# Alaska DOT&PF

Data Modernization and Innovation Office
Pavement Management and Preservation
5800 East Tudor Road, Anchorage AK 99507-1286


# Pavement Inspection Report
# **Akutan Airport**


| Airport Name | IATA | ICAO | Latitude | Longitude | Elevation (ft) |
|---|---|---|---|---|---|
| Akutan Airport | 7AK | PAUT | 54° 8' 40.6" N | 165° 36' 14.79" W | 129.3 |

Please refer all questions or for further information about this report, please contact the AKDOT&PF Pavement Management and Preservation Office as follows:

| Point of Contact | Phone | Email | Date Inspected | Date Published |
|---|---|---|---|---|
| Mr. Andrew Pavey,<br>Pavement Management Engineer | (907) 269 6213 | andrew.pavey@alaska.gov | June 2024 | June 2025 |

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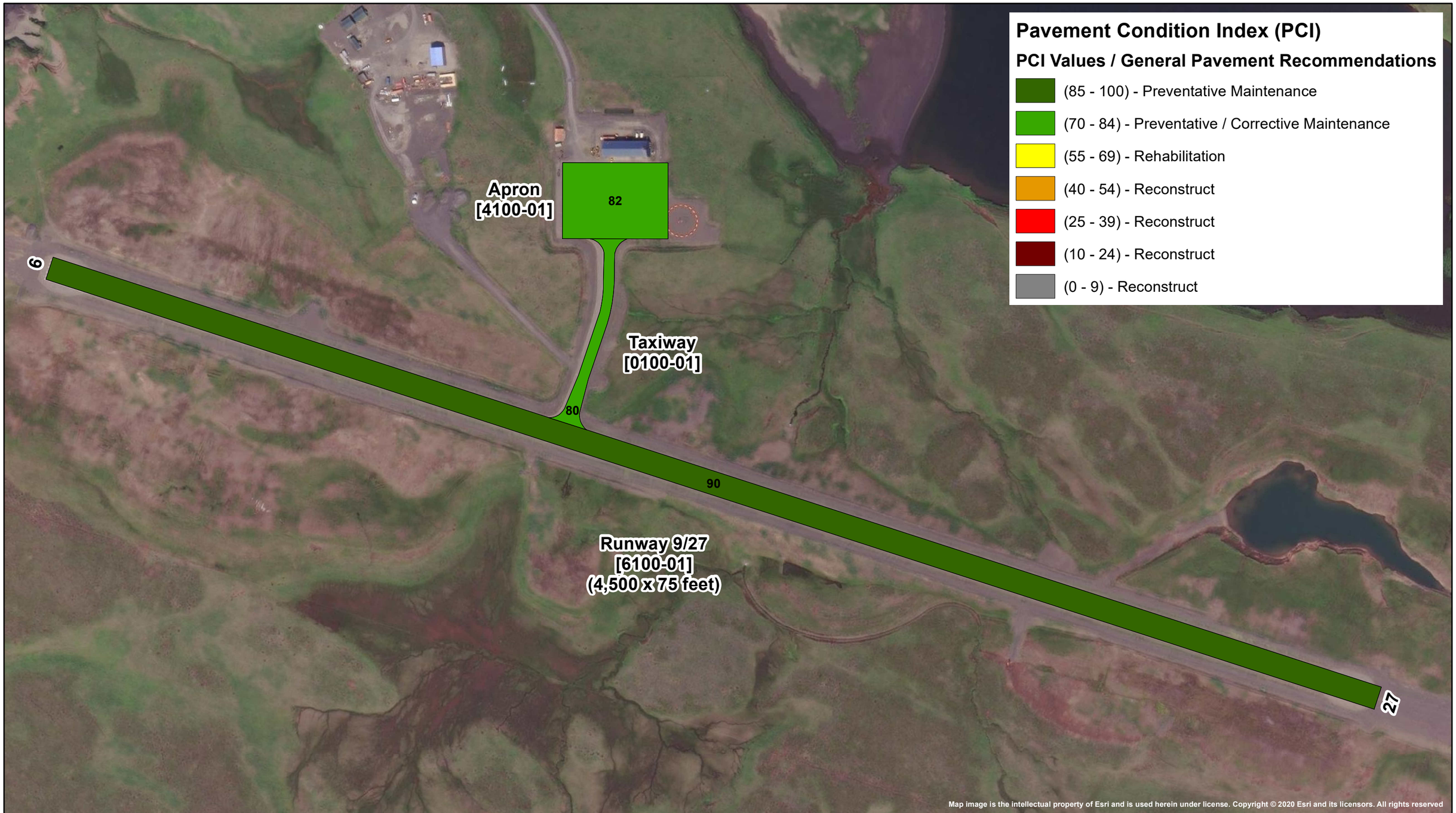





# Akutan Airport

Airport Code: 7AK
Site Number: 50022.1*A

**Pavement Condition Index (PCI)**

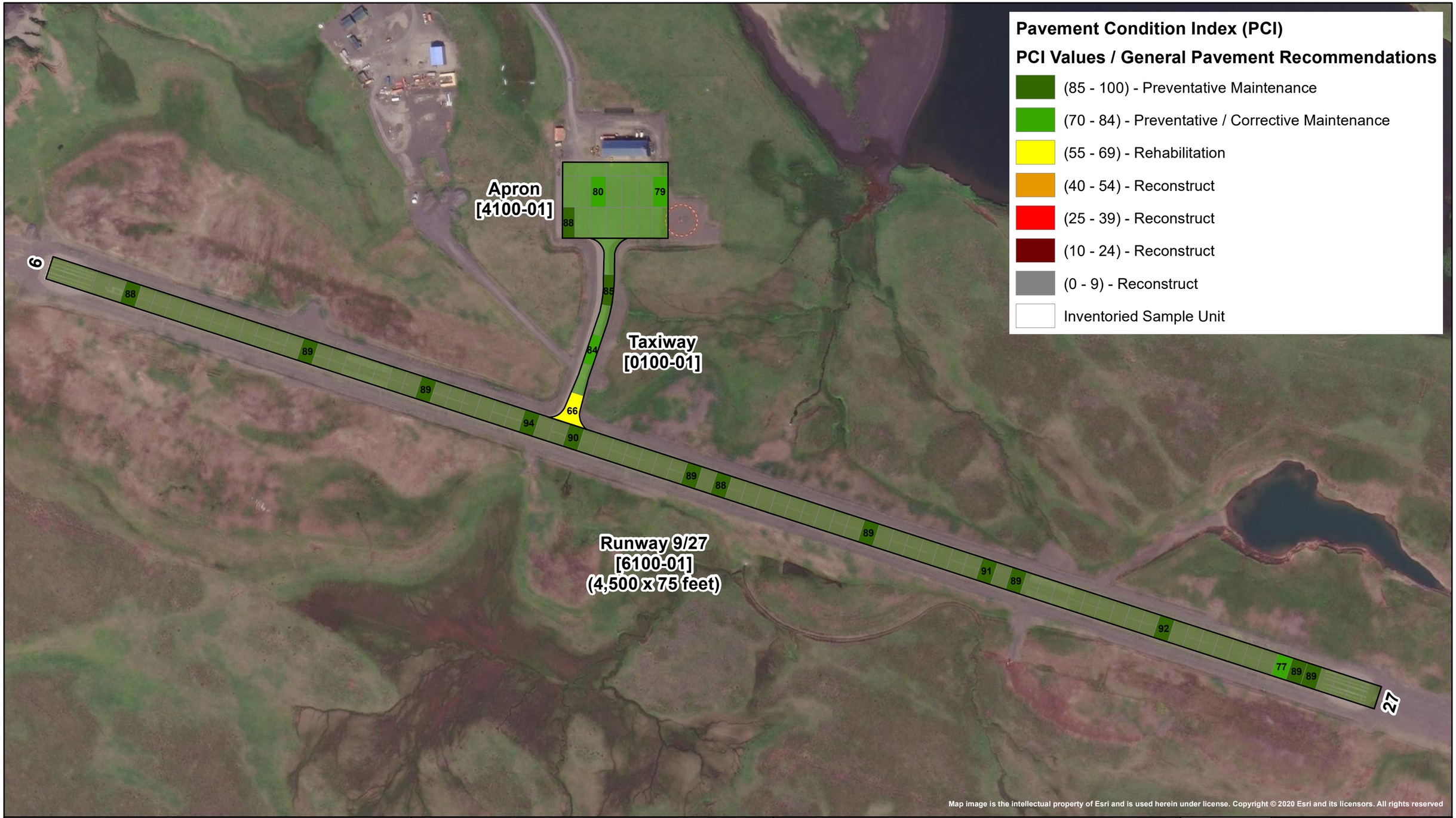
Target PCI Range for Runways: 70 to 100
Target PCI Range for Taxiways and Aprons: 60 to 100

**2024 Pavement Inspection Results**

0 200 400 800
Feet

Map Created by Duval Engineering for AK DOT&PF

**Map 1 of 6**




# Akutan Airport

Airport Code: 7AK
Site Number: 50022.1*A

**Sample Unit**
**Pavement Condition Index (PCI)**

Target PCI Range for Runways: 70 to 100
Target PCI Range for Taxiways and Aprons: 60 to 100

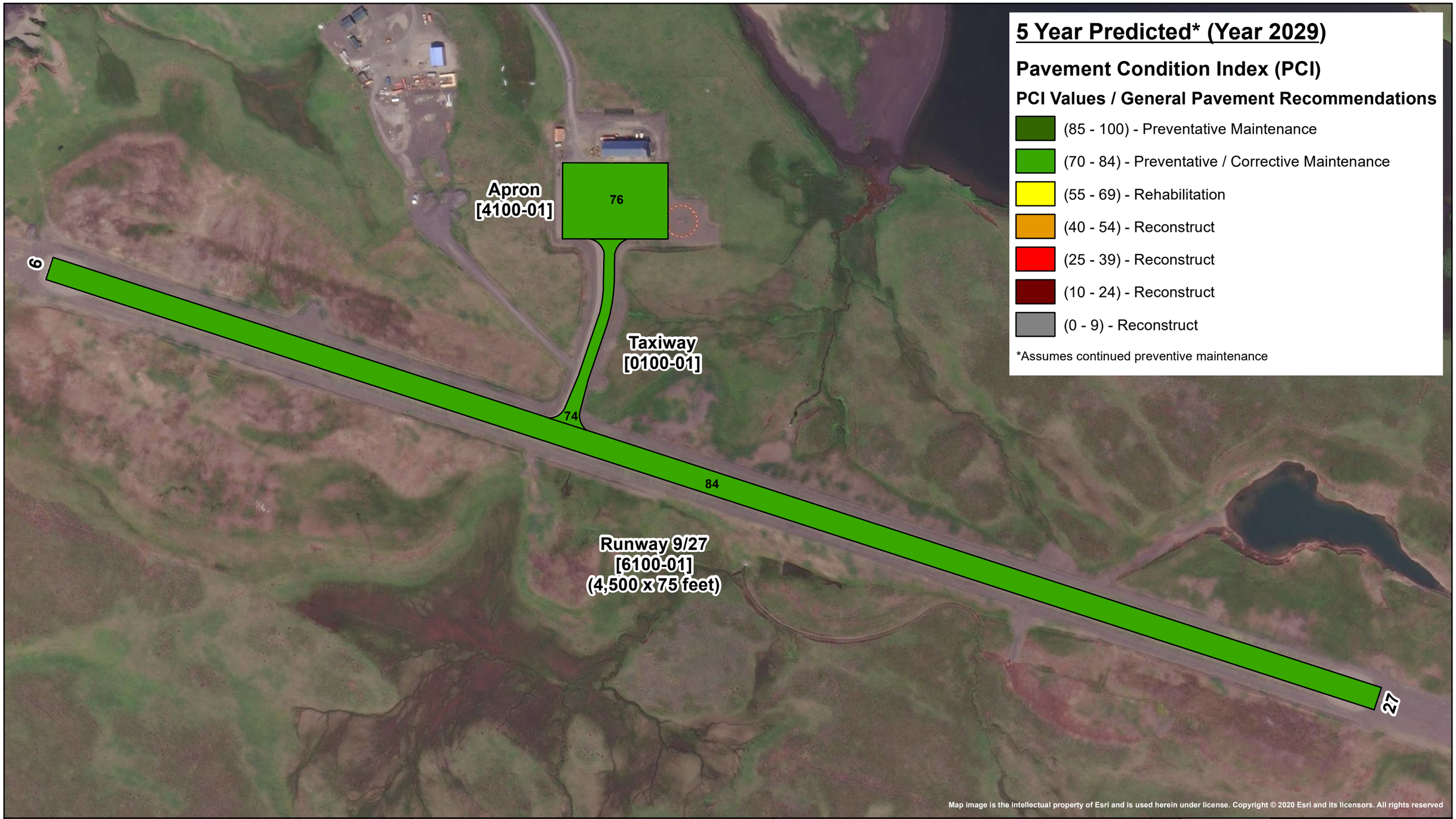
N W E S

**2024 Pavement Inspection Results**

0 200 400 800
Feet

Map Created by Duval Engineering for AK DOT&PF

**Map 2 of 6**






# Akutan Airport

Airport Code: 7AK
Site Number: 50022.1*A

**5 Year Predicted**
**Pavement Condition Index (PCI)**

Target PCI Range for Runways: 70 to 100
Target PCI Range for Taxiways and Aprons: 60 to 100

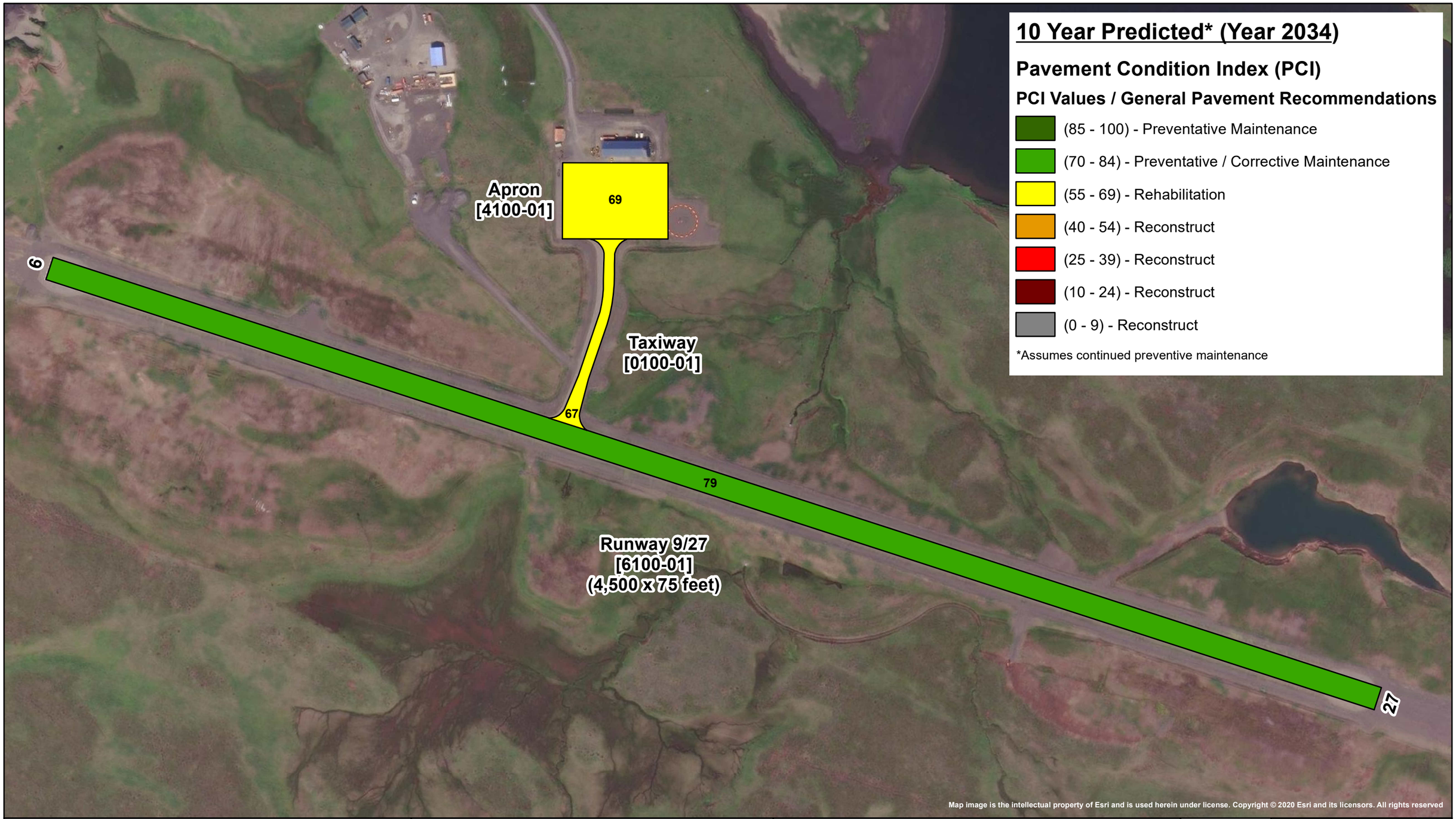
N W E S

**2024 Pavement Inspection Results**

0 200 400 800
Feet

Map Created by Duval Engineering for AK DOT&PF

**Map 3 of 6**




# Akutan Airport

Airport Code: 7AK
Site Number: 50022.1*A

**10 Year Predicted**
**Pavement Condition Index (PCI)**

Target PCI Range for Runways: 70 to 100
Target PCI Range for Taxiways and Aprons: 60 to 100

N W E S

**2024 Pavement Inspection Results**

0 200 400 800
Feet

Map Created by Duval Engineering for AK DOT&PF

**Map 4 of 6**




# Akutan Airport

Airport Code: 7AK
Site Number: 50022.1*A

**Pavement Age at Inspection**

N W E S

**2024 Pavement Inspection Results**

0 200 400 800
Feet

Map Created by Duval Engineering for AK DOT&PF

**Map 5 of 6**




# Akutan Airport

Airport Code: 7AK
Site Number: 50022.1*A

**Pavement Crack Seal Condition (CSC)**

N W E S

**2024 Pavement Inspection Results**

0 200 400 800
Feet

Map Created by Duval Engineering for AK DOT&PF

**Map 6 of 6**

## AIRPORT PAVEMENT INSPECTION NOTES BY BRANCH

| Branch ID | Branch Name | Branch Use | No. of Sections | Area (sf) | Weighted Average PCI |
|---|---|---|---|---|---|
| 0100 | Taxiway | Taxiway | 1 | 25,148 | 80 |

The taxiway was initially constructed in 2012 and has not undergone major work since. The most common distresses observed are low to high severity raveling and low severity weathering. Field observations include further deterioration of the top layer of asphalt which is contributing to higher quantity and severity raveling throughout the branch. In contrast, it is noteworthy that no cracking was recorded during the inspection, suggesting that while the surface layer is deteriorating, the underlying structural layers are in relatively good condition.

| Branch ID | Branch Name | Branch Use | No. of Sections | Area (sf) | Weighted Average PCI |
|---|---|---|---|---|---|
| 4100 | Apron | Apron | 1 | 83,300 | 82 |

The apron was initially constructed in 2012 and has not undergone major work since. The most common distresses observed are low severity raveling and low to medium severity weathering. Field observations include further deterioration of the top layer of asphalt which is contributing to higher quantity and severity raveling and weathering throughout the branch. In contrast, it is noteworthy that no cracking was recorded during the inspection, suggesting that while the surface layer is deteriorating, the underlying structural layers are in relatively good condition.

| Branch ID | Branch Name | Branch Use | No. of Sections | Area (sf) | Weighted Average PCI |
|---|---|---|---|---|---|
| 6100 | Runway 09/27 | Runway | 1 | 337,500 | 90 |




Runway 09/27 was initially constructed in 2012 and has not undergone any major work since. The most common distresses observed are low to high severity raveling and low severity weathering. Field observations include further deterioration of the top layer of asphalt which is contributing to higher quantity and severity raveling throughout the branch. Additionally, the paving joints are beginning to open, leading to the formation of linear cracks. Crack sealing may be warranted to mitigate the risk of Foreign Object Debris (FOD), which could pose a hazard to aircraft operations.

## BRANCH CONDITION REPORT

| Branch ID | No. of Sections | Sum Section Length (Ft) | Avg Section Width (Ft) | True Area (Sq Ft) | Use | Average PCI | Standard Deviation PCI | Weighted Average PCI |
|---|---|---|---|---|---|---|---|---|
| 0100 | 1 | 617 | 35 | 25,148 | TAXIWAY | 80.00 | 0.00 | 80.00 |
| 4100 | 1 | 340 | 245 | 83,300 | APRON | 82.00 | 0.00 | 82.00 |
| 6100 | 1 | 4,500 | 75 | 337,500 | RUNWAY | 90.00 | 0.00 | 90.00 |

*Note: the dimensions in the Branch Condition Report are derived from area calculations and may not reflect actual dimensions of individual sections. Refer to the maps for actual section dimensions.*

## BRANCH USE CONDITION REPORT

| Use Category | No. of Sections | Total Area (Sq Ft) | Arithmetic Average PCI | Standard Deviation PCI | Weighted Average PCI |
|---|---|---|---|---|---|
| APRON | 1 | 83,300 | 82.00 | 0.00 | 82.00 |
| RUNWAY | 1 | 337,500 | 90.00 | 0.00 | 90.00 |
| TAXIWAY | 1 | 25,148 | 80.00 | 0.00 | 80.00 |
| ALL | 3 | 445,948 | 84.00 | 4.32 | 87.94 |

## SECTION CONDITION REPORT

| Branch ID | Section ID | Last Const. Date | Surface | Use | Rank | True Area (Sq Ft) | Last Inspection Date | Age At Inspection | PCI |
|---|---|---|---|---|---|---|---|---|---|
| 0100 | 0100-01 | 8/31/2012 | AC | TAXIWAY | T | 25,148 | 6/10/2024 | 12 | 80 |
| 4100 | 4100-01 | 8/31/2012 | AC | APRON | T | 83,300 | 6/10/2024 | 12 | 82 |
| 6100 | 6100-01 | 8/31/2012 | AC | RUNWAY | T | 337,500 | 6/10/2024 | 12 | 90 |

## SECTION CONDITION REPORT (SUMMARY BY AGE CATEGORY)

| Age Category | Average Age at Inspection | Total Area (Sq Ft) | Number of Sections | Arithmetic Average PCI | Standard Deviation PCI | Weighted Average PCI |
|---|---|---|---|---|---|---|
| 11-15 | 12 | 445,948 | 3 | 84.00 | 4.32 | 87.94 |
| ALL | 12 | 445,948 | 3 | 84.00 | 4.32 | 87.94 |

# Work History Report



*Pavement Database: Alaska*

**Network:** Akutan Airport **Branch:** 0100 Taxiway **Section:** 0100-01 **Surface:**AC

**L.C.D.** 8/31/2012 **Use:** TAXIWAY **Rank:** T **Length:** 617.00 (Ft) **Width:** 35.00 (Ft) **True Area:** 25148 (SqFt)

| Work Date | Work Code | Work Description | Cost | Thickness (in) | Major M&R | Comments |
|---|---|---|---|---|---|---|
| 8/31/2012 | NC-IN | New Construction - Initial | 0.00 | 0.00 | ☑ | 4" HMA, 7" Base, 12" Subbase (Fund |

**Network:** Akutan Airport **Branch:** 4100 Apron **Section:** 4100-01 **Surface:**AC

**L.C.D.** 8/31/2012 **Use:** APRON **Rank:** T **Length:** 340.00 (Ft) **Width:** 245.00 (Ft) **True Area:** 83300 (SqFt)

| Work Date | Work Code | Work Description | Cost | Thickness (in) | Major M&R | Comments |
|---|---|---|---|---|---|---|
| 8/31/2012 | NC-IN | New Construction - Initial | 0.00 | 0.00 | ☑ | 4" HMA, 7" Base, 12" Subbase (Fund |

**Network:** Akutan Airport **Branch:** 6100 09/27 **Section:** 6100-01 **Surface:**AC

**L.C.D.** 8/31/2012 **Use:** RUNWAY **Rank:** T **Length:** 4,500.00 (Ft) **Width:** 75.00 (Ft) **True Area:** 337500 (SqFt)

| Work Date | Work Code | Work Description | Cost | Thickness (in) | Major M&R | Comments |
|---|---|---|---|---|---|---|
| 8/31/2012 | NC-IN | New Construction - Initial | 0.00 | 0.00 | ☑ | 4" HMA, 7" Base, 12" Subbase (Fund |

# Work History Report

***Pavement Database: Alaska***

**Summary:**

| Work Description | Section Count | Area Total (SqFt) | Thickness Avg (in) | Thickness STD (in) |
|---|---|---|---|---|
| New Construction - Initial | 3 | 445,948.00 | 0.00 | 0.00 |

## PHYSICAL PROPERTY DATA

| | | Pavement | | Base | | Subbase | | Subgrade | |
|---|---|---|---|---|---|---|---|---|---|
| Branch ID | Section ID | Thick (in) | Type | Thick (in) | Type | Thick (in) | Type | Type | CBR |
| Taxiway 100 | 0100-01 | 4 | P-401 | 7 | P-209 | 6 | P-154 | Shot Rock | 26 |
| Apron 4100 | 4100-01 | 4 | P-401 | 7 | P-209 | 6 | P-154 | Shot Rock | 26 |
| Runway 9/27 6100 | 6100-01 | 4 | P-401 | 7 | P-209 | 6 | P-154 | Shot Rock | 26 |

Notes: Alaska DOT&PF construction records show that the shot rock layer is 24 inches thick. Information about underlying layers was not available, so the shot rock layer is reported as subgrade.

## AIRCRAFT FLEET MIX

| No. | Aircraft | Gross Wt (lb) | % Gross Wt on Main Gear | Tire Pressure (psi) | Annual Departures | 20 Yr Coverages |
|---|---|---|---|---|---|---|
| 1 | PA-31-325 Navajo C/R | 6,536 | 95.0 | 66 | 778 | 6,273 |
| 2 | D-15 | 17,120 | 95.0 | 63 | 24 | 264 |
| 3 | Beech King Air B200 | 12,590 | 95.0 | 98 | 170 | 1,801 |
| 4 | C-130 | 155,000 | 95.0 | 105 | 12 | 264 |

## PAVEMENT CLASSIFICATION RATINGS

| Runway | Critical Aircraft | Max Allowable Wt (lb) | Subgrade Mr (psi) | Evaluation Thickness (in) | Pass to Traffic Cycle Ratio | PCR |
|---|---|---|---|---|---|---|
| 9-27 | C-130 | 1,662,270 | 39,000 | 23.0 | 1.0 | 253/F/A/X/T |

## PCR CALCULATION NOTES

- 1% traffic growth assumed
- Subgrade strength reduction for frost applied
- D-15 refers to “generic” dual gear aircraft as modeled in FAARFIELD
- Computed PCR using FAARFIELD deemed excessive. PCR reduced to ACR of C-130 based on Using Aircraft Method (see FAA AC 150/5335-5D, para. 4.3).

## REFERENCES

| Year | Project No. | Document Title |
|---|---|---|
| 2010 | 3-02-005-02, 51196 | Design-Build |