



Calendar Year 2016 Report on

Life-Cycle Cost Analyses

January 2017



Prepared by

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The cost of preparing this report is less than \$5,000.

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Legislative Request

This report is required by [Minn. Stat. 174.185](#), which requires a life-cycle cost analysis for every project in the reconditioning, resurfacing and road repair funding categories constructed after July 1, 2011. The LCCA is a comparison of life-cycle costs among competing paving materials using equal design lives and equal comparison periods. Documentation required by the statute includes:

- Lowest life-cycle cost
- Alternatives considered
- Chosen strategy
- Documented justification, if the chosen strategy isn't the low cost

174.185 PAVEMENT LIFE-CYCLE COST ANALYSIS.

Subd. 1. Definitions.

For the purposes of this section, the following definitions apply.

(a) "Life-cycle cost" is the sum of the cost of the initial pavement project and all anticipated costs for maintenance, repair, and resurfacing over the life of the pavement. Anticipated costs must be based on Minnesota's actual or reasonably projected maintenance, repair, and resurfacing schedules, and costs determined by the Department of Transportation district personnel based upon recently awarded local projects and experience with local material costs.

(b) "Life-cycle cost analysis" is a comparison of life-cycle costs among competing paving materials using equal design lives and equal comparison periods.

Subd. 2. Required analysis.

For each project in the reconditioning, resurfacing and road repair funding categories, the commissioner shall perform a life-cycle cost analysis and shall document the lowest life-cycle costs and all alternatives considered. The commissioner shall document the chosen pavement strategy and, if the lowest life cycle is not selected, document the justification for the chosen strategy. A life-cycle cost analysis is required for projects to be constructed after July 1, 2011. For projects to be constructed prior to July 1, 2011, when feasible, the department will use its best efforts to perform life-cycle cost analyses.

Subd. 3. Report.

The commissioner shall report annually to the chairs and ranking minority members of the senate and house of representatives committees with jurisdiction over transportation finance beginning on January 1, 2012, the results of the analyses required in subdivision 2.

Life-cycle Cost Analysis Report

Implementation

[Minn. Stat. 174.185](#) requires a life-cycle cost analysis for every project in the reconditioning, resurfacing and road repair funding categories constructed after July 1, 2011.

MnDOT first implemented a LCCA process for roadway rehabilitation projects in 1999. The LCCA process was modified in 2010 to meet the specific requirements of legislation and was presented in [Technical Memorandum 10-04-MAT-01](#). After the technical memorandum expired, the LCCA process, with some modifications, was incorporated into the MnDOT Pavement Design Manual which went into effect October 31st, 2014.

The LCCA process, which is consistent with Federal Highway Administration guidelines, is performed on all pavement projects regardless of funding category, but only the results of projects in the reconditioning, resurfacing and road repair funding categories are included in this report. The LCCA process limits the requirement to perform a LCCA to projects with more than 60,000 square yards of pavement (formerly 30,000 square yards in the technical memorandum) and to projects that include placing more than two-inch thickness of pavement material. Thin overlays (two inches or less) are considered short-term preventive maintenance and do not have a viable concrete alternative with an equal design life.

The LCCA process requires the inclusion of at least one portland cement concrete and one hot-mix asphalt alternate with equal design lives. To best determine the most cost effective design, the LCCA may include additional alternatives with other design lives.

Technical Memorandum 10-04-MAT-01 was superseded by the updated Pavement Design Manual when it was signed on October 31st, 2014; however, some LCCAs for projects constructed this year were already completed and this report will follow the LCCA procedure that was in effect at the time of the completion of each project's LCCA.

Results

In 2016, 32 construction projects were in the reconditioning, resurfacing and road repair funding categories and required a LCCA according to Technical Memorandum 10-04-MAT-01 or the MnDOT Pavement Design Manual. A LCCA was not provided for one project (SP 7608-19) which used the design-build process.

The results of the 31 LCCAs are as follows:

- Hot-mix asphalt was the low-cost option for 29 construction projects and all were selected for construction.
- Portland cement concrete was the low-cost option for two construction projects and one was selected for construction.
- One project had a portland cement concrete option as the low cost option but a HMA option was selected for construction instead. Documented justification for selecting other than the low-cost option is provided.
- In previous years the selected option of several projects was chosen using the alternate bidding process. This year no projects used the alternate bidding process.

A table of LCCA results and copies of the LCCAs submitted by MnDOT districts are attached.

Discussion

Hot-mix asphalt is most often the low-cost option in the submitted LCCAs. Portland cement concrete options usually have a greater initial cost than hot-mix asphalt, but become competitive by having lower maintenance costs over the life of the pavement. However, the relatively short design lives of these rehabilitation-type projects do not allow portland cement concrete options to exploit this relative advantage. Portland cement concrete options with longer design lives than hot-mix asphalt alternates are more competitive than the portland cement concrete options with the equal design lives required by the statute.

Recently, procedures were developed to implement two new portland cement concrete pavement design programs. These new programs resulted in substantially thinner pavement designs that reduce the initial cost of constructing portland cement concrete pavements and increase competitiveness. In addition, a research project has been started to develop a new procedure to design portland cement concrete pavements that are built on top of existing portland cement concrete pavements.

To create competition and to get the most cost-effective pavement, MnDOT continues to use the alternate bidding process on projects that are likely to have competitive hot-mix asphalt and portland cement concrete options. No projects in the reconditioning, resurfacing and road repair funding categories used the alternate bidding process this year.

The alternate bidding process is similar to using an LCCA to determine the low-cost option. However, instead of using an estimate for the initial cost of an option, alternate bidding uses actual bid prices. The process is as follows:

1. MnDOT lets a project with two options, one hot-mix asphalt and one portland cement concrete.

2. MnDOT calculates a maintenance factor. This is the difference between the maintenance costs of the two options.
3. Each contractor bids on either of the two options.
4. MnDOT adjusts the bids by adding the maintenance factor to the bids of the option with the greater maintenance costs.
5. MnDOT selects the bid with the lowest adjusted bid.

Conclusion

MnDOT implemented the requirements of [Minn. Stat. 174.185](#) and provided the required results in this report. MnDOT will continue to work to ensure that all future projects meet the requirements of the legislation. In addition, MnDOT is innovating new pavement design methods to design the most cost-effective pavement structure.

Appendix A: Summary of LCCA Results

State Project Number (SP#)	Existing Pavement Type	Exception for low-cost option?	Design Life (in years)	Option Description	Present Worth	Optional Material (1)	Selected Option (2)	Alternate Bid? (3)
0305-34	PCC	No	13	HMA Overlay	\$8,174,164.00	HMA	X	No
			20	HMA Overlay	\$6,010,575.00	HMA		
			20	PCC Overlay	\$13,021,861.00	PCC		
0507-14	HMA	No	20	PCC over FDR	\$5,623,358.00	PCC	X	No
			20	HMA over FDR	\$3,487,636.00	HMA		
			35	PCC over FDR	\$4,130,586.00	PCC		
0605-16	PCC	No	20	HMA Overlay	\$6,634,083.00	HMA	X	No
			20	PCC Overlay	\$12,658,213.00	PCC		
0803-43	PCC	No	20	New HMA	\$14,291,462.00	HMA	X	No
			20	PCC Overlay	\$8,625,001.00	PCC		
			35	PCC Overlay	\$6,864,707.00	PCC		
0807-14	HMA	No	14	HMA Overlay	\$3,244,027.00	HMA	X	No
			20	HMA Overlay	\$3,397,449.00	HMA		
			20	PCC Overlay	\$3,972,689.00	PCC		
0902-12	HMA	No	15	HMA Overlay	\$4,132,198.00	HMA	X	No
			20	PCC overlay	\$6,291,637.00	PCC		
			20	HMA over FDR	\$5,099,600.00	HMA		
1802-51	HMA	No	15	HMA Overlay	\$2,386,576.00	HMA	X	No
			20	PCC Overlay	\$3,487,969.00	PCC		
			20	HMA over FDR	\$2,942,518.00	HMA		
1921-98	PCC	No	19	HMA Overlay	\$2,853,616.00	HMA	X	No
			20	HMA over Rubblized	\$3,147,719.00	HMA		
			20	PCC Overlay	\$3,518,166.00	PCC		
2506-75	HMA	No	17	HMA Overlay	\$12,124,681.00	HMA	X	No
			20	HMA Overlay	\$12,938,899.00	HMA		
			20	PCC Overlay	\$20,026,129.00	PCC		
2601-19	HMA	No	20	HMA Overlay	\$6,596,473.00	HMA	X	No
			20	PCC Overlay	\$10,817,307.00	HMA		
2772-105	PCC	No	19	HMA Overlay	\$3,084,642.00	HMA	X	No
			20	HMA over Rubblization	\$6,240,785.00	HMA		
			20	PCC Overlay	\$4,044,625.00	PCC		
2801-87	HMA	No	15	HMA Overlay	\$1,426,265.00	HMA	X	No
			20	HMA Overlay	\$1,435,870.00	HMA		
			20	PCC Overlay	\$1,965,109.00	PCC		
3505-19	HMA	No	20	HMA Overlay	\$4,724,098.00	HMA	X	No
			20	PCC Overlay	\$13,859,166.00	PCC		

State Project Number (SP#)	Existing Pavement Type	Exception for low-cost option?	Design Life (in years)	Option Description	Present Worth	Optional Material (1)	Selected Option (2)	Alternate Bid? (3)
3614-20	HMA	No	15	HMA Overlay	\$4,685,619.00	HMA	X	No
			20	HMA on FDR	\$12,163,235.00	HMA		
			20	New PCC	\$14,621,698.00	PCC		
4101-89	HMA	No	15	HMA Overlay	\$3,148,943.00	HMA	X	No
			20	PCC Overlay	\$4,371,281.00	PCC		
			20	HMA over FDR	\$3,791,054.00	HMA		
4680-126	PCC	No	15	HMA Overlay	\$8,277,617.00	HMA	X	No
			20	PCC Overlay	\$10,317,891.00	PCC		
			20	HMA Overlay	\$8,299,064.00	HMA		
5880-180	HMA	No	20	PCC over FDR	\$18,619,515.00	PCC		No
			20	HMA over FDR	\$13,833,410.00	HMA	X	
			35	PCC over FDR	\$16,217,146.00	PCC		
6284-166	PCC	No	14	HMA Overlay	\$5,086,061.00	HMA	X	No
			20	PCC Overlay	\$10,357,692.00	PCC		
			20	HMA on Rubblization	\$9,661,163.00	HMA		
6407-89	HMA	No	17	HMA Overlay	\$2,300,977.00	HMA	X	No
			20	HMA over FDR	\$3,018,614.00	HMA		
			20	PCC Overlay	\$3,661,703.00	PCC		
6501-12	HMA	No	18	HMA overlay	\$4,469,452.00	HMA	X	No
			20	PCC Overlay	\$6,788,331.00	PCC		
			20	HMA on FDR	\$6,150,286.00	HMA		
6607-49	HMA	Yes	15	HMA Overlay	\$6,668,013.00	HMA	X	No
			20	PCC Overlay	\$8,579,067.00	PCC		
			20	HMA on CIR	\$6,327,016.00	HMA		
6910-96	PCC	No	15	HMA Overlay	\$976,850.00	HMA	X	No
			20	New HMA	\$1,942,330.00	HMA		
			20	New PCC	\$2,029,799.00	PCC		
			35	New PCC	\$2,089,533.00	PCC		
6917-142	PCC	No	15	HMA Overlay	\$4,081,476.00	HMA	X	No
			20	New PCC	\$6,040,545.00	PCC		
			20	NEW HMA/SFDR	\$5,461,731.00	HMA		
6947-50	PCC	No	15	HMA Overlay	\$7,219,370.00	HMA	X	No
			20	New HMA	\$11,204,829.00	HMA		
			20	New PCC	\$13,990,691.00	PCC		
7318-39	HMA	No	14	HMA Overlay	\$9,965,340.00	HMA	X	No
			20	PCC Overlay	\$11,355,580.00	PCC		
			20	HMA on FDR	\$12,644,470.00	HMA		

State Project Number (SP#)	Existing Pavement Type	Exception for low-cost option?	Design Life (in years)	Option Description	Present Worth	Optional Material (1)	Selected Option (2)	Alternate Bid? (3)
7323-12	HMA	No	20	PCC over FDR	\$11,834,083.00	PCC	X	No
			20	HMA over FDR	\$8,259,839.00	HMA		
			35	PCC Over FDR	\$8,749,127.00	PCC		
7380-239	PCC	No	20	PCC Overlay	\$4,318,977.00	PCC	X	No
			20	New HMA	\$6,041,069.00	HMA		
			35	PCC Overlay	\$3,730,836.00	PCC		
7605-89	HMA	No	18	HMA Overlay	\$575,533.00	HMA	X	No
			18	PCC Overlay	\$613,734.00	PCC		
			18	PCC Overlay	\$850,845.00	PCC		
7608-19 LCCA Not Provided - Design Build Project								
7609-10	HMA	No	20	HMA Overlay	\$235,714.00	HMA	X	No
			20	PCC Overlay	\$434,750.00	PCC		
7709-16	HMA	No	13	HMA Overlay	\$3,790,209.00	HMA	X	No
			15	HMA Overlay	\$3,071,209.00	HMA		
			20	PCC Overlay	\$3,941,654.00	PCC		
8101-57	PCC	No	15	HMA overlay	\$6,141,538.00	HMA	X	No
			20	PCC Overlay	\$6,392,040.00	PCC		
			20	New HMA	\$8,617,363.00	HMA		

(1) Option material - The pavement material that each option utilizes.

(2) Selected Option- This is marked (X) if the pavement option was selected to be constructed.

If the project uses alternate bidding, more than one option will be marked and the constructed option will be the low-cost option as determined by alternate bidding.

(3) Alternate Bidding? - 'Yes' if the project used alternate bidding to select which option to construct.

Definitions:

HMA = Hot-Mix Asphalt

PCC = Portland Cement Concrete

FDR = Full-Depth Reclamation (recycle existing HMA and Base to use as a new base)

CIR = Cold-in-Place Recycling (Recycle a layer of existing HMA with Cold-Mix Asphalt)

CPR = Concrete Pavement Repair

Rubblize = Break the existing PCC into pieces to act as the new base for HMA pavement

Crack & Seat = Crack and compact the existing PCC pavement to delay reflective cracking in an HMA overlay

Appendix B: Copies of LCCAs



Project Number	Analysis Period
SP0305-34	35
Highway	Discount Rate
TH 59	1.58%
Date	
10/20/2016	
Performed By	
Andrea Azary	
D4 - 2016/2017 prices	
CLEAR ALL	

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	22.09		1	22.09		1	22.09		1	22.09	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	TH 59 SP 0305-34 1.5" M&OL		2	Mill 1.5 " fill 3"		3	6" UBOL				
Pavement Type		Pavement Type		Pavement Type		Pavement Type					
HMA		HMA		PCC		PCC					
Primary Category		Primary Category		Primary Category		Primary Category					
Overlay, DL =13 to 17 years		Overlay, DL > 17 years		Design Life = 20 Years		Design Life = 20 Years					
Secondary Category		Secondary Category		ShoulderCategory		ShoulderCategory					
Rural		Rural		Bituminous		Bituminous					
ShoulderCategory		ShoulderCategory		Thin Bit		Thin Bit					
Bituminous		DELETE		DELETE		DELETE		DELETE		DELETE	
Notes:				Notes:				Notes:			
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile
0	1 1/2" Mill & Fill	\$ 98,040.64	\$ 98,040.64	0	Mill 1. 5 and fill 3 in	\$ 150,890.69	\$ 150,890.69	0	6" UBOL	\$ 374,489.84	\$ 374,489.84
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 2,112.00	\$ 2,014.97	3	Crack Treatment	\$ 2,112.00	\$ 2,014.97	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ 7,716.84	\$ 6,914.83	7	Seal	\$ 7,716.84	\$ 6,914.83	7		\$ -	\$ -
8		\$ -	\$ -	8		\$ -	\$ -	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12		\$ -	\$ -	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -
16	Crack Treatment	\$ 2,112.00	\$ 1,643.47	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20	Seal	\$ 7,716.84	\$ 5,639.95	20	ML Overlay 3.5"	\$ 173,573.75	\$ 126,858.59	20	1st CPR	\$ 294,174.75	\$ 215,001.37
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23		\$ -	\$ -	23	Crack Treatment	\$ 2,112.00	\$ 1,472.67	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27	Seal	\$ 7,716.84	\$ 5,053.80	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32	Seal	\$ 7,716.84	\$ 4,672.79	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (15,779.43)	\$ (9,115.99)	35	Remaining Life	\$ (36,541.84)	\$ (21,110.72)	35	0/0 Remaining	\$ -	\$ -
LCCA SUMMARY				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile			
Segment #1				\$ 370,039.13				\$ 272,094.83			
Net Present Cost				\$ 271,998.49				\$ 589,491.21			
Segment #2				\$ 121,204.14				\$ 215,001.37			
Net Present Cost				\$ 8,174,164.28				\$ 13,021,860.83			
Segment #3				\$ 6,008,446.54				\$ 4,749,380.27			
Project Net Present Cost				\$ 6,008,446.54				\$ 4,749,380.27			
Bid Adjustment Factor				\$ 3,331,047.15				\$ 2,071,980.87			
Equivalent Annual Cost				\$ 305,839.45				\$ 224,887.93			
Equivalent Annual Cost				\$ 224,887.93				\$ 487,217.85			
Total Lane Width				# of Lanes				Analysis Period			
24				2				35			
Total Shdr Width</td											

35-Year Analysis Period

50 - Year

50-Year Analysis Period

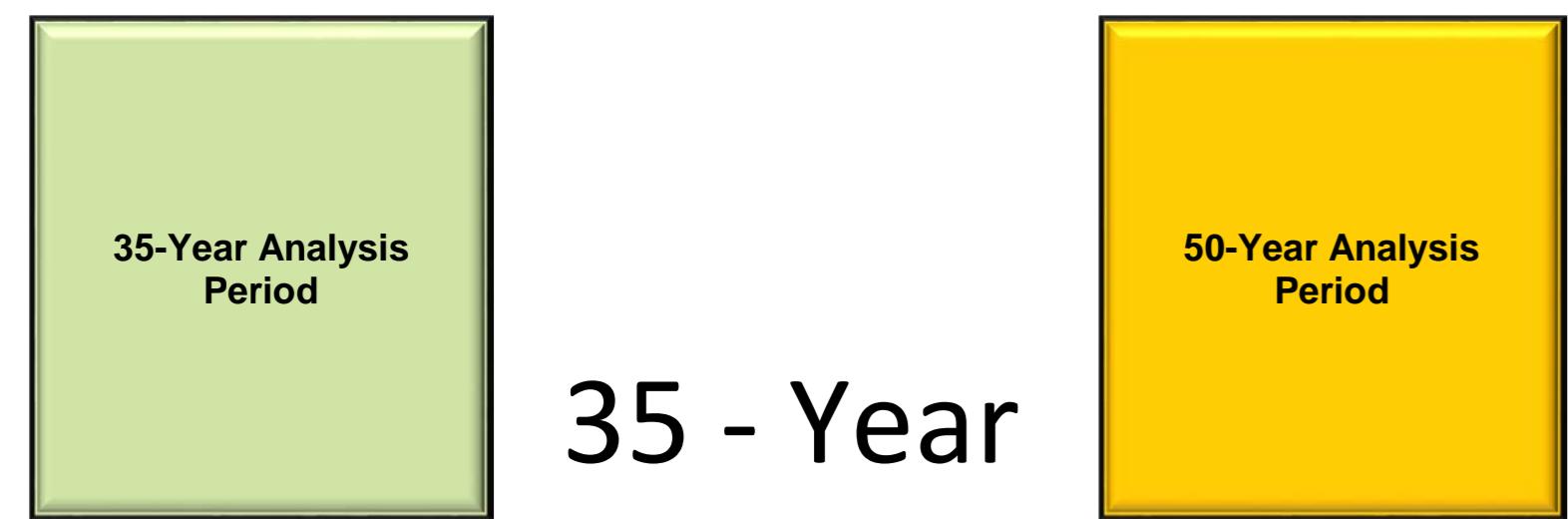
Project Number	Analysis Period
SP 0507-14	50
Highway	Discount Rate
	1.74%
Date	
Performed By	CLEAR ALL

District 3 - 2015/2016
prices

LCCA SUMMARY				
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1 Net Present Cost	FDR w/4" HMA ML & Shld. \$3,487,635.71	FDR w/6" PCC ML & PCC Shld. \$5,623,357.50	FDR w/6" PCC ML & Bit Shld. \$4,130,585.90	5.3 Miles
Segment #2 Net Present Cost				0.0 Miles
Segment #3 Net Present Cost				0.0 Miles
Segment #4 Net Present Cost				0.0 Miles
Segment #5 Net Present Cost				0.0 Miles
Segment #6 Net Present Cost				0.0 Miles
Segment #7 Net Present Cost				0.0 Miles
Segment #8 Net Present Cost				0.0 Miles
Project Net Present Cost	\$ 3,487,635.71	\$ 5,623,357.50	\$ 4,130,585.90	Total
% of Low Cost	100.0%	161.2%	118.4%	5.3

BID ADJUSTMENT FACTOR SUMMARY				
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1 Net Present Cost	FDR w/4" HMA ML & Shld. \$1,740,232.73	FDR w/6" PCC ML & PCC Shld. \$2,256,329.18	FDR w/6" PCC ML & Bit Shld. \$1,222,529.49	5.3 Miles
Segment #2 Net Present Cost				0.0 Miles
Segment #3 Net Present Cost				0.0 Miles
Segment #4 Net Present Cost				0.0 Miles
Segment #5 Net Present Cost				0.0 Miles
Segment #6 Net Present Cost				0.0 Miles
Segment #7 Net Present Cost				0.0 Miles
Segment #8 Net Present Cost				0.0 Miles
Project Net Present Cost	\$ 1,740,232.73	\$ 2,256,329.18	\$ 1,222,529.49	Total
Bid Adjustment Factor	\$ 517,703.24	\$ 1,033,799.68	\$ -	5.3

Segment 1					
SEG	Length	SEG	Length	SEG	
1	5.307	1	5.307	1	5.307
ALT		ALT		ALT	
1	FDR w/4" HMA ML & Shld.	2	FDR w/6" PCC ML & PCC Shld.	3	FDR w/6" PCC ML & Bit Shld.
Pavement Type	HMA	Pavement Type	PCC	Pavement Type	PCC
Primary Category	20 Year HMA	Primary Category	≥12 Joint spacing	Primary Category	≥12 Joint spacing
Secondary Category	Rural	Secondary Category	Design Life = 20 Years	Secondary Category	Design Life 35 Years
ShoulderCategory	Bituminous	ShoulderCategory	PCC	ShoulderCategory	Thin Bit
Notes:					
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	X X	
0	FDR w/4" HMA	\$ 329,263.80	\$ 329,263.80		
1		\$ -	\$ -	1	
2		\$ -	\$ -	2	
3		\$ -	\$ -	3	
4		\$ -	\$ -	4	
5		\$ -	\$ -	5	
6		\$ -	\$ -	6	
7		\$ -	\$ -	7	
8	Crack Treatment	\$ 1,056.00	\$ 919.88	8	
9		\$ -	\$ -	9	
10		\$ -	\$ -	10	
11		\$ -	\$ -	11	
12	Seal	\$ 11,894.00	\$ 9,670.02	12	
13		\$ -	\$ -	13	
14		\$ -	\$ -	14	
15		\$ -	\$ -	15	
16		\$ -	\$ -	16	
17		\$ -	\$ -	17	
18		\$ -	\$ -	18	
19		\$ -	\$ -	19	
20	ML Overlay 4	\$ 279,794.25	\$ 198,154.58	20	
21		\$ -	\$ -	21	
22		\$ -	\$ -	22	
23	Crack Treatment	\$ 2,112.00	\$ 1,420.31	23	
24		\$ -	\$ -	24	
25		\$ -	\$ -	25	
26		\$ -	\$ -	26	
27	Seal	\$ 8,101.01	\$ 5,084.67	27	
28		\$ -	\$ -	28	
29		\$ -	\$ -	29	
30		\$ -	\$ -	30	
31		\$ -	\$ -	31	
32		\$ -	\$ -	32	
33		\$ -	\$ -	33	
34		\$ -	\$ -	34	
35		\$ -	\$ -	35	
36		\$ -	\$ -	36	
37	ML Overlay 3.5"	\$ 251,372.51	\$ 132,777.24	37	
38		\$ -	\$ -	38	
39		\$ -	\$ -	39	
40	Crack Treatment	\$ 2,112.00	\$ 1,059.31	40	
41		\$ -	\$ -	41	
42		\$ -	\$ -	42	
43		\$ -	\$ -	43	
44	Chip Seal	\$ 8,101.01	\$ 3,792.30	44	
45		\$ -	\$ -	45	
46		\$ -	\$ -	46	
47		\$ -	\$ -	47	
48		\$ -	\$ -	48	
49		\$ -	\$ -	49	
50	4/17 Remaining Life	\$ (59,146.47)	\$ (24,965.61)	50	
5/20 Remaining					
Year	Activity	Cost	Pres. Cost/per Mile	X X	
0	FDR w/ 6" PCC ML & Shld.	\$ 634,450.41	\$ 634,450.41		
1		\$ -	\$ -	1	
2		\$ -	\$ -	2	
3		\$ -	\$ -	3	
4		\$ -	\$ -	4	
5		\$ -	\$ -	5	
6		\$ -	\$ -	6	
7		\$ -	\$ -	7	
8		\$ -	\$ -	8	
9		\$ -	\$ -	9	
10		\$ -	\$ -	10	
11		\$ -	\$ -	11	
12		\$ -	\$ -	12	
13		\$ -	\$ -	13	
14		\$ -	\$ -	14	
15		\$ -	\$ -	15	
16		\$ -	\$ -	16	
17		\$ -	\$ -	17	
18		\$ -	\$ -	18	
19		\$ -	\$ -	19	
20	1st CPR	\$ 217,077.08	\$ 153,737.32	20	
21		\$ -	\$ -	21	
22		\$ -	\$ -	22	
23		\$ -	\$ -	23	
24		\$ -	\$ -	24	
25		\$ -	\$ -	25	
26		\$ -	\$ -	26	
27		\$ -	\$ -	27	
28		\$ -	\$ -	28	
29		\$ -	\$ -	29	
30		\$ -	\$ -	30	
31		\$ -	\$ -	31	
32		\$ -	\$ -	32	
33		\$ -	\$ -	33	
34		\$ -	\$ -	34	
35	Remove and Replace	\$ 615,157.60	\$ 336,337.84	35	
36		\$ -	\$ -	36	
37		\$ -	\$ -	37	
38		\$ -	\$ -	38	
39		\$ -	\$ -	39	
40	2nd CPR	\$ 168,667.89	\$ 92,219.29	40	
41		\$ -	\$ -	41	
42		\$ -	\$ -	42	
43		\$ -	\$ -	43	
44		\$ -	\$ -	44	
45		\$ -	\$ -	45	
46		\$ -	\$ -	46	
47		\$ -	\$ -	47	
48		\$ -	\$ -	48	
49		\$ -	\$ -	49	
50	0/0 Remaining	\$ -	\$ -	50	
LCCA - Net Present Cost/ per Mile					
		\$ 657,176.51			
Maintenance - Net Present Cost/ per Mile					
		\$ 327,912.71			
Net Present Cost for Segment					
		\$ 3,487,635.71			
Maintenance - Net Present Cost for Segment					
		\$ 1,740,232.73			
Equivalent Annual Cost					
		\$ 105,008.92			
LCCA - Net Present Cost/ per Mile					
		\$ 1,059,611.36			
Maintenance - Net Present Cost/ per Mile					
		\$ 425,160.95			
Net Present Cost for Segment					



Project Number	Analysis Period
0605-16	35
Highway	Discount Rate
28	1.58%
Date	
Performed By	CLEAR ALL

D4 - 2016/2017 prices

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	22.606		1	22.606		1	22.606		1	22.606	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	2" MILL 3" OVERLAY		2	6" UNBONDED OVERLAY		3					
Pavement Type			Pavement Type			Pavement Type					
HMA			PCC								
Primary Category			Primary Category			Primary Category			Primary Category		
20 Year HMA			6'X6' ≥5.5" Thickness			6'X6' ≥5.5" Thickness			6'X6' ≥5.5" Thickness		
Secondary Category			Secondary Category			Secondary Category			Secondary Category		
Rural			Design Life = 20 Years			Design Life = 20 Years			Design Life = 20 Years		
ShoulderCategory			ShoulderCategory			ShoulderCategory			ShoulderCategory		
Aggregate			Aggregate			Aggregate			Aggregate		
	DELETE			DELETE			DELETE			DELETE	
Notes:				Notes:				Notes:			
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile
0	2" MILL, 3" OL	\$ 158,864.00	\$ 158,864.00	0	6" UNBONDED OVERLAY	\$ 377,530.00	\$ 377,530.00	0		\$ -	\$ -
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3		\$ -	\$ -	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7		\$ -	\$ -	7		\$ -	\$ -	7		\$ -	\$ -
8	Crack Treatment	\$ 1,232.00	\$ 1,086.79	8		\$ -	\$ -	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12	Seal	\$ 12,727.14	\$ 10,544.65	12		\$ -	\$ -	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20	ML Overlay 3.5	\$ 175,228.20	\$ 128,067.76	20	1st CPR	\$ 249,594.40	\$ 182,419.25	20		\$ -	\$ -
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23	Crack Treatment	\$ 2,464.00	\$ 1,718.11	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27	Seal	\$ 7,778.03	\$ 5,093.87	27		\$ -	\$ -	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	2/17 Remaining Life	\$ (20,615.08)	\$ (11,909.62)	35	0/0 Remaining	\$ -	\$ -	35		\$ -	\$ -
LCCA - Net Present Cost/Per Mile				LCCA - Net Present Cost/Per Mile				LCCA - Net Present Cost/Per Mile			
\$ 293,465.58				\$ 134,601.58				\$ 559,949.25			
Maintenance - Net Present Cost/Per Mile				Maintenance - Net Present Cost/Per Mile				\$ 182,419.25			
\$ 3,042,803.22				\$ 4,123,769.58				\$ 12,658,212.76			
Net Present Cost for Segment				Net Present Cost for Segment				\$ 6,634,082.80			
Maintenance - Net Present Cost for Segment				Maintenance - Net Present Cost for Segment				\$ 4,123,769.58			
Equivalent Annual Cost				Equivalent Annual Cost				\$ 249,216.72			
Equivalent Annual Cost				Equivalent Annual Cost				\$ 473,611.82			
Total Lane Width				# of Lanes				Analysis Period			
28				2				35			
Total Shdr Width				# of Shdrs				ML Mix			
16				2				16			
Width of Rounding Aggregate				WEARING COURSE MIXTURE				2			
white/ >7 million				SL Mix				SL Mix			
8				Width of Rounding Aggregate				white/ >7 million			
N											



Project Number	Analysis Period
0803-43	50
Highway	Discount Rate
14	1.74%
Date	
1/5/2016	
Performed By	Caleb Fenske
	CLEAR ALL

District 7 - 2015/2016 prices

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	12.9		1	12.9		1	12.9		1	12.9	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	Bit Reconstruct		2	Unbonded Concrete Overlay		3	Unbonded Concrete Overlay/dowelled				
Pavement Type		Pavement Type		Pavement Type		Pavement Type		Pavement Type			
HMA		PCC		Primary Category		PCC		Primary Category			
Primary Category		≥12 Joint spacing		Secondary Category		Secondary Category		Design Life 35 Years			
20 Year HMA		Rural		Design Life = 20 Years		ShoulderCategory		ShoulderCategory			
Secondary Category		Aggregate		Aggregate		Aggregate		Aggregate			
Notes:				Notes:				Notes:			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	Bit Reconstruct	\$ 802,857.50	\$ 802,857.50	0	35 yr UBOL	\$ 342,081.26	\$ 342,081.26	0	UBOL	\$ 342,081.26	\$ 342,081.26
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3		\$ -	\$ -	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7		\$ -	\$ -	7		\$ -	\$ -	7		\$ -	\$ -
8	Crack Treatment	\$ 1,232.00	\$ 1,073.19	8		\$ -	\$ -	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12	Seal	\$ 12,873.70	\$ 10,466.52	12		\$ -	\$ -	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20	ML Overlay 4	\$ 258,269.12	\$ 182,910.15	20	1st CPR	\$ 135,927.17	\$ 96,265.71	20	1st CPR	\$ 198,171.76	\$ 140,348.28
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23	Crack Treatment	\$ 2,464.00	\$ 1,657.03	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27	Seal	\$ 8,864.63	\$ 5,563.95	27		\$ -	\$ -	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35		\$ -	\$ -	35	2nd CPR	\$ 171,560.56	\$ 93,800.85	35	Remove and Replace	\$ 421,949.58	\$ 230,701.22
36		\$ -	\$ -	36		\$ -	\$ -	36		\$ -	\$ -
37	ML Overlay 3.5"	\$ 228,382.24	\$ 120,633.58	37		\$ -	\$ -	37		\$ -	\$ -
38		\$ -	\$ -	38		\$ -	\$ -	38		\$ -	\$ -
39		\$ -	\$ -	39		\$ -	\$ -	39		\$ -	\$ -
40	Crack Treatment	\$ 2,464.00	\$ 1,235.87	40		\$ -	\$ -	40		\$ -	\$ -
41		\$ -	\$ -	41		\$ -	\$ -	41		\$ -	\$ -
42		\$ -	\$ -	42		\$ -	\$ -	42		\$ -	\$ -
43		\$ -	\$ -	43		\$ -	\$ -	43		\$ -	\$ -
44	Chip Seal	\$ 8,864.63	\$ 4,149.77	44		\$ -	\$ -	44		\$ -	\$ -
45		\$ -	\$ -	45		\$ -	\$ -	45		\$ -	\$ -
46		\$ -	\$ -	46		\$ -	\$ -	46		\$ -	\$ -
47		\$ -	\$ -	47		\$ -	\$ -	47		\$ -	\$ -
48		\$ -	\$ -	48		\$ -	\$ -	48		\$ -	\$ -
49		\$ -	\$ -	49		\$ -	\$ -	49		\$ -	\$ -
50	4/17 Remaining Life	\$ (53,737.00)	\$ (22,686.28)	50	0/0 Remaining	\$ -	\$ -	50	5/20 Remaining	\$ (105,487.40)	\$ (44,526.02)
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile			
\$ 1,107,865.29				\$ 532,147.82				\$ 668,604.74			
Maintenance - Net Present Cost/ per Mile				\$ 305,007.78				\$ 190,066.56			
Net Present Cost for Segment				\$ 14,291,462.18				\$ 326,523.48			
Maintenance - Net Present Cost for Segment				\$ 3,934,600.40				\$ 8,625,001.12			
Equivalent Annual Cost				\$ 430,300.40				Equivalent Annual Cost			
				\$ 206,688.86				\$ 259,689.41			
Total Lane Width				# of Lanes							



Project Number	Analysis Period
0807-14	35
Highway	Discount Rate
68	2.00%
Date	
6/16/2015	
Performed By	Caleb Fenske
	CLEAR ALL

District 7 - 2014/2015 prices

LCCA SUMMARY			
	Alternate #1	Alternate #2	Alternate #3
Segment #1	4" BCOA 20 yr \$3,972,689.11	4.5" Bit Overlay 20yr \$3,397,449.37	2" M & OL W/Underseal \$3,244,027.13
Net Present Cost			Length 7.5 Miles
Segment #2			0.0 Miles
Net Present Cost			0.0 Miles
Segment #3			0.0 Miles
Net Present Cost			0.0 Miles
Segment #4			0.0 Miles
Net Present Cost			0.0 Miles
Segment #5			0.0 Miles
Net Present Cost			0.0 Miles
Segment #6			0.0 Miles
Net Present Cost			0.0 Miles
Segment #7			0.0 Miles
Net Present Cost			0.0 Miles
Segment #8			0.0 Miles
Net Present Cost			0.0 Miles
Project Net Present Cost	\$ 3,972,689.11	\$ 3,397,449.37	\$ 3,244,027.13
Total			100.0% 7.5
% of Low Cost	122.5%	104.7%	100.0% 7.5

BID ADJUSTMENT FACTOR SUMMARY			
	Alternate #1	Alternate #2	Alternate #3
Segment #1	4" BCOA 20 yr \$1,979,863.44	4.5" Bit Overlay 20yr \$1,267,710.37	2" M & OL W/Underseal \$2,105,883.76
Net Present Cost			Length 7.5 Miles
Segment #2			0.0 Miles
Net Present Cost			0.0 Miles
Segment #3			0.0 Miles
Net Present Cost			0.0 Miles
Segment #4			0.0 Miles
Net Present Cost			0.0 Miles
Segment #5			0.0 Miles
Net Present Cost			0.0 Miles
Segment #6			0.0 Miles
Net Present Cost			0.0 Miles
Segment #7			0.0 Miles
Net Present Cost			0.0 Miles
Segment #8			0.0 Miles
Net Present Cost			0.0 Miles
Project Net Present Cost	\$ 1,979,863.44	\$ 1,267,710.37	\$ 2,105,883.76
Total			7.5
Bid Adjustment Factor	\$ 712,153.07	\$ -	\$ 838,173.39

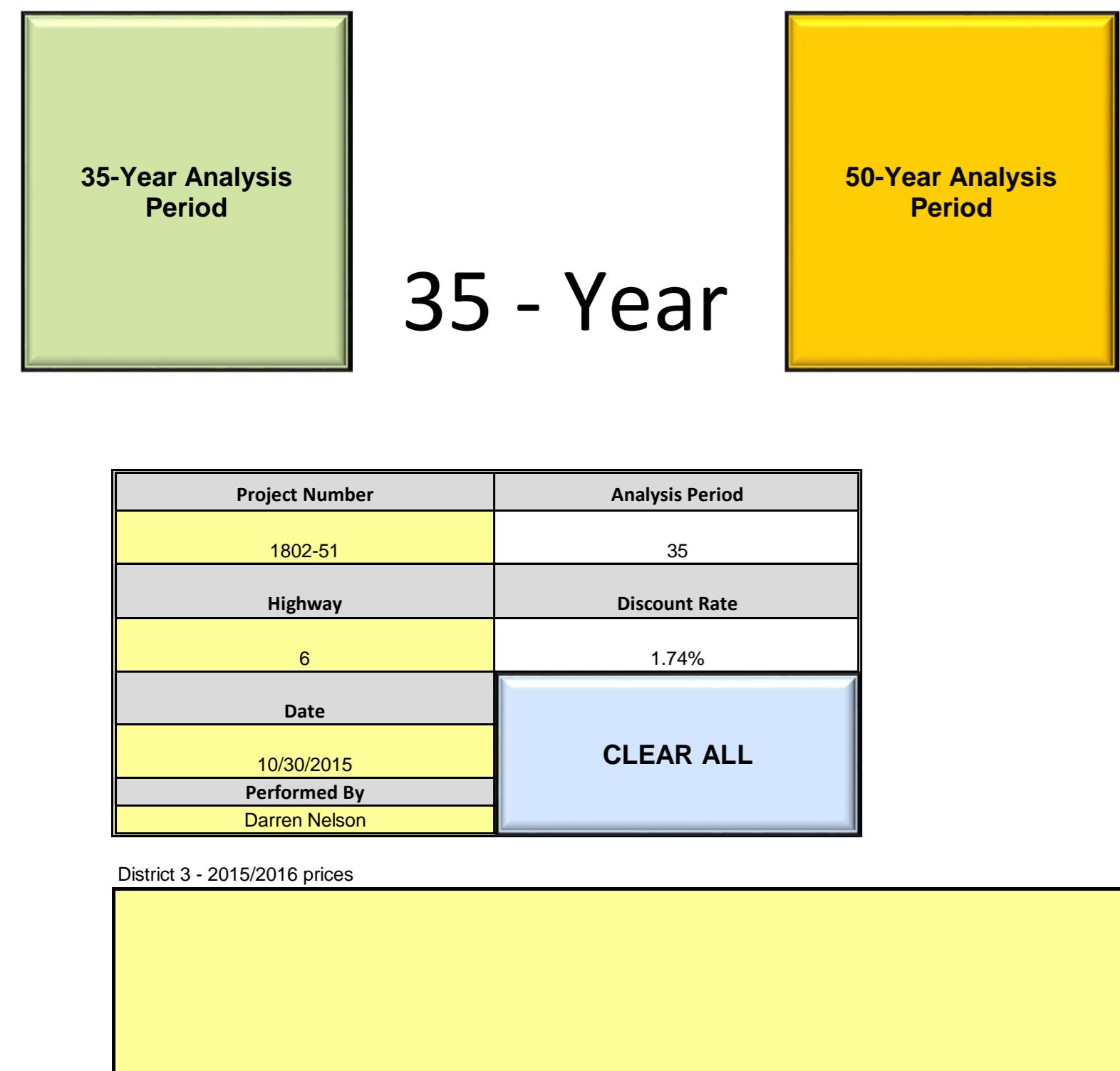
Segment 1																				
SEG	Length			SEG	Length			SEG	Length											
1	7.5			1	7.5			1	7.5											
ALT	Description			ALT	Description			ALT	Description											
1	4" BCOA 20 yr			2	4.5" Bit Overlay 20yr			3	2" M & OL W/Underseal											
Pavement Type				Pavement Type				Pavement Type												
PCC				HMA				HMA												
Primary Category 6'X6' ≤ 5.0" Thickness				Primary Category 20 Year HMA				Primary Category Overlay, DL =13 to 17 years												
Secondary Category				Secondary Category				Secondary Category												
Design Life = 20 Years				Rural				Rural												
ShoulderCategory				ShoulderCategory				ShoulderCategory												
Aggregate				Aggregate				Aggregate												
Notes:				Notes:				Notes:												
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile									
0	bcoa	\$ 265,710.09	\$ 265,710.09	0	Thick Bit OL	\$ 283,965.20	\$ 283,965.20	0	Thin Ol W/underseal	\$ 151,752.45	\$ 151,752.45									
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -									
2		\$ -	\$ -	2		\$ -	\$ -	2	Crack Treatment	\$ 1,675.52	\$ 1,578.88									
3		\$ -	\$ -	3		\$ -	\$ -	3		\$ -	\$ -									
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -									
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -									
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -									
7		\$ -	\$ -	7		\$ -	\$ -	7	Seal	\$ 8,439.13	\$ 7,346.77									
8		\$ -	\$ -	8	Crack Treatment	\$ 837.76	\$ 715.02	8		\$ -	\$ -									
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -									
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -									
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -									
12		\$ -	\$ -	12	Seal	\$ 12,752.26	\$ 10,055.07	12		\$ -	\$ -									
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -									
14		\$ -	\$ -	14		\$ -	\$ -	14	ML Overlay 3.5"	\$ 220,774.52	\$ 167,319.49									
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -									
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -									
17		\$ -	\$ -	17		\$ -	\$ -	17	Crack Treatment	\$ 1,675.52	\$ 1,196.59									
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -									
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -									
20	1st CPR	\$ 328,165.71	\$ 220,846.11	20	ML Overlay 4	\$ 247,907.85	\$ 166,834.87	20	Seal	\$ 8,439.13	\$ 5,567.94									
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -									
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -									
23		\$ -	\$ -	23	Crack Treatment	\$ 1,675.52	\$ 1,062.54	23		\$ -	\$ -									
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -									
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -									
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -									
27		\$ -	\$ -	27	Seal	\$ 8,439.13	\$ 4,944.17	27	ML Overlay 3.5"	\$ 220,774.52	\$ 129,343.41									
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -									
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -									
30	Remove and Replace	\$ 349,345.23	\$ 192,863.33	30		\$ -	\$ -	30	Crack Treatment	\$ 1,675.52	\$ 925.01									
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -									
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -									
33		\$ -	\$ -	33		\$ -</td														



Project Number	Analysis Period
0802-12	35
Highway	Discount Rate
27	1.74%
Date	
7/7/2016	
Performed By	Garver
	CLEAR ALL

District 1 - 2015/2016 prices

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	9.41		1	9.41		1	9.41		1	9.41	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	M&O		2	Reclaim		3	BCOA				
Pavement Type		Pavement Type		Pavement Type		Pavement Type					
HMA		HMA		Primary Category		PCC					
Primary Category		20 Year HMA		Primary Category		6'X6' ≤ 5.0" Thickness					
Overlay, DL =13 to 17 years		Secondary Category		Secondary Category		Secondary Category		Design Life = 20 Years			
Secondary Category		Rural		ShoulderCategory		ShoulderCategory		ShoulderCategory			
ShoulderCategory		Bituminous		Bituminous		PCC					
Notes:				Notes:				Notes:			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	M&O	\$ 162,129.00	\$ 162,129.00	0	Reclaim	\$ 335,742.00	\$ 335,742.00	0	BCOA	\$ 352,968.00	\$ 352,968.00
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 2,112.00	\$ 2,005.48	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ 7,890.49	\$ 6,992.98	7		\$ -	\$ -	7		\$ -	\$ -
8		\$ -	\$ -	8	Crack Treatment	\$ 1,056.00	\$ 919.88	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12	Seal	\$ 11,632.54	\$ 9,457.45	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15	ML Overlay 3.5"	\$ 239,707.15	\$ 185,056.77	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18	Crack Treatment	\$ 2,112.00	\$ 1,548.26	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20		\$ -	\$ -	20	ML Overlay 5	\$ 294,213.89	\$ 208,366.79	20	1st CPR	\$ 383,812.00	\$ 271,821.55
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22	Seal	\$ 7,890.49	\$ 5,398.66	22	Crack Treatment	\$ 2,112.00	\$ 1,420.31	22		\$ -	\$ -
23		\$ -	\$ -	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27	Seal	\$ 7,890.49	\$ 4,952.53	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29	ML Overlay 3.5"	\$ 239,707.15	\$ 145,351.90	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30	Remove and Replace	\$ 344,084.38	\$ 205,075.11
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32	Crack Treatment	\$ 2,112.00	\$ 1,216.07	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (129,073.08)	\$ (70,570.79)	35	2/17 Remaining Life	\$ (34,613.40)	\$ (18,924.90)	35	30/35 Remaining	\$ (294,929.46)	\$ (161,252.89)
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile			
\$ 439,128.32				\$ 541,934.06				\$ 668,611.77			
Maintenance - Net Present Cost/ per Mile				Maintenance - Net Present Cost/ per Mile				\$ 206,192.06			
\$ 276,999.32				\$ 206,192.06				\$ 315,643.77			
Net Present Cost for Segment				\$ 4,132,197.54				Net Present Cost for Segment			
\$ 5,099,599.50				\$ 5,099,599.50				\$ 6,291,636.76			
Maintenance - Net Present Cost for Segment				\$ 2,606,563.65				Maintenance - Net Present Cost for Segment			
\$ 1,940,267.28				\$ 1,940,267.28				\$ 2,970,207.90			
Equivalent Annual Cost				\$ 158,632.86				Equivalent Annual Cost			
\$ 195,770.91				\$ 195,770.91				\$ 241,532.59			
Total Lane Width				# of Lanes				Analysis Period			
24				2				35			
Total Shdr Width				# of Shdtrs				ML Mix			
8				2				8			



LCCA SUMMARY				
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	2" ML M&F and 1.5" Full Width OL Net Present Cost	2" FW Mill and 6" FDR, 5" Bit \$2,386,575.83	2" Mill & 4.5" Conc WT \$2,942,518.39	5.7 Miles
Segment #2				0.0 Miles
Segment #3				0.0 Miles
Segment #4				0.0 Miles
Segment #5				0.0 Miles
Segment #6				0.0 Miles
Segment #7				0.0 Miles
Segment #8				0.0 Miles
Project Net Present Cost	\$ 2,386,575.83	\$ 2,942,518.39	\$ 3,487,969.40	Total
% of Low Cost	100.0%	123.3%	146.1%	5.7

BID ADJUSTMENT FACTOR SUMMARY					
	Alternate #1	Alternate #2	Alternate #3		
Segment #1	2" ML M&F and 1.5" Full Width OL	2" FW Mill and 6" FDR, 5" Bit	2" Mill & 4.5" Conc WT		5.7 Miles
Net Present Cost	\$1,361,487.83	\$1,000,562.59	\$1,784,991.80		Miles
Segment #2					0.0 Miles
Net Present Cost					Miles
Segment #3					0.0 Miles
Net Present Cost					Miles
Segment #4					0.0 Miles
Net Present Cost					Miles
Segment #5					0.0 Miles
Net Present Cost					Miles
Segment #6					0.0 Miles
Net Present Cost					Miles
Segment #7					0.0 Miles
Net Present Cost					Miles
Segment #8					0.0 Miles
Net Present Cost					Miles
Project Net Present Cost	\$ 1,361,487.83	\$ 1,000,562.59	\$ 1,784,991.80		Total
Bid Adjustment Factor	\$ 360,925.24	\$ -	\$ 784,429.20		5.7

Segment 1																	
SEG	Length			SEG	Length			SEG	Length								
1	5.7			1	5.7			1	5.7								
ALT	Description			ALT	Description			ALT	Description								
1	2" ML M&F and 1.5" Full Width OL			2	2" FW Mill and 6" FDR, 5" Bit			3	2" Mill & 4.5" Conc WT								
Pavement Type		CLICK HERE TO EDIT THIS ALTERNATE			Pavement Type		CLICK HERE TO EDIT THIS ALTERNATE			Pavement Type							
HMA					HMA					PCC							
Primary Category					Primary Category					Primary Category							
Overlay, DL =13 to 17 years					20 Year HMA					6'X6' ≤ 5.0" Thickness							
Secondary Category					Secondary Category					Secondary Category							
Rural					Rural					Design Life = 20 Years							
ShoulderCategory					ShoulderCategory					ShoulderCategory							
Bituminous					Bituminous					Thick Bit							
Notes:				Notes:				Notes:									
Shoulders will get a 1.5" Bituminous Overlay				Shoulders will be 3" Bituminous				Shoulders will be 4.5" Bituminous									
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile						
0	2" ML M&F, 1.5" FW OL	\$ 179,840.00	\$ 179,840.00	0	2" Mill, 6" FDR, 5" Bit	\$ 340,694.00	\$ 340,694.00	0	2" Mill & 4.5" Conc WT	\$ 298,768.00	\$ 298,768.00						
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -						
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -						
3	Crack Treatment	\$ 2,200.00	\$ 2,089.04	3		\$ -	\$ -	3		\$ -	\$ -						
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -						
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -						
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -						
7	Seal	\$ 8,561.62	\$ 7,587.77	7		\$ -	\$ -	7		\$ -	\$ -						
8		\$ -	\$ -	8	Crack Treatment	\$ 1,056.00	\$ 919.88	8		\$ -	\$ -						
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -						
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -						
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -						
12		\$ -	\$ -	12	Seal	\$ 12,094.60	\$ 9,833.10	12		\$ -	\$ -						
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -						
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -						
15	ML Overlay 3.5"	\$ 203,364.68	\$ 156,999.95	15		\$ -	\$ -	15		\$ -	\$ -						
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -						
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -						
18	Crack Treatment	\$ 2,200.00	\$ 1,612.77	18		\$ -	\$ -	18		\$ -	\$ -						
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -						
20		\$ -	\$ -	20	ML Overlay 3.5	\$ 245,665.16	\$ 173,983.83	20	1st CPR	\$ 381,646.62	\$ 270,287.99						
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -						
22	Seal	\$ 8,561.62	\$ 5,857.85	22	Crack Treatment	\$ 2,112.00	\$ 1,420.31	22		\$ -	\$ -						
23		\$ -	\$ -	23		\$ -	\$ -	23		\$ -	\$ -						
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -						
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -						
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -						
27		\$ -	\$ -	27	Seal	\$ 8,256.47	\$ 5,182.24	27		\$ -	\$ -						
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -						
29	ML Overlay 3.5"	\$ 203,364.68	\$ 123,314.82	29		\$ -	\$ -	29		\$ -	\$ -						
30		\$ -	\$ -	30		\$ -	\$ -	30	Remove and Replace	\$ 336,595.61	\$ 200,611.78						
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -						
32	Crack Treatment	\$ 2,200.00	\$ 1,266.74	32		\$ -	\$ -	32		\$ -	\$ -						
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -						
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -						
35	Remaining Life	\$ (109,504.06)	\$ (59,871.42)	35	2/17 Remaining Life	\$ (28,901.78)	\$ (15,802.07)	35	30/35 Remaining	\$ (288,510.52)	\$ (157,743.32)						
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile									
\$ 418,697.51				\$ 516,231.30				\$ 611,924.46									
Maintenance - Net Present Cost/ per Mile				\$ 175,537.30				\$ 313,156.46									
Net Present Cost for Segment				\$ 2,942,518.39				\$ 3,487,969.40									
Maintenance - Net Present Cost for Segment				\$ 1,000,562.59				\$ 1,784,991.80									
Equivalent Annual Cost				91,619.38				112,961.71									
Equivalent Annual Cost				112,961.71				133,901.29									
Total Lane Width				Total Lane Width				Total Lane Width									
25				24				24									
Total Shldr Width				# of Shldrs				# of Shldrs									
12				ML Mix				ML Mix									
Width of Rounding Aggregate				Width of Rounding Aggregate				Width of Rounding Aggregate									
white/ >7 milliom				white/ >7 milliom				white/ >7 milliom									
4				SL Mix				SL Mix									
Sealed/UTBWC				Sealed/UTBWC				Sealed/UTBWC									
ML Thickness				ML Thickness				ML Thickness									
N				N				N									
3.5																	



Project Number	Analysis Period
1921-98	35
Highway	Discount Rate
MN 3	2.00%
Date	
4/30/2015	
Performed By	KY
CLEAR ALL	

Metro - 2014/2015 prices

Segment 1															
SEG	Length		SEG	Length		SEG	Length								
1	4.358		1	4.358		1	4.358								
ALT	Description		ALT	Description		ALT	Description								
1	2" Mill, 3.5" Overlay		2	6" Mill, 6" Con Overlay		3	6" M & 5" O over 6" Rubblized Con								
CLICK HERE TO EDIT THIS ALTERNATE															
CLICK HERE TO EDIT THIS ALTERNATE															
Notes:															
Notes:															
Notes:															
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile				
0	B1 - Option 1	\$ 380,484.76	\$ 380,484.76	0	C1 - Option 2	\$ 669,367.23	\$ 669,367.23	0	B2 - Option 3	\$ 514,414.45	\$ 514,414.45				
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -				
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -				
3	Crack Treatment	\$ 1,712.13	\$ 1,613.38	3		\$ -	\$ -	3		\$ -	\$ -				
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -				
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -				
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -				
7	Seal	\$ 12,221.44	\$ 10,639.50	7		\$ -	\$ -	7		\$ -	\$ -				
8		\$ -	\$ -	8		\$ -	\$ -	8	Crack Treatment	\$ 856.06	\$ 730.64				
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -				
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -				
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -				
12		\$ -	\$ -	12		\$ -	\$ -	12	Seal	\$ 16,910.08	\$ 13,333.48				
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -				
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -				
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -				
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -				
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -				
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -				
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -				
20	ML Mill 3.5"	\$ 402,064.21	\$ 275,989.24	20	1st CPR	\$ 204,944.57	\$ 137,921.82	20	ML Overlay 4	\$ 302,145.28	\$ 203,335.11				
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -				
22	Crack Treatment	\$ 1,712.13	\$ 1,107.47	22		\$ -	\$ -	22		\$ -	\$ -				
23		\$ -	\$ -	23		\$ -	\$ -	23	Crack Treatment	\$ 1,712.13	\$ 1,085.76				
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -				
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -				
26	Seal	\$ 12,221.44	\$ 7,303.28	26		\$ -	\$ -	26		\$ -	\$ -				
27		\$ -	\$ -	27		\$ -	\$ -	27	Seal	\$ 12,221.44	\$ 7,160.08				
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -				
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -				
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -				
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -				
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -				
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -				
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -				
35	Remaining Life	\$ (44,673.80)	\$ (22,338.13)	35	0/0 Remaining	\$ -	\$ -	35	2/17 Remaining Life	\$ (35,546.50)	\$ (17,774.23)				

LCCA - Net Present Cost/ per Mile \$ 654,799.49 LCCA - Net Present Cost/ per Mile \$ 807,289.04 LCCA - Net Present Cost/ per Mile \$ 722,285.28

Maintenance - Net Present Cost/ per Mile \$ 274,314.73 Maintenance - Net Present Cost/ per Mile \$ 137,921.82 Maintenance - Net Present Cost/ per Mile \$ 207,870.84

Net Present Cost for Segment \$ 2,853,616.18 Net Present Cost for Segment \$ 3,518,165.65 Net Present Cost for Segment \$ 3,147,719.26

Maintenance - Net Present Cost for Segment \$ 1,195,463.60 Maintenance - Net Present Cost for Segment \$ 601,063.28 Maintenance - Net Present Cost for Segment \$ 905,901.11

Equivalent Annual Cost \$ 114,150.95 Equivalent Annual Cost \$ 140,734.40 Equivalent Annual Cost \$ 125,915.72

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
24	2	35	24	2	35	24	2	35
Total Shdr Width	# of Shdtrs	ML Mix	Total Shdr Width	# of Shdtrs	ML Mix	Total Shdr Width	# of Shdtrs	ML Mix
20	2	12.5 Wearing Course (3,C)	20	2	12.5 Wearing Course (3,C)	20	2	12.5 Wearing Course (3,C)
Width of Rounding Aggregate	white/ >7 million	SL Mix	Width of Rounding Aggregate	white/ >7 million	SL Mix	Width of Rounding Aggregate	white/ >7 million	SL Mix
1.5	N	12.5 Wearing Course (3,C)	N			1.5	N	12.5 Wearing Course (3,C)
Sealed/UTBW/C	ML Thickness		Sealed/UTBW/C	ML Thickness		Sealed/UTBW/C	ML Thickness	
N			Y	6		N		
ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane	
2			15	11		2		
Design Life	Shdr Thickness		Design Life	Shdr Thickness		Design Life	Shdr Thickness	
19	4		6			20	4	

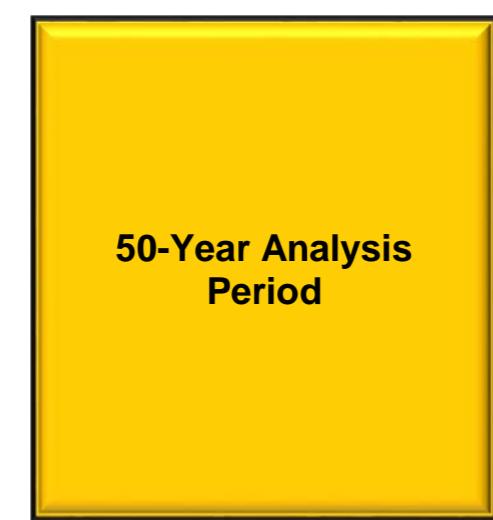
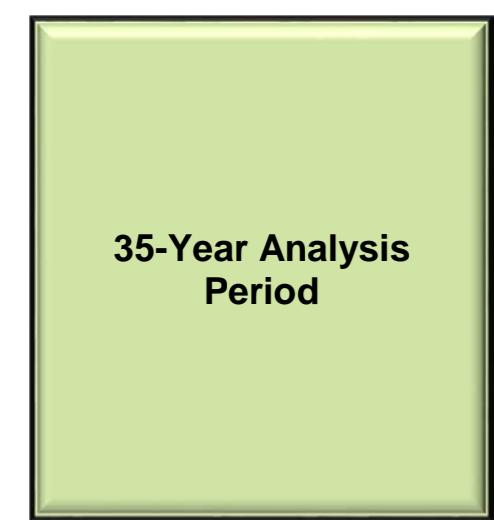


Project Number	Analysis Period
SP 2506-72	35
Highway	Discount Rate
T.H. 52 NB From Pine Island to Cannon Falls	1.74%
Date	
3/15/2016	
Performed By	TRM
	CLEAR ALL
District 6 - 2015/2016 prices	

LCCA SUMMARY			
	Alternate #1	Alternate #2	Alternate #3
Segment #1	1.5" Mill & 3" Bit. OL \$12,124,681.47	3" Mill & 4.5" Bit. OL \$12,938,899.38	6" Whitetopping \$20,026,128.54
Segment #2			0.0 Miles
Segment #3			0.0 Miles
Segment #4			0.0 Miles
Segment #5			0.0 Miles
Segment #6			0.0 Miles
Segment #7			0.0 Miles
Segment #8			0.0 Miles
Project Net Present Cost	\$ 12,124,681.47	\$ 12,938,899.38	\$ 20,026,128.54
% of Low Cost	100.0%	106.7%	165.2%
			27.4

BID ADJUSTMENT FACTOR SUMMARY			
	Alternate #1	Alternate #2	Alternate #3
Segment #1	1.5" Mill & 3" Bit. OL \$6,126,479.53	3" Mill & 4.5" Bit. OL \$4,462,708.96	6" Whitetopping \$6,135,604.93
Segment #2			0.0 Miles
Segment #3			0.0 Miles
Segment #4			0.0 Miles
Segment #5			0.0 Miles
Segment #6			0.0 Miles
Segment #7			0.0 Miles
Segment #8			0.0 Miles
Project Net Present Cost	\$ 6,126,479.53	\$ 4,462,708.96	\$ 6,135,604.93
Bid Adjustment Factor	\$ 1,663,770.56	\$ -	\$ 1,672,895.96
			27.4

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	27.38		1	27.38		1	27.38		1	27.38	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	1.5" Mill & 3" Bit. OL		2	3" Mill & 4.5" Bit. OL		3	6" Whitetopping				
Pavement Type		Pavement Type		Pavement Type		Pavement Type					
HMA		HMA		HMA		PCC					
Primary Category		Primary Category		Primary Category		Primary Category					
Overlay, DL = 13 to 17 years		Overlay, DL > 17 years		Overlay, DL = 20 Years		Thin Bit					
Secondary Category		Secondary Category		ShoulderCategory		ShoulderCategory					
Rural		Rural		Bituminous		Bituminous					
Notes:				Notes:				Notes:			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0		\$ 219,072.39	\$ 219,072.39	0		\$ 309,575.98	\$ 309,575.98	0		\$ 507,323.73	\$ 507,323.73
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 1,909.25	\$ 1,812.96	3	Crack Treatment	\$ 1,909.25	\$ 1,812.96	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ 8,960.99	\$ 7,941.70	7	Seal	\$ 8,960.99	\$ 7,941.70	7		\$ -	\$ -
8		\$ -	\$ -	8		\$ -	\$ -	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12		\$ -	\$ -	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17	ML Overlay 3.5"	\$ 246,713.96	\$ 184,006.96	17		\$ -	\$ -	17		\$ -	\$ -
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20	Crack Treatment	\$ 1,909.25	\$ 1,352.16	20	ML Overlay 3.5"	\$ 246,713.96	\$ 174,726.61	20	1st CPR	\$ 316,416.13	\$ 224,090.76
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23		\$ -	\$ -	23	Crack Treatment	\$ 1,909.25	\$ 1,283.96	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27	Seal	\$ 8,960.99	\$ 5,624.44	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (213,818.76)	\$ (116,905.56)	35	Remaining Life	\$ (51,939.78)	\$ (28,398.11)	35	0/0 Remaining	\$ -	\$ -
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile			
\$ 442,829.86				\$ 472,567.55				\$ 731,414.48			
Maintenance - Net Present Cost/ per Mile				\$ 223,757.47				\$ 224,090.76			
Net Present Cost for Segment				\$ 12,124,681.47							



35 - Year

Project Number	Analysis Period
2601-19	35
Highway	Discount Rate
9	1.58%
Date	
Performed By	CLEAR ALL
D4 - 2016/2017 prices	

LCCA SUMMARY			
	Alternate #1	Alternate #2	Alternate #3
Segment #1	3" MILL AND FILL	5" WHITETOP	
Net Present Cost	\$6,596,473.44	\$10,817,306.98	
Segment #2			0.0 Miles
Net Present Cost			
Segment #3			0.0 Miles
Net Present Cost			
Segment #4			0.0 Miles
Net Present Cost			
Segment #5			0.0 Miles
Net Present Cost			
Segment #6			0.0 Miles
Net Present Cost			
Segment #7			0.0 Miles
Net Present Cost			
Segment #8			0.0 Miles
Net Present Cost			
Project Net Present Cost	\$ 6,596,473.44	\$ 10,817,306.98	\$ - Total
% of Low Cost	100.0%	164.0%	0.0% 18.5

BID ADJUSTMENT FACTOR SUMMARY			
	Alternate #1	Alternate #2	Alternate #3
Segment #1	3" MILL AND FILL	5" WHITETOP	
Net Present Cost	\$2,341,473.44	\$6,838,844.98	
Segment #2			0.0 Miles
Net Present Cost			
Segment #3			0.0 Miles
Net Present Cost			
Segment #4			0.0 Miles
Net Present Cost			
Segment #5			0.0 Miles
Net Present Cost			
Segment #6			0.0 Miles
Net Present Cost			
Segment #7			0.0 Miles
Net Present Cost			
Segment #8			0.0 Miles
Net Present Cost			
Project Net Present Cost	\$ 2,341,473.44	\$ 6,838,844.98	\$ - Total
Bid Adjustment Factor	\$ -	\$ 4,497,371.54	\$ - 18.5

Segment 1											
SEG	Length			SEG	Length			SEG	Length		
1	18.5			1	18.5			1	18.5		
ALT	Description			ALT	Description			ALT	Description		
1	3" MILL AND FILL			2	5" WHITETOP			3	CLICK HERE TO EDIT THIS ALTERNATE		
Pavement Type	HMA			Pavement Type	PCC			Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE		
Primary Category	20 Year HMA			Primary Category	6'X6' ≤ 5.0" Thickness			Primary Category	CLICK HERE TO EDIT THIS ALTERNATE		
Secondary Category	Rural			Secondary Category	Design Life = 20 Years			ShoulderCategory	Aggregate		
ShoulderCategory	Aggregate				Delete				Delete		
Notes:				Notes:				Notes:			
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile
0	3" MILL & FILL	\$ 230,000.00	\$ 230,000.00	0	5" WHITETOP	\$ 215,052.00	\$ 215,052.00	0		\$ -	\$ -
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3		\$ -	\$ -	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7		\$ -	\$ -	7		\$ -	\$ -	7		\$ -	\$ -
8	Crack Treatment	\$ 1,232.00	\$ 1,086.79	8		\$ -	\$ -	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12	Seal	\$ 12,727.14	\$ 10,544.65	12		\$ -	\$ -	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20	ML Overlay 3.5	\$ 163,106.48	\$ 119,208.45	20	1st CPR	\$ 419,856.80	\$ 306,857.70	20		\$ -	\$ -
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23	Crack Treatment	\$ 2,464.00	\$ 1,718.11	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27	Seal	\$ 7,778.03	\$ 5,093.87	27		\$ -	\$ -	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30	Remove and Replace	\$ 484,510.77	\$ 302,731.20	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	2/17 Remaining Life	\$ (19,189.00)	\$ (11,085.75)	35	30/35 Remaining	\$ (415,294.95)	\$ (239,921.60)	35		\$ -	\$ -
LCCA - Net Present Cost/Per Mile				LCCA - Net Present Cost/Per Mile				LCCA - Net Present Cost/Per Mile			
\$ 356,566.13				\$ 584,719.30				\$ -			
\$ 126,566.13				Maintenance - Net Present Cost/Per Mile				\$ 369,667.30			
\$ 6,596,473.44				Maintenance - Net Present Cost/Per Mile				\$ -			
\$ 2,341,473.44				Net Present Cost for Segment				\$ 10,817,306.98			
\$ 6,838,844.98											



Project Number	Analysis Period
2772-105	35
Highway	Discount Rate
	2.00%
Date	
Performed By	CLEAR ALL

Metro - 2014/2015 prices

Segment 1											
SEG	Length		SEG	Length		SEG	Length		ALT	Description	
1	5.233		1	5.233		1	5.233				
ALT	Description		ALT	Description		ALT	Description				
1	19YR M&O		2	20YR Rubblization		3	20YR UBOL				
Pavement Type			Pavement Type			Pavement Type					
HMA			HMA			PCC					
Primary Category			Primary Category			Primary Category					
Overlay, DL > 17 years			20 Year HMA			≥12 Joint spacing					
Secondary Category			Urban			Secondary Category					
ShoulderCategory			Thick			ShoulderCategory					
Notes: Length calculated from RP 128.121 to RP 130.922 w/ exception from RP 128.363 to RP 128.732 (SB Only). (130.922-128.121)*2-(128.732-128.363) = 5.233 Mi			Notes:			Notes:					
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	Original Construction	\$ 390,552.59	\$ 390,552.59	0	Original Construction	\$ 1,042,418.33	\$ 1,042,418.33	0	Original Construction	\$ 685,655.46	\$ 685,655.46
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 1,712.13	\$ 1,613.38	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ -	\$ -	7		\$ -	\$ -	7		\$ -	\$ -
8		\$ -	\$ -	8	Crack Treatment	\$ 856.06	\$ 730.64	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12	Seal	\$ 4,466.88	\$ 3,522.10	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ 310,976.10	\$ 213,463.56	19		\$ -	\$ -	19		\$ -	\$ -
20		\$ -	\$ -	20	ML Mill 3.0"	\$ 235,817.17	\$ 158,698.20	20	1st CPR	\$ 129,652.09	\$ 87,252.14
21		\$ 1,712.13	\$ 1,107.47	21		\$ -	\$ -	21		\$ -	\$ -
22	Crack Treatment	\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23		\$ -	\$ -	23	Crack Treatment	\$ 1,712.13	\$ 1,085.76	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27	Seal	\$ -	\$ -	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (34,552.90)	\$ (17,277.40)	35	2/17 Remaining Life	\$ (27,743.20)	\$ (13,872.36)	35	0/0 Remaining	\$ -	\$ -
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile			
\$ 589,459.60				\$ 1,192,582.67				\$ 772,907.60			
Maintenance - Net Present Cost/ per Mile				Maintenance - Net Present Cost/ per Mile				\$ 198,907.00			
\$ 150,164.34				Maintenance - Net Present Cost/ per Mile				\$ 87,252.14			
Net Present Cost for Segment				\$ 3,084,642.06				Net Present Cost for Segment			
\$ 6,240,785.11				\$ 4,044,625.48				\$ 4,044,625.48			
Maintenance - Net Present Cost for Segment				\$ 785,809.97				\$ 456,590.44			
\$ 584,289.92				\$ 329,219.54				\$ 456,590.44			

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
24	2	35	24	2	35	24	2	35
Total Shdr Width	# of Shdr's	ML Mix	Total Shdr Width	# of Shdr's	ML Mix	Total Shdr Width	# of Shdr's	ML Mix
10	1	12.5 Wearing Course (4,C)	10	1	12.5 Wearing Course (4,C)	10	2	12.5 Wearing Course (4,C)
Width of Rounding Aggregate	white/ >7 million	SL Mix	Width of Rounding Aggregate	white/ >7 million	SL Mix	Width of Rounding Aggregate	white/ >7 million	SL Mix
Sealed/UTBW/C	ML Thickness	Y	Sealed/UTBW/C	ML Thickness	Y	Sealed/UTBW/C	ML Thickness	N
Y	12.5 Wearing Course (3,B)		Y	12.5 Wearing Course (3,B)		Y	9.5	
ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane	
1.75	2		1.75	2		1.75	11	
Design Life	Shdr Thickness		Design Life	Shdr Thickness		Design Life	Shdr Thickness	
19	4		20	7		20	9.5	



Project Number	Analysis Period
S.P. 2801-87 & 2805-72	35
Highway	Discount Rate
16 & 61	1.74%
Date	
12/2/2015	
Performed By	TRM
	CLEAR ALL

District 6 - 2015/2016 prices

LCCA SUMMARY			
	Alternate #1	Alternate #2	Alternate #3
Segment #1	1.5" Mill & 3" Bit. Overlay \$1,423,265.27	6" Whitetopping \$1,965,109.26	3" Mill & 5" Bit. Overlay \$1,435,870.40
Net Present Cost			3.0 Miles
Segment #2			0.0 Miles
Net Present Cost			0.0 Miles
Segment #3			0.0 Miles
Net Present Cost			0.0 Miles
Segment #4			0.0 Miles
Net Present Cost			0.0 Miles
Segment #5			0.0 Miles
Net Present Cost			0.0 Miles
Segment #6			0.0 Miles
Net Present Cost			0.0 Miles
Segment #7			0.0 Miles
Net Present Cost			0.0 Miles
Segment #8			0.0 Miles
Net Present Cost			0.0 Miles
Project Net Present Cost	\$ 1,423,265.27	\$ 1,965,109.26	\$ 1,435,870.40
Total			
% of Low Cost	100.0%	138.1%	100.9%
	3.0		

BID ADJUSTMENT FACTOR SUMMARY			
	Alternate #1	Alternate #2	Alternate #3
Segment #1	1.5" Mill & 3" Bit. Overlay \$808,586.85	6" Whitetopping \$597,324.14	3" Mill & 5" Bit. Overlay \$462,074.73
Net Present Cost			3.0 Miles
Segment #2			0.0 Miles
Net Present Cost			0.0 Miles
Segment #3			0.0 Miles
Net Present Cost			0.0 Miles
Segment #4			0.0 Miles
Net Present Cost			0.0 Miles
Segment #5			0.0 Miles
Net Present Cost			0.0 Miles
Segment #6			0.0 Miles
Net Present Cost			0.0 Miles
Segment #7			0.0 Miles
Net Present Cost			0.0 Miles
Segment #8			0.0 Miles
Net Present Cost			0.0 Miles
Project Net Present Cost	\$ 808,586.85	\$ 597,324.14	\$ 462,074.73
Total			
Bid Adjustment Factor	\$ 346,512.12	\$ 135,249.41	\$ -
	3.0		

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	3.034		1	3.034		1	3.034		1	3.034	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	1.5" Mill & 3" Bit. Overlay		2	6" Whitetopping		3	3" Mill & 5" Bit. Overlay				
Pavement Type		Pavement Type		Pavement Type		Pavement Type		Pavement Type			
HMA		PCC		Primary Category		HMA		Primary Category			
Primary Category		≥12 Joint spacing		Secondary Category		Primary Category		Secondary Category			
Overlay, DL =13 to 17 years		Rural		Design Life = 20 Years		ShoulderCategory		Rural			
Secondary Category		Thin Bit		ShoulderCategory		Bituminous		ShoulderCategory			
Notes:				Notes:				Notes:			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0		\$ 202,596.71	\$ 202,596.71	0		\$ 450,819.09	\$ 450,819.09	0		\$ 320,961.00	\$ 320,961.00
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 1,909.25	\$ 1,812.96	3		\$ -	\$ -	3	Crack Treatment	\$ 1,909.25	\$ 1,812.96
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ 8,766.31	\$ 7,769.17	7		\$ -	\$ -	7	Seal	\$ 8,766.31	\$ 7,769.17
8		\$ -	\$ -	8		\$ -	\$ -	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12		\$ -	\$ -	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15	ML Overlay 3.5"	\$ 229,182.67	\$ 176,931.75	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18	Crack Treatment	\$ 1,909.25	\$ 1,399.62	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20		\$ -	\$ -	20	1st CPR	\$ 277,989.99	\$ 196,876.78	20	ML Overlay 3.5"	\$ 229,182.67	\$ 162,310.68
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22	Seal	\$ 8,766.31	\$ 5,997.89	22		\$ -	\$ -	22	Crack Treatment	\$ 1,909.25	\$ 1,283.96
23		\$ -	\$ -	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27		\$ -	\$ -	27	Seal	\$ 8,766.31	\$ 5,502.25
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29	ML Overlay 3.5"	\$ 229,182.67	\$ 138,970.14	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32	Crack Treatment	\$ 1,909.25	\$ 1,099.33	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (123,406.05)	\$ (67,472.34)	35	0/0 Remaining	\$ -	\$ -	35	Remaining Life	\$ (48,248.98)	\$ (26,380.16)
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile			



Project Number	Analysis Period
3505-19	35
Highway	Discount Rate
59	2.00%
Date	Performed By
5/15/2015	ko
CLEAR ALL	

District 2 - 2014/2015 prices

LCCA SUMMA

LCCA SUMMARY				
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	3" mill & ol	5" BCOA		17.4
Net Present Cost	\$4,724,098.38	\$13,859,165.78		Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 4,724,098.38	\$ 13,859,165.78	\$ -	Total
% of Low Cost	100.0%	293.4%	0.0%	17.4

BID ADJUSTMENT FACTOR SUMMARY

BID ADJUSTMENT FACTOR SUMMARY					
	Alternate #1	Alternate #2	Alternate #3	Length	
Segment #1	3" mill & ol	5" BCOA		17.4	
Net Present Cost	\$2,177,970.28	\$6,019,586.91		Miles	
Segment #2				0.0	
Net Present Cost				Miles	
Segment #3				0.0	
Net Present Cost				Miles	
Segment #4				0.0	
Net Present Cost				Miles	
Segment #5				0.0	
Net Present Cost				Miles	
Segment #6				0.0	
Net Present Cost				Miles	
Segment #7				0.0	
Net Present Cost				Miles	
Segment #8				0.0	
Net Present Cost				Miles	
Project Net Present Cost	\$ 2,177,970.28	\$ 6,019,586.91	\$ -		Total
Bid Adjustment Factor	\$ -	\$ 3,841,616.63	\$ -		17.4

Segment 1

SEG	Length			SEG	Length			SEG	Length		
1	17.420			1	17.420			1	17.420		
ALT	Description			ALT	Description			ALT	Description		
1		3" mill & ol		2		5" BCOA		3			
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE			Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE			Pavement Type			
HMA				PCC				Primary Category			
Primary Category				6'X6' ≤ 5.0" Thickness				Secondary Category			
20 Year HMA				Secondary Category				Design Life = 20 Years			
Secondary Category				ShoulderCategory				ShoulderCategory			
Rural				Aggregate				Aggregate			
ShoulderCategory				Notes:	Notes:			Notes:			
Aggregate											
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mi
0		\$ 146,161.20	\$ 146,161.20	0		\$ 450,033.23	\$ 450,033.23	0		\$ -	\$ -
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3		\$ -	\$ -	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7		\$ -	\$ -	7		\$ -	\$ -	7		\$ -	\$ -
8	Crack Treatment	\$ 1,498.11	\$ 1,278.62	8		\$ -	\$ -	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12	Seal	\$ 12,371.00	\$ 9,754.45	12		\$ -	\$ -	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20	ML Overlay 3.5	\$ 174,833.51	\$ 117,657.94	20	1st CPR	\$ 444,414.67	\$ 299,078.33	20		\$ -	\$ -
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23	Crack Treatment	\$ 2,996.22	\$ 1,900.07	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27	Seal	\$ 8,057.88	\$ 4,720.80	27		\$ -	\$ -	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30	Remove and Replace	\$ 376,411.83	\$ 207,806.02	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	2/17 Remaining Life	\$ (20,568.65)	\$ (10,284.89)	35	30/35 Remaining	\$ (322,638.72)	\$ (161,328.27)	35		\$ -	\$ -
LCCA - Net Present Cost/ per Mile			\$ 271,188.20	LCCA - Net Present Cost/ per Mile			\$ 795,589.31	LCCA - Net Present Cost/ per Mile			\$ -
Maintenance - Net Present Cost/ per Mile			\$ 125,027.00	Maintenance - Net Present Cost/ per Mile			\$ 345,556.08	Maintenance - Net Present Cost/ per Mile			\$ -
Net Present Cost for Segment			\$ 4,724,098.38	Net Present Cost for Segment			\$ 13,859,165.78	Net Present Cost for Segment			\$ -
Maintenance - Net Present Cost for Segment			\$ 2,177,970.28	Maintenance - Net Present Cost for Segment			\$ 6,019,586.91	Maintenance - Net Present Cost for Segment			\$ -
Equivalent Annual Cost			\$ 188,974.37	Equivalent Annual Cost			\$ 554,397.25	Equivalent Annual Cost			\$ -

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
28	2	35	28	2	35			
Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix
5	2	12.5 Wearing Course (3,B)	5	2				
Width of Rounding Aggregate	white/ >7 million	SL Mix	Width of Rounding Aggregate	white/ >7 million	SL Mix	Width of Rounding Aggregate	white/ >7 million	SL Mix
5	N			Y				
Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness	
N			Y	5				
ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane	
1.5			6	0				
Design Life	Shldr Thickness		Design Life	Shldr Thickness		Design Life	Shldr Thickness	
20	0		20	3				



Project Number	Analysis Period
3614-20	35
Highway	Discount Rate
217	2.00%
Date	
10/27/2015	
Performed By	
Chris Morris	
	CLEAR ALL

District 1 - 2014/2015 prices

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	16.647		1	16.647		1	16.647		1	16.647	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	Mill & Overlay		2	Reclaim & Overlay		3	6" PCC				
Pavement Type		Pavement Type		Pavement Type		Pavement Type					
HMA		HMA		Primary Category		PCC					
Primary Category		20 Year HMA		Primary Category		Primary Category					
Overlay, DL = 13 to 17 years		Secondary Category		20 Year		6" X 6" ≥ 5.5" Thickness					
Secondary Category		Rural		ShoulderCategory		Secondary Category		Design Life = 20 Years			
ShoulderCategory		Bituminous		Bituminous		ShoulderCategory		ShoulderCategory			
Notes:				Notes:				Notes:			
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile
0	2" M & O	\$ 103,470.03	\$ 103,470.03	0	Rec & Overlay	\$ 607,643.37	\$ 607,643.37	0	6" PCC	\$ 716,812.80	\$ 716,812.80
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 2,568.19	\$ 2,420.06	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ 6,717.82	\$ 5,848.27	7		\$ -	\$ -	7		\$ -	\$ -
8		\$ -	\$ -	8	Crack Treatment	\$ 1,284.10	\$ 1,095.96	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12	Seal	\$ 10,431.22	\$ 8,224.94	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15	ML Overlay 3.5"	\$ 156,454.43	\$ 116,247.94	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18	Crack Treatment	\$ 2,568.19	\$ 1,798.14	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20		\$ -	\$ -	20	ML Overlay 3.5	\$ 176,062.22	\$ 118,484.83	20	1st CPR	\$ 240,018.43	\$ 161,525.52
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22	Seal	\$ 6,717.82	\$ 4,345.35	22	Crack Treatment	\$ 2,568.19	\$ 1,628.63	22		\$ -	\$ -
23		\$ -	\$ -	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27	Seal	\$ 6,717.82	\$ 3,935.71	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29	ML Overlay 3.5"	\$ 156,454.43	\$ 88,101.41	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32	Crack Treatment	\$ 2,568.19	\$ 1,362.77	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (84,244.69)	\$ (42,124.67)	35	2/17 Remaining Life	\$ (20,713.20)	\$ (10,357.17)	35	0/0 Remaining	\$ -	\$ -

LCCA - Net Present Cost/ per Mile	\$ 281,469.30	LCCA - Net Present Cost/ per Mile	\$ 730,656.28	LCCA - Net Present Cost/ per Mile	\$ 878,338.32
Maintenance - Net Present Cost/ per Mile	\$ 177,999.27	Maintenance - Net Present Cost/ per Mile	\$ 123,012.91	Maintenance - Net Present Cost/ per Mile	\$ 161,525.52
Net Present Cost for Segment	\$ 4,685,619.42	Net Present Cost for Segment	\$ 12,163,235.04	Net Present Cost for Segment	\$ 14,621,698.07
Maintenance - Net Present Cost for Segment	\$ 2,963,153.88	Maintenance - Net Present Cost for Segment	\$ 2,047,795.91	Maintenance - Net Present Cost for Segment	\$ 2,688,915.39
Equivalent Annual Cost	\$ 187,435.13	Equivalent Annual Cost	\$ 486,556.27	Equivalent Annual Cost	\$ 584,900.23

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
24	2	35	24	2	35	24	2	35
Total Shdr Width	# of Shdr's	ML Mix	Total Shdr Width	# of Shdr's	ML Mix	Total Shdr Width	# of Shdr's	ML Mix
1	2	12.5 Wearing Course (3,B)	1	2	12.5 Wearing Course (3,C)	1	2	12.5 Wearing Course (3,C)
Width of Rounding Aggregate	white/ >7 million	SL Mix	Width of Rounding Aggregate	white/ >7 million	SL Mix	Width of Rounding Aggregate	white/ >7 million	SL Mix
1	N	12.5 Wearing Course (3,B)	2	N	12.5 Wearing Course (3,C)	2	N	12.5 Wearing Course (3,C)
Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness	
N			N			N		
ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane	
2			1.5			6		
Design Life	Shdr Thickness		Design Life	Shdr Thickness		Design Life	Shdr Thickness	
15	2		20	3		6		



Project Number	Analysis Period
4101-89	35
Highway	Discount Rate
14	2.00%
Date	
5/26/2015	
Performed By	Cody Brand
CLEAR ALL	

District 8 - 2014/2015 prices

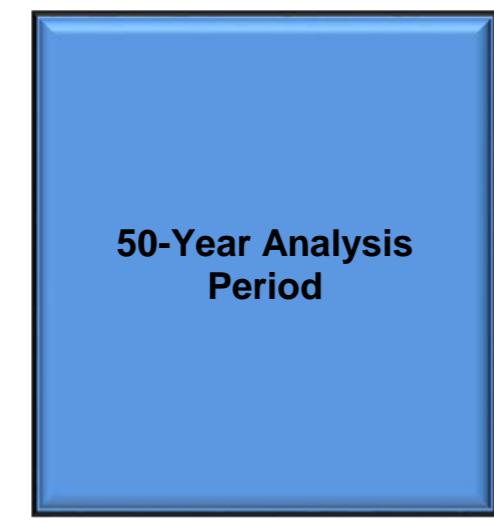
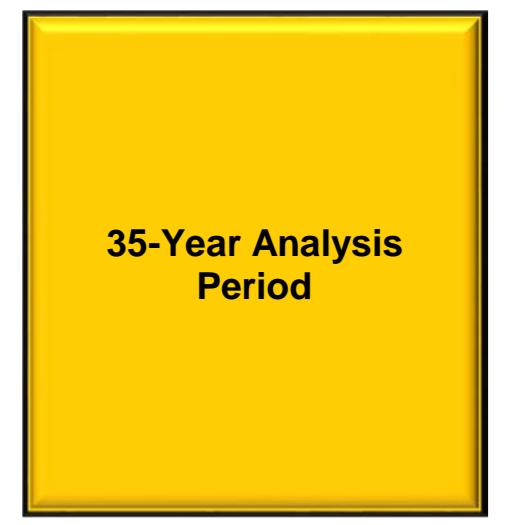
Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	8.255		1	8.255		1	8.255		1	8.255	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	3" Mill and Overlay		2	12" FDR and 4" Bituminous		3	5" Mill and 4.5" Whitetopping				
Pavement Type			Pavement Type			Pavement Type			Pavement Type		
HMA			HMA			PCC					
Primary Category			Primary Category			Primary Category					
Overlay, DL =13 to 17 years			20 Year HMA			6'X6' ≤ 5.0" Thickness					
Secondary Category			Secondary Category			Design Life = 20 Years					
Rural			Rural			ShoulderCategory					
ShoulderCategory			Aggregate			Aggregate					
Notes:			Notes:			Notes:					
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile
0	3" Mill and Overlay	\$ 169,863.56	\$ 169,863.56	0	12" FDR and 4" Bit.	\$ 294,303.87	\$ 294,303.87	0	5" Mill and 4.5" PCC	\$ 255,332.19	\$ 255,332.19
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 1,675.52	\$ 1,578.88	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ 8,047.82	\$ 7,006.11	7		\$ -	\$ -	7		\$ -	\$ -
8		\$ -	\$ -	8	Crack Treatment	\$ 837.76	\$ 715.02	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12	Seal	\$ 12,360.94	\$ 9,746.52	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15	ML Overlay 3.5"	\$ 188,779.94	\$ 140,266.28	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18	Crack Treatment	\$ 1,675.52	\$ 1,173.13	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20		\$ -	\$ -	20	ML Overlay 4	\$ 242,126.19	\$ 162,943.98	20	1st CPR	\$ 337,316.54	\$ 227,004.36
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22	Seal	\$ 8,047.82	\$ 5,205.64	22	Crack Treatment	\$ 1,675.52	\$ 1,062.54	22		\$ -	\$ -
23		\$ -	\$ -	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27	Seal	\$ 8,047.82	\$ 4,714.91	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29	ML Overlay 3.5"	\$ 188,779.94	\$ 106,304.31	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30	Remove and Replace	\$ 382,218.57	\$ 211,011.75
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32	Crack Treatment	\$ 1,675.52	\$ 889.09	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (101,650.74)	\$ (50,828.18)	35	2/17 Remaining Life	\$ (28,485.43)	\$ (14,243.50)	35	30/35 Remaining	\$ (327,615.92)	\$ (163,817.01)
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile			
\$ 381,458.82				\$ 294,303.87				\$ 255,332.19			
Maintenance - Net Present Cost/ per Mile				\$ 164,939.47				\$ 274,199.10			
Net Present Cost for Segment				\$ 3,148,942.56				\$ 4,371,280.79			
Maintenance - Net Present Cost for Segment				\$ 1,746,718.87				\$ 1,361,575.32			
Equivalent Annual Cost				\$ 125,964.66				\$ 151,650.53			
Equivalent Annual Cost				\$ 151,650.53				\$ 174,860.89			
Total Lane Width				# of Lanes				Analysis Period			
28				2				35			
Total Shdr Width				# of Shdr's				ML Mix			
10				2				10			
Width of Rounding Aggregate				white/ >7 million				2			
0				SL Mix				12.5 Wearing Course (3.C)			
Sealed/UTBWC				ML Thickness				Width of Rounding Aggregate			
ML Top Lift / joint spacing				# Dowels per Lane							



Project Number	Analysis Period
4680-126	35
Highway	Discount Rate
90	1.74%
Date	
10/30/2015	
Performed By	Caleb Fenske
CLEAR ALL	

District 6 - 2015/2016 prices

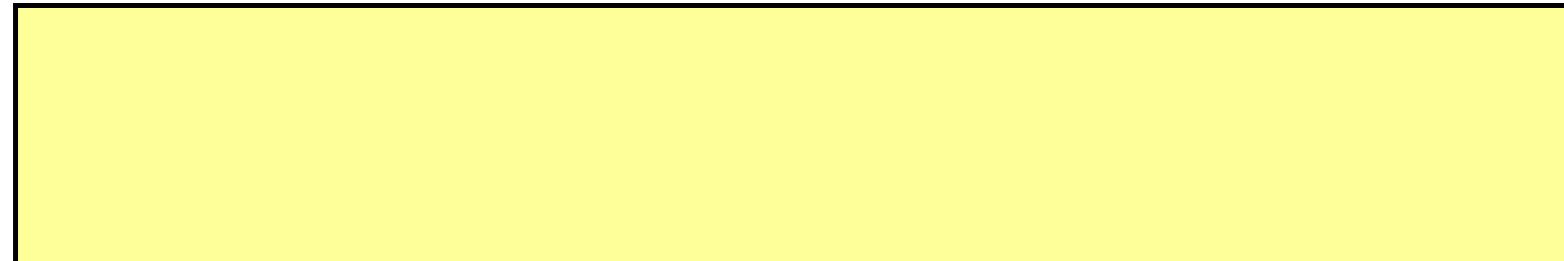
Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	14.3		1	14.3		1	14.3		1	14.3	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	15yr - mill2", pave 3.5" bituminous		2	20yr - mill2" pave 5"		3	20yr - mill4" 1"PASSRC 7" concrete				
Pavement Type			Pavement Type			Pavement Type					
HMA			HMA			PCC					
Primary Category			Primary Category			Primary Category					
Overlay, DL =13 to 17 years			20 Year HMA			≥12 Joint spacing					
Secondary Category			Rural			Secondary Category					
ShoulderCategory			Bituminous			ShoulderCategory					
Notes:			Notes:			Notes:					
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	Med M&OL	\$ 275,080.29	\$ 275,080.29	0	Thick M&OL	\$ 396,866.27	\$ 396,866.27	0	UBOL	\$ 525,144.11	\$ 525,144.11
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 2,307.01	\$ 2,190.65	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ -	\$ -	7		\$ -	\$ -	7		\$ -	\$ -
8		\$ -	\$ -	8	Crack Treatment	\$ 1,153.50	\$ 1,004.81	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12	Seal	\$ 4,406.59	\$ 3,582.63	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15	ML Overlay 3.5"	\$ 275,432.83	\$ 212,637.43	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18	Crack Treatment	\$ 2,307.01	\$ 1,691.21	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20		\$ -	\$ -	20	ML Overlay 3.5	\$ 275,432.83	\$ 195,065.76	20	1st CPR	\$ 277,298.03	\$ 196,386.72
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22	Seal	\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23		\$ -	\$ -	23	Crack Treatment	\$ 2,307.01	\$ 1,551.46	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27	Seal	\$ -	\$ -	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29	ML Overlay 3.5"	\$ 275,432.83	\$ 167,014.99	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32	Crack Treatment	\$ 2,307.01	\$ 1,328.35	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (148,309.99)	\$ (81,088.59)	35	2/17 Remaining Life	\$ (32,403.86)	\$ (17,716.83)	35	0/0 Remaining	\$ -	\$ -
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile			
\$ 578,854.34				\$ 580,354.09				\$ 721,530.83			
Maintenance - Net Present Cost/ per Mile				Maintenance - Net Present Cost/ per Mile				\$ 183,487.82			
\$ 303,774.05				\$ 184,386.72				\$ 196,386.72			
Net Present Cost for Segment				Net Present Cost for Segment				\$ 8,299,063.50			
\$ 8,277,617.02				Net Present Cost for Segment				\$ 10,317,890.89			
Maintenance - Net Present Cost for Segment				Maintenance - Net Present Cost for Segment				\$ 2,623,875.84			
\$ 4,343,968.88				Maintenance - Net Present Cost for Segment				\$ 2,808,330.12			
Equivalent Annual Cost				Equivalent Annual Cost				\$ 316,596.63			
Equivalent Annual Cost				Equivalent Annual Cost				\$ 396,098.34			
Total Lane Width				# of Lanes				Analysis Period			
29				29				35			
Total Shdr Width				# of Shdr				ML Mix			
9				9				9			
Width of Rounding Aggregate				WEARING COURSE MIXTURE				1			
white/ >7 million				(WEARING COURSE MIXTURE			
SL Mix											



- Year

Project Number	Analysis Period
5880-180	50
Highway	Discount Rate
I-35 Rp 202-211	1.74%
Date	
12/21/2015	
Performed By	Garver
	CLEAR ALL

District 1 - 2015/2016 prices



LCCA SUMMARY				
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1				18.6 Miles
Net Present Cost				
Segment #2				0.0 Miles
Net Present Cost				
Segment #3				0.0 Miles
Net Present Cost				
Segment #4				0.0 Miles
Net Present Cost				
Segment #5				0.0 Miles
Net Present Cost				
Segment #6				0.0 Miles
Net Present Cost				
Segment #7				0.0 Miles
Net Present Cost				
Segment #8				0.0 Miles
Net Present Cost				
Project Net Present Cost	\$ -	\$ -	\$ -	Total
% of Low Cost	#NUM!	#NUM!	#NUM!	18.6

BID ADJUSTMENT FACTOR SUMMARY				
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1				18.6 Miles
Net Present Cost				
Segment #2				0.0 Miles
Net Present Cost				
Segment #3				0.0 Miles
Net Present Cost				
Segment #4				0.0 Miles
Net Present Cost				
Segment #5				0.0 Miles
Net Present Cost				
Segment #6				0.0 Miles
Net Present Cost				
Segment #7				0.0 Miles
Net Present Cost				
Segment #8				0.0 Miles
Net Present Cost				
Project Net Present Cost	\$ -	\$ -	\$ -	Total
Bid Adjustment Factor	\$ -	\$ -	\$ -	18.6

Segment 1											
SEG	Length			SEG	Length			SEG	Length		
1	18.64			1	18.64			1	18.64		
ALT	Description			ALT	Description			ALT	Description		
1	20 year Bit			2	20 year concrete			3	35 year concrete		
Pavement Type				Pavement Type				Pavement Type			
HMA				PCC				PCC			
Primary Category				Primary Category				Primary Category			
20 Year HMA				≥12 Joint spacing				≥12 Joint spacing			
Secondary Category				Secondary Category				Secondary Category			
Rural				Design Life = 20 Years				Design Life 35 Years			
ShoulderCategory				ShoulderCategory				ShoulderCategory			
Bituminous				Thick Bit				Thick Bit			
Notes:				Notes:				Notes:			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	Construction	\$ 481,288.00	\$ 481,288.00	0	Construction	\$ 609,791.00	\$ 609,791.00	0	Construction	\$ 655,612.00	\$ 655,612.00
1		\$ -	\$ -	1		\$ -	\$ -	2		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	3		\$ -	\$ -
3		\$ -	\$ -	3		\$ -	\$ -	4		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	5		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	6		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	7		\$ -	\$ -
7		\$ -	\$ -	7		\$ -	\$ -	8		\$ -	\$ -
8	Crack Treatment	\$ 1,188.00	\$ -	8		\$ -	\$ -	9		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	10		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	11		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	12		\$ -	\$ -
12	Seal	\$ 13,183.68	\$ -	12		\$ -	\$ -	13		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	14		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	15		\$ -	\$ -
15		\$ -	\$ -	15		\$ -	\$ -	16		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	17		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	18		\$ -	\$ -
18		\$ -	\$ -	18		\$ -	\$ -	19		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	20		\$ -	\$ -
20	ML Overlay 4	\$ 217,307.97	\$ -	20	1st CPR	\$ 240,618.28	\$ -	21		\$ -	\$ -
21		\$ -	\$ -	21		\$ -	\$ -	22		\$ -	\$ -
22		\$ -	\$ -	22		\$ -	\$ -	23		\$ -	\$ -
23	Crack Treatment	\$ 2,376.00	\$ -	23		\$ -	\$ -	24		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	25		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	26		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	27		\$ -	\$ -
27	Seal	\$ 8,952.03	\$ -	27		\$ -	\$ -	28		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	29		\$ -	\$ -
29		\$ -	\$ -	29		\$ -	\$ -	30		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	31		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	32		\$ -	\$ -
32		\$ -	\$ -	32		\$ -	\$ -	33		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	34		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	35		\$ -	\$ -
35		\$ -	\$ -	35	Remove and Replace	\$ 495,665.10	\$ -	36		\$ -	\$ -
36		\$ -	\$ -	36		\$ -	\$ -	37		\$ -	\$ -
37	ML Overlay 3.5"	\$ 192,576.28	\$ -	37		\$ -	\$ -	38		\$ -	\$ -
38		\$ -	\$ -	38		\$ -	\$ -	39		\$ -	\$ -
39		\$ -	\$ -	39		\$ -	\$ -	40		\$	



Project Number	Analysis Period
SP 6284-166	35
Highway	Discount Rate
I-35W	2.00%
Date	
6/5/2015	
Performed By	
T. Clyne	
CLEAR ALL	

Metro - 2014/2015 prices

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	3.479		1	3.479		1	3.479		1	3.479	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	Bit M&O		2	Rubbilize + Bit OL		3	UBOL		4	PCC	
Pavement Type		Pavement Type		Pavement Type		PCC					
HMA		HMA		Primary Category		Primary Category		Primary Category		Primary Category	
Primary Category		Overlay, DL =13 to 17 years		20 Year HMA		≥12 Joint spacing		≥12 Joint spacing		≥12 Joint spacing	
Secondary Category		Urban		Secondary Category		Urban		Urban		Urban	
ShoulderCategory		Thick		ShoulderCategory		Thick		Thick		Thick	
Notes:				Notes:				Notes:			
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile
0	M&O	\$ 565,776.48	\$ 565,776.48	0	Rubbilize + Bit OL	\$ 2,301,920.59	\$ 2,301,920.59	0	UBOL	\$ 2,567,908.32	\$ 2,567,908.32
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 5,136.38	\$ 4,840.13	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ -	\$ -	7		\$ -	\$ -	7		\$ -	\$ -
8		\$ -	\$ -	8	Crack Treatment	\$ 2,568.19	\$ 2,191.93	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12	Seal	\$ 13,356.29	\$ 10,531.34	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14	ML Overlay 3.5"	\$ 711,542.05	\$ 539,259.95	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17	Crack Treatment	\$ 5,136.38	\$ 3,668.21	17		\$ -	\$ -	17		\$ -	\$ -
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20		\$ -	\$ -	20	ML Mill 3.0"	\$ 747,532.88	\$ 503,068.20	20	1st CPR	\$ 608,191.46	\$ 409,295.42
21	Seal	\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23		\$ -	\$ -	23	Crack Treatment	\$ 5,136.38	\$ 3,257.27	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27	Seal	\$ -	\$ -	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (274,779.54)	\$ (137,397.36)	35	2/17 Remaining Life	\$ (87,945.04)	\$ (43,974.95)	35	0/0 Remaining	\$ -	\$ -
LCCA - Net Present Cost/Per Mile				LCCA - Net Present Cost/Per Mile				LCCA - Net Present Cost/Per Mile			
\$ 1,461,931.77				\$ 2,776,994.38				\$ 2,977,203.74			
Maintenance - Net Present Cost/Per Mile				Maintenance - Net Present Cost/Per Mile				\$ 409,295.42			
\$ 896,155.30				\$ 475,073.79				\$ 10,357,691.80			
Net Present Cost for Segment				Net Present Cost for Segment				Net Present Cost for Segment			
\$ 5,086,060.64				\$ 9,661,163.44				\$ 1,423,938.76			
Maintenance - Net Present Cost for Segment				\$ 1,652,781.70				Maintenance - Net Present Cost for Segment			
\$ 3,117,724.28				\$ 228,842.94				\$ 1,423,938.76			
Equivalent Annual Cost				Equivalent Annual Cost				Equivalent Annual Cost			
\$ 203,453.66				\$ 386,467.88				\$ 414,330.55			
Total Lane Width				# of Lanes				Analysis Period			
72				6				35			
Total Shdr Width				# of Shdtrs				ML Mix			
28				4				28			
Width of Rounding Aggregate				white/ >7 million				12.5 Wearing Course(5,E)			
SL Mix				Y				12.5 Wearing Course(5,F)			
Sealed/UTBW/C											



Project Number	Analysis Period
6407-89	35
Highway	Discount Rate
	2.00%
Date	
Performed By	CLEAR ALL

District 8 - 2014/2015 prices

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	0.609		1	0.609		1	0.609		1	0.609	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	3" Mill and Overlay (Urban)		2	FDR and 4" Overlay (Urban)		3	4.5" PCC Overlay (Urban)				
Pavement Type			Pavement Type			Pavement Type			Pavement Type		
HMA			HMA			PCC					
Primary Category			Primary Category			Primary Category					
Overlay, DL =13 to 17 years			20 Year HMA			6'X6' ≤ 5.0" Thickness					
Secondary Category			Urban			Secondary Category			Design Life = 20 Years		
ShoulderCategory			Thick			ShoulderCategory			Thick Bit		
Notes:			Notes:			Notes:					
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile
0	3" Mill and Overlay	\$ 208,414.07	\$ 208,414.07	0	FDR and 4" Overlay	\$ 400,359.91	\$ 400,359.91	0	4.5" PCC Overlay	\$ 362,288.96	\$ 362,288.96
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 1,436.16	\$ 1,353.33	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ 8,644.05	\$ 7,525.17	7		\$ -	\$ -	7		\$ -	\$ -
8		\$ -	\$ -	8	Crack Treatment	\$ 718.08	\$ 612.87	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12	Seal	\$ 12,847.89	\$ 10,130.47	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17	ML Overlay 3.5"	\$ 230,466.07	\$ 164,590.24	17		\$ -	\$ -	17		\$ -	\$ -
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20	Crack Treatment	\$ 1,436.16	\$ 966.49	20	ML Mill 3.0"	\$ 234,349.82	\$ 157,710.71	20	1st CPR	\$ 337,631.93	\$ 227,216.61
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23		\$ -	\$ -	23	Crack Treatment	\$ 1,436.16	\$ 910.75	23		\$ -	\$ -
24	Seal	\$ 8,644.05	\$ 5,374.19	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27	Seal	\$ 8,644.05	\$ 5,064.22	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30	Remove and Replace	\$ 593,621.33	\$ 327,721.06
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -
33	ML Overlay 4.0"	\$ 267,390.47	\$ 139,104.21	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (231,738.41)	\$ (115,875.60)	35	2/17 Remaining Life	\$ (27,570.57)	\$ (13,786.04)	35	30/35 Remaining	\$ (508,818.28)	\$ (254,423.19)
LCCA - Net Present Cost/Per Mile				LCCA - Net Present Cost/Per Mile				LCCA - Net Present Cost/Per Mile			
\$ 411,452.09				\$ 561,002.89				\$ 662,803.43			
Maintenance - Net Present Cost/Per Mile				Maintenance - Net Present Cost/Per Mile				\$ 160,642.98			
\$ 203,038.02				\$ 300,514.47							
Net Present Cost for Segment				Net Present Cost for Segment				\$ 341,650.76			
\$ 250,574.32				\$ 341,650.76				\$ 403,647.29			
Maintenance - Net Present Cost for Segment				Maintenance - Net Present Cost for Segment				\$ 97,831.58			
\$ 123,650.15				\$ 183,013.31				\$ 183,013.31			
Equivalent Annual Cost				Equivalent Annual Cost				\$ 13,666.79			
Equivalent Annual Cost				Equivalent Annual Cost				\$ 16,146.78			
Total Lane Width				# of Lanes				Analysis Period			
24				2				35			
Total Shdr Width				# of Shdr				ML Mix			
20				2				16			
Width of Rounding Aggregate				white/ >7 million				2			
white/ >7 million				SL Mix				12.5 Wearing Course (3.C)			



Project Number	Analysis Period
6501-12	35
Highway	Discount Rate
	1.74%
Date	CLEAR ALL
Performed By	

District 8 - 2015/2016 prices

1. **What is the primary purpose of the study?** The study aims to evaluate the effectiveness of a new treatment for hypertension in a diverse population.

LCCA SUMMARY					
	Alternate #1		Alternate #2		Alternate #3
Segment #1	2.5" Mill and 4" Overlay		4" Mill and 4" Whitetopping		4" Mill, 9" FDR, 4" Overlay
Net Present Cost	\$2,059,685.07		\$2,995,483.89		\$2,482,404.34
Segment #2					
Net Present Cost					
Segment #3					
Net Present Cost					
Segment #4					
Net Present Cost					
Segment #5					
Net Present Cost					
Segment #6					
Net Present Cost					
Segment #7					
Net Present Cost					
Segment #8					
Net Present Cost					
Project Net Present Cost	\$ 2,059,685.07		\$ 2,995,483.89		\$ 2,482,404.34
% of Low Cost		100.0%		145.4%	
					120.5%
					13.4

BID ADJUSTMENT FACTOR SUMMARY					
	Alternate #1	Alternate #2	Alternate #3		Length
Segment #1	2.5" Mill and 4" Overlay	4" Mill and 4" Whitetopping	4" Mill, 9" FDR, 4" Overlay		5.7
Net Present Cost	\$900,527.55	\$1,808,733.88	\$908,631.43		Miles
Segment #2					7.7
Net Present Cost					Miles
Segment #3					0.0
Net Present Cost					Miles
Segment #4					0.0
Net Present Cost					Miles
Segment #5					0.0
Net Present Cost					Miles
Segment #6					0.0
Net Present Cost					Miles
Segment #7					0.0
Net Present Cost					Miles
Segment #8					0.0
Net Present Cost					Miles
Project Net Present Cost	\$ 900,527.55	\$ 1,808,733.88	\$ 908,631.43		Total
Bid Adjustment Factor	\$ -	\$ 908,206.33	\$ 8,103.88		13.4

Segment 1																	
SEG	Length			SEG	Length			SEG	Length								
1	5.688			1	5.688			1	5.688								
ALT	Description			ALT	Description			ALT	Description								
1	2.5" Mill and 4" Overlay			2	4" Mill and 4" Whitetopping			3	4" Mill, 9" FDR, 4" Overlay								
Pavement Type		CLICK HERE TO EDIT THIS ALTERNATE			Pavement Type		CLICK HERE TO EDIT THIS ALTERNATE			Pavement Type							
HMA					PCC					HMA							
Primary Category					Primary Category					Primary Category							
Overlay, DL > 17 years					6'X6' ≤ 5.0" Thickness					20 Year HMA							
Secondary Category					Secondary Category					Secondary Category							
Rural					Design Life = 20 Years					Rural							
ShoulderCategory					ShoulderCategory					ShoulderCategory							
Aggregate					Aggregate					Aggregate							
Notes: Considered 2' shoulder as mainline				Notes: Considered 2' shoulder as mainline				Notes: Considered 2' shoulder as mainline									
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile						
0	2.5" Mill and 4" Overlay	\$ 203,790.00	\$ 203,790.00	0	4" Mill and 4" Whitetopping	\$ 208,641.00	\$ 208,641.00	0	4" Mill, 9" FDR and 4" Overlay	\$ 276,683.00	\$ 276,683.00						
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -						
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -						
3	Crack Treatment	\$ 2,464.00	\$ 2,339.73	3		\$ -	\$ -	3		\$ -	\$ -						
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -						
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -						
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -						
7	Seal	\$ 8,733.73	\$ 7,740.29	7		\$ -	\$ -	7		\$ -	\$ -						
8		\$ -	\$ -	8		\$ -	\$ -	8	Crack Treatment	\$ 1,232.00	\$ 1,073.19						
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -						
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -						
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -						
12		\$ -	\$ -	12		\$ -	\$ -	12	Seal	\$ 12,742.80	\$ 10,360.10						
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -						
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -						
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -						
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -						
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -						
18	ML Overlay 3.5"	\$ 192,137.27	\$ 140,851.16	18		\$ -	\$ -	18		\$ -	\$ -						
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -						
20		\$ -	\$ -	20	1st CPR	\$ 378,864.41	\$ 268,317.59	20	ML Overlay 4	\$ 219,249.92	\$ 155,276.16						
21	Crack Treatment	\$ 2,464.00	\$ 1,715.20	21		\$ -	\$ -	21		\$ -	\$ -						
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -						
23		\$ -	\$ -	23		\$ -	\$ -	23	Crack Treatment	\$ 2,464.00	\$ 1,657.03						
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -						
25	Seal	\$ 8,733.73	\$ 5,674.22	25		\$ -	\$ -	25		\$ -	\$ -						
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -						
27		\$ -	\$ -	27		\$ -	\$ -	27	Seal	\$ 8,733.73	\$ 5,481.79						
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -						
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -						
30		\$ -	\$ -	30	Remove and Replace	\$ 390,028.31	\$ 232,457.81	30		\$ -	\$ -						
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -						
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -						
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -						
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -						
35	Remaining Life	\$ -	\$ -	35	30/35 Remaining	\$ (334,309.98)	\$ (182,784.21)	35	2/17 Remaining Life	\$ (25,794.11)	\$ (14,102.95)						
LCCA - Net Present Cost/ per Mile			\$ 362,110.60	LCCA - Net Present Cost/ per Mile			\$ 526,632.19	LCCA - Net Present Cost/ per Mile			\$ 436,428.33						
Maintenance - Net Present Cost/ per Mile			\$ 158,320.60	Maintenance - Net Present Cost/ per Mile			\$ 317,991.19	Maintenance - Net Present Cost/ per Mile			\$ 159,745.33						
Net Present Cost for Segment			\$ 2,059,685.07	Net Present Cost for Segment			\$ 2,995,483.89	Net Present Cost for Segment			\$ 2,482,404.34						
Maintenance - Net Present Cost for Segment			\$ 900,527.55	Maintenance - Net Present Cost for Segment			\$ 1,808,733.88	Maintenance - Net Present Cost for Segment			\$ 908,631.43						
Equivalent Annual Cost			79,070.21	Equivalent Annual Cost			114,995.03	Equivalent Annual Cost			95,298.18						

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
28	2	35	28	2	35	28	2	35
Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix
16	2	WEARING COURSE MIXTURE (3,A)	16	2	WEARING COURSE MIXTURE (3,B)	16	2	WEARING COURSE MIXTURE (3,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix
0	N			Y		0	N	
Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness	
N			N	4		N		
ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane	
2			6	0		2		
Design Life	Shldr Thickness		Design Life	Shldr Thickness		Design Life	Shldr Thickness	
18	1.5			1.5		20	1.5	



Project Number	Analysis Period
6607-49 & 2511-49	35
Highway	Discount Rate
T.H. 60 From T.H. 21 to CSAH 12(Kenyon)	1.74%
Date	
3/25/2016	
Performed By	CLEAR ALL

District 6 - 2015/2016 prices

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	1.027		1	1.027		1	1.027		1	1.027	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	3" Mill & 3" Bit. OL		2	3" Mill & 3" Bit. OL		3	3" Mill & 3" Bit. OL				
Pavement Type		Pavement Type		Pavement Type		Pavement Type					
HMA		HMA		HMA		HMA					
Primary Category		Primary Category		Primary Category		Primary Category					
Overlay, DL =13 to 17 years		Overlay, DL =13 to 17 years		Overlay, DL =13 to 17 years		Overlay, DL =13 to 17 years					
Secondary Category		Secondary Category		Secondary Category		Secondary Category					
Urban		Urban		Urban		Urban					
ShoulderCategory		ShoulderCategory		ShoulderCategory		ShoulderCategory					
Thick		Thick		Thick		Thick					
Notes:				Notes:				Notes:			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0		\$ 349,250.38	\$ 349,250.38	0		\$ 349,250.38	\$ 349,250.38	0		\$ 349,250.38	\$ 349,250.38
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 1,909.25	\$ 1,812.96	3	Crack Treatment	\$ 1,909.25	\$ 1,812.96	3	Crack Treatment	\$ 1,909.25	\$ 1,812.96
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ 9,934.37	\$ 8,804.37	7	Seal	\$ 9,934.37	\$ 8,804.37	7	Seal	\$ 9,934.37	\$ 8,804.37
8		\$ -	\$ -	8		\$ -	\$ -	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12		\$ -	\$ -	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15	ML Overlay 3.5"	\$ 289,824.17	\$ 223,747.71	15	ML Overlay 3.5"	\$ 289,824.17	\$ 223,747.71	15	ML Overlay 3.5"	\$ 289,824.17	\$ 223,747.71
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18	Crack Treatment	\$ 1,909.25	\$ 1,399.62	18	Crack Treatment	\$ 1,909.25	\$ 1,399.62	18	Crack Treatment	\$ 1,909.25	\$ 1,399.62
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20		\$ -	\$ -	20		\$ -	\$ -	20		\$ -	\$ -
21	Seal	\$ 9,934.37	\$ 6,797.08	21	Seal	\$ 9,934.37	\$ 6,797.08	21	Seal	\$ 9,934.37	\$ 6,797.08
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23		\$ -	\$ -	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27		\$ -	\$ -	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29	ML Overlay 4.0"	\$ 350,244.01	\$ 212,378.45	29	ML Overlay 4.0"	\$ 350,244.01	\$ 212,378.45	29	ML Overlay 4.0"	\$ 350,244.01	\$ 212,378.45
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32	Crack Treatment	\$ 1,909.25	\$ 1,099.33	32	Crack Treatment	\$ 1,909.25	\$ 1,099.33	32	Crack Treatment	\$ 1,909.25	\$ 1,099.33
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (188,592.93)	\$ (103,113.31)	35	Remaining Life	\$ (188,592.93)	\$ (103,113.31)	35	Remaining Life	\$ (188,592.93)	\$ (103,113.31)
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile			
\$ 702,176.58				\$ 702,176.58				\$ 702,176.58			
Maintenance - Net Present Cost/ per Mile				\$ 352,926.20				\$ 352,926.20			
Net Present Cost for Segment				\$ 721,135.34				\$ 721,135.34			
Maintenance - Net Present Cost for Segment				\$ 362,455.21				\$ 362,455.21			
Equivalent Annual Cost				\$ 27,684.00				\$ 27,684.00			
Total Lane Width				# of Lanes				Analysis Period			
24				2				35			
Total Shdr Width				# of Shdrs				ML Mix			
24				2				2			
Width of Rounding Aggregate				WEARING COURSE MIXTURE				WEARING COURSE MIXTURE (3			



Project Number	Analysis Period
6910-96	35
Highway	Discount Rate
	2.00%
Date	
Performed By	CLEAR ALL

District 1 - 2014/2015 prices

Segment 1											
SEG	Length		SEG	Length		SEG	Length		ALT	Description	
1	1.56899999999996		1	1.56899999999996		1	1.56899999999996				
ALT			ALT			ALT			ALT	Description	
1			2			3			20	20 year Conc	
		Mill & Overlay		Reclaim & Overlay		Pavement Type		Pavement Type		PCC	
		HMA		HMA		Primary Category		Primary Category		≥12 Joint spacing	
		Overlay, DL =13 to 17 years		20 Year HMA		Secondary Category		Secondary Category		Urban	
		Secondary Category		Urban		ShoulderCategory		ShoulderCategory		Design Life = 20 Years	
		Thin		Thick						PCC	



Project Number	Analysis Period
6917-142	35
Highway	Discount Rate
	1.74%
Date	
Performed By	CLEAR ALL

District 1 - 2015/2016 prices

Preliminary, segment limits need to be tied down.

LCCA SUMMARY			
	Alternate #1	Alternate #2	Alternate #3
Segment #1	M&O	New HMA	PCC
Net Present Cost	\$1,757,394.83	\$2,805,312.62	\$2,773,255.23
Segment #2			3.6 Miles
Net Present Cost			
Segment #3			0.0 Miles
Net Present Cost			
Segment #4			0.0 Miles
Net Present Cost			
Segment #5			0.0 Miles
Net Present Cost			
Segment #6			0.0 Miles
Net Present Cost			
Segment #7			0.0 Miles
Net Present Cost			
Segment #8			0.0 Miles
Net Present Cost			
Project Net Present Cost	\$ 1,757,394.83	\$ 2,805,312.62	\$ 2,773,255.23
% of Low Cost	100.0%	159.6%	157.8%
			6.2

BID ADJUSTMENT FACTOR SUMMARY			
	Alternate #1	Alternate #2	Alternate #3
Segment #1	M&O	New HMA	PCC
Net Present Cost	\$707,581.43	\$488,232.12	\$509,503.33
Segment #2			3.6 Miles
Net Present Cost			
Segment #3			0.0 Miles
Net Present Cost			
Segment #4			0.0 Miles
Net Present Cost			
Segment #5			0.0 Miles
Net Present Cost			
Segment #6			0.0 Miles
Net Present Cost			
Segment #7			0.0 Miles
Net Present Cost			
Segment #8			0.0 Miles
Net Present Cost			
Project Net Present Cost	\$ 707,581.43	\$ 488,232.12	\$ 509,503.33
Bid Adjustment Factor	\$ 219,349.31	\$ -	\$ 21,271.21
			6.2

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	2.65		1	2.65		1	2.65		1	2.65	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	M&O		2	New HMA		3	PCC				
Pavement Type		Pavement Type		Pavement Type		Pavement Type					
HMA		HMA		HMA		PCC					
Primary Category		Primary Category		Primary Category		Primary Category					
Overlay, DL = 13 to 17 years		20 Year HMA		20 Year HMA		≥12 Joint spacing					
Secondary Category		Rural		Rural		ShoulderCategory		Design Life = 20 Years			
ShoulderCategory		Bituminous		Bituminous		Thin Bit					
Notes: Mill 2in and OL 5in.				Notes: Subcut 30in. Place 6in. HMA- 5in. CL5 - 19in. Sel. Gran.				Notes: Subcut 24in. - 7in. PCC - 5in. CL6			
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile
0	Mill 2 & OL	\$ 396,156.00	\$ 396,156.00	0	R&R	\$ 874,370.00	\$ 874,370.00	0	PCC 20 yr.	\$ 854,246.00	\$ 854,246.00
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3		\$ 2,112.00	\$ 2,005.48	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7		\$ 8,116.17	\$ 7,192.99	7		\$ -	\$ -	7		\$ -	\$ -
8		\$ -	\$ -	8		\$ -	\$ -	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12		\$ 11,923.74	\$ 9,694.19	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ 230,166.49	\$ 177,691.28	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18		\$ 2,112.00	\$ 1,548.26	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20		\$ -	\$ -	20		\$ 259,531.16	\$ 183,803.95	20		\$ 271,478.73	\$ 192,265.41
21		\$ 8,116.17	\$ 5,553.07	21		\$ 2,112.00	\$ 1,420.31	21		\$ -	\$ -
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23		\$ -	\$ -	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27		\$ 8,116.17	\$ 5,094.18	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29		\$ 230,166.49	\$ 139,566.71	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32		\$ 2,112.00	\$ 1,216.07	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35		\$ (123,935.80)	\$ (67,761.99)	35		\$ (30,533.08)	\$ (16,693.98)	35		\$ -	\$ -
LCCA - Net Present Cost/Per Mile											



Project Number	Analysis Period
SP 6947-50	35
Highway	Discount Rate
TH 37	1.58%
Date	
8/18/2016	
Performed By	
Amy Thorson	
D1 - 2016/2017 prices	
CLEAR ALL	

Segment 1																	
SEG	Length		SEG	Length		SEG	Length		SEG	Length							
1	19		1	19		1	19		1	19							
ALT	Description		ALT	Description		ALT	Description		ALT	Description							
1	3" Mill, 3" Overlay		2	20 Year HMA		3	PCC										
Pavement Type		Pavement Type		Pavement Type		Pavement Type											
HMA		HMA		HMA		PCC											
Primary Category		Primary Category		Primary Category		Primary Category											
Overlay, DL =13 to 17 years		20 Year HMA		20 Year HMA		≥12 Joint spacing											
Secondary Category		Secondary Category		Rural		Design Life = 20 Years											
ShoulderCategory		ShoulderCategory		Bituminous		ShoulderCategory		ShoulderCategory		Thick Bit							
Bituminous		Bituminous		Bituminous		Bituminous		Bituminous		Bituminous							
CLICK HERE TO EDIT THIS ALTERNATE				CLICK HERE TO EDIT THIS ALTERNATE				CLICK HERE TO EDIT THIS ALTERNATE									
DELETE				DELETE				DELETE									
Notes:				Notes:				Notes:									
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile						
0		\$ 138,662.00	\$ 138,662.00	0		\$ 421,384.00	\$ 421,384.00	0		\$ 548,246.00	\$ 548,246.00						
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -						
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -						
3		\$ 2,112.00	\$ 2,014.97	3		\$ -	\$ -	3		\$ -	\$ -						
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -						
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -						
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -						
7		\$ 11,227.46	\$ 10,060.60	7		\$ -	\$ -	7		\$ -	\$ -						
8		\$ -	\$ -	8		\$ 1,056.00	\$ 931.53	8		\$ -	\$ -						
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -						
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -						
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -						
12		\$ -	\$ -	12		\$ 15,838.87	\$ 13,122.78	12		\$ -	\$ -						
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -						
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -						
15		\$ 196,042.93	\$ 154,963.02	15		\$ -	\$ -	15		\$ -	\$ -						
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -						
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -						
18		\$ 2,112.00	\$ 1,592.74	18		\$ -	\$ -	18		\$ -	\$ -						
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -						
20		\$ -	\$ -	20		\$ 219,436.90	\$ 160,378.26	20		\$ 257,375.48	\$ 188,106.15						
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -						
22		\$ 11,227.46	\$ 7,952.45	22		\$ 2,112.00	\$ 1,472.67	22		\$ -	\$ -						
23		\$ -	\$ -	23		\$ -	\$ -	23		\$ -	\$ -						
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -						
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -						
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -						
27		\$ -	\$ -	27		\$ 11,227.46	\$ 7,352.92	27		\$ -	\$ -						
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -						
29		\$ 196,042.93	\$ 124,426.58	29		\$ -	\$ -	29		\$ -	\$ -						
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -						
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -						
32		\$ 2,112.00	\$ 1,278.88	32		\$ -	\$ -	32		\$ -	\$ -						
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -						
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -						
35		\$ (105,561.58)	\$ (60,984.38)	35		\$ (25,816.11)	\$ (14,914.32)	35		\$ -	\$ -						
2/17 Remaining Life				0/0 Remaining				\$ -									
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				\$ 589,727.84									
Maintenance - Net Present Cost/ per Mile				Maintenance - Net Present Cost/ per Mile				\$ 736,352.15									
\$ 241,304.87				\$ 168,343.84				\$ 188,106.15									
Net Present Cost for Segment				Net Present Cost for Segment				\$ 11,204,828.97									
Maintenance - Net Present Cost for Segment				Maintenance - Net Present Cost for Segment				\$ 13,990,690.82									
Equivalent Annual Cost				Equivalent Annual Cost				\$ 270,115.48									
Equivalent Annual Cost				Equivalent Annual Cost				\$ 419,232.92									
Equivalent Annual Cost				Equivalent Annual Cost				\$ 523,466.99									
Total Lane Width				# of Lanes				Analysis Period									
24				2				35									
Total Shdr Width				# of Shdrs				ML Mix									

35-Year Analysis Period	
35 - Year	
Project Number	Analysis Period
7318-39	35
Highway	Discount Rate
US71	2.00%
Date	
1/15/2015	
Performed By	
Eric Schiller	
CLEAR ALL	

District 3 - 2014/2015 prices

LCCA SUMMARY					
	Alternate #1	Alternate #2	Alternate #3	Length	
Segment #1 Net Present Cost	HMA: 2" Mill & 3.5" Overlay Full Width \$9,965,340.10	HMA20: FDR, Mill 4" Full Width, \$12,644,469.59	PCC20: 4.0" Whitetopping, Mill 4" \$11,355,579.59	19.0 Miles	
Segment #2 Net Present Cost				0.0 Miles	
Segment #3 Net Present Cost				0.0 Miles	
Segment #4 Net Present Cost				0.0 Miles	
Segment #5 Net Present Cost				0.0 Miles	
Segment #6 Net Present Cost				0.0 Miles	
Segment #7 Net Present Cost				0.0 Miles	
Segment #8 Net Present Cost				0.0 Miles	
Project Net Present Cost	\$ 9,965,340.10	\$ 12,644,469.59	\$ 11,355,579.59	Total	
% of Low Cost	100.0%	126.9%	114.0%	19.0	

BID ADJUSTMENT FACTOR SUMMARY					
	Alternate #1	Alternate #2	Alternate #3	Length	
Segment #1 Net Present Cost	HMA: 2" Mill & 3.5" Overlay Full Width \$5,062,283.88	HMA20: FDR, Mill 4" Full Width, \$3,318,427.33	PCC20: 4.0" Whitetopping, Mill 4" \$5,872,191.45	19.0 Miles	
Segment #2 Net Present Cost				0.0 Miles	
Segment #3 Net Present Cost				0.0 Miles	
Segment #4 Net Present Cost				0.0 Miles	
Segment #5 Net Present Cost				0.0 Miles	
Segment #6 Net Present Cost				0.0 Miles	
Segment #7 Net Present Cost				0.0 Miles	
Segment #8 Net Present Cost				0.0 Miles	
Project Net Present Cost	\$ 5,062,283.88	\$ 3,318,427.33	\$ 5,872,191.45		Total
Bid Adjustment Factor	\$ 1,743,856.55	\$ -	\$ 2,553,764.12	19.0	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
12	2	SP 12.5 Wearing Course (4,B)
Width of Rounding Aggregate	white/ >7 million	SL Mix
3.0	N	SP 12.5 Wearing Course (4,B)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
14	5.5	



Project Number	Analysis Period
7380-239	50
Highway	Discount Rate
94	2.00%
Date	
2/23/2015	
Performed By	Scott Zeidler
	CLEAR ALL
District 3 - 2014/2015 prices	

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	4.486		1	4.486		1	4.486		1	4.486	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	Pavement Type		2	Pavement Type		3	Pavement Type				
	HMA			PCC			PCC				
	Primary Category			Primary Category			Primary Category				
	20 Year HMA			≥12 Joint spacing			≥12 Joint spacing				
	Secondary Category			Secondary Category			Secondary Category				
	Rural			Design Life = 20 Years			Design Life 35 Years				
	ShoulderCategory			ShoulderCategory			ShoulderCategory				
	Bituminous			Thick Bit			Thick Bit				
Notes:				Notes:				Notes:			
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile
0	9.5" Bit, 14" Agg, 15" Sel	\$ 1,076,145.16	\$ 1,076,145.16	0	8.0" UBCO	\$ 597,273.71	\$ 597,273.71	0	8.5" UBCO	\$ 629,430.53	\$ 629,430.53
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3		\$ -	\$ -	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7		\$ -	\$ -	7		\$ -	\$ -	7		\$ -	\$ -
8	Crack Treatment	\$ 1,498.11	\$ 1,278.62	8		\$ -	\$ -	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12	Seal	\$ 4,781.29	\$ 3,770.01	12		\$ -	\$ -	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ -	\$ -	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18		\$ -	\$ -	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20	ML Overlay 4	\$ 257,084.36	\$ 173,010.40	20	1st CPR	\$ 235,678.26	\$ 158,604.71	20	1st CPR	\$ 167,760.43	\$ 112,897.96
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22		\$ -	\$ -	22		\$ -	\$ -	22		\$ -	\$ -
23	Crack Treatment	\$ 2,996.22	\$ 1,900.07	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27	Seal	\$ -	\$ -	27		\$ -	\$ -	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29		\$ -	\$ -	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32		\$ -	\$ -	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35		\$ -	\$ -	35	Remove and Replace	\$ 508,146.45	\$ 254,087.26	35	2nd CPR	\$ 178,657.57	\$ 89,333.72
36		\$ -	\$ -	36		\$ -	\$ -	36		\$ -	\$ -
37	ML Overlay 3.5"	\$ 226,830.59	\$ 109,017.26	37		\$ -	\$ -	37		\$ -	\$ -
38		\$ -	\$ -	38		\$ -	\$ -	38		\$ -	\$ -
39		\$ -	\$ -	39		\$ -	\$ -	39		\$ -	\$ -
40	Crack Treatment	\$ 2,996.22	\$ 1,356.96	40		\$ -	\$ -	40		\$ -	\$ -
41		\$ -	\$ -	41		\$ -	\$ -	41		\$ -	\$ -
42		\$ -	\$ -	42		\$ -	\$ -	42		\$ -	\$ -
43	Chip Seal	\$ -	\$ -	43		\$ -	\$ -	43		\$ -	\$ -
44		\$ -	\$ -	44		\$ -	\$ -	44		\$ -	\$ -
45		\$ -	\$ -	45		\$ -	\$ -	45		\$ -	\$ -
46		\$ -	\$ -	46		\$ -	\$ -	46		\$ -	\$ -
47		\$ -	\$ -	47		\$ -	\$ -	47		\$ -	\$ -
48		\$ -	\$ -	48		\$ -	\$ -	48		\$ -	\$ -
49		\$ -	\$ -	49		\$ -	\$ -	49		\$ -	\$ -
50	4/17 Remaining Life	\$ (53,371.90)	\$ (19,829.15)	50	5/20 Remaining	\$ (127,036.61)	\$ (47,197.64)	50	0/0 Remaining	\$ -	\$ -
LCCA - Net Present Cost/Per Mile				LCCA - Net Present Cost/Per Mile				LCCA - Net Present Cost/Per Mile			
\$ 1,346,649.34				\$ 962,768.03				\$ 831,662.21			
Maintenance - Net Present Cost/Per Mile				Maintenance - Net Present Cost/Per Mile				\$ 365,494.32			
\$ 270,504.18				\$ 202,231.68							
Net Present Cost for Segment				\$ 6,041,068.95				Net Present Cost for Segment			
\$ 4,318,977.40				\$ 4,318,977.40				\$ 3,730,836.66			
Maintenance - Net Present Cost for Segment				\$ 1,213,481.77				Maintenance - Net Present Cost for Segment			
\$ 306,270.47											

AT LEAST ONE BITUMINOUS & ONE PCC OPTION WITH EQUAL DESIGN LIVES IS REQUIRED

District	4	Project Number	7605-89
Performed By	GRG	Date	1/31/2014
Analysis Period	35	Funding Category	▼
Discount Rate	2.2	Low Cost Option #	1
		Chosen Option #	1

OPTION #1			OPTION #2			OPTION #3		
DESCRIPTION			DESCRIPTION			DESCRIPTION		
1.5" Mill and 3" Bituminous Overlay			4.5" whitetopping			6" concrete new		
#	Description	Cost/Mile						
Year	#	Life	Description	Cost/Mile	Year	#	Life	Description
AA	Crack Treatment	\$ 4,000			0	Initial Cost	\$ 230,000	
AB	Surface Treatment	\$ 27,000			1		\$ -	
AC	1.5" Overlay				2		\$ -	
AD	2" Overlay				3		\$ -	
AE	3" Overlay	200000			4		\$ -	
AF	4" Overlay				5		\$ -	
AG	4.5" Overlay	300000			6		\$ -	
AH	2" Mill & 2" Overlay				7		\$ -	
AI	1.5" Mill & 3" Overlay				8		\$ -	
AJ	2" Mill & 3" Overlay				9		\$ -	
AK	3" Mill & 3" Overlay	225000			10		\$ -	
AL	2" Mill & 4.5" Overlay				11		\$ -	
AM	3" Mill & 4.5" Overlay	280000			12		\$ -	
AN	Reseal Joints (6'X6')				13		\$ -	
AO	Reseal Joints (15')				14		\$ -	
AP	Minor CPR (6'X6')				15		\$ -	
AQ	Minor CPR (15')	125000			16		\$ -	
AR	Major CPR (6'X6')	200000			17		\$ -	
AS	Minor CPR (15)				18		\$ -	
AT	CIR w/New Structure				AK	3" Mill & 3" Overlay	\$ 225,000	
AU	FDR w/New Structure				19		\$ -	
AV	SFDR w/New Structure				20		\$ -	
AW	New Concrete Structure	700000			21		\$ -	
AX	Concrete Whitetopping				22		\$ -	
AY	Unbonded Concrete Overlay				23		\$ -	
AZ	New Bituminous Structure	436000			24		\$ -	
BA	patch	6000			25		\$ -	
BB					26		\$ -	
BC					27		\$ -	
BD					28		\$ -	
BE					29		\$ -	
BF					30		\$ -	
BG					AA	3 Crack Treatment	\$ 4,000	
BH					31		\$ -	
BI					32		\$ -	
BJ					33		\$ -	
BK					34		\$ -	
BL					35		\$ -	
BM								
BN								
BP								
BQ								
BR								
BS								
BT								
BU								
BV								
BW								
BX								
BY								
BZ								
Total Present Worth			Total Present Worth			Total Present Worth		
\$ 575,533			\$ 613,734			\$ 850,845		
Eq. Annual Cost*			Eq. Annual Cost*			Eq. Annual Cost*		
\$23,751			\$25,327			\$35,112		
% of Low Cost			% of Low Cost			% of Low Cost		
100%			107%			148%		

* Equivalent Annual Cost is included for information only.

**Remaining Service Life Value is reported as a negative value.

Yellow Cells are unprotected for input.
Light Blue contain Formulas but are unprotected.
White Cells are protected from input.

AT LEAST ONE BITUMINOUS & ONE PCC OPTION WITH EQUAL DESIGN LIVES IS REQUIRED

District	4	Project Number	7609-10
Performed By	SJ	Date	3/3/2014
Analysis Period	35	Funding Category	<input type="button" value="▼"/>
Discount Rate	2.2	Low Cost Option #	1

OPTION #1				OPTION #2				OPTION #3						
DESCRIPTION				DESCRIPTION				DESCRIPTION						
3" Mill and 3" Bituminous Overlay				6" Whitetopping										
	DESIGN LIFE		TYPE		DESIGN LIFE		TYPE		DESIGN LIFE		TYPE			
	20				20									
Year	#	Life	Description	Cost/Mile	Year	#	Life	Description	Cost/Mile	Year	#	Life	Description	Cost/Mile
0			Initial Cost	\$ 131,371	0			Initial Cost	\$ 253,271	0				
1				\$ -	1				\$ -	1			\$ -	
2				\$ -	2				\$ -	2			\$ -	
3	AA	3	Crack Treatment	\$ 2,000	3				\$ -	3			\$ -	
4				\$ -	4				\$ -	4			\$ -	
5				\$ -	5				\$ -	5			\$ -	
6	AB	14	Surface Treatment	\$ 20,000	6				\$ -	6			\$ -	
7				\$ -	7				\$ -	7			\$ -	
8				\$ -	8				\$ -	8			\$ -	
9				\$ -	9				\$ -	9			\$ -	
10				\$ -	10				\$ -	10			\$ -	
11				\$ -	11				\$ -	11			\$ -	
12				\$ -	12				\$ -	12			\$ -	
13				\$ -	13				\$ -	13			\$ -	
14				\$ -	14				\$ -	14			\$ -	
15				\$ -	15				\$ -	15			\$ -	
16				\$ -	16				\$ -	16			\$ -	
17				\$ -	17				\$ -	17			\$ -	
18				\$ -	18				\$ -	18			\$ -	
19				\$ -	19				\$ -	19			\$ -	
20	AK	19	3" Mill & 3" Overlay	\$ 132,000	20	BA	10	Major CPR	\$ 200,000	20			\$ -	
21				\$ -	21				\$ -	21			\$ -	
22				\$ -	22				\$ -	22			\$ -	
23	AA	3	Crack Treatment	\$ 2,000	23				\$ -	23			\$ -	
24				\$ -	24				\$ -	24			\$ -	
25				\$ -	25				\$ -	25			\$ -	
26	AB	13	Surface Treatment	\$ 20,000	26				\$ -	26			\$ -	
27				\$ -	27				\$ -	27			\$ -	
28				\$ -	28				\$ -	28			\$ -	
29				\$ -	29				\$ -	29			\$ -	
30				\$ -	30	BB	5	Minor CPR	\$ 100,000	30			\$ -	
31				\$ -	31				\$ -	31			\$ -	
32				\$ -	32				\$ -	32			\$ -	
33				\$ -	33				\$ -	33			\$ -	
34				\$ -	34				\$ -	34			\$ -	
35			Remaining Service Life Value**	\$ (28,000)	35			Remaining Service Life Value**		35			Remaining Service Life Value**	\$ -

Yellow Cells are unprotected for input.
Light Blue contain Formulas but are unprotected.
White Cells are protected from input.

* Equivalent Annual Cost is included for information only.

**Remaining Service Life Value is reported as a negative value.



Project Number	Analysis Period
7709-16	35
Highway	Discount Rate
71	2.00%
Date	
6/17/2015	
Performed By	Scott Zeidler
	CLEAR ALL

District 3 - 2014/2015 prices

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	7.9		1	7.9		1	7.9		1	7.9	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	2" Mill & Fill on Center 25' and 1 1/2" Overlay		2	3" Mill & Overlay (Full Width)		3	4" Mill & Overlay (Full Width)		4	4.0" Whitetopping	
Pavement Type		Pavement Type		Pavement Type		Pavement Type					
HMA		HMA		PCC		PCC					
Primary Category		Primary Category		Primary Category		Primary Category					
Overlay, DL =13 to 17 years		Overlay, DL =13 to 17 years		Thin Bit		Thin Bit					
Secondary Category		Secondary Category		ShoulderCategory		ShoulderCategory					
Rural		Rural		Bituminous		Bituminous					
Notes:				Notes:				Notes:			
Year	Activity	Cost/Per Mile	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile	Year	Activity	Cost	Pres. Cost/Per Mile
0	on Center 24" w/1 1/2" Overlay	\$ 185,148.64	\$ 185,148.64	0	3" Mill & Overlay Full Width	\$ 217,699.62	\$ 217,699.62	0	4.0" White Topping	\$ 309,059.15	\$ 309,059.15
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 2,568.19	\$ 2,420.06	3	Crack Treatment	\$ 2,568.19	\$ 2,420.06	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ 7,986.18	\$ 6,952.45	7	Seal	\$ 7,986.18	\$ 6,952.45	7		\$ -	\$ -
8		\$ -	\$ -	8		\$ -	\$ -	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12		\$ -	\$ -	12		\$ -	\$ -
13		\$ -	\$ -	13	ML Overlay 3.5"	\$ 179,299.90	\$ 138,604.65	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15		\$ 179,299.90	\$ 133,222.47	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16	Crack Treatment	\$ 2,568.19	\$ 1,870.79	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18	Crack Treatment	\$ 2,568.19	\$ 1,798.14	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20		\$ -	\$ -	20	Seal	\$ 7,986.18	\$ 5,374.47	20	1st CPR	\$ 282,158.28	\$ 189,884.44
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22	Seal	\$ 7,986.18	\$ 5,165.77	22		\$ -	\$ -	22		\$ -	\$ -
23		\$ -	\$ -	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25	ML Overlay 3.5"	\$ 179,299.90	\$ 109,288.82	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27		\$ -	\$ -	27		\$ -	\$ -
28		\$ -	\$ -	28	Crack Treatment	\$ 2,568.19	\$ 1,475.10	28		\$ -	\$ -
29	ML Overlay 3.5"	\$ 179,299.90	\$ 100,965.98	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32	Crack Treatment	\$ 2,568.19	\$ 1,362.77	32	Seal	\$ 7,986.18	\$ 4,237.73	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (96,546.10)	\$ (48,275.72)	35	Remaining Life	\$ (16,299.99)	\$ (8,150.45)	35	0/0 Remaining	\$ -	\$ -
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile			
\$ 388,760.57				\$ 479,773.27				\$ 498,943.59			
Maintenance - Net Present Cost/ per Mile				\$ 203,611.93				\$ 262,073.65			
Net Present Cost for Segment				\$ 3,071,208.54				\$ 3,790,208.82			
Maintenance - Net Present Cost for Segment				\$ 1,608,534.28				\$ 2,070,381.83			
Equivalent Annual Cost				\$ 122,855.13				\$ 151,616.73			
Equivalent Annual Cost				\$ 151,616.73				\$ 157,674.88			
Total Lane Width				# of Lanes				Analysis Period			
24				2				35			
Total Shdr Width				# of Shdr				ML Mix			
16				2				16			
Width of Rounding Aggregate				white/ >7 million				2			
1.5				SL Mix				1.5			
Sealed/UTBW/C				ML Thickness				N			



Project Number	Analysis Period
8101-57	35
Highway	Discount Rate
13	1.74%
Date	
12/4/2015	
Performed By	C Fenske
CLEAR ALL	

District 6 - 2015/2016 prices

Segment 1											
SEG	Length		SEG	Length		SEG	Length		SEG	Length	
1	10.9		1	10.9		1	10.9		1	10.9	
ALT	Description		ALT	Description		ALT	Description		ALT	Description	
1	15 yr med M&OL		2	20yr new bit		3	20yr UBOL				
Pavement Type		Pavement Type		Pavement Type		PCC					
HMA		HMA		Primary Category		Primary Category					
Primary Category		20 Year HMA		20 Year HMA		≥12 Joint spacing					
Overlay, DL =13 to 17 years		Secondary Category		Secondary Category		≥12 Joint spacing					
Secondary Category		Rural		Rural		Design Life = 20 Years					
ShoulderCategory		ShoulderCategory		Aggregate		ShoulderCategory					
Aggregate		Aggregate		Aggregate		Aggregate					
Notes:				Notes:				Notes:			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	Med m&ol	\$ 287,614.87	\$ 287,614.87	0	New Bit	\$ 546,412.45	\$ 546,412.45	0	UBOL	\$ 419,787.12	\$ 419,787.12
1		\$ -	\$ -	1		\$ -	\$ -	1		\$ -	\$ -
2		\$ -	\$ -	2		\$ -	\$ -	2		\$ -	\$ -
3	Crack Treatment	\$ 2,227.46	\$ 2,115.11	3		\$ -	\$ -	3		\$ -	\$ -
4		\$ -	\$ -	4		\$ -	\$ -	4		\$ -	\$ -
5		\$ -	\$ -	5		\$ -	\$ -	5		\$ -	\$ -
6		\$ -	\$ -	6		\$ -	\$ -	6		\$ -	\$ -
7	Seal	\$ 8,864.63	\$ 7,856.30	7		\$ -	\$ -	7		\$ -	\$ -
8		\$ -	\$ -	8	Crack Treatment	\$ 1,113.73	\$ 970.16	8		\$ -	\$ -
9		\$ -	\$ -	9		\$ -	\$ -	9		\$ -	\$ -
10		\$ -	\$ -	10		\$ -	\$ -	10		\$ -	\$ -
11		\$ -	\$ -	11		\$ -	\$ -	11		\$ -	\$ -
12		\$ -	\$ -	12	Seal	\$ 12,873.70	\$ 10,466.52	12		\$ -	\$ -
13		\$ -	\$ -	13		\$ -	\$ -	13		\$ -	\$ -
14		\$ -	\$ -	14		\$ -	\$ -	14		\$ -	\$ -
15	ML Overlay 3.5"	\$ 236,975.65	\$ 182,948.02	15		\$ -	\$ -	15		\$ -	\$ -
16		\$ -	\$ -	16		\$ -	\$ -	16		\$ -	\$ -
17		\$ -	\$ -	17		\$ -	\$ -	17		\$ -	\$ -
18	Crack Treatment	\$ 2,227.46	\$ 1,632.89	18		\$ -	\$ -	18		\$ -	\$ -
19		\$ -	\$ -	19		\$ -	\$ -	19		\$ -	\$ -
20		\$ -	\$ -	20	ML Overlay 4	\$ 350,482.42	\$ 248,217.03	20	1st CPR	\$ 235,293.68	\$ 166,638.59
21		\$ -	\$ -	21		\$ -	\$ -	21		\$ -	\$ -
22	Seal	\$ 8,864.63	\$ 6,065.16	22	Crack Treatment	\$ 2,227.46	\$ 1,497.96	22		\$ -	\$ -
23		\$ -	\$ -	23		\$ -	\$ -	23		\$ -	\$ -
24		\$ -	\$ -	24		\$ -	\$ -	24		\$ -	\$ -
25		\$ -	\$ -	25		\$ -	\$ -	25		\$ -	\$ -
26		\$ -	\$ -	26		\$ -	\$ -	26		\$ -	\$ -
27		\$ -	\$ -	27	Seal	\$ 8,864.63	\$ 5,563.95	27		\$ -	\$ -
28		\$ -	\$ -	28		\$ -	\$ -	28		\$ -	\$ -
29	ML Overlay 3.5"	\$ 236,975.65	\$ 143,695.60	29		\$ -	\$ -	29		\$ -	\$ -
30		\$ -	\$ -	30		\$ -	\$ -	30		\$ -	\$ -
31		\$ -	\$ -	31		\$ -	\$ -	31		\$ -	\$ -
32	Crack Treatment	\$ 2,227.46	\$ 1,282.55	32		\$ -	\$ -	32		\$ -	\$ -
33		\$ -	\$ -	33		\$ -	\$ -	33		\$ -	\$ -
34		\$ -	\$ -	34		\$ -	\$ -	34		\$ -	\$ -
35	Remaining Life	\$ (127,602.27)	\$ (69,766.63)	35	2/17 Remaining Life	\$ (41,233.23)	\$ (22,544.29)	35	0/0 Remaining	\$ -	\$ -
LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile				LCCA - Net Present Cost/ per Mile			
\$ 563,443.88				\$ 790,583.78				\$ 586,425.71			
Maintenance - Net Present Cost/ per Mile				Maintenance - Net Present Cost/ per Mile				\$ 244,171.33			
\$ 275,829.01				\$ 166,638.59				\$ 166,638.59			
Net Present Cost for Segment				\$ 6,141,538.28				Net Present Cost for Segment			
\$ 6,141,538.28				\$ 8,617,363.22				\$ 6,392,040.27			
Maintenance - Net Present Cost for Segment				\$ 2,661,467.52				Maintenance - Net Present Cost for Segment			
\$ 3,006,536.20				\$ 2,661,467.52				\$ 2,661,467.52			
Equivalent Annual Cost				Equivalent Annual Cost				Equivalent Annual Cost			
\$ 235,770.39				\$ 330,815.99				\$ 245,387.02			
Total Lane Width				# of Lanes				Analysis Period			
28				2				35			
Total Shdr Width				# of Shdtrs				ML Mix			
8				2				8			
Width of Rounding Aggregate											

Appendix C: Copies of LCCA Exceptions

LCCA EXCEPTION

SP 6607-49 & 2511-49-T.H. 60 From Faribault to Kenyon

A Life Cycle Cost Analysis was performed in accordance with Tech Memo No. 07-17-MAT-01.

Both PCC and HMA alternatives were considered.

The lowest LCCA fix is 4" CIR(Cold Inplace Recycling) & 3" Bituminous Overlay

The Preservation fix selected by our District is 2" Bituminous Mill and 3.5" Overlay

LCCA is a project specific tool used in selecting preservation treatments.

The District program is selected bascd on: Total project costs, prescrvation performance, material availability, available funding, traffic impacts, safety needs and other considerations.

Factors considered in this Preservation Project selection include:

This section of T.H. 60 has a traffic volume of 3000 ADT and 3,813,000-35yr. CESALS). It has a RQI rating of 2.8-2.9 and SR rating of 3.3-3.4 in 2015. This road was reconstructed in the 1990's and the pavement is all BFD(Bituminous Full Depth). The road was cored and determined that the bituminous was still in good condition underneath. Because of this relatively recent new reconstruction the SR is still quite high but the RQI has started to drop. This project will restore the RQI to an acceptable level again. A CIR project was not selected because the bituminous road core is still in relatively good condition and the district has a lack of funds to do a longer term rehabilitation on this lower ADT road.

I concur with the selected Preservation Project:

Gregory S Paulson

Transportation District Engineer

For