Alaska DOT&PF

Data Modernization and Innovation
Pavement Management
5800 East Tudor Road, Anchorage AK 99507

Pavement Inspection Report
Seward Airport

Airport Name	IATA	ICAO	Latitude	Longitude	Elevation (ft)
Seward Airport	SWD	PAWD	60° 07' 37" N	149° 25' 08" W	22

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	August 2024	January 2025

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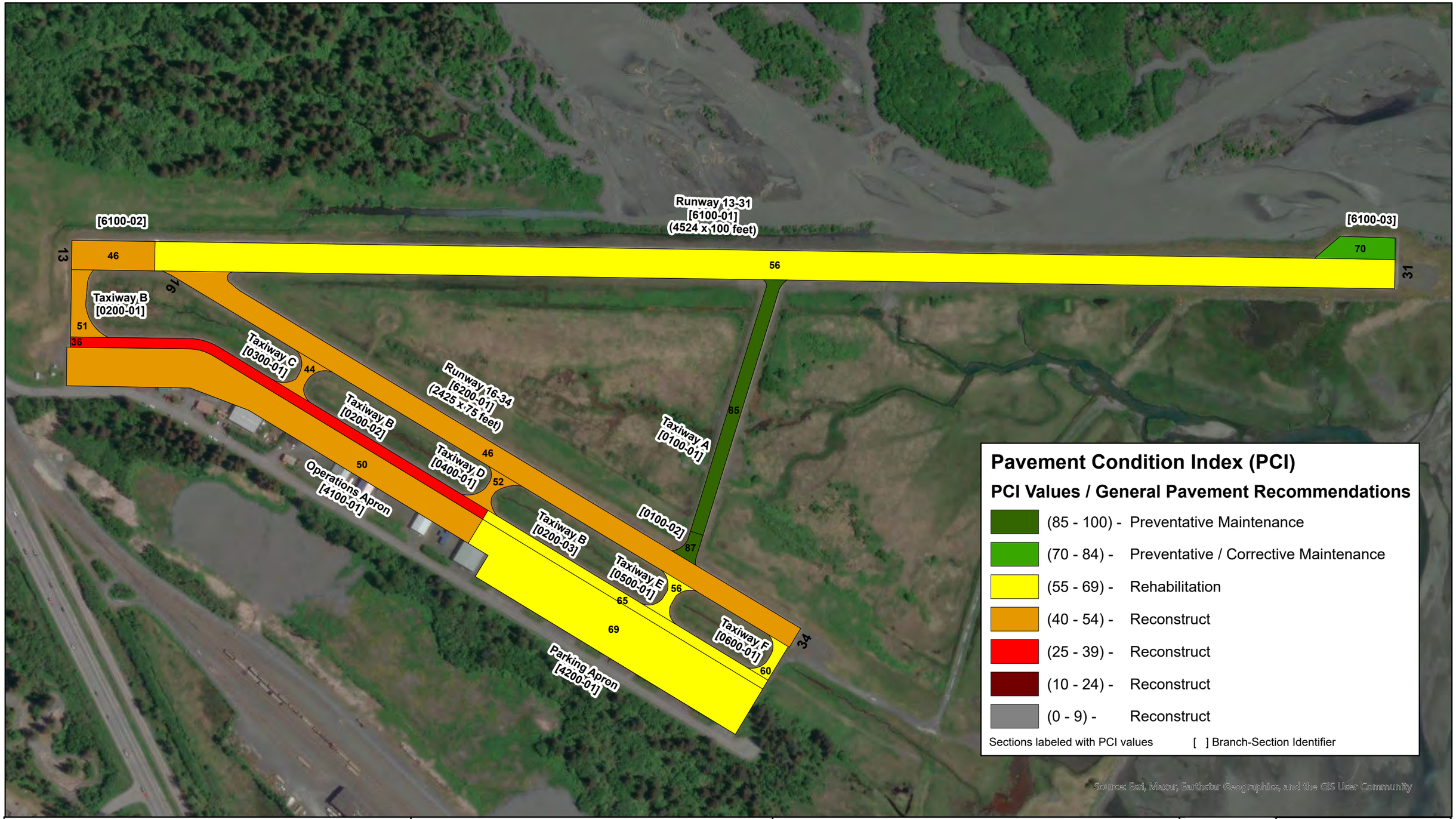


Seward Airport

Airport Code: SWD

Pavement Condition Index (PCI)

Target PCI Range for Runways: 70 to 100

Target PCI Range for Taxiways and Aprons: 60 to 100

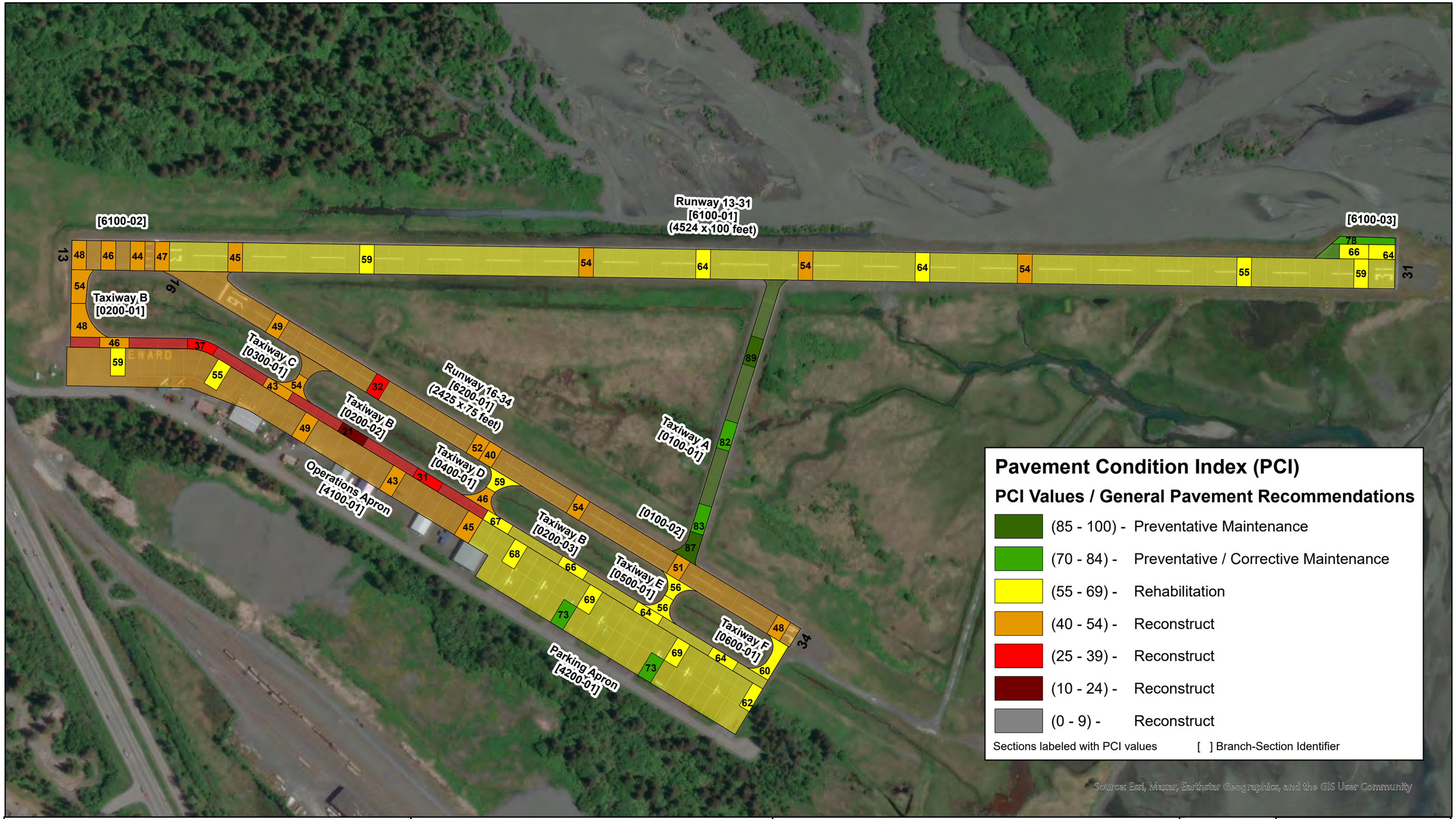
2024 Pavement Inspection Results

0 250 500 1,000

Feet

Map Created by
State of Alaska DOT&PF

Map 1 of 6



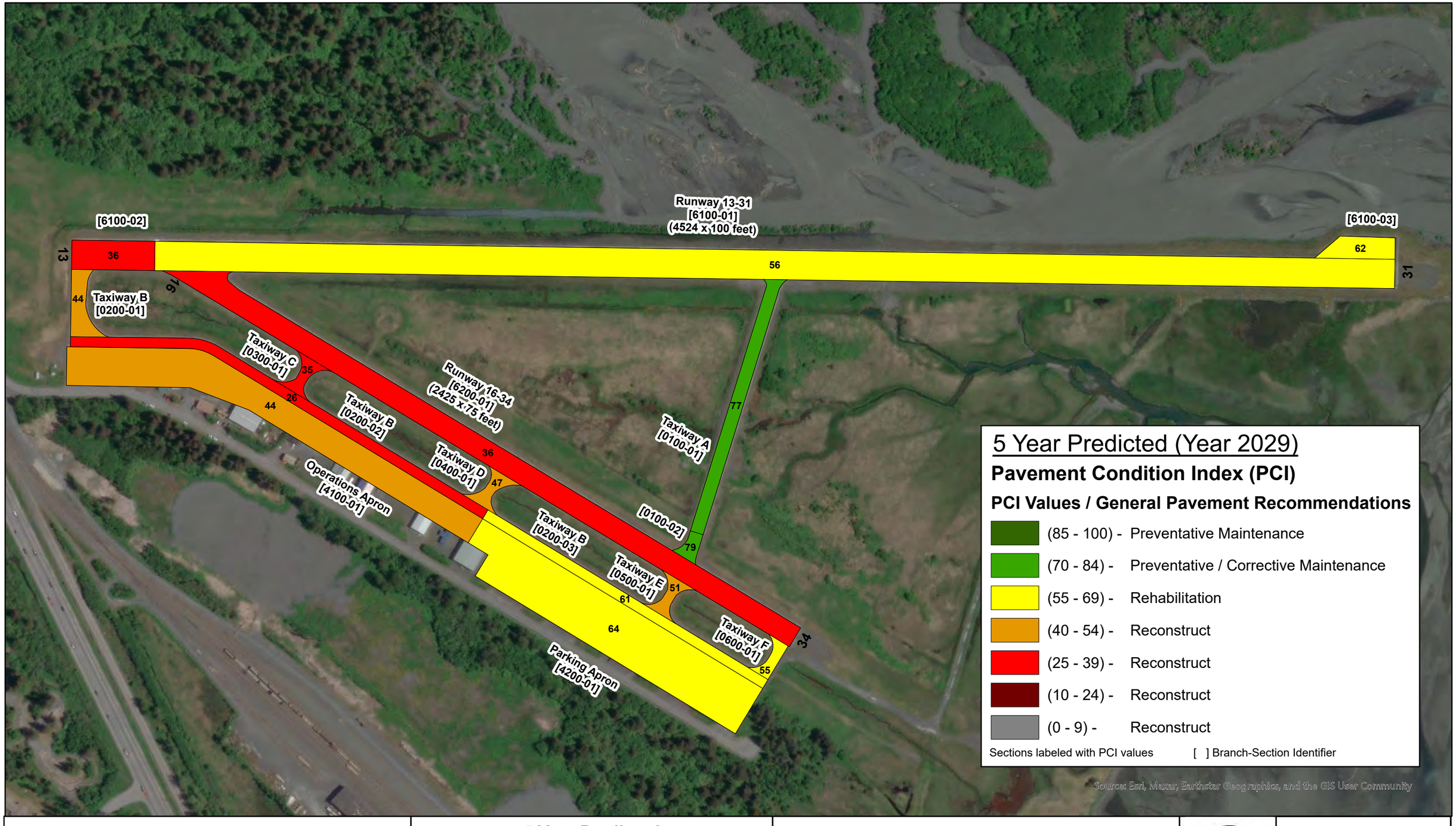
Seward Airport
Airport Code: SWD

Sample Unit
Pavement Condition Index (PCI)

2024 Pavement Inspection Results
0 250 500 1,000
Feet

Map Created by
State of Alaska DOT&PF

Map 2 of 6



Seward Airport

Airport Code: SWD

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

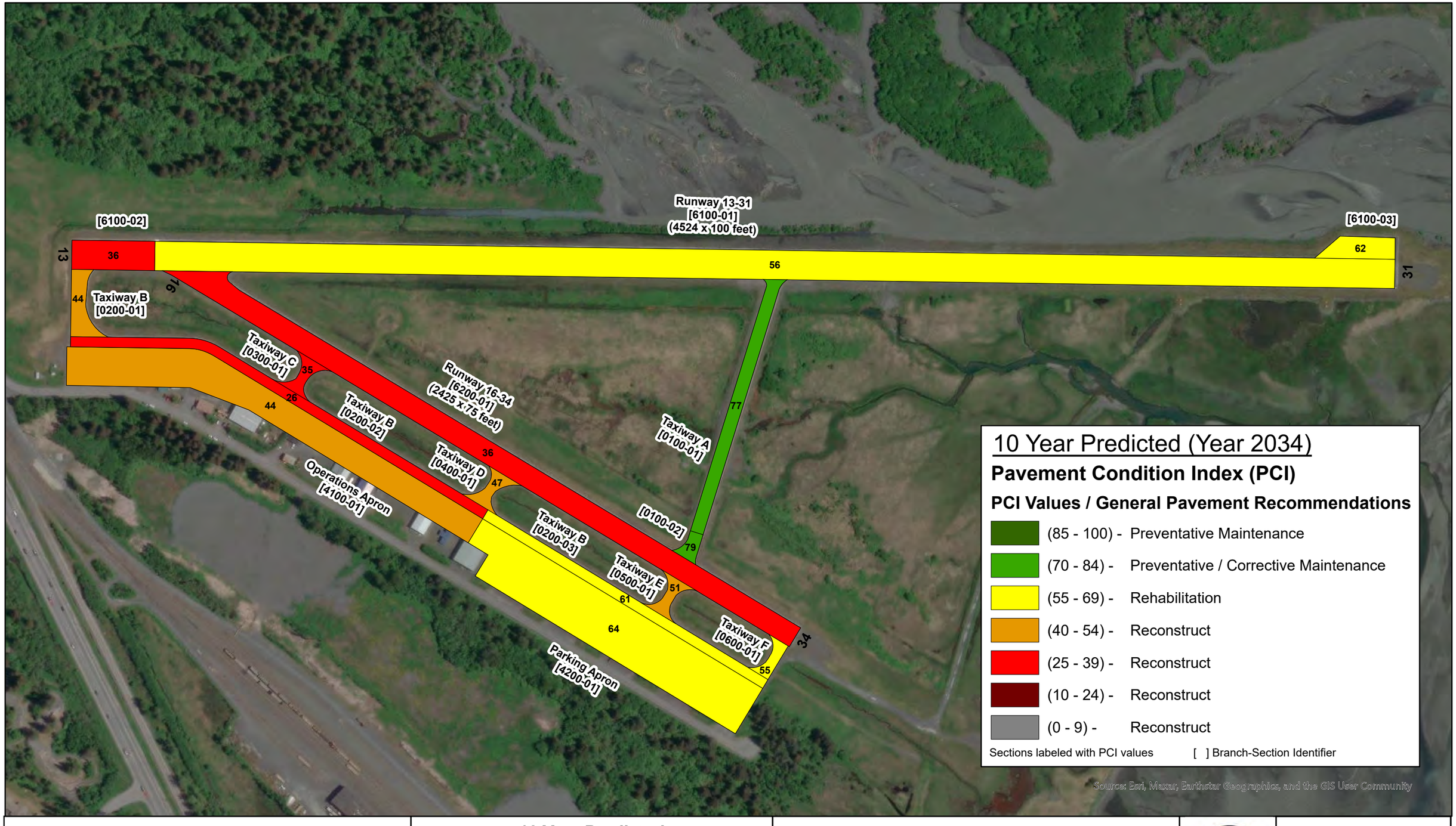
2024 Pavement Inspection Results

0 250 500 1,000

Feet

Map Created by
State of Alaska DOT&PF

Map 3 of 6



Seward Airport

Airport Code: SWD

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

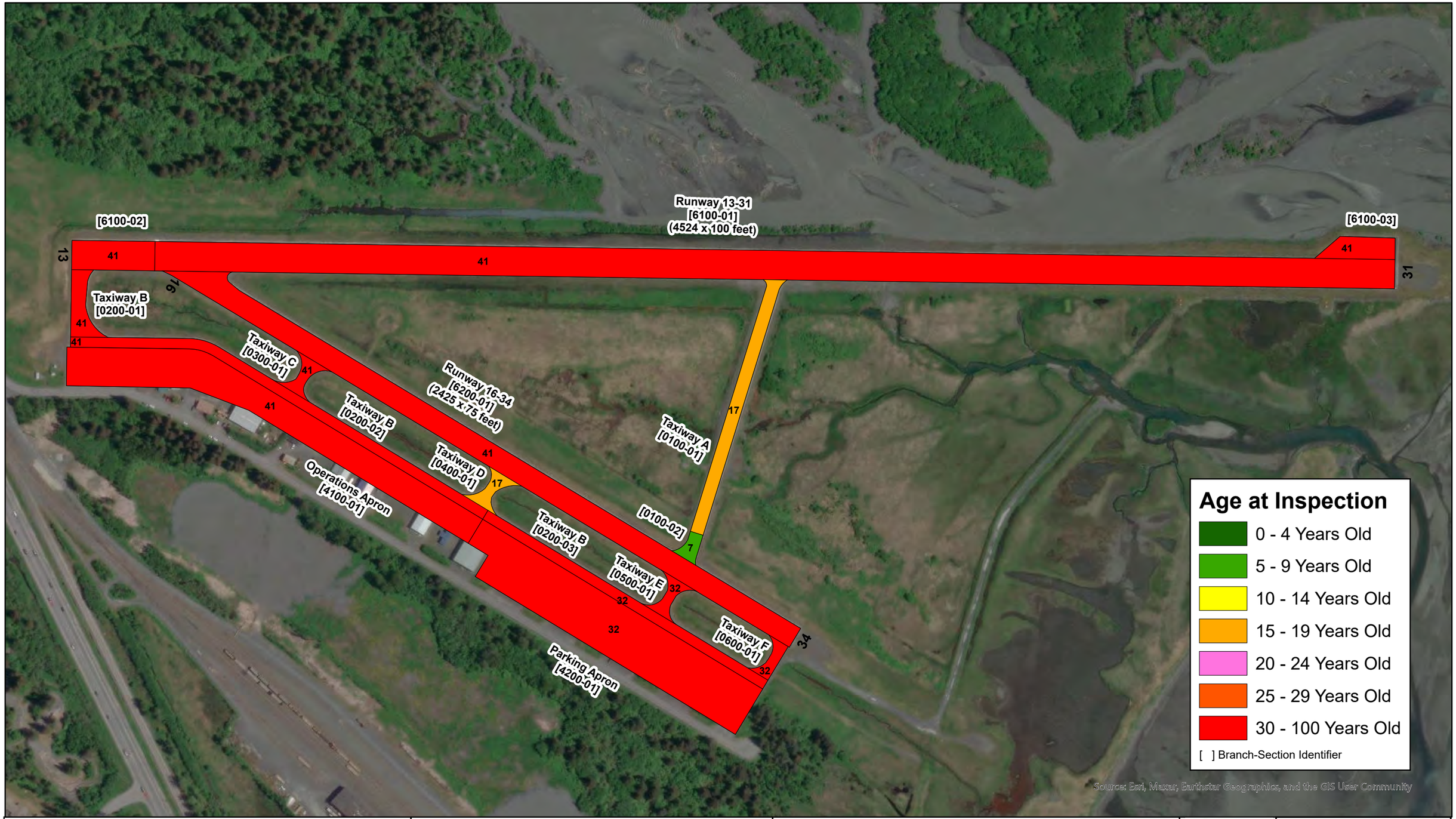
2024 Pavement Inspection Results

0 250 500 1,000

Feet

Map Created by
State of Alaska DOT&PF

Map 4 of 6



Seward Airport
Airport Code: SWD

Pavement Age at Inspection

2024 Pavement Inspection Results
0 250 500 1,000
Feet

Map Created by
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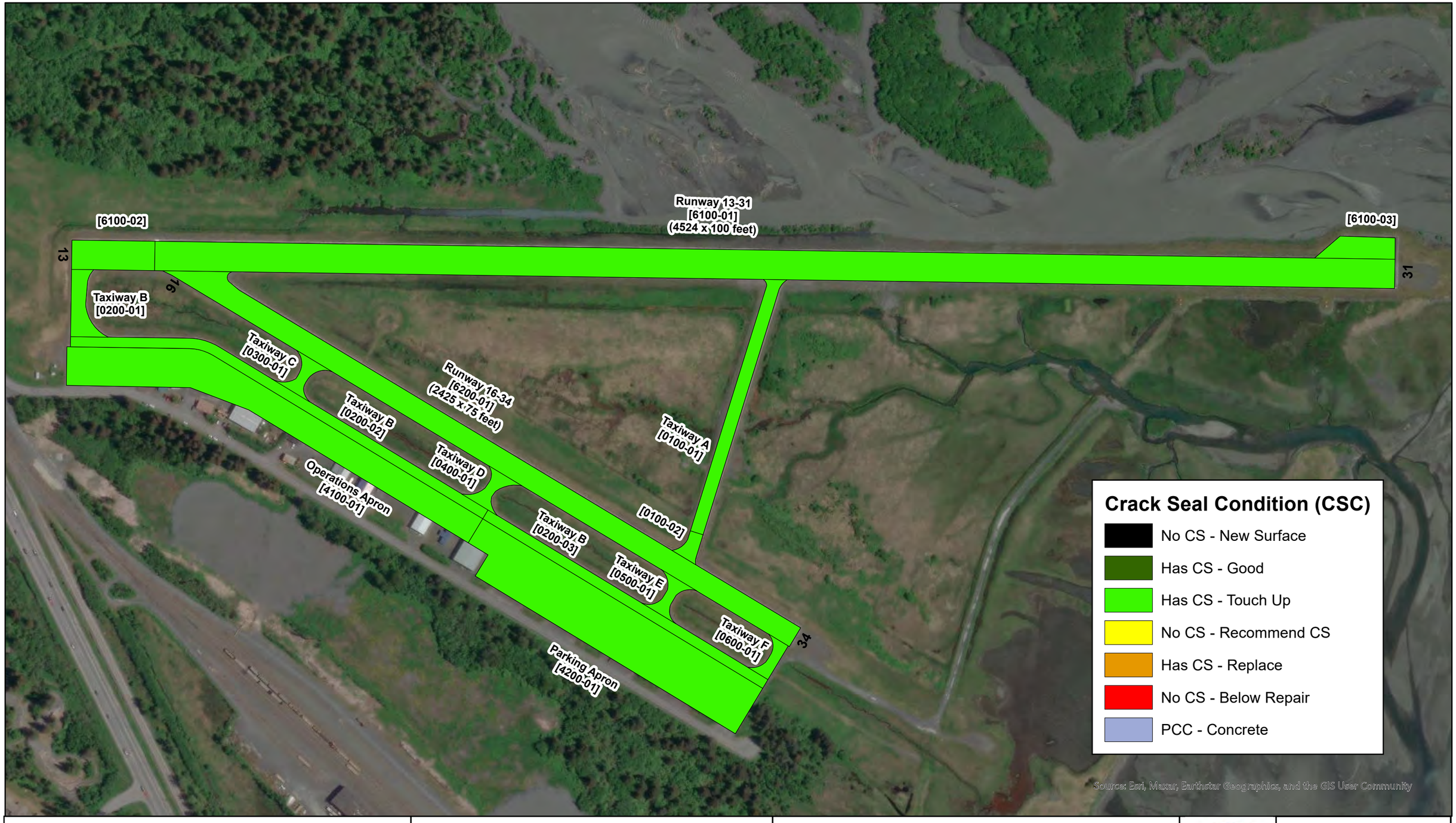
Map 5 of 6



Seward Airport
Airport Code: SWD

Pavement Crack Seal Condition (CSC)

2024 Pavement Inspection Results
0 250 500 1,000
Feet

Map Created by
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Map 6 of 6

AIRPORT PAVEMENT INSPECTION NOTES BY BRANCH

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0100	Taxiway A	Taxiway	2	46,211	85

Taxiway A was originally constructed in 1970 and was reconstructed after flood damage in 2007. Section 100-02 (photo to the top right) appeared to receive some additional work after the 2007 repair, potentially 2017, although no construction records can be found to verify. Common distresses include low severity longitudinal and transverse cracking, and low severity weathering.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0200	Taxiway B	Taxiway	3	109,467	48

Sections 200-01 and 200-02 – PCI 39

Sections 200-01 and 200-02 of Taxiway B were constructed in 1975 and resurfaced in 1983. Common distresses include low to medium severity longitudinal and transverse cracking, low severity weathering, and low to medium severity raveling. Other distresses observed include depressions, alligator cracking, rutting and swelling of varying severities.

Section 200-03 – PCI 65	
	

Section 200-03 was constructed in 1991 as part of the apron expansion project. Common distresses include low to medium severity longitudinal and transverse cracking, low severity weathering, and low severity raveling.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0300	Taxiway C	Taxiway	1	7,804	44
					

Taxiway C was constructed in 1975 and was resurfaced in 1983. Common distresses include low severity longitudinal and transverse cracking, low severity weathering and low to medium severity raveling. Other observed distresses include low severity depressions and low severity alligator cracking.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0400	Taxiway D	Taxiway	1	8,372	52

Taxiway D was constructed in 1975 and resurfaced in 1983. Common distresses are low to medium severity longitudinal and transverse cracking, low severity weathering, and low severity raveling. Other distresses include low to medium severity swelling, low severity alligator cracking, low to medium severity depressions, and one area of high severity raveling from equipment damage.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0500	Taxiway E	Taxiway	1	7,622	56

Taxiway E was constructed in 1992 and has received no work since. Common distresses on the taxiway are low to medium severity longitudinal and transverse cracking, low severity weathering and low to medium severity raveling.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
0600	Taxiway F	Taxiway	1	6,267	60

Taxiway F was constructed in 1992 and has received no work since. The primary distresses are low to medium severity longitudinal and transverse cracking, low severity weathering and low severity raveling.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
4100	Operations Apron	Apron	1	169,430	50

The Operations Apron was constructed in 1975 and resurfaced in 1983. Common distresses are low to medium severity longitudinal and transverse cracking, low severity weathering and low severity raveling. Other observed distresses include low severity depressions, low severity alligator cracking, low severity swelling and medium severity raveling.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
4200	Parking Apron	Apron	1	195,802	69

The Parking Apron was constructed in 1992 and has received no work since. Predominant distresses are low to medium severity longitudinal and transverse cracking, low severity weathering and low severity raveling.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
6100	13/31	Runway	3	469,804	56

Runway 13/31 received a repair by the Corp of Engineers in 1964, reconstructed in 1975 and was resurfaced in 1983. Common distresses include low to medium longitudinal an transverse cracking, low severity weathering, low to medium severity raveling and patching. Section 6100-02 is in worse condition than other sections of the runway and contains depressions and alligator cracking.

Branch ID	Branch Name	Branch Use	No. of Sections	Area (sf)	Weight Average PCI
6200	16/34	Runway	1	183,862	46

Runway 16/34 was constructed in 1975 and resurfaced in 1983. Common distresses are low to medium severity longitudinal and transverse cracking, low to medium severity raveling, and low severity weathering. Other observed distresses include medium severity patching, low severity depressions, low severity alligator cracking, and low to medium severity swelling.

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	2	1,006	45	46,211	TAXIWAY	86.10	1.20	85.18
0200	3	2,930	40	109,467	TAXIWAY	50.60	11.96	48.41
0300	1	130	35	7,804	TAXIWAY	43.50	0.00	43.50
0400	1	130	35	8,372	TAXIWAY	52.50	0.00	52.50
0500	1	130	35	7,622	TAXIWAY	56.20	0.00	56.20
0600	1	135	35	6,267	TAXIWAY	59.60	0.00	59.60
4100	1	1,550	100	169,430	APRON	50.10	0.00	50.10
4200	1	1,120	180	195,802	APRON	69.10	0.00	69.10
6100	3	4,799	92	469,804	RUNWAY	57.37	9.54	56.27
6200	1	2,435	75	183,862	RUNWAY	46.40	0.00	46.40

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	6	1,103,585	78.57	24.59	60.29
RUNWAY	2	441,750	86.65	9.85	53.49
TAXIWAY	8	449,360	80.14	21.17	58.23
ALL	16	1,994,695	80.36	21.66	56.28

SECTION CONDITION REPORT

Branch ID	Section ID	Last Const. Date	Surf.	Use	Rank	True Area (Sq Ft)	Last Inspection Date	Age At Inspection	PCI
0100	0100-01	6/1/2007	AAC	TAXIWAY	T	40,805	8/28/2024	17	85
0100	0100-02	6/1/2017	AAC	TAXIWAY	T	5,406	8/28/2024	7	87
0200	0200-01	9/1/1983	AAC	TAXIWAY	T	14,917	8/28/2024	41	51
0200	0200-02	9/1/1983	AAC	TAXIWAY	T	55,350	8/28/2024	41	36
0200	0200-03	9/1/1992	AC	TAXIWAY	T	39,200	8/28/2024	32	65
0300	0300-01	9/1/1983	AAC	TAXIWAY	T	7,804	8/28/2024	41	44
0400	0400-01	10/9/2007	AAC	TAXIWAY	T	8,372	8/28/2024	17	53
0500	0500-01	9/1/1992	AC	TAXIWAY	T	7,622	8/28/2024	32	56
0600	0600-01	9/1/1992	AC	TAXIWAY	T	6,267	8/28/2024	32	60
4100	4100-01	9/1/1983	AAC	APRON	T	169,430	8/28/2024	41	50
4200	4200-01	9/1/1992	AC	APRON	T	195,802	8/28/2024	32	69
6100	6100-01	9/1/1983	AAC	RUNWAY	T	424,000	8/28/2024	41	56
6100	6100-02	9/1/1983	AAC	RUNWAY	T	28,400	8/28/2024	41	46
6100	6100-03	9/1/1983	AAC	RUNWAY	T	17,404	8/28/2024	41	70
6200	6200-01	9/1/1983	AAC	RUNWAY	T	183,862	8/28/2024	41	46

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	7	5,406	1	87.30	0.00	87
16-20	17	49,177	2	68.70	16.20	79
31-35	32	248,891	4	62.53	4.97	68
41-50	41	901,167	8	49.84	9.29	52
ALL	33	1,204,641	15	58.23	14.18	56

PHYSICAL PROPERTY DATA

Branch ID	Section ID	Pavement		Base		Subbase		Subgrade	
		Thick (in)	Type	Thick (in)	Type	Thick (in)	Type	Type	CBR
Taxiway A 0100	0100-01	2	P-401	Unknown	Unknown	Variable	Embankment	ML	10
	0100-02	2	P-401	Unknown	Unknown	Variable	Embankment	ML	10
Taxiway B 0200	200-01	2	BST	8	P-208	Variable	Embankment	ML	10
	200-02	2	BST	8	P-208	Variable	Embankment	ML	10
	200-03	2	BST	6	P-208	30	Embankment	ML	10
Taxiway C 0300	0300-01	2	BST	8	P-208	Variable	Embankment	ML	10
Taxiway D 0400	0400-01	2	BST	8	P-208	Variable	Embankment	ML	10
Taxiway E 0500	0500-01	2	P-401	6	P-208	30	Embankment	ML	10
Taxiway F 0600	0600-01	2	P-401	6	P-208	30	Embankment	ML	10
West Apron 4100	4100-01	2	BST	8	P-208	Variable	Embankment	ML	10
Northeast Apron 4200	4200-01	2	P-401	6	P-208	30	Embankment	ML	10
Runway 13-31 6100	6100-01	3	BST	6	P-208	Variable	Embankment	ML	10
	6100-02	3	BST	6	P-208	Variable	Embankment	ML	10
	6100-03	3	BST	4	P-208	Variable	Embankment	ML	10
Runway 16-34 6200	6200-01	2	BST	8	P-208	Variable	Embankment	ML	10

Notes – BST is bituminous surface treatment.
Taxiway A base and subbase material is unknown because of lack of material information from emergency repair project.
Embankment quality varies between NFS sandy gravel and frost susceptible silty sandy gravel based on 1981 drilling. Embankment thickness modeled as 18 inches on Runway 15-33 and 24 inches on Runway 16-34 for PCR analysis.
Subgrade varies between silty sandy gravels, silt with organics, and silt. It was variable across the airport and convertibly modeled as silt in the Physical Property Table and for PCR analysis.

AIRCRAFT FLEET MIX

No.	Aircraft	Gross Wt (lb)	% Gross Wt on Main Gear	Tire Pressure (psi)	Annual Departures	20 Yr Coverages
1	Cessna 206 Stationair	3,612	95	52	6	53
2	PA-32-300 Cherokee Six	3,400	95	50	8	70
3	Cessna 208B Grand Caravan EX	8,750	95	75	4	37
4	S-10	10,450	95	52	3	29
5	Beechcraft King Air B200	12,590	95	98	2	23
6	Learjet 35	18,300	95	171	Unknown	Unknown

Note – Fleet mix is based on available data and should be updated when project level fleet data is collected as part of the Seward Airport Improvements project

PAVEMENT CLASSIFICATION RATINGS

Runway	Critical Aircraft	Max Allowable Wt (lb)	Subgrade Mr (psi)	Evaluation Thickness (in)	Pass to Traffic Cycle Ratio	PCR
13-31	Learjet 35	18,300	4,500	25	1.0	52 F/D/X/U
16-34	Learjet 35	18,300	4,500	34	1.0	52 F/D/X/U

PCR CALCULATION NOTES

- 1% traffic growth assumed
- Subgrade strength reduction for frost applied
- S-10 refers to “generic” single dual gear aircraft as modeled in FAARFIELD.
- The technical method was used to calculate PCR values, however, this resulted in higher values than should operate on the thin pavement sections at Seward Airport. The lacking fleet mix data may be contributing to this, and the using aircraft method was selected because of the lacking fleet mix data. The Learjet 35 has proven performance on the airport and the technical method should be used once comprehensive fleet mix information is available from the upcoming airport reconstruction project.

REFERENCES

Year	Reference No.	Document Title
2006	07-25-1-021	Storm Drain and Flood Repair Documentation
1991	58156	Seward Airport Apron Expansion As-Built
1983	D39622	Seward Airport Runway Resurfacing As-Built
1983	D39622	Seward Airport Paving Materials Investigation
1975	8-02-0259-01	Seward Airport Surfacing and Marking As-Built
1970	-	Seward Airport As-Built