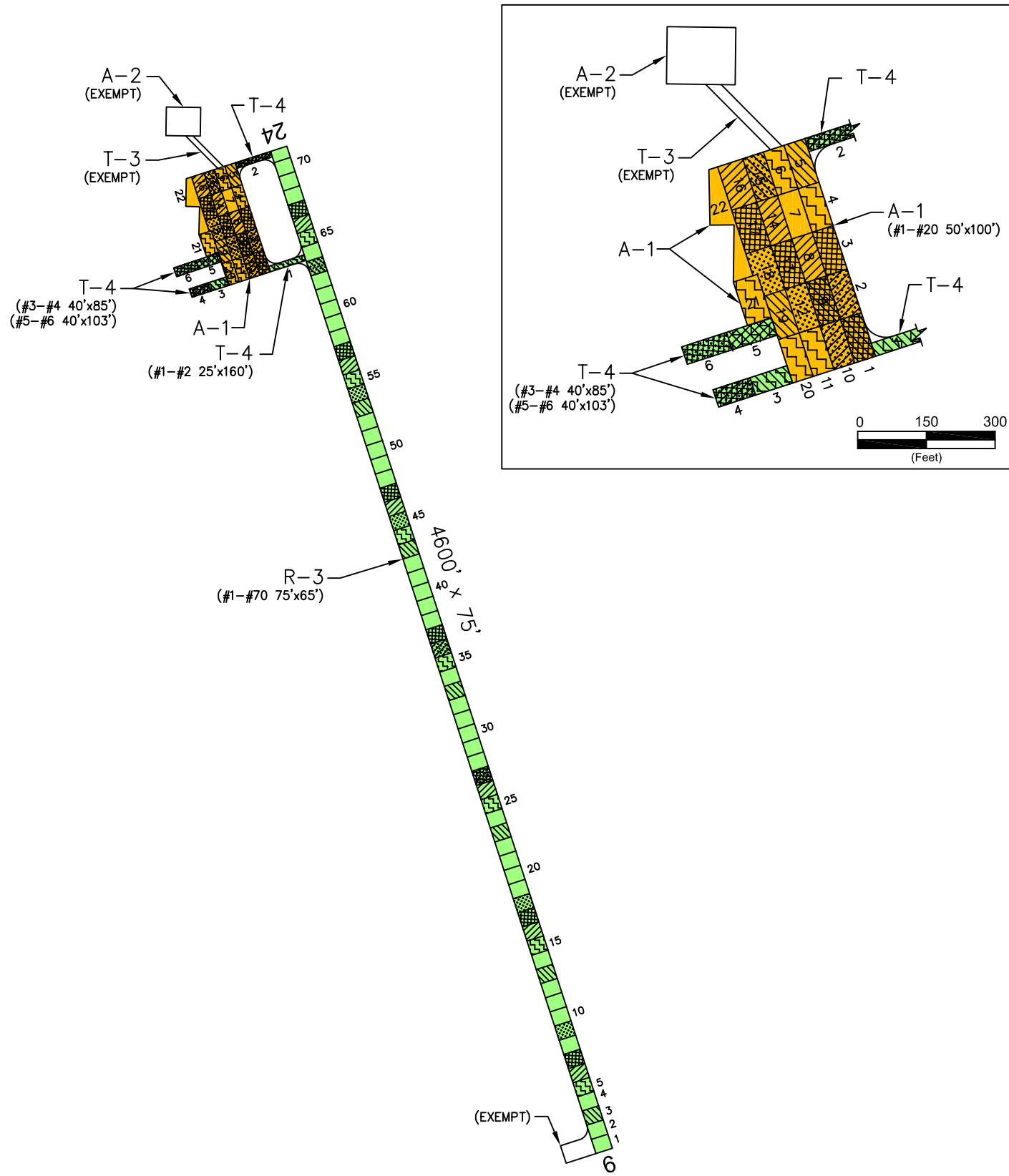


# CONRAD





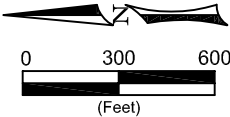
## PAVEMENT STRENGTH SURVEY/PAVEMENT CONDITION SURVEY

PAVE. IDENT.	SOIL CLASS	SUB GRADE CLASS	SUBBASE COURSE	BASE COURSE	SURFACE COURSE	OVERLAY	PAVEMENT STRENGTH			REMARKS
							MAX. GROSS LOAD (LBS)			
							SINGLE	DUAL	DUAL TAN.	
<b>RUNWAYS</b>										
R-3	E-7	F7, CBR=2	8" P-154 WITH FABRIC	3" P-208	3.5" P-401	P-609	12,500			2,3,4,5
<b>TAXIWAYS</b>										
T-3	E-7	F7, CBR=2	6" P-154	6" P-208	3" AC	P-609	16,000			3,4,5
T-4	E-7	F7, CBR=2		10" P-208	2" P-401	2.5" P-401, P-609	12,500			2,3,4,5
<b>APRONS</b>										
A-1	E-7	F7, CBR=2		10" P-208	2" AC	2.5" P-401, P-609	12,500			1,2,3,4,5
A-2	E-7	F7, CBR=2	6" P-154	6" P-208	3" AC	1" P-402	22,000			1

**REMARKS:**

- AIP-001-1988, P-402 OVERLAY
- AIP-003-2002, RECONSTRUCT RUNWAY 6/24 (R-3), OVERLAY TAXIWAYS (T-4), OVERLAY APRON (A-1).
- AIP-004-2008, CRACK SEAL, FOG SEAL, REMARK RUNWAY (R-3), TAXIWAYS (T-3, T-4), AND APRON (A-1).
- AIP-005-2013, CRACK SEAL, FOG SEAL, REMARK RUNWAY (R-3), TAXIWAYS (T-3, T-4), AND APRON (A-1).
- AIP-006-2017, CRACK SEAL, SURFACE SEAL AND REMARK NON-EXEMPT PAVEMENTS.

<b>LEGEND</b> 2006 SURVEY AREA 2009 SURVEY AREA 2012 SURVEY AREA 2015 SURVEY AREA 2018 SURVEY AREA MAINTAIN: PCI > 60 TRANSITION: PCI 45 TO 60 RECONSTRUCT: PCI < 45	DATE OF PAVEMENT STRENGTH SURVEY:		<b>MONTANA AVIATION SYSTEM PLAN 2018 UPDATE - PAVEMENT CONDITION INDEXES</b> <b>CONRAD AIRPORT (S01)</b> Date: _____ Prepared For: _____ Prepared By: _____ DECEMBER 2018  
	EVALUATED BY:		
	DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:	OCT. 16, 2018	
	EVALUATED BY:	S. BROWN	
LOCATION:	CONRAD MONTANA		



CONRAD



**A-1, Overview**



**A-1, Swell, Depression and Swell**



**R-3, Overview**



**R-3, Crack with Mechanical Raveling**



**T-4, Overview**



**T-4, Patch**

# CONRAD AIRPORT

Branch: 46A APRON

**A-1**

Length: 500 LF      Width: 190 LF      Area: 95,000 SF      Last Const: 2002      Family: ACAM  
 From: TAXIWAY 1      To: TAXIWAY 2      Surface: AAC

**Inspections**

Samples Surveyed: 5      Total Samples: 22      Last Inspection Date: 10/16/2018      **PCI: 56**

Sample # 4      Area: 5,000 SF

Distress Description	Severity	Quantity
PATCHING	H	3.9 SF
DEPRESSION	L	170 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	425 LF
RAVELING	L	252 SF
WEATHERING	L	5000 SF

Sample # 6      Area: 5,000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	507 LF
DEPRESSION	L	247 SF
DEPRESSION	M	14 SF
LONGITUDINAL/TRANSVERSE CRACKING	H	2 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	12 LF
WEATHERING	L	5000 SF

Sample # 11      Area: 5,000 SF

Distress Description	Severity	Quantity
DEPRESSION	L	28 SF
RAVELING	L	252 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	413 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	1 LF
PATCHING	H	3.1 SF
WEATHERING	L	5000 SF

Sample # 20      Area: 5,000 SF

Distress Description	Severity	Quantity
PATCHING	H	1.6 SF
RAVELING	L	252 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	338 LF
WEATHERING	L	5000 SF
DEPRESSION	L	50 SF

Sample # 21      Area: 5,000 SF

Distress Description	Severity	Quantity
DEPRESSION	L	326 SF
SWELL	L	120 SF
DEPRESSION	M	45 SF
SWELL	M	45 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	36 LF
LONGITUDINAL/TRANSVERSE CRACKING	L	421 LF
WEATHERING	L	5000 SF

**Extrapolated Distress Quantities\***

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	LOW	3,120 SF	3.28%	15.34
DEPRESSION	MEDIUM	224 SF	0.24%	6.76
LONGITUDINAL/TRANSVERSE CRACKING	HIGH	8 LF	0.01%	7.50
LONGITUDINAL/TRANSVERSE CRACKING	LOW	7,995 LF	8.42%	20.99
LONGITUDINAL/TRANSVERSE CRACKING	MEDIUM	186 LF	0.20%	5.09
PATCHING	HIGH	33 SF	0.03%	15.50
RAVELING	LOW	2,873 SF	3.02%	5.10
SWELL	LOW	456 SF	0.48%	1.87
SWELL	MEDIUM	171 SF	0.18%	10.88

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**CONRAD AIRPORT**

Branch: 46A

**APRON**

**A-1**

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WEATHERING

LOW 95,000 SF

100.00%

5.96

\* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

**Percent of Deduct Values Based on Distress Mechanism**

0.0 % Load

63.0 % Climate/Durability

37.0 % Other

# CONRAD AIRPORT

Branch: 46R RUNWAY

**R-3**

Length: 4,600 LF      Width: 75 LF      Area: 345,000 SF      Last Const: 2002      Family: ACRML  
 From: 10+00      To: 56+00      Surface: AC

**Inspections**

**Samples Surveyed:** 7      **Total Samples:** 71      **Last Inspection Date:** 10/16/2018      **PCI:** 64

**Sample # 5**      **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	480 LF
WEATHERING	L	4875 SF
DEPRESSION	L	8 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	65 LF

**Sample # 15**      **Area:** 4,875 SF

Distress Description	Severity	Quantity
DEPRESSION	L	34.5 SF
WEATHERING	L	4875 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	523 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	17 LF

**Sample # 25**      **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	M	15 LF
DEPRESSION	L	112.3 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	564 LF
WEATHERING	L	4875 SF
PATCHING	L	0.1 SF

**Sample # 35**      **Area:** 4,875 SF

Distress Description	Severity	Quantity
DEPRESSION	L	16.3 SF
WEATHERING	L	4875 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	412 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	23 LF

**Sample # 44**      **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	515 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	11 LF
DEPRESSION	L	16.25 SF
WEATHERING	L	4875 SF

**Sample # 55**      **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	454 LF
WEATHERING	L	4875 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	6 LF
DEPRESSION	L	3.3 SF

**Sample # 65**      **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	M	7 LF
WEATHERING	L	4875 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	492 LF
DEPRESSION	L	25.8 SF

**Extrapolated Distress Quantities\***

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	LOW	2,188 SF	0.63%	4.30

**CONRAD AIRPORT**

Branch: 46R

**RUNWAY**

**R-3**

LONGITUDINAL/TRANSVERSE CRACKING	LOW	34,778 LF	10.08%	23.38
LONGITUDINAL/TRANSVERSE CRACKING	MEDIUM	1,456 LF	0.42%	7.68
PATCHING	LOW	1 SF	0.00%	2.00
WEATHERING	LOW	345,000 SF	100.00%	5.96

\* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

**Percent of Deduct Values Based on Distress Mechanism**

0.0 % Load

90.0 % Climate/Durability

10.0 % Other

# CONRAD AIRPORT

Branch: 46T TAXIWAY

**T-4**

**Length:** 320 LF      **Width:** 25 LF      **Area:** 23,040 SF      **Last Const:** 2002      **Family:** ACRML  
**From:** A-1      **To:** R-3 & HANGARS      **Surface:** AAC

**Inspections**

**Samples Surveyed:** 3      **Total Samples:** 6      **Last Inspection Date:** 10/16/2018      **PCI:** 64

**Sample # 1**      **Area:** 4,000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	246 LF
WEATHERING	L	4000 SF
DEPRESSION	L	58 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	8 LF

**Sample # 3**      **Area:** 3,400 SF

Distress Description	Severity	Quantity
WEATHERING	L	3400 SF
DEPRESSION	L	54 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	21 LF
LONGITUDINAL/TRANSVERSE CRACKING	L	198 LF
DEPRESSION	M	2 SF

**Sample # 5**      **Area:** 4,120 SF

Distress Description	Severity	Quantity
SWELL	L	14 SF
PATCHING	L	159.5 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	2 LF
WEATHERING	L	4120 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	283 LF
DEPRESSION	L	32 SF

**Extrapolated Distress Quantities\***

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	LOW	288 SF	1.25%	7.99
DEPRESSION	MEDIUM	4 SF	0.02%	5.20
LONGITUDINAL/TRANSVERSE CRACKING	LOW	1,454 LF	6.31%	17.40
LONGITUDINAL/TRANSVERSE CRACKING	MEDIUM	62 LF	0.27%	6.11
PATCHING	LOW	319 SF	1.38%	4.37
SWELL	LOW	28 SF	0.12%	1.21
WEATHERING	LOW	23,040 SF	100.00%	5.96

\* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

**Percent of Deduct Values Based on Distress Mechanism**

0.0 % Load      70.0 % Climate/Durability      30.0 % Other

### CONRAD AIRPORT (46)

FIFTEEN YEAR PROJECTIONS							ESTIMATED AVERAGE ANNUAL COST:		\$140,840		
Plan Year: 2019							Estimated Cost:	\$506,510		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Major Below Critical	\$0	\$0	\$350,977	\$0	\$350,977	55	100			
R-3	Preventive + Global MR	\$28,497	\$117,299	\$0	\$0	\$145,796	63	70			
T-4	Preventive + Global MR	\$1,903	\$7,834	\$0	\$0	\$9,737	63	70			
Plan Year: 2020							Estimated Cost:	\$21,917		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	None	\$0	\$0	\$0	\$0	\$0	97	97			
R-3	Preventive	\$20,545	\$0	\$0	\$0	\$20,545	68	68			
T-4	Preventive	\$1,372	\$0	\$0	\$0	\$1,372	68	68			
Plan Year: 2021							Estimated Cost:	\$25,726		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	None	\$0	\$0	\$0	\$0	\$0	94	94			
R-3	Preventive	\$24,116	\$0	\$0	\$0	\$24,116	66	66			
T-4	Preventive	\$1,611	\$0	\$0	\$0	\$1,611	66	66			
Plan Year: 2022							Estimated Cost:	\$29,518		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	None	\$0	\$0	\$0	\$0	\$0	91	91			
R-3	Preventive	\$27,670	\$0	\$0	\$0	\$27,670	64	64			
T-4	Preventive	\$1,848	\$0	\$0	\$0	\$1,848	64	64			
Plan Year: 2023							Estimated Cost:	\$33,500		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$190	\$0	\$0	\$0	\$190	88	88			
R-3	Preventive	\$31,225	\$0	\$0	\$0	\$31,225	62	62			
T-4	Preventive	\$2,085	\$0	\$0	\$0	\$2,085	62	62			
Plan Year: 2024							Estimated Cost:	\$1,113,400		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$449	\$0	\$0	\$0	\$449	85	86			
R-3	Major Below Critical	\$0	\$0	\$1,043,278	\$0	\$1,043,278	60	100			
T-4	Major Below Critical	\$0	\$0	\$69,673	\$0	\$69,673	60	100			
Plan Year: 2025							Estimated Cost:	\$709		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$709	\$0	\$0	\$0	\$709	83	83			
R-3	None	\$0	\$0	\$0	\$0	\$0	97	97			
T-4	None	\$0	\$0	\$0	\$0	\$0	97	97			
Plan Year: 2026							Estimated Cost:	\$1,022		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$1,022	\$0	\$0	\$0	\$1,022	80	80			
R-3	None	\$0	\$0	\$0	\$0	\$0	94	94			
T-4	None	\$0	\$0	\$0	\$0	\$0	94	94			
Plan Year: 2027							Estimated Cost:	\$2,060		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$2,060	\$0	\$0	\$0	\$2,060	77	77			
R-3	None	\$0	\$0	\$0	\$0	\$0	91	91			
T-4	None	\$0	\$0	\$0	\$0	\$0	91	91			
Plan Year: 2028							Estimated Cost:	\$3,829		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$3,093	\$0	\$0	\$0	\$3,093	74	75			
R-3	Preventive	\$689	\$0	\$0	\$0	\$689	88	88			
T-4	Preventive	\$46	\$0	\$0	\$0	\$46	88	88			
Plan Year: 2029							Estimated Cost:	\$210,145		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive + Global MR	\$4,134	\$204,250	\$0	\$0	\$208,384	72	87			
R-3	Preventive	\$1,651	\$0	\$0	\$0	\$1,651	85	85			
T-4	Preventive	\$110	\$0	\$0	\$0	\$110	85	85			



**CONRAD AIRPORT (46)**

FIFTEEN YEAR PROJECTIONS							ESTIMATED AVERAGE ANNUAL COST: \$140,840			
Plan Year: 2030							Estimated Cost:	\$3,370	PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After		
A-1	Preventive	\$580	\$0	\$0	\$0	\$580	84	84		
R-3	Preventive	\$2,615	\$0	\$0	\$0	\$2,615	82	83		
T-4	Preventive	\$175	\$0	\$0	\$0	\$175	82	83		
Plan Year: 2031							Estimated Cost:	\$5,047	PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After		
A-1	Preventive	\$838	\$0	\$0	\$0	\$838	81	81		
R-3	Preventive	\$3,946	\$0	\$0	\$0	\$3,946	80	80		
T-4	Preventive	\$263	\$0	\$0	\$0	\$263	80	80		
Plan Year: 2032							Estimated Cost:	\$9,857	PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After		
A-1	Preventive	\$1,538	\$0	\$0	\$0	\$1,538	78	79		
R-3	Preventive	\$7,798	\$0	\$0	\$0	\$7,798	77	77		
T-4	Preventive	\$521	\$0	\$0	\$0	\$521	77	77		
Plan Year: 2033							Estimated Cost:	\$15,005	PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After		
A-1	Preventive	\$2,580	\$0	\$0	\$0	\$2,580	76	76		
R-3	Preventive	\$11,648	\$0	\$0	\$0	\$11,648	74	74		
T-4	Preventive	\$778	\$0	\$0	\$0	\$778	74	74		