BROADUS AIRPORT

Branch: 62A **APRON** **A-1**

Length: 268 LF **Width:** 360 LF **Area:** 99,855 SF **Last Const. :** 2005 **Family:** 9ACAM
From: ENTIRE APRON **To:** OFF T-1 **Surface:** AC

Inspections

Samples Surveyed: 5 **Total Samples:** 20 **Last Inspection Date:** 6/16/2009 **PCI: 86**

Sample # 1 **Area:** 4824 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	145 SF
WEATHERING/RAVELING	M	12 SF
DEPRESSION	L	6 SF
BLEEDING	N	2 SF

Sample # 7 **Area:** 4824 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	145 SF
PATCHING	L	16 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	4 LF
DEPRESSION	L	4 SF
OIL SPILLAGE	N	3 SF
WEATHERING/RAVELING	M	1 SF

Sample # 13 **Area:** 4824 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	145 SF
OIL SPILLAGE	N	2 SF
WEATHERING/RAVELING	H	1 SF
WEATHERING/RAVELING	M	1 SF

Sample # 19 **Area:** 4824 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	145 SF
OIL SPILLAGE	N	13 SF
WEATHERING/RAVELING	M	2 SF
PATCHING	L	1 SF
DEPRESSION	L	1 SF

Sample # 20 **Area:** 4824 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	145 SF
OIL SPILLAGE	N	10 SF
WEATHERING/RAVELING	M	5 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
WEATHERING/RAVELING	H	4 SF	0.00 %	6.00
WEATHERING/RAVELING	L	3001 SF	3.01 %	5.08
WEATHERING/RAVELING	M	87 SF	0.09 %	4.00
LONGITUDINAL/TRANSVERSE CRACKING	L	17 LF	0.02 %	2.50
OIL SPILLAGE	N	116 SF	0.12 %	2.00
PATCHING	L	70 SF	0.07 %	2.00
DEPRESSION	L	46 SF	0.05 %	0.30
BLEEDING	N	8 SF	0.01 %	0.00

* 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** 89.0 **% Climate/Durability** 11.0 **% Other**

BROADUS AIRPORT

Branch: 62R **RUNWAY** **R-1**

Length: 4,400 LF **Width:** 75 LF **Area:** 330,000 SF **Last Const. :** 2005 **Family:** 9ACRML
From: STA. 12+00 RWY 10/28 **To:** STA. 56+00 RWY 10/28 **Surface:** AC

Inspections

Samples Surveyed: 7 **Total Samples:** 67 **Last Inspection Date:** 6/16/2009 **PCI: 85**

Sample # 3 **Area:** 4875 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	147 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	10 LF
WEATHERING/RAVELING	M	4 SF

Sample # 13 **Area:** 4875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	49 LF
WEATHERING/RAVELING	L	147 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	37 LF
WEATHERING/RAVELING	M	3 SF

Sample # 23 **Area:** 4875 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	147 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	8 LF
WEATHERING/RAVELING	M	4 SF
PATCHING	L	1 SF

Sample # 33 **Area:** 4875 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	147 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	9 LF
WEATHERING/RAVELING	M	8 SF

Sample # 43 **Area:** 4875 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	147 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	24 LF
WEATHERING/RAVELING	M	8 SF

Sample # 53 **Area:** 4875 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	147 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	15 LF
WEATHERING/RAVELING	M	8 SF

Sample # 63 **Area:** 4875 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	147 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	17 LF
WEATHERING/RAVELING	M	14 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
WEATHERING/RAVELING	L	9951 SF	3.02 %	5.09
WEATHERING/RAVELING	M	474 SF	0.14 %	4.30
LONGITUDINAL/TRANSVERSE CRACKING	M	358 LF	0.11 %	3.98
LONGITUDINAL/TRANSVERSE CRACKING	L	1277 LF	0.39 %	3.85
PATCHING	L	10 SF	0.00 %	2.00

* 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**

BROADUS AIRPORT

Branch: 62T **TAXIWAY** **T-1**

Length: 1,300 LF **Width:** 35 LF **Area:** 45,500 SF **Last Const. :** 2005 **Family:** 9ACRML
From: NORTH END & SOUTH END **To:** SOUTHWEST CORNER A-1 **Surface:** AC

Inspections

Samples Surveyed: 4 **Total Samples:** 11 **Last Inspection Date:** 7/16/2009 **PCI: 89**

Sample # 1 **Area:** 3680 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	111 SF
WEATHERING/RAVELING	M	1 SF

Sample # 2 **Area:** 3680 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	111 SF
WEATHERING/RAVELING	M	9 SF

Sample # 5 **Area:** 3220 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	97 SF
WEATHERING/RAVELING	M	1 SF

Sample # 9 **Area:** 3750 SF

Distress Description	Severity	Quantity
WEATHERING/RAVELING	L	113 SF
OIL SPILLAGE	N	22 SF
WEATHERING/RAVELING	M	6 SF
PATCHING	L	1 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
WEATHERING/RAVELING	L	1372 SF	3.01 %	5.09
WEATHERING/RAVELING	M	54 SF	0.12 %	4.13
OIL SPILLAGE	N	70 SF	0.15 %	2.21
PATCHING	L	3 SF	0.01 %	2.00

* 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** 84.0 **% Climate/Durability** 16.0 **% Other**

BROADUS AIRPORT

FIRST YEAR LOCAL:2010 LOCAL REPAIR COST: $4,598

Section	Distress Description	Severity	Quantity	Work Description	Quantity	Cost	Policy
A-1	OIL SPILLAGE	N	116 SF	Patching - AC Shallow	164 SF	$2,449	PREV.
R-1	L & T CR	M	358 LF	Crack Sealing - AC	358 LF	$537	PREV.
T-1	OIL SPILLAGE	N	70 SF	Patching - AC Shallow	108 SF	$1,612	PREV.

FIFTEEN YEAR PROJECTIONS: ESTIMATED AVERAGE ANNUAL COST: $69,105

PLAN YEAR: 2010 ESTIMATED COST: $4,598

SectionI	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI before	PCI after
A-1	Basic Prev.	$2,449				$2,449	84	84
R-1	Basic Prev.	$537				$537	83	83
T-1	Basic Prev.	$1,612				$1,612	87	87

PLAN YEAR: 2011 ESTIMATED COST: $7,368

SectionI	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI before	PCI after
A-1	Basic Prev.	$1,537				$1,537	81	81
R-1	Basic Prev.	$5,368				$5,368	80	80
T-1	Basic Prev.	$462				$462	84	84

PLAN YEAR: 2012 ESTIMATED COST: $10,497

SectionI	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI before	PCI after
A-1	Basic Prev.	$2,269				$2,269	77	77
R-1	Basic Prev.	$7,533				$7,533	77	77
T-1	Basic Prev.	$695				$695	81	81

PLAN YEAR: 2013 ESTIMATED COST: $13,466

SectionI	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI before	PCI after
A-1	Basic Prev.	$3,021				$3,021	74	74
R-1	Basic Prev.	$9,464				$9,464	75	75
T-1	Basic Prev.	$980				$980	78	78

PLAN YEAR: 2014 ESTIMATED COST: $16,141

SectionI	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI before	PCI after
A-1	Basic Prev.	$3,747				$3,747	71	71
R-1	Basic Prev.	$11,141				$11,141	73	73
T-1	Basic Prev.	$1,253				$1,253	76	76

PLAN YEAR: 2015 ESTIMATED COST: $619,186

SectionI	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI before	PCI after
A-1	Basic Prev.	$4,292				$4,292	69	69
R-1	Prev. & Thin AC	$12,600	$528,001			$540,602	71	83
T-1	Prev. & Thin AC	$1,491	$72,800			$74,291	73	87

PLAN YEAR: 2016 ESTIMATED COST: $10,491

SectionI	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI before	PCI after
A-1	Basic Prev.	$4,661				$4,661	66	66
R-1	Basic Prev.	$5,368				$5,368	80	80
T-1	Basic Prev.	$462				$462	84	84

PLAN YEAR: 2017 ESTIMATED COST: $13,266

SectionI	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI before	PCI after
A-1	Basic Prev.	$5,028				$5,028	63	63
R-1	Basic Prev.	$7,542				$7,542	77	77
T-1	Basic Prev.	$696				$696	81	81

PLAN YEAR: 2018 ESTIMATED COST: $15,840

SectionI	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI before	PCI after
A-1	Basic Prev.	$5,395				$5,395	60	60
R-1	Basic Prev.	$9,464				$9,464	75	75
T-1	Basic Prev.	$980				$980	78	78

PLAN YEAR: 2019 ESTIMATED COST: $18,538

SectionI	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI before	PCI after
A-1	Basic Prev.	$6,143				$6,143	57	57
R-1	Basic Prev.	$11,141				$11,141	73	73
T-1	Basic Prev.	$1,253				$1,253	76	76

PLAN YEAR: 2020 ESTIMATED COST: $21,045

SectionI	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI before	PCI after
A-1	Basic Prev.	$6,953				$6,953	55	55
R-1	Basic Prev.	$12,600				$12,600	71	71
T-1	Basic Prev.	$1,491				$1,491	73	73

BROADUS AIRPORT

PLAN YEAR: 2021					ESTIMATED COST:	$23,240	PCI	
SectionI	**Maintenance**	**Local**	**Global**	**Major<Crit**	**Major>Crit**	**Total**	**before**	**after**
A-1	Basic Prev.	$7,792				$7,792	52	52
R-1	Basic Prev.	$13,750				$13,750	70	70
T-1	Basic Prev.	$1,698				$1,698	72	72

PLAN YEAR: 2022					ESTIMATED COST:	$228,411	PCI	
SectionI	**Maintenance**	**Local**	**Global**	**Major<Crit**	**Major>Crit**	**Total**	**before**	**after**
A-1	Reconstruct			$212,170		$212,170	48	100
R-1	Basic Prev.	$14,363				$14,363	68	68
T-1	Basic Prev.	$1,877				$1,877	70	70

PLAN YEAR: 2023					ESTIMATED COST:	$16,906	PCI	
SectionI	**Maintenance**	**Local**	**Global**	**Major<Crit**	**Major>Crit**	**Total**	**before**	**after**
R-1	Basic Prev.	$14,943				$14,943	67	67
T-1	Basic Prev.	$1,963				$1,963	69	69

PLAN YEAR: 2024					ESTIMATED COST:	$17,578	PCI	
SectionI	**Maintenance**	**Local**	**Global**	**Major<Crit**	**Major>Crit**	**Total**	**before**	**after**
R-1	Basic Prev.	$15,534				$15,534	66	66
T-1	Basic Prev.	$2,044				$2,044	67	67

BROADUS AIRPORT

7/16/2009

A-1, overview

A-1, surface detail

T-1, surface detail

T-1, overview

BROADUS AIRPORT

7/16/2009

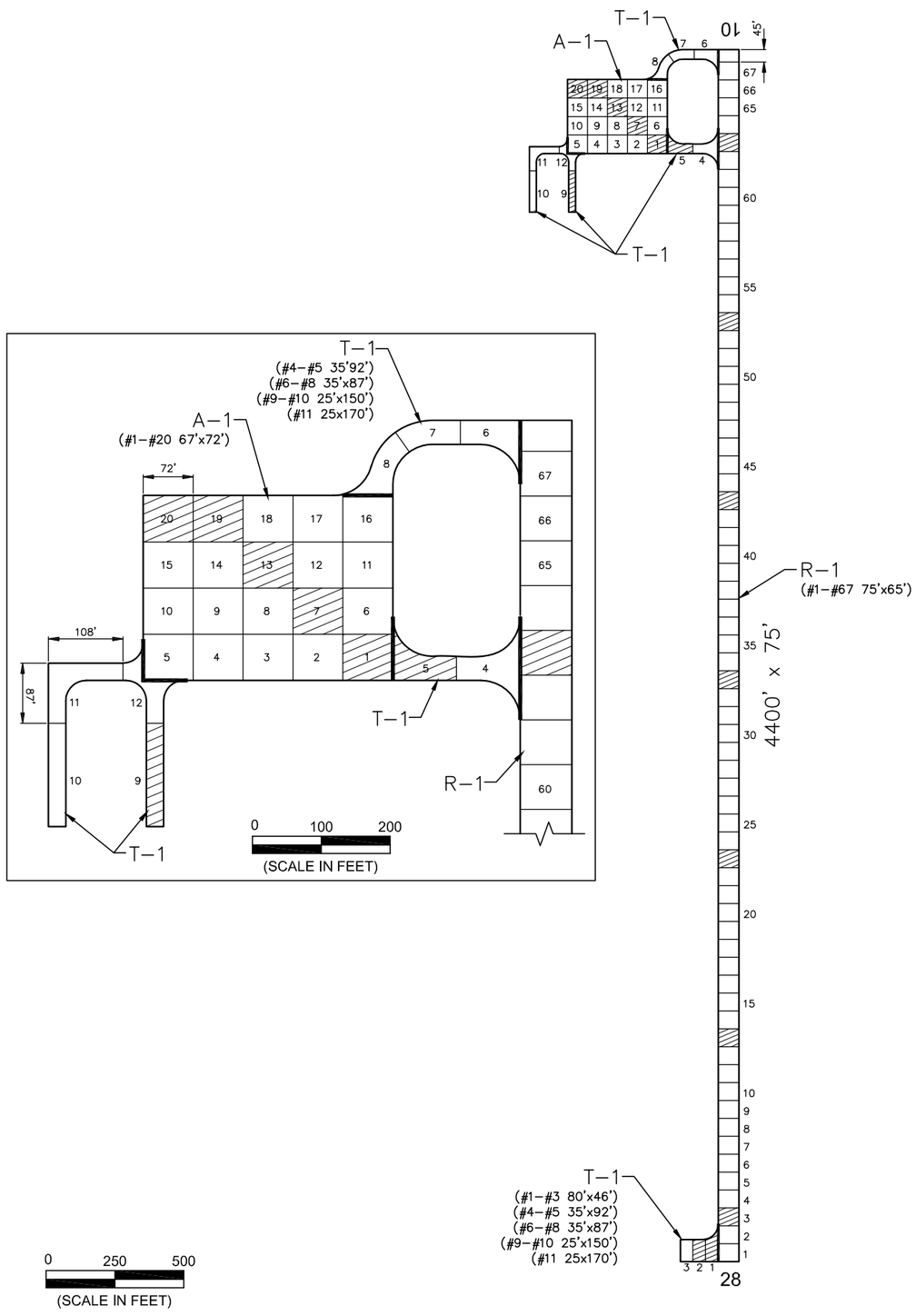
T-1, overview

T-1, surface detail with voids

R-1, surface detail with crack

R-1, overview

BROADUS



PAVEMENT STRENGTH SURVEY/PAVEMENT CONDITION SURVEY

PAVE. IDENT.	SOIL CLASS	SUB GRADE CLASS	SUBBASE COURSE	BASE COURSE	SURFACE COURSE	OVERLAY	PAVEMENT STRENGTH MAX. GROSS LOAD (LBS) SINGLE	DUAL	DUAL TAN.	REMARKS
RUNWAYS										
R–1		8" P–152	6" P–154	4" P–208	3.5" P–401		12,500			1
TAXIWAYS										
T–1		8" P–152	6" P–154	4" P–208	3.5" P–401		12,500			1
APRONS										
A–1		8" P–152	6" P–154	4" P–208	3.5" P–401		12,500			1

REMARKS:

1 AIP–002–2005, CONSTRUCT RUNWAY 10–28 (R–1), TAXIWAYS (T–1), AND APRON (A–1).

LEGEND

- 1997 SURVEY AREA (NOT SURVEYED)
- 2000 SURVEY AREA (NOT SURVEYED)
- 2003 SURVEY AREA (NOT SURVEYED)
- 2006 SURVEY AREA (NOT SURVEYED)
- 2009 SURVEY AREA

DATE OF PAVEMENT STRENGTH SURVEY:	
EVALUATED BY:	
DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:	JULY 16, 2009
EVALUATED BY:	B. BURKLAND

MONTANA AVIATION SYSTEM PLAN
2009 UPDATE - PAVEMENT CONDITION INDEXES

BROADUS

PREPARED FOR: MONTANA AERONAUTICS DIVISION ORO Y PLATA

BROADUS
MONTANA

DATE: NOV. 2009

PREPARED BY: RPA

BROADUS

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