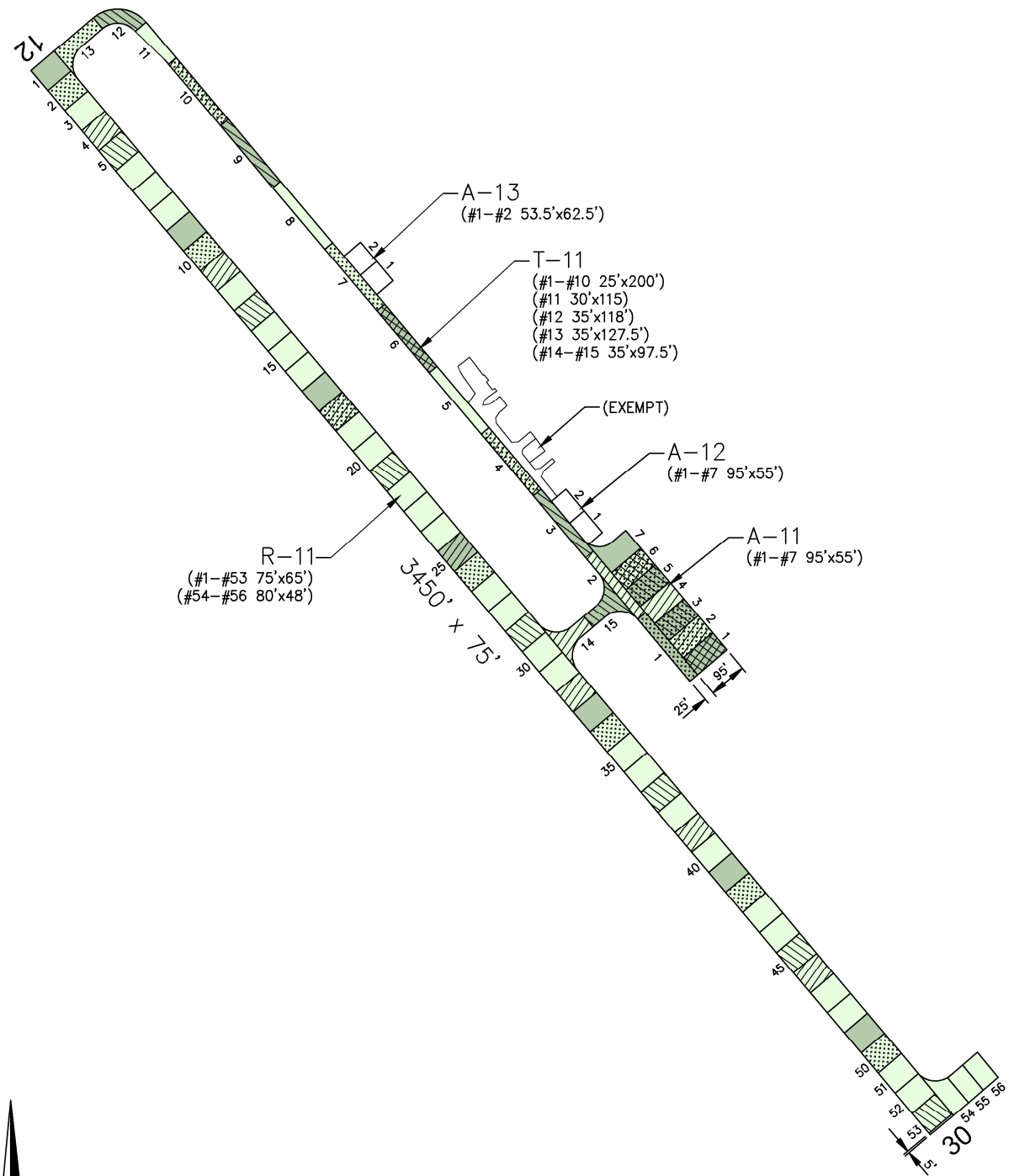


# SUPERIOR



## PAVEMENT STRENGTH SURVEY/PAVEMENT CONDITION SURVEY

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.	
<b>RUNWAYS</b>										
R-11			9" P-154	6" P-208	3" P-401	P-609	12,500			1,2
<b>TAXIWAYS</b>										
T-11			9" P-154	6" P-208	3" P-401	P-609	12,500			1,2
<b>APRONS</b>										
A-11			9" P-154	6" P-208	3" P-401	P-609	12,500			1,2
A-12			9" P-154	6" P-208	3" P-401		12,500			3
A-13			9" P-154	6" P-208	3" P-401		12,500			4

**REMARKS:**

1. AIP-005-2004, CONSTRUCT RUNWAY (R-11), TAXIWAYS (T-11), AND APRON (A-11).
2. AIP-007-2010, CRACK SEAL, FOG SEAL, AND REMARK ALL PAVEMENTS.
3. AIP-008-2011, CONSTRUCT HANGAR APRON (A-12).
4. AIP-009-2013, CONSTRUCT HANGAR APRON (A-13).

**LEGEND**

- 2003 SURVEY AREA (N/A)
- 2006 SURVEY AREA
- ▨ 2009 SURVEY AREA
- ▩ 2012 SURVEY AREA
- ▤ 2015 SURVEY AREA
- MAINTAIN: PCI > 60
- TRANSITION: PCI 45 TO 60
- RECONSTRUCT: PCI < 45

DATE OF PAVEMENT STRENGTH SURVEY:	
EVALUATED BY:	
DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:	SEPT. 23, 2015
EVALUATED BY:	D. SCHANDEL
LOCATION:	SUPERIOR MONTANA

**MONTANA AVIATION SYSTEM PLAN  
2015 UPDATE - PAVEMENT CONDITION INDEXES**

**MINERAL COUNTY AIRPORT  
(9S4)**

Date: DECEMBER 2015      Prepared For: MONTANA DEPARTMENT OF TRANSPORTATION      Prepared By: RPA Robert Peccia & Associates, Inc.

SUPERIOR

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# SUPERIOR AIRPORT

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9/23/2015



**A-11**, Overview



**A-11**, Surface detail with patch



**R-11**, Overview



**R-11**, Surface detail with raveling (wooden survey hub pushed up through pavement)

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# SUPERIOR AIRPORT

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9/23/2015



**T-11, Overview**



**T-11, Surface detail with swell & scrape**

# SUPERIOR AIRPORT

Branch: 04A

APRON

**A-11**

**Length:** 385 LF    **Width:** 95 LF    **Area:** 37,284 SF    **Last Const. :** 2004    **Family:** ACAM15  
**From:** APRON    **To:** OFF OF T-11    **Surface:** AC

**Inspections**

**Samples Surveyed:** 4    **Total Samples:** 7    **Last Inspection Date (RPA)** 9/23/2015    **PCI:** **69**

**Sample # 2**    **Area:** 5225 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	128 LF
WEATHERING	L	261 SF
RAVELING	L	52 SF
PATCHING	L	16 SF
OIL SPILLAGE	N	6 SF
DEPRESSION	H	4 SF
RAVELING	H	3 SF

**Sample # 3**    **Area:** 5225 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	107 LF
WEATHERING	L	261 SF
RAVELING	L	52 SF
PATCHING	L	13 SF
OIL SPILLAGE	N	10 SF
DEPRESSION	H	3 SF
RAVELING	H	2 SF

**Sample # 5**    **Area:** 5225 SF

Distress Description	Severity	Quantity
WEATHERING	L	261 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	75 LF
PATCHING	L	113 SF
RAVELING	L	52 SF
OIL SPILLAGE	N	15 SF
BLEEDING	N	12 SF
DEPRESSION	H	4 SF
RAVELING	H	4 SF

**Sample # 6**    **Area:** 5225 SF

Distress Description	Severity	Quantity
WEATHERING	L	261 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	65 LF
RAVELING	L	52 SF
PATCHING	L	16 SF
OIL SPILLAGE	N	8 SF
DEPRESSION	H	4 SF
RAVELING	H	4 SF

**Extrapolated Distress Quantities\***

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	H	27 SF	0.07 %	12.00
LONGITUDINAL/TRANSVERSE CRACKING	L	669 LF	1.79 %	6.87
RAVELING	H	23 SF	0.06 %	6.00
PATCHING	L	282 SF	0.76 %	3.01
RAVELING	L	371 SF	1.00 %	2.61
OIL SPILLAGE	N	70 SF	0.19 %	2.42
WEATHERING	L	1862 SF	5.00 %	1.09
BLEEDING	N	21 SF	0.06 %	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                      58.0 % Climate/Durability                      42.0 % Other

**SUPERIOR AIRPORT**

Branch: 04R

**RUNWAY**

**R-11**

**Length:** 3,450 LF    **Width:** 75 LF    **Area:** 270,979 SF    **Last Const. :** 2004    **Family:** ACRML15  
**From:** STA 0+00 RWY 12/30    **To:** STA. 34+50 RWY 12/30    **Surface:** AC

**Inspections**

**Samples Surveyed:** 7    **Total Samples:** 56    **Last Inspection Date (RPA)** 9/23/2015    **PCI:** 83

**Sample # 2**    **Distress Description**    **Severity**    **Quantity**    **Area:** 4875 SF

WEATHERING	L	245 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	33 LF
RAVELING	L	98 SF
RAVELING	M	20 SF
SWELLING	L	1 SF

**Sample # 10**    **Distress Description**    **Severity**    **Quantity**    **Area:** 4875 SF

WEATHERING	L	245 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	43 LF
RAVELING	L	98 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	20 LF

**Sample # 18**    **Distress Description**    **Severity**    **Quantity**    **Area:** 4875 SF

WEATHERING	L	245 SF
RAVELING	L	98 SF
RAVELING	M	20 SF
RAVELING	H	1 SF

**Sample # 26**    **Distress Description**    **Severity**    **Quantity**    **Area:** 4875 SF

WEATHERING	L	245 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	63 LF
RAVELING	L	98 SF
RAVELING	M	20 SF

**Sample # 34**    **Distress Description**    **Severity**    **Quantity**    **Area:** 4875 SF

WEATHERING	L	245 SF
RAVELING	L	98 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	12 LF
RAVELING	M	20 SF
SWELLING	L	4 SF
RAVELING	H	1 SF

**Sample # 42**    **Distress Description**    **Severity**    **Quantity**    **Area:** 4875 SF

WEATHERING	L	245 SF
RAVELING	L	98 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	23 LF
SWELLING	L	2 SF

**Sample # 50**    **Distress Description**    **Severity**    **Quantity**    **Area:** 4875 SF

WEATHERING	L	245 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	36 LF
RAVELING	L	98 SF
RAVELING	M	20 SF
SWELLING	L	5 SF
RAVELING	H	2 SF

**Extrapolated Distress Quantities\***

<b>Distress Description</b>	<b>Severity</b>	<b>Quantity</b>	<b>Density</b>	<b>Deduct</b>
RAVELING	H	32 SF	0.01 %	6.00
RAVELING	M	794 SF	0.29 %	5.18
LONGITUDINAL/TRANSVERSE CRACKING	L	1668 LF	0.62 %	4.25
LONGITUDINAL/TRANSVERSE CRACKING	M	159 LF	0.06 %	4.00
RAVELING	L	5447 SF	2.01 %	4.00
WEATHERING	L	13618 SF	5.03 %	1.09
SWELLING	L	95 SF	0.04 %	1.00

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

**SUPERIOR AIRPORT**

Branch: 04R

**RUNWAY**

**R-11**

**Percent of Deduct Values Based on Distress Mechanism**

0.0 % Load

96.0 % Climate/Durability

4.0 % Other

# SUPERIOR AIRPORT

Branch: 04T

TAXIWAY

**T-11**

**Length:** 2,556 LF    **Width:** 25 LF    **Area:** 72,413 SF    **Last Const. :** 2004    **Family:** ACRML15  
**From:** NORTHWEST END RWY 12/3    **To:** A-11    **Surface:** AC

### Inspections

**Samples Surveyed:** 5      **Total Samples:** 15      **Last Inspection Date (RPA)** 9/23/2015      **PCI:** **78**

**Sample # 1**      **Area:** 5000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	237 LF
WEATHERING	L	250 SF
RAVELING	L	50 SF
RAVELING	H	15 SF
OIL SPILLAGE	N	2 SF

**Sample # 4**      **Area:** 5000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	91 LF
WEATHERING	L	250 SF
RAVELING	L	50 SF
RAVELING	H	5 SF
PATCHING	L	1 SF
OIL SPILLAGE	N	1 SF

**Sample # 7**      **Area:** 5000 SF

Distress Description	Severity	Quantity
WEATHERING	L	250 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	47 LF
RAVELING	L	50 SF
RAVELING	H	2 SF

**Sample # 10**      **Area:** 5000 SF

Distress Description	Severity	Quantity
WEATHERING	L	250 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	22 LF
RAVELING	L	50 SF
RAVELING	M	3 SF

**Sample # 13**      **Area:** 4480 SF

Distress Description	Severity	Quantity
RAVELING	M	345 SF
WEATHERING	L	225 SF
RAVELING	H	100 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	29 LF
RAVELING	L	45 SF
PATCHING	L	2 SF

### Extrapolated Distress Quantities\*

Distress Description	Severity	Quantity	Density	Deduct
RAVELING	H	361 SF	0.50 %	10.94
RAVELING	M	1029 SF	1.42 %	9.02
LONGITUDINAL/TRANSVERSE CRACKING	L	1260 LF	1.74 %	6.73
RAVELING	L	725 SF	1.00 %	2.62
OIL SPILLAGE	N	9 SF	0.01 %	2.00
PATCHING	L	9 SF	0.01 %	2.00
WEATHERING	L	3624 SF	5.00 %	1.09

\* 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                      94.0 % Climate/Durability                      6.0 % Other

**SUPERIOR AIRPORT****FIFTEEN YEAR PROJECTIONS: ESTIMATED AVERAGE ANNUAL COST: \$51,896**

PLAN YEAR: 2016			ESTIMATED COST:			\$175,797	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-11	Prev. & Seal Coat	\$1,660	\$20,276			\$21,935	77	80
A-11	Prev. & Thin AC	\$2,897	\$72,704			\$75,601	67	80
R-11	Prev. & Seal Coat	\$2,387	\$75,874			\$78,261	81	87
PLAN YEAR: 2017			ESTIMATED COST:			\$3,759	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
R-11	Basic Prev.	\$1,755				\$1,755	84	84
A-11	Basic Prev.	\$805				\$805	77	77
T-11	Basic Prev.	\$1,199				\$1,199	78	79
PLAN YEAR: 2018			ESTIMATED COST:			\$5,394	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-11	Basic Prev.	\$1,231				\$1,231	75	75
T-11	Basic Prev.	\$1,706				\$1,706	77	77
R-11	Basic Prev.	\$2,457				\$2,457	81	82
PLAN YEAR: 2019			ESTIMATED COST:			\$7,376	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-11	Basic Prev.	\$1,657				\$1,657	72	72
R-11	Basic Prev.	\$3,529				\$3,529	80	80
T-11	Basic Prev.	\$2,190				\$2,190	76	76
PLAN YEAR: 2020			ESTIMATED COST:			\$10,418	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-11	Basic Prev.	\$2,086				\$2,086	70	70
T-11	Basic Prev.	\$2,674				\$2,674	74	74
R-11	Basic Prev.	\$5,658				\$5,658	78	78
PLAN YEAR: 2021			ESTIMATED COST:			\$125,378	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
R-11	Prev. & Seal Coat	\$7,664	\$87,959			\$95,623	76	80
T-11	Prev. & Seal Coat	\$3,176	\$23,505			\$26,682	73	76
A-11	Basic Prev.	\$3,073				\$3,073	68	68
PLAN YEAR: 2022			ESTIMATED COST:			\$12,642	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-11	Basic Prev.	\$2,777				\$2,777	74	75
R-11	Basic Prev.	\$5,756				\$5,756	78	78
A-11	Basic Prev.	\$4,109				\$4,109	66	66
PLAN YEAR: 2023			ESTIMATED COST:			\$16,397	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-11	Basic Prev.	\$5,195				\$5,195	64	64
R-11	Basic Prev.	\$7,892				\$7,892	77	77
T-11	Basic Prev.	\$3,310				\$3,310	73	73
PLAN YEAR: 2024			ESTIMATED COST:			\$20,221	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-11	Basic Prev.	\$6,357				\$6,357	62	62
R-11	Basic Prev.	\$9,982				\$9,982	75	75
T-11	Basic Prev.	\$3,882				\$3,882	72	72
PLAN YEAR: 2025			ESTIMATED COST:			\$24,370	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
R-11	Basic Prev.	\$12,078				\$12,078	74	74
A-11	Basic Prev.	\$7,764				\$7,764	59	60
T-11	Basic Prev.	\$4,528				\$4,528	71	71
PLAN YEAR: 2026			ESTIMATED COST:			\$256,793	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-11	Prev. & Seal Coat	\$5,897	\$27,249			\$33,146	69	72
R-11	Prev. & Seal Coat	\$14,274	\$101,969			\$116,243	73	76
A-11	Prev. & Thin AC	\$9,696	\$97,708			\$107,404	57	69
PLAN YEAR: 2027			ESTIMATED COST:			\$21,664	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
R-11	Basic Prev.	\$12,545				\$12,545	74	74
A-11	Basic Prev.	\$4,408				\$4,408	66	67
T-11	Basic Prev.	\$4,711				\$4,711	71	71



PLAN YEAR: 2028			ESTIMATED COST:			\$26,516	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-11	Basic Prev.	\$5,661				\$5,661	64	64
R-11	Basic Prev.	\$14,867				\$14,867	73	73
T-11	Basic Prev.	\$5,988				\$5,988	69	69
PLAN YEAR: 2029			ESTIMATED COST:			\$32,450	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
R-11	Basic Prev.	\$17,413				\$17,413	72	72
T-11	Basic Prev.	\$8,050				\$8,050	67	68
A-11	Basic Prev.	\$6,987				\$6,987	62	62
PLAN YEAR: 2030			ESTIMATED COST:			\$39,269	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
R-11	Basic Prev.	\$20,296				\$20,296	70	70
A-11	Basic Prev.	\$8,414				\$8,414	60	60
T-11	Basic Prev.	\$10,559				\$10,559	65	66