



SOUTH CAROLINA AERONAUTICS COMMISSION

STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

 PHH - Robert F. Swinnie Airport



Kimley»Horn

2023



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Overview

Introduction

For over 20 years, the South Carolina Aeronautics Commission (SCAC) has implemented an airfield pavement management program for publicly owned South Carolina airports. As part of their grant assurances federally obligated airports are required to perform detailed inspections as outlined in the FAA Advisory Circular 150/5380-7B – “Airport Pavement Management Program (PMP)”. All inspections performed within this program follow the guidance documented within the ASTM D5340-20 – “Standard Test Method for Airport Pavement Condition Surveys”. This is an objective process to assess the pavement condition in a consistent and repeatable manner.

Due to ever-changing pavement conditions, the FAA AC 150/5380-7B recommends the PMP be updated every 3 years. The overall pavement conditions are analyzed using the ASTM PCI methodology. It provides decision makers with a comparison of pavement facilities and a relative indication of their required maintenance or level of repair to aid in project prioritization. A detailed explanation of the SCAC airfield pavement management program process and pavement management terminology can be found in the SCAC Statewide Report.

Project elements performed for this 2021-2024 program update include the development and updates of pavement inventories, documentation of pavement conditions, performance modeling, and maintenance and rehabilitation (M&R) needs for all participating airports. This report summarizes the results of the SCAC pavement program update at Robert F. Swinnie Airport (PHH).

Figure 1 – Airport Layout



System Inventory

The pavements at Robert F. Swinnie Airport (PHH) include approximately 0.3 million square feet of airfield pavements consisting of runways, taxiways, taxilanes and aprons. Per the guidance in the ASTM D5340-20, all pavements were divided and subdivided into pavement management units (Network, Branch, Section, Sample). The divisions are documented in the **Network Definition Exhibit** providing the name and location of each branch, section, and sample.

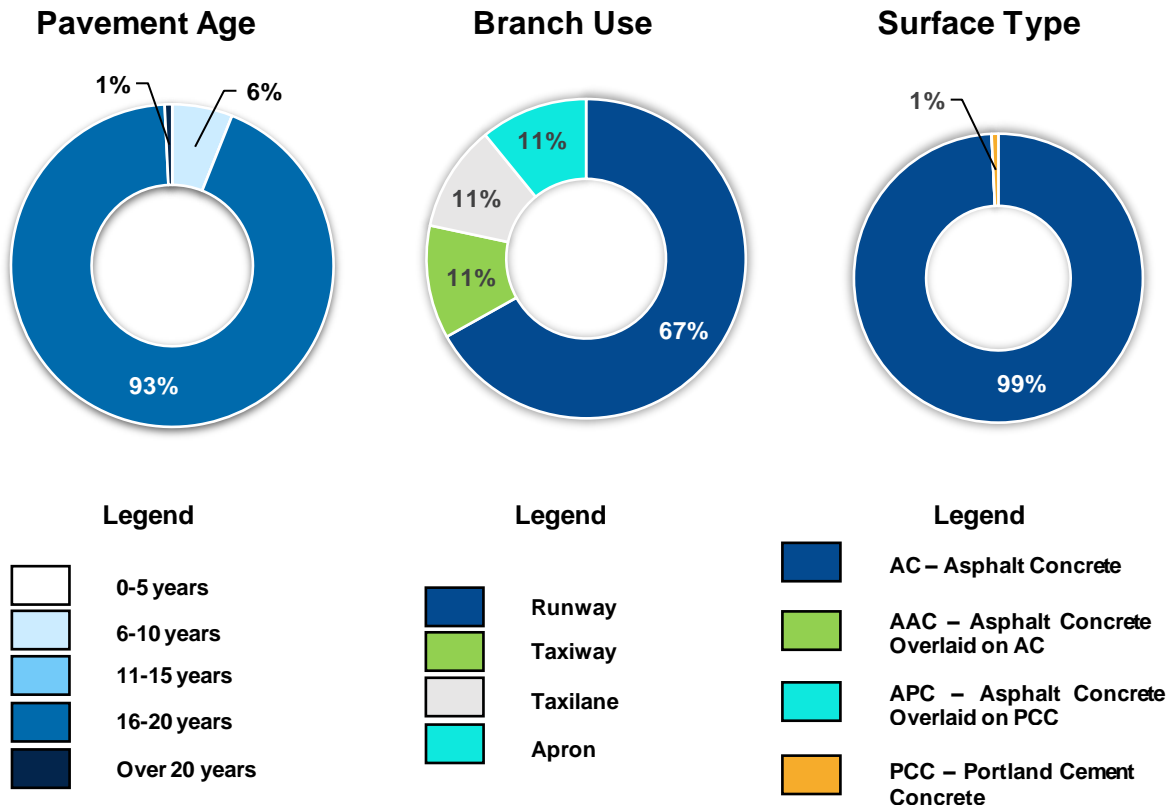
Each pavement update included a review of documentation of any maintenance and major rehabilitation related activities performed on the airfield pavements. No documented or identified projects occurred since the previous inspection.

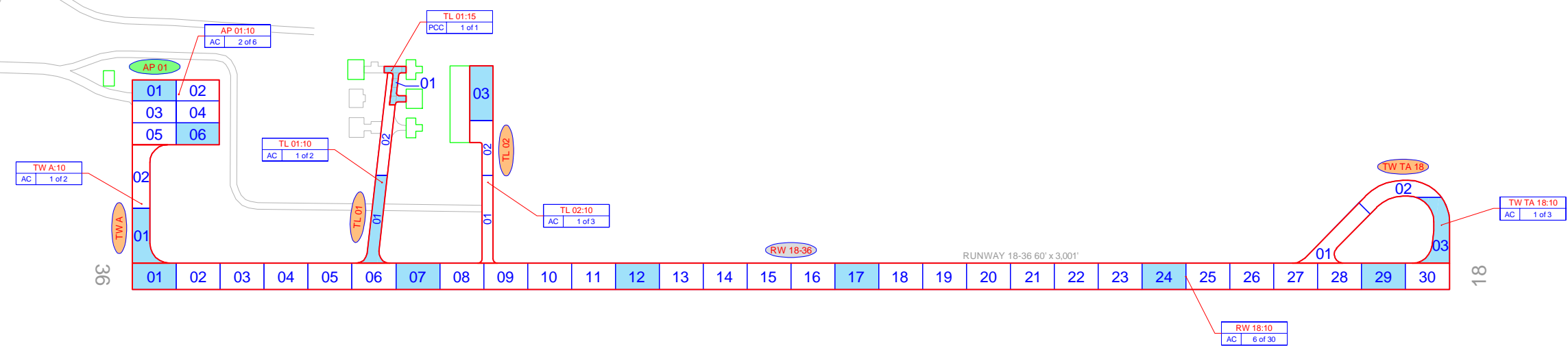
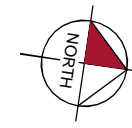
Table 1 - Recent Airfield Pavement Construction

Construction Year	Location	Work Type / Pavement Section
No Information Provided		

The following figure summarizes the inventory items at Robert F. Swinnie Airport (PHH). The **Estimated Age Exhibit** provides the last major work date for each pavement section based on the collected documentation.

Figure 2 – System Inventory Summary





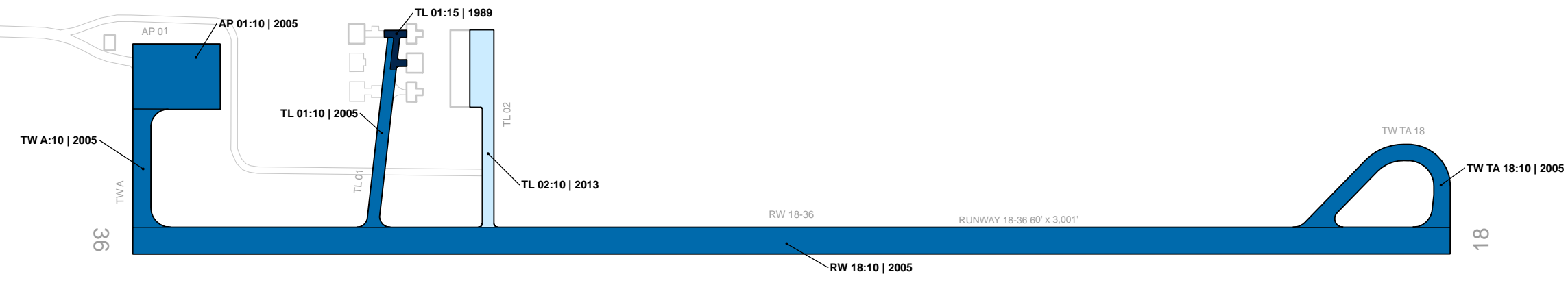
LEGEND

- RW 13-31 TYPICAL RUNWAY BRANCH ID
- TW A TYPICAL TAXIWAY BRANCH ID
- AP S TYPICAL APRON BRANCH ID
- RW 13:10 PAVEMENT BRANCH ID: SECTION ID
- AAC 5 of 15 NUMBER OF SAMPLE UNITS IN SECTION
- AAC 0 of 5 NUMBER OF SAMPLE UNITS TO BE INSPECTED
- 100 PAVEMENT SURFACE TYPE
- RW 13:20 SECTION NOT INSPECTED DUE TO RECENT CONSTRUCTION. SEE ESTIMATED AGE EXHIBIT FOR CONSTRUCTION DATES.
- AAC 0 of 5 SECTION NOT INSPECTED DUE TO RECENT CONSTRUCTION. SEE ESTIMATED AGE EXHIBIT FOR CONSTRUCTION DATES.
- 100 INSPECTED SAMPLE UNITS.

TOTAL SAMPLES INSPECTED = 13
AC: 12 PCC: 1






RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS. DRAWING NOT TO SCALE.





Legend

Estimated Age at Inspection

-  0-5 Years
-  6-10 Years
-  11-15 Years
-  16-20 Years
-  > 20 Years

— BRANCH IDENTIFIER
— SECTION IDENTIFIER
TWA:20 | 1985
— LAST MAJOR WORK DATE



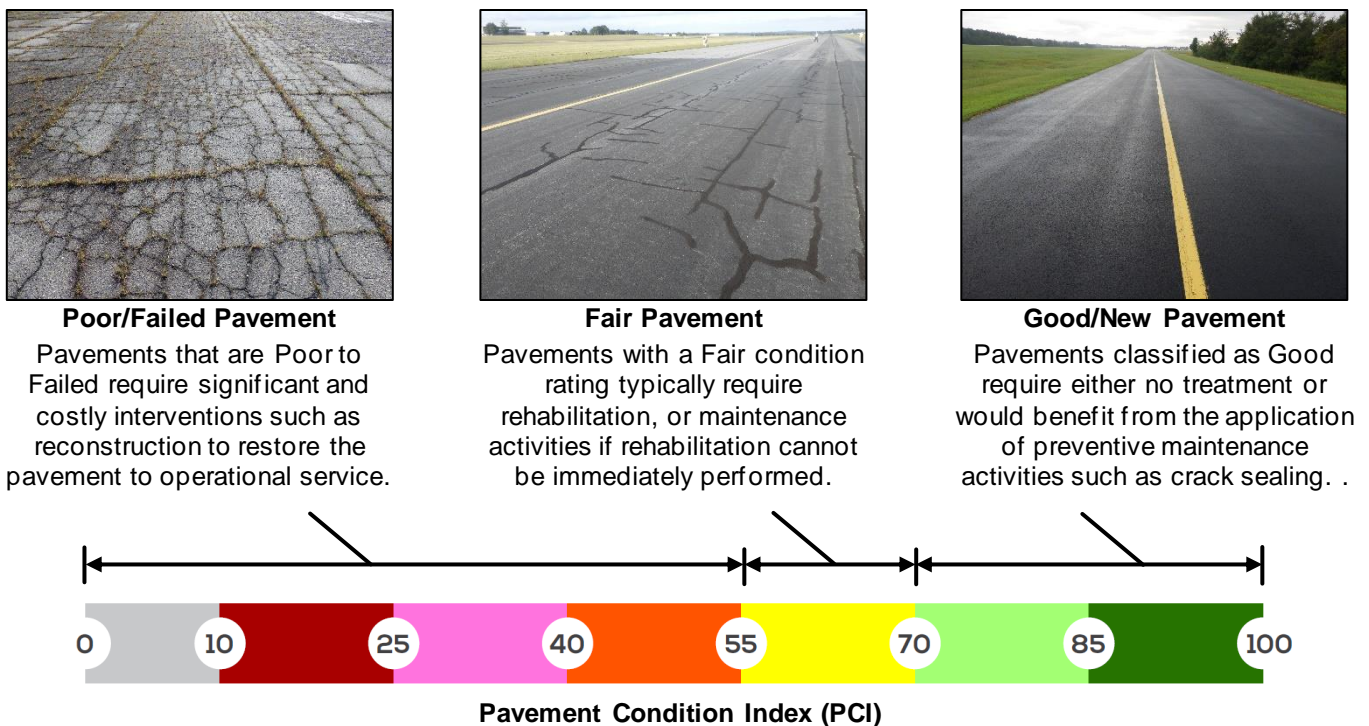
Functional Evaluation

Pavement Condition Index

A Pavement Condition Index (PCI) survey is the primary means of obtaining and recording pavement distress data. In adherence to FAA Advisory Circular 150/5380-7B, the SCAC Airfield Pavement Management System (APMS) Update utilizes the PCI survey methodology to collect pavement distress data and analyze the condition. This method uses a visual statistical sampling of pavements for recording primary distress types, associated severities, and quantities as defined by the ASTM D5340-20.

Visual condition data collected during the PCI survey is analyzed and used to calculate the current PCI for each inspected sample unit and section. The PCI is a value ranging from 0 to 100, which indicates the apparent structural integrity and surface operational condition of the pavement, with “100” indicating a pavement in new condition and “0” indicating a failed pavement section. Pavement Condition Ratings are associated with PCI categories that range from “Failed” to “Good”. Representative photos of varying Pavement Condition Ratings are displayed in **Figure 3**.

Figure 3 – Representation of Pavement Condition Index Values



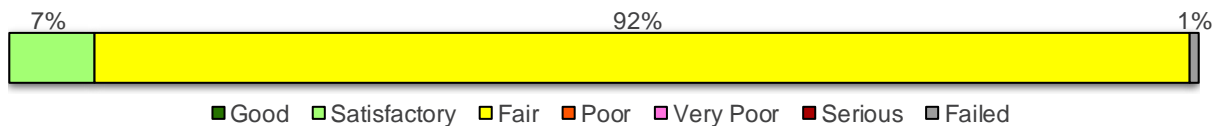
Critical PCI

From a pavement management perspective, one of the most valuable aspects of the PCI methodology is the ability to save money by effectively prioritizing the rehabilitation of pavement assets. Critical PCI refers to the condition beyond which the rate of pavement deterioration and the cost of applying a treatment increases significantly. In other words, it is the condition at which maintenance may no longer be cost effective and major rehabilitation should be considered. Based on the 2019 FAA Order 5100.38D Change 1 Airport Improvement Program Handbook, the FAA has established recommended PCI thresholds for pavement M&R. Accordingly, **the Critical PCI for all SCAC airfield pavements is defined at 70.**

PCI Results

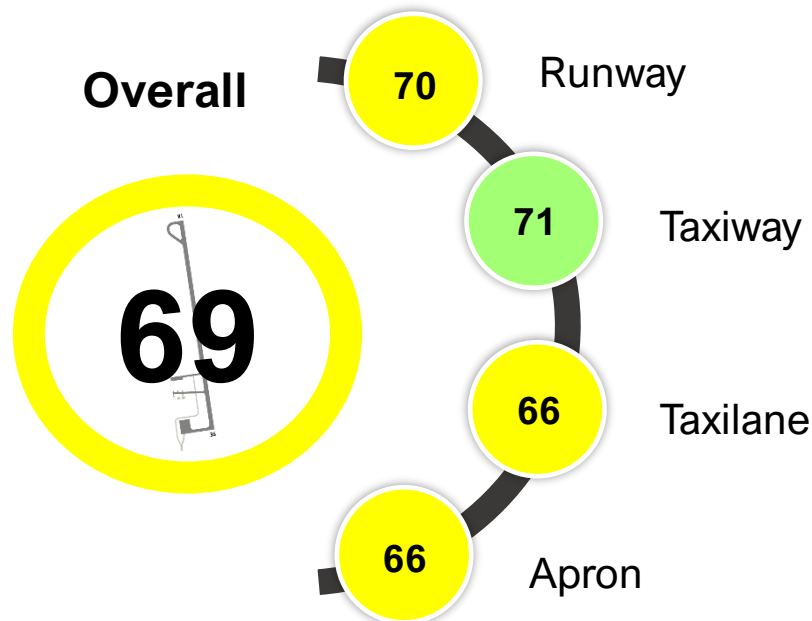
The PCI survey for Robert F. Swinnie Airport (PHH) was performed in January 2023. **The overall area-weighted average PCI value of the network was 69**, representing a condition rating of **Fair**. Approximately 7% of inspected pavements are in Good or Satisfactory condition, 92% of inspected pavements are in Fair condition, and the remaining 1% are in Poor or worse condition as summarized in **Figure 4**.

Figure 4 – Overall Network PCI Results



The area-weighted average PCIs by branch use are summarized in the figure below. The current PCIs at a section-level are displayed graphically on the **2023 Airfield Pavement Condition Index Exhibit** and are summarized in **Table 2**.

Figure 5 – Area Weighted Average Pavement Condition





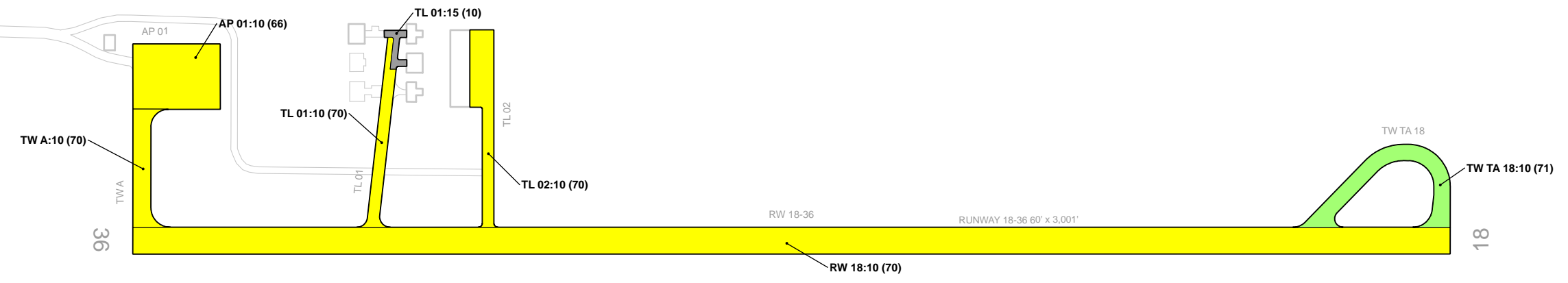
STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

PHH - Robert F. Swinnie Airport

Table 2 – Current Pavement Condition Index Summary - Section

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
PHH	AP 01	Apron	10	29,304	AC	66	Fair	98	0	2
PHH	RW 18	Runway	10	180,060	AC	70	Fair	100	0	0
PHH	TL 01	Taxilane	10	10,670	AC	70	Fair	100	0	0
PHH	TL 01	Taxilane	15	2,042	PCC	10	Failed	10	90	0
PHH	TL 02	Taxilane	10	16,286	AC	70	Fair	100	0	0
PHH	TW A	Taxiway	10	11,578	AC	70	Fair	100	0	0
PHH	TW TA 18	Taxiway	10	19,286	AC	71	Satisfactory	100	0	0

**For further PCI details and photos see Appendix D – Detailed PCI Results.*



Legend

2023 Pavement Condition Index

- PCI 86-100 Good
- PCI 71-85 Satisfactory
- PCI 56-70 Fair
- PCI 41-55 Poor
- PCI 26-40 Very Poor
- PCI 11-25 Serious
- PCI 0-10 Failed

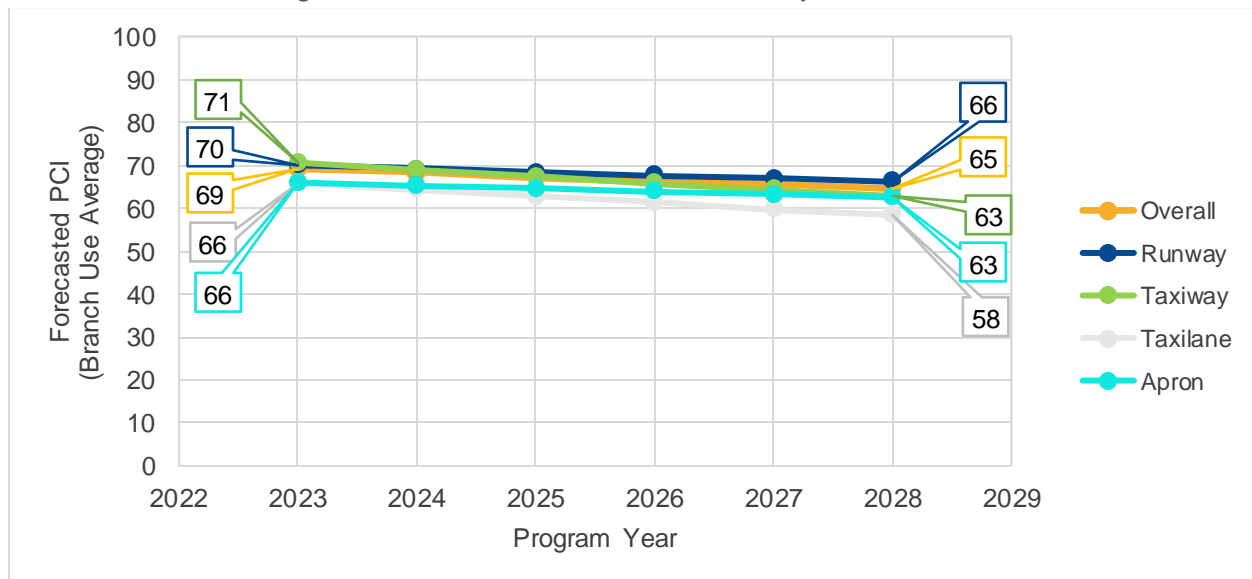
— BRANCH IDENTIFIER
 — SECTION IDENTIFIER
TWA:20 (84)
 — PCI



Pavement Condition Forecast

A primary objective of this APMS is to estimate the future condition of each individual pavement section. PAVER™ was utilized to develop prediction curves and determine typical deterioration rates that are then used to forecast a future PCI value. This value will assist decision makers in determining at what point in time certain pavement sections will require rehabilitation. The figure below shows the current and 5-year area-weighted forecasted pavement condition distribution of each functional use (Runway, Taxiway, Taxilane, Apron) found at the Airport. The forecasted 5-year PCIs at a section-level are displayed graphically on the **2028 Forecasted Airfield Pavement Condition Index Exhibit** and are summarized in **Table 3**. All forecasts presented assume that no maintenance or rehabilitation is performed within the 5-year analysis period. **Figure 6** displays the forecasted pavement conditions at the branch-level for PHH.

Figure 6 – Forecasted 5-Year PCI by Branch Use



All condition forecasts are based on historical observations and analysis of South Carolina airfield pavements. The forecasts are not a guarantee of future PCI: - rather, they are a planning tool to aid in the timing of maintenance and rehabilitation activities.



PHH - Robert F. Swinnie Airport

Table 3 – Forecast (2024-2028) Section Pavement Condition Index - Section

Network ID	Branch ID	Section ID	Current PCI	Forecasted PCI				
				2024	2025	2026	2027	2028
PHH	AP 01	10	66	65	65	64	63	63
PHH	RW 18	10	70	69	68	68	67	66
PHH	TL01	10	70	68	67	65	64	62
PHH	TL01	15	10	10	9	8	8	7
PHH	TL02	10	70	68	67	65	64	62
PHH	TW A	10	70	68	67	65	64	62
PHH	TW TA 18	10	71	69	68	66	65	63

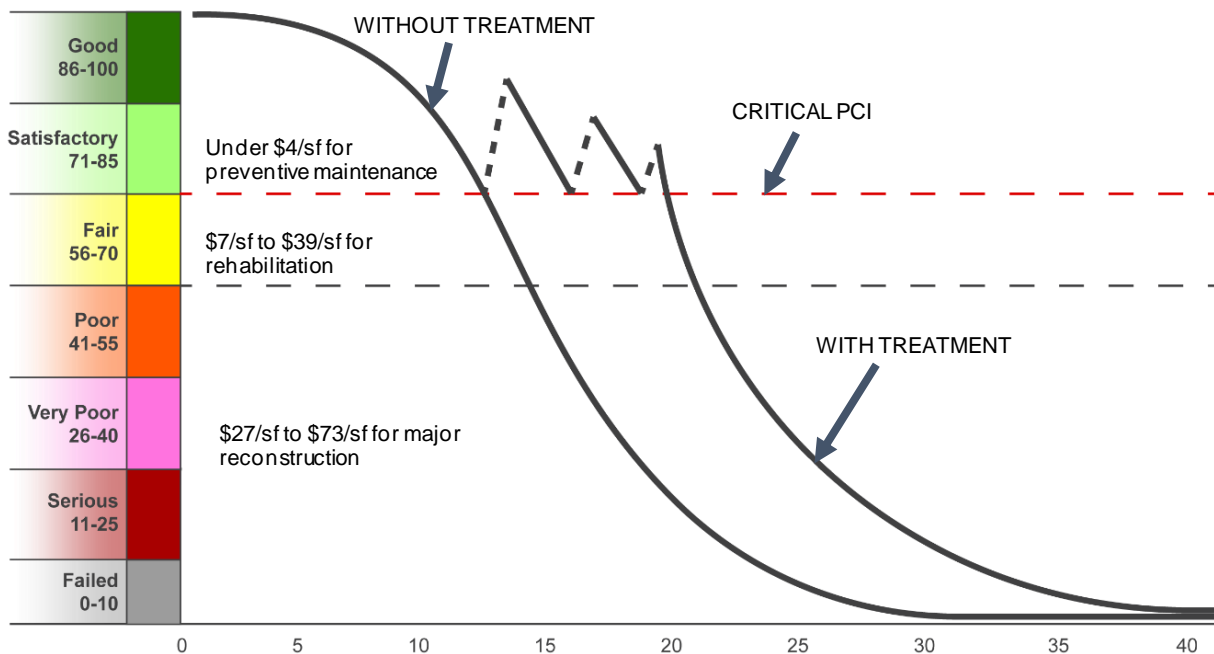
M&R Overview

An analysis was performed to assess the pavement maintenance and rehabilitation (M&R) needs at PHH over a 5-year period. The analysis compared the forecasted condition of each pavement section to the Critical PCI threshold to develop a resultant recommendation and associated cost for each year of the 5-year plan. The M&R analysis should enable responsible parties to do the following:

- ➔ **Maintain** existing airport infrastructure at an acceptable condition
- ➔ Make timely and cost-effective **decisions** to appropriately allocate funding
- ➔ **Apply** global maintenance, localized maintenance, and major M&R activities in a timely manner to maintain an acceptable operational condition of a pavement network.

M&R planning considers various methods of repair to address the cause of the problem rather than just treating the symptom. As pavements deteriorate, repair costs can increase significantly. Once pavements have deteriorated below a certain condition threshold (the Critical PCI value), the pavement benefits more from substantial rehabilitation in lieu of maintenance activities. The figure below illustrates how the cost of pavement repairs can exponentially increase if M&R activities are delayed.

Figure 7 – Pavement Life and the Effect of Treatments



Localized Maintenance and Repair

Localized maintenance is best used as a preservation measure and is applied to slow the rate of deterioration. These activities typically include crack sealing and patching. Localized maintenance differs from major rehabilitation in that it is applied based on the distresses observed rather than based on a PCI value. Treatments are selected based on the appropriate corrective measure for a given distress type and severity level. Localized maintenance applied on pavements with PCIs above the Critical PCI of 70 is known as Preventive Localized Maintenance, while Stopgap Localized Maintenance is typically applied to pavement sections that are at or below the Critical PCI value as a temporary repair due to safety concerns. The current localized maintenance needs are summarized in the table below.

Table 4 – Localized Maintenance Summary by Policy Type

Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
Localized Preventive Maintenance	AC Crack Sealing Narrow	265	LF	\$ 930
	Surface Seal	19,286	SF	\$ 31,830
<i>Localized Preventive Maintenance Total =</i>				\$ 32,760
Localized Stopgap Maintenance	AC Crack Sealing Narrow	888	LF	\$ 3,120
	Surface Seal	236,970	SF	\$ 391,020
	PCC Joint Seal	446	LF	\$ 3,130
<i>Localized Stopgap Maintenance Total =</i>				\$ 397,640
<i>Planning-Level Localized M&R Needs =</i>				\$ 430,400

Major Rehabilitation Needs

Major rehabilitation needs are identified by analyzing the Airport's pavement condition in relationship to the Critical PCI value, density of load-related distresses, and major rehabilitation policies, assuming there are no budget constraints. The needs analysis is performed over a 5-year analysis period. Major rehabilitation is divided into two policy categories:

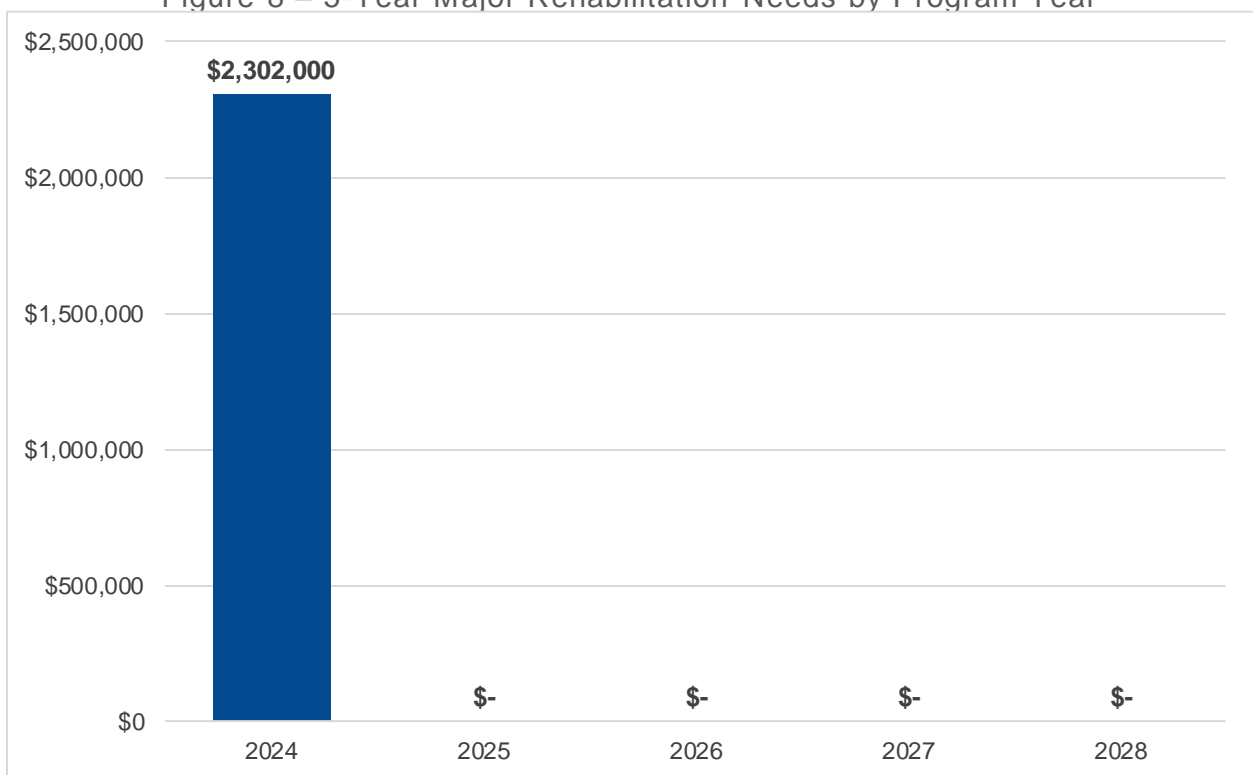
- **Intermediate Major Rehabilitation (PCI 56 to 70)** –
 - **AC:** Milling of the upper surface course and replacing with new AC with isolated areas of full-depth reconstruction
 - **PCC:** Combination of crack sealing, joint seal replacement, limited patching, and slab replacement
- **Full-Depth Reconstruction (PCI 0 to 55)** – Removal and replacement of the existing pavement section down to the subgrade

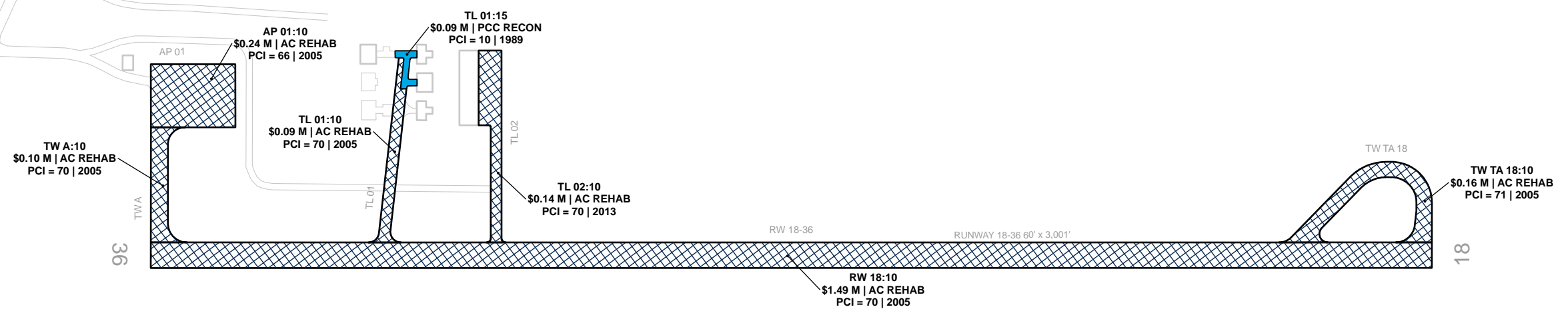
The 5-year major rehabilitation needs analysis at PHH results in a total 5-year cost of \$2.30M. The **5-Year Major Rehabilitation Needs Exhibit** graphically depicts the major rehabilitation needs at a section-level which are also summarized in **Table 5** with rounded costs. Annual needs are displayed graphically in **Figure 8**.

Table 5 – 5-Year Major Rehabilitation Needs

Program Year	Network ID	Branch ID	Section ID	Surface	Area (SF)	PCI Before	Rehabilitation Type	Planning Cost Estimate
2024	PHH	AP 01	10	AC	29,304	65	AC Rehabilitation	\$ 242,000
2024	PHH	RW 18	10	AC	180,060	69	AC Rehabilitation	\$ 1,486,000
2024	PHH	TL 01	10	AC	10,670	68	AC Rehabilitation	\$ 89,000
2024	PHH	TL 01	15	PCC	2,042	10	PCC Reconstruction	\$ 94,000
2024	PHH	TL 02	10	AC	16,286	68	AC Rehabilitation	\$ 135,000
2024	PHH	TW A	10	AC	11,578	68	AC Rehabilitation	\$ 96,000
2024	PHH	TW TA 18	10	AC	19,286	69	AC Rehabilitation	\$ 160,000
Total 5-Year Major Rehabilitation Needs =								\$ 2,302,000

Figure 8 – 5-Year Major Rehabilitation Needs by Program Year

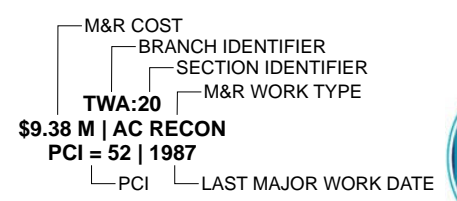




Legend

5-Year Major Rehabilitation Needs

- Year 1 Reconstruction Needs
- Year 1 Rehabilitation Needs
- Year 2 Rehabilitation Needs
- Year 3 Rehabilitation Needs
- Year 4 Rehabilitation Needs
- Year 5 Rehabilitation Needs



THIS EXHIBIT REPRESENTS NEEDS SOLEY BASED ON CURRENT AND FORECASTED CONDITIONS FURTHER PRIORITIZATION AND CONSIDERATIONS SHOULD BE MADE BEYOND THIS STUDY.



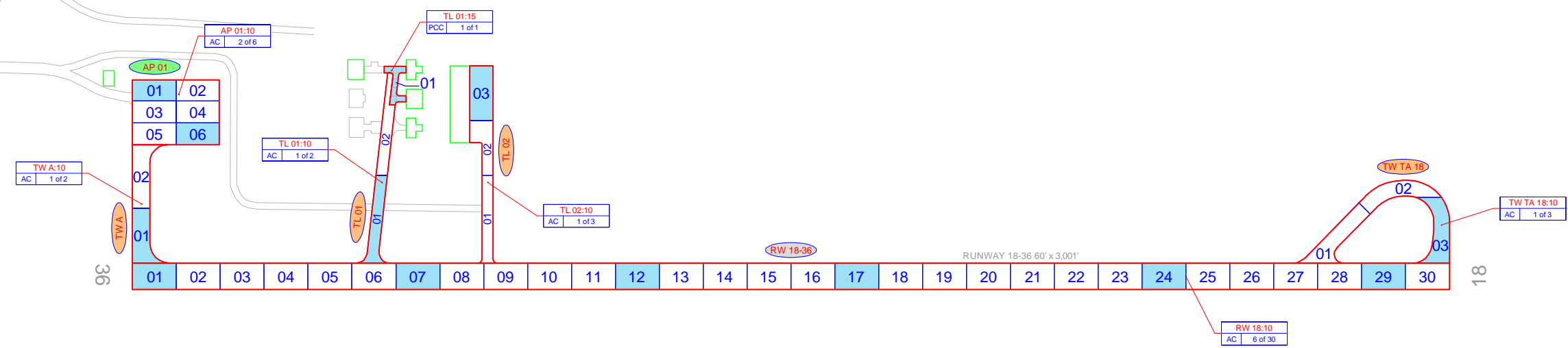
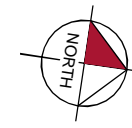
SECTION I

Appendices





Appendix A – Exhibits



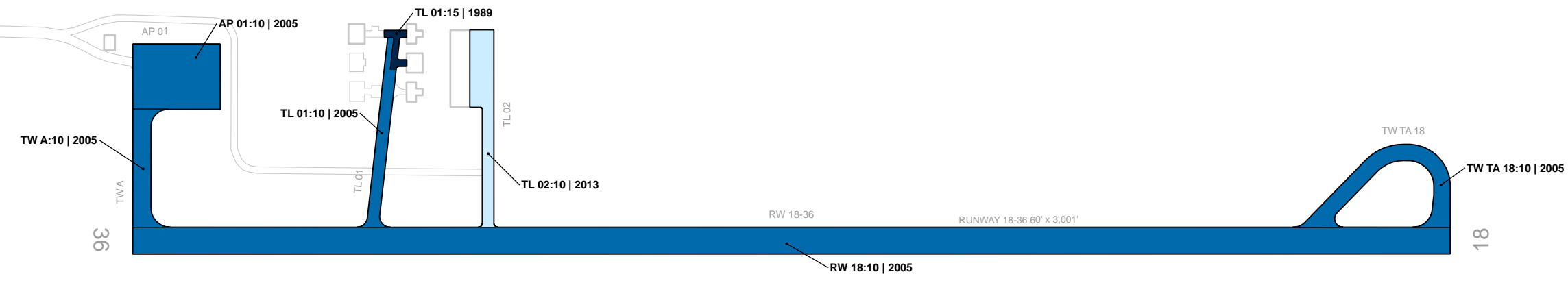
LEGEND

- RW 13-31 ← TYPICAL RUNWAY BRANCH ID
- TW A ← TYPICAL TAXIWAY BRANCH ID
- AP S ← TYPICAL APRON BRANCH ID
- RW 13:10 ← PAVEMENT BRANCH ID: SECTION ID
- AAC 5 of 15 ← NUMBER OF SAMPLE UNITS IN SECTION
- AAC 0 of 5 ← NUMBER OF SAMPLE UNITS TO BE INSPECTED
- RW 13:20 ← PAVEMENT SURFACE TYPE
- 100 ← SECTION NOT INSPECTED DUE TO RECENT CONSTRUCTION. SEE ESTIMATED AGE EXHIBIT FOR CONSTRUCTION DATES.
- 100 ← INSPECTED SAMPLE UNITS.

TOTAL SAMPLES INSPECTED = 13
AC: 12 PCC: 1

RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS. DRAWING NOT TO SCALE.





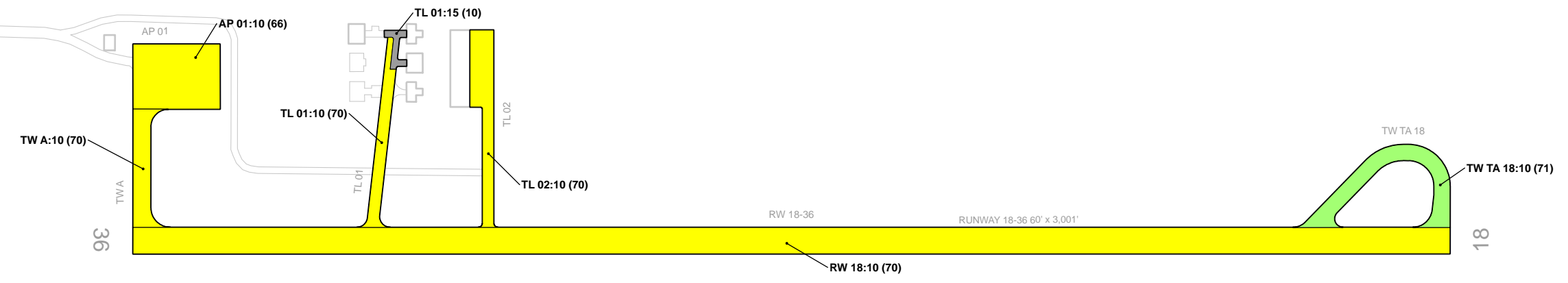
Legend

Estimated Age at Inspection

- 0-5 Years
- 6-10 Years
- 11-15 Years
- 16-20 Years
- > 20 Years

BRANCH IDENTIFIER
 SECTION IDENTIFIER
TWA:20 | 1985
 LAST MAJOR WORK DATE





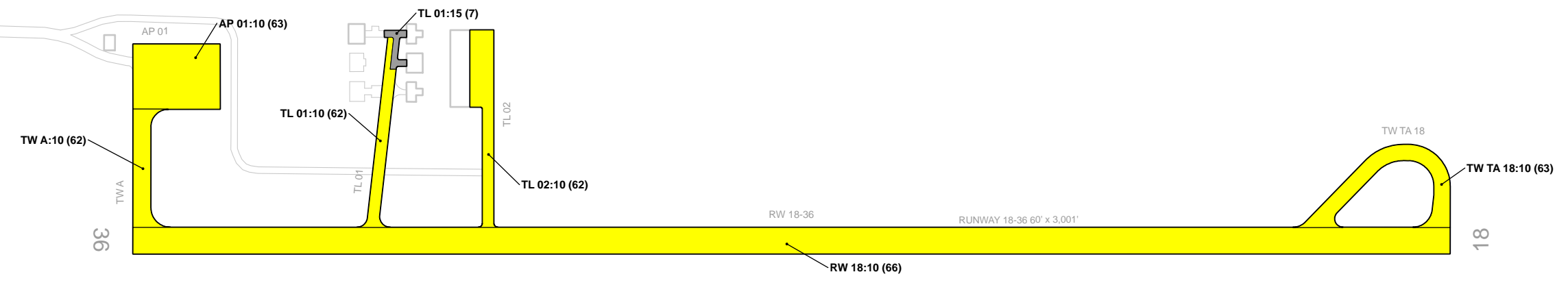
Legend

2023 Pavement Condition Index

- PCI 86-100 Good
- PCI 71-85 Satisfactory
- PCI 56-70 Fair
- PCI 41-55 Poor
- PCI 26-40 Very Poor
- PCI 11-25 Serious
- PCI 0-10 Failed

— BRANCH IDENTIFIER
 — SECTION IDENTIFIER
TWA:20 (84)
 — PCI





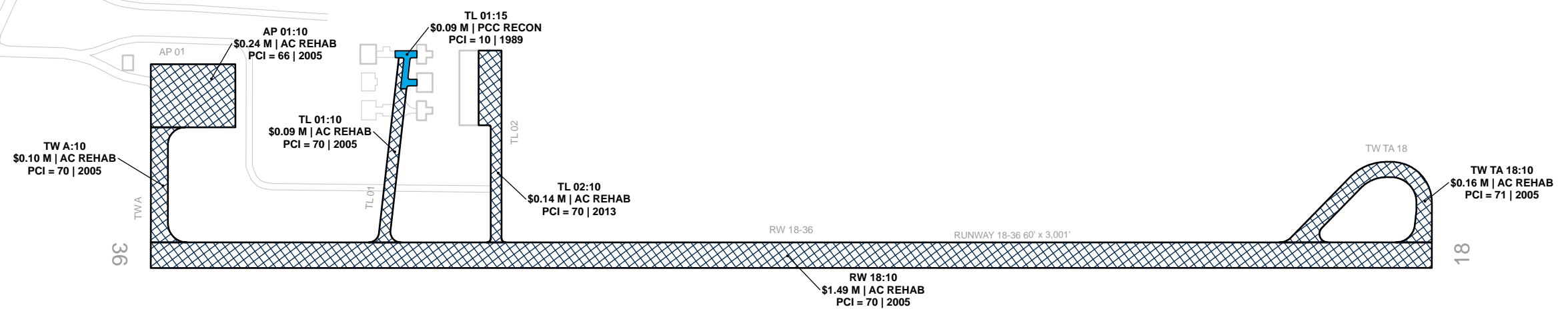
Legend

2028 Forecasted Pavement Condition Index

- PCI 86-100 Good
- PCI 71-85 Satisfactory
- PCI 56-70 Fair
- PCI 41-55 Poor
- PCI 26-40 Very Poor
- PCI 11-25 Serious
- PCI 0-10 Failed

— BRANCH IDENTIFIER
 — SECTION IDENTIFIER
TWA:20 (84)
 — FORECASTED PCI

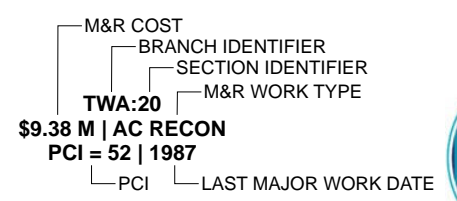




Legend

5-Year Major Rehabilitation Needs

- Year 1 Reconstruction Needs
- Year 1 Rehabilitation Needs
- Year 2 Rehabilitation Needs
- Year 3 Rehabilitation Needs
- Year 4 Rehabilitation Needs
- Year 5 Rehabilitation Needs



THIS EXHIBIT REPRESENTS NEEDS SOLEY BASED ON CURRENT AND FORECASTED CONDITIONS FURTHER PRIORITIZATION AND CONSIDERATIONS SHOULD BE MADE BEYOND THIS STUDY.





Appendix B – Analysis Tables



STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

PHH - Robert F. Swinnie Airport

Table B1 – System Inventory Data - Section

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface Type	Estimate of Last Construction Date
PHH	AP 01	Apron	10	29,304	AC	6/1/2005
PHH	RW 18	Runway	10	180,060	AC	6/1/2005
PHH	TL01	Taxilane	10	10,670	AC	6/1/2005
PHH	TL01	Taxilane	15	2,042	PCC	6/1/1989
PHH	TL02	Taxilane	10	16,286	AC	7/1/2013
PHH	TW A	Taxiway	10	11,578	AC	6/1/2005
PHH	TW TA 18	Taxiway	10	19,286	AC	6/1/2005

Table B2 – Current Pavement Condition Index Summary - Branch

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Area-Weighted Avg PCI	Condition Rating
AP 01	Apron	1	29,304	66	Fair
RW 18	Runway	1	180,060	70	Fair
TL01	Taxilane	2	12,712	60	Fair
TL02	Taxilane	1	16,286	70	Fair
TW A	Taxiway	1	11,578	70	Fair
TW TA 18	Taxiway	1	19,286	71	Satisfactory



Table B3 – Current (2023) Pavement Condition Index Summary - Section

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other	Sample Units Inspected	Total Sample Units in Section
PHH	AP 01	Apron	10	29,304	AC	66	Fair	98	0	2	2	6
PHH	RW 18	Runway	10	180,060	AC	70	Fair	100	0	0	6	30
PHH	TL 01	Taxilane	10	10,670	AC	70	Fair	100	0	0	1	2
PHH	TL 01	Taxilane	15	2,042	PCC	10	Failed	10	90	0	1	1
PHH	TL 02	Taxilane	10	16,286	AC	70	Fair	100	0	0	1	3
PHH	TW A	Taxiway	10	11,578	AC	70	Fair	100	0	0	1	2
PHH	TW TA 18	Taxiway	10	19,286	AC	71	Satisfactory	100	0	0	1	3



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Table B4 –Forecasted (2024-2028) Pavement Condition Index Summary - Section

Network ID	Branch ID	Section ID	Current PCI	Forecasted PCI				
				2024	2025	2026	2027	2028
PHH	AP 01	10	66	65	65	64	63	63
PHH	RW 18	10	70	69	68	68	67	66
PHH	TL01	10	70	68	67	65	64	62
PHH	TL01	15	10	10	9	8	8	7
PHH	TL 02	10	70	68	67	65	64	62
PHH	TW A	10	70	68	67	65	64	62
PHH	TW TA 18	10	71	69	68	66	65	63



Appendix C – Maintenance and Rehabilitation Tables



STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

PHH - Robert F. Swinnie Airport

Table C1 – Localized Maintenance Summary by Policy Type

Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
Localized Preventive Maintenance	AC Crack Sealing Narrow	265	LF	\$ 930
	Surface Seal	19,286	SF	\$ 31,830
Localized Preventive Maintenance Total =				\$ 32,760
Localized Stopgap Maintenance	AC Crack Sealing Narrow	888	LF	\$ 3,120
	Surface Seal	236,970	SF	\$ 391,020
	PCC Joint Seal	446	LF	\$ 3,130
Localized Stopgap Maintenance Total =				\$ 397,640
Planning-Level Localized M&R Needs =				\$ 430,400

Table C2 – Section – Level Year 1 Localized Maintenance Planning Cost Summary

Network ID	Branch ID	Section ID	Area (SF)	Start PCI	End PCI	Cost
PHH	AP 01	10	29,304	66	77	\$ 50,590
PHH	RW 18	10	180,060	70	87	\$ 283,130
PHH	TL01	10	10,670	70	88	\$ 16,730
PHH	TL01	15	2,042	10	27	\$ 3,490
PHH	TL02	10	16,286	70	85	\$ 25,530
PHH	TW A	10	11,578	70	88	\$ 18,150
PHH	TW TA 18	10	19,286	71	94	\$ 32,750

Table C3 – Localized Maintenance and Repair Needs Based on Current Distresses

Network ID	Branch ID	Section ID	Description	Severity	Distress Qty	Distress Unit	Distress Density	Policy Type	Localized Work Type	Work Qty	Work Unit	Unit Cost	Work Cost
PHH	TW TA 18	10	L & T CR	Low	265	LF	1.4%	Preventive	AC Crack Sealing Narrow	265	LF	\$ 3.50	\$ 930
PHH	TW TA 18	10	RAVELING	Low	2,894	SF	15.0%	Preventive	Surface Seal	2,893	SF	\$ 1.65	\$ 4,780
PHH	TW TA 18	10	WEATHERING	Medium	16,392	SF	85.0%	Preventive	Surface Seal	16,392	SF	\$ 1.65	\$ 27,050
PHH	AP 01	10	L & T CR	Medium	637	LF	2.2%	Stopgap	AC Crack Sealing Narrow	638	LF	\$ 3.50	\$ 2,240
PHH	AP 01	10	WEATHERING	Medium	29,304	SF	100.0%	Stopgap	Surface Seal	29,304	SF	\$ 1.65	\$ 48,360
PHH	RW 18	10	L & T CR	Medium	250	LF	0.1%	Stopgap	AC Crack Sealing Narrow	250	LF	\$ 3.50	\$ 880
PHH	RW 18	10	WEATHERING	Medium	171,057	SF	95.0%	Stopgap	Surface Seal	171,057	SF	\$ 1.65	\$ 282,250
PHH	TL01	10	WEATHERING	Medium	10,137	SF	95.0%	Stopgap	Surface Seal	10,138	SF	\$ 1.65	\$ 16,730
PHH	TL01	15	LINEAR CR	Medium	3	Slabs	37.5%	Stopgap		52	LF	\$ 7.00	\$ 370
PHH	TL01	15	JT SEAL DMG	High	9	Slabs	100.0%	Stopgap	PCC Joint Seal	446	LF	\$ 7.00	\$ 3,130



STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

PHH - Robert F. Swinnie Airport

Network ID	Branch ID	Section ID	Description	Severity	Distress Qty	Distress Unit	Distress Density	Policy Type	Localized Work Type	Work Qty	Work Unit	Unit Cost	Work Cost
PHH	TL02	10	WEATHERING	Medium	15,473	SF	95.0%	Stopgap	Surface Seal	15,473	SF	\$ 1.65	\$ 25,530
PHH	TW A	10	WEATHERING	Medium	10,999	SF	95.0%	Stopgap	Surface Seal	10,999	SF	\$ 1.65	\$ 18,150



PHH - Robert F. Swinnie Airport

Table C4 – 5-Year Major Rehabilitation Needs

Program Year	Network ID	Branch ID	Section ID	Surface	Area (SF)	PCI Before	Rehabilitation Type	Planning Cost Estimate
2024	PHH	AP 01	10	AC	29,304	65	AC Rehabilitation	\$ 242,000
2024	PHH	RW 18	10	AC	180,060	69	AC Rehabilitation	\$ 1,486,000
2024	PHH	TL 01	10	AC	10,670	68	AC Rehabilitation	\$ 89,000
2024	PHH	TL 01	15	PCC	2,042	10	PCC Reconstruction	\$ 94,000
2024	PHH	TL 02	10	AC	16,286	68	AC Rehabilitation	\$ 135,000
2024	PHH	TW A	10	AC	11,578	68	AC Rehabilitation	\$ 96,000
2024	PHH	TW TA 18	10	AC	19,286	69	AC Rehabilitation	\$ 160,000
Total 5-Year Major Rehabilitation Needs =								\$ 2,302,000



Appendix D – PCI Results Summary

RW 18

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
RW 18	RUNWAY	1	180,060	70	Fair

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	180,060	AC	2005	-	70	Fair	100	0	0



RW 18-10



RW 18-10

TW A

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TW A	TAXIWAY	1	11,578	70	Fair

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	11,578	AC	2005	-	70	Fair	100	0	0



TW A-10

TW TA 18

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TW TA 18	TAXIWAY	1	19,286	71	Satisfactory

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	19,286	AC	2005	-	71	Satisfactory	100	0	0



TW TA 18-10

TL 01

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TL 01	TAXILANE	2	12,712	60	Fair

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	10,670	AC	2005	-	70	Fair	100	0	0
15	2,042	PCC	1989	-	10	Failed	10	90	0



TL 01-10



TL 01-15

TL 02

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TL 02	TAXILANE	1	16,286	70	Fair

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	16,286	AC	2013	-	70	Fair	100	0	0



TL 02-10

AP 01

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
AP 01	APRON	1	29,304	66	Fair

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	29,304	AC	2005	2006	66	Fair	98	0	2



AP 01-10



Appendix E – Re-Inspection Report

Re-Inspection Report

SCAC_2023

Generated Date

5/31/2023

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Network: PHH **Name:** Robert F Swinnie Airport

Branch: AP 01 **Name:** APRON 01 **Use:** APRON **Area:** 29,304 SqFt

Section: 10 of 1 **From:** - **To:** - **Last Const.:** 6/1/2005

Surface: AC **Family:** SC34_AP_AC **Zone:** **Category:** G **Rank:** T

Area: 29,304 SqFt **Length:** 198 Ft **Width:** 148 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 3/1/1967 **Work Type:** Base Course - Aggregate **Code:** BA-AG **Is Major M&R:** False

Work Date: 3/1/1967 **Work Type:** Surface Course - AC (Layer Construct) **Code:** SU-AC **Is Major M&R:** False

Work Date: 3/1/1967 **Work Type:** Base Course - Bituminous **Code:** BA-BI **Is Major M&R:** False

Work Date: 3/1/1967 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

Work Date: 6/1/2005 **Work Type:** Complete Reconstruction - AC **Code:** CR-AC **Is Major M&R:** True

Work Date: 1/1/2006 **Work Type:** Surface Seal - Rejuvenating **Code:** SS-RE **Is Major M&R:** False

Last Insp. Date: 1/26/2023 **Total Samples:** 6 **Surveyed:** 2

Conditions: PCI: 66

Inspection Comments:

Sample Number: 01 **Type:** R **Area:** 4800.00 SqFt **PCI:** 63

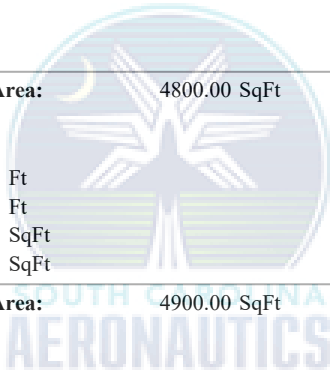
Sample Comments:

48 L & T CR L 479.00 Ft
 48 L & T CR M 100.00 Ft
 56 SWELLING L 14.00 SqFt
 57 WEATHERING M 4800.00 SqFt

Sample Number: 06 **Type:** R **Area:** 4900.00 SqFt **PCI:** 70

Sample Comments:

48 L & T CR L 259.00 Ft
 48 L & T CR M 111.00 Ft
 57 WEATHERING M 4900.00 SqFt



Network: PHH **Name:** Robert F Swinnie Airport

Branch: RW 18 **Name:** RUNWAY 18-36 **Use:** RUNWAY **Area:** 180,060 SqFt

Section: 10 of 1 **From:** - **To:** - **Last Const.:** 6/1/2005

Surface: AC **Family:** SC34_RW_AC **Zone:** **Category:** G **Rank:** T

Area: 180,060 SqFt **Length:** 3,001 Ft **Width:** 60 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 3/1/1967 **Work Type:** Surface Course - AC (Layer Construct) **Code:** SU-AC **Is Major M&R:** False

Work Date: 3/1/1967 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

Work Date: 3/1/1967 **Work Type:** Base Course - Aggregate **Code:** BA-AG **Is Major M&R:** False

Work Date: 3/1/1967 **Work Type:** Base Course - Bituminous **Code:** BA-BI **Is Major M&R:** False

Work Date: 6/1/2005 **Work Type:** Complete Reconstruction - AC **Code:** CR-AC **Is Major M&R:** True

Last Insp. Date: 1/26/2023 **TotalSamples:** 30 **Surveyed:** 6

Conditions: PCI: 70

Inspection Comments:

Sample Number: 01 **Type:** R **Area:** 6000.00 SqFt **PCI:** 70

Sample Comments:

48 L & T CR L 114.00 Ft
52 RAVELING L 300.00 SqFt
57 WEATHERING M 5700.00 SqFt

Sample Number: 07 **Type:** R **Area:** 6000.00 SqFt **PCI:** 70

Sample Comments:

48 L & T CR L 68.00 Ft
52 RAVELING L 300.00 SqFt
57 WEATHERING M 5700.00 SqFt

Sample Number: 12 **Type:** R **Area:** 6000.00 SqFt **PCI:** 70

Sample Comments:

48 L & T CR L 157.00 Ft
52 RAVELING L 300.00 SqFt
57 WEATHERING M 5700.00 SqFt

Sample Number: 17 **Type:** R **Area:** 6000.00 SqFt **PCI:** 70

Sample Comments:

48 L & T CR L 55.00 Ft
48 L & T CR M 50.00 Ft
52 RAVELING L 300.00 SqFt
57 WEATHERING M 5700.00 SqFt

Sample Number: 24 **Type:** R **Area:** 6000.00 SqFt **PCI:** 70

Sample Comments:

48 L & T CR L 140.00 Ft
52 RAVELING L 300.00 SqFt
57 WEATHERING M 5700.00 SqFt

Sample Number: 29 **Type:** R **Area:** 6000.00 SqFt **PCI:** 70

Sample Comments:

48 L & T CR L 142.00 Ft
52 RAVELING L 300.00 SqFt
57 WEATHERING M 5700.00 SqFt

Network: PHH **Name:** Robert F Swinnie Airport

Branch: TL 01 **Name:** TAXILANE 01 **Use:** TAXILANE **Area:** 12,712 SqFt

Section: 10 of 2 **From:** - **To:** - **Last Const.:** 6/1/2005

Surface: AC **Family:** SC34_TWTL_AC **Zone:** **Category:** G **Rank:** T

Area: 10,670 SqFt **Length:** 430 Ft **Width:** 26 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 6/1/1996 **Work Type:** Surface Course - AC (Layer Construct) **Code:** SU-AC **Is Major M&R:** False

Work Date: 6/1/1996 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

Work Date: 6/1/2005 **Work Type:** Complete Reconstruction - AC **Code:** CR-AC **Is Major M&R:** True

Work Date: 6/2/2005 **Work Type:** Patching - AC **Code:** PA-AC **Is Major M&R:** False

Last Insp. Date: 1/26/2023 **TotalSamples:** 2 **Surveyed:** 1

Conditions: PCI: 70

Inspection Comments:

Sample Number: 01 **Type:** R **Area:** 5509.00 SqFt **PCI:** 70

Sample Comments:

48 L & T CR L 52.00 Ft
52 RAVELING L 275.00 SqFt
57 WEATHERING M 5234.00 SqFt



Network: PHH **Name:** Robert F Swinnie Airport

Branch: TL 01 **Name:** TAXILANE 01 **Use:** TAXILANE **Area:** 12,712 SqFt

Section: 15 of 2 **From:** - **To:** - **Last Const.:** 6/1/1989

Surface: PCC **Family:** SC 234 NonRW PCC **Zone:** **Category:** G **Rank:** T

Area: 2,042 SqFt **Length:** 82 Ft **Width:** 50 Ft

Slabs: 9 **Slab Length:** 20 Ft **Slab Width:** 11 Ft **Joint Length:** 446 Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 6/1/1989 **Work Type:** Surface Course - PCC (Layer Construct) **Code:** LC-PC **Is Major M&R:** True

Work Date: 6/1/1989 **Work Type:** New Construction - PCC **Code:** NC-PC **Is Major M&R:** True

Last Insp. Date: 1/26/2023 **TotalSamples:** 1 **Surveyed:** 1

Conditions: PCI: 10

Inspection Comments:

Sample Number: 01 **Type:** R **Area:** 8.00 Slabs **PCI:** 10

Sample Comments:

63 LINEAR CR M 3.00 Slabs

65 JT SEAL DMG H 8.00 Slabs

72 SHAT. SLAB M 5.00 Slabs



Network: PHH **Name:** Robert F Swinnie Airport

Branch: TL 02 **Name:** TAXILANE 02 **Use:** TAXILANE **Area:** 16,286 SqFt

Section: 10 of 1 **From:** - **To:** - **Last Const.:** 7/1/2013

Surface: AC **Family:** SC34_TWTL_AC **Zone:** **Category:** **Rank:** T

Area: 16,286 SqFt **Length:** 450 Ft **Width:** 25 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 7/1/2013 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

Last Insp. Date: 1/26/2023 **TotalSamples:** 3 **Surveyed:** 1

Conditions: PCI: 70

Inspection Comments:

Sample Number: 03 **Type:** R **Area:** 6688.00 SqFt **PCI:** 70

Sample Comments:

48 L & T CR L 199.00 Ft
52 RAVELING L 334.00 SqFt
57 WEATHERING M 6354.00 SqFt



Network: PHH **Name:** Robert F Swinnie Airport

Branch: TW A **Name:** TAXIWAY A **Use:** TAXIWAY **Area:** 11,578 SqFt

Section: 10 of 1 **From:** - **To:** - **Last Const.:** 6/1/2005

Surface: AC **Family:** SC34_TWTL_AC **Zone:** **Category:** G **Rank:** T

Area: 11,578 SqFt **Length:** 270 Ft **Width:** 40 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 3/1/1967 **Work Type:** Base Course - Aggregate **Code:** BA-AG **Is Major M&R:** False

Work Date: 3/1/1967 **Work Type:** Base Course - Bituminous **Code:** BA-BI **Is Major M&R:** False

Work Date: 3/1/1967 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

Work Date: 3/1/1967 **Work Type:** Surface Course - AC (Layer Construct) **Code:** SU-AC **Is Major M&R:** False

Work Date: 6/1/2005 **Work Type:** Complete Reconstruction - AC **Code:** CR-AC **Is Major M&R:** True

Last Insp. Date: 1/26/2023 **TotalSamples:** 2 **Surveyed:** 1

Conditions: PCI: 70

Inspection Comments:

Sample Number: 01 **Type:** R **Area:** 5435.00 SqFt **PCI:** 70

Sample Comments:

48 L & T CR L 48.00 Ft
52 RAVELING L 272.00 SqFt
57 WEATHERING M 5163.00 SqFt



Network: PHH **Name:** Robert F Swinnie Airport

Branch: TW TA 18 **Name:** RUNWAY 18 TURNAROUND **Use:** TAXIWAY **Area:** 19,286 SqFt

Section: 10 of 1 **From:** - **To:** - **Last Const.:** 6/1/2005

Surface: AC **Family:** SC34_TWTL_AC **Zone:** **Category:** G **Rank:** T

Area: 19,286 SqFt **Length:** 525 Ft **Width:** 36 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 3/1/1967 **Work Type:** Base Course - Bituminous **Code:** BA-BI **Is Major M&R:** False

Work Date: 3/1/1967 **Work Type:** Base Course - Aggregate **Code:** BA-AG **Is Major M&R:** False

Work Date: 3/1/1967 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

Work Date: 3/1/1967 **Work Type:** Surface Course - AC (Layer Construct) **Code:** SU-AC **Is Major M&R:** False

Work Date: 6/1/2005 **Work Type:** Complete Reconstruction - AC **Code:** CR-AC **Is Major M&R:** True

Last Insp. Date: 1/26/2023 **TotalSamples:** 3 **Surveyed:** 1

Conditions: PCI: 71

Inspection Comments:

Sample Number: 03 **Type:** R **Area:** 6332.00 SqFt **PCI:** 71

Sample Comments:

48 L & T CR L 87.00 Ft
52 RAVELING L 950.00 SqFt
57 WEATHERING M 5382.00 SqFt





Kimley»Horn