

ASHLAND MUNICIPAL AIRPORT – SUMNER PARKER FIELD

This report describes how your Pavement Maintenance Management Program (PMMP) was developed. Your Program was developed as part of the Oregon Continuous Aviation System Plan sponsored in part by the Oregon Department of Aviation and the Federal Aviation Administration (FAA). The information and data contained in this report ensures you are in compliance with the requirements of FAA Grant Assurance Number 11 which states that any airport requesting federal funds for pavement improvement projects must have implemented a pavement maintenance management program.

DATA COLLECTION

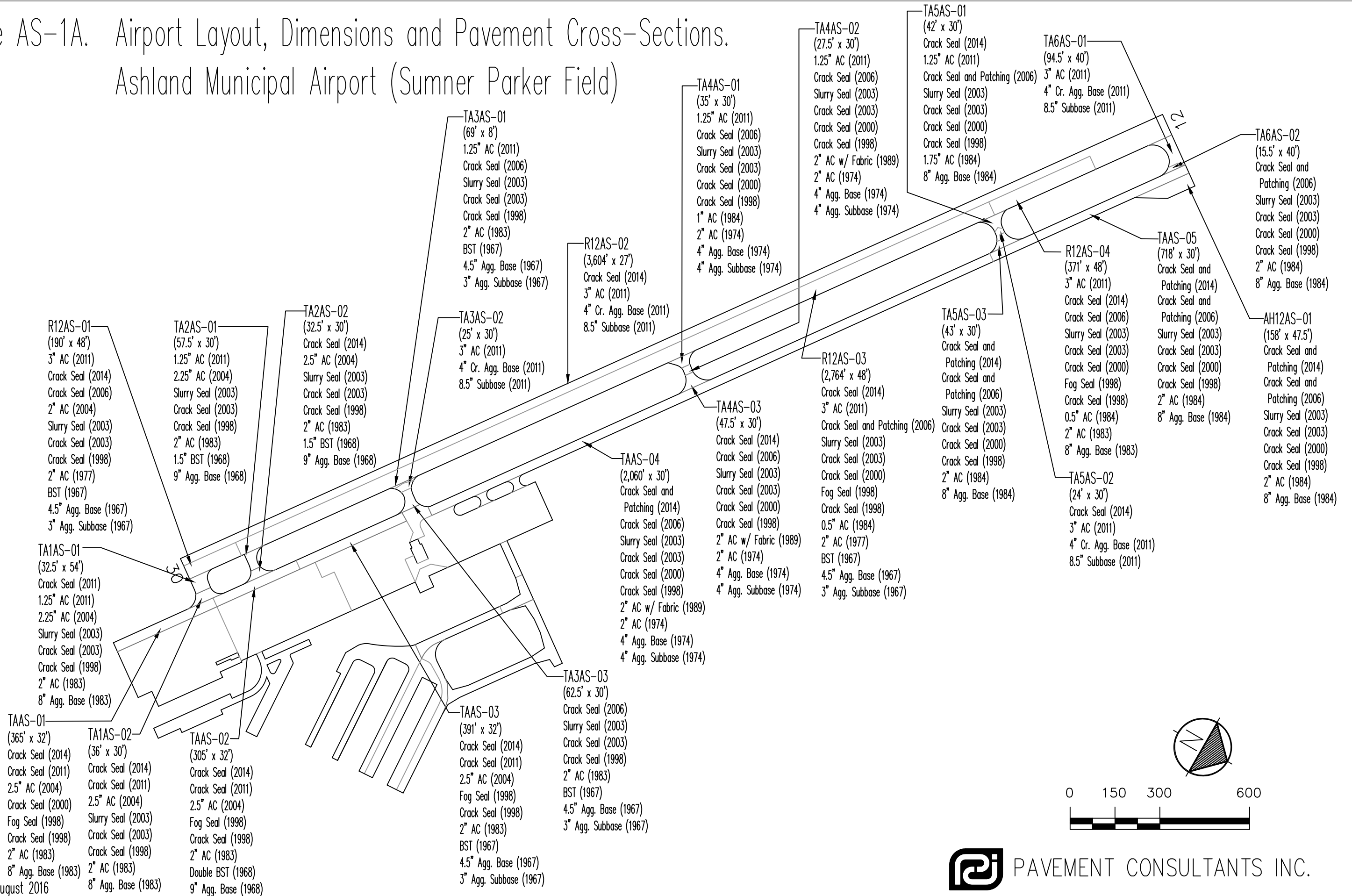
To determine how your pavements were constructed and their age, a records review was conducted. Figure AS-1 shows the records review results. This figure identifies pavement boundaries, dimensions, pavement layer types, thicknesses and dates of construction. The most recent construction date for each pavement can also be found in the Section Condition Report in Appendix 2. Figure AS-1 and the information contained in Appendices 1, 2 and 4 ensure that your airport complies with the “pavement inventory” requirement of FAA’s PMMP guidelines.

The pavements at your airport were divided into branches, sections and sample units in accordance with the methodology outlined in the current edition of ASTM D5430, *Standard Test Method for Airport Condition Index Surveys*. The branches, sections and sample units established at your airport are shown in Figure AS-2. A Branch Condition Report showing all branches, their associated areas, and their area-weighted average condition is provided in Appendix 1. Additionally, the Appendix 2 Section Condition Report provides information used to define each branch and section in the Micro PAVER database.

Using the branch, section and sample unit divisions established, a visual condition survey was conducted at Ashland Municipal Airport in July 2016. During the inspection, pavement defects were identified and measured in accordance with the methodology outlined in ASTM D5430. This inspection ensures your airport complies with the “detailed inspection” requirement of FAA’s PMMP guidelines. After collection, the data were entered into the Micro PAVER software for analysis. These data are reproduced in the Re-Inspection Report attached as Appendix 4.

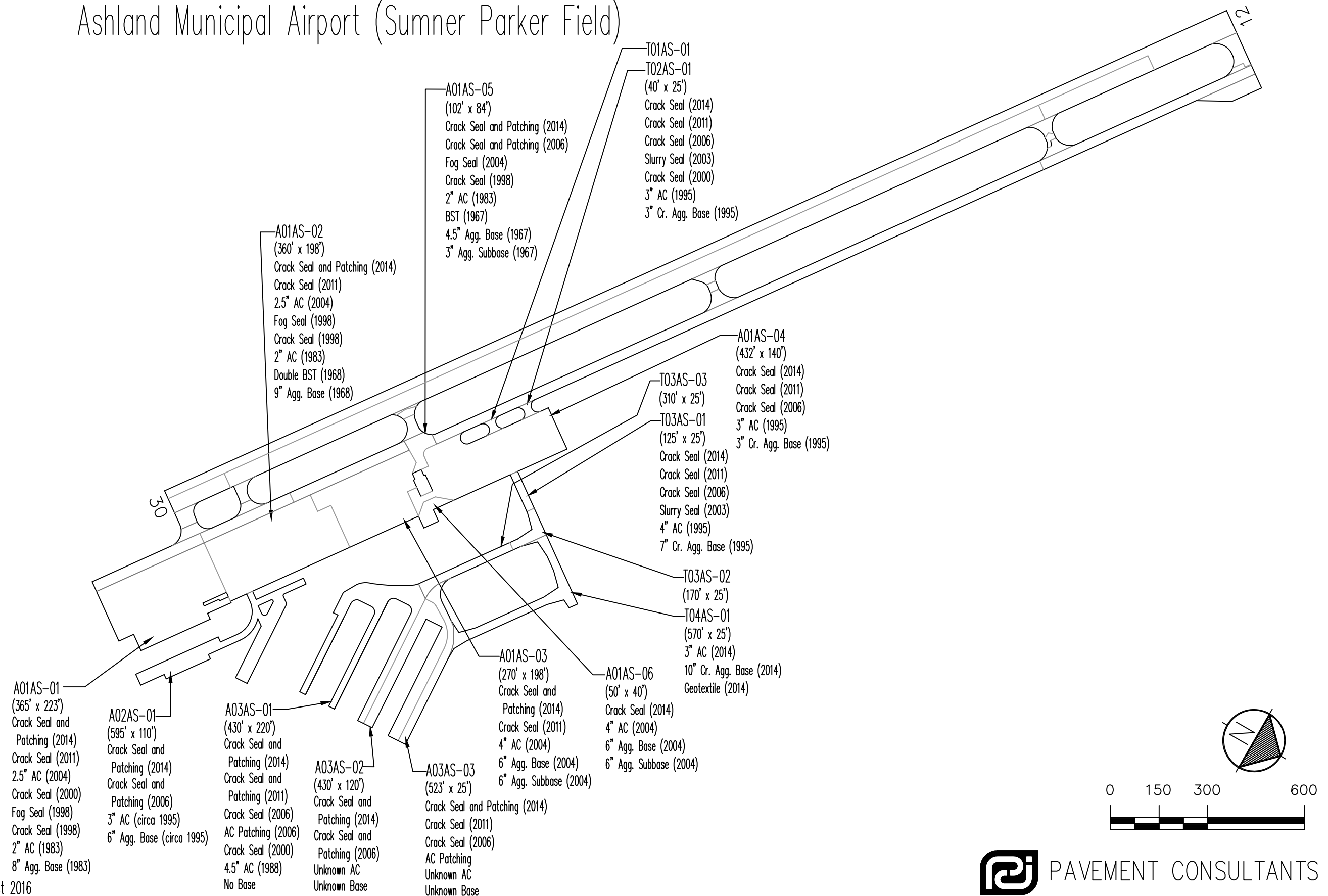
The Micro PAVER database updated during this project ensures your airport complies with the “record keeping and information retrieval” requirements of FAA’s PMMP guidelines.

Figure AS-1A. Airport Layout, Dimensions and Pavement Cross-Sections.
Ashland Municipal Airport (Sumner Parker Field)



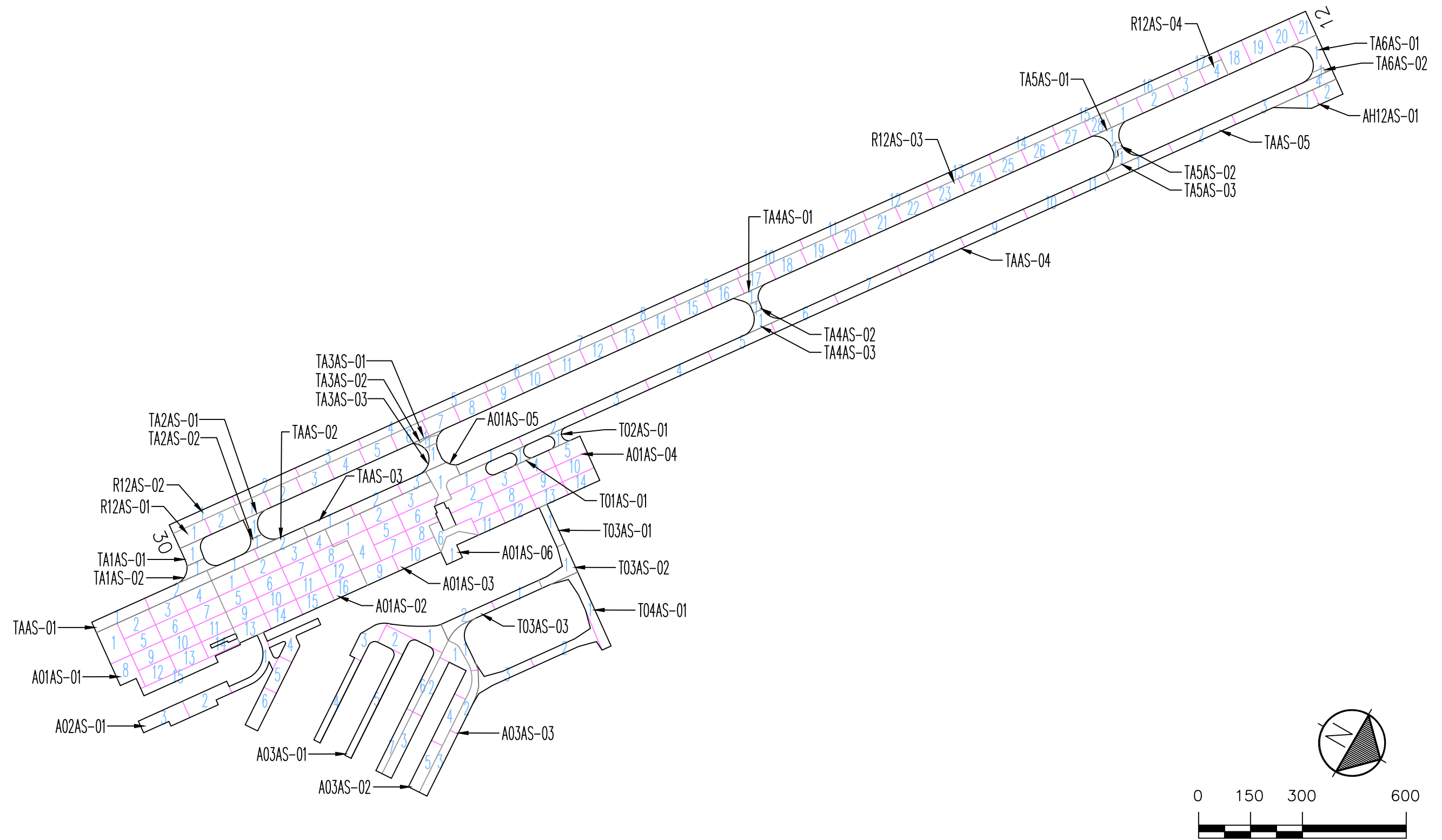
Drawing Date: August 2016

Figure AS-1B. Airport Layout, Dimensions and Pavement Cross-Sections.
Ashland Municipal Airport (Sumner Parker Field)



Drawing Date: August 2016

Figure AS-2. Pavement Branch, Section and Sample Unit Layout.
Ashland Municipal Airport (Sumner Parker Field)



RESULTS

Using the data collected during the visual inspection, the Micro PAVER software was used to calculate an area-weighted average Pavement Condition Index (PCI) for each pavement section inspected using the sample units evaluated. Using each section's PCI, a Pavement Condition Rating (PCR) was assigned. The PCIs measured during this inspection are shown in Table 1. The table also contains PCIs from past inspections as well as projected PCIs for 2021 and 2026. The projections were based on pavement deterioration models developed by Micro PAVER using the inspection data from other pavements in the same airport category as your airport, located in the same climatic region, and with the same surface type and use.

The Branch Condition Report in Appendix 1 summarizes current pavement condition by branch while the Section Condition Report in Appendix 2 lists pavement condition by section. The current Pavement Condition Rating (PCR) is shown graphically in Figure AS-3.

Table 1. Past, Present and Future Pavement Condition Indices.

Branch	Section	Inspections			Forecast	
		2009	2013	2016	2021	2026
A01AS	1	87	75	75	69	49
A01AS	2	79	76	70	52	28
A01AS	3	88	79	69	65	63
A01AS	4	88	72	60	59	57
A01AS	5	65	81	55	54	52
A01AS	6	100	84	61	60	58
A02AS	1	61	71	32	31	29
A03AS	1	84	73	53	52	50
A03AS	2	100	98	85	77	70
A03AS	3	88	68	73	68	65
AH12AS	1	61	56	69	65	63
R12AS	1	48	100	94	86	81
R12AS	2	---	99	96	90	84
R12AS	3	70	100	94	86	81
R12AS	4	65	98	93	86	80
T01AS	1	81	63	62	56	52
T02AS	1	81	61	64	58	53
T03AS	1	82	60	30	27	25
T03AS	2	---	---	100	93	82
T03AS	3	---	---	52	49	47
T04AS	1	---	---	100	93	82
TA1AS	1	96	100	96	81	78
TA1AS	2	---	85	83	78	77
TA2AS	1	97	100	91	79	78

Table 1. Past, Present and Future Pavement Condition Indices.

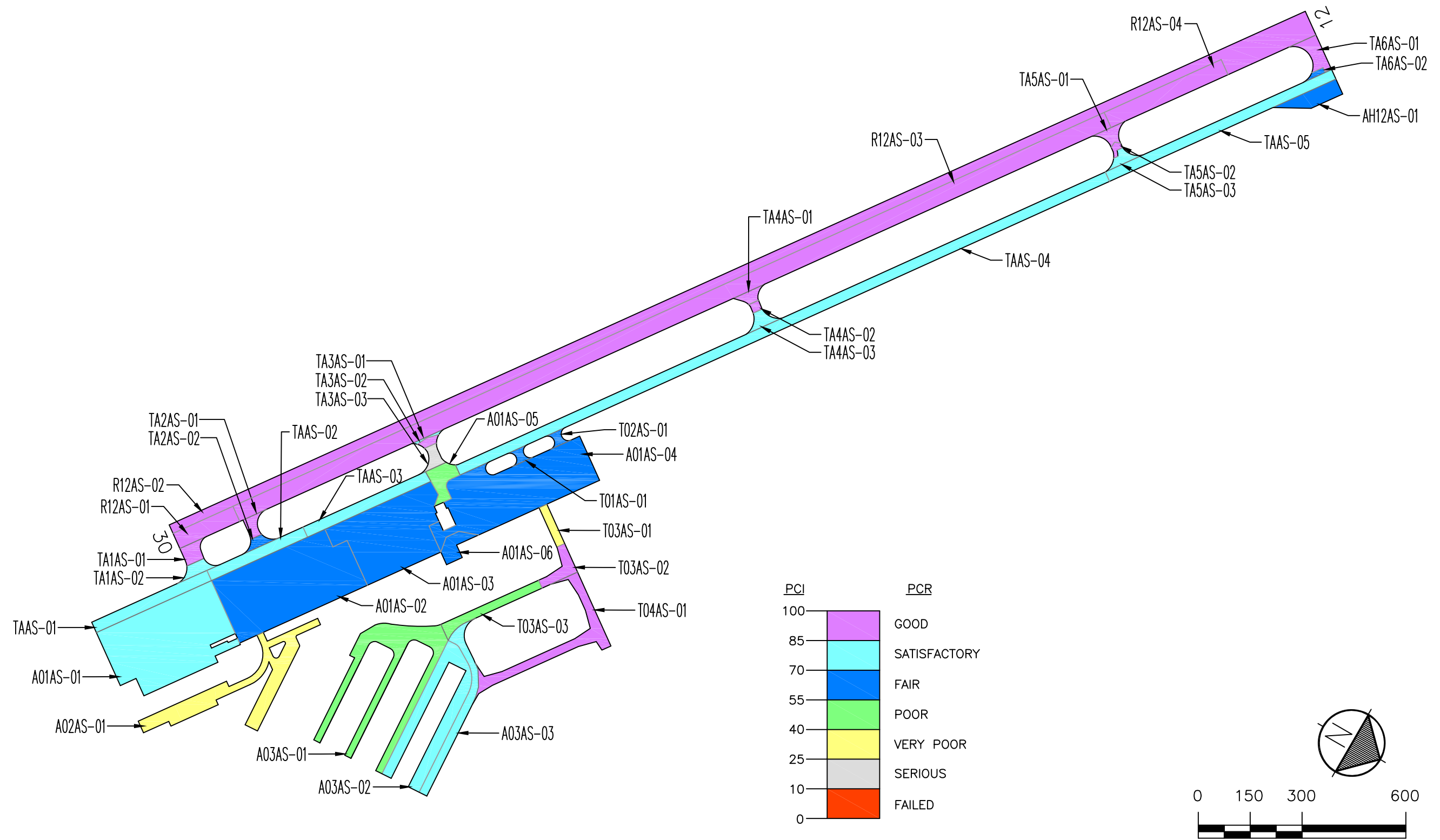
Branch	Section	Inspections			Forecast	
		2009	2013	2016	2021	2026
TA2AS	2	---	65	56	55	53
TA3AS	1	---	100	83	78	77
TA3AS	2	---	100	90	80	73
TA3AS	3	62	54	14	11	9
TA4AS	1	69	100	88	78	78
TA4AS	2	---	100	98	83	78
TA4AS	3	79	72	75	73	72
TA5AS	1	---	100	91	81	74
TA5AS	2	---	100	100	93	82
TA5AS	3	64	50	72	69	68
TA6AS	1	---	96	92	82	74
TA6AS	2	49	38	70	68	67
TAAS	1	90	75	75	73	72
TAAS	2	90	69	72	71	69
TAAS	3	88	76	71	70	68
TAAS	4	84	76	80	78	77
TAAS	5	68	49	75	71	69

Section PCIs at Ashland Municipal Airport range from a low of 14 (a PCR of “Serious”) to a high of 100 (a PCR of “Good”). The area-weighted average PCI for all airport pavements is 77, corresponding to an overall PCR of “Satisfactory”. Figure AS-4 shows how much pavement area is associated with each Pavement Condition Rating category and also shows pavement condition distribution from the inspections conducted in 2009 and 2013.

The primary distresses observed during the inspection were: longitudinal and transverse cracking, patching, weathering, alligator cracking, depressions, block cracking and raveling.

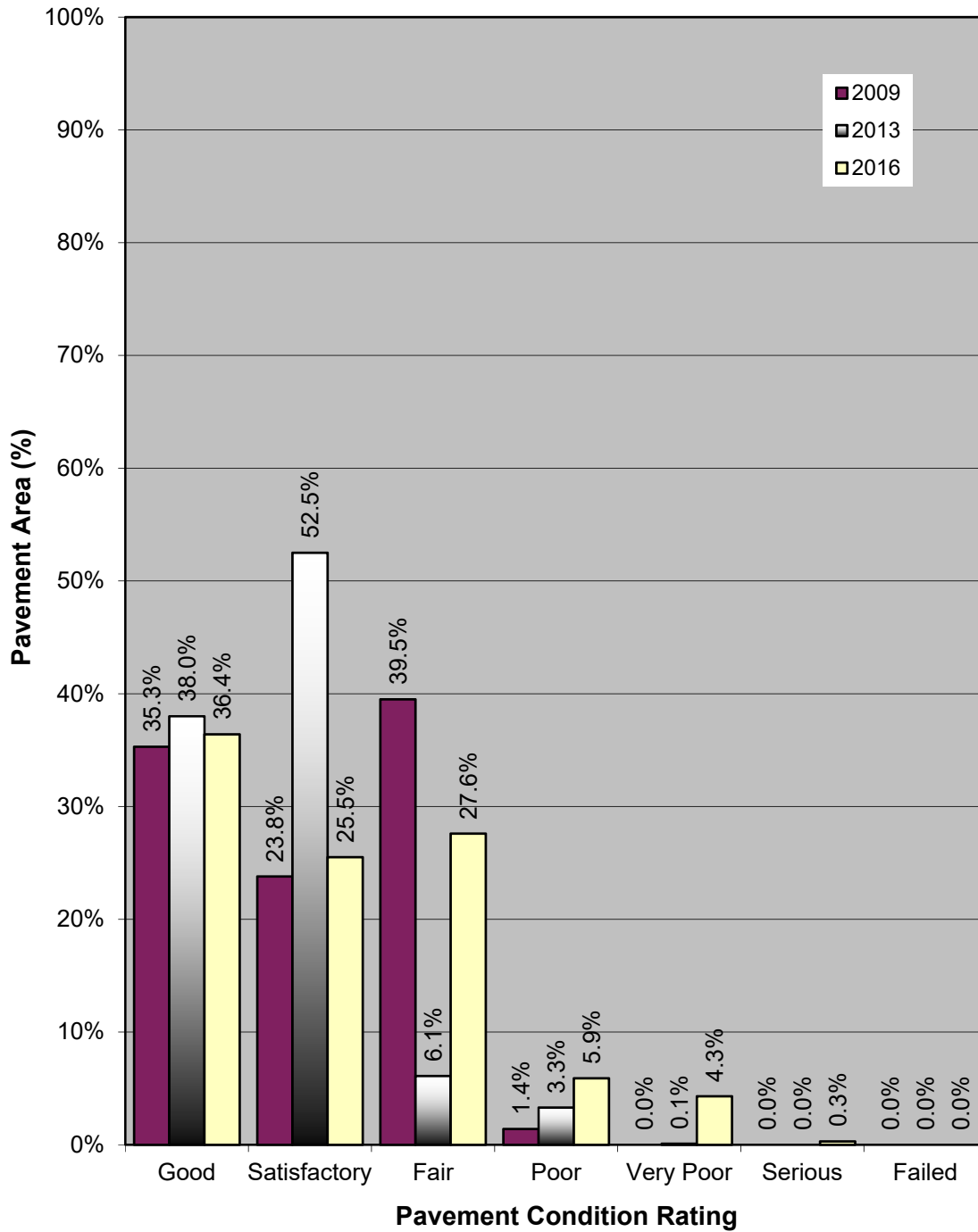
A graphical representation of the projected PCIs listed in Table 1 is shown in Figure AS-5.

Figure AS-3. Pavement Condition in July 2016.
Ashland Municipal Airport (Sumner Parker Field)

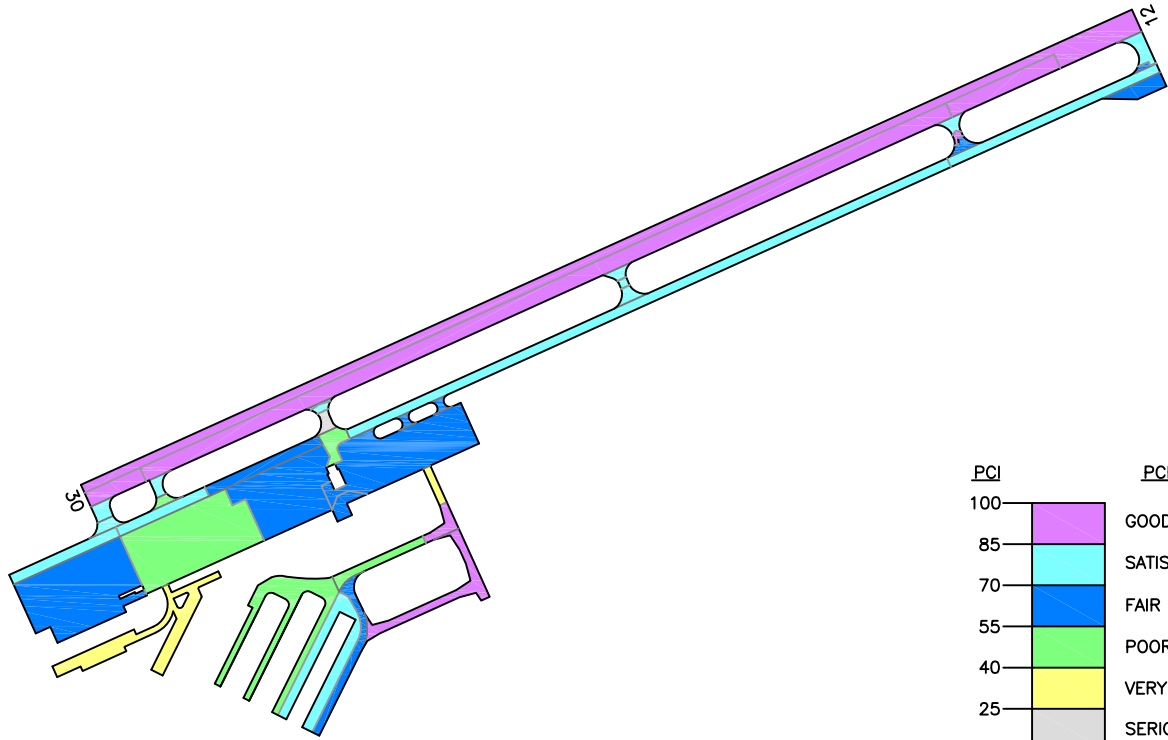


Drawing Date: August 2016

**Figure AS-4. Pavement Condition Distribution
Ashland Municipal Airport**

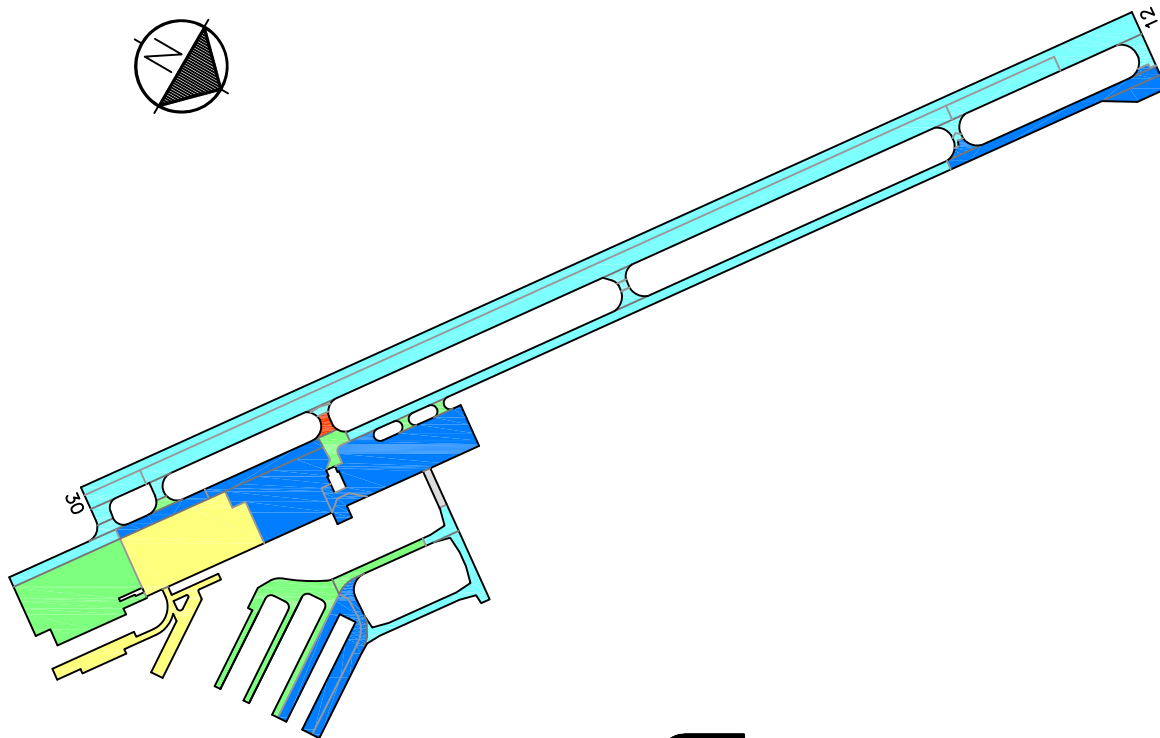


Predicted Condition in 2021.



PCI	PCR
100	GOOD
85	SATISFACTORY
70	FAIR
55	POOR
40	VERY POOR
25	SERIOUS
10	FAILED
0	

Predicted Condition in 2026.



Drawing Date: August 2016

 PAVEMENT CONSULTANTS INC.

Figure AS-5. Future Pavement Condition.

RECOMMENDATIONS

Data collected during the visual condition survey were used by the Micro PAVER software to generate the Network Maintenance Report contained in Appendix 3. This report identifies, for each pavement section, the recommended localized maintenance activities (i.e.-crack sealing, patching) that should be completed to repair the defects observed during the visual inspection. The repair quantities identified in the report were extrapolated to cover the entire pavement section, based on the distresses measured in the inspected sample units. If the repair activities identified are completed, the pavement deterioration rate will be slowed.

The recommended localized maintenance activities to be applied are selected by the Micro PAVER software based on a Distress Maintenance Policy established for the Oregon airport system. The report results indicate that, over your entire airport, the following quantities of localized maintenance are needed:

- 8,820 linear feet of asphalt concrete crack sealing
- 72 linear feet of wide crack repair / sealing
- 4,474 square feet of deep asphalt patching
- 1,496 square feet of leveling asphalt patching.

The Micro PAVER software can also identify and schedule recommended global (applied over an entire section) maintenance activities such as fog seals, slurry seals and other surface treatments, as well as major rehabilitation activities such as asphalt concrete overlays and complete reconstruction. Micro PAVER schedules global maintenance on a user-defined interval. To schedule major rehabilitation Micro PAVER uses pavement deterioration models developed during this project. These models are used to estimate future pavement condition and to schedule rehabilitation based on a trigger PCI.

During this project a 5-year program outlining recommended global maintenance and rehabilitation was developed. The program begins in the year 2017 to allow time for project development. These recommendations are presented in Table 2, which identifies the pavement section requiring rehabilitation, the year the action should be completed, the type of action, and an associated cost. This information is also presented graphically in Figure AS-6.

Table 2. Five-Year Global Maintenance and Rehabilitation Plan.

Year	Branch	Section	Action	Area (sf)	Unit Cost (\$/sf)	Total Cost (\$)
2017	A01AS	01	Slurry Seal	76,095	\$0.31	\$23,285
2017	A01AS	02	Slurry Seal	77,707	\$0.31	\$23,778
2017	A01AS	03	Slurry Seal	54,121	\$0.31	\$16,561
2017	A01AS	04	Slurry Seal	67,518	\$0.31	\$20,661
2017	A01AS	05	2" AC Overlay	5,930	\$2.50	\$14,825

Table 2. Five-Year Global Maintenance and Rehabilitation Plan.

Year	Branch	Section	Action	Area (sf)	Unit Cost (\$/sf)	Total Cost (\$)
2017	A01AS	06	Slurry Seal	4,640	\$0.31	\$1,420
2017	A02AS	01	3" AC over 10" Crushed Aggregate Base Course	33,552	\$7.65	\$256,673
2017	A03AS	01	Slurry Seal	36,136	\$0.31	\$11,058
2017	A03AS	02	Slurry Seal	27,939	\$0.31	\$8,549
2017	A03AS	03	Slurry Seal	13,305	\$0.31	\$4,071
2017	AH12AS	01	Slurry Seal	7,625	\$0.31	\$2,333
2017	R12AS	01	Slurry Seal	9,120	\$0.31	\$2,791
2017	R12AS	02	Slurry Seal	110,703	\$0.31	\$33,875
2017	R12AS	03	Slurry Seal	132,672	\$0.31	\$40,598
2017	R12AS	04	Slurry Seal	17,808	\$0.31	\$5,449
2017	T01AS	01	Slurry Seal	1,343	\$0.31	\$411
2017	T02AS	01	Slurry Seal	1,343	\$0.31	\$411
2017	T03AS	01	3" AC over 10" Crushed Aggregate Base Course	3,125	\$7.65	\$23,906
2017	T03AS	03	2" AC Overlay	8,303	\$2.50	\$20,758
2017	TA1AS	01	Slurry Seal	3,140	\$0.31	\$961
2017	TA1AS	02	Slurry Seal	2,629	\$0.31	\$804
2017	TA2AS	01	Slurry Seal	2,250	\$0.31	\$689
2017	TA2AS	02	Slurry Seal	1,736	\$0.31	\$531
2017	TA3AS	01	Slurry Seal	467	\$0.31	\$143
2017	TA3AS	02	Slurry Seal	1,179	\$0.31	\$361
2017	TA3AS	03	3" AC over 10" Crushed Aggregate Base Course	2,508	\$7.65	\$19,186
2017	TA4AS	01	Slurry Seal	1,935	\$0.31	\$592
2017	TA4AS	02	Slurry Seal	800	\$0.31	\$245
2017	TA4AS	03	Slurry Seal	2,512	\$0.31	\$769
2017	TA5AS	01	Slurry Seal	2,392	\$0.31	\$732
2017	TA5AS	02	Slurry Seal	800	\$0.31	\$245
2017	TA5AS	03	Slurry Seal	2,197	\$0.31	\$672
2017	TA6AS	01	Slurry Seal	4,844	\$0.31	\$1,482
2017	TA6AS	02	Slurry Seal	797	\$0.31	\$244
2017	TAAS	01	Slurry Seal	12,008	\$0.31	\$3,674
2017	TAAS	02	Slurry Seal	9,760	\$0.31	\$2,987
2017	TAAS	03	Slurry Seal	12,472	\$0.31	\$3,816
2017	TAAS	04	Slurry Seal	52,944	\$0.31	\$16,201
2017	TAAS	05	Slurry Seal	22,650	\$0.31	\$6,931
2017 Total						\$572,677

Table 2. Five-Year Global Maintenance and Rehabilitation Plan.

Year	Branch	Section	Action	Area (sf)	Unit Cost (\$/sf)	Total Cost (\$)
2020	T03AS	02	Fog Seal	4,973	\$0.19	\$965
2020	T04AS	01	Fog Seal	17,663	\$0.19	\$3,427
2020 Total						\$4,391
TOTAL						\$577,069

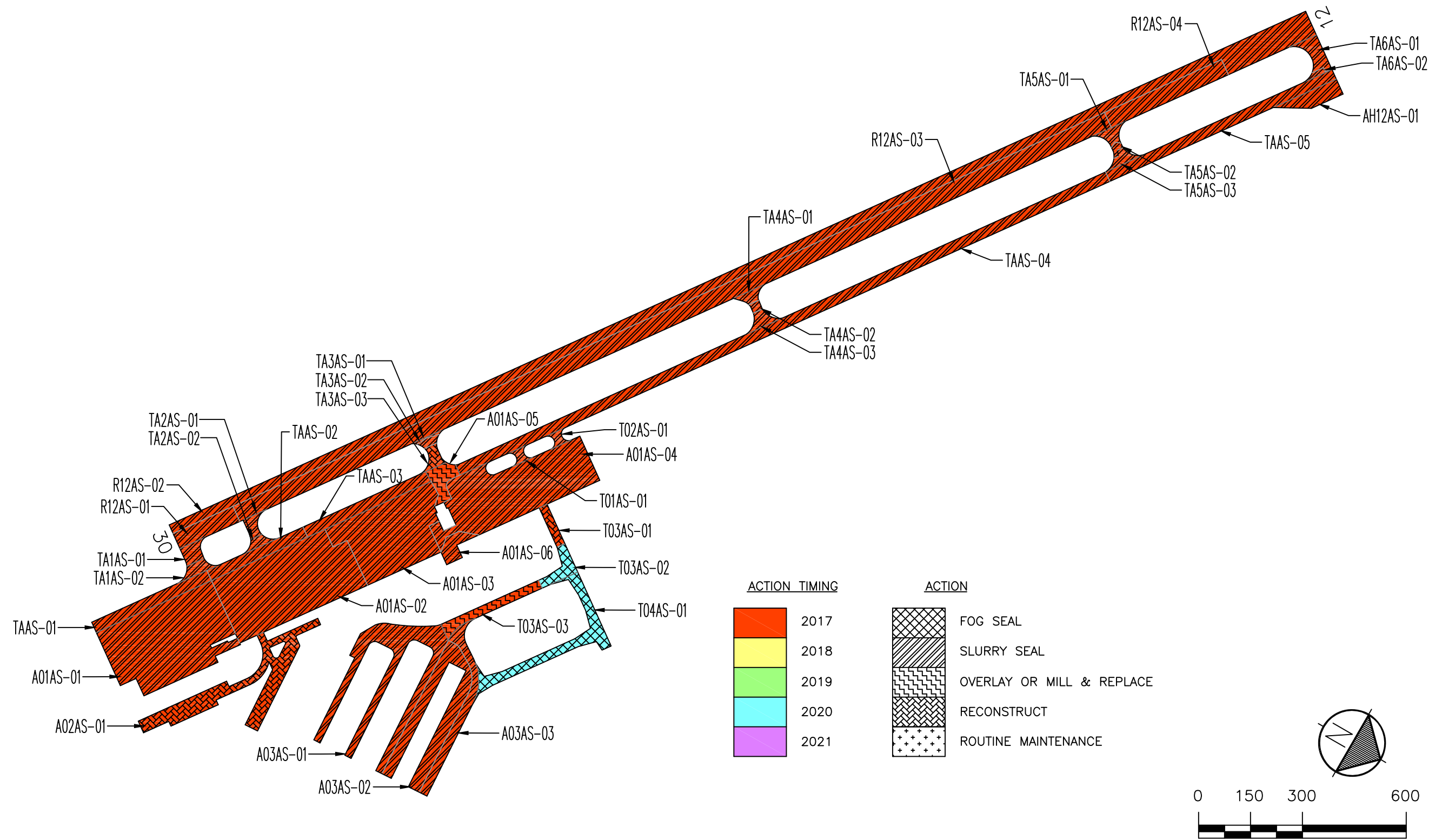
If the global maintenance and/or rehabilitation activities recommended in Table 2 are not completed, the localized maintenance activities identified in the Network Maintenance Report (Appendix 3) for that section should be done. Additionally, for those sections not listed in Table 2 as requiring global maintenance or rehabilitation, the localized maintenance activities outlined in the Network Maintenance Report should be completed. By completing the localized maintenance activities, pavement condition is improved, life is extended, deterioration is slowed and the length of time until major repair or rehabilitation is required is increased.

INSPECTION SCHEDULE

To comply with the inspection schedule requirement of FAA Grant Assurance Number 11, a detailed visual inspection should be conducted every 3 years using the methodology described in ASTM D5430. The next scheduled detailed visual inspection should take place in 2019.

In addition, the FAA requires that a drive-by inspection be conducted monthly to detect unforeseen changes in pavement condition. The results of each drive-by inspection should be recorded and kept in a file. At a minimum, the date of the inspection and an indication of any maintenance performed since the last drive-by inspection should be recorded.

Figure AS-6. Five-Year Pavement Management Plan.
Ashland Municipal Airport (Sumner Parker Field)



Drawing Date: August 2016