

CHINOOK AIRPORT

Branch: 58A

APRON

A-1A

Length: 656 LF

Width: 141 LF

Area: 92,627 SF

Last Const: 1991

Family: ACAM

From: A-18

To: END

Surface: AC

Inspections

Samples Surveyed: 5

Total Samples: 18

Last Inspection Date: 8/21/2012

PCI: 53

Sample # 1

Distress Description

LONGITUDINAL/TRANSVERSE CRACKING
LONGITUDINAL/TRANSVERSE CRACKING
WEATHERING

Severity

L
M
L

Quantity

785 LF
20 LF
1,725 SF

Area: 5,000 SF

Sample # 6

Distress Description

LONGITUDINAL/TRANSVERSE CRACKING
LONGITUDINAL/TRANSVERSE CRACKING
WEATHERING

Severity

L
M
L

Quantity

418 LF
17 LF
1,505 SF

Area: 5,015 SF

Sample # 11

Distress Description

BLOCK CRACKING
DEPRESSION
LONGITUDINAL/TRANSVERSE CRACKING

Severity

L
L
L

Quantity

198 SF
64 SF
491 LF

Area: 5,015 SF

Sample # 17

Distress Description

ALLIGATOR CRACKING
ALLIGATOR CRACKING
BLOCK CRACKING
LONGITUDINAL/TRANSVERSE CRACKING
WEATHERING

Severity

M
H
L
L
L

Quantity

409 SF
350 SF
60 SF
121 LF
342 SF

Area: 3,420 SF

Sample # 18

Distress Description

ALLIGATOR CRACKING
LONGITUDINAL/TRANSVERSE CRACKING
WEATHERING

Severity

M
M
L

Quantity

315 SF
390 LF
570 SF

Area: 5,700 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
ALLIGATOR CRACKING	M	2,777 LF	3.00%	40.98
ALLIGATOR CRACKING	H	1,342 LF	1.45%	40.45
BLOCK CRACKING	L	990 SF	1.07%	8.07
DEPRESSION	L	245 SF	0.27%	1.32
LONGITUDINAL/TRANSVERSE CRACKING	L	6,961 LF	7.52%	19.54
LONGITUDINAL/TRANSVERSE CRACKING	M	1,638 SF	1.77%	14.75
WEATHERING	L	15,885 LF	17.15%	2.53

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

64.0 % Load

35.0 % Climate/Durability

1.0 % Other

CHINOOK AIRPORT

Branch: 58A

APRON

A-1B

Length: 390 LF

Width: 100 LF

Area: 39,000 SF

Last Const: 2006

Family: ACAM

From: T-1

To: A-1A

Surface: AAC

Inspections

Samples Surveyed: 4

Total Samples: 8

Last Inspection Date: 8/21/2012

PCI: 86

Sample # 2

Distress Description

LONGITUDINAL/TRANSVERSE CRACKING
LONGITUDINAL/TRANSVERSE CRACKING
WEATHERING

Severity

L
M
L

Quantity

35 LF
5 LF
4,640 SF

Area: 5,800 SF

Sample # 3

Distress Description

LONGITUDINAL/TRANSVERSE CRACKING
LONGITUDINAL/TRANSVERSE CRACKING
WEATHERING

Severity

L
M
L

Quantity

30 LF
4 LF
4,640 SF

Area: 5,800 SF

Sample # 5

Distress Description

LONGITUDINAL/TRANSVERSE CRACKING
LONGITUDINAL/TRANSVERSE CRACKING
WEATHERING

Severity

L
M
L

Quantity

20 LF
3 LF
4,000 SF

Area: 5,000 SF

Sample # 7

Distress Description

LONGITUDINAL/TRANSVERSE CRACKING
LONGITUDINAL/TRANSVERSE CRACKING
WEATHERING

Severity

L
M
L

Quantity

20 LF
3 LF
4,000 SF

Area: 5,000 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
WEATHERING	L	31,200 SF	80.00%	5.71
LONGITUDINAL/TRANSVERSE CRACKING	L	190 LF	0.49%	4.04
LONGITUDINAL/TRANSVERSE CRACKING	M	27 LF	0.07%	4

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

0.0 % Load

100.0 % Climate/Durability

0.0 % Other

CHINOOK AIRPORT

Branch: 58R RUNWAY

R-1

Length: 4,000 LF Width: 75 LF Area: 300,000 SF Last Const: 2006 Family: ACRMU
 From: 0+00 RWY 8-26 To: 40+00 RWY 8-26 Surface: AAC

Inspections

Samples Surveyed: 7 Total Samples: 60 Last Inspection Date: 8/21/2012 **PCI: 85**

Sample # 3 Area: 4,950 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	61 LF
WEATHERING	L	2,475 SF

Sample # 12 Area: 4,950 SF

Distress Description	Severity	Quantity
BLOCK CRACKING	L	2 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	125 LF
WEATHERING	L	3,713 SF

Sample # 21 Area: 4,950 SF

Distress Description	Severity	Quantity
BLOCK CRACKING	L	3 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	63 LF
WEATHERING	L	2,970 SF

Sample # 30 Area: 4,950 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	127 LF
RAVELING	L	2 SF
WEATHERING	L	3,960 SF

Sample # 38 Area: 4,950 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	96 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	4 LF
RAVELING	L	11 SF
WEATHERING	L	2,970 SF

Sample # 48 Area: 4,950 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	92 LF
RAVELING	L	23 SF
WEATHERING	L	2,970 SF

Sample # 57 Area: 4,950 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	95 LF
RAVELING	L	10 SF
WEATHERING	L	2,970 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
WEATHERING	L	190,714	63.57%	5.31
BLOCK CRACKING	L	43	0.01%	4.50
LONGITUDINAL/TRANSVERSE CRACKING	M	35	0.01%	4.00
RAVELING	L	394	0.13%	1.07
LONGITUDINAL/TRANSVERSE CRACKING	L	5,701	1.90%	7.15

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

0.0 % Load 100.0 % Climate/Durability 0.0 % Other

CHINOOK AIRPORT

Branch: 58T TAXIWAY **T-1**

Length: 2,945 LF Width: 35 LF Area: 103,075 SF Last Const: 2006 Family: ACRMU
 From: APRON To: R/W 8-26 Surface: AAC

Inspections

Samples Surveyed: 6 Total Samples: 21 Last Inspection Date: 8/21/2012 **PCI: 89**

Sample #	Distress Description	Severity	Quantity	Area:
3	LONGITUDINAL/TRANSVERSE CRACKING	L	44 LF	5,005 SF
	WEATHERING	L	2,503 SF	
9	LONGITUDINAL/TRANSVERSE CRACKING	L	64 LF	5,005 SF
	WEATHERING	L	1,288 SF	
15	LONGITUDINAL/TRANSVERSE CRACKING	L	67 LF	5,005 SF
	WEATHERING	L	2,002 SF	
19	LONGITUDINAL/TRANSVERSE CRACKING	L	55 LF	3,220 SF
	RAVELING	L	16 SF	
	WEATHERING	L	1,932 SF	
20	LONGITUDINAL/TRANSVERSE CRACKING	L	109 LF	5,005 SF
	WEATHERING	L	3,003 SF	
21	BLOCK CRACKING	L	40 SF	3,220 SF
	LONGITUDINAL/TRANSVERSE CRACKING	L	62 LF	
	WEATHERING	L	1,295 SF	

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
WEATHERING	L	46,834 SqFt	45.44%	4.59
BLOCK CRACKING	L	156 SqFt	0.15%	4.62
RAVELING	L	60 SqFt	0.06%	1.00
LONGITUDINAL/TRANSVERSE CRACKING	L	1,309 Ft	1.27%	5.55

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

0.0 % Load 100.0 % Climate/Durability 0.0 % Other

CHINOOK AIRPORT

FIRST YEAR LOCAL: 2013 **LOCAL REPAIR COST: \$183,724**

Section	Distress Description	Severity	Quantity	Work Description	Quantity	Cost	Poliv
A-1A	ALLIGATOR CR	H	1,342 SF	Patching - AC Deep	1,494 SF	\$59,756	PREV.
A-1A	ALLIGATOR CR	M	2,777 SF	Patching - AC Deep	2,993 SF	\$119,720	PREV.
A-1A	L & T CR	M	1,638 LF	Crack Sealing - AC	1,638 LF	\$4,094	PREV.
A-1B	L & T CR	M	27 LF	Crack Sealing - AC	27 LF	\$68	PREV.
R-1	L & T CR	M	35 LF	Crack Sealing - AC	35 LF	\$87	PREV.

FIFTEEN YEAR PROJECTIONS **ESTIMATED AVERAGE ANNUAL COST: \$76,063**

Plan Year: 2013		Local		Global	Estimated Cost: \$550,506		PCI		
Section	Maintenance	Local	Global		Major<Crit	Major>Crit	Total	Before	After
A-1A	Major Above Critical	\$0	\$0		\$0	\$437,432	\$437,432	52	100
A-1B	Global MR + Preventive	\$236	\$9,750		\$0	\$0	\$9,986	84	91
R-1	Global MR + Preventive	\$2,015	\$75,001		\$0	\$0	\$77,016	83	89
T-1	Global MR + Preventive	\$304	\$25,769		\$0	\$0	\$26,073	87	94

Plan Year: 2014		Local		Global	Estimated Cost: \$1,248		PCI		
Section	Maintenance	Local	Global		Major<Crit	Major>Crit	Total	Before	After
A-1B	Preventive	\$99	\$0		\$0	\$0	\$99	88	88
R-1	Preventive	\$1,148	\$0		\$0	\$0	\$1,148	86	86

Plan Year: 2015		Local		Global	Estimated Cost: \$2,597		PCI		
Section	Maintenance	Local	Global		Major<Crit	Major>Crit	Total	Before	After
A-1B	Preventive	\$236	\$0		\$0	\$0	\$236	84	84
R-1	Preventive	\$2,055	\$0		\$0	\$0	\$2,055	84	84
T-1	Preventive	\$306	\$0		\$0	\$0	\$306	87	87

Plan Year: 2016		Local		Global	Estimated Cost: \$4,161		PCI		
Section	Maintenance	Local	Global		Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$213	\$0		\$0	\$0	\$213	88	88
A-1B	Preventive	\$372	\$0		\$0	\$0	\$372	81	81
R-1	Preventive	\$2,942	\$0		\$0	\$0	\$2,942	81	81
T-1	Preventive	\$634	\$0		\$0	\$0	\$634	84	85

Plan Year: 2017		Local		Global	Estimated Cost: \$7,341		PCI		
Section	Maintenance	Local	Global		Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$561	\$0		\$0	\$0	\$561	85	85
A-1B	Preventive	\$709	\$0		\$0	\$0	\$709	78	79
R-1	Preventive	\$5,119	\$0		\$0	\$0	\$5,119	79	79
T-1	Preventive	\$952	\$0		\$0	\$0	\$952	82	82

Plan Year: 2018		Local		Global	Estimated Cost: \$139,921		PCI		
Section	Maintenance	Local	Global		Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$903	\$0		\$0	\$0	\$903	82	82
A-1B	Global MR + Preventive	\$1,204	\$11,303		\$0	\$0	\$12,507	76	82
R-1	Global MR + Preventive	\$8,220	\$86,946		\$0	\$0	\$95,166	77	81
T-1	Global MR + Preventive	\$1,472	\$29,873		\$0	\$0	\$31,345	79	85

Plan Year: 2019		Local		Global	Estimated Cost: \$8,460		PCI		
Section	Maintenance	Local	Global		Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$1,654	\$0		\$0	\$0	\$1,654	79	79
A-1B	Preventive	\$697	\$0		\$0	\$0	\$697	79	79
R-1	Preventive	\$5,128	\$0		\$0	\$0	\$5,128	79	79
T-1	Preventive	\$981	\$0		\$0	\$0	\$981	82	82

Plan Year: 2020		Local		Global	Estimated Cost: \$14,034		PCI		
Section	Maintenance	Local	Global		Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$2,912	\$0		\$0	\$0	\$2,912	76	76
A-1B	Preventive	\$1,226	\$0		\$0	\$0	\$1,226	76	76
R-1	Preventive	\$8,443	\$0		\$0	\$0	\$8,443	77	77
T-1	Preventive	\$1,454	\$0		\$0	\$0	\$1,454	80	80

Plan Year: 2021		Local		Global	Estimated Cost: \$20,220		PCI		
Section	Maintenance	Local	Global		Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$4,153	\$0		\$0	\$0	\$4,153	74	74
A-1B	Preventive	\$1,749	\$0		\$0	\$0	\$1,749	74	74
R-1	Preventive	\$11,676	\$0		\$0	\$0	\$11,676	75	75
T-1	Preventive	\$2,642	\$0		\$0	\$0	\$2,642	77	78

CHINOOK AIRPORT

Plan Year: 2022		Estimated Cost: \$26,351				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$5,391	\$0	\$0	\$0	\$5,391	71	71
A-1B	Preventive	\$2,270	\$0	\$0	\$0	\$2,270	71	71
R-1	Preventive	\$14,888	\$0	\$0	\$0	\$14,888	73	73
T-1	Preventive	\$3,803	\$0	\$0	\$0	\$3,803	75	76

Plan Year: 2023		Estimated Cost: \$181,872				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$7,244	\$0	\$0	\$0	\$7,244	69	69
A-1B	Global MR + Preventive	\$3,050	\$13,103	\$0	\$0	\$16,153	69	74
R-1	Global MR + Preventive	\$18,095	\$100,795	\$0	\$0	\$118,890	71	75
T-1	Global MR + Preventive	\$4,953	\$34,631	\$0	\$0	\$39,585	74	78

Plan Year: 2024		Estimated Cost: \$31,896				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$10,091	\$0	\$0	\$0	\$10,091	67	67
A-1B	Preventive	\$2,356	\$0	\$0	\$0	\$2,356	72	72
R-1	Preventive	\$15,513	\$0	\$0	\$0	\$15,513	73	73
T-1	Preventive	\$3,937	\$0	\$0	\$0	\$3,937	76	76

Plan Year: 2025		Estimated Cost: \$40,166				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$12,969	\$0	\$0	\$0	\$12,969	65	65
A-1B	Preventive	\$3,114	\$0	\$0	\$0	\$3,114	69	70
R-1	Preventive	\$18,923	\$0	\$0	\$0	\$18,923	71	72
T-1	Preventive	\$5,161	\$0	\$0	\$0	\$5,161	74	74

Plan Year: 2026		Estimated Cost: \$49,473				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$15,888	\$0	\$0	\$0	\$15,888	63	63
A-1B	Preventive	\$4,387	\$0	\$0	\$0	\$4,387	67	67
R-1	Preventive	\$22,822	\$0	\$0	\$0	\$22,822	70	70
T-1	Preventive	\$6,376	\$0	\$0	\$0	\$6,376	72	72

Plan Year: 2027		Estimated Cost: \$62,690				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1A	Preventive	\$18,887	\$0	\$0	\$0	\$18,887	62	62
A-1B	Preventive	\$5,669	\$0	\$0	\$0	\$5,669	65	66
R-1	Preventive	\$30,539	\$0	\$0	\$0	\$30,539	68	68
T-1	Preventive	\$7,596	\$0	\$0	\$0	\$7,596	70	70

CHINOOK AIRPORT

8/21/2012



A-1A, Overview



A-1A, Surface detail with cracking



A-1A, Surface detail with crack



A-1B, Overview

CHINOOK AIRPORT

8/21/2012



A-1B, Surface detail with cracking



R-1, Overview



R-1, Surface detail with raveling



T-1, Overview

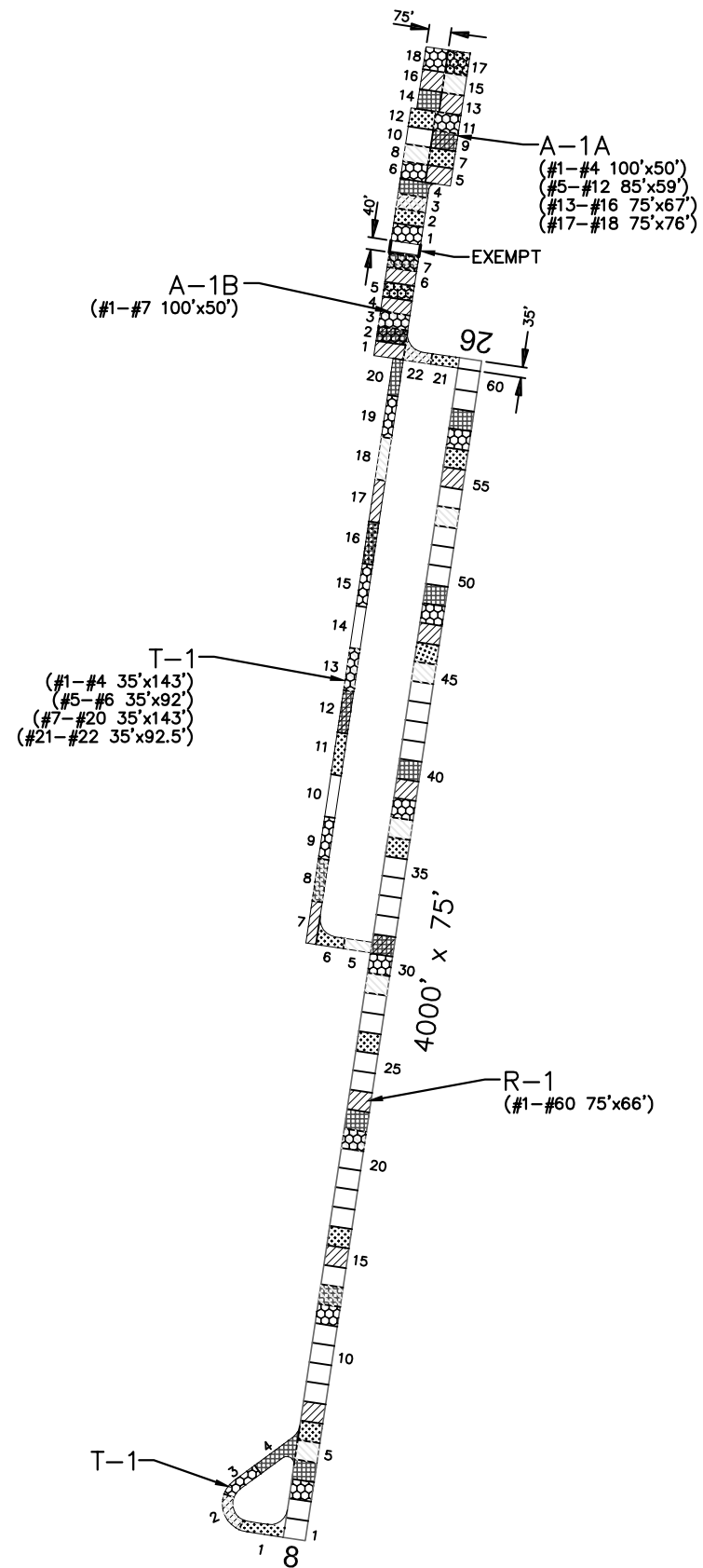
CHINOOK AIRPORT

8/21/2012



T-1, Surface detail with cracking

CHINOOK



PAVEMENT STRENGTH SURVEY/PAVEMENT CONDITION SURVEY

CHINOOK

PAVE. IDENT.	SOIL CLASS	SUB GRADE CLASS	SUBBASE COURSE	BASE COURSE	SURFACE COURSE	OVERLAY	PAVEMENT STRENGTH			REMARKS
							MAX. GROSS LOAD (LBS)			
							SINGLE	DUAL	DUAL TAN.	
RUNWAYS										
R-1	E-7	F7		10" P-208	3" P-401	2" P-401,FABRIC	12,500			◁▷
TAXIWAYS										
T-1	E-7	F7		10" P-208	3" P-401	2" P-401,FABRIC	12,500			◁▷
APRONS										
A-1A	E-7	F7		10" P-208	3" P-401	P-609	12,500			◁▷◁▷
A-1B	E-7	F7		10" P-208	3" P-401	2" P-401,FABRIC	12,500			◁▷◁▷

REMARKS:

- ◁▷ AIP-003 & -004, 1991 & '92, ALL NEW CONSTRUCTION.
- ◁▷ AIP-007/008, 2005-2006, REHABILITATE RUNWAY 8-26 (CROWN RESTORATION AND OVERLAY); OVERLAY TAXIWAY (T-1) AND APRON (A-1B); FOG SEAL APRON (A-1A).

LEGEND

- 1997 SURVEY AREA
- 2000 SURVEY AREA
- 2003 SURVEY AREA
- 2009 SURVEY AREA
- 2012 SURVEY AREA

DATE OF PAVEMENT STRENGTH SURVEY:	
EVALUATED BY:	
DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:	AUG. 21, 2012
EVALUATED BY:	S. BROWN

**MONTANA AVIATION SYSTEM PLAN
2012 UPDATE - PAVEMENT CONDITION INDEXES**

EDGAR G. OBIE FIELD

CHINOOK MONTANA

DATE: SEPT. 2012

PREPARED FOR:

PREPARED BY:

