# **ATTACHMENT 8**

# **2023 PAVEMENT INSPECTION REPORT**



# Alaska DOT&PF

Statewide Design and Engineering Services
Pavement Management and Preservation Office
5800 East Tudor Road, Anchorage AK 99507-1286

# Pavement Inspection Report Petersburg Airport





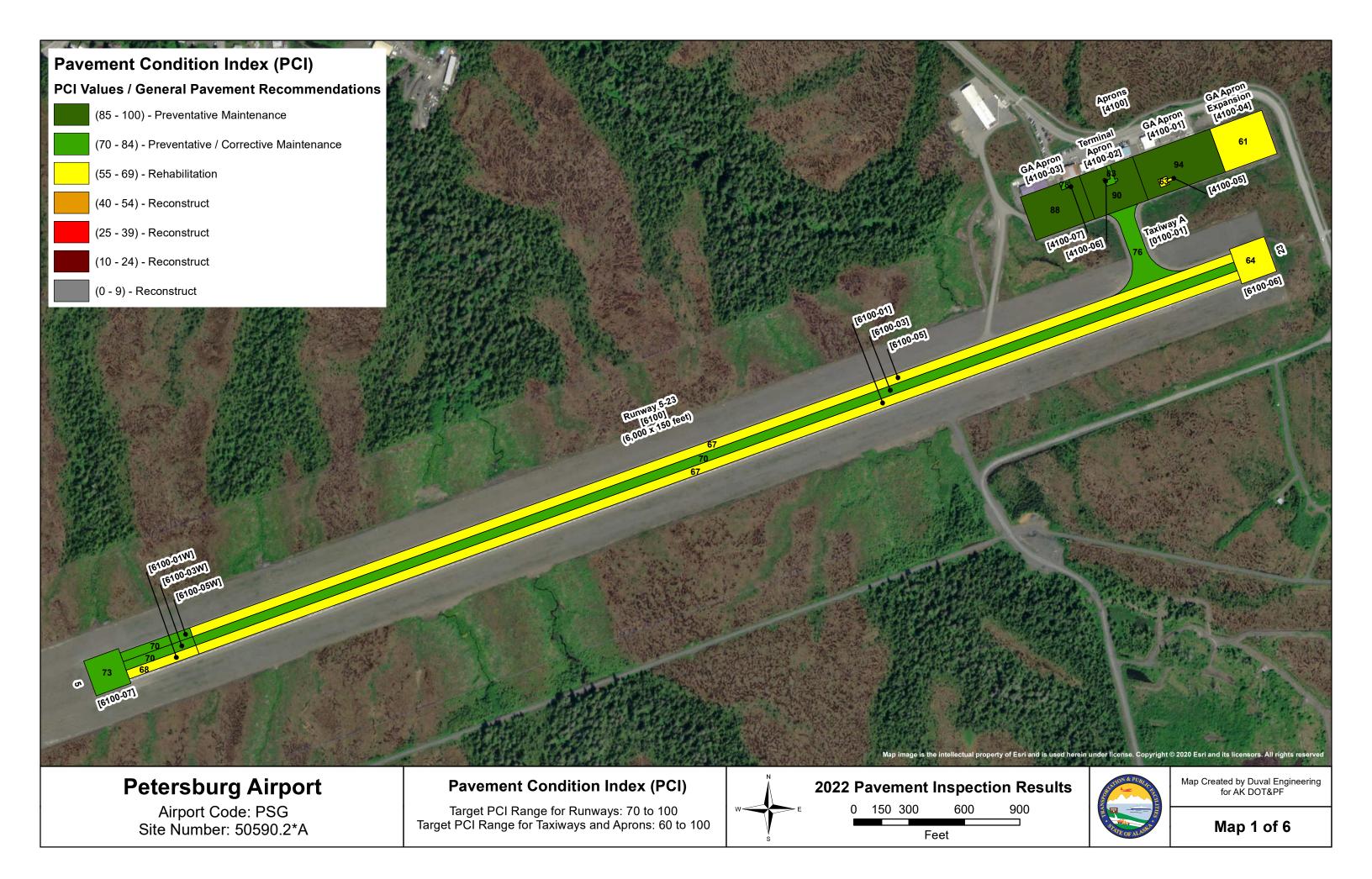
Airport Name	IATA	ICAO	Latitude	Longitude	Elevation (ft)
Petersburg Airport	PSG	PAPG	56° 48'5.3"N	132° 56'46.4"W	113.2

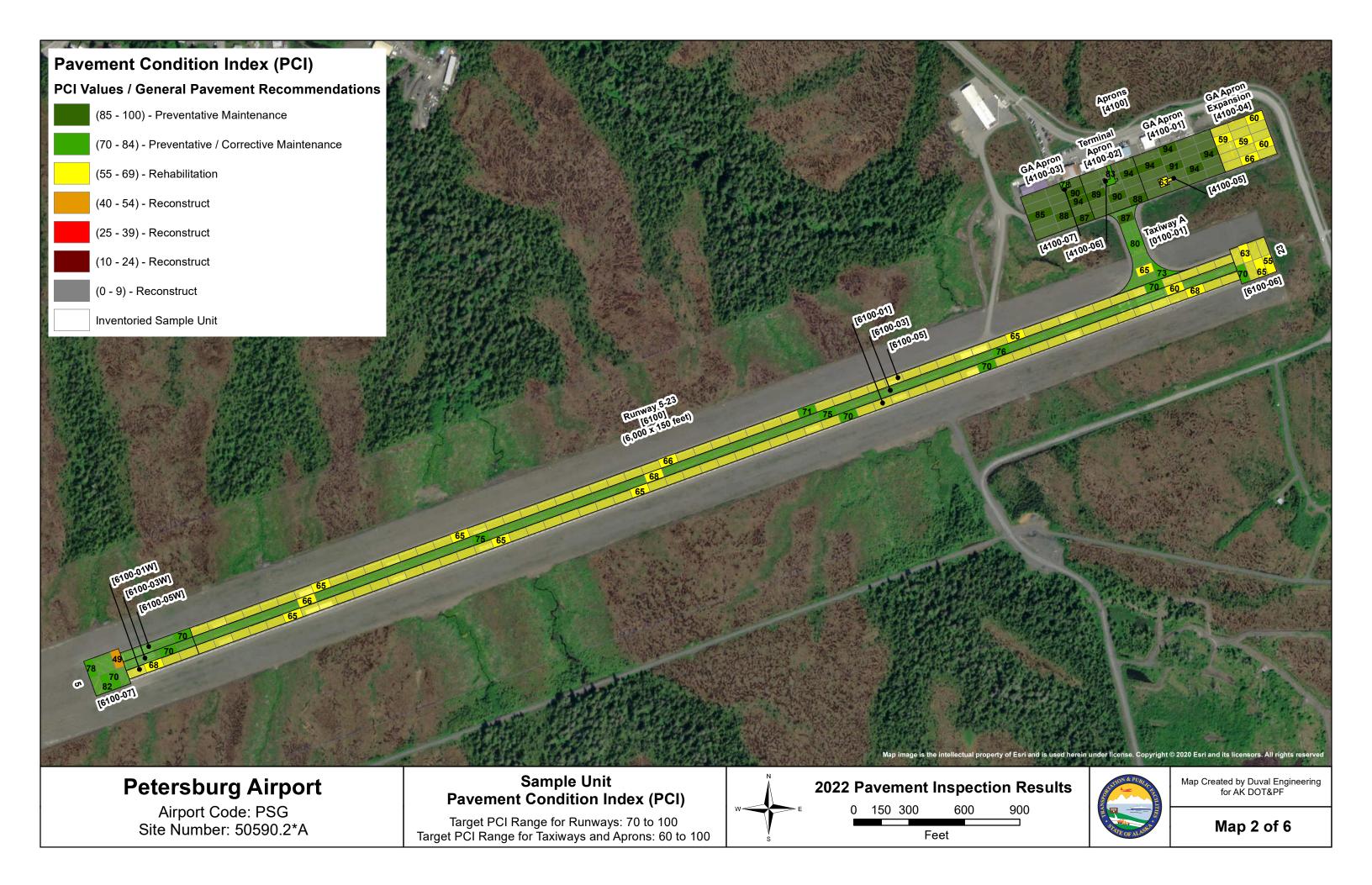
Please refer all questions or for further information about this report, please contact the AKDOT&PF Pavement Management and Preservation Office as follows:

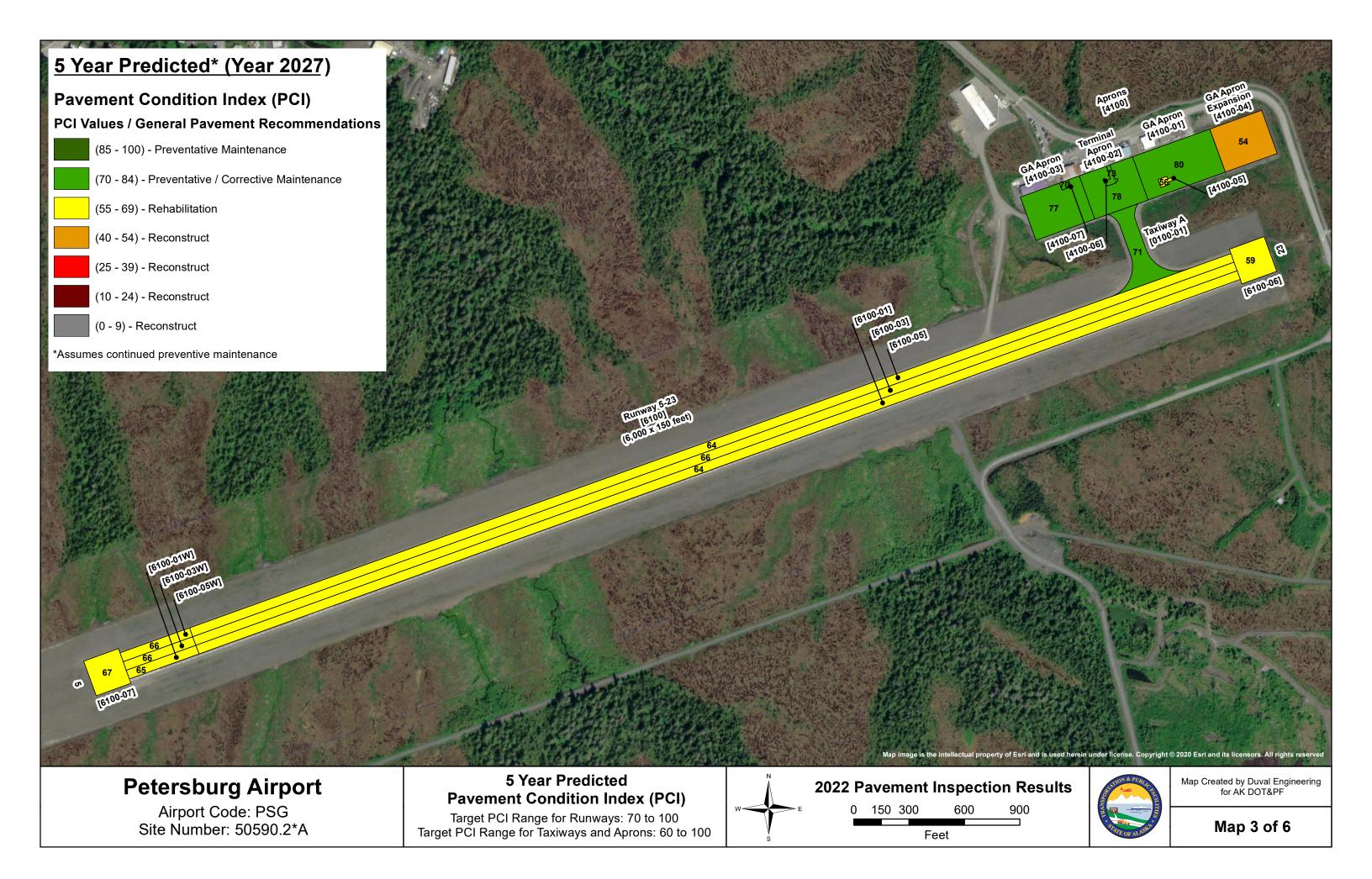
Point of Contact	Phone	Email	Date Inspected	Date Published
Mr. Andrew Pavey, Pavement Management Engineer	(907) 269 6213	andrew.pavey@alaska.gov	October 2022	June 2023

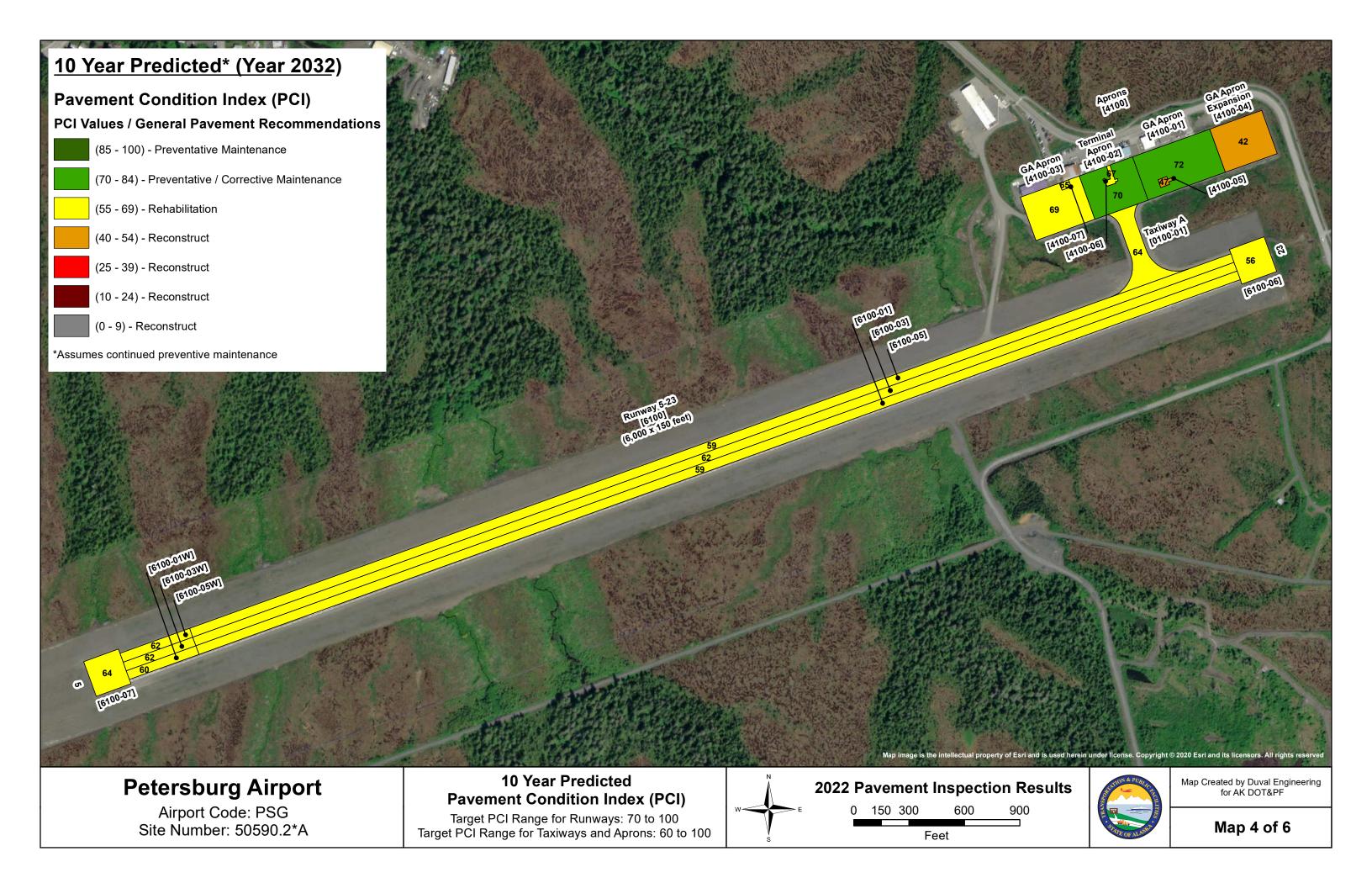
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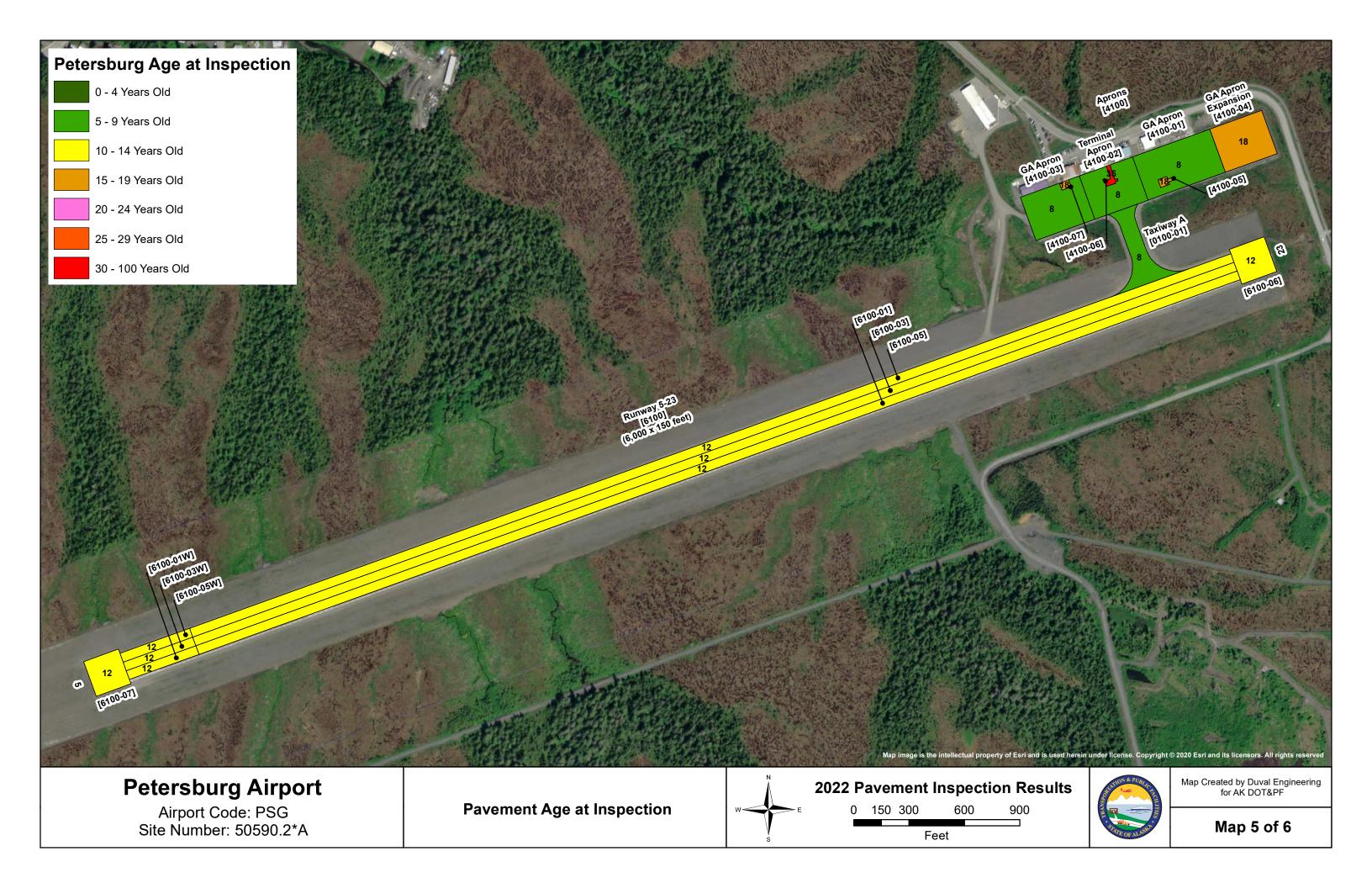
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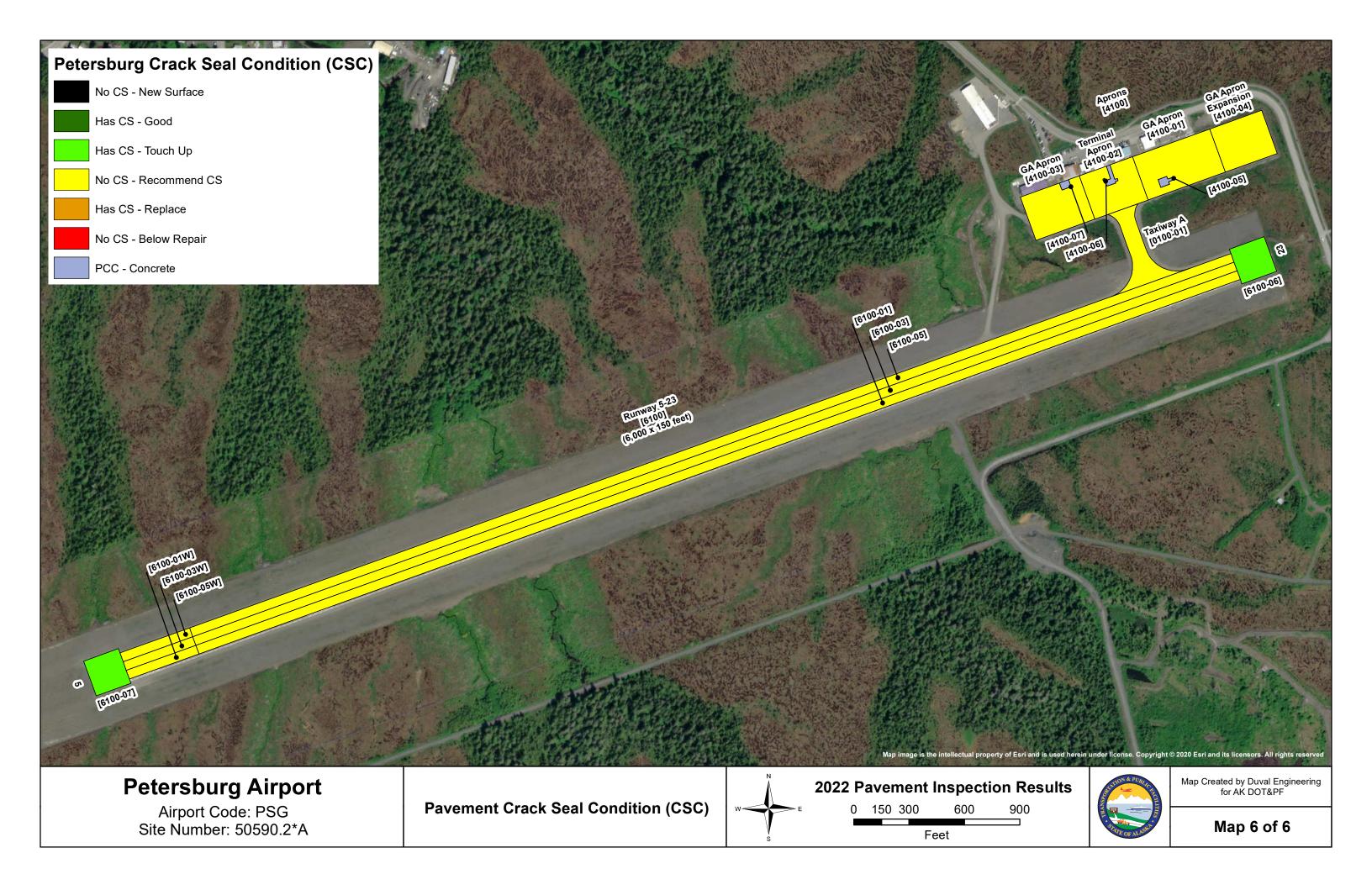












#### **AIRPORT PAVEMENT INSPECTION NOTES BY BRANCH**

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0100	Taxiway A	Taxiway	1	53,430	76





Taxiway A was initially constructed in 1981 and its most recent major work was a mill and overlay of 6" in 2014. The most common distresses observed are low severity longitudinal and transverse cracking, low severity raveling, and low severity weathering. In field observations include the degradation of the paving joints causing longitudinal cracking and raveling to develop.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI		
4100	Apron	Apron	7	346,796	84		
Sections 4100-01 (94 PCI) / 4100-02 (90 PCI) / 4100-03 (88 PCI)							





Sections 02 and 03 of the aprons were initially constructed in 1981 while section 01 was initially constructed in 1996. All three sections' most recent major work was a mill and overlay of 6" in 2014. The most common distresses observed are low severity longitudinal and transverse cracking, small quantities of low severity raveling, and low severity weathering. In field observations include the degradation of the paving joints causing longitudinal cracking and raveling to develop.

#### **Section 4100-04 (61 PCI)**





Section 04 of the apron was initially constructed in 2004 and has had no major work since. The most common distresses observed are low severity longitudinal and transverse cracking, large quantities of low to high severity raveling, and low severity weathering. In field observations include an increased loss of the fine aggregate which is exposing the coarse aggregate and in some areas the removal of the coarse aggregate altogether.

## Sections 4100-05 (63 PCI) / 4100-06 (83 PCI) / 4100-07 (78 PCI)





Sections 05/06/07 of the apron are concrete (PCC). Sections 05 and 07 were built in 2004 and section 06 was built in 1987. The most common distresses observed are low severity joint and corner spalling, low to medium severity scaling, and low to medium severity joint seal damage. In field observations include section 06 that was built in 1987 is showing its age with all slabs affected by scaling due to environmental factors. The sections that were built in 2004 have grading and drainage issues where water will collect and pool. In the winter the water will freeze which maintenance crews have difficulty removing.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
6100	Runway 5/23	Runway	8	1,040,000	68

Runway 5/23 was initially constructed in 1981 with a runway length of 6,000 ft. In 2009 it was expanded another 400 ft giving it a total length of 6,400 ft. The most recent major work was an overlay of 4" in 2010. The most common distresses observed are low severity longitudinal and transverse cracking, low to medium severity raveling, and low severity weathering. In field observations include an increased loss of the fine aggregate which is exposing the coarse aggregate and, in some areas, leading to raveling. On the northern side of the 05 (southwest) end of the runway the edge of the pavement is sinking and cracking (bottom right photograph). This is due to snowplow operations reaching the end of the runway and pushing heavy loads onto the edges. In addition, maintenance staff mentioned that the Runway Safety Area (RSA) is sinking in areas and work is needed to keep the slopes consistent.

## **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	425	90	53,430	TAXIWAY	76.00	0.00	76.00
4100	7	1,626	160	346,796	APRON	79.57	12.08	84.13
6100	8	19,600	88	1,040,000	RUNWAY	68.63	2.55	68.12

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	7	346,796	79.57	12.08	84.13
RUNWAY	8	1,040,000	68.63	2.55	68.12
TAXIWAY	1	53,430	76.00	0.00	76.00
ALL	16	1,440,226	73.88	9.77	72.26

## **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	6/2/2014	AC	TAXIWAY	Р	53,430.00	10/25/2022	8	76
4100	4100-01	6/2/2014	AC	APRON	Р	107,770.00	10/25/2022	8	94
4100	4100-02	6/2/2014	AAC	APRON	Р	72,960.00	10/25/2022	8	90
4100	4100-03	6/2/2014	AAC	APRON	Р	82,570.00	10/25/2022	8	88
4100	4100-04	8/1/2004	AC	APRON	Р	75,000.00	10/25/2022	18	61
4100	4100-05	8/1/2004	PCC	APRON	Р	2,850.00	10/25/2022	18	63
4100	4100-06	9/1/1987	PCC	APRON	Р	3,526.00	10/25/2022	35	83
4100	4100-07	8/1/2004	PCC	APRON	Р	2,120.00	10/25/2022	18	78
6100	6100-01	8/1/2010	AAC	RUNWAY	Р	300,000.00	10/25/2022	12	67
6100	6100- 01W	8/1/2010	AAC	RUNWAY	Р	20,000.00	10/25/2022	12	68
6100	6100-03	8/1/2010	AAC	RUNWAY	Р	300,000.01	10/25/2022	12	70
6100	6100- 03W	8/1/2010	AAC	RUNWAY	Р	20,000.00	10/25/2022	12	70
6100	6100-05	8/1/2010	AAC	RUNWAY	Р	300,000.01	10/25/2022	12	67
6100	6100- 05W	8/1/2010	AAC	RUNWAY	Р	20,000.00	10/25/2022	12	70
6100	6100-06	8/1/2010	AAC	RUNWAY	Р	40,000.00	10/25/2022	12	64
6100	6100-07	8/1/2010	AAC	RUNWAY	Р	40,000.00	10/25/2022	12	73

## 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
06-10	8	316,730	4	87.00	6.71	88.48
11-15	12	1,040,000	8	68.63	2.55	68.12
16-20	18	79,970	3	67.33	7.59	61.52
31-35	35	3,526	1	83.00	0.00	83.00
ALL	14	1,440,226	16	73.88	9.77	72.26

Pavement Database: Alaska

Network:	Petersburg	(James A. Branch: 0100	Taxiw	ay A	Section:	0100-01 Surface:AC	
<b>L.C.D.</b> 6/2/2	014 Us	se: TAXIWAY Rank: P L	ength: 425	.00 (Ft) Wie	dth: 90.0	0 (Ft) <b>True Area:</b> 53430.00001 (SqF	
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
6/2/2014	MOL	Cold Mill and Overlay	0.00	6.00	<b>V</b>	(Funded via AIP)	
9/1/1996	ST-SB	Surface Treatment - Single Bitum.	0.00	0.50		(Funded via AIP)	
9/1/1987	PA-AS	Patching - AC Shallow	0.00	1.00		(Funded via AIP)	
9/1/1981	NU-IN	New Construction - Initial	0.00	2.00	<b>V</b>	(Funded via AIP)	
Network: Petersburg (James A. Branch: 4100 Apron Section: 4100-01 Surface:AC							
L.C.D. 6/2/2014 Use: APRON Rank: P Length: 444.00 (Ft) Width: 250.00 (Ft) True Area: 107770.0000 (Sq.						0 (Ft) <b>True Area:</b> 107770.0000 (SqF	
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
6/2/2014	MOL	Cold Mill and Overlay	0.00	6.00	<b>V</b>	(Funded via AIP)	
9/1/1996	ST-SB	Surface Treatment - Single Bitum.	0.00	0.50		(Funded via AIP)	
8/1/1996	NU-IN	New Construction - Initial	0.00	2.00		Reconstruction, (Funded via AIP)	
Network:	Petersburg	(James A. Branch: 4100	Apron		Section:	4100-02 Surface: AAC	
L.C.D. 6/2/2	Č		•		dth: 250.0	0 (Ft) <b>True Area:</b> 72960.00002 (SqF	
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
6/2/2014	MOL	Cold Mill and Overlay	0.00	6.00	<b>V</b>	(Funded via AIP)	
9/1/1996	ST-SB	Surface Treatment - Single Bitum.	0.00	0.50		(Funded via AIP)	
9/1/1987	OL-AT	Overlay - AC Thin	0.00	2.00		(Funded via AIP)	
9/1/1981	NU-IN	New Construction - Initial	0.00	2.00	<b>V</b>	(Funded via AIP)	
Network:	Petershura	(James A. Branch: 4100	Apron		Section:	4100-03 Surface: AAC	
L.C.D. 6/2/2	_		=			0 (Ft) <b>True Area:</b> 82570.00002 (SqF	
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
6/2/2014	MOL	Cold Mill and Overlay	0.00	6.00	<b>&gt;</b>	(Funded via AIP)	
9/1/1996	ST-SB	Surface Treatment - Single Bitum.	0.00	0.50		(Funded via AIP)	
9/1/1987	OL-AT	Overlay - AC Thin	0.00	2.00		(Funded via AIP)	
9/1/1981	NU-IN	New Construction - Initial	0.00	2.00	<b>~</b>	(Funded via AIP)	
N. d. a. I.	D 4 1	(I A D I 4100	•		G	4100-04 Surface:AC	
Network: L.C.D. 8/1/2	Č		Apron ength: 300		Section: dth: 250.0	0 (Ft) <b>True Area:</b> 75000.00002 (SqF	
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
8/1/2004	NU-IN	New Construction - Initial	0.00	2.00		(Funded via AIP)	
Notworks	Datarahura	(James A. Branch: 4100	Apron		Section:	4100-05 Surface:PCC	
Network: L.C.D. 8/1/2	_		Apron ength: 90			0 (Ft) <b>True Area:</b> 2850 (SqF	
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
8/1/2004	HI-AG	New Construction	0.00	0.00	VICE	(Funded via AIP)	
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Pavement Database: Alaska

Network:	Petersburg	(James A. Branch: 4100	Apron		Section:	4100-06 Surface:PCC	
<b>L.C.D.</b> 9/1/19	987 Us	se: APRON Rank: P L	ength: 105	.00 (Ft) Wie	dth: 22.0	0 (Ft) <b>True Area:</b> 3526.000001 (SqFt	
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
9/1/1987	NU-IN	New Construction - Initial	0.00	0.00		(Funded via AIP)	
Network: Petersburg (James A. Branch: 4100 Apron Section: 4100-07 Surface:PCC							
L.C.D. 8/1/2004 Use: APRON Rank: P Length: 40.00 (Ft) Width: 53.00 (Ft) True Area: 2120.000000 (SqFt							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
8/1/2004	HI-AG	New Construction	0.00	0.00	<b>V</b>	(Funded via AIP)	
Network:	J		05/23		Section:		
L.C.D. 8/1/20		se: RUNWAY Rank: P L	ength: 6,000	, ,		0 (Ft) <b>True Area:</b> 300000.0000 (SqFt	
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
8/1/2010	OL_4	4 in overlay	0.00	4.00	<b>V</b>	Grooved, (Funded via AIP)	
9/1/1995	OL-AS	Overlay - AC Structural	0.00	2.50	<b>~</b>	Grooved, (Funded via AIP)	
9/1/1987	SS-FS	Surface Seal - Fog Seal	0.00	0.10		Grooved, (Funded via AIP)	
9/1/1981	NU-IN	New Construction - Initial	0.00	2.00		(Funded via AIP)	
Network:	Č	`	05/23			6100-01W Surface:AAC	
<b>L.C.D.</b> 8/1/20		se: RUNWAY Rank: P L	ength: 400			0 (Ft) <b>True Area:</b> 20000.00000 (SqFt	
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
8/1/2010	$OL_4$	4 in overlay	0.00	4.00		Grooved, (Funded via AIP)	
8/1/2009	NU-IN	New Construction - Initial	0.00	2.00	<b>V</b>		
			0.5/0.0				
Network:	Č	`	05/23	00 (E) <b>11</b> /2	Section:	~~~~~~	
L.C.D. 8/1/20		se: RUNWAY Rank: P L	ength: 6,000	. /		0 (Ft) True Area: 300000.0075 (SqFt	
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
8/1/2010	OL_4	4 in overlay	0.00	4.00	<b>V</b>	Grooved, (Funded via AIP)	
9/1/1995	OL-AS	Overlay - AC Structural	0.00	2.50		Grooved, (Funded via AIP)	
9/1/1987	SS-FS	Surface Seal - Fog Seal	0.00	0.10		Grooved, (Funded via AIP)	
9/1/1981	NU-IN	New Construction - Initial	0.00	2.00		(Funded via AIP)	
			l .				

L.C.D. 8/1/2010 Use: RUNWAY Rank: P Lengt	th: 400.	.00 (Ft) <b>Wi</b>	<b>dth:</b> 50.0	0 (Ft) <b>True Area:</b> 20000.00025 (SqFt
Work Date   Work   Work Description	Cost	Thickness (in)	Major M&R	Comments
8/1/2010 OL_4 4 in overlay	0.00	4.00	<b>V</b>	Grooved, (Funded via AIP)
8/1/2009 NU-IN New Construction - Initial	0.00	2.00		

05/23

**Section:** 6100-03W

Surface: AAC

**Branch:** 6100

Network: Petersburg (James A.

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Pavement Database: Alaska

Network:	Petersburg	(James A. Branch: 6100	05/23		Section:	6100-05 Surface:AAC	
<b>L.C.D.</b> 8/1/20	010 Us	se: RUNWAY Rank: P I	<b>Length:</b> 6,000	.00 (Ft) Wie	dth: 50.0	0 (Ft) <b>True Area:</b> 300000.0075 (SqFt	
Work Date	Work Date Work Code Work Desc		Cost	Thickness (in)	Major M&R	Comments	
8/1/2010	OL_4	4 in overlay	0.00	4.00	<b>V</b>	Grooved, (Funded via AIP)	
9/1/1995	OL-AS	Overlay - AC Structural	0.00	2.50		(Funded via AIP)	
9/1/1987	SS-FS	Surface Seal - Fog Seal	0.00	0.10		(Funded via AIP)	
9/1/1981	NU-IN	New Construction - Initial	0.00 2.00			(Funded via AIP)	

ı	Network:	Petersburg	(James A. Branch: 6100		05/23			<b>Section:</b> 6100-05		0-05W Surface:AAC	
ı	<b>L.C.D.</b> 8/1/20	010 Us	e: RUNWAY	Rank: P L	ength: 4	00.00 (Ft)	Wio	dth: 50.0	0 (Ft)	True Area:	20000.00025 (SqFt
	Work Date	Work Code	Work I	Description	Cost	Thickr (in)		Major M&R		Com	ments
- 1	8/1/2010	OL_4	4 in overlay		0.0	0	4.00	<b>V</b>	Groov	ed, (Funded	via AIP)
	8/1/2009	NU-IN	New Construct	tion - Initial	0.0	0	2.00				

 Network:
 Petersburg (James A.
 Branch:
 6100
 05/23
 Section:
 6100-06
 Surface:AAC

 L.C.D. 8/1/2010
 Use:
 RUNWAY
 Rank:
 P
 Length:
 200.00 (Ft)
 Width:
 200.00 (Ft)
 True Area:
 40000.00001 (SqFt)

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
8/1/2010	OL_4	4 in overlay	0.00	4.00	<b>V</b>	Grooved, (Funded via AIP)
9/1/1995	OL-AS	Overlay - AC Structural	0.00	2.50		(Funded via AIP)
9/1/1987	SS-FS	Surface Seal - Fog Seal	0.00	0.10		(Funded via AIP)
9/1/1981	NU-IN	New Construction - Initial	0.00	2.00		(Funded via AIP)

05/23 Section: 6100-07 Surface: AAC Network: Petersburg (James A. **Branch:** 6100 **L.C.D.** 8/1/2010 Use: RUNWAY Rank: P Length: 200.00 (Ft) Width: 200.00 (Ft) True Area: 40000.00001 (SqFt Work Thickness Major **Work Date Work Description** Cost Comments Code (in) M&R 8/1/2010 OL\_4 4 in overlay 0.00 4.00 Grooved, (Funded via AIP) ~ 8/1/2009 NU-IN New Construction - Initial 0.00 2.00 ~

Pavement Database: Alaska

## **Summary:**

Work Description	Section Count	Area Total (SqFt)	Thickness Avg (in)	Thickness STD (in)
4 in overlay	8	1,040,000.02	4.00	0.00
Cold Mill and Overlay	4	316,730.00	6.00	0.00
New Construction	2	4,970.00	0.00	0.00
New Construction - Initial	14	1,435,256.02	1.86	0.52
Overlay - AC Structural	4	940,000.02	2.50	0.00
Overlay - AC Thin	2	155,530.00	2.00	0.00
Patching - AC Shallow	1	53,430.00	1.00	0.00
Surface Seal - Fog Seal	4	940,000.02	0.10	0.00
Surface Treatment - Single Bitum.	4	316,730.00	0.50	0.00

# PHYSICAL PROPERTY DATA

	Pavement			Base	Subbase		Subgrade		
Branch ID	Section ID	Thick (in)	Туре	Thick (in)	Туре	Thick (in)	Туре	Туре	CBR
Taxiway A 0100	0100-01	6	P-401	-	-	8	P-154	GP-GM	12
	4100-01	6	P-401	6	P-154	-	-	GP-GM	12
	4100-02	6	P-401	6	P-154	-	-	GP-GM	12
	4100-03	6	P-401	6	P-154	-	-	GP-GM	12
Apron 4100	4100-04	6	P-401	12	P-209	-	-	GP-GM	12
	4100-05	UNK	PCC	UNK	UNK	-	-	UNK	UNK
	4100-06	UNK	PCC	UNK	UNK	-	-	UNK	UNK
	4100-07	UNK	PCC	UNK	UNK	-	-	UNK	UNK
	6100-01	9.5	P-401	6	P-154	-	-	GP-GM	12
	6100-03	9.5	P-401	6	P-154	-	-	GP-GM	12
	6100-05	9.5	P-401	6	P-154	-	-	GP-GM	12
Runway 5-23	6100- 01W	7	P-401	8	P-209	-	-	GP-GM	12
6100	6100- 03W	7	P-401	8	P-209	-	-	GP-GM	12
	6100- 05W	7	P-401	8	P-209	-	-	GP-GM	12
	6100-06	5	P-401	6	P-154	-	-	GP-GM	12
	6100-07	7	P-401	8	P-209	-	-	GP-GM	12

## **AIRCRAFT FLEET MIX**

No.	Aircraft	Gross Wt (lb)	% Gross Wt on Main Gear	Tire Pressure (psi)	Annual Departures	20 Yr Coverages
1	SWL-2	1745	100.0	26	3	12
2	Cessna 206 Stationair	3612	95.0	52	11	46
3	S-5	5100	95.0	51	5	22
4	Piper PA-32	3400	95.0	50	2	8
5	Cessna 208B	8750	95.0	75	8	53
6	S-10	10450	95.0	52	221	1139
7	PA-31 Navajo	6536	95.0	66	99	440
8	D-15	17227	95.0	63	960	7441
9	Beech King Air B200	12590	95.0	98	4	29
10	Saab 340D	29000	95.0	55	4	37
11	B737-7 MAX	177500	93.6	204	1534	16351
12	C-130	155000	95.0	105	2	29
13	D-20	21500	95.0	70	2	16

#### **PAVEMENT CLASSIFICATION RATING**

Runway	Critical Aircraft	Max Allowable Wt (lb)	Subgrade Mr (psi)	Evaluation Thickness (in)	Pass to Traffic Cycle Ratio	PCR
5-23	B737-7 MAX	135117	18000	15.5	1.0	303/F/B/X/T

## **PCR CALCULATION NOTES**

- 1% traffic growth assumed
- SWL-2, S-5, and S-10 refer to "generic" single gear aircraft as modeled in FAARFIELD
- D-15 and D-20 refer to "generic" dual gear aircraft as modeled in FAARFIELD

# **REFERENCES**

Year	Project No.	Document Title
2014	3-02-0219-13, 68261	Apron and Taxiway Pavement Rehab Bid
2009	3-02-0219-1309, 69360	Runway Safety Area Ph III As-Built
2009	3-02-0219-1209, 68329	Runway Safety Area Ph II As-Built
2008	3-02-0219-1108, 68207	Runway Safety Area Ph I As-Built
2003	3-02-0219-0903, 68283	East Apron Expansion, As-Built
1995	3-02-0219-07, 71079	Runway Resurfacing As-Built
1994	71079	Airport Resurfacing Final Geotechnical Report
1987	3-02-0219-02, 69241	Runway and Apron Repairs, As-Built
1982	A81521	Airport Overlay
1981	SC81-345-01	Airport Paving As-Built
1969		Embankment Subsidence Report Toner-Nordling
1968	9-50-115-01	Construction Memo, Ph I, Final Report, Toner-Nordling