NEWPORT MUNICIPAL AIRPORT

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 comply 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 NE-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 NE-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 NE-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 PAVER database.

Using the branch, section and sample unit divisions established, a visual condition survey was conducted at Newport Municipal Airport in May 2018. 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 PAVER software for analysis. These data are reproduced in the Re-Inspection Report attached as Appendix 4.

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

Figure NE-1. Airport Layout, Dimensions and Pavement Cross-Sections. Newport Municipal Airport

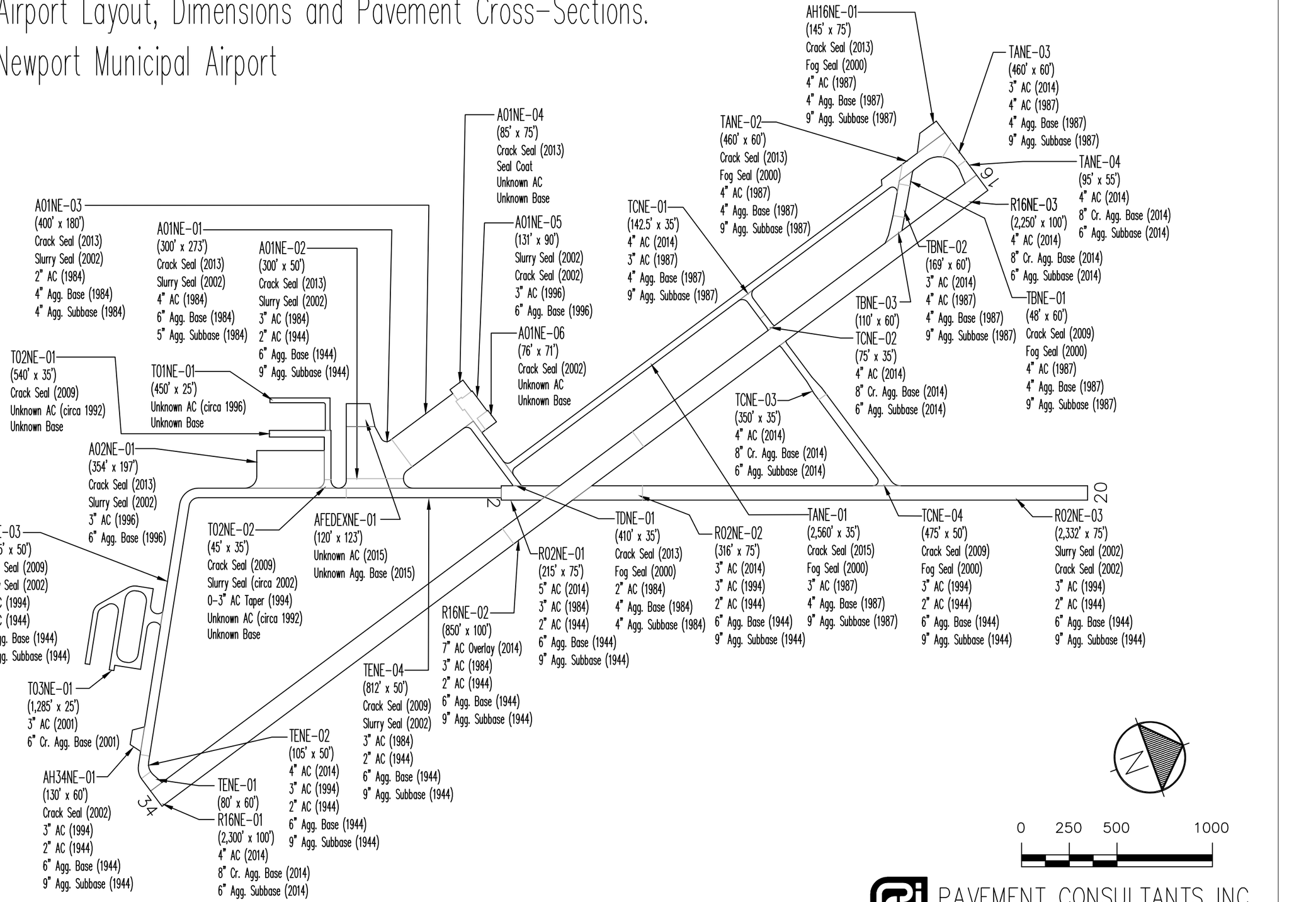

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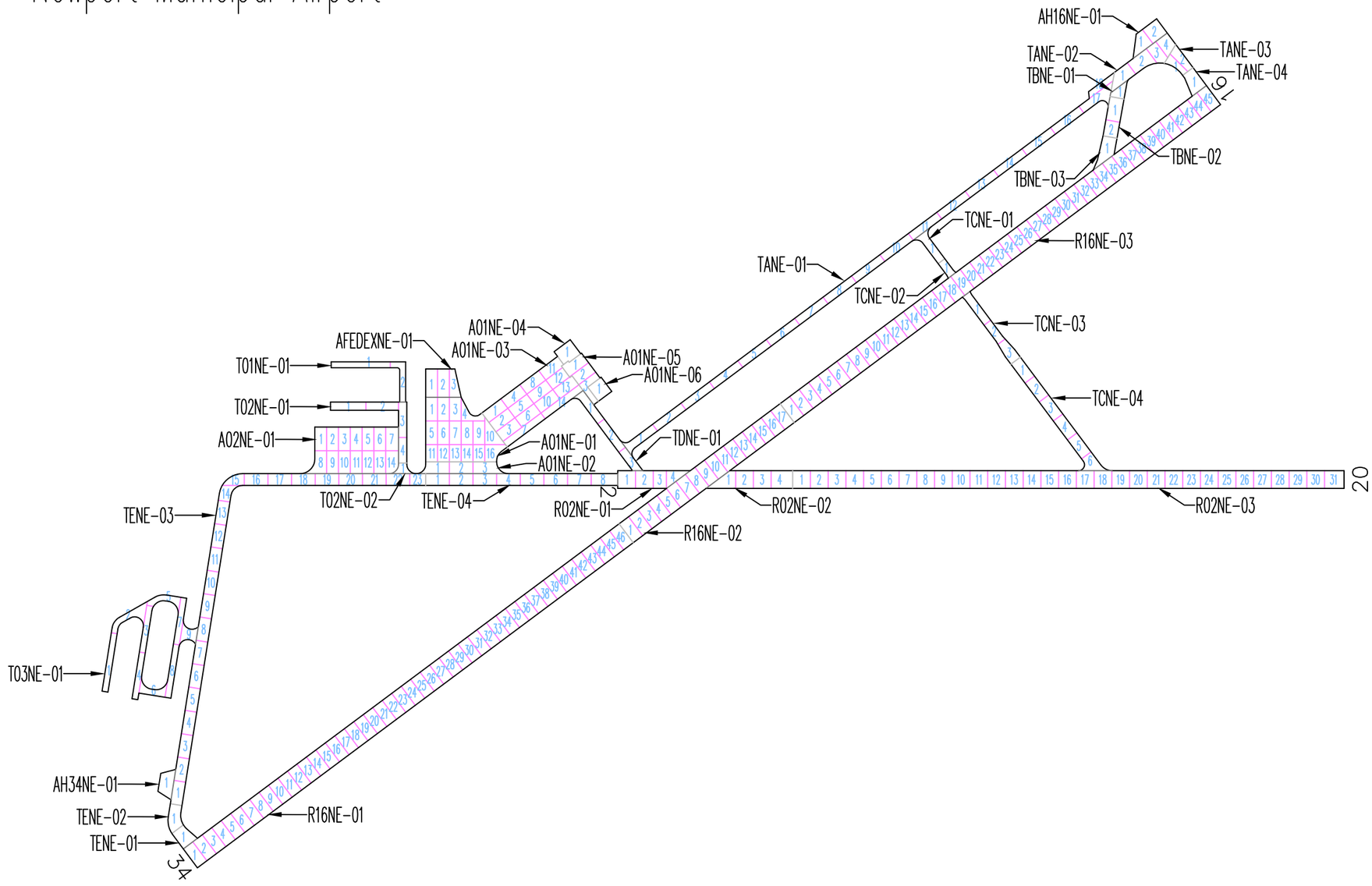
Figure NE-2. Pavement Branch, Section and Sample Unit Layout. Newport Municipal Airport



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RESULTS

Using the data collected during the visual inspection, the 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 2023 and 2028. The projections were based on pavement deterioration models developed by 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 NE-3.

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

Branch	Section	Inspections			Forecast	
		2012	2015	2018	2023	2028
A01NE	01	87	86	77	71	66
A01NE	02	76	78	77	74	71
A01NE	03	79	81	73	67	62
A01NE	04	71	81	75	69	64
A01NE	05	96	94	69	63	58
A01NE	06	91	92	87	84	83
A02NE	01	91	80	68	62	57
AFEDEXNE	01	---	100	100	90	85
AH16NE	01	89	93	81	76	71
AH34NE	01	96	97	97	94	91
R02NE	01	---	100	100	95	89
R02NE	02	---	100	100	95	89
R02NE	03	88	87	86	81	75
R16NE	01	---	100	100	96	90
R16NE	02	---	100	100	95	89
R16NE	03	---	100	100	96	90
T01NE	01	95	100	87	84	83
T02NE	01	94	88	78	63	49
T02NE	02	93	80	79	74	69
T03NE	01	100	97	78	63	49
TANE	01	97	93	86	84	83
TANE	02	86	92	80	67	52
TANE	03	---	100	100	95	90
TANE	04	---	100	100	96	90

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

Branch	Section	Inspections			Forecast	
		2012	2015	2018	2023	2028
TBNE	01	94	72	73	58	43
TBNE	02	---	100	88	83	78
TBNE	03	---	100	99	93	87
TCNE	01	---	100	100	95	90
TCNE	02	---	100	96	89	85
TCNE	03	---	100	100	96	90
TCNE	04	93	99	82	77	72
TDNE	01	83	76	66	51	37
TENE	01	---	100	100	96	90
TENE	02	---	100	98	93	88
TENE	03	91	83	85	80	75
TENE	04	76	67	74	69	64

Section PCIs at Newport Municipal Airport range from a low of 66 (a PCR of "Fair") to a high of 100 (a PCR of "Good"). The area-weighted average PCI for all airport pavements is 89, corresponding to an overall PCR of "Good". Figure NE-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 2012 and 2015.

The primary distresses observed in the asphalt pavements during the inspection were: longitudinal and transverse cracking, depressions, weathering, patching, and isolated occurrences of alligator cracking and raveling.

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

RECOMMENDATIONS

Data collected during the visual condition survey were used by the 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.

Figure NE-3. Pavement Condition in May 2018.
Newport Municipal Airport

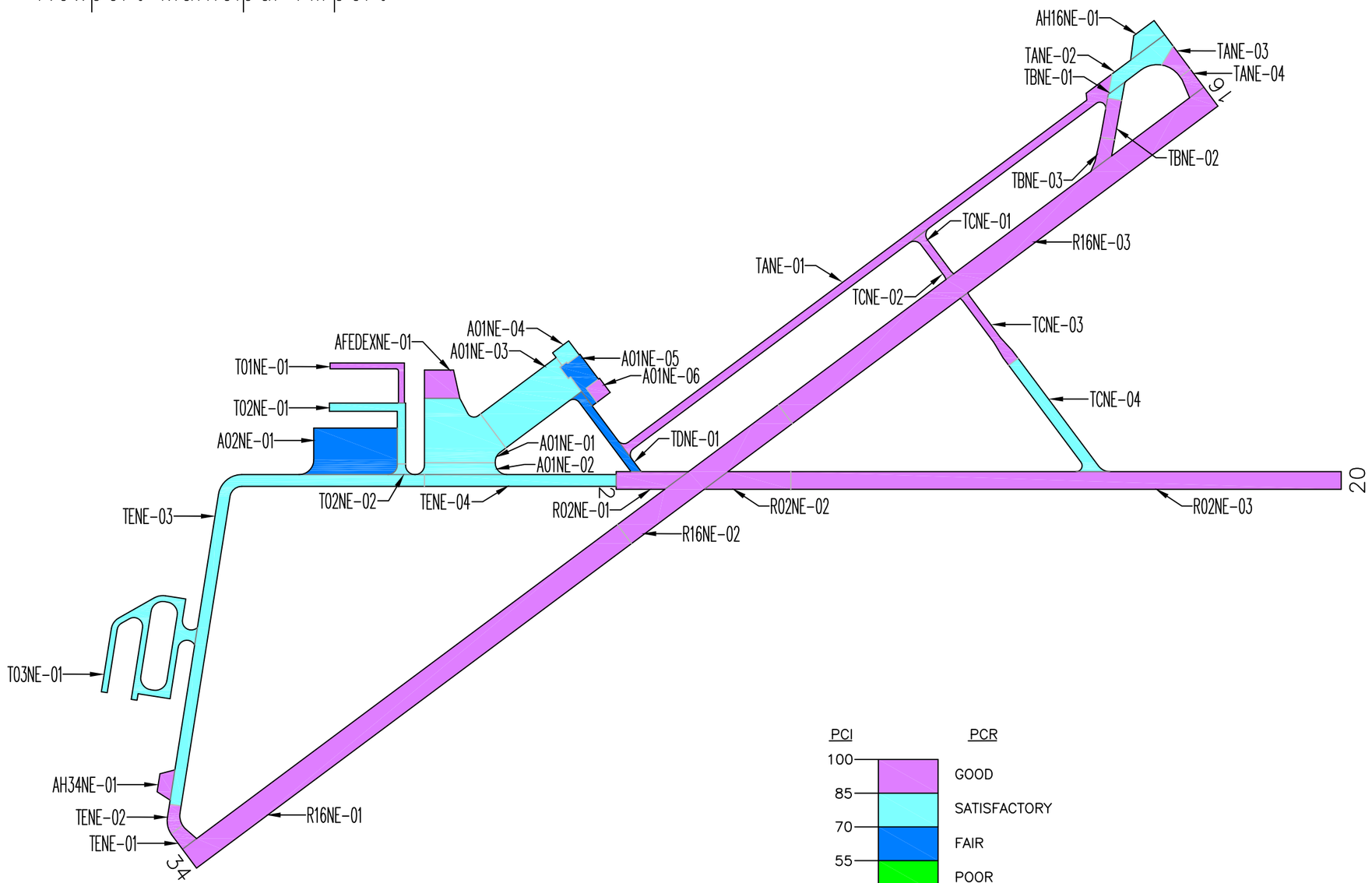

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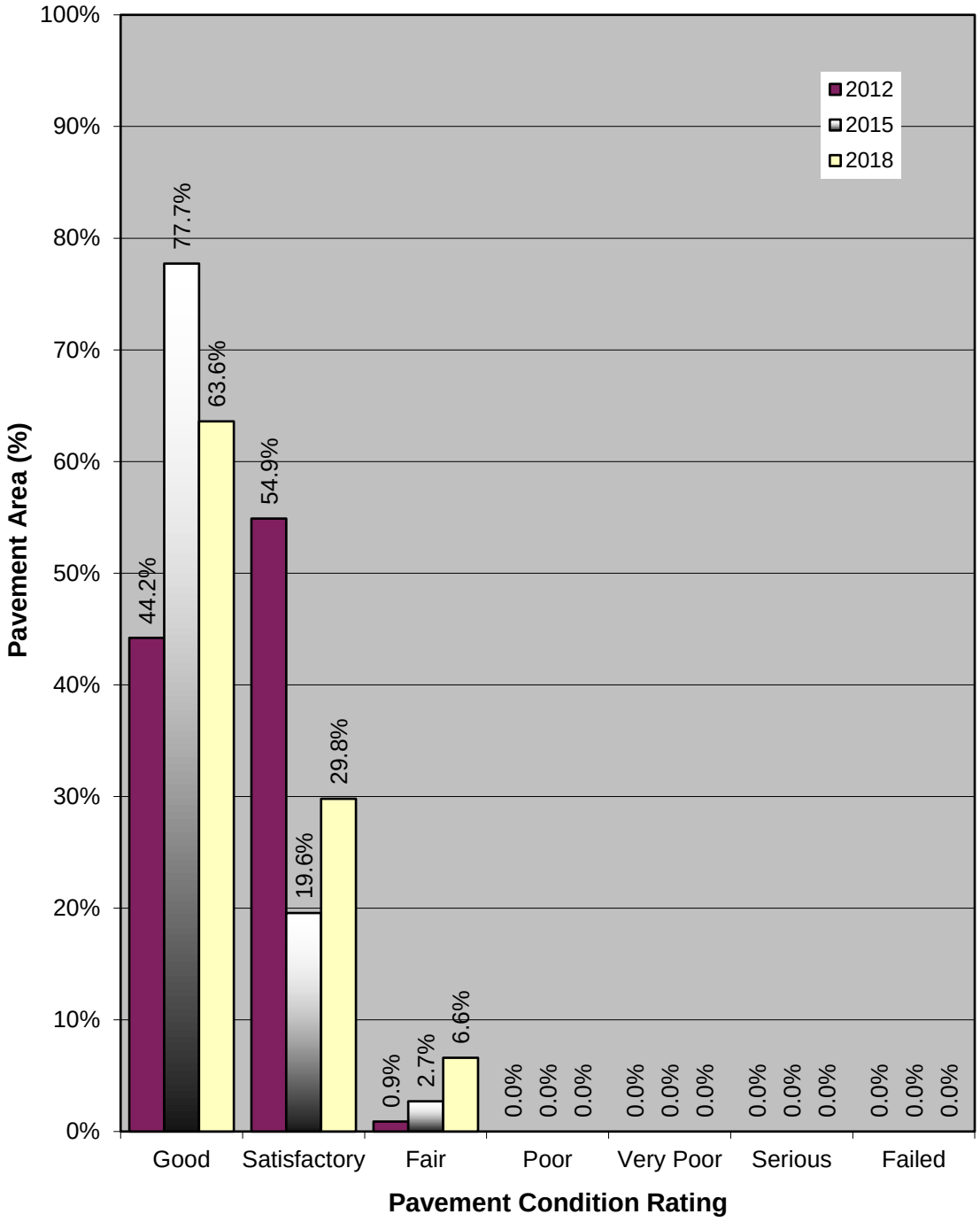
Figure NE-4. Pavement Condition Distribution
Newport Municipal Airport



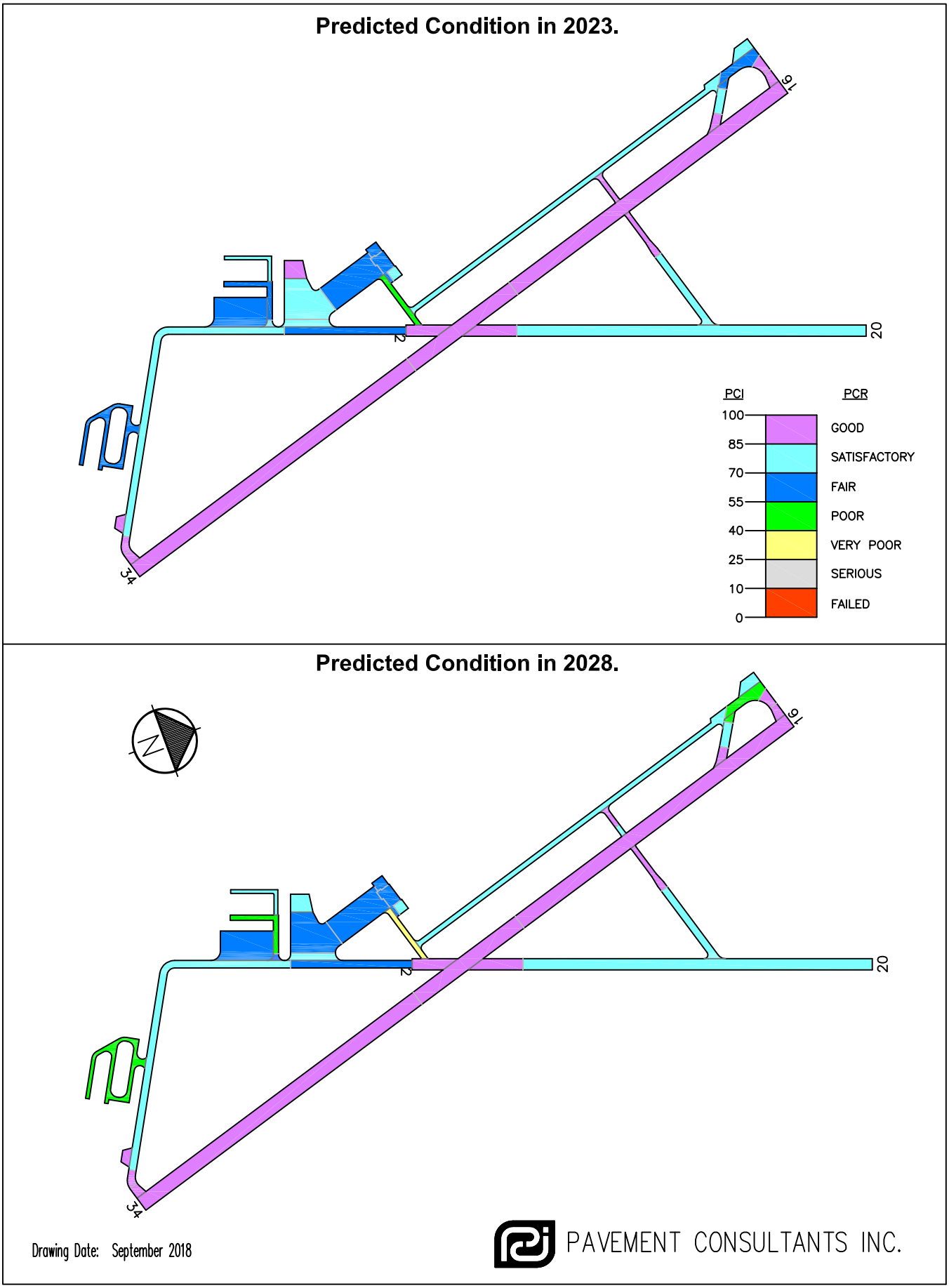


Figure NE-5. Future Pavement Condition.

The recommended localized maintenance activities to be applied are selected by the 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:

- 13,308 linear feet of asphalt concrete crack sealing

The 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. PAVER schedules global maintenance on a user-defined interval. To schedule major rehabilitation 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 2019 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 NE-6.

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

Year	Branch	Section	Action	Area (sf)	Unit Cost ($/sf)	Total Cost ($)
2019	A01NE	01	Slurry Seal	72,253	$0.31	$22,398
2019	A01NE	02	Slurry Seal	15,880	$0.31	$4,923
2019	A01NE	03	Slurry Seal	71,310	$0.31	$22,106
2019	A01NE	04	Slurry Seal	6,161	$0.31	$1,910
2019	A01NE	05	Slurry Seal	14,424	$0.31	$4,471
2019	A01NE	06	Slurry Seal	5,288	$0.31	$1,639
2019	A02NE	01	Slurry Seal	70,233	$0.31	$21,772
2019	AH16NE	01	Slurry Seal	10,784	$0.31	$3,343
2019	R02NE	03	Slurry Seal	174,900	$0.31	$54,219
2019	T01NE	01	Slurry Seal	11,521	$0.31	$3,572
2019	T02NE	01	Slurry Seal	19,110	$0.31	$5,924
2019	T02NE	02	Slurry Seal	2,262	$0.31	$701
2019	T03NE	01	Slurry Seal	45,101	$0.31	$13,981
2019	TANE	01	Slurry Seal	94,127	$0.31	$29,179
2019	TANE	02	Slurry Seal	21,111	$0.31	$6,544
2019	TBNE	01	Slurry Seal	2,892	$0.31	$897
2019	TBNE	02	Slurry Seal	10,128	$0.31	$3,140

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

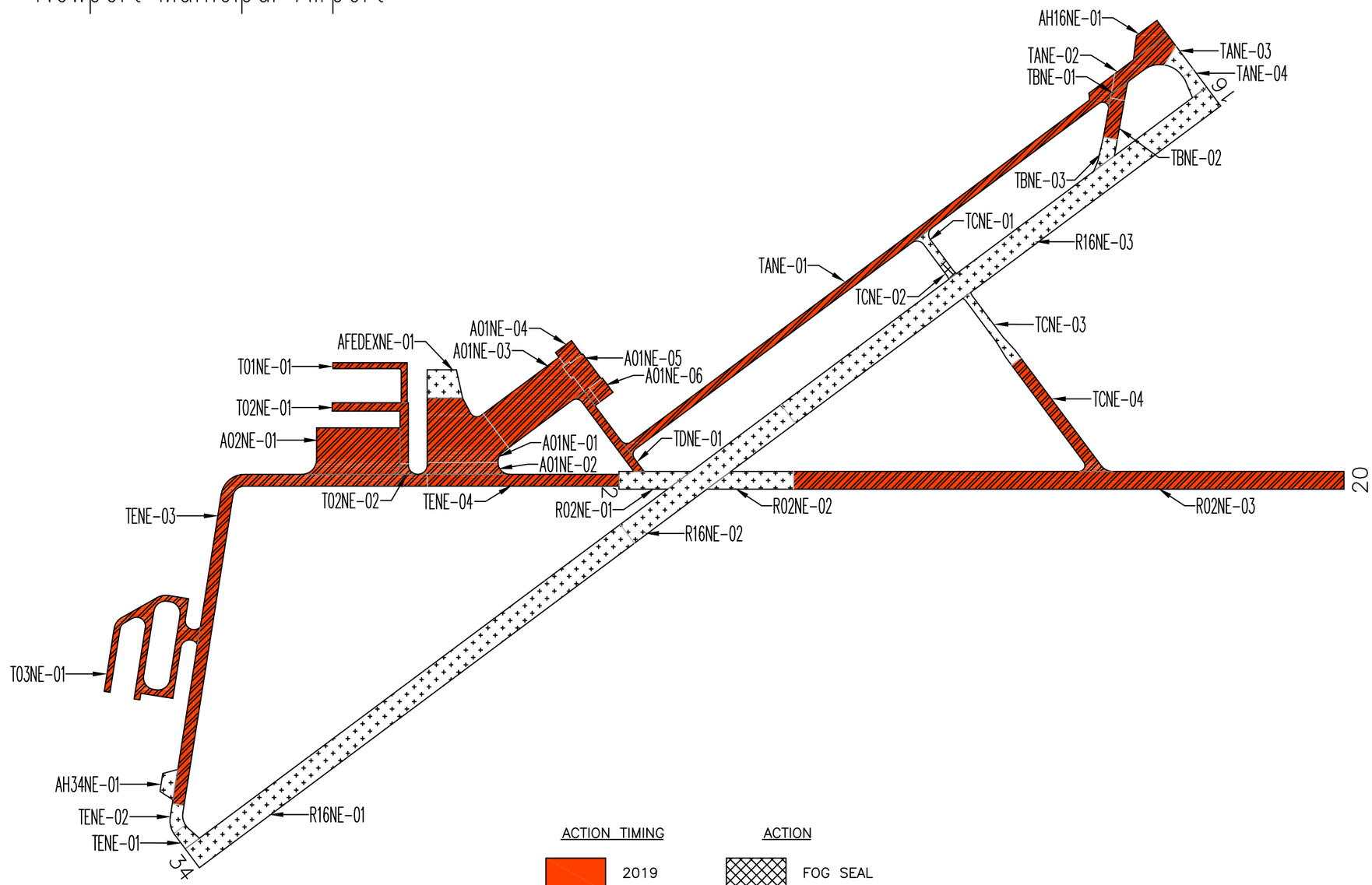
Year	Branch	Section	Action	Area (sf)	Unit Cost ($/sf)	Total Cost ($)
2019	TCNE	04	Slurry Seal	29,728	$0.31	$9,216
2019	TDNE	01	Slurry Seal	14,543	$0.31	$4,508
2019	TENE	03	Slurry Seal	110,428	$0.31	$34,233
2019	TENE	04	Slurry Seal	40,625	$0.31	$12,594
					2019 Total	**$261,271**
					5-Year Total	**$261,271**

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 2021.
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 NE-6. Five-Year Pavement Management Plan.
Newport Municipal Airport



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