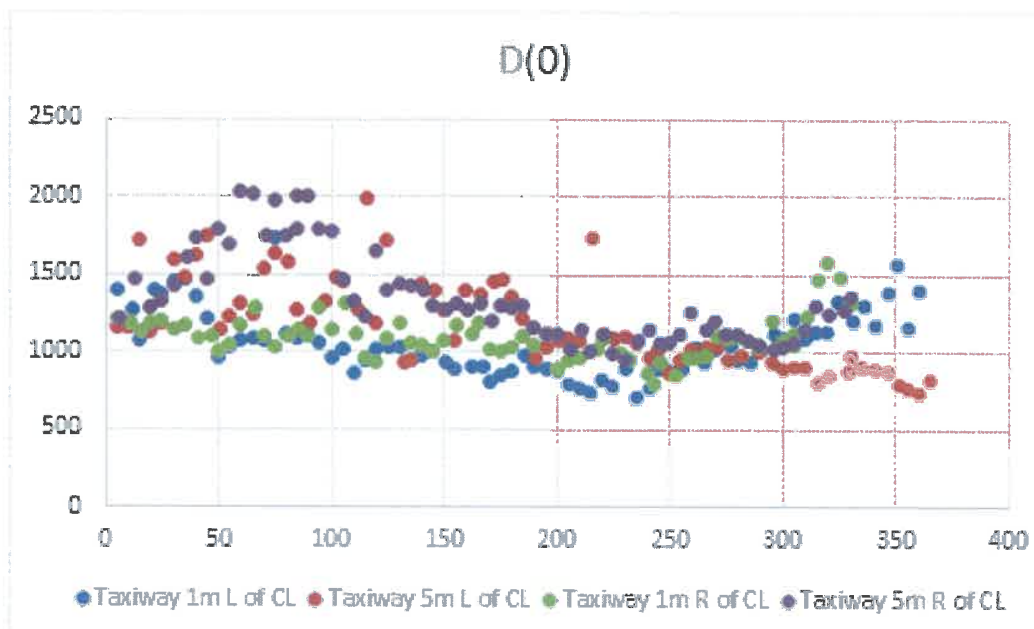
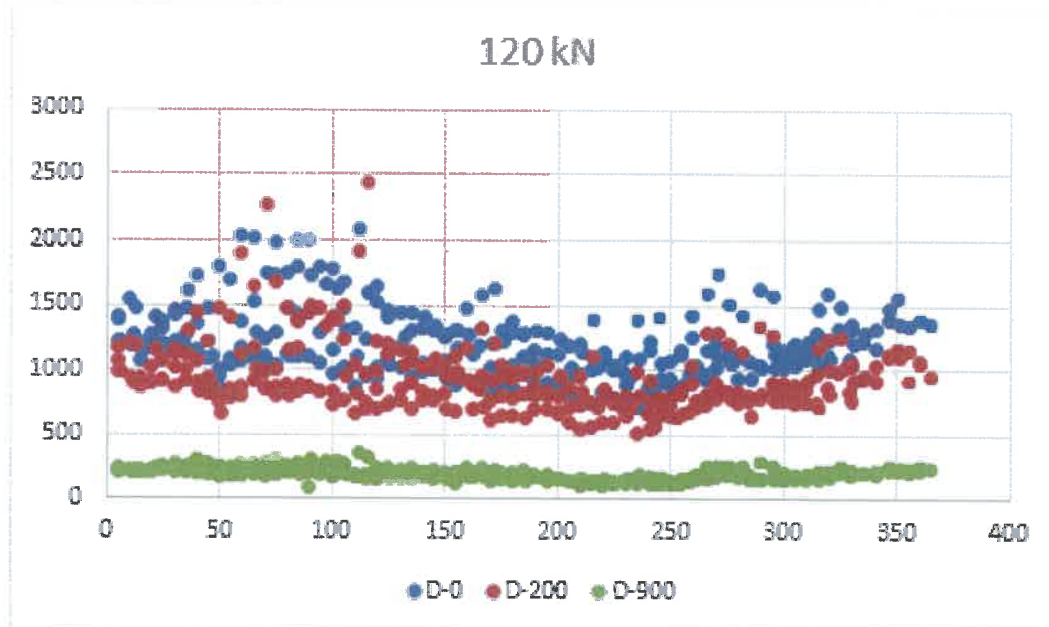
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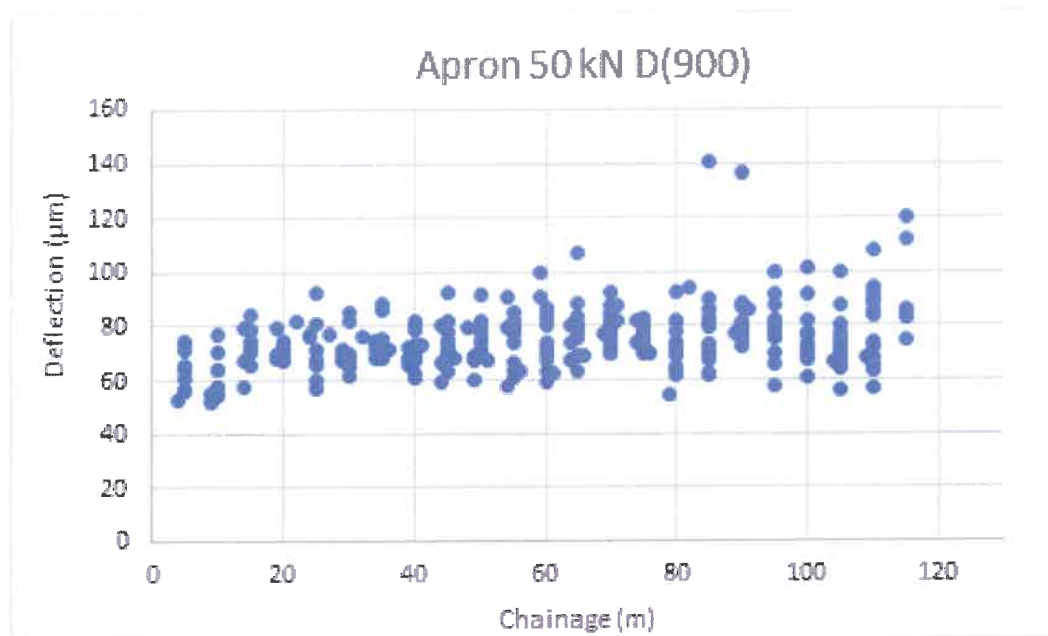
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APPENDIX 3 Taxiway 120 kN Deflection Data





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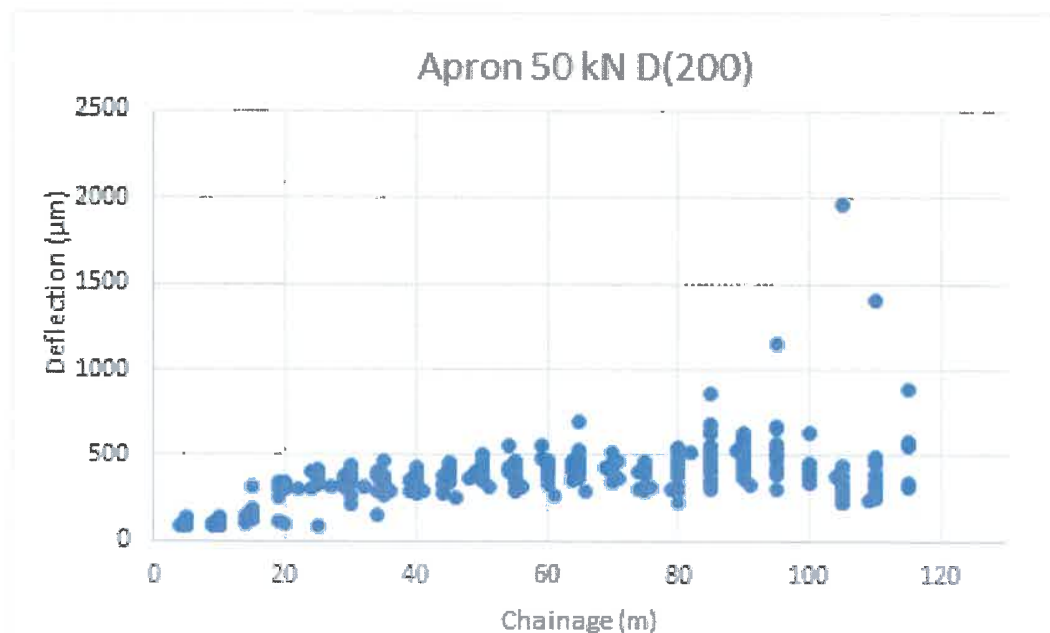
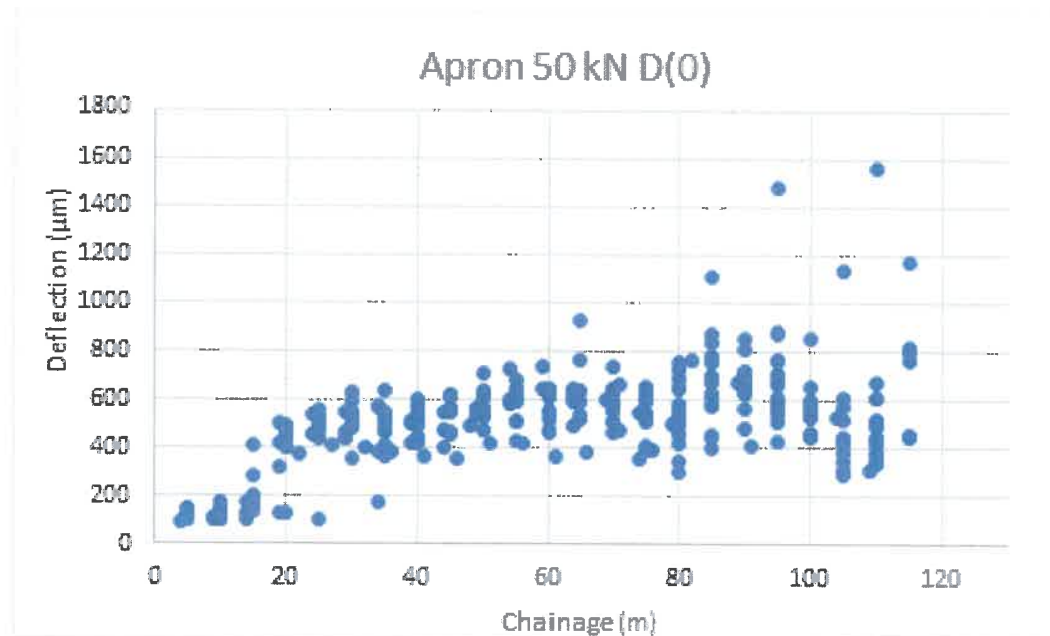


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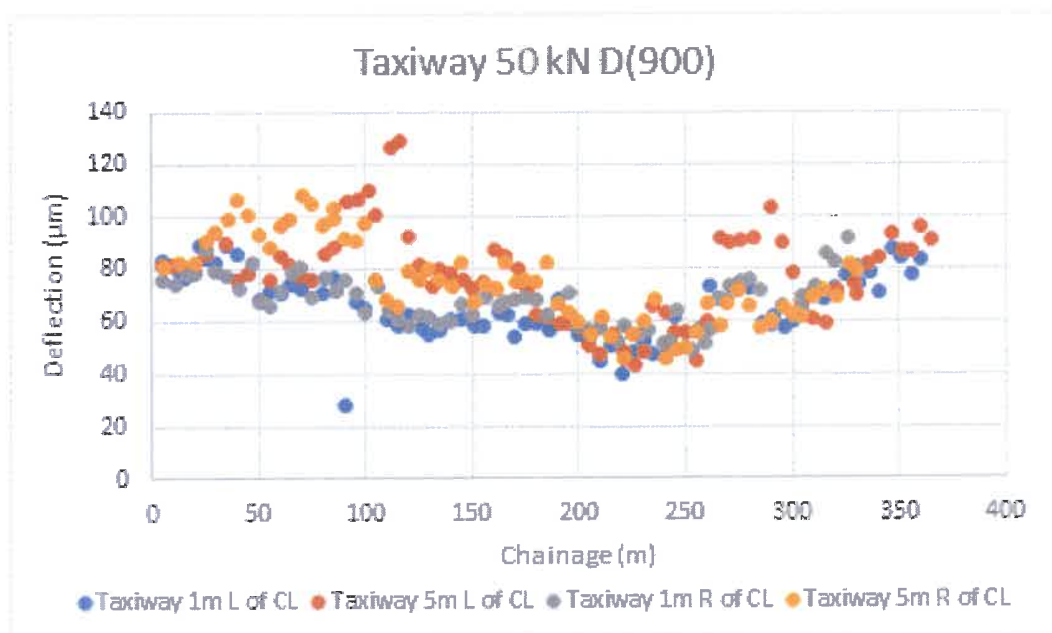
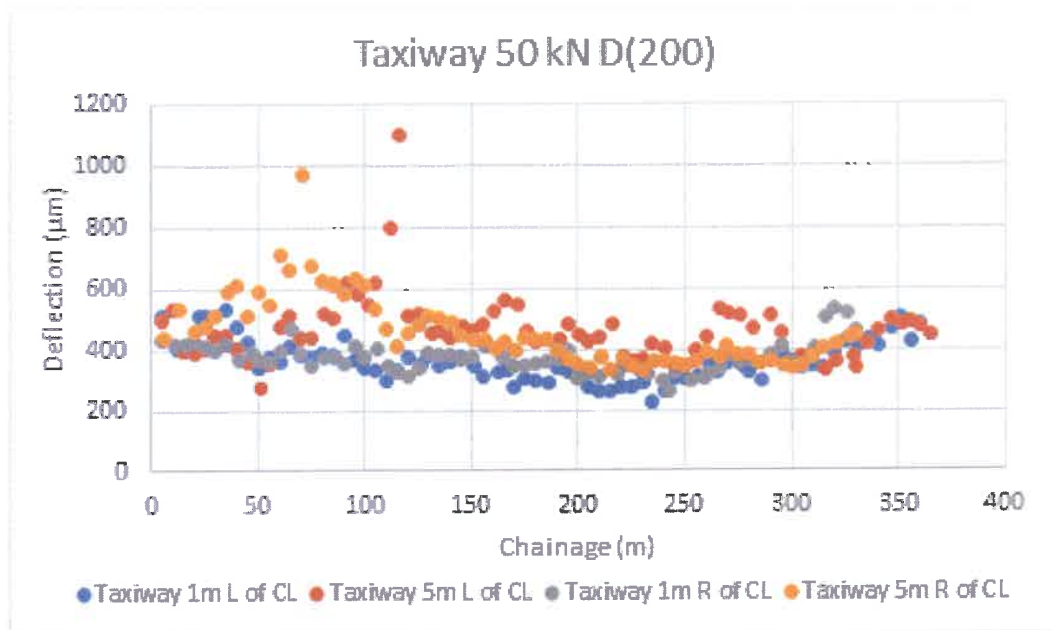
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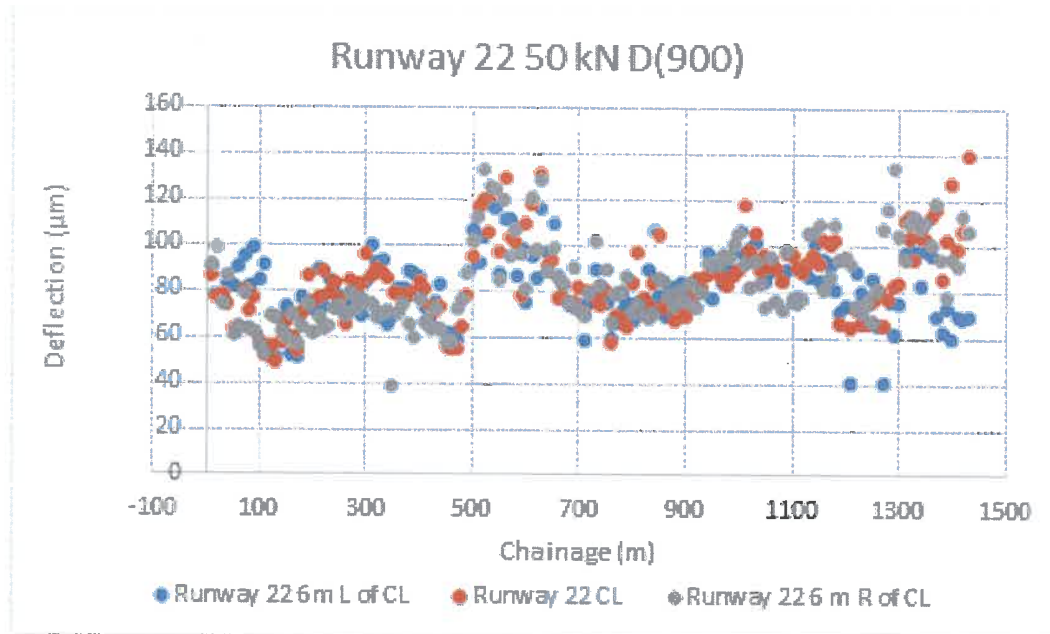


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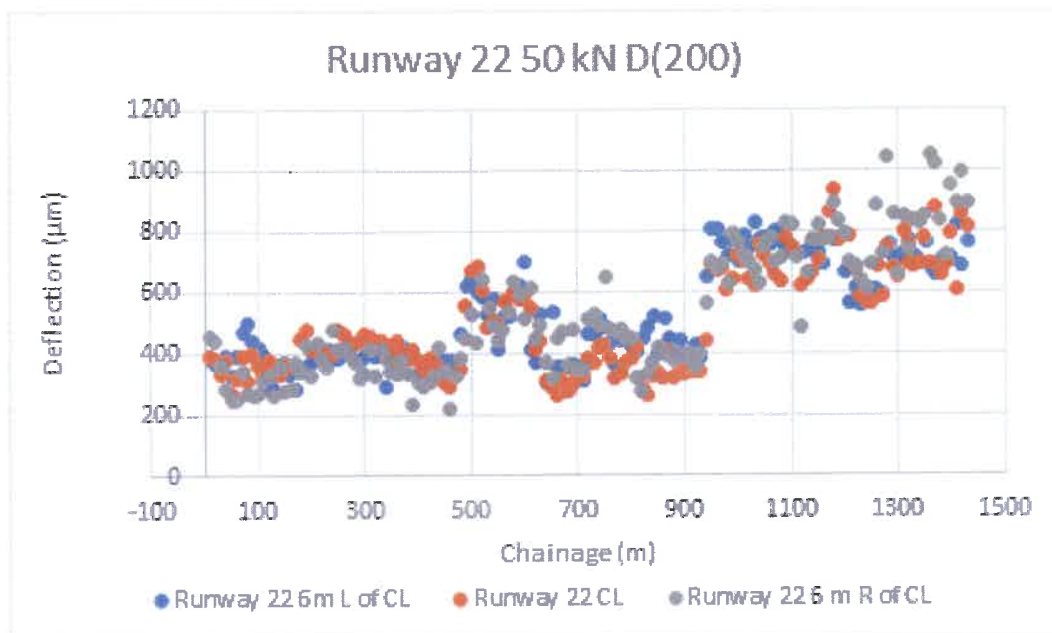
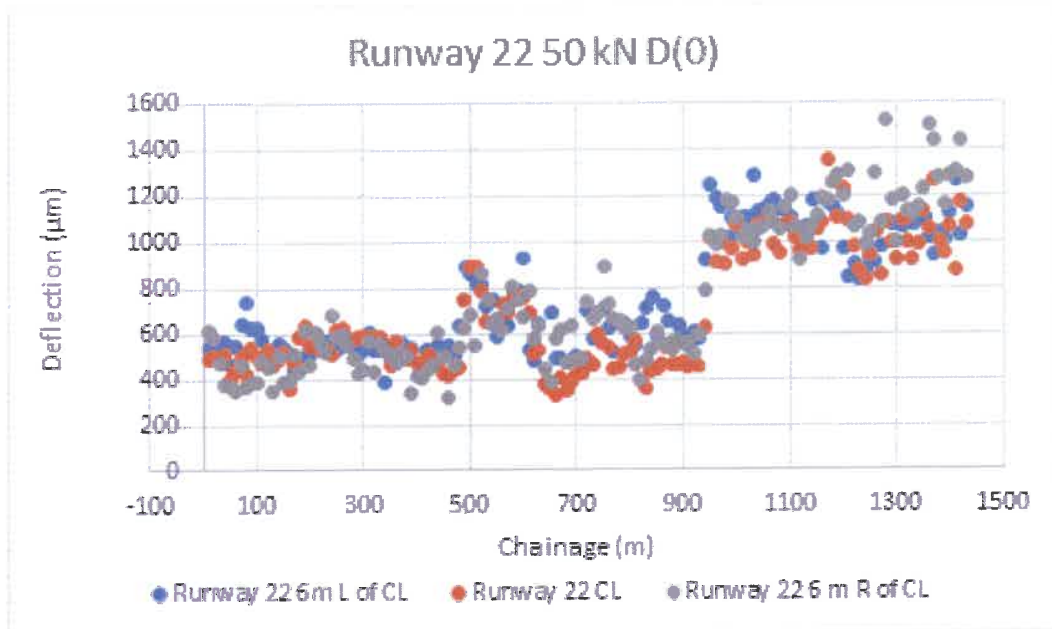


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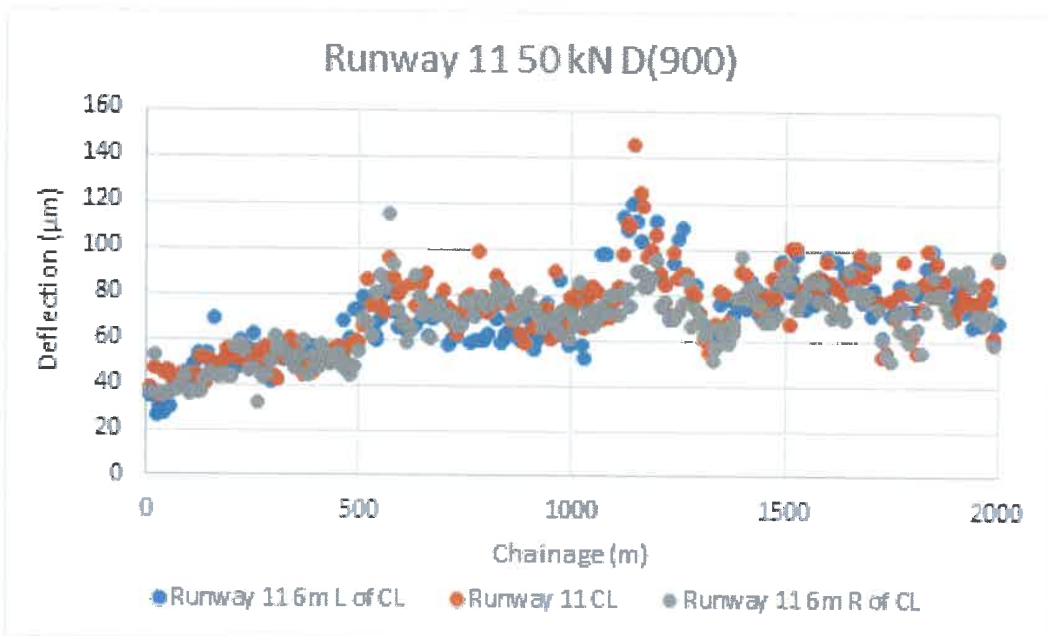
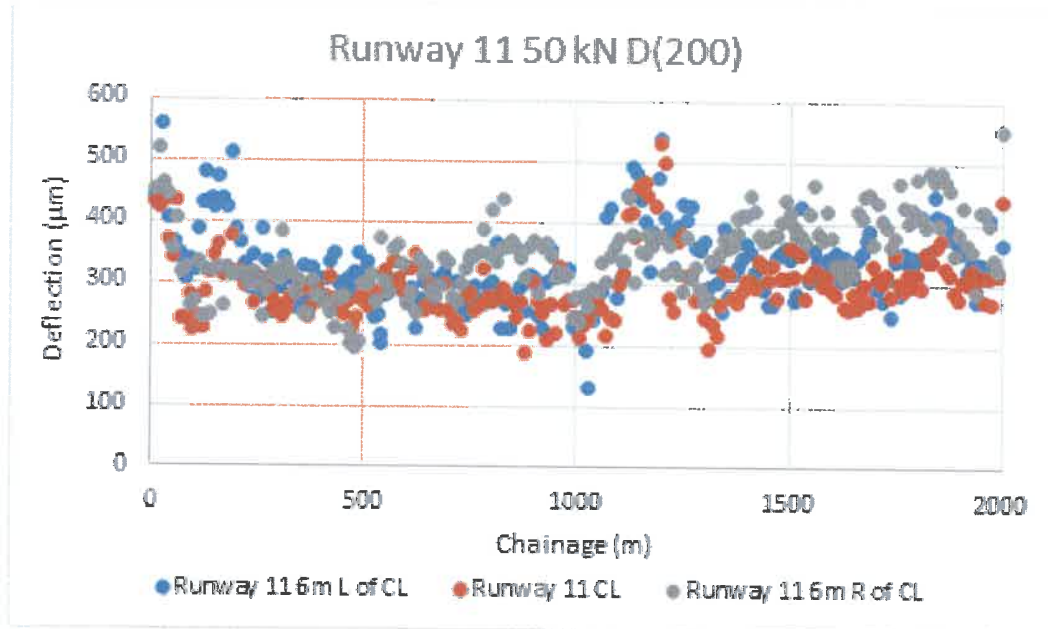


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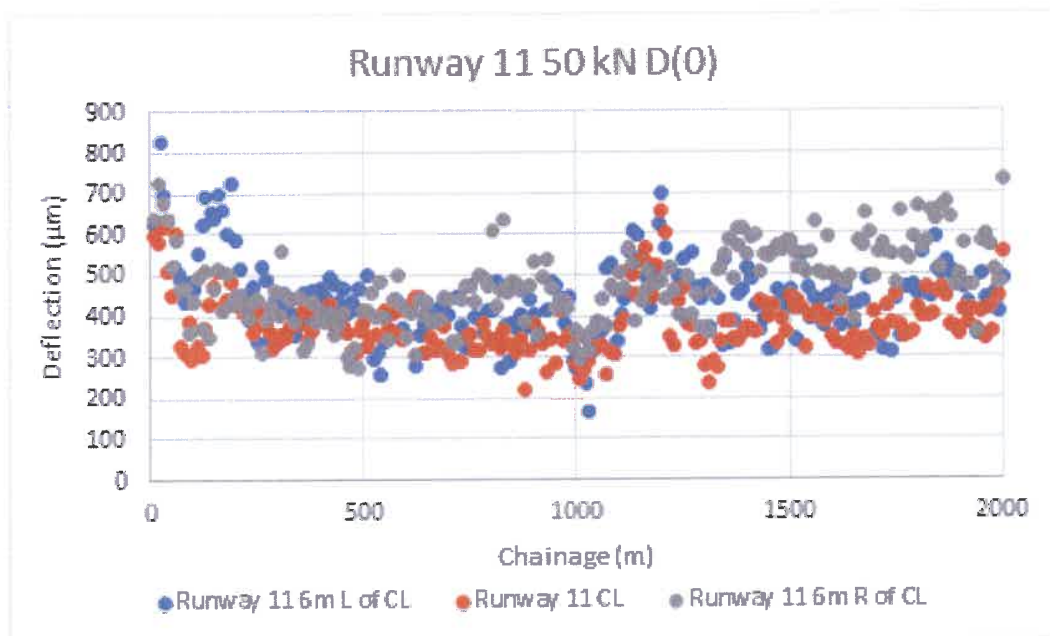




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Summary of response to FWD loading

Pavement Area	Average Modulus inferred from FWD results (MPa)			Subgrade CBR inferred from FWD results
	Asphalt	Base Course	Sub-base Course	
Runway 11/29	3666	235	140	26
Runway 04/22	2773	114	147	28
Taxiway	2565	149	250	63
Apron	2727	156	230	56





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Summary of subgrade CBR values
TO BE CONFIRMED



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APPENDIX 2

Geotechnical investigation summary

Intrusive pavement testing layer thicknesses (mm)

Hole	Location	Asphalt	Base	Sub-base	Total
1	Runway	180	220	100	500
2	Runway	140	260	200	600
3	Runway	120	130		250
4	Runway	140	110	250	500
5	Runway	150	250	300	700
6	Runway	150	250	300	700
7	Runway	100	150		250
8	Runway	150	400		550
9	Runway	160	240	200	600
10	Runway	140	210	200	550
11	Runway	120	180		300
12	Runway	100	150		250
13	Runway	150	250	200	600
14	Cross	130	170	350	650
15	Cross	130	290	180	600
16	Taxiway	100	400	200	700
17	Taxiway	100	450	450	1000
18	Taxiway	100	250	450	800
19	Taxiway	100	150	550	800
20	Taxiway	100	150	450	700



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Photo 7. Surface cracking in the parking apron pavement.



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Photo 5. Taxiway rutting with cracking on taxiway, treated with bitumen emulsion based product.



Photo 6. Severe asphalt deformation on parking apron Bay 1.



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Photo 3. Area of top down cracking treated with bitumen emulsion based product.



Photo 4. Severe ravelling and erosion of paving run joint.



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APPENDIX 1

Demonstrative Photos



Photo 1. General surface in areas of good condition.

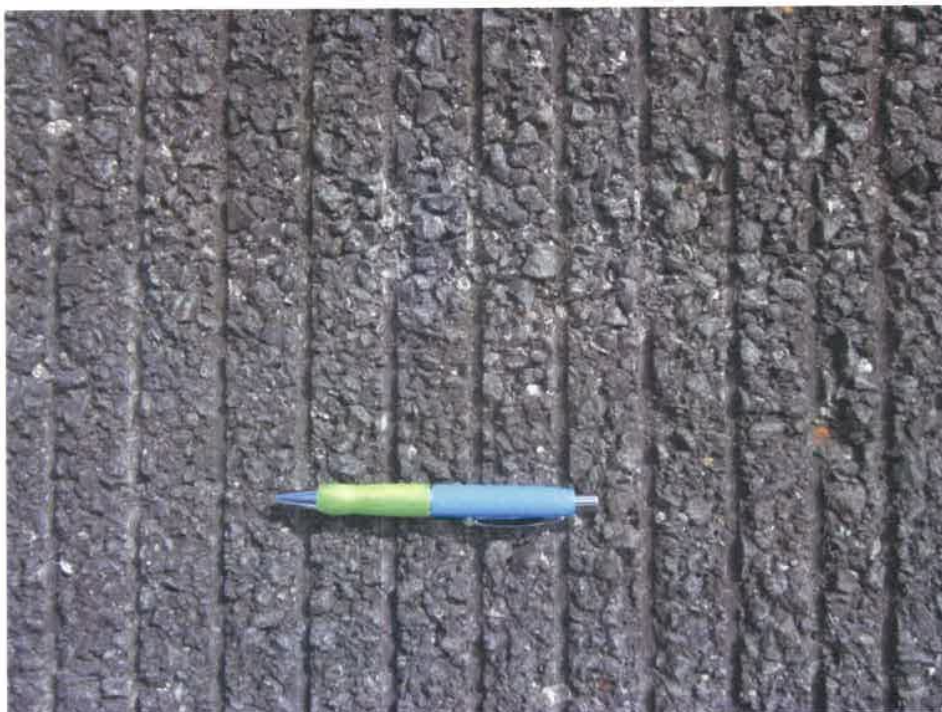


Photo 2. Pavement surface in areas of significant erosion.



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- Asphalt overlay tie-in to grassed flanks, terminal frontage and adjacent pavements.

If you have any queries regarding this report, please do not hesitate to contact the undersigned.

Prepared by:

A handwritten signature in black ink, appearing to read 'G. White', is positioned above the printed name.

Greg White
PhD, MEng, ME, MTech, BE(Civil), CPEng, RPEQ
Airport Pavement Engineering Specialists Pty Ltd
6 September 2018

Appendices:

1. Demonstrative photos.
2. Geotechnical investigation summary.
3. Taxiway 120 kN deflections.
4. Preliminary design drawings.
5. Preliminary geometric design.



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locations are less than the 1.0% required by MOS 139. Between approximate CH 500 and CH 1000, the cross fall becomes flatter and transitions to a one-way fall through the intersection with Runway 11/29.

- Taxiway. Generally, a one-way cross-fall, with a low point at the approximate mid-length.
- Apron. Generally falling from east to west, as well as a significant area falling back towards the terminal, which is not permitted under MOS 139.

The existing pavement system includes a number of geometric non-compliances, most notably:

- Inconsistent cross fall and generally flat Runway 04/22.
- Apron falling back towards the terminal.
- Generally long transitions and low cross fall approaching the intersection of the two runways.
- Line of site limitations for Runway 11/29.
- Taxiway longitudinal slope is high.

This project will primarily rectify cross fall issues, but will not address the overall shape of the apron, the longitudinal slope of the taxiway or the runway intersections. Nor will it significantly improve the variable shape of the cross runway. However, it will not increase the severity of any existing non-compliance and will aim for economically reasonable betterment wherever possible. This approach is consistent with CASA's expectations for existing pavement resurfacing work.

The asphalt overlay was designed to meet the minimum thicknesses stated above and to improve the overall shape of the pavement surfaces to the extent considered economically practical. The resulting average asphalt thicknesses were:

- Runway 11/29. 71 mm.
- Runway 04/22 (north of Runway 11/29). 66 mm.
- Runway 04/22 (south of Runway 11/29). 51 mm.
- Taxiway. 78 mm.
- Apron. 83 mm.

The concrete pads are to be constructed to the surface level as the average of the surrounding asphalt levels after the asphalt overlay.

Preliminary design drawings are in Appendix 4 and the existing and design surface levels are in Appendix 5.

Estimate of quantities

From the preliminary design the finished in place quantities were estimated to be:

- Asphalt patching. 200 m³ or 500 tonnes.
- Asphalt overlay. 11,000 m³ or 26,000 tonnes.
- Concrete. 2,400 m² or 1,500 m³.
- Flank filling. 38,000 m² or 1,200 m³.
- Grooving. 86,000 m² (Runway 11/29 only).

Unresolved issues

A number of issues remains unresolved and these will need to be determined during subsequent design stages:

- Confirmation of arrangement for the apron parking positions.
- Subgrade CBR for design purposes and associated concrete pavement thickness design.
- Details for backfilling the over-excavation around the concrete pads.



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distress. Runway 04/22 (south of Runway 11/29) is only trafficked by light aircraft and thinner resurfacing is recommended.

Retaining the inferred CBR 7% for the subgrade, COMFAA 3.0 indicates that a 4.5 MPa flexural strength concrete thickness of 370 mm is required for the aircraft parking position pads. As a factor of safety, 400 mm of concrete is recommended.

Pavement structures

From the above analysis, the pavement structures are recommended to be, after structural patching:

- Runway 11/29, Runway 04/22 (north of main runway), taxiway and apron. Asphalt overlay, minimum 50 mm at the runway edges, minimum 60 mm in the trafficked area.
- Runway 04/11 (south of main runway). Asphalt overlay, minimum 40 mm, except rolled over to 25 mm at the runway edges, primarily for economics and to minimise flank filling.
- New concrete pads. 400 mm of 4.5 MPa flexural strength concrete over 150 mm bound sub-base.

Existing pavement asphalt patching

Regarding the isolated taxiway distress, the intrusive geotechnical testing and FWD survey indicated that:

- The taxiway was similar in thickness, or thicker, than the runway pavements.
- The taxiway had a higher deflection around the location of the distress (Appendix 3):
 - Maximum deflections were significantly higher at around the chainage of the surface distress.
 - The 5 m offsets show significantly higher deflection than the 1 m offsets.
 - The D(900) values, generally indicative of subgrade condition, were reasonably consistent along and across the taxiway, generally decreasing towards the RPT apron.
 - The D(200) values, generally indicative of base course condition, were high where the maximum deflection was high, which was also coincidental with the surface distress.

Consequently, it is concluded that the isolated taxiway distress is likely to be associated with base course deficiency resulting in internal pavement densification and deflection. As a result, it is recommended that the repair be constrained to a 200 mm deep asphalt patch, prior to asphalt overlay. At the least, this will stiffen the pavement and better protect the residual base course and subgrade from future loading.

For other asphalt distress, it is likely that the issue is limited to the surface layer and a nominal 60 mm deep patch (prior to asphalt overlay) is recommended.

Geometric design

The majority of the pavement work is asphalt resurfacing. An engineering survey of the airfield was undertaken in June 2018. The survey indicates that the existing surface shape varies over the airport, with:

- Runway 11/29. Generally, an appropriate symmetrical two-way cross fall from CH 0 to CH 960, with generally 1.2-1.8% transverse slope from the western end. Then flattening (to 0.8% transverse slope) and transitioning to an almost one-way cross fall through the intersection with Runway 04/22 (CH 740-770) before returning to a steeper (1.6-2.0%) symmetrical two-way cross fall by CH 1400, which continues to the eastern end of the runway.
- Runway 04/22. Generally, two-way cross fall, but with unusually high frequency of changes in transverse slope across the width of the runway. The transverse slope varies greatly and some



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Geotechnical investigation

In June and August 2018, geotechnical investigations were undertaken, including:

- Core bores and augers through the existing pavement and subgrade, including:
 - 13 locations on Runway 11/29.
 - 2 locations on Runway 04/22, between Runway 11/29 and the taxiway.
 - 4 locations on the taxiway.
 - 5 locations on the apron.
- Laboratory testing of recovered material, including:
 - Asphalt. Moisture susceptibility by modulus ratio.
 - Base course. Field moisture content, OMC and MDD, grading and fines plasticity.
 - Subbase. Field moisture content, OMC and MDD, grading and fines plasticity.
 - Subgrade soaked CBR. Field moisture content, OMC and MDD and soaked CBR.
- Falling weight deflectometer survey of all pavement areas.

A summary of the results is in Appendix 2. The geotechnical investigation results indicate that:

- Existing asphalt thickness. Ranged from 100 mm to 180 mm across the airfield, with the two runways around 130 mm, and the taxiway and apron around 100 mm, on average. The asphalt all appeared to be in sound condition.
- Existing base and sub-base courses. A number of different base courses were encountered, including natural gravel, crushed gravel and some thin cemented layers. In a number of locations, no sub-base was reported. However, given the similar appearance of the sub-base and the natural subgrade, it is expected that the two were simply not differentiable. Although the layer thicknesses varied, the combined pavement thickness generally exceeded 600 mm and was greatest in the taxiway and apron areas.
- Subgrade material and CBR. TBC.

Pavement thickness design

Preliminary geotechnical advice was that the subgrade CBR was likely to be 3-4%. Using COMFAA 3.0, CBR 4% requires a flexible pavement thickness of 870 mm. This compares to the 600 mm that was found on site. If the subgrade was truly CBR 4%, the pavements would be predicted to structurally fail by rutting in just 8 months.

Consequently, the modelled CBR was increased until the current aircraft (B737-800 at 70 tonnes) was predicted to fail the pavement in 8,000 departures. The resulting 'effective' minimum CBR was 7%. This higher subgrade CBR was also supported by the CBR values inferred from the FWD testing, which was consistently much higher. Even if the FWD results do not reflect a higher subgrade CBR, the results at least imply the pavement is significantly stronger than otherwise expected.

At subgrade CBR 7%, a pavement thickness of 680 mm is required for 8,000 departures of the A321-200 at 74 tonnes. This implies an additional 80 mm of pavement is required. This additional thickness is deemed to consist of granular material and using published material equivalence factors, a minimum overlay thickness of 60 mm in the traffic areas of the pavement is recommended. For construction efficiency, a reduction to 50 mm is recommended in the outer areas of the high strength pavement.

Runway 11/29, Runway 04/22 (between the north runway and the taxiway), the taxiway and apron should be treated the same. Furthermore, areas of existing distress should be milled and patched ahead of the overlay, between 60 mm and 200 mm, depending on the location and nature of



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Interim maintenance

In June and July 2018 maintenance activities were undertaken to retain the pavement in an operational condition. The maintenance included:

- Construction of two (approximately 3 m by 3 m and 200 mm deep) concrete pads where the B737-800 aircraft have caused significant upheaval (Photo 8).
- Crack sealing with emulsion based crack sealer.
- Surface filling with sand filled emulsion based preservation product.

These interim works were only intended to reduce the risk of the pavements becoming unserviceable before a major rehabilitation could be scheduled, planned and executed.

Scope of rehabilitation work

A major rehabilitation is planned for 2019. The scope of the physical works will include:

- Shallow and deep asphalt patching to areas of distressed pavement.
- Asphalt overlay, Runway 11/29, including minor shape correction as required.
- Asphalt overlay, Runway 04/22, including minor shape correction as required.
- Grooving, Runway 11/29, excluding the last 60 m at each end, which is beyond the runway threshold/end line.
- Remove temporary concrete pads and fuel hydrant outlets (to 1 m below finished surface level) and construct two concrete pavement pads for the two B737/A321 parking positions.
- Airfield lighting system upgrading, including replacement fittings, new control system and pit and ducting cables.
- Ancillary work, including regrading of flanks, linemarking and underground service marking.

Aircraft traffic

The recent common critical aircraft at Norfolk Island is a combination of the B737-800 and A320, operating at a typical mass of 70 tonnes (compared to the maximum mass of up to 79 tonnes). The frequency of operation varies with the seasons but is nominally 5 departures per week.

In the future, the critical aircraft for the airport will be A321-200. The A321-200 is the most damaging of the two aircraft for pavement thickness design:

- Aircraft. A321-200.
- Maximum mass. 89.4 t.
- Tyre pressure. 1,460 kPa.

It is unlikely to aircraft will depart Norfolk Island their maximum take-off mass, due to restrictions associated with runway length. The current aircraft ground services staff indicated that 74 t was a more reasonable maximum likely weight, based on runway length restrictions.

For the purpose of new pavement thickness design, one operation per day is assumed. Consequently, the number of passes detailed in the following table were adopted for pavement thickness design, rounded up to add a factor of safety.

Pavement type	Design life	Passes of A321-200 (74 t)
Flexible pavement	20 years	8,000
Rigid pavement	40 years	16,000



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more common and some contractors have developed proprietary polymer modified binders for improved surface performance and reduced risk of distress. Many of the cracks show signs of staining which is generally associated with moisture drawing fine material from the asphalt aggregate, or the underlying base course, up through the asphalt layer and depositing it on the surface. In itself, this is not concerning, but it does indicate that the extent of cracking in the current surface is significant.

Some of construction joints in the existing surface also exhibit severe erosion and large aggregate particles have ravelled out of the joints, leaving areas in need of treatment (Photo 4). This is symptomatic of the general asphalt surface erosion occurring coincidental with paving run joints, which always age more rapidly than other locations, resulting in severe erosion in isolated areas.

Overall, the asphalt surface is at the end of its useful life. It is possible to patch, preserve and otherwise maintain the surface, but that requires the same plant and equipment that is required to be mobilised to affect full resurfacing works. As discussed later, the cost of mobilising this equipment is so high that it is more efficient to mobilise it only once for a major project, rather than for smaller quantity of maintenance and then again in 2-3 years for a major rehabilitation.

Taxiway depression

The taxiway is generally in reasonable condition except for one localised area of pavement that appears to be structurally insufficient for the operating aircraft (Photo 5). This could reflect a weaker subgrade material or thinner sub-surface pavement layers. Although currently isolated, the expected increase in frequency of the heavier B737-800 and A321 aircraft is likely to exacerbate this issue and other localised areas are likely to also fail over time. It is therefore important that rectification of these areas be considered in the scope of the rehabilitation.

Apron parking positions

Similar to the taxiway, the apron asphalt surface is generally in reasonable condition. However, two major distresses are occurring, primarily in the areas of concentrated aircraft wheel tracking:

- Asphalt deformation.
- Asphalt cracking.

Severe deformations were identified, primarily on Bay 1, where the aircraft are stationary during their time at NIA (Photo 6). The aircraft parking position was being manually adjusted by the operations staff and additional (less severe) deformations were present at the time of the inspection.

The deformation is concentrated in the areas where the aircraft move slowly and are stationary because of the increased duration of the load. As detailed below, temporary repairs were affected in mid 2018.

The concentrated cracking on the apron appears consistent with delamination of the surface layer from the underlying pavement (Photo 7). This often occurs where inadequate or non-durable bond is provided between the layers during surface construction and similar distress has occurred at other airports. This kind of distress most commonly occurs where aircraft are braking and turning. The surface has been treated with a bitumen emulsion product but will require a permanent repair in the future.



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Norfolk Island Airport

Preliminary Design Report – DRAFT SUBJECT TO FINAL GEOTECHNICAL INVESTIGATION RESULTS

This report details the preliminary design for the upgrading of the Norfolk Island airport runways, taxiway and apron pavements. In general, the scope of work includes:

- Asphalt overlay of the two runways, taxiway and apron.
- Reconstruction of the apron parking positions with a rigid (concrete) pavement.
- Full replacement of the airfield lighting system.

Existing pavement composition

According to various historical documents, both runways, the taxiway and apron were originally comprised of a coronous base course with sprayed seal (or chip seal) bituminous surfacing. The existing pavements are believed to have been reconstructed with 75 mm of asphalt over 250 mm crushed rock in 1982 and then resurfacing by asphalt overlay in 1991 and 2007. The 2007 overlay is understood to have included strengthening provision of the B737-400 aircraft, with occasional use by the B737-800 aircraft.

Pavement system

The existing pavement system generally comprises:

- Runway 11/29. The main runway, nominally 45 m wide and 1,890 m long.
- Runway 04/22. The secondary runway, nominally 30 m wide and 1,435 m long. Also used for taxiing between Runway 11/29 and the taxiway to the RPT apron.
- Taxiway. Connecting northern portion of Runway 04/22 to the RPT apron. Nominally 23 m wide.
- RPT apron. With two RPT parking positions, approximately 117 m by 85 m.

None of the pavements have any shoulders.

Existing pavement condition

The airfield was inspected and the condition assessed in January 2018. Demonstrative photos are included in Appendix 1 and these are referred to below.

The 2007 overlay is now 11 years old. Although runway surfaces were previously expected to last 15-20 years, most airports now plan to resurface their pavements every 10-12 years. This reduction in surface life likely reflects global changes in oil sources and oil refining processes. Therefore, based on age, the existing surface is at or around the end of its serviceable life.

Inspection of the pavement surface confirms this, although the existing asphalt condition varies significantly. In some areas, the surface is in very good condition for its age, with only minor erosion and negligible large stone loss (Photo 1). However, in other areas, the surface is severely eroded, with significant loss of larger aggregate particles (Photo 2) which present a FOD risk and a potential hazard to airport operations. This variation in condition may reflect the inconsistent quality of rock used for asphalt production during the 2007 overlay.

Isolated areas of the surface, mainly on the runway, exhibit top-down cracking (Photo 3) which has been found to be common in runway surfaces containing multigrade bitumen. Multigrade was commonly used in airport asphalt surfaces from 2005 to 2012 but has since been discontinued, due to examples of severe top-down cracking. Since that time, polymer modified binders have become

Schedule 18**Principal's Documents**

The Preliminary Design being the preliminary design report prepared by Airport Pavement Engineering Specialists Pty Ltd, a copy of which is attached

Final Draft GC21 (Edition 2) - General Conditions of Contract
 Date of construction/last upgrade: RWY 29 RESA was constructed in 2012.

Attachments

Proposed interim safety measures: Ploughed earth RESA surface to assist with the deceleration of an over running aircraft

Expected compliance with current Standard: Intend to maintain the ploughed surface as do not anticipate meeting the full 90m x 90m standard.

1.6.2 Runways 11/29 Turning Node location.

Applicable MOS standard: Section 9.10.17.1 NOTE: - The universally accepted convention in aerodrome lighting is that a pilot is never required to cross a row of red lights. To gain the maximum TORA available a pilot would be required to cross red RWY end lights on RWY 11 / 29.

Reason for Non-Compliance: Issue in existence since re-construction of the RWY by DCA.

Date of construction/last upgrade: 1980's. Proposed interim safety measures: No current night time RPT operations. Provision of TWY centerline guidance lights into the turning node through the RWY end lights. Well-lit turning node area. Turning guidance lights within the turning node.

Expected compliance with current Standard: Addition to the published standards for night operations (where lighting is required), of shortened RWY distances.

Schedule 17**Departures from Design****1.4 Variations to Standards.**

The following facilities do not comply with the standards currently published in the CASA Manual of Standards Part 139 - Aerodromes. Each facility complied with the standards applicable at the time of construction, and will be brought into compliance with the current standards as follows:

1.4.1 Runway End Safety Area (RESA)

Applicable MOS standard: Section 6.2.25.1: A RESA must be provided at the end of a runway strip, to protect an aircraft in the event of undershooting or overrunning the runway, unless the runway's code number is 1 or 2 and it is not an instrument runway.

Reason for Non Compliance: The 90 m RESA provided on RWY 29 approach has truncated corners due to public road.

Date of construction/last upgrade: RWY 29 RESA was constructed in 2012.

Proposed interim safety measures: Ploughed earth RESA surface to assist with the deceleration of an over running aircraft

Expected compliance with current Standard: Intend to maintain the ploughed surface as do not anticipate meeting the full 90m x 90m standard.

1.4.2 Runways 11/29 Turning Node location.

Applicable MOS standard: Section 9.10.17.1: NOTE: - The universally accepted convention in aerodrome lighting is that a pilot is never required to cross a row of red lights. To gain the maximum TORA available a pilot would be required to cross red RWY end lights on RWY 11 / 29.

Reason for Non-Compliance: Issue in existence since re-construction of the RWY by DCA.

Date of construction/last upgrade: 1980's. Proposed interim safety measures: No current night time RPT operations. Provision of TWY centerline guidance lights into the turning node through the RWY end lights. Well-lit turning node area. Turning guidance lights within the turning node.

Expected compliance with current Standard: Addition to the published standards for night operations (where lighting is required), of shortened RWY distances.

1.5 Exemptions.

The Norfolk Island International Airport previously held an exemption (No. AD 12/2010) from meeting the RESA standard at RWY 29 approach end. While this exemption has since expired, the physical standard, still is not met.

1.6 Variations to Standards.

The following facilities do not comply with the standards currently published in the CASA Manual of Standards Part 139 – Aerodromes. Each facility complied with the standards applicable at the time of construction, and will be brought into compliance with the current standards as follows:

1.6.1 Runway End Safety Area (RESA)

Applicable MOS standard: Section 6.2.25.1 A RESA must be provided at the end of a runway strip, to protect an aircraft in the event of undershooting or overrunning the runway, unless the runway's code number is 1 or 2 and it is not an instrument runway.

Reason for Non Compliance: The 90 m RESA provided on RWY 29 approach has truncated corners due to public road.

Separable Portion 5 – Demobilisation and Completion

Item	Description	Relevant Pricing Mechanism (Lump Sum / Rate Item / Provision Sum)	Lump Sum Price (\$)
501	As-con documents	Lump Sum	\$35,542
502	AGL commissioning and manuals	Lump Sum	\$11,170
503	Final design certification	Lump Sum	\$22,340
504	Plant, equipment and materials shipping from NI	Lump Sum	\$2,039,575
505	Demobilisation	Lump Sum	\$180,413
506	Post-construction dilapidation survey and report	Lump Sum	\$50,001
Separable Portion 5	SUBTOTAL		\$2,339,041

NOTES

- (1) Quantity based on in-place asphalt volume and excludes waste, temporary ramps and cold planing, but does not exclude the volume removed by grooving.
- (2) Quantity based on high strength concrete pavement area and excludes waste and backfilling of the over-excavation.
- (3) Works directed by the Principal will only include similar/comparable works and will not include additional trades or resource requirements.

Separable Portion 4 – Grooving

Item	Description	Relevant Pricing Mechanism (Lump Sum / Rate Item / Provision Sum)	Lump Sum Price (\$)		
401	On site construction management	Lump Sum	\$95,964		
403	Post grooving friction survey and report	Lump Sum	\$73,217		
Item	Description	Relevant Pricing Mechanism (Lump Sum / Rate Item / Provision Sum)	Quantities	Rate (\$)	Price (\$)
402	Grooving	Rate Item (m ²)	86,000	\$6.30	\$541,800
Separable Portion 4	SUBTOTAL				\$710,981

Separable Portion 3 – AGL and Pavement Works

Item	Description	Relevant Pricing Mechanism (Lump Sum / Rate Item / Provision Sum)	Lump Sum Price (\$)		
301	On site construction management	Lump Sum	\$2,740,371		
302	AGL equipment supply	Lump Sum	\$901,937		
303	AGL pit and duct system	Lump Sum	\$1,075,354		
304	AGL installation	Lump Sum	\$1,764,037		
305	AGL commissioning	Lump Sum	\$143,473		
306	Asphalt production and construction trial	Lump Sum	\$60,408		
307	Concrete production trial	Lump Sum	\$3,554		
312	Linemarking	Lump Sum	\$362,534		
313	Survey during works	Lump Sum	\$213,255		
314	Runway friction survey and report	Lump Sum	\$73,217		
315	Works directed by the Principal in respect of <i>Separable Portion 3</i> (Provisional Sum)	Provisional Sum	\$300,000		
Item	Description	Relevant Pricing Mechanism (Lump Sum / Rate Item / Provision Sum)	Quantities	Rate (\$)	Price (\$)
308	Asphalt patching	Rate Item (m ³)	200	\$1,510.20	\$302,040
309	Asphalt overlay to variable thickness (1)	Rate Item (m ³)	11,000	\$1,006.75	\$11,074,250
310	Concrete pavement parking pads (2)	Rate Item (m ²)	2,600	\$1,482.60	\$3,854,760
311	Grassed flank filling	Rate Item (m ²)	38,000	\$5.65	\$214,700
Separable Portion 3	SUBTOTAL				\$23,083,890.00

Separable Portion 2 – Design

Item	Description	Relevant Pricing Mechanism (<i>Lump Sum / Rate Item / Provision Sum</i>)	Lump Sum Price (\$)
201	Asphalt surfacing design	Lump Sum	\$291,448
202	Concrete pavement design	Lump Sum	\$127,953
203	AGL system design	Lump Sum	\$81,137
204	Ancillary and miscellaneous design	Lump Sum	\$28,434
205	Design certification and report	Lump Sum	\$32,495
206	Geotechnical investigation and validation to verify key design parameters (Provisional Sum)	Provisional Sum	\$58,200
Separable Portion 2	SUBTOTAL		\$619,667

Separable Portion 1 – Logistics and Preliminaries

Item	Description	Relevant Pricing Mechanism (<i>Lump Sum / Rate Item / Provision Sum</i>)	Lump Sum Price (\$)
101	Off-site management	Lump Sum	\$961,425
102	Insurances and Bank Guarantees	Lump Sum	\$661,547
103	Site preparation works at Ball Bay, Section 44A and airport compound (as applicable)	Lump Sum	\$329,675
104	Construct and maintain rock ramp at Ball Bay	Lump Sum	\$403,052
105	Project management , safety, environment, quality and traffic plans	Lump Sum	\$7,108
106	Pre-construction dilapidation survey and report	Lump Sum	\$48,863
107	Road and track works	Lump Sum	\$0
108	Plant, equipment and materials shipping to NI	Lump Sum	\$14,617,486
109	Purchase and transfer vehicles and equipment to NIRC	Lump Sum	\$1,173,472
Separable Portion 1	SUBTOTAL		\$18,202,628

Schedule 15

Schedule of Rates

5 Separable Portion 5 – Demobilisation

Date for Practical Completion – 25 October 2020

Liquidated Damages – \$500 per day for Separable Portion 5

Descriptions of Works:

5.1 Demobilisation and Completion Phase

Perform post-construction dilapidation survey, comparing all infrastructure to the pre-construction survey and providing a disposition regarding adversely impacted infrastructure.

Rehabilitate all areas allocated to the Contractor.

Commissioning, testing and operating manuals for the AGL system.

Maintain a point of contact for defect notices.

Attend and make good on defects as reasonably directed by the Principal and in a reasonable timeframe.

Attend an end to the defect inspections prior to the commencement of the Defect Liability Period.

5.2 Equipment to remain on Norfolk Island

All equipment to remain on Norfolk Island must be less than 12 months old at the commencement of the project and must be in good working order.

Supply:

- Two Toyota Hilux dual cab utes fitted with lights and radio suitable for use as an airside reporting officer's vehicle.
- Two pneumatic tyres rollers with seven tyres with no less than 800 kPa inflation pressure and no less than 18 tonne gross mass.
- Two steel drum rollers, with no less than 6 tonne gross mass and drum width no less than 1.0 m.
- Two skid steers, each with bucket broom and bucket attachments.

The Contractor may use the equipment during the work.

On completion of all works, the Contractor must facilitate a handover of the equipment to the Principal, including provision of all operating manuals, training materials and transfer of ownership paperwork.

5.3 Exclusions

1. **Equipment supplied under the contract** - The Contractor will supply the transfer paperwork for the plant and equipment to be supplied under the contract. Any registration fees, stamp duty or other costs associated with the ownership transfer will be at the cost of the new owner, Principal.

Final Draft GC21 (Edition 2) - General Conditions of Contract Attachments
 from claiming liquidated damages, then the Principle is entitled to claim against the Contractor damages at law as an alternative to liquidated damages up to the value of the Liquidated Damages Liability Cap.

If liquidated damages are payable, they shall be the sole financial remedy against the Contractor with respect to delays under the Contract. The Contractor acknowledges and agrees the Principal reserves its right to recover for general damages other than for or in relation to delay.

4.4 Operational conditions

Runway 04/22 will be closed for the duration of the Works with the Contractor having access to 500 metres of runway

04/22 Runway south of Runway 11/29 will be closed for the storage of Contractor aggregate. The remaining portion of Runway 04/22 will be closed to flight operations, except for aircraft taxi and parking reasons as reasonably determined by the Principal (the Remaining Portion).

The Contractor must ensure that the Remaining Portion is available for aircraft at all times for taxiing and parking reasons, except where the Contractor is performing physical works to runway 04/22 in which case the Contractor must make runway 04/22 available during the Operational Hours.

- **Runway 11/29, Runway 04/22 (inside and north of Runway 11/29 runway strip and north of Runway 11/29), Taxiway and RPT apron (excluding the parking pads)**

Between each Work shift, the pavement must be returned to a serviceable FOD free condition, capable of safely receiving or releasing RPT and charter flights, except for linemarking, flanks and airfield lighting (which must follow resurfacing without any unreasonable delay).

- **Emergency**

During all stages of Work, the runway may be required at short notice for medical or other emergency evacuation (**Emergency**). When instructed to make the airfield available in an Emergency, the Contractor must take all reasonable steps to return the airfield to a condition that allows the emergency operation to be undertaken, as instructed by the Principal, without delay. Such instruction shall be a *Variation* instruction pursuant to clause 48.1. Any delay or disruption costs claimed by the Contractor under clause 51 in respect of such a *Variation* shall be payable subject to the Contractor using all reasonable endeavours to mitigate such delay and disruption costs.

Final Draft GC21 (Edition 2) - General Conditions of Contract

Attachments

- Monday 1300-1530.
- Tuesday 1300-1530.
- Friday 1300-1530.
- Saturday 1300-1530.
- Sunday 1300-1530.

(B) Based on current RPT and charter schedule 2 (starting on 3rd May 2020 and finishing on the 20th September 2020), Runway 11/29 must be in a fully serviceable condition and capable of safely releasing and receiving RPT and charter flights, on the following days and during the following hours:

- Monday 1300-1530.
- Tuesday 1300-1530.
- Friday 1300-1530.
- Saturday 1300-1530.

The Contractor acknowledges and agrees these Operational Hours may be varied from time to time by written instruction of the Principal, for example due to aircraft scheduled flight time changes. Such instruction shall be a *Variation* instruction pursuant to 48.1. Any delay or disruption costs claimed by the Contractor under clause 51 in respect of such a *Variation* shall be payable subject to the Contractor using all reasonable endeavours to mitigate such delay and disruption costs.

(iii) The Contractor will also be required to perform the Work to comply with the following requirements:

- **RPT apron parking pads**

The Contractor has to make available one of the two apron parking positions available in a serviceable condition for RPT and charter services, unless otherwise agreed between the parties that an alternate parking position is suitable. Access to the apron parking via the Taxiway must be available during Operational Requirement times and suitable for the safe receipt and release of RPT and charter flights.

Note - While not finalised at this time, the Principal intends to allow the Contractor to perform the Works simultaneously on both sides of the apron bay one and two. The Works are anticipated to take 6 weeks to complete and the Principal proposes to operationally bus the passengers to and from the aircraft parking position. While the parking position has not been identified it is most likely to be the intersection of runway 04/22 and the taxiway.

Liquidated Damages

On each occasion that the Contractor fails to ensure that Runway 11/29 is returned to a fully serviceable condition in accordance with the Operational Requirements and such failure impacts the safe receipt or release of RPT or charter flights during Operational Hours, the Contractor will be liable to pay the Principal liquidated damages at a rate of \$20,000 for each hour or part thereof that Runway 11/29 is not compliant with the Operational Requirements, capped at a maximum of \$120,000 per day.

For the avoidance of doubt, the Contractor shall not incur any liability to pay liquidated damages under this section where a failure to ensure that Runway 11/29 is returned to a fully serviceable condition is caused by an act or omission of the Principal, its employees, agents, representatives or other contractors (not including the Contractor or its Contractor's Personnel) other than a direction by the Principal's Authorised Representative authorised under the Operational Restrictions.

The Contractor acknowledges that the rates for liquidated damages are a genuine pre-estimate of the Principal's loss and agrees that it will not challenge any rate for liquidated damages as being in the nature of a penalty.

If it is determined by a court of competent jurisdiction or in accordance with clause 71 that the Contractor's liability for liquidated damages is deemed to be or becomes void, voidable or unenforceable in any way so as to disentitle the Principle

4 Separable Portion 4 – Grooving

Date for Practical Completion – 30 September 2020

Liquidated Damages – \$3,000 per day for Separable Portion 4

Descriptions of Works:

4.1 Grooving

The Contractor must install grooves to Runway 11/29.

Grooves must be cut by machines intended for asphalt grooving.

Grooves must be installed nominally 6 weeks following asphalt surfacing.

Grooves must be 6 mm by 6 mm at 38 mm spacing and square or trapezoidal equivalent.

Grooves must be nominally perpendicular to the runway centreline.

The Contractor may construct lined transpiration pits in or adjacent to the airport site compound for the temporary storage and concentration of grooving slurry.

At the completion of the grooving, the dry grooving slurry must be removed from the pits, stockpiled in the site compound, the pit liners removed and disposed of at a suitably licenced waste facility and the transportation pits backfilled and reinstated.

4.2 Friction testing

Friction testing must be performed on Runway 11/29 only, at the times and frequencies detailed in the scope of work.

4.3 Operational restrictions

The Works are being performed during working hours at the Norfolk Island Airport Site. The Norfolk Island Airport operates as a fully functional airport and during the operational hours must be capable of releasing and receiving regular passenger transport (RPT) and charter flights.

To enable the Norfolk Island Airport to fully function as a passenger airport the Contractor must comply with the Operational Requirements.

The Contractor will have access to agreed portions of the airfield to carry out the Work during the course of the construction program. These agreed work areas will be in the control of the Contractor during the performance of the Works. Each work stage will require the Contractor to resurface the runways taxiway and apron areas. The staging of the works will need to be pre-agreed with the Principal. These work areas will be handed back to the Principal in accordance with the Operational Requirements to enable the safe receipt and release of RPT and charter flights.

The Operational Requirements are as follows:

(i) The Handback Condition of the Norfolk Island Airport Site is as agreed between the parties or as directed by the Principal Authorised Representative (acting reasonably), but as a minimum will require the Contractor to ensure that prior to the commencement of the Operational Hours to enable the safe receipt and release of RPT and charter flights, that:

(a) Norfolk Island Airport Site is free from foreign object debris (FOD) including from equipment and materials; and

(b) all equipment and materials are returned to storage and are not capable of interfering with the operation of the Airport during Operational Hours.

(ii) The operational hours for Runway 11/29 are as follows (**Operational Hours**):

(A) Based on current RPT and charter schedule 1 (starting on the Date of Contract and finishing on the 3rd May 2020), Runway 11/29 must be in a fully serviceable condition and be capable of safely releasing and receiving RPT and charter flights, on the following days and during the following hours:

If liquidated damages are payable, they shall be the sole financial remedy against the Contractor with respect to delays under the Contract. The Contractor acknowledges and agrees the Principal reserves its right to recover for general damages other than for or in relation to delay.

3.22 Operational conditions

Runway 04/22 will be closed for the duration of the Works with the Contractor having access to 500 metres of runway

04/22 Runway south of Runway 11/29 will be closed for the storage of Contractor aggregate. The remaining portion of Runway 04/22 will be closed to flight operations, except for aircraft taxi and parking reasons as reasonably determined by the Principal (the Remaining Portion).

The Contractor must ensure that the Remaining Portion is available for aircraft at all times for taxiing and parking reasons, except where the Contractor is performing physical works to runway 04/22 in which case the Contractor must make runway 04/22 available during the Operational Hours.

- **Runway 11/29, Runway 04/22 (inside and north of Runway 11/29 runway strip and north of Runway 11/29), Taxiway and RPT apron (excluding the parking pads)**

Between each Work shift, the pavement must be returned to a serviceable FOD free condition, capable of safely receiving or releasing RPT and charter flights, except for linemarking, flanks and airfield lighting (which must follow resurfacing without any unreasonable delay).

- **Emergency**

During all stages of Work, the runway may be required at short notice for medical or other emergency evacuation (**Emergency**). When instructed to make the airfield available in an Emergency, the Contractor must take all reasonable steps to return the airfield to a condition that allows the emergency operation to be undertaken, as instructed by the Principal, without delay. Such instruction shall be a *Variation* instruction pursuant to clause 48.1. Any delay or disruption costs claimed by the Contractor under clause 51 in respect of such a *Variation* shall be payable subject to the Contractor using all reasonable endeavours to mitigate such delay and disruption costs.

3.23 Not Used

3.24 Temporary airfield lighting

NIA holds enough temporary airfield lighting to fully light Runway 11/29. The Contractor may use and manage the temporary lighting to affect the works. The Contractor must supply any supplemental temporary lighting required.

3.25 Exclusions

1. **Decommissioning of Hydrant Line** - A date for taking possession of the apron after decommissioning of the fuel hydrant line will be nominated in the contract. Any delay in handover will constitute "Principal Caused Delay"
2. **Areas for use by the Contractor** - The Contractor's offer relies on NIRC providing suitable areas for site compounds and material storage at no rental (or other) cost. The Contractor's requirements for compounds and storage are included in the schedule Methodology, Item 4.
3. **Flight test of AGL** - A flight test for installed AGL utilising a CASA approved pilot is included in the tendered sum. Any fees on this test flight applied by NIRC or Norfolk Island Airport have not been allowed and would constitute a variation.
4. **Differential Movement** - The mass concrete apron pads and adjacent flexible asphalt pavement may move differently, under load, over time. The Contractor's warranty excludes any impediment to aircraft movement as a result of differential movement between the 2 pavement types.

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- Friday 1300-1530.
 - Saturday 1300-1530.
 - Sunday 1300-1530.

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(B) Based on current RPT and charter schedule 2.(starting on 3rd May 2020 and finishing on the 20th September 2020), Runway 11/29 must be in a fully serviceable condition and capable of safely releasing and receiving RPT and charter flights, on the following days and during the following hours:

- Monday 1300-1530.
- Tuesday 1300-1530.
- Friday 1300-1530.
- Saturday 1300-1530.

The Contractor acknowledges and agrees these Operational Hours may be varied from time to time by written instruction of the Principal, for example due to aircraft scheduled flight time changes. Such instruction shall be a *Variation* instruction pursuant to 48.1. Any delay or disruption costs claimed by the Contractor under clause 51 in respect of such a *Variation* shall be payable subject to the Contractor using all reasonable endeavours to mitigate such delay and disruption costs.

(iii) The Contractor will also be required to perform the Work to comply with the following requirements:

- **RPT apron parking pads**

The Contractor has to make available one of the two apron parking positions available in a serviceable condition for RPT and charter services, unless otherwise agreed between the parties that an alternate parking position is suitable. Access to the apron parking via the Taxiway must be available during Operational Requirement times and suitable for the safe receipt and release of RPT and charter flights.

Note - While not finalised at this time, the Principal intends to allow the Contractor to perform the Works simultaneously on both sides of the apron bay one and two. The Works are anticipated to take 6 weeks to complete and the Principal proposes to operationally bus the passengers to and from the aircraft parking position. While the parking position has not been identified it is most likely to be the intersection of runway 04/22 and the taxiway.

Liquidated Damages

On each occasion that the Contractor fails to ensure that Runway 11/29 is returned to a fully serviceable condition in accordance with the Operational Requirements and such failure impacts the safe receipt or release of RPT or charter flights during Operational Hours, the Contractor will be liable to pay the Principal liquidated damages at a rate of \$20,000 for each hour or part thereof that Runway 11/29 is not compliant with the Operational Requirements, capped at a maximum of \$120,000 per day.

For the avoidance of doubt, the Contractor shall not incur any liability to pay liquidated damages under this section where a failure to ensure that Runway 11/29 is returned to a fully serviceable condition is caused by an act or omission of the Principal, its employees, agents, representatives or other contractors (not including the Contractor or its Contractor's Personnel) other than a direction by the Principal's Authorised Representative authorised under the Operational Restrictions.

The Contractor acknowledges that the rates for liquidated damages are a genuine pre-estimate of the Principal's loss and agrees that it will not challenge any rate for liquidated damages as being in the nature of a penalty.

If it is determined by a court of competent jurisdiction or in accordance with clause 71 that the Contractor's liability for liquidated damages is deemed to be or becomes void, voidable or unenforceable in any way so as to disentitle the Principle from claiming liquidated damages, then the Principle is entitled to claim against the Contractor damages at law as an alternative to liquidated damages up to the value of the Liquidated Damages Liability Cap.

- Environmental incidents.
- Running schedule and status of NCRs.
- Running schedule and status of variations.
- Progress against programmed progress.
- Issues arising that require resolution.
- Updated process control charts.

The report must cover the period from the end of the period covered by the previous report, to not more than 24 hours prior to the issuing of the report.

3.19 Contractor's after hours Staff

For works performed at night, between work periods, the Contractor must provide a minimum of one day contact for the purposes of resolving issues between the Contractor and the Principal, as well as any other tasks required under the contract or by the Contractor itself.

For works performed during the day, the Contractor must provide an on-call service to resolve any emergency operational issues associated with the works, that arise outside of normal working hours.

3.20 Method of Works Plan and NOTAMS

The Principal will prepare the MOWP and all NOTAMs. The Contractor must assist with Principal with MOWP and NOTAM details and must maintain an accurate works program and to forecast activities and allow MOWP and NOTAM updates as appropriate.

3.21 Operational restrictions

The Works are being performed during working hours at the Norfolk Island Airport Site. The Norfolk Island Airport operates as a fully functional airport and during the operational hours must be capable of releasing and receiving regular passenger transport (RPT) and charter flights.

To enable the Norfolk Island Airport to fully function as a passenger airport the Contractor must comply with the Operational Requirements.

The Contractor will have access to agreed portions of the airfield to carry out the Work during the course of the construction program. These agreed work areas will be in the control of the Contractor during the performance of the Works. Each work stage will require the Contractor to resurface the runways taxiway and apron areas. The staging of the works will need to be pre-agreed with the Principal. These work areas will be handed back to the Principal in accordance with the Operational Requirements to enable the safe receipt and release of RPT and charter flights.

The Operational Requirements are as follows:

(i) The Handback Condition of the Norfolk Island Airport Site is as agreed between the parties or as directed by the Principal Authorised Representative (acting reasonably), but as a minimum will require the Contractor to ensure that prior to the commencement of the Operational Hours to enable the safe receipt and release of RPT and charter flights, that:

- (a) Norfolk Island Airport Site is free from foreign object debris (FOD) including from equipment and materials; and
- (b) all equipment and materials are returned to storage and are not capable of interfering with the operation of the Airport during Operational Hours.

(ii) The operational hours for Runway 11/29 are as follows (**Operational Hours**):

(A) Based on current RPT and charter schedule 1 (starting on the Date of Contract and finishing on the 3rd May 2020), Runway 11/29 must be in a fully serviceable condition and be capable of safely releasing and receiving RPT and charter flights, on the following days and during the following hours:

- Monday 1300-1530.
- Tuesday 1300-1530.

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10 locations where the service is expected to be but there is no existing service marker and the location is not identified by paint on the pavement surface.

3.13 Service cross location markers

The Contractor must confirm all locations and the number of service markers required.

The concrete block must be nominally 300 mm by 300 mm by 100 mm deep and the plate design and text must be approved by the Principal.

3.14 Access tracks and roads

The Contractor must establish and maintain all access tracks and roads deemed necessarily for the execution of the works.

The Contractor must make-good all damage to existing roads and access tracks such that they are no worse a condition on completion of the works than at the commencement.

Airside access roads and tracks must be maintained in a condition that minimises the risk of FOD on the aircraft pavements.

3.15 Security

The Contractor must obtain ASICs for all staff requiring regular access airside during the works.

The Principal will provide visitor passes for one-off access requirements.

3.16 Works Safety Officers

NIRC will provide a WSO during:

- The Design Phase.
- Off-pavement AGL works.
- Establishment of the airport site compound in transfer all equipment.

The Contractor must provide their own WSO during:

- Asphalt surfacing.
- On-pavement AGL works.
- Runway grooving.
- Linemarking.

For concurrent work activities, only one Contractor's WSO is required.

The Contractor's WSO must be suitably qualified and experienced and must actively work with the Principal's ARO team to maintain an operationally safe airfield as described and required

by the MOWP and CASA's MOS 139.

3.17 Meetings

The Contractor must convene a pre-start meeting prior to each work period.

The Contractor must convene a post-work period meeting immediately following each work period to handover any issues to the after hours team.

The Contractor must convene a weekly review meeting with the Principal to review progress, quality, safety and contractual matters.

All meetings must be schedule in consultation with the Principal and must include the Principal and their advisors.

3.18 Reports

Not less than 24 hours prior to the scheduled weekly meeting, the Contractor must submit to the Principal a progress report that includes, as a minimum:

- Safety incidents.

Sawn transverse contraction joints may be un-dowelled where the concrete nominal maximum aggregate size is 38 mm or greater. In this case, all longitudinal formed construction joints must still be dowelled.

All dowels and thickening may be omitted if the concrete thickness is increase by 25% above the nominated minimum slab thickness.

Concrete must be fully vibrated and finished by no less than two passes with a vibrating screed and lightly textured with a broom.

Contraction joints must be sawn at the optimal time to avoid uncontrolled cracking and aggregate spalling, nominal 3 mm wide and one-third the concrete thickness, and all slurry removed from the joints and the surface.

All joints must be re-sawn, nominal 10 mm wide and 25 mm deep, cleaned and sealed with an appropriate sealant, not less than 28 days after concrete placement.

Concrete must be cured by covering and maintaining the surface in a wet condition for a minimum of seven days after construction.

For each delivery of plastic concrete, a minimum of one sample of plastic concrete must be taken at the commencement of discharge and tested for consistence prior to continuing discharge. Where the consistence falls below the allowable range, water may be added, but not so much as to exceed the 0.45 maximum water-cement ratio. Where the consistence exceeds the allowable range, the delivery must be rejected.

From each concrete parking pad, a minimum of six samples of plastic concrete must be taken, generally equally spaced through the concrete production for that pad, and each sample tested for flexural strength at 28 days and the results reported within 40 days of sampling.

The Contractor may test the sampled concrete for Unconfined Compressive Strength, instead of flexural strength, if a mixture specific correlation was developed as part of the mixture design and documented in the Accepted Design and relevant Technical Requirements.

At the completion of the concrete pavement construction, if the characteristic strength is not greater than the required minimum value, all the concrete pavement works will be deemed non-conforming.

The backfilling of the over-excavation must be designed and constructed to prevent post-construction surface depressions and to minimise the risk of reflection cracking. A minimum asphalt thickness of 100 mm must be included at the surface, in addition to the asphalt surface level increase associated with the asphalt resurfacing work.

3.11 Linemarking

The runway centreline and end lines must be reinstated (one coat) each work period, prior to returning the airfield to operational status.

All other linemarking (one coat) must be reinstated within one work period of being obliterated.

Linemarking paint must be intended for airport pavement linemarking.

Linemarking must be provided:

- One coat on temporary surface layers and ramps.
- One coat on completion of the final surface.
- Second coat by completion of all works (excluding grooving).
- Third coat after grooving (in grooved areas only).

All linemarking must comply with MOS 139 as applicable for the airport Code.

3.12 Service crossing location marking

Reinstate, at the finished flank level, or replace missing service crossing markers at all locations indicated on the drawings, including:

- 20 locations where the existing markers are visible at the surface.
- 10 locations where the service location is marked by paint on the pavement surface but no physical service marker was located.

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	operation		
11.5.2, CI 236	Friction Survey (Runways only)	Required	Not required
11.5.3, CI 240	Ride Quality (Runways only)	Not required	Not required
13.1, CI 278	Periodic inspection frequency	Not applicable	Annually

Asphalt must be compatible with fuel resistant membranes, airport linemarking and grooving.

Asphalt patching must be performed ahead of the resurfacing works, to be depths and extents detailed in the Accepted Design.

The asphalt construction trial must be performed outside the contracted scope of work.

3.9 Existing underground refuelling hydrant line

Prior to the commencement of Separable Portion 3 by the Contractor, the Principal will confirm that the existing refuelling hydrant line is:

- Disconnected from the supply tank and no longer required for use.
- Drained of all fuel.
- Vented and tested as being free of residual hydrocarbons.
- Backfilled with a suitable foam.

The Contractor must remove the hydrant outlets and housing to no less than 1,000 mm below the finished surface level.

The Contractor must blank-off and backfill the excavation to the bottom of concrete pavement sub-base level, ready for concrete pavement construction.

3.10 Concrete Pavement

The Contractor must construct concrete pads in the RPT apron to the dimensions and locations detailed in the Preliminary Design.

The concrete pavement must be a minimum of 400 mm airport quality concrete over a bound sub-base.

Slab sizes must not exceed 5 m by 5 m.

A minimum 150 mm thick bound (asphalt, lean mix concrete or cement stabilised base course) sub-base must be provided under concrete pavement.

Concrete must be airport-quality minimum characteristic (95% exceeding) 28 day 4.5 MPa (AS 1012 for 150 mm by 150 mm beams) flexural strength with:

- Minimum cement content of 330 kg/m³
- Maximum water-cement ratio of 0.45.
- Slump (consistence) between 50 mm and 70 mm (AS 1012.3).
- Maximum drying shrinkage of 450 µε (AS 1012.13).

Concrete must be minimum 20 mm nominal maximum aggregate size.

A concrete mixture design must be undertaken to demonstrate compliance of the concrete mixture with the concrete requirements detailed above.

Concrete must be produced consistent with the accepted mixture design.

All joints must be dowelled.

External slabs must be increased in thickness by at least 25%, tapered over the full width of the slab, such that external concrete thickness is 125% of the nominated minimum slab thickness.

3.5 Plant and Equipment

All plant and equipment must be intended for the purpose for which they are used, maintained in good working order and operated by appropriately qualified and experienced staff.

3.6 Back-up equipment

Back-up equipment applies to works performed in fixed windows where the pavement is required to be returned to service at the completion of the work period.

For each type of mobile equipment required to complete the works, a second equivalent item must be provided. Where two items of equivalent equipment are required to complete the works, a third item must be provided as back-up. All back-up equipment must be rotated through the duty equipment on at least a weekly basis. The back-up items may be used as additional duty equipment.

A back-up mobile asphalt plant is not required but the volume of material produced and in plant/truck storage must at all times be adequate to return Runway 11/29, the taxiway and apron to a serviceable condition in the event of a mobile asphalt plant breakdown.

The Contractor must develop and maintain a plan for the recovery of disabled equipment from the airfield at short notice during each and every works period.

3.7 Airfield lighting

There are several under pavement AGL/electrical duct banks, as detailed separately. These have been randomly inspected by the Principal and are deemed to be in good condition and to have ample capacity through which to pass new AGL cables.

All airfield lighting works must be designed, procured and installed consistent with the AGL Scoping Report.

All airfield lighting works must comply with MOS 139, AS/NZS 3000, other applicable Australian Standards, ICAO Annex 4, ICAO Annex 14 (Volume 1) and the ICAO Aerodrome Design Manual.

3.8 Asphalt

Asphalt mixture design must be suitable for airport pavement surfacing, on a performance basis, complying with the requirements of the AAPA Performance Based Airport Asphalt Model Specification, dated 1 February 2018 (**Asphalt Model Specification**). The asphalt Project Particulars are tabulated below.

Section, Clause	Description	Specified particular	If nothing specified
1.3, Cl 3	Regular critical aircraft	A321 and B737-800	N/A
1.3, Cl 3	Occasional Critical aircraft	N/A	N/A
1.3, Cl 4	Asphalt to be compatible with grooving	Required	Required
4.2, Cl 12	Additional mandatory Hold / Witness Points (per table below)	Not required	Not required
5.2, CL 52	RAP percentage by mass in surface layer	10%	0%
5.2, CL 52	RAP percentage by mass in underlying layer	10%	20%
7.1, Cl 85	Minimum number of operational pavers	2	1
7.1, Cl 86	Material Transfer Vehicle mandatory	Not required	Not required
7.1, Cl 90	Aircraft pavement returned to service at the end of each shift	Required	Required
10.2, Cl 140 and Cl 141			
10.4.5, Cl 170			
7.2, Cl 9.2	Production plant located on site	Required	N/A
8.3, Cl 116	Removal of construction trial	Not Required	Required
10.2, CL 140 and Cl 141	Surface texturing ahead of asphalt surface	Permitted	Not permitted

Submit all QA documentation without delay following each work period.

Process control charts or registers for each key acceptance parameter, for each significant material production and construction process, must be maintained by the Contractor and included in weekly reports. On completion of each element of work, the charts and registers must be provided to the Principal electronically in .xls format.

The Contractor is completely and solely responsible for the quality of all works complete. Materials that do not comply with the Contractor's design submissions, including the Construction method statements and ITPs, will be deemed defective.

For any defective material or works, the Contractor must provide the Principal a NCR, including a disposition, with supporting performance-based evidence, regarding the cause of the defect and the Contractor's proposed remedial action. The Principal may request additional information or investigation, accept the disposition, accept the disposition with additional conditions or reject the disposition and require the defective material/works be removed and replaced. In considering the Contractor's NCR and disposition, the Principal will be reasonable with regard to the circumstances and the performance-based evidence provided by the Contractor.

3.3 Survey

For asphalt works the Contractor must perform, as a minimum, the following engineering survey during the works:

- Existing surface, as required to validate the existing surface survey issued by the Principal.
- Top of each asphalt layer, prior to cold planing, to finalise the design of the subsequent asphalt layer(s).
- Top of each asphalt layer, after cold planing, to finalise the subsequent layer thickness and verify the design finished surface level is achieved.

For concrete works the Contractor must perform, as a minimum, the following engineering survey during the works:

- Existing surface, as required to validate the existing surface survey issued by the Principal.
- Level of existing pavement excavation.
- Top of each pavement layer, including base and sub-base, to verify the design finished surface level is achieved.

For all works, the Contractor must perform, as a minimum, the following engineering survey during the works:

- As required to produce as-constructed records.
- As required to confirm all work quantities.
- Additional survey as required to construct the works according to the Accepted Design.

All asphalt overlay related surveys must be performed on the same grid as the existing surface survey issued by the Principal. Some surveys may be combined where appropriate, that is, the as-constructed surface and the top of the final asphalt layer survey can be captured in one survey measurement.

All concrete construction surveys must be performed at every corner, intersection or change in direction of concrete pavement joints, as detailed in the Accepted Design.

3.4 Waste materials

The Principal encourages the maximum reuse and recycling of materials where pavement performance is not adversely impacted.

Fresh (produced as part of this project) asphalt recovered by cold planing of temporary construction ramps, texturing the first of two surface layers and tie-ins may be used as RAP, as long as the RAP is uncontaminated and consistent.

The existing asphalt surface recovered by cold planing for milling and texturing may be used as RAP, when a representative asphalt mixture design has been performed and accepted and the RAP is uncontaminated and consistent. It is acknowledged that this mixture design can only be prepared after award of the contract and the Principal will allow a patch to be constructed in the existing pavement to facilitate a laboratory mixture design containing existing pavement RAP, as early as possible, as long as it is appropriately backfilled.

All uncontaminated and reusable materials not reused by the Contractor must be left in neatly formed stockpiles in the airport site compound at the completion of the works. Contaminated materials must be separately stockpiled and identified in the airport site compound.

3 Separable Portion 3 – Pavement Works

Date for Practical Completion – 15 August 2020

Liquidated Damages – \$5,000 per day for Separable Portion 3

All works must be carried out in accordance with, and all materials and equipment supplied compliant with, the Preliminary Design and Technical Requirements except where superseded by the Accepted Design (in which case they must be in accordance with the Accepted Design).

Descriptions of Works:

3.1 Pavement work Phase

Airfield lighting upgrade:

- Pit and duct system for all primary cables.
- Supply all new cables, fittings and control systems, including:
 - Airport Lighting Equipment Room (ALER) and building.
 - Pit and duct system to enclose all underground equipment circuits.
 - AGL power regulators and controls.
 - Human Machine Interface to replace existing Unicom SCADA and PLC.
 - Segmented taxiway lighting including hold point lights.
 - Runway 11/29 edge, end and other lights applicable to the runway Code.
 - Runway 04/22 edge, end and other lights applicable to the runway Code.
 - Precision Approach Path Indicator (PAPI) for all four runways.
 - Illuminated Wind Direction Indicators for all four runways.
 - Integration with AGL facilities located at Mount Pitt.
- Install all new cables, fitting and control systems.

Asphalt overlay:

- Runway 11/29. Minimum 50 mm, nominal 70 mm in the central portion.
- Runway 04/22 (north of Runway 11/29). Minimum 50 mm, nominal 70 mm.
- Runway 04/22 (south of Runway 11/29). Minimum 40 mm, nominal 50 mm, with 25 mm rolled over edge.
- Taxiway. Minimum, 60 mm, nominal 70 mm.
- RPT Apron. Minimum 60 mm, nominal 70 mm.

Concrete parking pads, including cutting back the refuelling hydrant outlets and backfilling of over-excavation.

Grooving Runway 11/29.

Linemarking.

Flank filling and hydromulching.

Perform runway surface friction testing of Runway 11/29 and Runway 04/22:

- On completion of the asphalt overlay.
- On completion of the runway grooving.

Perform-as built survey and submit to the Principal.

Provide written certification by the nominated design manager that the works are consistent with the Accepted Design and are fit for the intended purpose, as defined by, or reasonably inferred from, the Technical Requirements and the contract and the Accepted Design.

3.2 Quality Assurance

Maintain a certified QA system throughout the works.

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- Concrete mixture designs for each mixture proposed.
- Details of all proprietary and ancillary products.
- Extent of works drawings and tie-in details in .pdf.
- AGL design drawings, including pits, conduits, AGL fitting locations and systems.
- Concrete pavement slab layout, joint types and structure details.
- Geometric design summary in .xls, to the same format as provided in the preliminary design report.
- Construction method statements for each and every trade and work process.
- ITPs for all work processes performed by each and every trade crew.

Each design submission element may be submitted separately for review and feedback by the Principal.

On acceptance of each and every design submission element, a consolidated submission, including a covering commentary, must be provided, including design certification, by an appropriately experienced and qualified engineer or technician.

Separate consolidated design submissions may be provided for each of:

- Quarry management plan.
- AGL design.
- Concrete pavement design.
- Asphalt pavement design.

The Contractor's design responsibility explicitly excludes the structural capacity of the existing pavements to be patched and/or overlaid.

2.3 Exclusions

1. **Pavement Design Limitation** - The Pavement Design and Warranty provided by the Contractor and its designer will be limited to the asphalt and concrete works undertaken during the contract. The design will not address the underlying pavement, except to the extent of test results provided by the Principal, nor existing geometrical non-compliances with CASA MOS Part 139.
2. **Pavement Design Changes** - The logistics associated with delivery of the project introduce many variables into the cost. For any significant change to the quantities in the tender schedule, as a result of design, the Contractor reserves the right to reprice all related Rate Items.

2 Separable Portion 2 – Design

Date for Practical Completion – 10 December 2019

Liquidated Damages – No Liquidated Damages for Separable Portion 2

Descriptions of Works:

2.1 Design Phase

Undertake or finalise the asphalt mixture design(s) to the Asphalt Model Specification.

Undertake or finalise the concrete mixture design(s) to the Technical Requirements.

Selection of all other materials, products and treatments required.

Perform a check-survey of the existing pavement surfaces to validate the existing surface levels on which the Preliminary Design was based.

Confirm and detail the location of pre-overlay patching of the existing pavement.

Confirm and finalise the geometric design of the finished pavement surface level.

Confirm and finalise the structural design and details for the concrete parking pads.

Confirm the capacity, location and condition adequacy of the existing under-pavement duct banks.

Prepare and certify the AGL system upgrade.

Confirm all existing linemarking complies with MOS 139 and adjust as agreed with the Principal, including new parking layout for the RPT Apron.

Highlight non-compliances with MOS 139 and adjust or retain non-compliances as directed by the Principal.

Validate all nominated tender quantities.

Submit all design details, including all Construction Procedures and ITPs, covering all trades and activities, consistent with the Preliminary Design, for Principal review and acceptance. To the extent that any design details are not accepted by the Principal, amend and resubmit those details and once revised designs have been reviewed and accepted by the Principal and are agreed by the Principal these designs will become the accepted design. The Principal must not unreasonably reject or refuse to accept any design details submitted by the Contractor.

Attend one start-up meeting and a minimum of two design review meetings on site.

Provide design certification that the Accepted Design is compliant with MOS 139, except where acknowledged or directed by the Principal, and is fit for the intended purpose, as defined by, or reasonably inferred from, the Technical Requirements and the Preliminary Design.

Submit all design outputs in a design report, draft and then final, for acceptance by the Principal.

Input to the preparation of a MOWP, to be prepared by the Principal, including provision of staging, sequencing and dates, as well as review and input to discussion on aircraft operational restrictions, working hours and access routes.

Perform asphalt production and construction trials, in accordance with the Asphalt Model Specification.

Perform concrete production trials, in accordance with the Technical Requirements.

2.2 Design submissions

The Principal reserves the right to instruct the Contractor to reasonably modify the basis of the design or the design solutions for budget control or other purposes.

Design submissions to include:

- Asphalt mixture designs for each mixture proposed, including separate submissions for mixtures containing different sources of RAP other than recovered from temporary asphalt construction ramps.

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1.4 Biosecurity for imported plant, equipment and materials

Attachments

Norfolk Island is a separate biosecurity zone from mainland Australia.

All plant and equipment must be 'free from biosecurity hazards', generally meaning it must be completely cleaned of all soil, dirt, seeds, fauna and flora.

All imported materials must be 'free from biosecurity hazards'. Consideration should be given to a 'pathways assessment' requiring the source, processing and storage of all materials to be documented to allow certification of freedom from biosecurity hazards to be granted. This requirement will be material and source specific and must reflect the risk associated with different materials types (eg. cement versus sand).

There are no designated biosecurity decontamination facilities on Norfolk Island and consideration should be given to pre-shipping inspection/clearance. The Australian Government's Department of Agriculture and Water Resources is the biosecurity authority and is available to perform inspections/clearances at a cost.

1.5 Exclusions

1. **Biosecurity for aggregate and sand** - The conforming offer allows for the bulk transport of aggregates and sand without treatment, because Biosecurity, Department of Agriculture and Water Resources are unable to confirm any specific requirements at the time of tender. The Contractor has costed the full heat sterilisation, and subsequent bagging, of imported aggregate and sand and that treatment is valued here. Valuation: \$4,200,000.
2. **Groyne Construction Environmental Impact Statement (EIS)** - The Principal is responsible for obtaining all required approval for the installation of the groyne in Ball Bay. The Contractor's price is to establish the groyne at Ball Bay is subject to the conditions of the Development Approval. At the time of submitting its offer, the Contractor assumes there will be no additional requirements or work arising from the conditions of the Development Approval. Any work to be done in order to comply with the conditions of the DA will be priced by the Contractor as a variation.
3. **Asphalt Plant Development Approval** - The Principal is responsible for obtaining all required approvals for the development and operation of a mobile asphalt production plant. At the time of submitting its offer, the Contractor assumes there will be no additional requirements or work arising from the conditions of the Development Approval. Any work to be done in order to comply with the conditions of the DA will be priced by the Contractor as a variation.
4. **Importation of Raw Materials** - If for any reason, the imported raw materials are unable to be unloaded onto Norfolk Island due to external factors beyond Contractor's control (including but not limited to Stevedore or biosecurity issues), the Contractor is to be entitled to:
 - full reimbursement of all of the Contractor's costs incurred up until that date; and
 - the right to terminate the contract without any penalty to the Contractor.

1 Separable Portion 1 – Logistics and Preliminaries

Date for Practical Completion – 31 January 2020

Liquidated Damages – No Liquidated Damages for Separable Portion 1

Descriptions of Works:

1.1 Logistics Phase

Establish work areas and facilities at:

- Section 44A (at the contractor's option but there is no crushing or asphalt production allowed in this area).
- Airport compound.

Construct a rock ramp at Ball Bay.

Import and manage all plant, equipment and materials required for the completion of the work.

Import and transfer ownership of detailed plant and equipment to the Principal on completion of its use.

Prepare, submit and revise, as required to obtain acceptance, management plans for overall project management, safety, quality, environment and traffic, covering the specific details for each portion of the works, recognising the nature of the scope of the work and the particular requirements of airport maintenance and resurfacing and the specifics of the project.

Perform and submit to the Principal a pre-construction dilapidation survey, covering all roads and other infrastructure within 10 m of all access routes, including, as applicable, Ball Bay, Cascade Quarry and Pier, Section 44A, the airport site compound, temporary works areas and the area of works.

1.2 Approvals

The Principal will secure environmental approval for the construction of a temporary rock groyne at Ball Bay for the purpose of unloading and loading materials, plant and equipment.

1.3 Contractor's areas

The Contractor has access to these areas, at no cost to the Contractor:

- Airport site compound.

In addition, the Contractor will be granted free access to the Ball Bay area for the purpose of constructing a rock ramp or other ship offload facility. The Contractor must establish and maintain the areas for the erection of a mobile asphalt plant, laboratory facilities, aggregate stockpiles, site buildings and a facility for use by the Principal. If the Contractor mobilises aggregate crushing or concrete batching facilities, these must also be located in the Contractor's areas.

The airport site compound is to be located in the nominated area that was previously used for the erection of an asphalt plant for runway resurfacing. Access during the day will be directly via the public road network. The airside gate and the landside gate cannot be open concurrently.

The Contractor must provide:

- Extension, expansion or upgrade of the site compound as deemed necessary;
- The Contractor's site facilities, stockpiles, laydown areas, testing facilities and plant storage; and
- A separate, lockable, air conditioned, demountable for use by the Principal, including a fridge, three open plan work stations, each with a double GPO, three office desk chairs and a minimum 6 seat meeting table.

All improvements to be Contractor's areas must be left in place at the completion of the works. All temporary facilities, structures and rubbish must be removed and disposed of by the Contractor, unless explicitly allowed by the Contract or instructed by the Principal. All clean construction waste must be left in neat and separate piles at the airport site compound.

At the completion of the works, all areas allocated to the Contractor for performing the work, including and the airport site compound, must be left in a neat and tidy condition, similar or better than on arrival.

Schedule 14**Separable Portions**

Defined terms

In this Schedule 14 the following terms have the meanings given below:

- **Accepted Design** means the design developed by the Contractor and accepted by the Principal under section 2.1 below;
- **Asphalt Model Specification** means the Asphalt Model Specification described in section 3.3 below;
- **Preliminary Design** means the Preliminary Design described in Schedule 18; and
- **Technical Requirements** means, as the context requires, the relevant technical requirements or specifications in the Preliminary Design or the Asphalt Model Specification.

If there is any inconsistency between the following documents, the document higher on the list will take precedence to the extent of the inconsistency:

1. this Schedule 14;
2. the Accepted Design; and
3. the Preliminary Design.

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Attachments

Schedule 13

Not Used

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Attachments

Commonwealth, including a person occupying a position in the Fair Work Building Industry Inspectorate, with access to:

- (a) inspect any work, material, machinery, appliance, article or facility;
- (b) inspect and copy any record relevant to the Project the subject of this Contract; and
- (c) interview any person

as is necessary to demonstrate its compliance with the Building Code.

9. Additionally, the Contractor agrees that the Contractor and its related entities will agree to a request from the Commonwealth or any person authorised by the Commonwealth, including a person occupying a position in the fair Work Building Industry Inspectorate, to produce a specified document within a specified period, in person, by fax or by post.
10. The Contractor must ensure that all subcontracts impose obligations on sub-contractors equivalent to the obligations under these Contract Clauses.

Schedule 12**Compliance with Building Code 2016**

Refer to clause 13.15 of the General Conditions of Contract.

1. The Contractor must comply with the *Building Code 2016* (the Building Code). Copies of the Building Code are available at www.legislation.gov.au/Details/F2017C00668
2. Compliance with the Building Code shall not relieve the Contractor from responsibility to perform the Contract, or from liability for any *Defect* in the works arising from compliance with the Building Code.
3. Where a change in the Contract is proposed and that change would affect compliance with the Building Code, the Contractor must submit a report to the Commonwealth specifying the extent to which the Contractor's compliance with the Building Code will be affected.
4. The Contractor must maintain adequate records of the compliance with the Building Code by:
 - (a) the Contractor;
 - (b) its Subcontractors;
 - (c) consultants; and
 - (d) its Related Entities (refer Section 8 of the Building Code).
5. If the Contractor does not comply with the requirements of the Building Code in the performance of this Contract such that a sanction is applied by the Minister for Employment, the Code Monitoring Group or the Commonwealth, without prejudice to any rights that would otherwise accrue, those parties shall be entitled to record that non-compliance and take it, or require it to be taken, into account in the evaluation of any future tenders that may be lodged by the Contractor or a related entity in respect of work funded by the Commonwealth or its agencies.
6. While acknowledging that value for money is the core principle underpinning decisions on Government procurement, when assessing tenders, the Contractor may give preference to subcontractors and consultants that have a demonstrated commitment to:
 - (a) adding and/or retaining trainees and apprentices;
 - (b) increasing the participation of women in all aspects of the industry; or
 - (c) promoting employment and training opportunities for Indigenous Australians in regions where significant indigenous populations exist.
7. The Contractor must not appoint a subcontractor or consultant in relation to the Project where:
 - (a) the appointment would breach a sanction imposed by the Minister for Employment; or
 - (b) the subcontractor or consultant has had an adverse Court or Tribunal decision (not including decisions under appeal) for a breach of workplace relations law, work health and safety law, or workers' compensation law and the tenderer has not fully complied, or is not fully complying, with the order.
8. The Contractor agrees to require that it and its subcontractors or consultants and its related entities provide the Commonwealth or any person authorised by the

Schedule 11

**Statement regarding Materials
(NOT USED)**

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Schedule 10

**Principal Arranged Insurances –
(NOT USED)**

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Schedule 9**Subcontract requirements**

Refer to clause 28.4.1 of the GC21 General Conditions of Contract.

1 General requirements for specified subcontracts

In addition to its obligations under clause 28.3, for all Subcontracts valued at or over the amount stated in Contract Information Item 29, the Contractor must include requirements consistent with the provisions of the following clauses and schedules of this Contract:

1. clause 3 - Co-operation
2. clause 4 - Duty not to hinder performance
3. clause 5 - Early warning
4. clause 6 - Evaluation and monitoring
5. clause 10 - Governing law of the Contract
6. clause 13 - Compliance with Code of Practice for Procurement
7. clause 14 - No collusive arrangements
8. clause 15.1.1 - Work Health and Safety management, except that the submission and implementation of the Safe Work Method Statements is subject to the decision of the Contractor as principal contractor for work health and safety matters.
9. clause 15.1.6 - Aboriginal Participation in Construction
10. clause 23 - Intellectual Property
11. clause 24 - Confidentiality
12. clause 25 - Media releases and enquiries
13. clause 26 - Care of people, property and the environment, indemnities and limitations
14. clause 27 - Insurances
15. clause 28 - Subcontractor relationships
16. clause 58 - Payment Claims
17. clause 59 - Payments
18. Schedule 1 (Subcontractor's Warranty) together with an obligation to execute and deliver the Warranty to the Principal (only if the Subcontractor is required by clause 30 to provide the warranty)
19. Schedule 9 (Subcontract requirements)

Variation.

3 Principles for calculating time

- .1 If the parties do not agree on the effect on the time for *Practical Completion* of the *Variation* carried out as *Daywork*, the extension of time for *Practical Completion* due if any, must be dealt with under clauses 68 to 71 based on the principles contained in clause 50.

Schedule 8**Daywork**

Refer to clause 48.4 of the GC21 General Conditions of Contract.

1 Daywork procedure and determination

- .1 If the Principal instructs that a *Variation* be carried out as *Daywork*, the Principal and Contractor must agree the amount, type and conditions of use of labour, plant and materials to be used in the *Variation*.
- .2 Contractor must record the particulars of all resources used by the Contractor each day in carrying out the *Variation*. The method of recording the resources and their hours must be agreed by the Contractor and Principal.
- .3 When submitting a claim for payment for the *Variation* in a *Payment Claim* under clause 58, the Contractor must submit records including all time sheets, wages sheets, invoices, receipts and other documents that are necessary to support this *Payment Claim*.
- .4 The Principal must assess the value of the *Variation* amount to be paid to the Contractor in respect of each *Payment Claim* and in making its assessment under clause 59 must have regard to the following:
 - .1 the amount of wages and allowances for labour paid or payable by the Contractor at the rates obtaining on the Site at the time, as approved by the Principal;
 - .2 the amount paid or payable by the Contractor in accordance with any statute or award applicable to day labour additional to the wages paid or payable under 1.4.1 of this *Daywork* procedure;
 - .3 the amount of hire charges for construction plant approved by the Principal for use on the work;
 - .4 the reasonable actual mobilisation and demobilisation costs of construction plant and vehicles (where brought for the sole purpose of the instructed *Daywork*);
 - .5 the reasonable amounts paid by the Contractor for Subcontracts and for Consultant work involved in carrying out the *Variation*;
 - .6 the reasonable actual cost to the Contractor at the Site of all materials supplied and required for the *Variation* work.
- .5 In addition to the amounts assessed for the items under clause 1.4 above, the value of the *Variation* will include an additional amount for overheads, administrative costs, site supervision, establishment costs, attendance and profit calculated as 22.5% of the total of the assessed costs under clause 1.4.
- .6 The amounts payable for *Daywork* will not be subject to adjustment for rise and fall in costs notwithstanding that the Contract may provide for adjustment for rise and fall in costs.

2 Amounts included in and excluded from Daywork

- .1 Assessment by the Principal of the valuation of a *Variation* carried out as *Daywork* will include valuation of all reasonable and necessary costs incurred of personnel, plant, vehicles, Subcontractor, Consultant and *Materials* used by the Contractor in carrying out the *Variation* as instructed by the Principal, subject to:
 - .1 the valuation of the *Variation* will only include costs for actual time of any resources which are employed on the *Variation*; and
 - .2 the costs of supervisory, technical and administrative personnel that are normally engaged on the Works and continue to be so during the *Daywork* will not be included in the Principal's assessment of the valuation of the

Schedule 7**Costs Adjustment Formula (NOT USED)**

Refer to clause 55.2 of the GC21 General Conditions of Contract.

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Notes

1. For the purpose of this Subcontractor's Statement, a principal contractor is a person (or other legal entity), who has entered into a contract with another person (or other legal entity) referred to as the subcontractor, and employees/workers of that subcontractor will perform the work under contract. The work must be connected to the business undertaking of the principal contractor.
2. Provide the unique contract number, title, or other information that identifies the contract.
3. In order to meet the requirements of applicable industrial relations and workers compensation laws for Norfolk Island such as the Fair Work Act 2009 (Cth) and the Employment Act 1988 (NI), a statement in relation to remuneration must state the period to which the statement relates. For sequential Statements ensure that the dates provide continuous coverage.

For the purposes of the Agreement / Contract, remuneration is defined by the parties 'as remuneration or other amounts payable to relevant employees by legislation, or under an industrial instrument, in connection with work done by the employees.'

To avoid doubt, the parties including subcontractors agree that the obligations under this agreement and the laws applicable to Norfolk Island also extend to a principal contractor who is the owner or occupier of a building for the carrying out of work in connection with the building so long as the building is owned or occupied by the principal contractor in connection with a business undertaking of the principal contractor.'

4. Provide the date of the most recent payment claim.
5. For Workers Compensation purposes an exempt employer is an employer who pays less than \$7500 annually, who does not employ an apprentice or trainee and is not a member of a group.
6. In completing the Subcontractor's Statement, a subcontractor declares that workers compensation insurance premiums payable up to and including the date(s) on the Statement have been paid, and all premiums owing during the term of the contract will be paid.
7. In completing the Subcontractor's Statement, a subcontractor declares that all remuneration payable to relevant employees for work under the contract has been paid.
8. In completing the Subcontractor's Statement, a subcontractor declares that all payroll tax payable relating to the work undertaken has been paid.
9. It is important to note that a business could be both a subcontractor and a principal contractor, if a business 'in turn' engages subcontractors to carry out the work. If your business engages a subcontractor you are to also obtain Subcontractor's Statements from your subcontractors.

Statement Retention

The principal contractor receiving a Subcontractor's Statement must keep a copy of the Statement for the periods stated in the respective legislation. This is currently up to seven years.

Further Information

For more information, contact the Fair Work Ombudsman (Commonwealth) or the Employment Liaison Officer for Norfolk Island. Copies of relevant legislation can be found at www.legislation.nsw.gov.au.

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Schedules

Schedule of subcontractors for which an amount is in dispute and has not been paid				
Subcontractor	ABN	Contract number/identifier	Date of works (period)	Payment claim dated (head contractor claim)

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Schedules

at of the payment claim dated:

(Note 5)

I, a director or a person authorised by the Contractor on whose behalf this declaration is made, hereby declare that I am in a position to know the truth of the matters that are contained in this statement and declare that, to the best of my knowledge and belief:

- (Note 6)**
- (a) The abovementioned Contractor has either employed or engaged workers or subcontractors during the above period of this contract. Tick ☐ if true and comply with (b) to (h) below, as applicable. If it is not the case that workers or subcontractors are involved or you are an exempt employer for workers compensation purposes tick ☐ and only complete (e) to (h) below. You must mark one box.
- (b) All workers compensation insurance premiums payable by the Contractor in respect of the work done under the contract have been paid. The Certificate of Currency for that insurance is attached and is dated . **(Note 7)**
- (c) All remuneration payable to relevant employees for work under the contract for the above period has been paid. **(Note 8)**
- (d) Where the Contractor is required to be registered as an employer under relevant laws applicable to Norfolk Island, the Contractor has paid all payroll tax due in respect of employees who performed work under the contract, as required at the date of this statement. **(Note 9)**
- (e) Where the Contractor is also a principal contractor to subcontracts in connection with the work, the Contractor has in its capacity of principal contractor been given a written Subcontractor's Statement by its subcontractor(s) in connection with that work for the period stated above. **(Note 10)**
- (f) All amounts due and payable to subcontractors have been paid (not including any amount identified in the attachment as in dispute).
- (g) Not Used.

(h) Signature Full name

(i) Position/Title Date

NOTE: Where required above, this Statement must be accompanied by the relevant Certificate of Currency to comply with applicable workers compensation legislation for Norfolk Island (see Employment Act 1988 (Norfolk Island)).

Attachment

Schedule of subcontractors paid all amounts due and payable				
Subcontractor	ABN	Contract number/identifier	Date of works (period)	Payment claim dated (head contractor claim)

Schedule 6

Combined Subcontractor's Statement and Supporting Statement

Refer to clause 58.6.1 of the GC21 General Conditions of Contract

For the purposes of this Statement the terms "principal", "head contractor", "subcontractor" and "construction contract" have the meanings given under any relevant law applicable to Norfolk Island

The Contractor is both a "head contractor" and a "subcontractor" in terms of any relevant laws applicable to Norfolk Island for workers compensation, payroll tax, income taxation and Fair Work / Industrial Relations, and makes relevant statements below accordingly.

This Statement must be signed by the Contractor (or by a person who is authorised, or held out as being authorised, by the Contractor to sign the statement).

Relevant legislation includes Employment Act 1988 (Norfolk Island) [*Workers Compensation*], *Fair Work Act 2009 (CTH)* [*employment standards/industrial relations*], *Income Tax Assessment Act (CTH)* and related Commonwealth of Australia taxation laws; Commonwealth laws applicable to building and construction work,; *Airport Act 1991 (Norfolk Island)*, and regulations, Commonwealth aviation and airport laws applicable to Norfolk Island; federal radiocommunications and telecommunications laws as may be applicable to the use of any radiocommunications or telecommunications in the performance of any works in or on Norfolk Island and all other laws of or applicable to Norfolk Island from time to time relevant to the Works or the Agreement / Contract.

Information, including Notes, Statement Retention and Offences under various Acts, is included at the end of this Schedule.

Main Contract

Contractor:

(Business name of the Contractor)

(Address of the Contractor)

Contract entered into a contract
with

(Business name of the Principal)

(Note 2)

Contract number/identifier

(Note 3)

Subcontracts

The Contractor has entered into contracts with the subcontractors listed in the attachment to this Statement.

Period

Statement applies for work between:

and

inclusive.

(Note 4)

General Conditions of Contract

Schedules

- General Conditions of Contract matters.

Schedules

- .2 The *Expert* must ignore any submission, response, reply, or comment not made within the time given in clause 2.1 of this Expert Determination Procedure, unless the Principal and the Contractor agree otherwise.
- .3 The *Expert* may request further information from either party. The request must be in writing, with a time limit for the response. The *Expert* must send a copy of the request and the response to the other party, and give the other party a reasonable opportunity to comment on the response.
- .4 All submissions, responses, replies, requests and comments must be in writing. If a party to the Contract gives information to the *Expert*, it must at the same time give a copy to the other party. All documents to be sent to the Principal under this Expert Determination Procedure must be sent to the relevant person at the relevant postal or other address stated in Contract Information Item 52.

3 Conference

- .1 The *Expert* may request a conference with both parties to the Contract. The request must be in writing, setting out the matters to be discussed.
- .2 The parties agree that such a conference is not to be a hearing which would give anything under this Expert Determination Procedure the character of an arbitration.

4 Role of Expert

- .1 The *Expert*:
 - .1 acts as an *Expert* and not as an arbitrator;
 - .2 must make its determination on the basis of the submissions of the parties, including documents and witness statements, and the *Expert's* own expertise; and
 - .3 must issue a certificate in a form the *Expert* considers appropriate, stating the *Expert's* determination and giving reasons, within 16 weeks, or as otherwise agreed by the parties, after the date of the letter of engagement of the *Expert* referred to in clause 71.3 of the Norfolk Island Regional Council General Conditions of Contract.
- .2 If a certificate issued by the *Expert* contains a clerical mistake, an error arising from an accidental slip or omission, a material miscalculation of figures, a mistake in the description of any person, matter or thing, or a defect of form, then the *Expert* must correct the certificate.

Schedule 5**Expert Determination Procedure**

Refer to clause 71 of the Norfolk Island Regional Council General Conditions of Contract.

1 Questions to be determined by the Expert

- .1 For each *Issue*, the *Expert* must determine the following questions, to the extent that they are applicable to the *Issue* and unless otherwise agreed by the parties:
 - .1 Is there an event, act or omission which gives the claimant a right to compensation, or assists in otherwise resolving the *Issue* if no compensation is claimed:
 - .1 under the Contract,
 - .2 for damages for breach of the Contract, or
 - .3 otherwise in law?
 - .2 If so:
 - .1 what is the event, act or omission?
 - .2 on what date did the event, act or omission occur?
 - .3 what is the legal right which gives rise to the liability to compensation or resolution otherwise of the *Issue*?
 - .4 is that right extinguished, barred or reduced by any provision of the Contract, estoppel, waiver, accord and satisfaction, set-off, cross-claim or other legal right?
 - .3 In light of the answers to the questions in clauses 1.1.1 and 1.1.2 of this Expert Determination Procedure:
 - .1 what compensation, if any, is payable by one party to the other and when did it become payable?
 - .2 applying the rate of interest specified in the Contract, what interest, if any, is payable when the *Expert* determines that compensation?
 - .3 if compensation is not claimed, what otherwise is the resolution of the *Issue*?
- .2 The *Expert* must determine, for each *Issue*, any other questions identified or required by the parties, having regard to the nature of the *Issue*.

2 Submissions

- .1 The procedure for submissions to the *Expert* is as follows:
 - .1 The party to the Contract which referred the *Issue* to *Expert Determination* must make a submission in respect of the *Issue*, within 15 *Business Days* after the date of the letter of engagement of the *Expert* referred to in clause 71.3 of the GC21 General Conditions of Contract.
 - .2 The other party must respond within 15 *Business Days* after receiving a copy of that submission or such longer period as the other party may reasonably require, having regard to the nature and complexity of the *Issue* and the volume of the submission. If the parties do not agree on that longer period, the party desiring the longer period may make a submission on the point to the *Expert*, within the time specified by the *Expert*, and the *Expert* will promptly determine any extra time permitted. The response to the submission in clause 2.1.1 may include cross-claims.
 - .3 The party referred to in clause 2.1.1 may reply to the response of the other party, but must do so within 10 *Business Days* or such longer period as that party may reasonably require (in the same terms as in clause 2.1.2) after receiving the response, and must not raise new matters.
 - .4 The other party may comment on the reply, but must do so within 10 *Business Days* or such longer period as that party may reasonably require (in the same terms as in clause 2.1.2) after receiving the reply, and must not raise new

- General Conditions of Contract

Schedules

Schedule 4

Agreement with Valuer (NOT USED)

Refer to clause 35 of the GC21 General Conditions of Contract.

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Schedule 3**Payment Claim Worksheet**

Refer to clause 58 of the GC21 General Conditions of Contract.

The Contractor:
 ABN
 The Contract: The contract between the Principal and the Contractor
 Contract Name: NORFOLK ISLAND AIRPORT PAVEMENT REPAIR AND RESURFACING
 Contract Number: SPT171819NIRC

1	2	3	4	5
Activity to suit schedule of prices and/or activities	Activity number	Value of activity \$	Activity (%)	Activity completed value \$ (col 3 x col 4)
Amount brought forward from previous sheet				\$
Amount carried forward to next sheet				\$

1	2	3	4	5
Item or activity to suit <i>Schedule of Rates</i>	Item or activity number	Price or rate for item or activity \$	Quantity completed	Item or activity completed value \$ (col 3 x col 4)
Amount brought forward from previous sheet				\$
Amount carried forward to next sheet				\$

Complete this section on the last sheet only

Subtotal for any <i>Schedule of Rates</i> items	\$
Subtotal for any lump sum items	\$
\$	\$
\$	\$
Value Completed	\$
Less payments already made	\$
Less retention for the <i>Completion Amount</i> under clause 60, if applicable	\$
Claimed Amount	\$

part payment or payments.

4. The Bank's liability under this guarantee is not affected or discharged in any way by any variation of the Agreement or by any extension of time or other forbearance on the part of the Beneficiary or the Customer to the other.
5. The Bank may terminate this guarantee at any time upon payment to the Beneficiary of the Amount or the balance of the Amount remaining after any part payment of the Amount, or such lesser amount as the Beneficiary requires.
6. If two or more persons are named as the Beneficiary, this guarantee takes effect for the benefit of them jointly and a demand under this guarantee by any one or more of them is deemed to be a demand by both or all of them jointly. Payment by the Bank under this guarantee to any one or more of them discharges this guarantee to the extent of the amount so paid.
7. The benefit of this guarantee is not assignable by the Beneficiary.
8. This guarantee continues in force until the earliest of the following events occurs:
 - a) this guarantee is returned to the Bank during normal banking hours at the NAB branch located at **Level 24, 255 George Street, Sydney NSW 2000, Australia** and if this branch is no longer permanently open, to any NAB branch located within Australia (other than for a payment in accordance with clause 2(a));
 - b) notification in writing has been received by the Bank at the NAB branch as detailed in clause 8 (a) from the Beneficiary that this guarantee is no longer required;
 - c) payment is made under clause 2 or 5 to the Beneficiary by the Bank of the whole of the Amount or the balance of the Amount remaining after any part payment or payments of the Amount, or such lesser amount as the Beneficiary requires;
 - d) the close of business on.
9.
 - a) In the events of clause 8 (a), (b) & (d), the Beneficiary must return this guarantee to the Bank at the NAB branch as detailed in clause 8 (a);
 - b) In the events of clause 8 (c), the Beneficiary must return this guarantee to the Bank at any NAB branch located within Australia.
10. This guarantee is governed by and is to be construed in accordance with the laws of the place where it is executed by the Bank.

Dated _____ (day)(month) (year –ccyy)

Executed on behalf of the National Australia Bank Limited by its Attorney

Name of Attorney

who holds the position of Level 3 Attorney under Power of Attorney dated [insert]

in the presence of:

Signature of witness

Name of witness

Signature of Attorney

Schedule 2**Undertaking**

Refer to clauses 33, 57 and 58 of the GC21 General Conditions of Contract.

**National Australia Bank
Limited ("Bank") ABN 12
004 044 937**

Bank Guarantee

Guarantee No :

To:

A.C.N./A.R.B.N./ABN

(The Beneficiary)

For:

A.C.N./A.R.B.N./ABN

(The Customer)

Agreement:

Amount: Currency of

Amount in words:

1. In consideration of the Beneficiary agreeing at the request of the Customer and the Bank to accept this guarantee in connection with the Agreement, the Bank undertakes to pay the Beneficiary an amount or amounts not exceeding the Amount in total.
2. Payment of the Amount or any part or parts of the Amount will be made by the Bank to the Beneficiary:
 - a) upon the Bank receiving at any NAB branch located within Australia while this guarantee remains in force an unconditional written demand from the Beneficiary accompanied by this guarantee; and
 - b) without reference to the Customer; and
 - c) despite any notice given to the Bank by the Customer not to pay to the Beneficiary any moneys payable under this guarantee; and
 - d) irrespective of the performance or non-performance by the Customer or the Beneficiary of the Agreement in any respect; and
 - e) with no obligation on the Bank to enquire as to the performance or non-performance of the Agreement in any respect by the customer or the Beneficiary; and
 - f) with no obligation on the Bank to enquire as to the correctness or validity of any demand pursuant to sub-clause 2(a) of this clause.
 - g) at the Bank's election in cash, bank cheque or funds transfer into the Beneficiary's nominated account.
3. Where a demand and payment is made pursuant to clause 2, for a sum that is less than the Amount, the Bank will issue to the Beneficiary a replacement guarantee for the balance of the Amount then remaining, after such

GC21 (Edition 1) - General Conditions of Contract

Schedules

work carried out by others, and the Subcontractor indemnifies the Principal for the reasonable costs and expenses of doing so.

8 Urgent action by Principal

- .1 The Principal may take any urgent action necessary to protect the Works, other property or people as a result of a breach of clause 1 of this Deed.
- .2 The Subcontractor agrees that the Principal taking such action does not affect the warranty or any other obligation of the Subcontractor under this Deed.
- .3 The Subcontractor indemnifies the Principal for the reasonable costs and expenses paid or payable in taking that action.

9 Assignment

- .1 The Principal may assign its rights and benefits under this Deed to the owner or operating authority of the Works and must give notice of that assignment to the Subcontractor.

10 Operation of Deed

- .1 This Deed comes into effect when executed by the Subcontractor, and is effective whether or not executed by the Principal.

Executed as a deed

The common seal of the Subcontractor was affixed in accordance with its Articles of Association in the presence of:

Signature of
Director/Secretary:

Name of Director/Secretary:

Signature of Director:

Name of Director:

or (if the Subcontractor is not a corporation)

Signed, sealed and delivered on behalf of the Subcontractor by:

Signature of Authorised
Person:

Name of Authorised
Person:

and witnessed by:

Signature of witness:

Name of witness (in full):

Signed, sealed and delivered on behalf of the Principal by:

Signature of Authorised
Person:

Name of Authorised
Person:

and witnessed by:

Signature of witness:

Full name of witness:

Place:

- .1 comply in all respects with the requirements of the Contract;
 - .2 to the extent that the quality of *Materials* or standard of workmanship is not specified in the Contract, comply with the applicable industry standards, including (without limitation) the Building Code of Australia and any applicable Australian Standards; and
 - .3 be fit for the purposes outlined in the specification referenced in this Contract.
- .2 The Subcontractor warrants that it will use reasonable skill and care in performing all work associated with the Subcontract Work or Products.

2 Replacement or making good

- .1 The Subcontractor promises to replace or make good, to the reasonable satisfaction of the Principal, any of the Subcontract Work or Products which are found, within the Warranty Period, to:
 - .1 be of a lower standard or quality than referred to in clause 1 of this Deed; or
 - .2 have deteriorated to such an extent that they are no longer fit for the purposes outlined in the specification referenced in this Contract.
- .2 The liability of the Subcontractor is reduced to the extent that deterioration is caused by:
 - .1 mishandling, damage before installation, or incorrect installation, in each case caused by others;
 - .2 normal wear and tear;
 - .3 incorrect operational procedures or maintenance, in each case not attributable to the Subcontractor; or
 - .4 any other cause beyond the control of the Subcontractor.
- .3 Nothing in this Deed affects the Subcontractor's liability with respect to the Subcontract Work or Products.

3 Costs

- .1 The Subcontractor promises to undertake, and meet the reasonable cost of, any work necessary to:
 - .1 carry out any part of the Works to enable the requirements of clause 2 of this Deed to be met; or
 - .2 restore or make good the Works after meeting those requirements, whichever the Principal requires.

4 Indemnity

- .1 The Subcontractor indemnifies the Principal against claims (including *Claims*, actions and loss or damage) arising out of breach by the Subcontractor of clauses 1 or 2 of this Deed.

5 Notice of Defects

- .1 The Principal may notify the Subcontractor in writing if it considers there has been any breach of the warranty in clause 1 of this Deed or if the Principal requires the Subcontractor to replace or make good any of the Subcontract Work or Products under clause 2 of this Deed.

6 Time to remedy

- .1 The Subcontractor must do everything to remedy any breach notified to it, or to carry out any replacement or making good required under clause 5 of this Deed, within a reasonable time after receiving the Principal's notice.

7 Failure to remedy

- .1 If the Subcontractor fails to complete the work specified in the Principal's notice under clause 5 of this Deed within a period determined by the Principal to be reasonable in the circumstances, the Principal may give written notice to the Subcontractor that the Principal intends to have that work carried out by others. This notice must allow a reasonable period for the Subcontractor to respond.
- .2 If the Subcontractor fails to complete the work by the date specified in clause 7.1 of this Deed, or another date agreed by the parties, the Principal may have the

Schedule 1**Subcontractor's Warranty**

The Contractor has entered into the Contract with the Principal for the carrying out of the Works.

The Subcontractor has entered into an agreement with the Contractor for the Subcontract Work or Products, which are to be used by the Contractor in performing the Contract.

In return for the Principal allowing the Subcontract Work or Products to be used in the Works, the Subcontractor agrees to give the warranties, indemnities and other promises in this Deed. The obligations created by this Deed are in addition to the obligations of the Subcontractor to the Contractor and do not affect any other rights or remedies available to the Principal against the Contractor or the Subcontractor.

Refer to clause 30.1 of the GC21 General Conditions of Contract.

Definitions

Deed dated:
	between
Subcontractor or Supplier:

	ABN

	And
The Principal:	»
	concerning
The Contract:	The contract between the Principal and the Contractor
Contract Name:	»
Contract Number:	»
Works:	The works to be designed (to the extent specified) and constructed by the Contractor, as described in the Contract.
The Contractor:
	ABN

Subcontract Work or Products:
Warranty Period:years from the issuing of the <i>Date of Practical Completion of Separable Portion 4</i> .

Other words and phrases in this Deed have the meanings given in the Contract.

In this Deed, the term Subcontractor includes Supplier. The terms Subcontractor, Contractor and Principal include their successors and permitted assignees.

Terms of Deed**1 Warranty**

- 1 The Subcontractor warrants that all work performed and all *Materials* supplied by the Subcontractor as part of the Subcontract Work or Products will:

Schedules

Schedule 1	Subcontractor's Warranty
Schedule 2	Undertaking
Schedule 3	Payment Claim Worksheet
Schedule 4	Agreement with Valuer (NOT USED)
Schedule 5	Expert Determination Procedure
Schedule 6	Combined Subcontractor's Statement and Supporting Statement
Schedule 7	Costs Adjustment Formula (NOT USED)
Schedule 8	Daywork
Schedule 9	Subcontract requirements
Schedule 10	Principal Arranged Insurances (NOT USED)
Schedule 11	Statement regarding Materials (NOT USED)
Schedule 12	Compliance with Building Code 2016
Schedule 13	Retention Money Trust Account Obligations
Schedule 14	Separable Portions
Schedule 15	Schedule of Rates
Schedule 16	Rates for Delay
Schedule 17	Departures from Design
Schedule 18	Principal's Documents
Schedule 19	Site Drawings

Expert Determination

51 Time to refer Issue to Expert Determination

Mentioned in clause 70

The time within which either party may refer an *Issue to Expert Determination* is:

28 days after becoming entitled under clause 70.6.

52 Expert Determination representative

Mentioned in clause 71

The representative of the Principal for all of the purposes in clause 71, and under Schedule 5 (Expert Determination Procedure) is:

The Principal's senior executive shown in Contract Information Item 7 until the Principal notifies otherwise.

Office address:
(for delivery by hand)

As shown in Contract Information Item 7.

Postal address:
(for delivery by post)

As shown in Contract Information Item 7.

Facsimile number:

As shown in Contract Information Item 7.

e-mail address:

As shown in Contract Information Item 7.

53 Person to nominate an Expert

Mentioned in clause 71

The person is:

Chief Executive Officer
Australian Disputes Centre
Level 16
1 Castlereagh Street
Sydney NSW 2000

Telephone number:

(02) 9239 0700

Facsimile number:

(02) 9223 7053

54 Threshold amount for litigation

Mentioned in clause 71

The threshold amount for litigation following an *Expert's* determination is:

\$250,000.

55 Limits of Accuracy

±10%

47 Completion Amount*Mentioned in clause 60*The *Completion Amount* is: \$ NILThe *Completion Amount* is payable after: N/A(Completion of the whole of the Works/*Completion of Separable Portion* »)**48 Interest on late payments***Mentioned in clause 62*

The rate of interest per annum is: 7%

Delay costs

49 Delay costs and liquidated damages*Mentioned in clauses 34 & 51***A1 - Delay costs**

The rate cap in Item 49A1 applies for all delay events where the Contractor is entitled to delay costs under clause 51.

The rate per day for delay costs is: capped at \$147,096 per working day as defined in Item 18.

B - Liquidated damages*Mentioned in clauses 51.8 and 51.9*

Do liquidated damages apply to this Contract? (Yes/No) YES

The rate per day for liquidated damages are the rates specified for each *Separable Portion* [plus Returning Runway to Service as listed] and is:Liquidated Damages for a *Separable Portion* as referenced in Schedule 14.

Engagement of Valuer

50 Engagement of Valuer (NOT USED)

Are rise or fall adjustments
applicable to the Contract
(excluding *Daywork*)? (Yes/No)

No

42 Provisional Sums

Mentioned in clause 55.4

Provisional Sum items referred to
in clause 55.4 are:

1. Geotechnical investigation and validation to verify key design parameters (\$58,200)
2. Works directed by the Principal in respect of *Separable Portion 3* (\$300,000).

43 Provisional Sum margin

Mentioned in clause 55.4

The *Provisional Sum* margin
includes profit and off-site
overheads:

and on-site overheads including
attendance and administration

The *Provisional Sum* margin is:

N/A

44 Contractor's Margin

Mentioned in clauses 47 and 79

The *Contractor's Margin* includes
profit and off-site overheads:

and on-site overheads including
attendance and administration.

The percentage for *Contractor's
Margin* is:

10%

45 Amount of Prepayment

Mentioned in clause 57.1.1

The amount of *Prepayment* is:

\$ ZERO

46 Payment date and method

A - Date for Payment Claims

Mentioned in clause 58.1

The date in the month for making
Payment Claims is:

The last *Business Day* prior to the end
of each calendar month

- .2 Items and components of the Works which the Contractor must fully design (clause 39.1.3):

Airport Lighting

- .3 Items, services and components of the Works that depart from the design provided by the Employer:

Existing MOSS 139 non-conformances as identified in Schedule 17

B - Building Code of Australia

Mentioned in clauses 39 & 43

Does the Building Code of Australia apply? (Yes/No)

Yes

Innovation

39 Innovation

Mentioned in clause 41.5

The percentage of financial benefit to be allocated to the Contractor is:

Zero

Payments

40 Contract Price at the Date of Contract

Mentioned in clauses 55.1 and 55.3

The *Contract Price* at the Date of Contract is:

\$44,956,207.00

Basis of payment

The basis of payment is:
(Lump sum / *Schedule of Rates* /
Lump sum with *Rate Items*)

Lump sum with *Rate Items* per
Schedule 15.

41 Rise or fall adjustments

Mentioned in clause 55.2

The period at the end of which the
Post-Completion Undertaking
must be returned is:

12 months following the *Date of
Practical Completion* for *Separable
Portion 4*.

Site information

36 Site information

Mentioned In clause 36

*Information contained in the documents identified in Contract
Information items 36A and 36B does not form part of the
Contract.*

A - Documents not guaranteed for completeness

Documents not
guaranteed for
completeness are:

B - Documents not guaranteed for accuracy, quality or completeness

Documents not guaranteed for
accuracy, quality or completeness
are:

All documents provided by the
Principal that contain an author's
disclaimer.

37 Site Conditions

Mentioned in clause 37.2

Is the Contractor to bear the full
risk, including cost and time
implications, of encountering and
dealing with materially adverse
Site Conditions other than
carrying out *Variations* instructed
by the Principal? (Yes/No)

YES.

Design and documentation

38 Scope of design activities

A - Design by the Contractor

Mentioned in clause 39

- .1 Items and components of the
Works for which the Contractor
is responsible for developing the
preliminary design provided by
the Principal (clause 39.1.2):

Pavement Design

30 Payment period for Subcontracts*Mentioned in clause 28.4.2*

The maximum period before payment, for Subcontracts less than the value stated in Contract Information Item 29, is:

30 Business Days.

31 Preferred Subcontractors*Mentioned in clause 29.3*

The Preferred Subcontractors referred to in clause 29 are:

N/A

32 Subcontractor's warranty*Mentioned in clause 30.1*

Trades or areas of work requiring a Subcontractor's warranty are:

Aeronautical ground lighting

Undertakings

33 Completion Undertaking*Mentioned in clause 33.1*

A - For Contractors selected to tender for the Contract from the Office of Finance & Services 'Best Practice' Contractor Accreditation Scheme

The amount of the Completion Undertaking is:

N/A

B - For All Other Contractors

The amount of the Completion Undertaking is:

2.5% of the Contract Price at the Date of Contract..

34 Post-Completion Undertaking*Mentioned in clause 33.1*

The Amount of Post-Completion Undertaking is:

2.5% of the Contract Price at the Date of Contract.

35 Return of Post-Completion Undertaking*Mentioned in clause 33.3.2*

Subcontract work

29 Inclusion of consistent requirements in Subcontracts

Mentioned in clause 28.4

The Subcontract value requiring inclusion of the provisions set out in Schedule 9 (Subcontract requirements) is:	\$100,000.00.
--	---------------

Contract Documents

26 Other Contract Documents

Mentioned in clause 7.1.5

Other *Contract Documents* (not listed in clause 7) are:

Nil

Principal's Documents

27 Copies of Principal's Documents

Mentioned in clause 7.4

The number of copies of the *Principal's Documents* to be provided to the Contractor is:

1 hard copy (the Contractor acknowledges receipt)

Contractor's Documents

28 Copies of Contractor's Documents

Mentioned in clause 40.1

The number of copies of the *Contractor's Documents* to be provided to the Principal is:

1 electronic copy uploaded via TenderLink in a format acceptable to the Principal AND

1 hard copy to be delivered to Regional Procurement within 5 business days following close of tender

c/o the Tender Box

59 Bonville Avenue Thornton
NSW 2322

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Contract Information

As required by Clause 27

18 Working hours and working days

Working hours and working days are:

Mentioned in clause 18
Monday to Sunday for 24 hours per day subject to the Operational Restrictions set out in Schedule 14 (Item 3.21), which shall apply for *Separable Portion 2*, *Separable Portion 3* and *Separable Portion 4* for the purposes of this Item 18 and clause 18.

Liability

19 Limitation of liability*Mentioned in clause 26.8*

Subject to clause 26.9, the limit of the Contractor's liability to the Principal other than for claims in respect of personal injury or death is:

100% of the aggregate Contract Price for all *Separable Portions*.

20 Proportionate liability*Mentioned in clause 26.12*

Is proportionate liability excluded from the Contract? (Yes/No)

YES

Insurance

21 Works insurance*Mentioned in clauses 27.1*

As required by Clause 27

22 Public liability insurance*Mentioned in clauses 27.1.1.1*

As required by Clause 27

23 Workers compensation insurance*Mentioned in clause 27.1.1.2*

As required by Clause 27

24 Professional indemnity insurance*Mentioned in clause 27.1.1.4*

As required by Clause 27

25 Marine liability insurance*Mentioned in clause 27.1.13*

GC21 (Edition 2) - General Conditions of Contract

Contract Information

Is the Contractor required to submit an Environmental Management Plan? (Yes/No)

Yes

If required, the Environmental Management Plan must be provided:

At least 14 days before starting work on the Site.

E – Skills Development and Training

Mentioned in clause 15

Is the Contractor required to meet and report on commitments for engaging apprentices and trainees for the Contract work? (Yes/No)

NO

F - Aboriginal Participation (NOT USED)

Mentioned in clause 15

The Aboriginal Participation Project Category is:

Not Applicable

An Aboriginal Participation Plan must be provided:

Not Applicable

An Aboriginal Participation Report must be provided:

Not Applicable

Is the Contractor required to submit copies of the Aboriginal Participation Plan and Participation Report to the NSW Procurement Board? (Yes/No)

Not Applicable

16 Requirements for Commonwealth Funded projects

A - Building Code 2016

Mentioned in clause 13.15

Is the Contractor required to comply with the Building Code 2016?

YES

B - Australian Government Building and Construction OHS Accreditation Scheme

Mentioned in clause 17

Is the Contractor required to maintain accreditation under the Australian Government Building and Construction OHS Accreditation Scheme?

YES

17 Principal contractor

Mentioned in clause 16

Is the Contractor appointed as principal contractor? (Yes/No)

Yes

Is the Contractor required to
implement a Corporate WHS

Yes

Strategic Services Australia (ABN 77 103 439 578) has made changes to this document to suit the specific requirements of this tender. Whilst all care has been taken to ensure the correctness of content no liability may be accepted by the NSW Government for any errors or omissions.

Management System acceptable to
the Principal? (Yes/No)

Is the Contractor required to submit
a WHS Management Plan in
accordance with the deemed
application of WHS Regulation
2011 (NSW)?
(Yes/No)

Yes

If required, the WHS Management
Plan must be provided:

Not less than 14 days before starting
work on the Site

B - Workplace Relations

Is the Contractor required to submit
a Workplace Relations
Management Plan? (Yes/No)

No

Mentioned in clause 15

If required, the Workplace
Relations Management Plan must
be provided:

N/A

C - Quality Management

Is the Contractor required to
implement a certified Quality
Management System? (Yes/No)

Yes

Mentioned in clause 15

Is the Contractor required to
submit a Quality Management
Plan? (Yes/No)

Yes

If required, the Quality
Management Plan must be
provided:

Before starting design or construction
work in connection with the Contract.

D - Environmental Management

Is the Contractor required to
implement an accredited
Environmental Management
System? (Yes/No)

Yes

Mentioned in clause 15

Facsimile number: N/A

e-mail address: rob.mcguire@boral.com.au

Dates and times

12 Date of Contract

Defined in clause 79

The Date of Contract is: the date of execution of the Formal Instrument of Agreement

13 Times for Site access and Practical Completion

*Site access: Mentioned in clause 34**Date for Practical Completion and Practical Completion: Mentioned in clause 65*

Time periods for Site access and for calculating Dates for Practical Completion dates are as shown.

Description	Time Period for giving Site access	Time Period for Practical Completion
The whole of the Works:	Norfolk Island Airport (NIA) Site access to be given at the Date of Contract. The Contractor is responsible for obtaining and managing site access to Ball Bay.	For each Separable Portion the Date for Practical Completion is set out in Schedule 14.

Statutory and Government requirements

14 Fees, charges and approvals

Mentioned in clause 12

Approvals that have been obtained or will be obtained, and fees and charges that have been paid or will be paid, by the Principal are:

1. Ball Bay groyne approval (this has been obtained by the Principal and provided to the Contractor);
2. Asphalt Plant Approval; and
3. Laydown Area approval

15 Compliance with Norfolk Island and Commonwealth laws including for Work Health & Safety (WHS or WH&S)

Mentioned in clause 15

**Contractor's details (these may also be found in
the Principal's Agreement or Contract signed with
the Contractor)**

8 Contractor

The Contractor is: Boral Resources (QLD) Pty Limited, ABN 46
009 671 809

9 Contractor's Authorised Person

The Contractor's
Authorised Person is: Christopher Jeffery

*Mentioned in clause 2***10 Notices to the Contractor***Mentioned in clause 11*

Notices must go to the *Contractor's Authorised Person* named above, at the address or number shown here.

Office address:
(for delivery by hand) 202 Cullen Avenue West, Whinstanes, Qld,
4007

Postal address:
(for delivery by post) PO BOX 227 Hamilton Central, Qld, 4007

Facsimile number: N/A

e-mail address: christopher.jeffery@boral.com.au

11 Contractor's senior executive*Mentioned in clause 70*

The Contractor's senior
executive is: Robert McGuire

Office address:
(for delivery by hand) Level 6, 88 Musk Avenue, Kelvin Grove, Qld,
4059

Postal address:
(for delivery by post) PO Box 1278, Stafford, Qld, 4053

Principal's details

4 Principal

The Principal is:

Norfolk Island Regional Council
ABN: 60 103 855 713

Defined in clause 79

5 Principal's Authorised Person

The *Principal's Authorised Person* is:

Bruce Taylor – Group Manager
Services

Mentioned in clause 2

6 Notices to the Principal

Notices must go to the *Principal's Authorised Person* named above, at the address or number shown here. *Mentioned in clause 11*

Office address:
(for delivery by hand)

9 New Cascade Road
Norfolk Island
Australia 2899

Postal address:
(for delivery by post)

PO Box 95
Norfolk Island
Australia 2899

Facsimile number:

N/A

e-mail address:

customercare@nirc.gov.nf

7 Principal's Senior executive

Mentioned in clauses 69 & 70

The Principal's senior executive is:

Lotta Jackson – General
Manager

Office address:
(for delivery by hand)

9 New Cascade Road
Norfolk Island
Australia 2899

Postal address:
(for delivery by post)

PO Box 95
Norfolk Island
Australia 2899

Facsimile number:

N/A

e-mail address:

customercare@nirc.gov.nf

Contract Information

The Contract Information is part of the Contract. Words and phrases are defined in clause 79.

Contract

Item

1 Contract name

The Contract name is: Norfolk Island Airport Pavement
Repair and Resurfacing D & C

The Contract number is: SPT1718NIRC

2 Site

The Site is:

Defined in clause 79

(i) the Norfolk Island Airport (NIA)
Site; and

(ii) Ball Bay Site,

as delineated by the yellow border in the
drawings referenced in Schedule 19 (Site
Drawings).

3 Description of the Works

The Works are

As referenced in each *Separable
Portion* in Schedule 14.

GC21 (Edition 2) - General Conditions of Contract

Meanings

context requires otherwise. Contract Information Item 3 briefly describes the Works and the Works are more fully described in Schedule 14.

GC21 (Edition 2) - General Conditions of Contract
obligations under the Contract Documents;
excluding Latent Conditions.

Meanings

Statutory Requirements

The laws of or applicable to Norfolk Island and of the Commonwealth of Australia applicable to Norfolk Island as well as any laws applied to Norfolk Island by the Commonwealth of Australia from any other State or Territory of Australia from time to time relating to the Works or the Site, or the lawful requirements of any authority or provider of services having jurisdiction over the Works, the Site, the environment or the Contract, or anyone or anything connected with the Works or the Site or the Contract.

Subcontract

An agreement between the Contractor and a Subcontractor or a Supplier.

Subcontractor

An entity (including one engaged in accordance with clause 29.3) engaged by the Contractor to carry out part of the Works or the *Temporary Work*, or both, other than a Consultant or a Supplier or a *Shipping Contractor*.

Sunset Date

Means the date 3 months after the original *Date for Practical Completion* in respect of *Separable Portion 4* without taking into account any extension of time or acceleration of that date, except as extended (if at all) under Clause 50.

Supplier

An entity engaged by the Contractor to supply *Materials* in connection with the Works.

Temporary Work

Temporary structures, amenities, physical services and other work, including *Materials*, plant and equipment used to carry out the Works but not forming part of the Works.

Test

Examine, inspect, measure, prove and trial, including uncovering any part covered up, if necessary; *Testing* and other derivatives of *Test* have a corresponding meaning.

Undertaking

An unconditional undertaking to pay on demand, in the relevant form of Schedule 2 (Undertaking).

Unresolved Claim

A *Claim* rejected or not agreed under clause 68.7.

Value Completed

The value of work (including design work) carried out by the Contractor and included in a *Payment Claim*, as referred to in Schedule 3 (Payment Claim Worksheet).

Valuer

The entity engaged to determine time and value matters under clause 35.

Variation

Any change to the Works including additions, increases, omissions and reductions to and from the Works (including *Latent Conditions*), but not including such changes in respect of the development by the Contractor of the design for the Works (including development of shop drawings and other *Contractor's Documents*) in accordance with the requirements of the Contract.

Works

The works to be designed, constructed and handed over to the Principal by the Contractor in accordance with the Contract, including all work and items of the types referred to in clause 8.1 and *Variations*, but excluding *Temporary Work*. The term applies to the Works as a whole and also to any part of the Works unless the

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Meanings

(except where caused or contributed to by the Contractor or any of the Contractor's Authorised Person);

but specifically excludes:

- .9 a breach, act, default or omission by the Contractor or a *Contractor's Authorised Person*;
- .10 industrial conditions related solely to Works (including any off-site Works) or where otherwise caused or contributed to by the Contractor; and
- .11 any other instances where the Contractor is not entitled to access to the *Site* in accordance with the Contract.

but for the avoidance of doubt a Qualifying Cause of Delay shall not include any delay caused by compliance with the Operational Restrictions set out in Schedule 14 (Item 3.21)

Rate Item

An Item of work for which payment will be calculated by multiplying the measured quantity of work, carried out in accordance with the Contract, by the rate accepted for that work. A *Rate Item* may appear in the *Schedule of Rates* or be identified in the Schedule of Prices – Lump Sum.

Schedule of Rates

Any document included in the Contract identified as a *Schedule of Rates*, or which shows rates payable for carrying out items of work described in that document.

Scheduled Amount

The amount of payment (if any) stated in a *Payment Schedule*, that the Principal proposes to make in relation to a *Payment Claim*, as referred to in clause 59.1.2.

Scheduled Progress

The rate of progress consistent with carrying out the work required by the Contract expeditiously and without undue delay, so that each *Separable Portion* will be completed by its respective *Date for Practical Completion*.

Separable Portions

A portion of the Works identified as such in Schedule 14 or by the *Principal's Authorised Person*;

Shipping Contractor

means any contractor engaged by the Contractor to transport goods, materials, plant, equipment or any other item in respect of the Works across sea by marine transport.

Site

The lands and other places to be made available by the Principal to the Contractor for the purpose of executing the Works, including any existing buildings, services or other improvements, as briefly described in Contract Information Item 2.

Site Conditions

Any physical conditions of the Site (including under and over surface and sub-surface conditions, but excluding weather conditions or physical conditions which are a consequence of weather conditions), or in the vicinity of the Site encountered in carrying out work in connection with the Contract and includes without limitation:

- .1 geology including rock or other materials encountered at the Site;
- .2 availability and condition of roads and all utility servicing, or required to service the Site;
- .3 the existing condition of any existing building or other structure on the Site;
- .4 all existing systems and services above and below the surface of the Site and the location of all facilities with which such systems and services are connected;
- .5 all other physical conditions and characteristics of the Site above, on or below the surface which may affect the performance of the Contractor of its

- as a condition of practical completion have been supplied by the Contractor and are to the satisfaction of the *Principal Authorised Person*; and
- .5 any other documents and information (including trade and manufacturing warranties) and any additional documents required under the Contract which, in the *Principal Authorised Person* opinion, are essential for the use, operation and maintenance of the Works have been supplied.

Preferred Subcontractor

A Subcontractor, Supplier or Consultant listed in Contract Information Item 31 for a specified trade or area of work.

Prepayment

The amount to be advanced by the Principal in accordance with clause 57 and Contract Information Item 45.

Principal

The entity named in Contract Information Item 4, including its successors and assignees.

Principal's Authorised Person

The person appointed to act on behalf of the Principal under clause 2, named in Contract Information Item 5 or as subsequently notified to the Contractor. Usually, this will be the General Manager of the Norfolk Island Regional Council or some other Council officer or employee delegate of the General Manager.

Principal Caused Delay

means an act or omission of the Principal or the *Principal's Authorised Person* other than act or omission which is authorised or permitted under the Contract or a *Contract Document*.

Principal's Documents

The drawings, specifications and other documents provided to the Contractor and containing the Principal's requirements in respect of the Works, which are described in Schedule 18.

Project Specific Statutory Requirement

means a change in *Statutory Requirement* enacted or otherwise brought into force by the Norfolk Island Regional Council which directly affects the Site or the Works.

Provisional Quantity

The quantity of an item of work specified in the Contract for which it is not known, at the Date of Contract, whether the work will be required or what the actual quantity will be.

Provisional Sum

A sum included in the *Contract Price* and identified as a provisional, monetary, prime cost, contingency or other such sum or allowance for the work specified in the Contract against that sum.

Qualifying Cause of Delay

Means:

- .1 a *Principal Caused Delay*;
- .2 a *Variation* directed in writing by the Principal under clause 48;
- .3 *Inclement Weather*;
- .4 failure by the Principal to provide access to the Norfolk Island Airport (NIA) Site when required by this Contract (except where caused or contributed to by the Contractor or any of the *Contractor's Authorised Person*);
- .5 a change in *Statutory Requirements* as determined in accordance with clause 49;
- .6 Force Majeure Event;
- .7 industrial conflict by locally engaged workforce;
- .8 failure of the imported raw materials to be unloaded onto Norfolk Island

Contractor Work day as agreed between the parties or as directed by the Principals' Authorised Person.

Inclement Weather

means adverse weather which occurs at the *Site* prior to the *Date of Practical Completion of Separable Portion 4*.

Intellectual Property Rights

Any copyright, patent right, registered design or other protected right.

Issue

Any issue, dispute or difference raised by either party under clause 69.

Latent Conditions

Means:

- .1 inadequate asphalt thickness resulting in exposure of base course necessitating over-excavation;
- .2 delamination of existing asphalt layer interfaces necessitating over-excavation;
- .3 stripped or otherwise unsound asphalt;
- .4 existing pavement soft-spots; and
- .5 adverse working conditions arising from:
 - (i) strength of existing flexible pavements; or
 - (ii) subsurface and ground conditions below existing pavements, that differ materially to what should reasonably have been anticipated by an experienced and competent contractor.

Materials

Includes materials, plant, equipment and other goods.

Operational Requirements

The operational requirements set out in sections 3.21 and 4.3 of Schedule 14.

Payment Claim

A claim for payment made by the Contractor to the Principal under clauses 58 or 61.

Payment Schedule

A schedule containing the Principal's assessment of a *Payment Claim* and stating the amount the Principal proposes to pay, as referred to in clauses 59 and 61.

Post-Completion Undertaking

The *Undertaking* required under clause 33.1, for the percentage of the *Contract Price* (at the Date of Contract) stated in Contract Information Item 34.

Practical Completion

is that stage when:

- .1 the Works are complete except for minor defects:
 - .1 which do not prevent the Works from being reasonably capable of being used for their stated purpose;
 - .2 which the *Principal's Authorised Person* determines the Contractor has reasonable grounds for not promptly rectifying; and
 - .3 the rectification of which will not prejudice the convenient use of the Works;
- .2 all testing (including proof of performance testing) and commissioning required by the *Principal Authorised Person*, and all other tests (including tests) which are required by the Contract to be carried out and passed before the Works reach practical completion, have been carried out and passed;
- .3 the *Site* is clean and all rubbish and surplus materials have been removed from the *Site*;
- .4 all documents and other information required under the *Principal Documents*

daily time and cost records for labour, plant, *Materials*, services and other items as provided in Schedule 8 (Daywork).

Defect

An error, omission, shrinkage or other fault in the Works or which affects the Works, resulting from a failure of the Contractor to comply with the specifications or the requirements of the Contract.

Defect Liability Period

Means a period of 12 months following from 4pm on the *Date of Practical Completion* for *Separable Portion 4* as identified in Schedule 14.

Defect Notice

A notice issued by the Principal under clause 45.2 or 67.1.

Encumbrance

A mortgage, charge, lien, title retention, trust, power or other encumbrance.

Expert

A person with suitable expertise and experience engaged to determine *Issues* under clause 71 having regard to the nature of the *Issues* and he or she is agreed by the parties to have the expertise and experience suitable to determine the *Issues*.

Expert Determination

The process of determination of an *Issue* by an *Expert*, under clause 71 and the procedure in Schedule 5 (Expert Determination Procedure).

Fault

Ambiguity, inconsistency or discrepancy.

Final Completion

has the meaning given to it in clause 65.8.

Final Completion Certificate

has the meaning given to it in clause 65.8.2.

Final Payment Claim

A *Payment Claim* given by the Contractor to the Principal under clause 61.1.

Final Payment Schedule

A *Payment Schedule* given by the Principal to the Contractor under clause 61.2.

Force Majeure Event

means

- (a) lightning strike, earthquake, cyclone, flood, drought, storm, tempest, landslide, explosion, fire and any natural disaster;
- (b) expropriation or confiscation;
- (c) an act of war, invasion, act of public or foreign enemies, hostilities between nations (whether war be declared or not), revolution, martial law or a "terrorist act" (as defined in section 5 of the Terrorism Insurance Act 2003 (Cth));
- (d) ionising radiation or contamination by radioactivity from any nuclear waste or from combustion of nuclear fuel;
- (e) local or national industrial disputes directly affecting work on the *Site* not caused or contributed to by the Contractor, nor originating from the *Site*;
- (f) aircraft accident;
- (g) civil unrest, riot, civil commotion, malicious damage or sabotage; or
- (h) a combination of the events listed in paragraphs (a) to (h), which is beyond the reasonable control of, and without the fault or negligence of a Party and/or its employees, agents, contractors and representatives, and which results in a Party being unable to observe or perform on time an obligation under this Contract.

Handback Condition

means the required condition of the Norfolk Island Airport (NIA) Site at the end of each

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- .4 failing to comply with an instruction in writing or confirmed in writing by the Principal;
- .5 failing to carry out the Works with professional skill, care and competence;
- .6 failing to maintain any registration or licence required by law to carry on activities required under the Contract;
- .7 failing to provide *Undertakings* as required under clause 33;
- .8 failing to effect and maintain insurance policies as required under the Contract;
- .9 the *Date for Practical Completion* has not been achieved by the Sunset Date; or
- .10 failing to comply with the requirements of clause 79.4.

Contractor's Documents

Drawings, specifications, calculations and other documents and information, meeting the requirements of clause 39, which the Contractor must produce to design and construct the Works in accordance with the Contract.

Contractor's Insolvency

Any of the following applying to the Contractor:

- .1 the Contractor is insolvent;
- .2 the Contractor indicates it does not have the resources to perform the Contract;
- .3 an application for winding up is made which is not stayed within 14 days;
- .4 a winding-up order is made;
- .5 a controller, administrator, receiver, receiver and manager, provisional liquidator or liquidator is appointed;
- .6 a mortgagee enters into possession of any property of the Contractor;
- .7 notice is given of a meeting of creditors for the purposes of a deed of arrangement; or
- .8 any actions having a similar effect are taken.

Contractor's Margin

An amount added to the costs calculated under clauses 47.6.1 and 47.6.2, to allow for profit and overhead costs, but not overhead costs relating to delay or disruption.

Contractor Personnel

Means all employees, Subcontractors, consultants, suppliers and agents of the Contractor.

Data

The *Contractor's Documents* and all other drawings, sketches, specifications, digital records, computer software, data and information relating to the Contract.

Date of Contract

Means the date the formal agreement or deed is signed by the Principal after the Contractor has executed it.

Date for Practical Completion

Means the date for *Practical Completion* in Schedule 14 as adjusted in accordance with the Contract.

Date of Practical Completion

Means the date the Works reach *Practical Completion* as properly certified by the *Principal* in accordance with the Contract.

Daywork

Work carried out by the Contractor for which payment is made on the basis of

Claim

A claimed entitlement of the Contractor in connection with the Contract, in tort, in equity, under any statute, or otherwise. It includes a claimed entitlement to an extension of time or for breach of contract by the Principal. This may include any claim for relief in any proceedings for an injunction or prerogative writ of any kind or for any alleged breach of statutory duty of any kind.

Claimed Amount

The amount claimed by the Contractor in a *Payment Claim*.

Completion Amount

An amount stated in Contract Information item 47 and included in the *Contract Price*, which becomes payable only after *Practical Completion* of the whole of the Works or, if applicable, a specified *Separable Portion*.

Completion Undertaking

The *Undertaking* required under clause 33.1, for the percentage of the *Contract Price* (at the Date of Contract) stated in Contract Information Item 33.

Conformance Records

Records which show conformance by the Contractor with particular requirements of the Contract.

Consultant

A consultant engaged by the Contractor to design parts of the Works or to provide other professional services. It includes a consultant whose contract with the Principal is novated to the Contractor.

Contract

The agreement between the Contractor and the Principal constituted by the *Contract Documents*.

Contract Documents

All the documents listed or referred to in clause 7.1.

Contract Information

The document described as such in the *Contract Documents*, which sets out information for the purposes of the Contract.

Contract Price

The amount stated as such in Contract Information Item 40, subject to adjustment in accordance with the Contract and re-calculation where the Contract includes *Rate Items*.

Contract Program

The program described in clause 22.

Contractor

The party named in Contract Information Item 8, including its successors and permitted assignees. Usually this is the tenderer or service provider.

Contractor's Authorised Person

The person appointed to act on behalf of the Contractor under clause 2, named in Contract Information Item 9 or as subsequently notified to the Principal.

Contractor's Default

A substantial breach of the Contract by the Contractor, including any of the following:

- .1 abandoning the carrying out of the Works;
- .2 suspending progress of the carrying out of the Works in whole or part without the written agreement or instruction of the Principal;
- .3 significantly failing to achieve *Scheduled Progress*;

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80 Interpretation

- .1 Words in the singular include the plural, and vice versa.
- .2 No legal interpretation applies to the disadvantage of any party on the basis that the party provided or drafted the *Contract Documents*, or any part of them.
- .3 “Including” and similar words are not words of limitation.
- .4 The word “day”, unless qualified, for example as “Working Day” or “Business Day”, has its common English meaning according to context, namely a period of 24 hours or a calendar day commencing from midnight in the morning and ending at midnight at night on the same day.
- .5 Headings and notes are provided to guide the parties and form part of the Contract.
- .6 These terms and conditions are to be read alongside of and in conjunction with any written agreement comprising the Agreement or Contract between the Principal and the Contractor as well as with any other terms and conditions imposed on the Contractor under any other document or law and in the event of any conflict, the provisions of any law shall prevail and the provisions of the signed contract or Agreement shall prevail.
- .7 Where any security clearance is required for access to any part of the Norfolk Island Airport (NIA) Site by reason of it being a restricted or prohibited area under any law applicable to Norfolk Island or by reason of the site being part of the Norfolk Island International Airport, the Contractor and all sub-contractors shall ensure that they seek, obtain and continue to lawfully hold at all times the relevant security clearances and passes required for access to and working on the site and for operation of any vehicles and plant at or on the Norfolk Island Airport (NIA) Site at all times. In the event that any entitlement to hold such a clearance and pass is terminated, revoked or withdrawn, the Contractor and the affected person or persons shall immediately notify the Principal of such loss of clearance and the reasons why (if known).
- .8 The Contractor’s liability to indemnify under the Contract is to be reduced proportionately to the extent that an act or omission of the Principal, or any of their employees, officers or agents, contributed to the claim, loss, liability, cost or expense. The Principal must take all reasonable steps to mitigate any loss, damage, liability, cost or expense, the subject of any indemnity under the Contract.

81 Definitions

Some words and phrases have special meanings in the Contract. In some cases, the defined meaning is different from the meaning that the word or phrase might have in ordinary usage, or it might include conditions that don’t normally apply. In order to understand the Contract, you need to take these special meanings into account.

All defined words and phrases have initial capitals and are in italics in the GC21 General Conditions of Contract unless they are one of the following basic terms, which appear too often for italics to be used:

- | | |
|------------------------|-----------------|
| • Contract | • Site |
| • Contract Information | • Subcontract |
| • Contractor | • Subcontractor |
| • Consultant | • Supplier |
| • Date of Contract | • Valuer |
| • Principal | • Works |

Wherever the following words and phrases are used in this Contract with initial capitals, they have the special meanings set out in clause 81.

Acceleration Notice

A written instruction under clause 52.1, from the Principal to the Contractor, to accelerate progress of the Works, identified as an “*Acceleration Notice*”.

Business Day

Any day other than a Saturday, Sunday, public holiday in Norfolk Island, or (subject to the law applicable to Norfolk Island or to any direction of the Council General Manager in regard to the Principal and its staff) 27, 28, 29, 30 or 31

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- .2 In reliance on clause 79.1, the Contractor acknowledges the Principal has elected to waive the requirement of a parent company guarantee from the Contractor and Boral Limited.
- .3 The Principal acknowledges the Contractor or Boral Limited may withdraw the benefit of the cross guarantee indemnity at any time, following public notification of withdrawal.
- .4 The Contractor undertakes to notify the Principal at least 2 Business Days prior to any public notification of withdrawal of a cross guarantee indemnity and will simultaneously provide the Principal with either:
 - .1 an executed parent company guarantee that guarantees the Contractor's liabilities and obligations under this Contract (subject to the limitations under this Contract); or
 - .2 sufficient evidence to the satisfaction of the Principal of a new bilateral cross guarantee and indemnity between the Contractor and Boral Limited.
- .5 In the event the Contractor fails to comply with the requirements of clause 79.4, the Principal reserves the right to terminate the Contractor for a *Contractor's Default* in accordance with clause 73 of the Contract.
- .6 To the maximum extent not prohibited by law, the Principal agrees and acknowledges that any liability of Boral Limited (including without any limitation any obligation to indemnify) under or in any way in connection with this clause 79 or this Contract will be no different from and will in no circumstances exceed the liability the Contractor has in respect of the same Claim, circumstance, event or occurrence under or in connection with the Contract (including without limitation the application of any limitations, caps and exclusions of liability). For the avoidance of doubt the limitations, caps and exclusions of liability under the Contract apply in the aggregate in respect of the Contract and this clause 79.

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which already been used in the performance of Works at the site such as any materials incorporated into or onto the airport runway or tarmacs or landscaping

- .4 After termination under clause 74.1, subject to its rights under the Contract (including clause 63), the Principal must pay the Contractor:
 - .1 the amount due to the Contractor for all Work carried out (as determined under clauses 58 and 59) to the date the termination notice takes effect, after taking into account previous payments including any *Prepayments* and any deductions, retentions or set-offs under clauses 59, 60 and 63;
 - .2 the cost of *Materials* reasonably ordered by the Contractor for the Works which the Contractor is legally liable to accept, but only if on payment these unincorporated *Materials* become the property of the Principal, free of any *Encumbrance*;
 - .3 the reasonable, direct costs incurred by the Contractor for the removal of the *Temporary Work* and other things from the Site in accordance with clause 74.3, but only to the extent that the Contractor complies with a strict duty to mitigate costs;
 - .4 2% of the amount that is the unpaid portion of the *Contract Price* less the amounts payable under clauses 74.4.1 and 74.4.2; and
 - .5 the costs reasonably incurred by the Contractor prior to receiving notice of termination in the expectation of completing the Works, where those costs have not been recovered through any other payment by the Principal, but only to the extent that the Contractor complies with a strict duty to mitigate costs.
- .5 The Principal must return the *Undertakings*, subject to its rights under the Contract.
- .6 The payments referred to in clause 74.4 are full compensation for termination under clause 74 and the Contractor has no *Claim* for damages or other entitlement, whether under the Contract or otherwise.

75 Termination for Principal's default

- .1 If the Principal:
 - .1 fails to pay the Contractor any amount in accordance with the Contract which is not in dispute;
 - .2 commits any fundamental breach of the Contract; or
 - .3 fails to give the Contractor access to the Norfolk Island Airport (NIA) Site sufficient to start work required by the Contract within 3 months after the Date of Contract (or longer period specified in the Contract or agreed by the parties),

the Contractor may give a notice requiring the Principal to remedy the default within 28 days after receiving the notice.
- .2 Subject to any issue dispute process underway, if the Principal fails to remedy the default, or to propose steps reasonably acceptable to the Contractor to do so, the Contractor may issue a notice terminating the Contract and clauses 74.3 to 74.6 will then apply. The Contractor's sole remedy for the Principal's breach will be the applicable amounts referred to in clause 74.4.

76 Termination notices

- .1 Notices under clauses 73, 74 and 75 must be in writing and be delivered by hand, registered post or equivalent, or facsimile. Email may be used if the parties agree that emails may be used for the transmission and receipt of notices.

77 Survival

- .1 Without limiting the survival of any clause by operation of law, clauses 23, 24 and 25 and all indemnities in the Contract survive termination.

78 Force Majeure

If the Force Majeure Event has a material impact on either parties ability to perform its obligations under this Contract and lasts longer than 12 weeks a party may terminate the Contract immediately by notice in writing to the other party and clauses 74.4.1, 74.4.2, 74.4.3 and 74.4.5 will apply.

79 Cross Guarantee and Indemnity

- .1 The Contractor warrants at the time of execution of the Contract that it is party to a cross guarantee indemnity with Boral Limited to provide reciprocal guarantees for each other's liabilities, fulfilment of promises or obligations.

Termination

73 Termination for Contractor's Default or Insolvency

- .1 The Principal may terminate the Contractor's employment under the Contract for *Contractor's Default* or *Contractor's Insolvency* by giving notice in accordance with clause 73.
- .2 Nothing in clause 73 affects or negates the Principal's common law rights to terminate or for damages.
- .3 In the case of *Contractor's Default*, the Principal must first give the Contractor notice that it has 7 days after receipt of that notice to remedy the *Contractor's Default*.
- .4 If the Contractor fails to:
 - .1 give the Principal a notice containing clear evidence that it has remedied a *Contractor's Default*; or
 - .2 propose steps reasonably acceptable to the Principal to remedy the *Contractor's Default*,
 the Principal may give the Contractor a notice terminating its employment under the Contract.

If a right to terminate exists at common law, a notice to terminate at common law may be given without first giving notice to remedy a Contractor's Default.
- .5 In the case of *Contractor's Insolvency*, the Principal may give the Contractor a notice terminating its employment under the Contract.
- .6 If the Principal terminates the Contractor's employment under clause 73 it may, at its sole discretion, employ others to complete the Works and all the following will then apply:
 - .1 The Contractor must leave the Site as soon as reasonably practicable and remove all *Temporary Work* and *Materials* it has brought onto the Site, apart from any *Temporary Work* and *Materials* identified by the Principal as being necessary to have the Works completed.
 - .2 The Contractor must assign to the Principal the Contractor's rights and benefits in all its contracts and agreements in connection with the Works, warranties and unconditional undertakings, bank guarantees, insurance bonds, other security of a similar nature or purpose and retention held by the Contractor, with effect from the date of termination of its employment under the Contract.
 - .3 The Contractor must consent to a novation to the Principal or its nominee of all Subcontracts and its other contracts concerning the Works, as required by the Principal. The Principal may at any time make payments and may deduct, withhold or set-off any amounts to be paid under the novated contracts from amounts otherwise payable to the Contractor or from any *Undertakings* given on the Contractor's behalf.
 - .4 The Contractor must do everything and sign all documents necessary to give effect to clause 73.
 - .5 If, on *Practical Completion*, the cost to the Principal of completing the Works exceeds the amount that would have been paid to the Contractor to complete the Works, with the Principal having taken steps to mitigate such costs and the Contractor noting that the Principal is not subject to undertaking any unreasonable steps to mitigate such costs, then the difference will be a debt due from the Contractor to the Principal.
 - .6 The Principal may make provisional assessments of the amounts payable to the Principal under clause 73.6.5 and may, without limiting any other right of recourse, demand them against the *Undertakings*.

74 Termination for Principal's convenience

- .1 The Principal may terminate the Contract, by giving notice with effect from the date stated in the notice, for its convenience and without the need to give reasons.
- .2 The Contractor must comply with any instructions of the Principal to wind down and stop Work.
- .3 The Contractor must leave the Site by the date stated in the termination notice and remove all *Temporary Work*, *Materials* and other unfixed things it has brought onto the Site apart from *Materials* for which payment has been made or is due under clause 59 and any other items identified in the termination notice as to be retained on the Site and apart from any materials

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- .4 any other matters which are relevant to the engagement.
- .4 The Principal and the Contractor must share equally the *Expert's* fees and out-of-pocket expenses for the determination, and bear their own costs.
- .5 The procedure for *Expert Determination* is set out in Schedule 5 (Expert Determination Procedure).
- .6 In response to any *Issue* referred to the *Expert* by a party, the other party may raise any defence, set-off or cross-claim.
- .7 Subject to clauses 71.8 and 71.9, the parties must treat each determination of an *Expert* as final and binding and a party that owes money to the other pursuant to the determination must pay that amount to the other party within 28 days after receiving the determination.
- .8 Neither party may commence litigation in respect of the matters determined by the *Expert* unless the determination:
 - .1 does not involve paying a sum of money; or
 - .2 requires one party to pay the other an amount in excess of the amount stated in Contract Information Item 54, calculated without having regard to:
 - .1 any interest that may be payable; and
 - .2 any amount of security that has been paid under these terms and conditions .
- .9 Neither party may commence litigation in respect of the matters determined by the *Expert* unless they do so within 56 days after receiving the determination.

To such extent that the *Mediation Act 2005* (Norfolk Island) and/or the *Commercial Arbitration Act 2006* (Norfolk Island) may be used in the resolution of any dispute, the parties shall use such alternative dispute resolution options in preference to commencement of litigation in any court having jurisdiction in Norfolk Island.

72 Parties to perform the Contract

- .1 The parties must continue to perform their obligations under the Contract at all times, regardless of any *Claim* or *Issue* or the conduct of any *Issue* resolution procedures under clauses 69 to 71.

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meaning or effect of the Contract, or about any matter connected with the Contract, within 28 days after becoming aware of the *Issue*.

- .3 Subject to clause 69.6, the parties must follow the *Issue* resolution procedures in clauses 69, 70 and 71 before either commences litigation or takes similar action.
- .4 If notice of an *Issue* under clause 69.1 or 69.2 is given outside the time prescribed by those clauses, the party giving the notice is not entitled to claim or recover interest for the period before the notice was given. This clause does not affect the absolute time bar in clause 61.
- .5 The Principal is not liable to pay damages (whether in contract, for negligence or otherwise) for making an incorrect assessment or instruction.
- .6 The *Issue* resolution procedure in clauses 69, 70 and 71 does not prevent a party from seeking an urgent declaration or injunction from a court.

70 Resolution by senior executives

- .1 If a party gives notice of an *Issue* under clause 69, the senior executives named in Contract Information items 7 and 11 must confer within 10 Business Days of receiving the notice to try to resolve the *Issue*.
- .2 If the *Issue* is not resolved within a further 10 Business Days after the conference then where the *Issue* is not of a technical nature then either party may refer the *Issue* to mediation within a further 10 Business Days by giving written notice of the referral to the other party and clause 70.3 and 70.4 will apply. If neither party elects to proceed to mediation, then either party may refer a non-technical *Issue* to litigation without further reference.
- .3 If after referral to mediation, the parties cannot agree on an expert within 10 Business Days, the mediator will be appointed by an authorised officer of the Resolution Institute (NSW).
- .4 Mediation must be held within 40 Business Days after appointment of the mediator and will be on the terms as specified by the mediator.
- .5 If the *Issue* is not resolved by the mediation or within 10 Business Days after conclusion of the mediation, then either party may refer a non-technical *Issue* to litigation without further reference.
- .6 A party is not entitled to refer an *Issue* to Expert Determination until after the conference of the senior executives has concluded and if the *Issue* remains unresolved for a further 10 Business Days and the *Issue* is of a technical nature requiring the specialist expertise of an Expert.
- .7 A party may only refer an *Issue* to Expert Determination by giving a notice specifying the *Issue* to the other party (with a copy to that party's senior executive) within the time stated in Contract Information Item 51.
- .8 Subject to clause 69.6, a technical *Issue* for which notice has not been given in accordance with clause 70.6 is barred from Expert Determination or litigation or similar action.
- .9 If one party does not participate in the process as required by this clause, then the other party may refer an *Issue* (technical or non-technical) to litigation without further reference but the party who has not participated is barred from commencing litigation or similar action.

71 Expert Determination

- .1 The representative of the Principal for the purposes of clause 71 is the person named in Contract Information Item 52. This person may differ from the *Principal's Authorised Person*.
- .2 If an *Issue* is to be referred to *Expert Determination* under clause 70, the parties must endeavour to agree on the *Expert* to be engaged. If they cannot agree within 28 days after receipt of a notice under clause 70.3, the *Expert* will be nominated (on the application of either party) by the person named in Contract Information Item 53. That person must not nominate:
 - .1 an employee of the Principal or the Contractor;
 - .2 a person who has been connected with the Works or the Contract; or
 - .3 a person who the Principal and the Contractor have already considered and not been able to agree on.
- .3 When the person to be the *Expert* has been agreed or nominated, the Principal, on behalf of both parties, must engage the *Expert* by a letter of engagement (with a copy to the Contractor) that sets out:
 - .1 the *Issues* referred to the *Expert* for determination;
 - .2 the *Expert's* fees;
 - .3 the procedure for *Expert Determination* in Schedule 5 (Expert Determination Procedure); and

Claim and Issue resolution

This section provides a step-by-step procedure for handling *Claims* and *Issues*.

Claim resolution

68 Contractor's Claims

- .1 If the Contractor makes:
 - .1 a *Claim* under a provision of the Contract that does not specify a time for making the *Claim*; or
 - .2 a *Claim* in connection with the Contract or the Works, but not under a provision of the Contract,

the *Claim* must be submitted within 28 days after the later of the start of the event giving rise to the *Claim*; and the time the event should have become known to the Contractor, with reasonable diligence on its part.
- .2 If the Contractor fails to make a *Claim* within the applicable specified time, the Contractor will not be entitled to interest on any amount paid in relation to the *Claim* for the period before the Contractor made the *Claim*. However, any *Claim* not made within the time specified in clause 61.1 is barred.
- .3 Each *Claim* must include information sufficient for the Principal to assess the *Claim*, including the factual and legal basis, detailed quantification and responses by the Contractor to the questions set out in paragraphs 1.1.1 and 1.1.2 of Schedule 5 (Expert Determination Procedure). The *Claim* must also include the effect of the event giving rise to the *Claim* on both the *Contract Price* and *Dates for Practical Completion*.
- .4 If a *Claim* does not comply with clause 68.3, the Principal may, but is not obliged to, give the Contractor an opportunity to make the *Claim* compliant. Clause 68.7 applies to a claim that does not comply with clause 68.3.
- .5 If a *Claim* complies with clause 68.3 and the Principal agrees that the Contractor is entitled to a money adjustment or an adjustment to *Dates for Practical Completion*:
 - .1 if the *Claim* involves money it must be valued in accordance with clause 47; and
 - .2 if the *Claim* involves adjustment to *Dates for Practical Completion* it must be dealt with under clause 50.
- .6 If the Principal agrees to a *Claim* involving money, the Contractor may claim the agreed amount only by including it in a *Payment Claim*.
- .7 If a *Claim* is rejected, not agreed or has not been referred to a Valuer within 28 days after the Contractor has provided the information specified in clause 68.3 it will become an *Unresolved Claim*, and the Contractor may notify the Principal of an *Issue* under clause 69.1.
- .8 The provisions of clauses 68.2 to 68.7 apply generally to all *Claims*, whether made under clause 68 or under another provision of the Contract, unless determination of the *Claim* is regulated by a separate procedure under any applicable legislation.

Issue resolution

Generally, the aim of the Contract is for the parties to resolve matters through discussions as soon as possible and within the times specified. Further steps are only needed if the representatives of the parties who are involved in day to day management of the Contract are unable to resolve matters themselves.

69 Notification of Issue

- .1 The Contractor may dispute an assessment or instruction of the Principal, or seek resolution of an *Unresolved Claim*, by giving notice to the Principal (with a copy to the Principal's senior executive named in Contract Information Item 7) of an *Issue* within 28 days after notification of the assessment or instruction, or within 28 days after it becomes an *Unresolved Claim*.
- .2 Either party may give notice to the other (with a copy to that party's senior executive) of an *Issue* (excluding an *Issue* referred to in clause 69.1, but including a claim by the Principal) about the

67 Defects after Completion

- .1 At any time after the *Date of Practical Completion of Separable Portion 4* and for the duration of the Defect Liability Period:
 - .1 the Principal may instruct the Contractor to make good any *Defect* within the time specified in a *Defect Notice*;
 - .2 if the Contractor fails to make good the *Defect* in the time specified in the *Defect Notice*, the provisions of clauses 45.3 and 45.4 will apply; and
 - .3 the Principal may instruct a *Variation* in connection with any *Defect* instead of requiring the *Defect* to be made good under clause 67.1.1.
- .2 Clause 67 does not reduce the Contractor's liability, whether arising under the Contract or otherwise. The Contractor's liability continues until any limitation period under statute expires.
- .3 Clause 67 does not affect the Principal's rights under clause 46.

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- .2 If the Principal requires use or occupation of any part of the Works before the Contractor achieves *Practical Completion of Separable Portion 4*, the Principal must give not less than 21 days' notice in writing to the Contractor and must specify the date on which use or occupation is required and those parts to be used or occupied.
- .3 The Contractor must assist and cooperate with those using or occupying the Works.
- .4 No later than 21 days after receipt of a notice under clause 64.2, the Contractor must provide to the Principal all the documents and other things listed in the definition of *Practical Completion* that are relevant to the parts of the Works to be used or occupied.

65 Completion

Practical Completion applies to any Separable Portion as well as to the whole of the Works.

- .1 The Contractor must achieve *Practical Completion of Separable Portion 4* by the *Date for Practical Completion*.
- .2 The Contractor shall give the Principal at least 14 days' written notice of the date upon which the Contractor anticipates that *Practical Completion* will be reached.
- .3 When the Contractor is of the opinion that *Practical Completion* has been reached, the Contractor shall in writing request the Principal to issue a notice stating the *Date of Practical Completion*. Within 14 days after receiving the request, the Principal shall give the Contractor either a notice stating the *Date of Practical Completion* or written reasons for not doing so.
- .4 If the Principal is of the opinion that the *Date of Practical Completion* has been reached, the Principal may issue a notice stating the *Date of Practical Completion* even though no request has been made.
- .5 The issuing by the Principal of a notice stating the *Date of Practical Completion* shall not constitute approval of the Works or other matter nor shall it prejudice any claim by the Principal against the Contractor.
- .6 Prior to and as a condition precedent of the granting of a notice stating the *Date of Practical Completion*, the Contractor shall (at its own cost, and in a manner approved by the Principal), assign the right, title and interest in and to any part of the Works in respect of which property has not already passed to the Principal.
- .7 When the Contractor considers the Works have reached *Final Completion*, the Contractor must notify the Principal of its opinion in writing.
- .8 The Principal:
 - .1 may, within 20 Business Days of a notice being given by the Contractor pursuant to clause 65.7, inspect the Works and direct the Contractor to perform any additional *Tests* pursuant to clause 44; and
 - .2 must, if satisfied that each of the following have occurred:
 - .1 the expiry of the *Defects Liability Period* (or where there is more than one, the expiry of the last *Defects Liability Period*); and
 - .2 rectification of all *Defects* by the Contractor, (*Final Completion*), issue a *Final Completion Certificate* to the Contractor.
- .9 Where no notice has been submitted by the Contractor under clause 65.7, the Principal may, in its absolute discretion, issue a *Final Completion Certificate*.

66 Close-out workshop

The close-out workshop is an opportunity to review the management of the Contract. It is also used to collect and provide feedback to the parties to enable them to improve the overall communication and management process for any possible future contract.

- .1 The Principal must convene a close-out workshop within 21 days after *Practical Completion* of the whole of the Works.
- .2 The parties must attend the close-out workshop and must jointly decide who else will attend. Clause 6.4 applies to the costs of the workshop.

- .3 The Principal will own any interest earned on the monies retained for the *Completion Amount*.

61 Final payment

Clause 61 contains provisions which apply to the Contractor's *Final Payment Claim* and the Principal's *Final Payment Schedule*.

- .1 The Contractor must submit a *Final Payment Claim* within 13 weeks after achieving *Final Completion* of the whole of the Works performed in accordance with the Contract. The *Final Payment Claim* must include any *Claim* not previously included in a *Payment Claim*. Any *Claim* not submitted before or with the *Final Payment Claim* is barred.
- .2 Within 10 *Business Days* after receiving the *Final Payment Claim* or, if the Contractor has not submitted a *Final Payment Claim*, within 15 weeks after the whole of the Works reaches *Final Completion*, the Principal must provide a *Final Payment Schedule* to the Contractor.
- .3 If the Principal proposes to make no payment to the Contractor and claims that the Contractor must pay the Principal money, the *Final Payment Schedule* must state the amount that the Principal claims the Contractor must pay, and include reasons and particulars supporting that claim.
- .4 Payments identified in the *Final Payment Schedule* as due from the Contractor to the Principal must be made within 14 days after the *Final Payment Schedule* is provided. Payments due from the Principal to the Contractor must be made in accordance with clause 59.
- .5 The issue of the *Final Payment Schedule* is conclusive evidence that all necessary adjustments to the *Contract Price* have been made and all entitlements of the Contractor have been met, except for those required by:
 - .1 arithmetical error; or
 - .2 resolution of:
 - .1 any *Claim* made in accordance with clause 61.1;
 - .2 any *Issue* properly notified under clause 69 prior to the *Final Payment Claim*; or
 - .3 any *Issue* arising out of the *Final Payment Schedule*, but only if it is notified to the Principal within 28 days after the date of the *Final Payment Schedule*.
- .6 The Contractor's liability under the Contract or otherwise is not affected by the issue of the *Final Payment Schedule*. The Contractor's liability continues until any limitation period under statute expires.

62 Interest on late payments

- .1 A party which fails to make a payment within the time specified in the Contract must pay interest to the other party on the unpaid amount, at the rate stated in Contract Information Item 48, for the period the payment is late.

63 Set-off

- .1 If the Principal claims a sum, including a debt due, in connection with the Contract, the Principal may:
 - .1 withhold, deduct or set-off the claimed sum against any amount to which the Contractor is otherwise entitled in connection with the Contract; and
 - .2 subject to clause 33.8, make a demand against the *Undertakings* provided under the Contract for any amount of the claimed sum in excess of the amount to which the Contractor is otherwise entitled.

Completion

64 Early use

- .1 Before the Contractor achieves *Practical Completion* of *Separable Portion 4*, the Principal, or anyone authorised by the Principal, may use or occupy all or any part of the Works which is sufficiently complete and then:
 - .1 the Contractor's responsibilities are not affected, except if they are reduced under clauses 26.3 or 26.7 or if the Principal, or anyone authorised by the Principal to use or occupy any part of the Works, causes the Contractor's Work to be hindered; and
 - .2 the Principal becomes responsible for any additional insurance required.

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- .9 Upon the *Materials* becoming the property of the Principal, they are entrusted to the Contractor for the purpose of carrying out the Works and the Contractor is solely liable for their care.
- .10 If the Contract or the Contractor's employment under the Contract is terminated by the Principal, the Contractor must ensure that, in respect of any unincorporated *Materials* for which payment has been made or which have been appropriated to the Contract, the Principal may enter upon any premises where the *Materials* are stored and take possession of these *Materials*.

59 Payments

- .1 Within 10 *Business Days* after being served a *Payment Claim* by the Contractor, the Principal must provide a *Payment Schedule* to the Contractor that:
- .1 identifies the *Payment Claim* to which it relates;
 - .2 indicates the amount the Principal proposes to pay, as the *Scheduled Amount*; and
 - .3 if the *Scheduled Amount* is less than the *Claimed Amount*, provides reasons explaining why it is less and why any money is being withheld. Reasons why the *Scheduled Amount* is less than the *Claimed Amount* may include failure by the Contractor to comply with any outstanding obligations under:
 - .1 clause 33 (Security);
 - .2 clause 27 (Insurance);
 - .3 clause 58.6.1 (Combined Subcontractor's Statement and Supporting Statement - Schedule 6);

In accordance with the relevant legislation identified in Schedule 6, the Principal may withhold any payment to the Contractor until this Statement is provided.
 - .4 clauses 58.6.2 to 58.6.4 (other items to accompany a *Payment Claim*); and
 - .5 clause 58.7 (Unfixed Materials).
- .2 The Principal must pay the Contractor the *Scheduled Amount* within 15 *Business Days* after being served with the *Payment Claim*.
- .3 Unless stated otherwise in the Contract, all payments to the Contractor must be made by electronic funds transfer to the Contractor's account notified to the Principal for that purpose. Changes to the Contractor's account details must be notified in accordance with protocols established by the Principal.
- .4 Payment by the Principal is payment on account only and is not evidence that the Principal accepts the value, quantity or quality of Work or that the Contractor has complied with the Contract or that the Contractor has any particular entitlement.
- .5 The Contractor acknowledges and agrees that the amount of any *Payment Claim* or *Final Payment Claim* shall not be greater than the amount which results in the balance of the *Contract Price* which may become payable being less than the cost to complete, as estimated by the *Principal's Authorised Person* acting reasonably.
- .6 For the avoidance of doubt, in a *Payment Claim* the Contractor may claim payment for the delivery to the Norfolk Island Airport (NIA) Site of goods, materials, plant, equipment or other item by a Shipping Contractor in connection with the performance of the Works upon such goods, materials, plant, equipment or other items being delivered to the Norfolk Island Airport (NIA) Site.

60 Completion Amount

The Completion Amount is intended to provide an incentive; the earlier the Contractor achieves defect-free Practical Completion of the whole of the Works, the earlier the Completion Amount is paid.

- .1 If Contract Information Item 47 specifies a *Completion Amount*, the Contractor may claim it in the next *Payment Claim* after *Practical Completion* of the whole of the Works or, if applicable, a specified *Separable Portion*, subject to the Principal's right to set-off under clause 63.
- .2 The Principal will retain the *Completion Amount* from payments when the amount paid to the Contractor exceeds 50% of the *Contract Price* at the Date of Contract. Until the *Completion Amount* has been retained in full, the amount retained against each payment must not exceed 50% of the value of the payment. Thereafter, the *Completion Amount* will be held until the Contractor claims it in accordance with clause 60.1.

- .6 The Principal may have recourse to the *Undertakings* provided for *Prepayment* if the
- .7 *Prepayment* has not been fully repaid and:
 - .1 the unpaid balance of the *Contract Price* is insufficient to cover the outstanding balance of the *Prepayment*;
 - .2 the Contract is terminated; or
 - .3 the Contractor's employment under the Contract is terminated.

58 Payment Claims

The Contract allows for progress payments by regular (usually monthly) payments or payments based on *Practical Completion* of a *Separable Portion* or both.

- .1 Subject to clause 58.3, the Contractor must submit a *Payment Claim* each month, on the date in the month specified in Contract Information Item 46A, for the value of the Work performed in accordance with the Contract up to that date.
- .2 Not Used.
- .3 The Contractor must submit the *Final Payment Claim* within the time specified in clause 61.
- .4 *Payment Claims* must be in the form of, and include all of the information required by, Schedule 3 (Payment Claim Worksheet) or in another form agreed by the Principal.
- .5 Every *Payment Claim* must:
 - .1 identify the work and *Materials* to which the *Payment Claim* relates;
 - .2 state the value of that work and those *Materials*;
 - .3 identify and state the amount the Contractor claims for any other *Claim* that the Principal has agreed or is required to pay under clause 68 or any other provision of the Contract;
 - .4 state the amount of interest, if any, that the Contractor claims under clause 62; and
 - .5 state the *Claimed Amount*, after allowing for retention of the *Completion Amount* specified in clause 60 and for payments already made.
- .6 Every *Payment Claim* must be accompanied by:
 - .1 a completed and true Combined Subcontractor's Statement and Supporting Statement in the form of Schedule 6, executed on the date of the *Payment Claim*;
 - .2 all relevant calculations;
 - .3 all relevant *Conformance Records*; and
 - .4 any other information specified in the Contract.

Unfixed Materials

- .7 *Payment Claims* must not include any amount for *Materials* intended for incorporation in the Works but not yet incorporated unless all of the following conditions are satisfied:
 - .1 the Principal has agreed in writing to pay the Contractor for the unincorporated *Materials*;
 - .2 where the value of the unincorporated *Materials* is greater than \$100,000, the Contractor provides before or with the *Payment Claim*:
 - .1 an *Undertaking* equal to the value of the unincorporated *Materials* (to be returned when the *Materials* are incorporated into the Works); and
 - .2 a statement in the terms in Schedule 11 (Statement regarding Materials);
 - .3 the Contractor provides evidence before or with the *Payment Claim* that:
 - .1 the unincorporated *Materials* are, or upon payment will become, the property of the Principal free of any *Encumbrance*; and
 - .2 the unincorporated *Materials* are clearly identified as the property of the Principal and are insured for their full value; and
 - .4 for any unincorporated *Materials* imported or to be imported into Australia, the Contractor has given the Principal a clean on board bill of lading drawn or endorsed to the order of the Principal, appropriate insurance certificates and a Customs invoice.
- .8 The Contractor warrants that no *Encumbrance* nor any claim or lien of any kind exists over any *Materials* paid for by the Principal or incorporated into the Works.

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and are more specifically referenced in Schedule 14 to the Contract.

- .7 The interpretation of:
 - .1 Practical Completion;
 - .2 Date for Practical Completion; and
 - .3 Date of Practical Completion,
 and clause 50, clause 51, clause 64 and clause 65 (and any other relevant clause or provision in the Contract) apply separately to each Separable Portion and reference therein to the Works means so much of the Works as is comprised in the relevant Separable Portion.

56 Goods and Services Tax (GST) – Norfolk Island

- .1 All prices, rates or other sums payable as stated in accordance with the Contract are exempt from GST. Refer to the attached ATO Fact Sheet for Suppliers – GST and sales to External Territories.
- .2 Not Used.
- .3 Not Used.
- .4 Not Used.
- .5 Not Used.

Reimbursable expenses

- .6 If the Contract requires a party to pay for, reimburse or contribute to any expense, loss or outgoing (“reimbursable expense”) suffered or incurred by the other party, the amount required to be paid, reimbursed or contributed by the first party must be the sum of:
 - .1 the amount of the reimbursable expense net of input tax credits (if any) to which the other party is entitled in respect of the reimbursable expense; and
 - .2 to the extent that the other party’s recovery from the first party is consideration for a taxable supply to the first party, any GST payable in respect of that supply.

57 Prepayment

Prepayment is an advance payment against the Contract Price which provides early cash flow to the Contractor. The Prepayment is repaid by the Contractor progressively by deductions from amounts payable under the Contract. Prepayment is secured by Undertakings provided to the Principal in respect of the Prepayment. Prepayment may be utilised for any purpose related to the Contract.

- .1 The Contractor may claim *Prepayment*, as an advance payment against the *Contract Price* (but not as a *Payment Claim*), at any time before achieving *Practical Completion* of the whole of the Works if all the following apply:
 - .1 the total amount claimed for *Prepayment* is no more than the amount stated in Contract Information Item 45;
 - .2 the *Prepayment* does not exceed the remaining balance of the *Contract Price* less any amount that the Principal considers payable by the Contractor to the Principal;
 - .3 no more than one-third of the *Prepayment* amount is retained by the Contractor and the balance is assigned directly to Subcontractors, Suppliers and Consultants in the proportions notified to the Principal;
 - .4 the Contractor has established to the Principal’s satisfaction that the *Prepayment*
 - .5 will be utilised for a purpose related to the Contract;
 - .6 the Contractor has provided *Undertakings* to the Principal for the amounts of the
 - .7 *Prepayment*; and
 - .8 the Contractor has assigned to Subcontractors, Suppliers and Consultants their respective shares of the *Prepayment* by effective written assignments, and has notified the Principal of the assignments, including the amounts assigned to each Subcontractor.
- .2 The Principal must pay the amount claimed within 14 days after the Contractor provides evidence that all the conditions in clause 57.1 have been met.
- .3 The Contractor must repay the *Prepayment* by way of progressive deductions from payments otherwise due under the Contract.
- .4 The Principal must return *Undertakings* provided for *Prepayment* when the amount of the
- .5 *Prepayment* has been fully repaid.

54 Not Used**Payment****55 The Contract Price**

- .1 The *Contract Price* (at the Date of Contract) and the basis for payment are stated in Contract Information Item 40.
- .2 If stated in Contract Information Item 41, the *Contract Price* (and the rates and/or lump sums it includes) will be adjusted for rise or fall in costs, on the terms set out in Schedule 7 (Costs Adjustment Formula).
- .3 If the Contract includes *Rate Items* then, without limiting clause 8:
 - .1 the *Contract Price* is determined by adding:
 - .1 any lump sums in the *Schedule of Rates* or Schedule of Prices – Lump Sum, including *Provisional Sums*; and
 - .2 the products of the quantity and the relevant rate for each *Rate Item*;
 - .2 at the Date of Contract, all quantities for *Rate Items* are estimated, and none are guaranteed;
 - .3 some of the *Rate Items* may be provisional (that is, they may not be required at all);
 - .4 before a *Rate Item* is completed, the estimated quantity is used in calculating the *Contract Price* and after it is completed, the actual quantity measured in accordance with the Contract is used;
 - .5 for each *Rate Item*, the Contractor will be paid for the measured quantity of work actually carried out in accordance with the Contract; and
 - .6 the Contractor will not be entitled to delay costs where the measured quantity of work for any *Rate Item* exceeds the estimated quantity.

Provisional Sums

- .4 If Contract Information Item 42 states that the *Contract Price* includes a *Provisional Sum*, then:
 - .1 the Contractor must not carry out the work specified against that *Provisional Sum*
 - .2 unless instructed by the Principal;
 - .3 if the Principal does not instruct the Contractor to carry out the work, the *Provisional Sum* for that work must be deducted from the *Contract Price*; and
 - .4 if the Principal instructs the Contractor to carry out the work:
 - .1 the Contractor must comply with the instruction; and
 - .2 the *Contract Price* must be adjusted by deducting the *Provisional Sum* and adding:
 - .1 the additional reasonable cost to the Contractor of the work specified against the *Provisional Sum*, being the direct costs of labour, *Materials* and plant plus the costs of Subcontractor and Consultant work (excluding any amount payable due to default or negligence on their part or that of the Contractor) but excluding profit and overheads specified by Contract Information Item 43 as included in the *Provisional Sum* margin; and
 - .2 the *Provisional Sum* margin calculated by applying the percentage stated in Contract Information Item 43 to the cost specified in clause 55.4.3.2.1.

Provisional Quantities

- .5 If the Principal instructs the Contractor to carry out work which is the subject of a *Provisional Quantity* and that instruction requires the Contractor to carry out a greater or lesser quantity of work than the *Provisional Quantity*, the *Contract Price* must be adjusted by the amount calculated by multiplying the contract rate applicable to the *Provisional Quantity* work by the difference between the *Provisional Quantity* and the quantity of work carried out.

Separable Portions

- .6 *Separable Portions* may be specified in the Contract and identify for each *Separable Portion*, the:
 - .1 portion of the Works;
 - .2 *Date for Practical Completion*; and
 - .3 respective amounts for Liquidated Damages,

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- .13 The applicable rate of liquidated damages for a *Separable Portion* will be reduced where any part of the Works the subject of the *Separable Portion* is being used or occupied prior to *Practical Completion* for that *Separable Portion*, under clause 64. The reduced rate of liquidated damages will be in the same proportion to the original rate as the value of the remaining work is to the *Contract Price* (as adjusted to the time of occupation). The value of the remaining work will be assessed by the Principal, acting reasonably.
- .14 The Contractor acknowledges that the rates for liquidated damages in Contract Information Item 49B are a genuine pre-estimate of the Principal's loss and agrees that it will not challenge any rate for liquidated damages as being in the nature of a penalty.
- .15 Not Used.
- .16 If it is determined by a court of competent jurisdiction or in accordance with clause 71 that the Contractor's liability for liquidated damages is deemed to be or becomes void, voidable or unenforceable in any way so as to disentitle the Principal from claiming liquidated damages, then the Principal is entitled to claim against the Contractor damages at law as an alternative to liquidated damages if *Practical Completion* is later than the *Date for Practical Completion* up to the value of the *Liquidated Damages Liability Cap*.
- .17 Liquidated damages payable under clause 51 are capped in aggregate to 5% of the *Contract Price (Liquidated Damages Liability Cap)*.
- .18 If liquidated damages are payable under this clause 51, they shall be the sole financial remedy against the Contractor with respect to delays under the Contract. The Contractor acknowledges and agrees the Principal reserves its right to recover for general damages other than for or in relation to delay.
- .19 In addition to the liquidated damage payable under clause 51, the Contractor may be liable to the Principal for the payment of liquidated damage where the Contractor fails to return the runway to services in accordance with the *Operational Requirements*. The *Operational Requirements* set out the circumstances where liquidated damages will be payable by the Contractor.

52 Acceleration

- .1 The Principal may issue an *Acceleration Notice* instructing the Contractor to accelerate progress of the Works. The Contractor must comply unless, before taking any steps to accelerate, it demonstrates to the satisfaction of the Principal that the acceleration instructed cannot reasonably be achieved.
- .2 If requested in writing by the Principal, the Contractor must, within the time specified in the request, advise the Principal of:
 - .1 its price (excluding all costs of delay or disruption) for a proposed acceleration; and
 - .2 the effect of a proposed acceleration on any other matter specified by the Principal.
- .3 Whenever possible, the parties must agree on the steps to be taken, and the basis for reimbursing the Contractor's costs for acceleration, before the Contractor takes those steps.
- .4 If the Contractor achieves the acceleration instructed, taking into account any relevant extension of time that has been given, the *Contract Price* must be adjusted as agreed, or if not agreed, by a valuation made in accordance with clause 47 for any unavoidable costs incurred by the Contractor additional to what it would have incurred if the Principal had not given the instruction.

53 Principal's suspension

- .1 The Principal may instruct the Contractor to suspend progress of the Works, and the Contractor must comply with that instruction.
- .2 The Contractor must resume carrying out the Works when instructed by the Principal.
- .3 If the need for the suspension arises from the Principal's act or omission, and causes the Contractor delay, or unavoidable costs, additional to what the Contractor would have incurred had the suspension not been instructed, the Contractor may make a *Claim* for:
 - .1 an extension of time in accordance with clause 50, without the Contractor meeting the preconditions required by clause 50 other than provision of an updated *Contract Program* demonstrating the delays caused by the suspension;
 - .2 delay costs in accordance with clause 51; and
 - .3 an increase in the *Contract Price*, to be valued in accordance with clause 47.
- .4 The Contractor has no other remedy or entitlement in connection with a suspension by the Principal.

Adjustment to Dates for Practical Completion

- .11 The *Date for Practical Completion* must be adjusted in accordance with clause 47 to account for any extension of time assessed under clause 50.

51 Delay costs and liquidated damages**Delay costs**

- .1 The Contractor is entitled to delay costs only for delay or disruption caused by:
- .1 a *Variation* (other than a *Variation* for the Contractor's convenience);
 - .2 failure to give the Contractor access to the Norfolk Island Airport (NIA) Site within the time stated in Contract Information Item 13;
 - .3 vandalism and criminal damage referred to in clause 27.7;
 - .4 Not Used;
 - .5 Not Used;
 - .6 Not Used;
 - .7 Not Used; or
 - .8 a *Principal Caused Delay*,
- however delay costs will be reduced to the extent that the Contractor contributed to the delay or failed to take all reasonable steps necessary to minimise the consequences of the delay.
- .2 Delay costs are to be determined in accordance with Schedule 16 and are capped at the applicable daily rate in Contract Information Item 49A for the number of days by which the time for achieving *Practical Completion* is extended because of a cause listed in clause 51.1, subject to the limitations in clause 38.4 and 49.6.
- .3 Not Used.
- .4 Not Used.
- .5 Notwithstanding clause 51.2, the Contractor is not entitled to delay costs for any days on which it would have been delayed anyway by a cause for which it has no entitlement to delay costs or for adverse weather conditions on Norfolk Island or for the stopping of work to allow the operation of the site as an airport by the Principal or as the result of or due to any accident, injury, death, terrorism, criminal action other than any vandalism or criminal damage referenced to in clauses 27.5 or 27.7, emergency or disaster or any investigation of any of the same
- .6 Not Used.
- .7 The Contractor has no remedy or entitlement connected with delay or disruption other than:
- .1 the amounts to be paid in accordance with clause 51;
 - .2 an extension of time to any *Date for Practical Completion* to which it is entitled under clauses 27.4, 27.5, 27.6, 27.7, 34.2.1, 48 50, or 53.3.1; or
 - .3 any remedy it may have under clause 74 or 75.

Liquidated damages

- .8 If Contract Information Item 49B states that liquidated damages do not apply, the Principal may claim general damages if the Contractor fails to achieve *Practical Completion* of the Works by its *Date for Practical Completion*.
- .9 If Contract Information Item 49B states that liquidated damages apply and the Contractor fails to achieve *Practical Completion* of the Works by a *Date for Practical Completion* to which liquidated damages apply, the Contractor will be liable to pay the Principal liquidated damages at the rate stated in Contract Information Item 49B, for every day after the *Date for Practical Completion*, up to and including the *Date of Practical Completion*.
- .10 If, however, the Contract is terminated before the Contractor achieves *Practical Completion*, any liquidated damages will apply only up to the date of termination of the Contract.
- .11 A failure by the Principal at any time to demand payment or to deduct, withhold or set-off the liquidated damages does not amount to a waiver of, or otherwise affect, the Principal's rights and entitlements.
- .12 If any *Date for Practical Completion* to which liquidated damages apply is extended after the Contractor has paid or the Principal has deducted liquidated damages, the Principal must re-pay any excess liquidated damages to the Contractor, subject to any right of set-off.

50 Changes to Dates for Practical Completion

The Contractor is responsible for managing progress to achieve *Dates for Practical Completion* for *Milestones* (if any) and for the Works. The initial *Dates for Practical Completion* are stated in the Contract Information and may be adjusted under the Contract.

Clause 50 sets out the conditions under which the Contractor may claim an extension of time for a delay event. It also entitles the Principal to extend time for any reason, at its sole discretion.

Extensions of time

- .1 The Contractor is entitled to an extension of time for *Practical Completion* and an adjustment to the *Date for Practical Completion* if:
 - .1 the Contractor is or will be delayed in achieving *Practical Completion* by a *Qualifying Cause of Delay*;
 - .2 the *Qualifying Cause of Delay* results in a delay to an activity or activities on the critical path of the then current *Contract Program* and work is proceeding in accordance with this program;
 - .3 the Contractor has given the Principal an initial notice in writing within 7 days after the start of the *Qualifying Cause of Delay*, setting out the cause of the delay, any relevant facts and including a copy of the *Contract Program*, current at the start of the delay, which demonstrates how the delay affects the critical path and shows the expected effects of the delay; and
 - .4 the Contractor has given the Principal the *Claim* and other information required by clauses 50.3 and 50.4.

Refer to clause 22 for Contract Program requirements
- .2 The Contractor must take all reasonable steps to avoid a *Qualifying Cause of Delay* and its effects.
- .3 If the Contractor is delayed in achieving *Practical Completion* as a result of a *Qualifying Cause of Delay*, it may make a *Claim* for an extension of time in accordance with clause 50. The *Claim* must:
 - .1 identify the extension of time claimed and include other information sufficient for the Principal to assess the *Claim*; and
 - .2 be submitted within 28 days after the start of the delay; and
 - .3 be updated every subsequent 28 days while the delay continues.
- .4 With every claim made under clause 50.3 the Contractor must submit a copy of the then current *Contract Program* which shows the effects of the delay on the critical path and to the time required to achieve *Practical Completion*.
- .5 The Contractor is only entitled to an extension of time for delays occurring on days on which the Contractor usually carries out Work for the Contract.
- .6 When concurrent events cause a delay in achieving *Practical Completion* and one or more of the events is within the control of the Contractor and the other(s) are *Qualifying Causes of Delay*, then to the extent that the events are concurrent, the Principal shall apportion the resulting delay according to the respective causes' contribution and make a proportionate reduction in the Contractor's entitlement to an extension of time.
- .7 The Contractor is not entitled to an extension of time for any days which are expressly not to be counted under clause 49.6.
- .8 The Principal may, in its absolute discretion but without any obligation to do so, extend any *Date for Practical Completion* at any time and for any reason, whether or not the Contractor has claimed an extension of time.
- .9 If the initial notice referred to in clause 50.1.3 is provided later than 7 days after the start of the delay, any entitlement to an extension of time applies only to the period of delay from the date 7 days prior to the date of provision to the Principal of the initial notice.
- .10 Where there are *Separable Portions* and the delay to the *Works* does not affect all of the *Separable Portions* then the Contractor will only be entitled to an extension of time in respect of the *Separable Portion* or *Separable Portions* affected by the delay.

- .2 alternatively, instruct the Contractor to carry out any additional work as *Daywork*, in which case the requirements of Schedule 8 (Daywork) apply.

Variations proposed by the Contractor

- .5 The Contractor may make a written proposal for a *Variation* for the Contractor's convenience.
- .6 The Principal may accept the Contractor's proposal but is not obliged to do so. The Principal's acceptance may be subject to conditions, including that the *Variation* is at the Contractor's risk. If the Principal accepts the Contractor's proposal, the Principal must instruct a *Variation*, stating any conditions, and make any agreed adjustments to the affected *Dates for Practical Completion* and the *Contract Price*.
- .7 If the Contractor considers that a *Variation* is necessary but the Principal has not instructed a *Variation*, the Contractor must notify the Principal within 7 days after the Contractor should reasonably have known that a *Variation* was necessary.
- .8 If the Principal does not agree that a *Variation* is necessary, all issues relating to the claimed *Variation* must be dealt with under clauses 68 to 71.
- .9 The Contractor acknowledges that development of the design by the Contractor does not constitute a *Variation*.

49 Changes to Statutory Requirements

- .1 If the Contractor becomes aware of changes in *Statutory Requirements* that require a change to Work in connection with the Contract (not including changes that the Contractor should reasonably have expected at close of tenders), the Contractor must notify the Principal in writing as soon as possible and in any event within 7 days after becoming aware of the changes in *Statutory Requirements*. The notification must include details of:
 - .1 the changes to *Statutory Requirements*;
 - .2 why the changes to *Statutory Requirements* should not reasonably have been expected by the Contractor at close of tenders;
 - .3 the changes to work in connection with the Contract that the Contractor considers necessary;
 - .4 any delays in achieving *Practical Completion*;
 - .5 any additional work and resources involved;
 - .6 in relation to a *Project Specific Statutory Requirements* the Contractor's estimate of its entitlement to any adjustment to the *Contract Price*; and
 - .7 any other matters the Contractor considers relevant.
- .2 The Principal may request the Contractor to provide further information about the matters notified under clause 49.1.
- .3 After considering the Contractor's notification under clause 49.1, the Principal must notify the Contractor whether it agrees with the Contractor's contentions under clause 49.1.1 and 49.1.2 as to the change in *Statutory Requirements* and whether or not the Contractor should reasonably have expected them.
- .4 If the Principal agrees that there are changes in *Statutory Requirements* that require changes to the work in connection with the Contract (that the Contractor should not reasonably have expected at the close of tenders) and if the Contractor has given the notice required by clause 49.1 then:
 - .1 the parties may agree in writing on the effects of the change in *Statutory Requirements* (including any *Variation* instructed by the Principal in relation to a *Project Specific Statutory Requirement*), and any affected *Dates for Practical Completion* (and in relation to a *Project Specific Statutory Requirement*, the *Contract Price*) must be adjusted as agreed and in the event that the parties cannot agree the Contractor is entitled to claim a *Variation* under Clause 48; and
 - .2 Not Used
 - .3 Not Used
- .5 If the Principal does not agree with the Contractor's contentions under clauses 49.1.1 and 49.1.2, the Contractor may notify an *Issue* under clause 69.
- .6 Costs and delay incurred by the Contractor as a result of changes in *Statutory Requirements* before it gave the notice required by clause 49.1 must not be counted in any valuation or extension of time.

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additional shipping costs where it is necessary to remove materials, plant or equipment that would not otherwise have needed removal had the full scope of works been performed);

- .3 costs to demobilise staff (including any early redundancy or termination payments);
- .4 costs incurred to terminate subcontracts, consultancy agreements or supply agreements; and
- .5 any other costs that are the unavoidable consequence of omitting the work but excluding any claims for loss or profit or margin for administration and overheads.

The Contractor must use reasonable endeavours to mitigate its costs under this clause.

- .8 A valuation under clause 47.6 must not include:
 - .1 any costs, losses or expenses attributable to any default, negligence or failure to minimise additional costs of the Contractor, Subcontractors or Consultants;
 - .2 any amount for costs that the Contractor would have incurred anyway or should reasonably have allowed for at the Date of Contract; or
 - .3 any amount that the Contractor is not entitled to claim under clause 38.4, 49.6 or 68.2.
- .9 A valuation under clause 46 must take into account the specific matters required by that clause.

Application of adjustments

- .10 The *Contract Price* and any *Dates for Practical Completion* must be adjusted as agreed, assessed or determined under clause 47.
- .11 Where, otherwise than by reason of a direction to vary the Work, the actual quantity of an item required to perform the Contract is greater or less than the quantity shown in Schedule 15 - Schedule of Rates:
 - .1 Not Used; or
 - .2 the Principal accepted a rate for the item, the rate shall apply to the greater or lesser quantities provided that where Limits of Accuracy for a quantity in a schedule of rates are stated in Item 55 of the Contract Information Schedule, the rate shall apply to the greater or lesser quantities within the limits, and quantities outside the limits shall be assessed as if it was a *Variation*.

48 Variations

The Principal will normally obtain, and seek to settle by negotiation, the Contractor's price and allowance for effect on time for a proposed *Variation* before instructing the *Variation* in writing, and clauses 48.2 to 48.3 provide for this. This does not prevent the Principal from instructing a *Variation* at any time.

Instructing and commencing Variations

- .1 The Principal may instruct a *Variation* in writing at any time before *Practical Completion* of the whole of the Works (and after *Completion* in accordance with clause 67.1.3) and the Contractor must comply.
- .2 If requested in writing by the Principal, the Contractor must, within the time specified in the request, advise the Principal of:
 - .1 its price (excluding all costs of delay or disruption) for a proposed *Variation*;
 - .2 the anticipated effect of the proposed *Variation* on achieving *Practical Completion*; and
 - .3 the effect of the proposed *Variation* on any other matter specified by the Principal.
- .3 If the parties have agreed in writing on the effects of a proposed *Variation*, and the Principal instructs the Contractor to carry out the *Variation*, any affected *Dates for Practical Completion* and the *Contract Price* must be adjusted as agreed.
- .4 If the parties have not agreed in writing on the effects of a proposed *Variation* or the Principal has not made a request under clause 48.2, the Principal may:
 - .1 instruct the Contractor to carry out the *Variation*, in which case the Contractor may make a *Claim* for:
 - .1 an extension of time under clause 50 and delay costs in accordance with clause 51, or the Principal may assess a reduction in time in accordance with clause 50; and
 - .2 an adjustment to the *Contract Price* to be valued in accordance with clause 47, or the Principal may assess a deduction from the *Contract Price* to be valued in accordance with clause 47; or

Changes to work and time

47 Valuation of changes

- .1 If the Contractor submits a *Claim* complying with clause 68.3 and the Principal agrees that the Contractor is entitled to an adjustment to the *Contract Price* or *Date for Practical Completion*, then the parties must endeavour to reach agreement on the adjustments. If agreement cannot be reached then:
 - .1 if a Valuer is engaged, either party may by giving notice to the other party and to the Valuer, request the Valuer to determine the adjustment;
 - .2 if no Valuer is engaged at the relevant time, the parties may agree to engage a Valuer for the purpose of making this single valuation; or
 - .3 if no Valuer is engaged and the parties do not agree to engage a Valuer then, within 28 days after the Contractor has provided the information specified in clause 68.3, the Principal is to assess the value of the adjustments in accordance with clause 47 and advise the Contractor in writing. The Contractor may dispute the assessment under clause 69.
- .2 The Principal is not required to assess a *Claim* nor is a *Claim* to be referred to the Valuer until the Contractor provides all the information specified in clause 68.3.
- .3 If an event entitles the Contractor to adjustments to both the *Contract Price* and any *Date for Practical Completion*, these adjustments are to be dealt with together.
- .4 If the Principal does not agree that any entitlement exists, the Principal must advise the Contractor in writing and clauses 69 to 71 apply.

Valuation principles

- .5 When the Contract requires an adjustment to the *Contract Price* to be valued in accordance with clause 47, the principles set out below apply.
- .6 Subject to clause 47.8, if the Contractor is entitled to an increase in the *Contract Price* for additional work or for unavoidable additional costs, the value of the increase is to be assessed or determined as the sum of:
 - .1 the additional reasonable direct cost to the Contractor including labour, *Materials* and plant (not including the *Contractor's Margin*);
 - .2 the additional reasonable costs to the Contractor of Subcontractor and Consultant work involved in carrying out the additional work or in responding to the unavoidable circumstances (not including the *Contractor's Margin*);
 - .3 an additional amount for the *Contractor's Margin*, calculated as the percentage stated in Contract Information Item 44 of the total of the costs under clauses 47.6.1 and 47.6.2; and
 - .4 any delay costs due in accordance with clause 51, subject to the requirements of clause 50.

The Contractor is entitled to claim unavoidable additional costs under clauses 52.4 and 53.3 when the conditions of those clauses are satisfied.
- .7 The value of decreased or omitted work or of any reduction in costs under clause 38, is to be assessed or determined as follows:
 - .1 for items to which rates apply on the basis of rates and lump sums in the Contract or, if there are no applicable rates or lump sums in the Contract, based on reasonable rates and prices applying at the close of tenders. Where the volume of works completed fall below the Limit of Accuracy stated in Item 55 for quantity of those works specified in the Schedule of Rates then the Contractor will be entitled to be paid a higher rate for those Works to compensate for additional cost on lower volume assessed as a Variation in accordance with clause 47.11.2 and an adjustment will be included to increase the costs to date in the next payment claim;
 - .2 the Contractor will be entitled to recover the cost of any *Materials* supplied or ordered for which it is liable to accept, provided that title in those *Materials* will pass to the Principal on payment; and
 - .3 the Contractor will be entitled to recover the reasonable costs of demobilisation including:
 - .1 costs to disassemble and remove any temporary works, plant or equipment;
 - .2 cost of shipping (not otherwise included in prior payments and including any

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Contractor in carrying out the *Test*. Otherwise the Contractor bears the cost, including any costs of opening up and reinstating any part covered up.

- .4 The Contractor must make good any part of the Works where *Testing* has not shown compliance with the Contract and must repeat the *Testing*, at its own cost, until the results of the *Tests*, as reported in writing to the Principal, confirm that the Works comply with the Contract.

45 Defects

The Principal considers the Contractor to be an expert in the design and construction of the Works and holds the Contractor responsible for its work.

These *Defects* provisions are to ensure that the Works are constructed to the standards required by the Principal. The Principal can also rely on its common law rights. Also refer to clause 67 which deals with *Defects* after *Practical Completion*.

- .1 The Contractor must identify and promptly make good all *Defects* so that the Works comply with the Contract.
- .2 At any time before the *the Date of Practical Completion* for *Separable Portion 4*, the Principal may instruct the Contractor to make good *Defects* within the time specified in a *Defect Notice*.
A similar provision applies after *Practical Completion* under clause 67.1.
- .3 If the Contractor fails to make good the *Defects* in the time specified in the *Defect Notice*, the Principal may have the *Defects* made good by others and then:
- .1 the cost of doing so will be a debt due from the Contractor to the Principal; and
 - .2 the Contractor will be responsible for the work involved in making good the *Defects* as if the Contractor had carried out the work.
- .4 Nothing in clause 45 reduces the Contractor's warranties and other liabilities and obligations under the Contract, or affects the Principal's common law right to damages or any other right or remedy.
- .5 If at any time before the *Date of Practical Completion* for *Separable Portion 4* the Contractor becomes aware of any *Defect* or deficiency which results from design or other work or actions for which it is not responsible, it must:
- .1 promptly notify the Principal; and
 - .2 carry out any *Variation* instructed by the Principal to make good the *Defect* or deficiency.

46 Acceptance with Defects not made good

- .1 The Principal, in its absolute discretion, may agree that specific *Defects* need not be made good.
- .2 Before the Principal does so, the Principal may propose deductions from the *Contract Price* and any terms it requires.
- .3 If the Contractor agrees with the proposed deductions and terms, the *Contract Price* must be adjusted as agreed.
- .4 If the Contractor agrees with the proposed terms but not with the proposed deductions:
- .1 if no Valuer is engaged at the relevant time, the parties may agree to engage a Valuer for the purpose of making this single valuation;
 - .2 if a Valuer is engaged, the Principal may request the Valuer to determine the value of the deductions in accordance with clause 47.7, taking into account any increased future costs, loss of income or reduction in asset life, and the *Contract Price* will be adjusted accordingly; or
 - .3 if no Valuer is engaged and the parties do not agree to engage a Valuer then the Principal is to assess the value of the adjustment in accordance with clause 47.7 and advise the Contractor in writing. The Contractor may dispute the assessment of the Principal in accordance with clause 69.
- .5 If the parties do not agree in writing on the Principal's proposed terms, the Contractor must make good the specified *Defects*.
- .6 The Contractor remains liable for all *Defects* (whether known or not known) other than the specific *Defects* identified in a written agreement made under clause 46 as not to be made good.

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- .2 The proposal must not include anything which might adversely affect the construction, operation or maintenance of the Works or their performance or fitness for the purposes required by the Contract.
- .3 The Principal must consider the Contractor's proposal, but is not bound to accept it. The Principal may accept the proposal subject to conditions. No *Claim* will arise out of the Principal's consideration of, or failure to accept, any proposal.
- .4 The Contractor must not begin implementation of any proposal unless the Principal has accepted the Proposal, subject to any conditions imposed by the Principal, in writing.
- .5 The share of the financial benefit of any proposal to be paid to the Contractor must be as stated in Contract Information Item 39 unless the parties otherwise agree.

Construction

42 Setting out the Works and survey

- .1 The Contractor must set out the Works in accordance with the Contract.
- .2 The Contractor may request from the Principal any additional information that is necessary for setting out the Works and is not included in the *Contract Documents*. Such a request must be made at least 14 days before the information is planned to be used for setting out. As soon as practicable, the Principal must provide any additional information which it has or can reasonably obtain.
- .3 If at any time the Contractor discovers or is made aware of any error in the location, level, dimensions or alignment of the Works:
 - .1 the Contractor must notify the Principal; and
 - .2 unless instructed otherwise by the Principal, the Contractor must rectify the error to ensure that the Works comply with the Contract.
- .4 If an error notified in accordance with clause 42.3.1 is due to a *Fault* in the *Contract Documents*, clause 38 applies.
- .5 The Contractor must give the Principal a copy of a survey showing the Works as constructed on the Site, including the relationship of the Works to any relevant property boundaries, easements (including any right of way) and improvements on the Site. If requested in writing by the Contractor, the Principal may agree in writing that certain matters can be excluded from the survey. The survey must be carried out by a registered surveyor or other surveyor to whom the Principal has no objection.

43 Construction

- .1 The Contractor must supply all *Materials* and construct the Works in accordance with all of the following:
 - .1 the Contract;
 - .2 the *Contractor's Documents*;
 - .3 Statutory Requirements;
 - .4 the Principal's instructions;
 - .5 the Building Code of Australia (if stated in Contract Information Item 38B) and relevant Australian Standards; and
 - .6 if no other standard is specified in the Contract, good industry standards applicable to the Works.

44 Testing

- .1 The Contractor must *Test* all parts of the Works that are specified in the Contract to be *Tested*, give the Principal the opportunity to witness the *Tests* by giving reasonable notice, and make the results available to the Principal.
- .2 The Principal may instruct the Contractor at any time prior to the *Date of Practical Completion* for *Separable Portion 4* or as part of *Defect* rectification works to carry out any other *Test* of any part of the Works.
- .3 If the results of any *Test* instructed by the Principal under clause 44.2 show compliance with the Contract, the Contractor may only make a *Claim* for an increase in the *Contract Price* to be valued in accordance with clause 47 for any unavoidable additional costs incurred by the

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- .1 to the extent that any such departure does not adversely affect the construction, operation or maintenance of the Works or their performance or fitness for the purposes required by the Contract; and
- .2 provided that the Contractor has notified the Principal in writing of the proposed departures and the Principal has not notified the Contractor of any objection within 7 days after receiving the notification.

Design review

- .8 To the extent specified in the Contract, the Contractor must review its design in consultation with persons nominated by the Principal, and develop the design and the *Contractor's Documents* allowing for any matters identified in the review.

Contractor's Documents

- .9 The Contractor must produce *Contractor's Documents* which:
 - .1 will ensure that the Works are fit for the purposes outlined in the specification referenced in this Contract; and
 - .2 meet the requirements of all of the following:
 - .1 the Contract;
 - .2 Statutory Requirements;
 - .3 the Principal's instructions;
 - .4 the Building Code of Australia (if stated in Contract Information Item 38B) and relevant Australian Standards; and
 - .5 if no other standard is specified in the Contract, good industry standards applicable to the Works.
- .10 The requirements of clause 39.9 are not affected by any *Variation*.

40 Submitting Contractor's Documents

- .1 Unless the Contract provides otherwise, the Contractor must submit *Contractor's Documents* to the Principal at least 21 days before the date the Contractor proposes to use them for procurement, manufacture, fabrication or construction. *Contractor's Documents* must be submitted progressively with sufficient detail to demonstrate what is proposed. The number of copies must be as stated in Contract Information Item 28.
- .2 The Principal need not respond to the Contractor about the *Contractor's Documents*.
- .3 If the Principal objects to the *Contractor's Documents*, the Contractor must take the objections into account and discuss them with the Principal. The Contractor must correct any *Fault*, error or omission in the *Contractor's Documents*.
- .4 Nothing the Principal does or omits to do in connection with the *Contractor's Documents* makes the Principal responsible for the *Contractor's Documents*, or prevents the Principal from relying on or enforcing any right under the Contract or otherwise.

41 Innovation

Clause 41 provides an incentive to the Contractor to improve its service to the Principal by innovation. If the Principal accepts the Contractor's proposal, the Contractor benefits from the *Variation* and the Principal benefits from the value added to the Works through reduced operating or maintenance costs or other savings.

- .1 The Contractor may submit in writing to the Principal, a proposal for changes to the Works, including the design or *Materials*, which are likely to offer significant benefits (including long-term or repeated benefits) to the Principal. The proposal must include details of:
 - .1 the proposed change to the Works and the proposed change in the *Contract Price*;
 - .2 potential risks to the Principal and the Contractor if the proposal is accepted;
 - .3 any changes required to *Dates for Practical Completion*;
 - .4 projected changes in operating and maintenance costs;
 - .5 projected changes in whole-of-life costs;
 - .6 any other benefit the Principal will receive; and
 - .7 any benefit the Contractor will receive.

- .12 If the Contractor fails to notify the Principal of a *Latent Condition* in accordance with the timeframes set out in clause 37.9, the Contractor will not be entitled to any increase in the *Contract Price* as a result of the *Variation*.

Design

The Contractor always has some design, design coordination and design management responsibility no matter whether the nature of the Contract is described as fully documented; construct only; design, development and construct; design and construct, lump sum or some similar description is given to it. The extent of design by the Contractor may be as little as shop detailing, as much as the full design of the Works, or something in between.

38 Faults in Contract Documents

- .1 The order of precedence of the *Contract Documents* comprising the Contract will be as set out in Clause 7.1, except that in the event of any *Fault* between or within the Principal's Document, or the preliminary design (or any similar technical documents which relate to the Works and form part of the Contract) the more stringent requirement shall apply (unless agreed otherwise with the Principal), subject to figured dimensions prevailing over scaled dimensions in a discrepancy relating to dimensions
- .2 Otherwise, if the Contractor discovers a *Fault* in any *Contract Documents* prepared for the purpose of carrying out the Works that cannot be resolved under Clause 38.1, then the Contractor shall give the *Principal's Authorised Person* written notice of it. The *Principal's Authorised Person* shall upon becoming aware, shall direct the Contractor as to the interpretation and construction to be followed.
- .3 The Contractor acknowledges and agrees that it has reviewed all of the *Contract Documents* comprising the Contract and has not identified any *Fault* in them. The Contractor is not entitled to any addition to the *Contract Price* or any *Qualifying Cause of Delay* or to otherwise make any claim (and the Principal shall have no liability) as a result of a direction pursuant to this clause 38 or any other matter arising out of, or as a consequence of any discrepancy.
- .4 The Contractor must bear the cost of compliance with any direction under this clause, even if the *Fault* is contained in documents provided by or on behalf of the Principal (whether before or after execution of the Contract).

39 Design by Contractor and Contractor's Documents Design responsibilities

- .1 The Contractor must complete the design provided by the Principal and carry out all other design necessary in connection with the Works. The Contractor's design obligations include, but are not limited to:
 - .1 completion of design, documentation and workshop detailing for design provided by the Principal, including coordination of design activities and the interaction of the various disciplines;
 - .2 development of the preliminary design provided by the Principal for elements referred to in Contract Information Item 38A.1; and
 - .3 full design by the Contractor of elements referred to in Contract Information Item 38A.2.
- .2 The Contractor must carry out its design responsibilities so that the Works are fit for the purposes outlined in the specification referenced in this Contract and comply with the other requirements of the Contract.
- .3 Not Used.
- .4 A design or design development does not cause a *Variation* or reduce the Contractor's design responsibilities under clause 39.

Departures from the design provided by the Principal

- .5 Subject to clause 39.7, the Contractor must not depart from the design provided by the Principal unless instructed in writing by the Principal.
- .6 Not Used.
- .7 In carrying out the design and design development of the elements referred to in Contract Information Item 38A.3, the Contractor may depart from the design provided by the Principal, but only:

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- .6 has made its own interpretations, deductions and conclusions and did not in any way rely on interpretations, deductions and conclusions made by or for the Principal; and
- .7 it and its Subcontractor have the skill, expertise, qualifications and ability necessary to perform the Works in accordance with this Contract and such shipping vessels and transport utilised for the provision of *Materials* to Site are fit for their intended purpose.

37 Site Conditions

- .1 The Contractor is solely responsible for dealing with any adverse *Site Conditions*:
 - .1 so as to minimise delay;
 - .2 so as to minimise increased costs; and
 - .3 without awaiting any instruction from the Principal,
 but must comply with any instruction given by the Principal
- .2 Clauses 37.3 do not apply if it is stated in Contract Information Item 37 that the Contractor is to bear the risk of adverse *Site Conditions*.
- .3 If the Contractor becomes aware of adverse *Site Conditions* that differ materially from those it should reasonably have expected at close of tenders, the Contractor must notify the Principal in writing as soon as possible and in any event within 7 days after becoming aware of those *Site Conditions*. Where practicable, the notification should be given before the *Site Conditions* are disturbed. The notification must include details of:
 - .1 the *Site Conditions* the Contractor claims are adverse;
 - .2 the manner in which the Contractor contends they differ materially from the *Site Conditions* the Contractor should reasonably have expected at close of tenders (having regard to the warranty in clause 36.2), including any information supporting this contention;
 - .3 the effect on the Works;
 - .4 the effect on achieving *Practical Completion*;
 - .5 the additional work and resources involved; and
 - .6 any other matters the Contractor considers relevant.
- .4 The Principal may request the Contractor to provide further information about the matters notified under clause 37.3.
- .5 After considering the Contractor's notification under clause 37.3, the Principal must notify the Contractor whether it agrees with the Contractor's contentions under clause 37.3.1. and 37.3.2 as to the nature of the conditions encountered and whether or not the Contractor should reasonably have expected them.
- .6 If the Principal agrees that there are adverse *Site Conditions* that differ materially from those the Contractor should reasonably have expected at the close of tenders and the Contractor has given the notice required by clause 37.3 then:
 - .1 the parties may agree in writing on the effects of the unexpected adverse *Site Conditions*, and any affected *Dates for Practical Completion* must be adjusted as agreed; or
 - .2 in the event the parties fail to agree, the Contractor can make a *Claim* for a *Qualifying Cause of Delay* under Clause 50.
- .7 If the Principal does not agree with the Contractor's contentions under clauses 37.3.1 and 37.3.2, the Contractor may notify an *Issue* under clause 69.
- .8 Costs and delay incurred by the Contractor as a result of unexpected adverse *Site Conditions* before it gave the notice required by clause 37.3 must not be counted in any extension of time.
- .9 The Contractor, within 2 Business Days of becoming aware of a *Latent Condition* while carrying out Works, shall promptly, and where possible before the *Latent Condition* is disturbed, give the *Principal's Authorised Person* written notice of the general nature thereof.
- .10 If required by the *Principal's Authorised Person*, within 5 Business Days after becoming aware of the *Latent Condition*, the Contractor shall give the *Principal's Authorised Person* a written statement of:
 - .1 the *Latent Condition* encountered and the respects in which it differs materially;
 - .2 the additional work, resources, time and cost which the Contractor estimates to be necessary to deal with the *Latent Condition*; and
 - .3 other details reasonably required by the *Principal's Authorised Person*.
- .11 Subject to the paragraph below, the effect of the *Latent Condition* shall be a deemed *Variation*.

- .2 when an entitlement arises under clause 75, to terminate the Contract.
- .3 The Contractor must permit the Principal, including its authorised employees and agents, to have access to the Site and to the premises of the Contractor at all reasonable times and must arrange for equivalent access to premises of Subcontractors, Suppliers and Consultants. The Principal may require access for any reasonable purpose connected with the Contract, including surveillance, audit, inspection, *Testing*, certification and recording of information.

35 Engagement and role of Valuer

Refer to Schedule 4 (Agreement with Valuer), under which the Valuer makes determinations about value and time under clauses 47 and 50.

- .1 If Contract Information Item 50A states that a Valuer must be engaged or if the parties agree to engage a Valuer, then:
 - .1 the parties, acting reasonably, must endeavour to agree in writing on the identity of the Valuer within 21 days after the Date of Contract or, failing agreement, the Principal must request the person named in Contract Information Item 50B to select the Valuer;
 - .2 within a further 21 days after the date of selection of the Valuer, the Principal and the Contractor must jointly engage the Valuer using the form in Schedule 4 (Agreement with Valuer); and
 - .3 a Valuer's certificate will be final and binding unless the net amount of the Valuer's determination (excluding any amount for interest) exceeds the amount stated in Contract Information Item 50C, in which case either party may commence litigation in respect of the matters referred to the Valuer, but only within 56 days after receiving the determination.
- .2 The parties may agree at any time to engage a Valuer in accordance with this clause, either for a single valuation or on an ongoing basis. When the parties agree to engage a Valuer after the Date of Contract, "Date of Contract" for the purposes of clause 35.1.1 refers to the date the parties agree to appoint the Valuer.

The Site

36 Site information

- .1 The parties acknowledge that:
 - .1 at the Date of Contract, the Principal has provided in good faith the information concerning the Site identified in Contract Information items 36A and 36B;
 - .2 the information identified in Contract Information items 36A and 36B does not form part of the Contract;
 - .3 the Principal does not guarantee the completeness of the information identified in Contract Information Item 36A;
 - .4 the Principal does not guarantee the accuracy, quality or completeness of the information identified in Contract Information Item 36B; and
 - .5 the Principal has no duty of care in connection with information identified in Contract Information Item 36B, or with having provided it.

Other information concerning the Site may be included in the Contract.
- .2 The Contractor warrants that it:
 - .1 has made its own inquiries concerning the Site, including checking information provided by the Principal;
 - .2 has examined the Site and surrounds and satisfied itself through its own investigation as to the *Site Conditions* which might reasonably be expected
 - .3 has made its own assessment of the risks, contingencies and other circumstances which might affect the work in connection with the Contract and has allowed fully for these in the *Contract Price* (subject to clause 37);
 - .4 did not in any way rely on the completeness of the information identified in Contract Information Item 36A other than as a guide for ascertaining what further Site information the Contractor considers it needs to obtain;
 - .5 did not rely on the accuracy, quality or completeness of information identified in Contract Information Item 36B;

GC21 (Edition 2) - General Conditions of Contract

Meanings

- .1 the *Completion Undertaking* within 14 days after the *Date of Practical Completion* of *Separable Portion 4*; and
- .2 the *Post-Completion Undertaking* at the end of the period stated in Contract Information Item 35 after the *Date of Practical Completion* of *Separable Portion 4* provided that at that time:
 - .1 there are no outstanding *Defects* or unresolved *Issues*; and
 - .2 there are no moneys of any nature, including debts, damages and indemnity claims, payable by the Contractor to the Principal.
- .4 When any of the circumstances in clause 33.3.2 apply, the *Post-Completion Undertaking* will be returned when those circumstances no longer apply.
- .5 When *Practical Completion* of a *Separable Portion* is achieved, the Principal may (in its absolute discretion) agree to a proportionate reduction in the amount held as *Undertakings*, based on the proportion of the Works included in the *Separable Portion*.
- .6 *Undertakings* must be provided by a bank, building society, credit union or insurance company acceptable to the Principal.
- .7 Not Used.
- .8 The Principal may have recourse to an *Undertaking*, without notice to the Contractor:
 - .1 to satisfy any debt or other moneys due from the Contractor to the Principal under or in relation to the Contract; or
 - .2 in respect of any reasonable claim that the Principal has against the Contractor arising out of the Contract or otherwise in connection with the Works for costs, expenses, losses or damages.
- .9 Not Used.
- .10 Not Used.

Cash Security - Subcontracts

The Contractor may require Subcontractors to provide security for Subcontracts in the form of cash security, retention money or unconditional undertakings to pay on demand provided by financial institutions on the Subcontractor's behalf.

- .11 If the Contractor receives or retains security in cash or converts security to cash under any of its Subcontracts, that security is held in trust by the Contractor from the time it receives, retains or converts it.
- .12 If the Contractor receives payment under the Contract for, or on account of, work done or *Materials* supplied by any Subcontractor, and does not pay the Subcontractor the whole amount to which the Subcontractor is entitled under the relevant Subcontract, the difference is held in trust for payment for the work done or *Materials* supplied.
- .13 The Contractor must deposit all money it receives in trust, as described in clauses 33.11 and 33.12, into a trust account in a bank selected by the Contractor no later than the next *Business Day*, and:
 - .1 the money must be held in trust for whichever party is entitled to receive it until it is paid in favour of that party;
 - .2 the Contractor must maintain proper records to account for this money and make them available to the Subcontractor on request; and
 - .3 any interest earned by the trust account is owned by the party which becomes entitled to the money held in trust.

34 Site access

- .1 The Principal must give the Contractor access to sufficient of the Site to allow the Contractor to start work by the later of:
 - .1 when the Contractor has complied with relevant requirements of the Contract; and
 - .2 the time stated in Contract Information Item 13.
- .2 If the Principal does not give the Contractor access to the Site as required by clause 34.1, the Contractor has no remedy or entitlement other than:
 - .1 an extension of time in accordance with clause 50 and delay costs in accordance with clause 51; and

Carrying out the Works

This section deals with design and construction activities. It contains provisions that apply to the physical carrying out of the Works and also covers procedures for

payment.

Starting

32 Start-up workshop

The start-up workshop is held to encourage the parties and others concerned with the Works to work co-operatively towards achieving a successful Contract. Start-up workshop guidance material is provided at Attachment 1 and does not form part of the Contract.

- .1 The Principal must convene a start-up workshop within 28 days after the Date of Contract or such other period as the parties agree.
- .2 The parties must attend the start-up workshop and must jointly decide who else will attend. Clause 6.4 applies to the costs of the workshop.
- .3 The objective of the start-up workshop is to promote a culture of co-operation and teamwork for the management of the Contract. The parties agree to conduct the workshop collaboratively so as to achieve this objective.

33 Security

The Contractor is required to provide security to the Principal in the form of unconditional *Undertakings* to pay on demand, provided by financial institutions on the Contractor's behalf.

- .1 Within 14 days after the Date of Contract (and before starting work on the Site), the Contractor must give the Principal the *Completion Undertaking* and the *Post-Completion Undertaking* for amounts calculated in accordance with Contract Information items 33 and 34 respectively. The *Undertakings* must be in the form specified in Schedule 2 (Undertaking).
 - .1A If the *Contract Price* increases by more than 10% from the *Contract Price* at the Date of Contract, the Contractor must if requested by the Principal provide a substitution *Completion Undertaking* and *Post-Completion Undertaking* as would be required for the Contractor to comply with clause 33.1 if the *Contract Price* as adjusted were the *Contract Price* at the Date of Contract. For the avoidance of doubt:
 - .1 The Contractor's obligation to provide substitution *Undertakings* under this clause 33.1A does not require the Contractor to provide any *Undertaking* that would cause the total value of *Undertakings* provided by the Contractor to exceed 5% of the *Contract Price* as adjusted;
 - .2 The Contractor is not required to provide any substitution *Undertaking* in respect of an *Undertaking* which the Principal is required to return or release as of the date of a request by the Principal under clause 33.1A;
 - .3 If the Contractor provides a substitution *Undertaking* in compliance with this clause then the Principal shall release the *Undertaking* it is replacing within 5 *Business Days* of receiving the substitution *Undertaking*;
 - .4 This clause 33.1A shall apply in each instance the *Contract Price* increases by 10%.
 - .5 Aside from clause 33.1 and 33.1A, the provisions of this Contract shall apply to a substitute *Undertaking* as if that *Undertaking* was provided as the *Completion Undertaking* or the *Post Completion Undertaking* (as is applicable) at the Date of Contract.
- .2 If the Contractor does not comply with clause 33.1 the Principal may withhold from any payment to the Contractor an amount up to the total amount of *Unconditional Undertakings* that the Contractor has not given to the Principal in accordance with clause 33.1 until the Contractor gives the *Unconditional Undertakings* to the Principal or the Principal is required to return the *Unconditional Undertakings*, whichever is earlier.
- .3 Unless the Principal has made or intends to make a demand against an *Undertaking*, the Principal must return the *Undertakings* (or, if applicable, the balance remaining after a demand on the *Undertakings*) to the Contractor as follows:

31 Consultant and Supplier relationships

- .1 Clauses 28.1, 28.2, 28.3 and 29 apply to Consultants in the same way they apply to Subcontractors.
- .2 Clauses 28, 29 and 30 apply to Suppliers in the same way they apply to Subcontractors, unless the context requires otherwise.

- .1 amount to a *Qualifying Cause of Delay* for which the Contractor may *Claim* for an extension of time under clause 50; and
- .2 entitle the Contractor to *Claim* delay and disruption costs under clause 51.

For the avoidance of doubt, the Contractor will not be entitled to a *Variation* arising out of vandalism and criminal damages under Clause 27.7.

Subcontractors, Suppliers and Consultants

Contractual relationships between the Contractor and Subcontractors, Suppliers and Consultants must be on a similar basis to those between the Principal and Contractor. Clause 31 specifies which requirements apply to Consultants and Suppliers.

28 Subcontractor relationships

- .1 The Contractor is responsible for all Subcontractors (including Subcontractors engaged in accordance with clause 29.3) and is liable for their acts and omissions in carrying out the Works as if such acts or omissions were those of the Contractor. Subcontracting of any obligation under the Contract does not affect the Contractor's obligations or liability under the Contract.
- .2 Where there is any reasonable concern on the part of the Principal that a Subcontractor may, during hours when the Contractor or Subcontractors are not carrying out Works or the Contractor is not otherwise present on Site, cause damage to or otherwise negatively impact the Contractor's ability to carry out the Works, then the Principal may instruct the Contractor to terminate the Subcontractor's subcontract.
- .3 The Contractor must include in every Subcontract:
 - .1 details of the Contractor's obligations in connection with the Contract which are to be carried out by the Subcontractor;
 - .2 Not Used;
 - .3 consent for the Subcontract to be novated to the Principal or its nominee, if required by the Principal in the circumstances contemplated by clause 73.6.3; and
 - .4 when possible, a right of termination for convenience.
- .4 In addition, the Contractor must include:
 - .1 in each Subcontract with a Subcontractor valued at or over the amount stated in Contract Information Item 29, written provisions giving effect to the requirements set out in Schedule 9 (Subcontract requirements); and
 - .2 in each Subcontract with a Subcontractor valued below the amount stated in Contract Information Item 29, a written provision requiring the Contractor to pay the Subcontractor within the number of days stated in Contract Information Item 30 after the Subcontractor has claimed payment in accordance with the Subcontract.

29 Engaging Subcontractors

- .1 The Contractor must not subcontract the whole of the Works, but may subcontract parts of the Works in accordance with clauses 28 and 29.
- .2 If requested, before engaging any Subcontractor and at any other time, the Contractor must provide the Principal with the name and address of the proposed Subcontractor. The Principal may object to the appointment of any proposed Subcontractor on reasonable grounds. If the Principal objects to any proposed Subcontractor, the Contractor must propose another Subcontractor.
- .3 If Contract Information Item 31 includes a list of *Preferred Subcontractors* for a particular class of work, the Contractor must only engage a Subcontractor from that list for work of that class. If no *Preferred Subcontractor* on the list will subcontract to carry out the work, the Contractor must provide a revised list and the provisions of clause 29.2 will apply.

30 Subcontractor warranties

- .1 For each trade, item or area of work listed in Contract Information Item 32, the Contractor must obtain from each relevant Subcontractor, before that Subcontractor completes its work, a warranty to the Principal in the form of Schedule 1 (Subcontractor's Warranty).
- .2 Clause 30.1 does not affect any of the Contractor's other obligations under the Contract.

- .2 The Contractor's insurance required under Clause 27.1 (other than statutory insurance) must be with an insurer or insurers approved by the Australian Prudential Regulatory Authority (or another reputable international insurance regulator) and on terms consistent with prudent risk management practices, and the Contractor must once each calendar year of the duration of this Contract provide the Principal a certificate of currency evidencing the currency of its insurance required under clause 27.1 but is not required to provide anything else with respect to its insurances including copies of its insurance policies and anything else that requires the Contractor to do or omit to do anything with respect to insurance (such as pay or bear deductibles or excesses, or maintain other insurance cover) is dis-applied and deemed to be deleted.

Vandalism and Criminal Damage

- .3 The Contractor shall during hours where the Contractor or its Contractor Personnel are performing the Works at the Norfolk Island Airport Site maintain in relation to any part of the Norfolk Island Airport Site where the Contractor is carrying out Works, or is otherwise present in connection with its obligations under the Contract, such standards of vigilance and will take all such precautions as may from time to time be reasonably recommended by the police for the protection and security of such part of the Norfolk Island Airport Site against vandalism, damage by fire or malicious damage including malicious damage by third parties and shall compensate the Principal for any loss or damage caused by a breach of this obligation.
- .4 Subject to complying with Clause 27.3, and using all reasonable endeavours to mitigate delay or disruption arising from third party damage to the Works, notwithstanding clauses 26.1, 26.1A, 26.3 and 26.6, such loss or damage caused by vandalism, damage by fire or malicious damage to the Works shall be a *Qualifying Cause of Delay* entitling the Contractor to Claim for an extension of time under clause 50.
- .5 The Principal shall be responsible for security of the Norfolk Island Airport Site and for any vandalism and criminal damage caused to the Norfolk Island Airport Site or the Works located at the Norfolk Island Airport Site during any period where the Contractor or its Contractor Personnel are not performing the Works at the Norfolk Island Airport Site and:
- .1 any delay or disruption arising out of such vandalism and criminal damage to the Norfolk Island Airport Site shall be a *Principal Caused Delay* for which the Contractor is entitled to Claim for an extension of time under clause 50 provided the Contractor uses all reasonable endeavours to mitigate the delay or disruption; and
- .2 any works required to make good the loss or damage to the Works shall be treated as a *Variation* under clause 48
- except where such vandalism and criminal damage is caused by the actions of the Contractor or its employees.
- .6 The Contractor shall be responsible for all costs, losses and expenses arising out of vandalism and criminal damage to the Contractor's equipment, the Contractor's property and to the Works at the Ball Bay Site except to the extent such vandalism or criminal damage is caused by the Principal. Provided the Contractor has used all reasonable endeavours to mitigate vandalism or criminal damage and any delay or disruption arising therefrom, notwithstanding clauses 26.1, 26.1A, 26.3 and 26.6, such delay or disruption shall amount to a *Qualifying Cause of Delay* for which the Contractor shall be entitled to Claim for an extension of time under clause 50;
- .7 Notwithstanding clauses 26.1, 26.1A, 26.3 and 26.6, the Principal shall be responsible for all costs, losses or expenses arising out of vandalism and criminal damage to property at the Ball Bay Site other than property referred to in clause 27.6 (including property of the Principal and third parties but not including Contractor Personnel property) except to the extent such vandalism or criminal damage is caused by:
- .1 the Contractor or its employees (at any time); or
- .2 the Contractor's agents, consultants, Subcontractors or suppliers at times when such persons are carrying out Works or the Contractor is present in connection with its obligations under the Contract.

Provided the Contractor uses all reasonable endeavours to mitigate such vandalism or criminal damage and any delay or disruption arising out of it, any delay or disruption arising out of such vandalism and criminal damage to the Ball Bay Site for which the Principal is responsible under this Clause 27.7 shall:

Island), or any equivalent statutory provision in any law applicable to Norfolk Island or in any other state or territory, applies.

Consequential loss

- .11 The Contractor is not liable to the Principal (and vice versa) for any loss of profit, loss of any contract, loss of revenue, loss of use, loss of business opportunities, loss of anticipated savings, damage to goodwill, loss of customers or any indirect or consequential losses or damages not in the reasonable contemplation of the parties at the Date of Contract, arising in connection with the Contract, other than:
 - .1 loss directly resulting from any of the matters referred to in clause 26.9; or
 - .2 loss that is covered by insurance required under the Contract to be held by the Principal or the Contractor (but only to the limit of such cover), or which would have been covered by insurance required under the Contract to be held by the Contractor but for an act or omission of the Contractor or any of its Contractor Personnel (but only to the limit of the required cover).
- .12 **Exclusion of proportionate liability** –If Contract Information Item 20 states that proportionate liability is excluded from the Contract then, to the extent permitted by law, the operation of any law for Norfolk Island relating to civil liability, and any equivalent statutory provision, is excluded in relation to all rights, obligations and liabilities in connection with the Contract whether such rights, obligations or liabilities are sought to be enforced as a breach of contract or a claim in tort or otherwise.

27 Insurance

The Contract Information states whether the Principal or the Contractor is to provide Works and public liability insurance. All other insurance required must be provided by the Contractor.

- .1 Despite anything else (including any other term of this Contract or anything relating to or referred to in this Contract) the Contractor's sole obligations relating to insurance are those expressly set out in this clause 27 and:
 - .1 the Contractor is only required to maintain:
 - .1 public liability insurance with a limit of indemnity of \$20 million which provides cover, subject to its terms, to the Contractor for its liability at law for:
 - .1 physical damage to third party property; or
 - .2 bodily injury to or death of any person (other than the Contractor's employees), resulting from the Contractor's negligent performance of its obligations to perform work under this Contract; and
 - .2 workers compensation insurance to the extent required by the applicable statute regulating workers compensation, providing cover to the Contractor in respect of its employees that it employs to perform work for the Contractor under this Contract. The Contractor must ensure that its subcontractors appointed by the Contractor to perform work for the Contractor in respect of this Contract are similarly insured; and
 - .3 if the Contractor is responsible under this Contract for the transportation of the asphalt works, marine cargo insurance which provides cover, subject to its terms, to the Contractor for physical damage to such goods while they are being transported by the Contractor, for up to the replacement value of such goods; and
 - .4 professional indemnity insurance which (i) provides cover, subject to its terms, to the Contractor for its liability at law for a breach of professional duty to the Principal resulting from the Contractor's negligent advice to the Principal with respect to asphalt and related professional services supplied by the Contractor under this Contract, with a limit of indemnity of \$5 million for all claims during any one 12 month policy period; and (ii) the Contractor must maintain for 7 years from the time the Contractor provides such advice to the Principal; and
 - .5 Works policy of insurance which provides cover, subject to its terms, to the Contractor for physical damage to the Works that are performed by the Contractor under this Contract and in the Contractor's possession or control, including physical damage to existing infrastructure at the site caused in connection with the carrying out of the Works, for a maximum amount equivalent to 100% of the total *Contract Price* for each claim.

- law or confiscation by order of any Government or public authority; or
- .4 ionising radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel not caused by the Contractor or any of its Subcontractors, Consultants or Suppliers.
 - .6 The Contractor indemnifies the Principal against:
 - .1 all damage to property other than property covered under clause 26.3;
 - .2 all claims (including *Claims*), actions, other liability, and loss, including loss of use arising from damage to property, in connection with property other than property covered under clause 26.3; and
 - .3 all claims (including *Claims*), actions, other liability, and loss in connection with personal injury, or death,
 where that damage, personal injury, loss or damage arises out of or as a consequence of the carrying out of the Works and occurs:
 - (a) during the hours that the Contractor and its Contractor Personnel are performing the Works; or
 - (b) during the hours that the Contractor and its Contractor Personnel are not performing the Works and results from the Contractor's failure to comply with the requirements of the Contract;
 - .7 not used.

Limitation of liability

- .8 Subject only to clauses 26.9 and clause 26.11, the Contractor's liability under or in any way in connection with the Contract, whether arising under the law of contract (including under an indemnity), in tort (including negligence or otherwise), in equity, statute, in debt, by warranty, or any other basis in law or equity will be limited to the amount stated in Contract Information Item 19.
- .9 Clause 26.8 does not limit or affect any liability of the Contractor in respect of claims, actions, costs, losses, damages or liability for:
 - .1 liability which cannot be limited at law;
 - .2 intellectual property and indemnities given by the Contractor in connection with intellectual property;
 - .3 conduct of the Contractor which is grossly negligent or is carried out with wilful or reckless disregard for the consequences to the Principal, the public or the environment;
 - .4 wilful misconduct, wilful default, fraudulent or criminal conduct;
 - .5 Not Used;
 - .6 the Contractor's obligation to pay liquidated damages under the Contract (or if those liquidated damages are unenforceable, any general law damages for delay payable up to the *Liquidated Damages Liability Cap*);
 - .7 a failure by the Contractor to effect and maintain the insurances as required by clause 27 of this Contract;
 - .8 events or circumstances in respect of which insurance proceeds are available under insurance that the Contractor is required by clause 27 of this Contract to have in place, and such amounts will not be included when calculating whether the liability limitation has been reached;
 - .9 events or circumstances in respect of which insurance proceeds would have been available under insurance that the Contractor is required by clause 27 of this Contract to have in place but for:
 - .1 a failure of the Contractor to obtain or maintain the relevant insurances in accordance with clause 27;
 - .2 a failure by the Contractor to claim under the relevant insurances (or comply with the claim procedures under the relevant insurances); or
 - .3 the Contractor not complying with any provision, obligation or duty owed under the relevant insurance policy (including the Contractor's duty to disclose); or
 - .10 a breach of the Contractor's obligations under clause 24.
- .10 Subject to these terms and conditions and the *Contract*, the Contractor's liability may be further limited to the extent that the Law of Negligence and Limitation of Liability Act 2009 (Norfolk

where that loss or damage arises out of or as a consequence of the carrying out of the Works and occurred during the hours that the Contractor and its Contractor Personnel are performing the Works.

.1B The Contractor is responsible for all of the following:

- .1 claims in respect of personal injury or death;
- .2 loss or damage to the Site and the Works;
- .3 loss or damage to adjoining and other properties and the environment arising in connection with carrying out the Works; and
- .4 loss or damage to existing services,

where that injury, death, loss or damage occurred during the hours that the Contractor and its Contractor Personnel are not performing the Works and resulted from the Contractor's failure to comply with the requirements of the Contract.

.1C The Contractor is responsible for:

- .1 repairing or making good loss or damage to the Works and the Site; and
- .2 the cost of repairing, or making good, loss or damage to adjoining and other properties and the environment arising in connection with carrying out the Works

where that loss or damage occurred during the hours that the Contractor and its Contractor Personnel are not performing the Works and resulted from the Contractor's failure to comply with the requirements of the Contract.

- .2 If, in the opinion of the Principal, urgent action is required to avoid death, injury, loss or damage, and the Contractor does not take the necessary action immediately when the Principal requests it, the Principal may take the action (without relieving the Contractor of its obligations), at the Contractor's cost, and the Principal's costs of doing so will be recoverable as a deduction from the *Contract Price*.

Indemnities for property, personal injury or death

.3 The Contractor indemnifies the Principal against loss or damage to:

- .1 the Works, from the date the Contractor begins carrying out the Works; and
- .2 the Site and anything brought onto the Site for the purposes of the Contract from the date the Contractor is given access to the Site, or the relevant part of the Site,

arising out of or as a consequence of the carrying out of the Works where that loss or damage occurs:

- (a) during the hours that the Contractor and its Contractor Personnel are performing the Works; or
- (b) during the hours that Contractor and its Contractor Personnel are not performing the Works and results from the Contractor's failure to comply with the requirements of the Contract;

and in each case until and including the *Date of Practical Completion for Separable Portion 4* except that, in respect of any part of the Works which is occupied or taken into use by the Principal under clause 64, this indemnity ceases when that part is occupied or taken into use and the indemnity in clause 26.4 then applies as if the *Date of Practical Completion* had been achieved with respect to that part.

.4 During the *Defects Liability Period*, the Contractor indemnifies the Principal against loss or damage to the Works, the Site, and anything brought onto the Site for the purposes of the Contract:

- .1 arising out of carrying out its obligations under the Contract, including making good *Defects* and removing *Materials* from the Site; or
- .2 which occurred while the Contractor indemnified the Principal under clause 26.3.

.5 The Contractor's liability for loss or damage under clauses 26.1, 26.1A, 26.1B, 26.1C, 26.2, 26.3 and 26.4 and 26.6 is reduced to the extent that the loss or damage is contributed to or caused by:

- .1 any act or omission of the Principal its employees, officers and agents other than any act or omission of the Principal, its employees, officers and agents which are authorised or otherwise contemplated by the Contract;
- .2 any risk specifically excepted in the Contract;
- .3 war, invasion, act of foreign enemies, hostilities, (whether war be declared or not), act of terrorism, civil war, rebellion, revolution, insurrection or military or usurped power, martial

- .3 The Contractor, Subcontractors and Consultants are granted royalty-free licences to use the *Data* for the purposes of the Contract.
- .4 For *Data* not created specifically for the Contract but required to use, operate, maintain, modify and decommission the Works, the Contractor must obtain irrevocable royalty-free licences to allow the Principal to use that *Data* for those purposes, including a right to sub-licence.
- .5 Licences referred to in clause 23.4 apply in perpetuity from the Date of Contract or (if the *Data* has not then been created) from the date the *Data* is created.
- .6 The Contractor is responsible for the timely payment of all royalties and fees for *Intellectual Property Rights* it uses in connection with the Contract and the Works.
- .7 The Contractor indemnifies the Principal against any claims (including *Claims*), actions, loss or damage arising out of any failure to make such payments or any infringement or alleged infringement of *Intellectual Property Rights* in relation to *Data* created or provided by the Contractor in connection with the Contract, including any related design, materials, documents or methods of working, or otherwise in the course of the Contractor's performance of the Contract.
- .8 The Contractor warrants that the *Data* created or provided by the Contractor under the Contract, including any related design, materials, documents and methods of working, will not infringe any *Intellectual Property Rights*.
- .9 The Contractor must ensure that *Data* created specifically for the Contract by or for the Contractor is only used for the purposes of the Contract.
- .10 The Principal may grant the Contractor a royalty-free licence to use innovations developed during the course of the Contract for purposes agreed by the Principal.

24 Confidentiality

- .1 The Contractor must maintain all *Data* secret and confidential and disclose it only to those persons to whom disclosure is reasonably necessary in connection with the Contract. This provision does not relate to *Data* which is generally available to the public or which is required to be disclosed by law.

25 Media releases and enquiries

- .1 The Contractor must obtain the Principal's prior written consent to:
 - .1 any press release or promotional advertisement it wishes to make or place concerning the Contract, the Principal or the Works; and
 - .2 the release for publication in any media of any information concerning the Contract, the Principal or the Works.
- .2 The Contractor must refer any media enquiries concerning the Contract, the Principal or the Works to the Principal. The Contractor must not respond to any media enquiry without the Principal's prior written consent.
- .3 The Contractor must ensure that all Consultants, Subcontractors and Suppliers comply with clause 25 and obtain the Principal's prior written consent (through the Contractor) before doing anything which, if done by the Contractor, would require the Principal's prior written consent.
- .4 The Principal may give or refuse its consent, in its absolute discretion.

26 Care of people, property and the environment, indemnities and limitations

Obligations of care

- .1 During the hours that the Contractor and its Contractor Personnel are performing the Works, the Contractor is responsible for all of the following:
 - .1 claims in respect of personal injury or death;
 - .2 loss or damage to the Site and the Works;
 - .3 loss or damage to adjoining and other properties and the environment arising in connection with carrying out the Works; and
 - .4 loss or damage to existing services,
 where that injury, death, loss or damage arises out of or as a consequence of the carrying out of the Works.
- .1A The Contractor is responsible for:
 - .1 repairing or making good loss or damage to the Works and the Site; and
 - .2 the cost of repairing, or making good, loss or damage to adjoining and other properties and the environment arising in connection with the carrying out of the Works,

Contract Program

- .1 The Contractor must submit a *Contract Program* to the Principal within 14 days after the Date of Contract. If the Principal so instructs, the program submitted by the Contractor with its tender is the *Contract Program* until the Contractor submits a *Contract Program*.
- .2 The Contract Program must:
 - .1 reflect Scheduled Progress and show the *Date for Practical Completion* for the whole of the Works and each *Separable Portion*;
 - .2 show, and be consistent with, all constraints on access, performance and coordination;
 - .3 show the start and finish dates or, in the case of future activities, the intended start and finish dates, of all design and construction activities and other significant events;
 - .4 show the logical relationship between activities and events, the sequence of activities which constitute the critical path or paths, time leads and lags, and resource and other constraints;
 - .5 show the dates when the Contractor will require information, documents, instructions or materials from the Principal and the dates when the Contractor will provide information or documents to the Principal; these dates must be consistent with dates which the Principal could reasonably have anticipated at the Date of Contract;
 - .6 be accurate, comprehensive and complete;
 - .7 comply with any other specific requirements of the Contract, including any specified format or software; and
 - .8 comply with any reasonable requirements of the Principal.
- .3 The Contractor must update the *Contract Program* at the following times:
 - .1 whenever there is a significant change in scheduling;
 - .2 within 7 days after receiving an instruction from the Principal to do so;
 - .3 when required to comply with clause 50.4; and
 - .4 following the granting of an extension of time under clause 50.
- .4 Updated *Contract Programs* must take account of the Contractor's actual progress to the date of the update and must be submitted promptly to the Principal.
- .5 The Principal need not respond to the Contractor about a *Contract Program*, but if the Principal advises the Contractor that the *Contract Program* submitted does not comply with the requirements of the Contract, or otherwise instructs the Contractor, the Contractor must revise the *Contract Program* so that it complies with the requirements of the Contract and the reasonable instructions of the Principal, and must submit the revised *Contract Program* to the Principal within 7 days after receiving the Principal's advice or instructions.

Scheduled Progress

- .6 The Contractor must carry out all Work in connection with the Contract so as to achieve *Scheduled Progress*.
- .7 Whenever requested, the Contractor must demonstrate to the Principal that it is achieving *Scheduled Progress*.
- .8 If the Contractor does not demonstrate to the Principal that it is achieving *Scheduled Progress*, the Principal may instruct the Contractor to take all reasonable steps to achieve *Scheduled Progress* at its own cost. An instruction under this clause is not an *Acceleration Notice*.

Minimisation of delay

- .9 When there is any change in work in connection with the Contract, or the program or sequence of the work, the Contractor must take all reasonable steps to:
 - .1 carry out any additional work concurrently with other work; and
 - .2 otherwise minimise any effects on the time for *Practical Completion*.

23 Intellectual property

- .1 The Contractor assigns or otherwise transfers *Intellectual Property Rights* in all *Data* created specifically for the Contract, upon its creation, to the Principal. The Contractor, at its own cost, will do all things necessary, including execution of all necessary documentation, to vest ownership of all such *Intellectual Property Rights* in the Principal.
- .2 The Contractor must include provisions in all Subcontracts and agreements with Consultants to ensure that *Intellectual Property Rights* in all *Data* created specifically for the Contract are assigned or otherwise transferred to the Principal upon their creation.

- .4 must notify the Principal promptly of any matter affecting WHS where any death or injury or property damage over the value of \$1,000 AUD occurs in any way.

17 Commonwealth OHS Accreditation

- .1 If required by Contract Information Item 16B, the Contractor must maintain accreditation under the Australian Government Building and Construction OHS Accreditation Scheme (the Scheme) established by the *Building and Construction Industry Improvement Act 2005* (Cwlth) (BCII Act) while building work (as defined in section 5 of the BCII Act) is carried out. The Contractor must comply with all conditions of Scheme accreditation.

18 Working hours and working days

- .1 The Contractor must observe:
 - .1 Statutory Requirements which regulate working hours and working days including but not limited to the Employment Act 1988 (Norfolk Island) and the Fair Work Act 2009 (CTH); and
 - .2 any requirements in Contract Information Item 18.

19 Authorisation to release and use information

- .1 The Contractor authorises the Principal to:
 - .1 provide information about the Contractor, including information provided by the Contractor and information related to the Contractor's performance, to other Commonwealth, State or local government agencies, parliamentary committees and inquiries, statutory Commissions of Inquiry, law enforcement agencies and police officers, anti-corruption agencies and officers, freedom of information request, and the like at any time or for any reason; and
 - .2 take account of information about the Contractor, including reports of unsatisfactory performance, from any government agency or other reputable source, when deciding whether to offer the Contractor future opportunities for work.
- .2 The Contractor agrees and acknowledges that the Principal is entitled to rely on the defence of qualified privilege at all times for the purposes of any law for defamation and/or privacy applicable to Norfolk Island in making information available to others as contemplated by clause 19.1.1.
- .3 The Contractor releases and indemnifies the Principal from and against any claim, action, loss, damage, expense or liability the Principal may sustain or incur in connection with anything authorised by clause 19 or anything done by a recipient of the information.

20 Long service levy

- .1 Before starting construction work, the Contractor must:
 - .1 pay or cause to be paid to the relevant long service agency or a body nominated by the Principal at any time the amount of any long service payable to any of its employees under any law in respect of the building and/or construction work; and
 - .2 give the Principal documentary evidence of payment of the amount required to be paid (if any).

21 Registration and licences

- .1 All vehicles and plant used in carrying out work in connection with the Contract must be registered as required by the law in any place where the vehicles or plant may be located or used in each instance.
- .2 All drivers who operate vehicles or plant in carrying out work in connection with the Contract must be licensed to operate those vehicles or plant as required by law.
- .3 Whenever requested, the Contractor must promptly provide to the Principal or the Commonwealth of Australia or any law enforcement agency or police officer documentary evidence of compliance with clause 21.

Management duties

22 Time management

The Contractor must actively manage progress, anticipating and respond to events to stay on schedule and achieve the *Dates for Practical Completion*.

Commonwealth Building Code 2016 (the Building Code)

- .15 The Contractor must comply with the requirements of the Building Code 2016 and any Commonwealth of Australia Building Code replacing the same at any time hereafter

14 No collusive arrangements

- .1 The Contractor warrants that it has not engaged in any collusive or anti-competitive arrangement or understanding in connection with its tender for, or entry into, the Contract.
- .2 Without limiting any other right or remedy, the Principal may recover from the Contractor the value of any payment or other benefit made directly or indirectly to an unsuccessful tenderer or a trade or industry association in breach of the warranty in clause 14.1.

15 Compliance with Commonwealth Government Requirements

- .1 The Contractor must implement and maintain the systems, strategies and plans required to comply with any relevant Commonwealth Government Policies and Guidelines including (where it is possible to adapt the same to use in Norfolk Island without conflict with any laws applicable to Norfolk Island) the following NSW Government Policy and Guidelines, and meet other obligations as specified in Contract Information Item 15:
 - .1 not used
 - .2 not used;
 - .3 the Quality Management Systems Guidelines for Construction;
 - .4 the Environmental Management Systems Guidelines;
 - .5 not used; and
 - .6 not used.
- .2 The requirements of relevant NSW Government Guidelines are additional to any other requirements of the Contract and *Statutory Requirements* and do not apply any laws of New South Wales to Norfolk Island subject to the application of any such laws with Commonwealth modifications under section 18A of the Norfolk Island Act 1979 (CTH) and the Norfolk Island Applied Laws Ordinance 2016 (CTH)
- .3 The Contractor must submit and implement the plans identified in Contract Information Item 15 by the times stated there. Those plans must comply with all requirements of the Contract as well as these terms and conditions
- .4 The Contractor must:
 - .1 systematically manage its obligations under the Contract and applicable *Statutory Requirements* according to the systems, plans and procedures required under clauses 15.1 and 15.3;
 - .2 review and update its systems, plans and procedures to ensure ongoing compliance with the Contract;
 - .3 control non-conformances and undertake corrective and preventive action as and when necessary; and
 - .4 provide sufficient access to the workplace, and to information, records and other relevant documentation, resources (including personnel) and all other things necessary to allow the Principal to carry out reviews and audit of the Contractor's plans and procedures and confirm compliance with the Contract.

16 Appointment of principal contractor for WHS

- .1 Unless expressly otherwise stated in the Contract the Contractor:
 - .1 is engaged as principal contractor for the construction project in accordance with applicable work health and safety (WH&S) laws for Norfolk Island being for the avoidance of doubt the Commonwealth Work Health and Safety Act 2011 (Cth);
 - .2 is authorised to have management and control of the workplace as necessary to enable it to discharge the duties of a principal contractor and of a person having management or control of a workplace;
 - .3 must perform the duties of:
 - .1 a principal contractor, and
 - .2 a person with management or control of a workplace; and

- .5 have access to personnel; and
- .6 interview any person;

as is necessary for the authorised personnel of the Principal or the Commonwealth or both as well as of any law enforcement agency or anti-corruption agency in Australia to monitor and investigate compliance with the laws applicable to Norfolk Island and the Commonwealth of Australia (including any applied law for Norfolk Island) by the Contractor, its Subcontractors, Consultants, and related entities.

- .8 The Contractor, and its related entities, must agree to, and comply with, a request from authorised personnel (including personnel of the Commonwealth of Australia or any law enforcement agency or anti-corruption agency) for the production of specified documents by a certain date, whether in person, by post or electronic means.

Sanctions

- .9 The Contractor warrants that at the time of entering into this Contract, neither it, nor any of its related entities, are subject to a sanction in connection with or under any law applicable to Norfolk Island or the Commonwealth of Australia or in any State or Territory of Australia outside of Norfolk Island that would have precluded it from responding to a procurement process for work in Norfolk Island or elsewhere.
- .10 If the Contractor does not comply with, or fails to meet any obligation imposed by any laws or court / tribunal orders binding it anywhere, a sanction may be imposed against it in connection with its ability to undertake procurement work for the Norfolk Island Regional Council including but not limited to the Council not considering or not accepting any procurement tender or submission from the Contractor for any future work for the Council.
- .11 Where a sanction is imposed:
 - .1 it is without prejudice to any rights that would otherwise accrue to the parties; and
 - .2 the Norfolk Island Regional Council as well as the Commonwealth of Australia jointly or severally (through their respective agencies, Council Managers, Councillors, Commonwealth Ministers) is entitled to:
 - .1 record and disclose details of non-compliance and the sanction; and
 - .2 take them into account in the evaluation of future procurement processes and responses that may be submitted by the Contractor, or its related entities, in respect of work for the Norfolk Island Regional Council or any statutory officer under any law of Norfolk Island.

Compliance

- .12 The Contractor bears the cost of ensuring its compliance with the laws applicable to Norfolk Island and laws of the Commonwealth of Australia as well as the provisions of the procurement terms and conditions and the contract for service provision terms and conditions, including in respect of any positive steps it is obliged to take to meet its obligations under any of the same. The Contractor is not entitled to make a claim for reimbursement or an extension of time from the Principal for such costs.
- .13 Compliance under these terms and conditions or otherwise does not relieve the Contractor from responsibility to perform the Works and any other obligation under the Contract, or from liability for any *Defect* in the Works or from any other legal liability, whether or not arising from its compliance under these terms and conditions.
- .14 Where a change in the Contract or Works is proposed, and that change may, or may be likely to, affect compliance as required hereunder, the Contractor must immediately notify the Principal (or nominee) of the change, or likely change and specify:
 - .1 the circumstances of the proposed change;
 - .2 the extent to which compliance will be, or is likely to be, affected by the change; and what steps the Contractor proposes to take to mitigate any adverse impact of the change (including any amendments it proposes to a Workplace Relations Management Plan or Work Health and Safety (WHS) Management Plan) (whether or not any such plan is required under any law applicable to Norfolk Island); and
 - .3 the Principal will direct the Contractor as to the course it must adopt within 10 *Business Days* of receiving notice.

Statutory and Government Requirements

12 Statutory Requirements

- .1 The Principal must ensure that the licences, authorisations, approvals and consents listed in Contract Information Item 14 are obtained and paid for.
- .2 The Contractor is responsible for:
 - .1 compliance with all *Statutory Requirements*, subject to clause 49, except if, because of the nature of the requirement, only the Principal can comply;
 - .2 giving all notices necessary to comply with *Statutory Requirements*;
 - .3 obtaining all licences, authorisations, approvals and consents necessary to carry out the work in connection with the Contract, other than those listed in Contract Information Item 14; and
 - .4 the payment of all necessary fees and charges, other than those listed in Contract Information Item 14.
- .2A Notwithstanding clause 12.2, if in carrying out the Works subject to or otherwise affected by a licence, authorisation, approval or consent listed in Contract Information Item 14, the Contractor's compliance with the conditions or requirements of any licence, authorisation, approval or consent listed in Contract Information Item 14 results in the Contractor incurring costs or delay in achieving *Practical Completion*, additional to that which could have been reasonably anticipated by the Contractor at the Date of Contract, the Contract is entitled to claim a Variation.
- .3 As a condition of achieving *Practical Completion*, the Contractor must give to the Principal originals of all licences, authorisations, approvals, consents and other documents issued by authorities or providers of services in connection with the Works or the Site except for those identified in Contract Information Item 14.

13 Codes of Practice and Implementation Guidelines

- .1 Not Used.
- Primary Obligation**
- .2 The parties must comply with and meet any obligations imposed by the Commonwealth of Australia in regard to procurement for public purposes or by Australian government agencies and officials subject to any particular procurement obligations imposed on the Principal as the Norfolk Island Regional Council from time to time.
 - .3 The Contractor must notify the Principal of any possible non-compliance with any laws or statutory requirements or contractual obligations and of remedial action taken, within 24 hours of becoming aware of the possible non-compliance.
 - .4 Where the Contractor engages a Subcontractor or Consultant, the Contractor must ensure that that contract imposes on the Subcontractor or Consultant equivalent obligations to those in this clause, including that the Subcontractor or Consultant must at all times comply with, and meet any obligations imposed by, the laws applicable to Norfolk Island and the Commonwealth of Australia.
 - .5 The Contractor must not appoint or engage another party in relation to the Contract where that appointment or engagement would breach a sanction imposed on the other party in relation to the laws applicable to Norfolk Island and/or the Commonwealth of Australia or under any law of another State or Territory of Australia.

Access and information

- .6 The Contractor must maintain adequate records of compliance with the laws applicable to Norfolk Island and the Commonwealth of Australia by it, its Subcontractors, Consultants and related entities.
- .7 The Contractor must allow, and take reasonable steps to facilitate, authorised personnel from the Principal or from the Commonwealth of Australia to:
 - .1 enter and have access to sites and premises controlled by the Contractor, including but not limited to the project site;
 - .2 inspect any work, material, machinery, appliance, article or facility;
 - .3 access information and documents;
 - .4 inspect and copy any record relevant to the project;

GC21 (Edition 2) - General Conditions of Contract

Contract Framework

specification referenced in this Contract or as reasonably inferred by a competent contractor from what is stated in the Contract.

- .2 Other work required in connection with the Contract includes:
 - .1 all work and items, other than the Works, specifically referred to in and all work that is not specifically mentioned in the Contract but which can be reasonably inferred as being required for the proper performance of the Works under the Contract;
 - .2 all work and items necessary to carry out and complete the Works properly; and
 - .3 all work and items reasonably inferred from the *Contract Documents* as necessary to properly perform the other obligations of the Contractor under the Contract.
- .3 The Contractor acknowledges that:
 - .1 it is both experienced and expert in work of the type, complexity and scale of the Works;
 - .2 it has not relied on any estimate or calculation or budget prepared by the Principal and has made full allowance in the *Contract Price* for the matters referred to in clauses 8.1 and 8.2 as well as for all other matters important to the Contractor; and
 - .3 unless the Contract expressly provides an entitlement to payment, everything required to be done by the Contractor under the Contract is to be done at the Contractor's own cost.
- .4 The Contractor acknowledges that *Variations* instructed by the Principal may change the scope of the Works.
- .5 Unless the Contract specifies, or the Principal instructs, that the Contractor use a particular work method or perform particular *Temporary Work*, the Contractor is solely responsible for determining the work methods and the requirements for all *Temporary Work*.
- .6 If requested in writing by the Principal, the Contractor must, within the time specified in the request, advise the Principal of:
 - .1 its price (excluding all costs of delay or disruption) for any proposal by the Principal to use a particular work method or perform particular *Temporary Work* proposed by the Principal or to change a work method or *Temporary Work* specified in the Contract;
 - .2 the anticipated effect of the Principal's proposal on achieving *Practical Completion*; and
 - .3 the effect of the Principal's proposal on any other matter specified by the Principal.
- .7 If the parties agree in writing on the effects of the Principal's proposal and the Principal instructs the Contractor to carry out the proposal, any affected *Dates for Practical Completion* and the *Contract Price* must be adjusted as agreed.
- .8 Subject to clause 8.9, where the Principal instructs the Contractor to use a particular work method or perform particular *Temporary Work* or to change a specified work method or *Temporary Work* it must do so in writing. To the extent this instruction results in a required change to the Works, the Contractor may initiate a *Variation* in accordance with Clause 48.2.
- .9 If the need for the instruction given under clause 8.8 arises from the Contractor's own act or omission, the Contractor is not entitled to a *Variation*.

9 Assignment

- .1 The Contractor must not assign a right or benefit under the Contract without first obtaining the Principal's written consent.

10 Governing law of the Contract

- .1 The Contract is governed by the laws of and in force in the Territory of Norfolk Island and the parties submit at all times to the non-exclusive jurisdiction of the courts and tribunals of Norfolk Island and all courts having appellate jurisdiction therefrom.
- .2 The Contractor warrants it will comply with all applicable laws in the performance of this Contract. For the avoidance of doubt, the *Work Health and Safety Act 2011* (Cth) applies to Norfolk Island by section 18 of the *Norfolk Island Act 1979* (Cth) which provides that all Commonwealth laws apply to Norfolk Island unless expressed not to do so.

11 Notices and instructions

- .1 Notices must be sent to the relevant persons at the addresses in Contract Information items 4 to 11 or 52, or at the address for service most recently notified in writing by the addressee.
- .2 All notices must be in writing, and all instructions by the Principal must be in writing or, if given orally, must be confirmed in writing as soon as practicable.

parties must then investigate how to avoid or minimise any adverse effect on the Works and *Scheduled Progress*.

- .2 Not Used
- .3 The Contractor must immediately notify the Principal in the event that the Contractor identifies anything which appears to indicate any errors, misstatements or misrepresentations by the Principal in or relating to the tender process, tender documents, calculations, budgets, estimates and the like or otherwise.

6 Evaluation and monitoring

As the Contract proceeds, regular meetings (usually monthly) allow the parties and selected stakeholders to evaluate performance and identify priorities for improvement.

- .1 The parties must meet regularly to evaluate and monitor performance of the Contract.
- .2 The parties must decide jointly who will participate in the meetings. Participants may include Subcontractors, Suppliers, Consultants and, if appropriate, representatives of government authorities, end users and local communities. Participation in meetings does not give the participants any additional rights or responsibilities.
- .3 Nothing concerning or in connection with completed evaluation forms changes either party's rights and responsibilities, or can be relied on or used by one party against another in any proceedings.
- .4 Participants in the evaluation and monitoring meetings must meet their own costs for attendance, and the parties must share equally the other costs.

The Contract

7 The Contract

- .1 The Contract is made up solely of the *Contract Documents*, which supersede all understandings, representations and communications made between the parties before the Date of Contract in relation to the subject matter of the Contract. The *Contract Documents* are:
 - .1 these General Conditions of Contract;
 - .2 the Contract Information;
 - .3 the annexed Schedules;
 - .4 the *Principal's Documents* as at the Date of Contract; and
 - .5 the other *Contract Documents* listed in Contract Information Item 26.
- .2 The *Contract Documents* must be read as a whole, and anything included in, or reasonably to be inferred from, one or more documents must be read as included in all other documents, unless the context requires otherwise.
- .3 The terms of the Contract cannot be amended or waived unless both parties agree in writing.
- .4 The Principal must give the Contractor the number of copies of the *Principal's Documents* stated in Contract Information Item 27.
- .5 Not Used.
- .6 All *Materials*, plant, equipment and other items supplied under the Contract by the Contractor will be in conformity with their description, of merchantable quality and fit for their intended purpose as referenced in the Contract specification. For the avoidance of doubt, all equipment integrated into the Works will be new, save where otherwise agreed in writing by the Principal.

8 Scope of the Works, Temporary Work and work methods

- .1 The Works are described in brief in Contract Information Item 3 and in more detail in the *Contract Documents*, and include:
 - .1 all work specifically referred to in the Contract and all work that is not specifically mentioned in the Contract but which can be reasonably inferred as being required for the proper performance of the Works;
 - .2 all work and items necessary to achieve the effective and efficient use and operation of the Works; and
 - .3 all work and items necessary for the Works to be fit for the purposes outlined in the

Contract framework

This section deals with the purpose and structure of the Contract. It allocates responsibilities and sets up the procedures for making the Contract work. Underlying it are the basic principles of co-operative contracting, enhanced communication, clear definition of roles, responsibility for outcomes, and promoting best practice.

Roles and relationships

Although the parties have different responsibilities, co-operation is a key element of the Contract.

1 General responsibilities

- .1 The Contractor must:
 - .1 design and construct the Works in accordance with the Contract; and
The extent of the Contractor's Design obligations is specified in clause 39.
 - .2 perform and observe all its other obligations under the Contract.
- .2 The Principal must:
 - .1 pay the Contractor the *Contract Price* for its performance, in accordance with and subject to the Contract; and
 - .2 perform and observe all its other obligations under the Contract.
- .3 The Principal may give instructions to the Contractor concerning the Works and anything connected with the Works, and the Contractor must comply at its own cost unless the Contract expressly provides otherwise.

2 Authorised persons

Contractor's Authorised Person

- .1 The Contractor must ensure that, at all times, there is a person appointed to act as the *Contractor's Authorised Person*. The *Contractor's Authorised Person* acts with the Contractor's full authority in all matters relating to the Contract. The Contractor must promptly notify the Principal of the name and contact details of the *Contractor's Authorised Person* and of any change in those details. If the Principal reasonably objects to the *Contractor's Authorised Person* at any time, the Contractor must replace that person.

Principal's Authorised Person

- .2 The Principal must ensure that, at all times, there is a person appointed to act as the *Principal's Authorised Person*. The Principal must promptly notify the Contractor of the name and contact details of the *Principal's Authorised Person* and of any change in those details.
- .3 The *Principal's Authorised Person* does not act as an independent certifier, assessor or Valuer. The *Principal's Authorised Person* acts only as an agent of the Principal.
- .4 The *Principal's Authorised Person* may delegate any of its contractual functions and powers to others by written notice to the Contractor.

3 Co-operation

- .1 The parties must do all they reasonably can to co-operate in all matters relating to the Contract, but their rights and responsibilities under the Contract (or otherwise) remain unchanged unless the parties agree in writing to change them.

4 Duty not to hinder performance

- .1 Each party must do all it reasonably can to avoid hindering the performance of the other under the Contract.

5 Early warning

- .1 Each party must promptly inform the other if it becomes aware of any Site access issues that are likely to affect the time for *Practical Completion*, or the cost or quality of the Works. The

Preface

The Norfolk Island Regional Council General Conditions of Contract

These General Conditions of Contract for the Norfolk Island Regional Council (NIRC or the Council) are based primarily on the NSW Government GC21 Edition 2 General Conditions of Contract. They build on the experience and project success delivered with NSW GC21 Editions 1 and 2 which have a highly effective emphasis on co-operative contracting and enhanced communication between the parties.

These Norfolk Island Regional Council General Terms and Conditions focus on streamlining, updating and improving the operation of the contract to reflect experience and practice.

The requirement for Contractors to use any particular form of subcontract has been discontinued in these terms and conditions, and replaced with a short list of mandatory requirements to give the Contractor and subcontractors flexibility in their commercial arrangements.

That in the event of any inconsistency in any of the documents forming the Contract that they will apply in the order of priority as listed in clause 7.1.

Using this document

All defined words and phrases have initial capitals and are in italics in the GC21 General Conditions of Contract unless they are one of the following basic terms, which appear too often for italics to be used:

- | | |
|------------------------|-----------------|
| • Contract | • Site |
| • Contract Information | • Subcontract |
| • Contractor | • Subcontractor |
| • Consultant | • Supplier |
| • Date of Contract | • Valuer |
| • Principal | • Works |

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Strategic Services Australia (ABN 77 103 439 578) has made changes to this document to suit the specific requirements of this tender. Whilst all care has been taken to ensure the correctness of content no liability may be accepted by the NSW Government for any errors or omissions.

Acknowledgments

Government Codes and Guidelines

Copies of the Codes and Guidelines referred to in the NIRC General Conditions of Contract may be obtained from the ProcurePoint website. These are as follows:

- The Code for the Tendering and Performance of Building Work 2016 (the Building Code)
www.legislation.gov.au/Details/F2017C00668

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Contract Name: Norfolk Island Airport Pavement Repair &
Resurfacing Contract No: SPT171819NIRC

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General Conditions of Contract

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Contract Name: Norfolk Island Airport Pavement Repair &
Resurfacing Contract No: SPT171819NIRC

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Norfolk Island Regional Council General Conditions of Contract

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General Conditions of Contract

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- **Meanings**

Contract

Agreement

Contract

Information

Schedules

Attachments

Strategic Services Australia (ABN 77 103 439 578) has made changes to this document to suit the specific requirements of this tender. Whilst all care has been taken to ensure the correctness of content no liability may be accepted by the NSW Government for any errors or omissions.

*Contract Name: Norfolk Island Airport Pavement Repair &
Resurfacing Contract No: SPT171819NIRC*

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Annexure 1 - General Conditions of Contract, Contract Information and Schedules



Norfolk Island Airport Construction Contract

Level 11, Rialto South Tower 525 Collins Street Melbourne 3000 Australia
GPO BOX 4180 Melbourne 3001
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T +61 3 9803 3555 F +61 3 9670 9632
DX 920 Melbourne

FORMAL INSTRUMENT OF AGREEMENT

This Agreement is made on 17 day of OCTOBER 2019

Between

NORFOLK ISLAND REGIONAL COUNCIL (ABN 60 103 855 713) of 9 New Cascade Road,
Norfolk Island, Australia 2899 ('Principal')

And

~~**BORAL RESOURCES (QLD) PTY LIMITED**~~ (ABN 46 009 671 809) 202 Cullen Avenue
West, Whinstanes, Qld, 4007 ("Contractor")

It is agreed:

1 Interpretation

In this *Formal Instrument of Agreement*, unless the contrary intention appears:

- 1.1 "General Conditions" means the General Conditions of Contract GC21 (Edition 2) as amended and annexed to this document; and
- 1.2 other words and expressions used in this document have the same meaning as given in the General Conditions.

~~2 Contract~~

- 2.1 The *Contract Price*, which is subject to adjustment in accordance with the *Contract* and recalculation where the *Contract* includes *Rate Items*, amounts to \$44,956,207.00 excluding GST.
- 2.2 The *Contract Price* for each *Separable Portion* equates to the following:
 - (a) *Separable Portion* no. 1 - - \$18,202,628
 - (b) *Separable Portion* no. 2 - - \$619,667
 - (c) *Separable Portion* no. 3 - - \$23,083,890
 - (d) *Separable Portion* no. 4 - - \$710,981
 - (e) *Separable Portion* no. 5 - - \$2,339,041

~~3 Contract Documents~~

The *Contract* comprises this *Formal Instrument of Agreement* plus the *Contract Documents* as referenced in clause 7.1 of the General Conditions.

4 Works prior to execution date

The terms of the *Contract* apply to all of the Works even if it was performed prior to the date of execution of this *Formal Instrument of Agreement*. Any payment made to the *Contractor* by the *Principal* prior to the date of execution of this *Formal Instrument of Agreement* in connection with the Works will be treated as a payment under the *Contract* and will discharge the *Principal's* obligation to pay the *Contract Price* to the extent of the payment.

5 Amendments

No modification, alteration of or addition to the *Contract* shall be binding on the parties unless it is in writing and signed or acknowledged by an authorised person on behalf of each of the parties.

6 Costs

Each party shall bear its own legal costs and disbursements in relation to the negotiation, preparation and execution of the *Contract*.

7 Relationship between parties

The parties acknowledge and agree that the *Contract* and the performance of the *Contract* does not represent or imply a partnership, agency, fiduciary relationship, employment relationship, joint venture, distribution or any other category of commercial or personal relationship between the parties recognised at law or in equity as giving rise to forms of specific rights and obligations.

8 Severability

Any provision of, or a right or remedy arising under, the *Contract* which is prohibited or unenforceable in any jurisdiction is ineffective in that jurisdiction only to the extent of that prohibition or unenforceability.

If any provision of the *Contract* is unenforceable in any jurisdiction, it does not affect the enforceability of that provision in any other jurisdiction or the enforceability of the remaining provisions in any jurisdiction.

9 Counterparts

The *Contract* may be signed in any number of counterparts with the same effect as if the separate signatures or executions were on the same agreement.

10 Further assurance

Each party to the *Contract* from time to time and at all times either before or after the date of the *Contract*, at the cost and expense of that party, must make do and execute or cause to be made done or executed all such acts instruments assurances and writings as may be necessary or desirable to perfect or give effect to the provisions of the *Contract*.

11 Failure to enforce strict compliance

In the absence of an express provision to the contrary, failure or omission by a party to the *Contract* at any time to enforce or require strict or timely compliance with any provision of the *Contract* or any related document shall not impair the ability of that party to exercise the rights and remedies it otherwise has in respect of a breach of any such provision.

12 Entire agreement

The *Contract* supersedes all previous agreements in respect of its subject matters and embodies the entire agreement between the parties in relation to its subject matter.

