Life Cycle Cost Analysis - General Information and Unit Price Sheet

Project Name:	Demo	
Contract Number:	ABC123 C501	
District:	1	
County:	12	
Route:	SR 896	
From Location:	County Line	
To Location:	EOC	
From Station:	0	Feet
To Station:	5280	Feet
Number of Travel Lanes:	2	
Number of Directions:	1	

Economic Information

Analysis Base Year	2002	
Discount Rate	4	Percent

Unit Costs and Measures

Material/Activity	*Unit Price*	*Measure*	*Misc*	
AC Surface	$ 40.00	Tons	146	Unit Weight
AC Intermediate	$ 34.00	Tons	146	Unit Weight
AC Base	$ 31.00	Tons	153	Unit Weight
JPCP	$ 27.00	SY		
CRCP	$ 30.00	SY		
Aggregate - 21A	$ 18.00	Tons	152	Unit Weight
Aggregate - 21B	$ 18.00	Tons	152	Unit Weight
Aggregate - Type I	$ 15.00	Tons	150	Unit Weight
Cement Treated Aggregate	$ 21.00	Tons	150	Unit Weight
Stabilized Drainage Layer	$ 25.00	Tons	146	Unit Weight
Milling/Planing AC	$ 0.50	SY-in		
Fracturing PCC	$ 2.50	SY		
Patching JPCP (6' x 12')	$ 180.00	SY		
Patching CRCP (6' x 12')	$ 200.00	SY		
Patching AC	$ 90.00	Tons	146	Unit Weight
Joint Cleaning and Sealing	$ 1.00	Lin Ft		
PCC Grinding	$ 1.75	SY		
Surface Treatment	$ 1.50	SY		

AC Construction/Reconstruction Option

Total Travel Lanes Width =	**24**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**12**	**Feet**

Mainline Area =	**126720**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**63360**	**Square Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
0	2002	Mainline - AC Surface	1.5	1,156.32	Tons	$ 40.00	$ 46,253	$ 46,252.80
		Mainline - AC Intermediate	3	2,312.64	Tons	$ 34.00	$ 78,630	$ 78,629.76
		Mainline - AC Base	8	6,462.72	Tons	$ 31.00	$ 200,344	$ 200,344.32
		Mainline - CTA	6	4,752.00	Tons	$ 21.00	$ 99,792	$ 99,792.00
		Mainline - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
		Mainline and Shoulder - Stabilized Drainage Layer	1.5	2,216.28	Tons	$ 25.00	$ 55,407	$ 55,407.00
		Shoulder - AC Surface	1.5	1,059.96	Tons	$ 40.00	$ 42,398	$ 42,398.40
		Shoulder - AC Intermediate	3	2,119.92	Tons	$ 34.00	$ 72,077	$ 72,077.28
		Shoulder - AC Base	8	5,924.16	Tons	$ 31.00	$ 183,649	$ 183,648.96
		Shoulder - CTA	6	4,356.00	Tons	$ 21.00	$ 91,476	$ 91,476.00
		Shoulder - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
						Cost Estimate	$ 870,027	$ 870,027
12	2014	Mainline - Pre-Overlay Full-Depth Patching 1%	12.5	96.36	Tons	$ 90.00	$ 8,672	$ 5,416.76
		Mainline - Mill	2	28,160.00	SY-in	$ 0.50	$ 14,080	$ 8,794.33
		Mainline - Replace AC Wearing Course	2	2,955.04	Tons	$ 40.00	$ 118,202	$ 73,828.37
		Shoulders - Surface Treatment		12,906.67	SY	$ 1.50	$ 19,360	$ 12,092.20
						Cost Estimate	$ 160,314	$ 100,132
22	2024	Mainline - Pre-Overlay Full-Depth Patching 1%	12.5	96.36	Tons	$ 90.00	$ 8,672	$ 3,659.37
		Mainline - Mill	2	28,160.00	SY-in	$ 0.50	$ 14,080	$ 5,941.13
		Mainline - Replace AC Intermediate	2	1,541.76	Tons	$ 34.00	$ 52,420	$ 22,118.83
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 37,406.85
						Cost Estimate	$ 163,823	$ 69,126
32	2034	Mainline - Pre-Overlay Full-Depth Patching 5%	8	308.35	Tons	$ 90.00	$ 27,752	$ 7,910.84
		Mainline - Mill All SM and IM Layers	6	84,480.00	SY-in	$ 0.50	$ 42,240	$ 12,040.85
		Mainline - Replace AC Base	4	3,231.36	Tons	$ 31.00	$ 100,172	$ 28,554.87
		Mainline - Replace AC Intermediate	2	1,541.76	Tons	$ 34.00	$ 52,420	$ 14,942.69
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 25,270.73
						Cost Estimate	$ 311,235	$ 88,720
44	2046	Mainline - Pre-Overlay Full-Depth Patching 1%	15.5	119.49	Tons	$ 90.00	$ 10,754	$ 1,914.67

AC Construction/Reconstruction Option

Total Travel Lanes Width =	**24**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**12**	**Feet**

Mainline Area =	**126720**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**63360**	**Square Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
		Mainline - Mill	2	28,160.00	SY-in	$ 0.50	$ 14,080	$ 2,506.89
		Mainline - Replace AC Wearing Course	2	1,541.76	Tons	$ 40.00	$ 61,670	$ 10,980.19
		Shoulders - Surface Treatment		12,906.67	SY	$ 1.50	$ 19,360	$ 3,446.98
						Cost Estimate	$ 105,864	$ 18,849
50	2052	Salvage Value		0.40	Lump Sum	$(105,864.18)	$ (42,346)	$ (5,958.57)
						Cost Estimate	$ (42,346)	$ (5,959)

Initial Const.	**$ 870,026.52**
Total PW	**$ 1,140,894.49**

PCC Overlaid with AC Overlay

Total Travel Lanes Width =	**24**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**12**	**Feet**
Mainline Area =	**126720**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**63360**	**Square Feet**
Existing PCC Width =	**24**	**Feet (Total Width including shoulders)**
Existing Joint Spacing =	**40**	**Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
0	2002	Mainline - AC Surface	1.5	1,156.32	Tons	$ 40.00	$ 46,253	$ 46,252.80
		Mainline - AC Intermediate	3	2,312.64	Tons	$ 34.00	$ 78,630	$ 78,629.76
		Mainline - AC Base	8	6,462.72	Tons	$ 31.00	$ 200,344	$ 200,344.32
		Mainline - CTA	0	0.00	Tons	$ 21.00	$ -	$ -
		Mainline - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
		Mainline and Shoulder - Stabilized Drainage Layer	1.5	2,216.28	Tons	$ 25.00	$ 55,407	$ 55,407.00
		Shoulder - AC Surface	1.5	1,059.96	Tons	$ 40.00	$ 42,398	$ 42,398.40
		Shoulder - AC Intermediate	3	2,119.92	Tons	$ 34.00	$ 72,077	$ 72,077.28
		Shoulder - AC Base	8	5,924.16	Tons	$ 31.00	$ 183,649	$ 183,648.96
		Shoulder - CTA	9	6,534.00	Tons	$ 21.00	$ 137,214	$ 137,214.00
		Shoulder - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
		Fracture PCC		14,080.00	SY	$ 2.50	$ 35,200	$ 35,200.00
						Cost Estimate	$ 851,173	$ 851,173
12	2014	Mainline - Pre-Overlay Full-Depth Patching 1%	12.5	96.36	Tons	$ 90.00	$ 8,672	$ 5,416.76
		Mainline - Mill	2	28,160.00	SY-in	$ 0.50	$ 14,080	$ 8,794.33
		Mainline - Replace AC Wearing Course	2	1,541.76	Tons	$ 40.00	$ 61,670	$ 38,519.15
		Shoulders - Surface Treatment		12,906.67	SY	$ 1.50	$ 19,360	$ 12,092.20
						Cost Estimate	$ 103,783	$ 64,822
22	2024	Mainline - Pre-Overlay Full-Depth Patching 1%	12.5	96.36	Tons	$ 90.00	$ 8,672	$ 3,659.37
		Mainline - Mill	2	28,160.00	SY-in	$ 0.50	$ 14,080	$ 5,941.13
		Mainline - Replace AC Intermediate	2	1,541.76	Tons	$ 34.00	$ 52,420	$ 22,118.83
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 37,406.85
						Cost Estimate	$ 163,823	$ 69,126
32	2034	Mainline - Pre-Overlay Full-Depth Patching 5%	8	308.35	Tons	$ 90.00	$ 27,752	$ 7,910.84
		Mainline - Mill All SM and IM Layers	6	84,480.00	SY-in	$ 0.50	$ 42,240	$ 12,040.85
		Mainline - Replace AC Base	4	3,231.36	Tons	$ 31.00	$ 100,172	$ 28,554.87
		Mainline - Replace AC Intermediate	2	1,541.76	Tons	$ 34.00	$ 52,420	$ 14,942.69
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 25,270.73

PCC Overlaid with AC Overlay

Total Travel Lanes Width =	**24**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**12**	**Feet**
Mainline Area =	**126720**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**63360**	**Square Feet**
Existing PCC Width =	**24**	**Feet (Total Width including shoulders)**
Existing Joint Spacing =	**40**	**Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
						Cost Estimate	$ 311,235	$ 88,720
44	2046	Mainline - Pre-Overlay Full-Depth Patching 1%	15.5	119.49	Tons	$ 90.00	$ 10,754	$ 1,914.67
		Mainline - Mill	2	28,160.00	SY-in	$ 0.50	$ 14,080	$ 2,506.89
		Mainline - Replace AC Wearing Course	2	1,541.76	Tons	$ 40.00	$ 61,670	$ 10,980.19
		Shoulders - Surface Treatment		12,906.67	SY	$ 1.50	$ 19,360	$ 3,446.98
						Cost Estimate	$ 105,864	$ 18,849
50	2052	Salvage Value		0.40	Lump Sum	$(105,864.18)	$ (42,346)	$ (5,958.57)
						Cost Estimate	$ (42,346)	$ (5,959)
							Initial Const.	**$ 851,172.52**
							Total PW	**$ 1,086,731.27**

Unbonded Jointed Plain Concrete with Tied PCC Shoulders

Total Travel Lanes Width =	**24**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**12**	**Feet**
Mainline Area =	**126720**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**63360**	**Square Feet**
New Joint Spacing =	**15**	**Feet**
Existing PCC Width =	**24**	**Feet (Total Width including shoulders)**
Existing Joint Spacing =	**40**	**Feet**

Analysis Year	Calendar Year	Activity	Thick (inches) or Percentage (%)	Quantity	Unit	Unit Cost	Total	PWC
0	2002	Mainline - JPCP Overlay	10	14,080.00	SY	$ 27.00	$ 380,160	$ 380,160.00
		Mainline - AC Bondbreaker	1.5	1,156.32	Tons	$ 25.00	$ 28,908	$ 28,908.00
		Mainline - Joint Patching	10	211.20	SY	$ 180.00	$ 38,016	$ 38,016.00
		Shoulder - JPCP Overlay	10	12,906.67	SY	$ 27.00	$ 348,480	$ 348,480.00
		Shoulder - AC Bondbreaker	1.5	1,059.96	Tons	$ 25.00	$ 26,499	$ 26,499.00
		Shoulder - CTA	9	6,534.00	Tons	$ 21.00	$ 137,214	$ 137,214.00
		Shoulder - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
						Cost Estimate	$ 959,277	$ 959,277
10	2012	Mainline - Joint Patching 3%	3	84.48	SY	$ 180.00	$ 15,206	$ 10,272.90
		Mainline and Shoulder - Clean and Seal Joints 100%	100	32,032.00	Lin Ft	$ 1.00	$ 32,032	$ 21,639.67
						Cost Estimate	$ 47,238	$ 31,913
20	2022	Mainline - Joint Patching 10%	10	281.60	SY	$ 180.00	$ 50,688	$ 23,133.34
		Mainline and Shoulder - Clean and Seal Joints 100%	100	32,032.00	Lin Ft	$ 1.00	$ 32,032	$ 14,618.99
		Mainline - Grinding 100%	100	14,080.00	SY	$ 1.75	$ 24,640	$ 11,245.37
						Cost Estimate	$ 107,360	$ 48,998
30	2032	Mainline - Joint Patching 10%	10	281.60	SY	$ 180.00	$ 50,688	$ 15,628.06
		Mainline and Shoulders - Overlay AC Base	2.5	3,693.80	Tons	$ 34.00	$ 125,589	$ 38,721.49
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 27,332.82
						Cost Estimate	$ 264,928	$ 81,682
40	2042	Mainline - Pre-Overlay Full-Depth Patching of AC Layers 5%	4	154.18	Tons	$ 90.00	$ 13,876	$ 2,890.19
		Mainline - Joint Patching of Underlying PCC 5%	5	140.80	SY	$ 180.00	$ 25,344	$ 5,278.88
		Mainline - Mill	2	28,160.00	SY-in	$ 0.50	$ 14,080	$ 2,932.71
		Mainline - Replace AC Intermediate	2	1,541.76	Tons	$ 34.00	$ 52,420	$ 10,918.48
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 18,465.07
						Cost Estimate	$ 194,371	$ 40,485
50	2052	Salvage Value		0.00	Lump Sum	$ (194,370.88)	$ -	$ -
						Cost Estimate	$ -	$ -
							Initial Const.	**$ 959,277.00**

Unbonded Jointed Plain Concrete with Tied PCC Shoulders

Total Travel Lanes Width =	24	Feet
Inside Shoulder Width =	10	Feet
Outside Shoulder Width =	12	Feet
Mainline Area =	126720	Square Feet
Inside Shoulder Area =	52800	Square Feet
Outside Shoulder Area =	63360	Square Feet
New Joint Spacing =	15	Feet
Existing PCC Width =	24	Feet (Total Width including shoulders)
Existing Joint Spacing =	40	Feet

Analysis Year	Calendar Year	Activity	Thick (inches) or Percentage (%)	Quantity	Unit	Unit Cost	Total	PWC
							Total PW	$ 1,162,354.97

Unbonded Jointed Plain Concrete Overlay with Wide Lane

Total Travel Lanes Width =	**26**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**10**	**Feet**
Mainline Area =	**137280**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**52800**	**Square Feet**
Joint Spacing =	**15**	**Feet**
Existing PCC Width =	**24**	**Feet**
Existing Joint Spacing =	**40**	**Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
0	2002	Mainline - JPCP Overlay	10	15,253.33	SY	$ 27.00	$ 411,840	$ 411,840.00
		Mainline - AC Bondbreaker	1.5	1,252.68	Tons	$ 25.00	$ 31,317	$ 31,317.00
		Mainline - Joint Patching	10	211.20	SY	$ 180.00	$ 38,016	$ 38,016.00
		Shoulder - AC Surface	1.5	963.60	Tons	$ 40.00	$ 38,544	$ 38,544.00
		Shoulder - AC Intermediate	2	1,284.80	Tons	$ 34.00	$ 43,683	$ 43,683.20
		Shoulder - AC Base	6.5	4,375.80	Tons	$ 31.00	$ 135,650	$ 135,649.80
		Shoulder - Stabilized Drainage Layer	1.5	1,009.80	Tons	$ 25.00	$ 25,245	$ 25,245.00
		Shoulder - CTA	9	5,940.00	Tons	$ 21.00	$ 124,740	$ 124,740.00
		Shoulder - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
						Cost Estimate	$ 849,035	$ 849,035
10	2012	Mainline - Joint Patching 3%	3	91.52	SY	$ 180.00	$ 16,474	$ 11,128.97
		Mainline and Shoulder - Clean and Seal Joints 100%	100	32,032.00	Lin Ft	$ 1.00	$ 32,032	$ 21,639.67
		Shoulders - Surface Treatment		11,733.33	SY	$ 1.50	$ 17,600	$ 11,889.93
						Cost Estimate	$ 66,106	$ 44,659
20	2022	Mainline - Joint Patching 10%	10	305.07	SY	$ 180.00	$ 54,912	$ 25,061.12
		Mainline - Clean and Seal Joints 100%	100	24,992.00	Lin Ft	$ 1.00	$ 24,992	$ 11,406.02
		Mainline - Grinding 100%	100	15,253.33	SY	$ 1.75	$ 26,693	$ 12,182.49
		Shoulders - Surface Treatment		11,733.33	SY	$ 1.50	$ 17,600	$ 8,032.41
						Cost Estimate	$ 124,197	$ 56,682
30	2032	Mainline - Joint Patching 10%	10	305.07	SY	$ 180.00	$ 54,912	$ 16,930.39
		Mainline and Shoulders - Overlay AC Base	2.5	3,693.80	Tons	$ 34.00	$ 125,589	$ 38,721.49
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 27,332.82
						Cost Estimate	$ 269,152	$ 82,985
40	2042	Mainline - Pre-Overlay Full-Depth Patching of AC Layers 5%	4	122.03	Tons	$ 90.00	$ 10,982	$ 2,287.51
		Mainline - Joint Patching of Underlying PCC 5%	5	152.53	SY	$ 180.00	$ 27,456	$ 5,718.78
		Mainline - Mill	2	30,506.67	SY-in	$ 0.50	$ 15,253	$ 3,177.10
		Mainline - Replace AC Intermediate	2	2,955.04	Tons	$ 34.00	$ 100,471	$ 20,927.08
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 18,465.07

Unbonded Jointed Plain Concrete Overlay with Wide Lane

Total Travel Lanes Width =	**26**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**10**	**Feet**
Mainline Area =	**137280**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**52800**	**Square Feet**
Joint Spacing =	**15**	**Feet**
Existing PCC Width =	**24**	**Feet**
Existing Joint Spacing =	**40**	**Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
						Cost Estimate	$ 242,814	$ 50,576
50	2052	Salvage Value		0.00	Lump Sum	$ (242,814.29)	$ -	$ -
						Cost Estimate	$ -	$ -
						Initial Const.	**$**	**849,035.00**
						Total PW	**$**	**1,083,935.88**

JPCP Construction with Tied PCC Shoulders

Total Travel Lanes Width =	**24**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**12**	**Feet**
Mainline Area =	**126720**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**63360**	**Square Feet**
Joint Spacing =	**15.00**	**Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
0	2002	Mainline - JPCP	12	14,080.00	SY	$ 27.00	$ 380,160	$ 380,160.00
		Mainline - CTA	6	4,752.00	Tons	$ 21.00	$ 99,792	$ 99,792.00
		Mainline - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
		Shoulder - JPCP	12	12,906.67	SY	$ 27.00	$ 348,480	$ 348,480.00
		Shoulder - CTA	9	6,534.00	Tons	$ 21.00	$ 137,214	$ 137,214.00
		Shoulder - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
		Mainline and Shoulder - Stabilized Drainage Layer	1.5	2,216.28	Tons	$ 25.00	$ 55,407	$ 55,407.00
						Cost Estimate	$ 1,021,053	$ 1,021,053
10	2012	Mainline - Joint Patching 3%	3	84.48	SY	$ 180.00	$ 15,206	$ 10,272.90
		Mainline and Shoulder - Clean and Seal Joints 100%	100	32,032.00	Lin Ft	$ 1.00	$ 32,032	$ 21,639.67
						Cost Estimate	$ 47,238	$ 31,913
20	2022	Mainline - Joint Patching 10%	10	281.60	SY	$ 180.00	$ 50,688	$ 23,133.34
		Mainline and Shoulder - Clean and Seal Joints 100%	100	32,032.00	Lin Ft	$ 1.00	$ 32,032	$ 14,618.99
		Mainline - Grinding 100%	100	14,080.00	SY	$ 1.75	$ 24,640	$ 11,245.37
						Cost Estimate	$ 107,360.00	$ 48,997.70
30	2032	Mainline - Joint Patching 10%	10	281.60	SY	$ 180.00	$ 50,688	$ 15,628.06
		Mainline and Shoulders - Overlay AC Base	2.5	3,693.80	Tons	$ 34.00	$ 125,589	$ 38,721.49
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 27,332.82
						Cost Estimate	$ 264,928	$ 81,682
40	2042	Mainline - Pre-Overlay Full-Depth Patching of AC Layers 5%	4	154.18	Tons	$ 90.00	$ 13,876	$ 2,890.19
		Mainline - Joint Patching of Underlying PCC 5%	5	140.80	SY	$ 180.00	$ 25,344	$ 5,278.88
		Mainline - Mill	2	28,160.00	SY-in	$ 0.50	$ 14,080	$ 2,932.71
		Mainline - Replace AC Intermediate	2	1,541.76	Tons	$ 34.00	$ 52,420	$ 10,918.48
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 18,465.07
						Cost Estimate	$ 194,371	$ 40,485
50	2052	Salvage Value		0.00	Lump Sum	$(194,370.88)	$ -	$ -
						Cost Estimate	$ -	$ -
							Initial Const.	**$ 1,021,053.00**

JPCP Construction with Tied PCC Shoulders

Total Travel Lanes Width =	24	Feet
Inside Shoulder Width =	10	Feet
Outside Shoulder Width =	12	Feet
Mainline Area =	126720	Square Feet
Inside Shoulder Area =	52800	Square Feet
Outside Shoulder Area =	63360	Square Feet
Joint Spacing =	15.00	Feet

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
							Total PW	$ 1,224,130.97

JPCP Construction with Wide Lanes

Total Travel Lanes Width =	**26**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**10**	**Feet**
Mainline Area =	**137280**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**52800**	**Square Feet**
Joint Spacing =	**15.00**	**Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
0	2002	Mainline - JPCP	12	15,253.33	SY	$ 27.00	$ 411,840	$ 411,840.00
		Mainline - Stablized Drainage Layer	1.5	1,252.68	Tons	$ 25.00	$ 31,317	$ 31,317.00
		Mainline - CTA	6	5,148.00	Tons	$ 21.00	$ 108,108	$ 108,108.00
		Mainline - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
		Shoulder - AC Surface	1.5	963.60	Tons	$ 40.00	$ 38,544	$ 38,544.00
		Shoulder - AC Intermediate	2	1,284.80	Tons	$ 34.00	$ 43,683	$ 43,683.20
		Shoulder - AC Base	6.5	4,375.80	Tons	$ 31.00	$ 135,650	$ 135,649.80
		Shoulder - Stabilized Drainage Layer	1.5	1,009.80	Tons	$ 25.00	$ 25,245	$ 25,245.00
		Shoulder - CTA	6	3,960.00	Tons	$ 21.00	$ 83,160	$ 83,160.00
		Shoulder - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
						Cost Estimate	$ 877,547	$ 877,547
10	2012	Mainline - Joint Patching 3%	3	91.52	SY	$ 180.00	$ 16,474	$ 11,128.97
		Mainline and Shoulder - Clean and Seal Joints 100%	100	32,032.00	Lin Ft	$ 1.00	$ 32,032	$ 21,639.67
		Shoulders - Surface Treatment		11,733.33	SY	$ 1.50	$ 17,600	$ 11,889.93
						Cost Estimate	$ 66,106	$ 44,659
20	2022	Mainline - Joint Patching 10%	10	305.07	SY	$ 180.00	$ 54,912	$ 25,061.12
		Mainline - Clean and Seal Joints 100%	100	24,992.00	Lin Ft	$ 1.00	$ 24,992	$ 11,406.02
		Mainline - Grinding 100%	100	15,253.33	SY	$ 1.75	$ 26,693	$ 12,182.49
		Shoulders - Surface Treatment		11,733.33	SY	$ 1.50	$ 17,600	$ 8,032.41
						Cost Estimate	$ 124,197	$ 56,682
30	2032	Mainline - Joint Patching 10%	10	305.07	SY	$ 180.00	$ 54,912	$ 16,930.39
		Mainline and Shoulders - Overlay AC Base	2.5	3,693.80	Tons	$ 34.00	$ 125,589	$ 38,721.49
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 27,332.82
						Cost Estimate	$ 269,152	$ 82,985
40	2042	Mainline - Pre-Overlay Full-Depth Patching of AC Layers 5%	4	13.56	Tons	$ 90.00	$ 1,220	$ 254.17
		Mainline - Joint Patching of Underlying PCC 5%	5	152.53	SY	$ 180.00	$ 27,456	$ 5,718.78
		Mainline - Mill	2	30,506.67	SY-in	$ 0.50	$ 15,253	$ 3,177.10
		Mainline - Replace AC Intermediate	2	2,955.04	Tons	$ 34.00	$ 100,471	$ 20,927.08
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 18,465.07

JPCP Construction with Wide Lanes

Total Travel Lanes Width =	**26**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**10**	**Feet**
Mainline Area =	**137280**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**52800**	**Square Feet**
Joint Spacing =	**15.00**	**Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
						Cost Estimate	$ 233,052	$ 48,542
50	2052	Salvage Value		0.00	Lump Sum	$(233,052.16)	$ -	$ -
						Cost Estimate	$ -	$ -

Initial Const.	**$ 877,547.00**
Total PW	**$ 1,110,414.54**

CRCP Construction with Tied PCC Shoulders

Total Travel Lanes Width =	**24**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**12**	**Feet**

Mainline Area =	**126720**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**63360**	**Square Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
0	2002	Mainline - CRCP	12	14,080.00	SY	$ 30.00	$ 422,400	$ 422,400.00
		Mainline and Shoulders - Stablized Drainage Layer	1.5	2,216.28	Tons	$ 34.00	$ 75,354	$ 75,353.52
		Mainline - CTA	6	4,752.00	Tons	$ 21.00	$ 99,792	$ 99,792.00
		Mainline - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
		Shoulder - CRCP	12	12,906.67	SY	$ 30.00	$ 387,200	$ 387,200.00
		Shoulder - CTA	6	4,356.00	Tons	$ 21.00	$ 91,476	$ 91,476.00
		Shoulder - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
						Cost Estimate	$ 1,076,222	$ 1,076,222
10	2012	Mainline - Crack/Punchout Repair 2%	2	281.60	SY	$ 200.00	$ 56,320	$ 38,047.77
		Mainline and Shoulders - Clean and Seal Longitudinal Joints	100	15,840.00	Lin Ft	$ 1.00	$ 15,840	$ 10,700.94
						Cost Estimate	$ 72,160	$ 48,749
20	2022	Mainline - Crack/Punchout Repair 5%	5	704.00	SY	$ 200.00	$ 140,800	$ 64,259.28
		Mainline and Shoulders - Overlay AC Intermediate	2	2,955.04	Tons	$ 34.00	$ 100,471	$ 45,853.82
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 40,459.25
						Cost Estimate	$ 329,923	$ 150,572
30	2032	Mainline - Crack/Punchout Repair 5%	5	704.00	SY	$ 200.00	$ 140,800	$ 43,411.27
		Mainline - Pre-Overlay Full-Depth Patching of AC Layers 5%	3.5	134.90	Tons	$ 90.00	$ 12,141	$ 3,743.41
		Mainline - Mill	2	28,160.00	SY-in	$ 0.50	$ 14,080	$ 4,341.13
		Mainline - Replace AC Wearing Course	2	1,541.76	Tons	$ 40.00	$ 61,670	$ 19,014.14
		Shoulders - Surface Treatment		12,906.67	SY	$ 1.50	$ 19,360	$ 5,969.05
						Cost Estimate	$ 248,052	$ 76,479
40	2042	Mainline - Crack/Punchout Repair 10%	10	1,408.00	SY	$ 200.00	$ 281,600	$ 58,654.19
		Mainline - Mill	3.5	49,280.00	SY-in	$ 0.50	$ 24,640	$ 5,132.24
		Mainline - Replace AC Intermediate Course	2	1,541.76	Tons	$ 34.00	$ 52,420	$ 10,918.48
		Mainline - Replace AC Wearing Course	1.5	1,156.32	Tons	$ 40.00	$ 46,253	$ 9,633.95
		Shoulders - Surface Treatment		12,906.67	SY	$ 1.50	$ 19,360	$ 4,032.48
						Cost Estimate	$ 424,273	$ 88,371
40	2042	Salvage Value		0.00	Lump Sum	$ 424,272.64	$ -	$ -
						Cost Estimate	$ -	$ -

CRCP Construction with Tied PCC Shoulders

Total Travel Lanes Width =	24	Feet
Inside Shoulder Width =	10	Feet
Outside Shoulder Width =	12	Feet

Mainline Area =	126720	Square Feet
Inside Shoulder Area =	52800	Square Feet
Outside Shoulder Area =	63360	Square Feet

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
							Initial Const.	$ 1,076,221.52
							Total PW	$ 1,440,392.91

CRCP Construction with Wide Lane and AC Shoulders

Total Travel Lanes Width =	**26**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**10**	**Feet**

Mainline Area =	**137280**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**52800**	**Square Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
0	2002	Mainline - CRCP	12	15,253.33	SY	$ 30.00	$ 457,600	$ 457,600.00
		Mainline - Stabilized Drainage Layer	1.5	1,252.68	Tons	$ 25.00	$ 31,317	$ 31,317.00
		Mainline - CTA	6	5,148.00	Tons	$ 21.00	$ 108,108	$ 108,108.00
		Mainline - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Mainline - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
		Shoulder - AC Surface	1.5	963.60	Tons	$ 40.00	$ 38,544	$ 38,544.00
		Shoulder - AC Intermediate	3	1,927.20	Tons	$ 34.00	$ 65,525	$ 65,524.80
		Shoulder - AC Base	7.5	5,049.00	Tons	$ 31.00	$ 156,519	$ 156,519.00
		Shoulder - Stabilized Drainage Layer	1.5	1,009.80	Tons	$ 25.00	$ 25,245	$ 25,245.00
		Shoulder - CTA	6	3,960.00	Tons	$ 21.00	$ 83,160	$ 83,160.00
		Shoulder - 21A	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - 21B	0	0.00	Tons	$ 18.00	$ -	$ -
		Shoulder - Type 1 Aggregate	0	0.00	Tons	$ 15.00	$ -	$ -
						Cost Estimate	$ 966,018	$ 966,018
10	2012	Mainline - Crack/Punchout Repair 2%	2	305.07	SY	$ 1.00	$ 305	$ 206.09
		Mainline and Shoulders - Clean and Seal Longitudinal Joints	100	15,840.00	Lin Ft	$ 1.00	$ 15,840	$ 10,700.94
		Shoulders - Surface Treatment		11,733.33	SY	$ 1.50	$ 17,600	$ 11,889.93
						Cost Estimate	$ 33,745	$ 22,797
20	2022	Mainline - Crack/Punchout Repair 5%	5	762.67	SY	$ 200.00	$ 152,533	$ 69,614.22
		Mainline and Shoulders - Overlay AC Intermediate	2	2,955.04	Tons	$ 34.00	$ 100,471	$ 45,853.82
		Mainline and Shoulders - Overlay AC Wearing Course	1.5	2,216.28	Tons	$ 40.00	$ 88,651	$ 40,459.25
						Cost Estimate	$ 341,656	$ 155,927
30	2032	Mainline - Crack/Punchout Repair 5%	5	762.67	SY	$ 200.00	$ 152,533	$ 47,028.87
		Mainline - Pre-Overlay Full-Depth Patching of AC Layers 5%	5	192.72	Tons	$ 90.00	$ 17,345	$ 5,347.73
		Mainline - Mill	2	30,506.67	SY-in	$ 0.50	$ 15,253	$ 4,702.89
		Mainline - Replace AC Wearing Course	2	1,670.24	Tons	$ 40.00	$ 66,810	$ 20,598.65
		Shoulders - Surface Treatment		11,733.33	SY	$ 1.50	$ 17,600	$ 5,426.41
						Cost Estimate	$ 269,541	$ 83,105
40	2042	Mainline - Crack/Punchout Repair 10%	10	1,525.33	SY	$ 200.00	$ 305,067	$ 63,542.04
		Mainline - Mill	3.5	53,386.67	SY-in	$ 0.50	$ 26,693	$ 5,559.93
		Mainline - Replace AC Intermediate Course	2	1,670.24	Tons	$ 34.00	$ 56,788	$ 11,828.35
		Mainline - Replace AC Wearing Course	1.5	1,252.68	Tons	$ 40.00	$ 50,107	$ 10,436.78
		Shoulders - Surface Treatment		11,733.33	SY	$ 1.50	$ 17,600	$ 3,665.89

CRCP Construction with Wide Lane and AC Shoulders

Total Travel Lanes Width =	**26**	**Feet**
Inside Shoulder Width =	**10**	**Feet**
Outside Shoulder Width =	**10**	**Feet**

Mainline Area =	**137280**	**Square Feet**
Inside Shoulder Area =	**52800**	**Square Feet**
Outside Shoulder Area =	**52800**	**Square Feet**

Analysis Year	Calendar Year	Activity	Thick (inches)	Quantity	Unit	Unit Cost	Total	PWC
						Cost Estimate	$ 456,255	$ 95,033
50	2052	Salvage Value		0.00	Lump Sum	$ (456,255.36)	$ -	$ -
						Cost Estimate	$ -	$ -

Initial Const.	**$ 966,017.80**
Total PW	**$ 1,322,879.58**

Summary Data

Project Name:	Demo
Contract Number:	ABC123 C501
District:	1
County:	12
Route:	SR 896
From Location:	County Line
To Location:	EOC
From Station:	0
To Station:	5280
Number of Travel Lanes:	2
Number of Directions:	1

LCCA Pavement Option	Initial Construction Cost	Present Worth Cost - LCCA	% Diff
AC Construction	$ 870,026.52	$ 1,140,894.49	5%
Fracture PCC w/AC Overlay	$ 851,172.52	$ 1,086,731.27	0%
Unbonded JPCP with Tied Shoulders	$ 959,277.00	$ 1,162,354.97	7%
Unbonded JPCP with Wide Lanes	$ 849,035.00	$ 1,083,935.88	0%
JPCP with Tied Shoulders	$ 1,021,053.00	$ 1,224,130.97	11%
JPCP with Wide Lane	$ 877,547.00	$ 1,110,414.54	2%
CRCP with Tied Shoulders	$ 1,076,221.52	$ 1,440,392.91	25%
CRCP with Wide Lane	$ 966,017.80	$ 1,322,879.58	18%

% Difference - defined as 1 minus the Lowest Option's Present Worth Cost divided by the Option's Present Worth Cost