

2022 Report on the

# Life-Cycle Cost Analyses

January 2023

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# Legislative Request

This report is issued to comply with [Minnesota Statutes 174.185](#).

The statute 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 is not the low-cost option

## 174.185 PAVEMENT LIFE-CYCLE COST ANALYSIS.

### Subdivision 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.

### 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.

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

# Life-Cycle Cost Analysis Report

## Implementation

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[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.

The Minnesota Department of Transportation 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 31<sup>st</sup>, 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 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.

## Results

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In 2022, 36 construction projects were in the reconditioning, resurfacing and road repair funding categories and required a LCCA according to the MnDOT Pavement Design Manual.

The results of the 36 LCCAs are as follows:

- Hot-mix asphalt was the low-cost option for 31 LCCAs and 30 were selected for construction. One project selected a portland cement concrete option (SP # 0980-158). This was a shelf project that was let in a short period of time and so a signed exception was not provided.
- Portland cement concrete was the low-cost option of 5 LCCAs and were selected for construction.

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

## Discussion

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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.

MnDOT continues to improve and refine its portland cement pavement design procedures. The design program for portland cement pavement thickness design has been updated and a research project is developing a new procedure to design portland cement concrete pavements that are built on top of existing portland cement concrete pavements.

No projects used the alternate bidding process in 2022, but MnDOT continued to provide for its use on projects that were likely to have competitive hot-mix asphalt and portland cement concrete options.

The alternate bidding process is similar to using a 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

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MnDOT implemented the requirements of [Minn. Stat. 174.185](#) and provided the required results in this report. MnDOT continues 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) |
|----------------------------|------------------------|--------------------------------|------------------------|------------------------|-----------------|-----------------------|---------------------|--------------------|
| 0119-30                    | BOC                    | No                             | 20                     | PCC Overlay-Edge Drain | \$19,675,537.32 | PCC                   |                     | No                 |
|                            |                        |                                | 20                     | New HMA                | \$18,292,995.64 | HMA                   |                     |                    |
|                            |                        |                                | 35                     | PCC Overlay-DSB        | \$17,219,282.30 | PCC                   | X                   |                    |
| 0303-68                    | HMA                    | No                             | 20                     | PCC Overlay            | \$13,892,918.56 | PCC                   |                     | No                 |
|                            |                        |                                | 20                     | FDR                    | \$11,941,597.12 | HMA                   | X                   |                    |
|                            |                        |                                | 35                     | New PCC                | \$17,148,219.18 | PCC                   |                     |                    |
| 0410-50                    | HMA                    | No                             | 20                     | New PCC                | \$17,622,341.12 | PCC                   |                     | No                 |
|                            |                        |                                | 20                     | New HMA                | \$6,190,986.88  | HMA                   | X                   |                    |
|                            |                        |                                | 35                     | New PCC                | \$13,796,745.01 | PCC                   |                     |                    |
| 0504-20                    | BOC                    | No                             | 15                     | HMA Overlay            | \$7,829,235.30  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | CIR/HMA Overlay        | \$7,944,270.50  | HMA                   |                     |                    |
|                            |                        |                                | 20                     | PCC Overlay            | \$12,229,649.26 | PCC                   |                     |                    |
| 0801-35                    | HMA                    | No                             | 17                     | M&OL                   | \$5,986,856.90  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | New HMA                | \$12,522,935.68 | HMA                   |                     |                    |
|                            |                        |                                | 20                     | New PCC                | \$13,124,898.93 | PCC                   |                     |                    |
| 0803-44                    | HMA                    | No                             | 20                     | CIR                    | \$4,340,765.61  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | PCC Overlay            | \$6,973,604.60  | PCC                   |                     |                    |
|                            |                        |                                | 35                     | PCC Overlay            | \$6,795,010.87  | PCC                   |                     |                    |
| 0980-158                   | PCC                    | Yes                            | 20                     | New HMA                | \$7,947,279.50  | HMA                   |                     | No                 |
|                            |                        |                                | 20                     | PCC Overlay            | \$8,161,994.18  | PCC                   |                     |                    |
|                            |                        |                                | 35                     | PCC Overlay            | \$7,978,709.34  | PCC                   | X                   |                    |
| 1409-25                    | BOC                    | No                             | 20                     | New PCC                | \$1,355,036.48  | PCC                   |                     | No                 |
|                            |                        |                                | 20                     | New HMA                | \$925,219.11    | HMA                   | X                   |                    |
|                            |                        |                                | 35                     | New PCC                | \$1,242,211.26  | PCC                   |                     |                    |
| 1906-71                    | BOC & HMA              | No                             | 20                     | PCC Overlay            | \$33,673,618.30 | PCC                   |                     | No                 |
|                            |                        |                                | 20                     | HMA                    | \$47,159,230.10 | HMA                   |                     |                    |
|                            |                        |                                | 35                     | PCC Overlay            | \$30,394,483.98 | PCC                   | X                   |                    |
| 2205-13                    | BOC                    | No                             | 20                     | CIR                    | \$9,702,079.58  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | PCC Overlay            | \$15,726,879.00 | PCC                   |                     |                    |
|                            |                        |                                | 35                     | PCC Overlay            | \$12,653,544.68 | PCC                   |                     |                    |
| 2280-143                   | BOC                    | No                             | 20                     | PCC Overlay            | \$44,545,955.20 | PCC                   |                     | No                 |
|                            |                        |                                | 20                     | M&OL                   | \$46,015,503.32 | HMA                   |                     |                    |
|                            |                        |                                | 35                     | PCC Overlay            | \$36,176,411.16 | PCC                   | X                   |                    |
| 2405-32                    | HMA                    | No                             | 15                     | HMA Overlay            | \$2,353,297.75  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | PCC Overlay            | \$3,879,474.69  | PCC                   |                     |                    |
|                            |                        |                                | 20                     | HMA Overlay            | \$2,444,002.54  | HMA                   |                     |                    |
| 2513-97                    | HMA                    | No                             | 15                     | HMA Overlay            | \$5,645,592.00  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | HMA Overlay            | \$6,100,987.00  | HMA                   |                     |                    |
|                            |                        |                                | 20                     | PCC Overlay            | \$9,186,190.00  | 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) |
|----------------------------|------------------------|--------------------------------|------------------------|--------------------|-----------------|-----------------------|---------------------|--------------------|
| 2609-28                    | HMA                    | No                             | 20                     | FDR                | \$5,629,513.94  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | PCC Overlay        | \$7,504,665.10  | PCC                   |                     |                    |
|                            |                        |                                | 35                     | New PCC            | \$7,788,569.43  | PCC                   |                     |                    |
| 2724-126                   | HMA                    | No                             | 15                     | HMA Overlay        | \$4,599,818.79  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | New HMA            | \$8,105,486.05  | HMA                   |                     |                    |
|                            |                        |                                | 20                     | PCC Overlay        | \$6,877,296.81  | PCC                   |                     |                    |
| 2758-77                    | HMA                    | No                             | 19                     | HMA Overlay        | \$6,198,855.11  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | PCC Overlay        | \$10,103,742.15 | PCC                   |                     |                    |
|                            |                        |                                | 20                     | GIR                | \$6,844,782.99  | HMA                   |                     |                    |
| 3101-38                    | HMA                    | No                             | 20                     | New PCC            | \$13,802,741.28 | PCC                   |                     | No                 |
|                            |                        |                                | 20                     | SFDR               | \$8,924,454.00  | HMA                   | X                   |                    |
|                            |                        |                                | 35                     | New PCC            | \$14,146,533.96 | PCC                   |                     |                    |
| 3104-62                    | HMA                    | No                             | 16                     | HMA Overlay        | \$4,376,920.57  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | New HMA            | \$7,294,232.49  | HMA                   |                     |                    |
|                            |                        |                                | 20                     | New PCC            | \$6,769,872.43  | PCC                   |                     |                    |
| 3609-42                    | HMA                    | No                             | 15                     | HMA Overlay        | \$8,472,557.27  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | New PCC            | \$13,455,739.49 | PCC                   |                     |                    |
|                            |                        |                                | 20                     | FDR                | \$8,099,806.43  | HMA                   |                     |                    |
| 4402-22                    | HMA                    | No                             | 20                     | New HMA            | \$2,012,305.49  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | New PCC            | \$3,020,342.05  | PCC                   |                     |                    |
|                            |                        |                                | 35                     | New PCC            | \$2,790,455.26  | PCC                   |                     |                    |
| 4609-17                    | HMA                    | No                             | 20                     | FDR                | \$5,776,071.03  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | PCC Overlay        | \$7,383,129.60  | PCC                   |                     |                    |
|                            |                        |                                | 35                     | NEW PCC            | \$9,294,077.78  | PCC                   |                     |                    |
| 4701-32                    | HMA                    | No                             | 20                     | PCC Overlay        | \$8,958,663.08  | PCC                   |                     | No                 |
|                            |                        |                                | 20                     | SFDR               | \$5,498,594.98  | HMA                   | X                   |                    |
|                            |                        |                                | 35                     | PCC Overlay        | \$7,376,731.72  | PCC                   |                     |                    |
| 4707-26                    | HMA                    | No                             | 20                     | PCC Overlay        | \$13,796,533.60 | PCC                   |                     | No                 |
|                            |                        |                                | 20                     | SFDR               | \$8,734,813.20  | HMA                   | X                   |                    |
|                            |                        |                                | 35                     | PCC Overlay        | \$11,153,464.05 | PCC                   |                     |                    |
| 5580-94                    | BOC                    | No                             | 15                     | HMA Overlay        | \$4,640,463.09  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | HMA Overlay        | \$4,756,916.89  | HMA                   |                     |                    |
|                            |                        |                                | 20                     | PCC Overlay        | \$7,450,233.98  | PCC                   |                     |                    |
| 5705-63                    | HMA                    | No                             | 15                     | HMA Overlay        | \$4,685,130.49  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | PCC Overlay        | \$11,751,830.30 | PCC                   |                     |                    |
|                            |                        |                                | 20                     | FDR                | \$5,362,043.60  | HMA                   |                     |                    |
| 6605-38                    | HMA                    | No                             | 15                     | M&OL               | \$4,509,003.44  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | FDR                | \$4,999,320.28  | HMA                   |                     |                    |
|                            |                        |                                | 20                     | PCC Overlay        | \$7,911,701.16  | PCC                   |                     |                    |
| 6780-124                   | PCC                    | No                             | 20                     | PCC Overlay        | \$12,205,007.36 | PCC                   |                     | No                 |
|                            |                        |                                | 20                     | New HMA            | \$10,655,007.27 | HMA                   |                     |                    |
|                            |                        |                                | 35                     | PCC Overlay        | \$8,879,636.45  | PCC                   | X                   |                    |
| 6932-14                    | HMA                    | No                             | 15                     | HMA Overlay        | \$2,922,894.74  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | PCC Overlay        | \$6,724,371.66  | PCC                   |                     |                    |
|                            |                        |                                | 20                     | HMA Reconstruction | \$4,433,478.03  | 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) |
|----------------------------|------------------------|--------------------------------|------------------------|--------------------|-----------------|-----------------------|---------------------|--------------------|
| 7001-123                   | HMA                    | No                             | 20                     | CIR                | \$12,017,672.56 | HMA                   | X                   | NO                 |
|                            |                        |                                | 20                     | PCC Overlay        | \$17,825,280.04 | PCC                   |                     |                    |
|                            |                        |                                | 35                     | PCC Overlay        | \$14,569,505.33 | PCC                   |                     |                    |
| 7408-50                    | BOC                    | No                             | 15                     | HMA Overlay        | \$6,858,598.13  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | HMA Overlay        | \$7,012,095.51  | HMA                   |                     |                    |
|                            |                        |                                | 30                     | PCC Overlay        | \$15,230,399.44 | PCC                   |                     |                    |
| 8204-77                    | HMA                    | No                             | 17                     | M&OL               | \$690,618.34    | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | PCC Overlay        | \$979,027.91    | PCC                   |                     |                    |
|                            |                        |                                | 20                     | SFDR               | \$1,539,600.06  | HMA                   |                     |                    |
| 8302-48                    | HMA                    | No                             | 17                     | M&OL               | \$6,739,311.32  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | New HMA            | \$13,508,583.98 | HMA                   |                     |                    |
|                            |                        |                                | 35                     | New PCC            | \$13,340,183.36 | PCC                   |                     |                    |
| 8304-118                   | BOC                    | No                             | 20                     | PCC Overlay        | \$10,405,491.59 | PCC                   |                     | No                 |
|                            |                        |                                | 20                     | New HMA            | \$10,096,226.61 | HMA                   |                     |                    |
|                            |                        |                                | 35                     | PCC Overlay        | \$8,331,311.31  | PCC                   | X                   |                    |
| 8305-32                    | HMA                    | No                             | 15                     | M&OL               | \$2,289,342.65  | HMA                   |                     | No                 |
|                            |                        |                                | 20                     | CIR                | \$2,199,431.34  | HMA                   | X                   |                    |
|                            |                        |                                | 20                     | PCC Overlay        | \$4,046,324.22  | PCC                   |                     |                    |
| 8601-70                    | HMA                    | No                             | 13                     | HMA Overlay        | \$4,247,314.31  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | PCC Overlay        | \$5,650,695.40  | PCC                   |                     |                    |
|                            |                        |                                | 20                     | FDR                | \$4,626,090.98  | HMA                   |                     |                    |
| 8606-64                    | HMA                    | No                             | 15                     | HMA Overlay        | \$4,991,266.47  | HMA                   | X                   | No                 |
|                            |                        |                                | 20                     | PCC Overlay        | \$10,046,416.19 | PCC                   |                     |                    |
|                            |                        |                                | 20                     | CIR                | \$5,964,426.73  | 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

**M&OL** = Mill and overlay HMA

**PCC** = Portland Cement Concrete

**BOC** = Bituminous over Concrete

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

**SFDR** = Stabilized Full-Depth Reclamation (recycle existing HMA & Base stabilized with emulsion or foamed asphalt 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

50-Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| 0980-158       | 50              |
| Highway        | Discount Rate   |
| I-35           | 1.22%           |
| Date           | Inflation Rate  |
| 12/10/2019     | 1               |
| Performed By   | la/(1+r)        |
| Ed Welch       | 0.9879          |

Notes:

| LCCA SUMMARY                    |                       |                       |                       |              |
|---------------------------------|-----------------------|-----------------------|-----------------------|--------------|
|                                 | Alternate #1          | Alternate #2          | Alternate #3          | Length       |
| Segment #1                      | 35 year PCC           | 20 year HMA           | 20 year PCC           | 6.2          |
| Net Present Cost                | \$7,978,709.34        | \$7,947,279.50        | \$8,161,994.18        | 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        |
| <b>Project Net Present Cost</b> | <b>\$7,978,709.34</b> | <b>\$7,947,279.50</b> | <b>\$8,161,994.18</b> | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.4%</b>         | <b>100.0%</b>         | <b>102.7%</b>         | <b>6.2</b>   |

| Segment 1                                  |              |                 |                        |  |                 |                    |                 |  |                           |                   |                 |
|--|--------------|-----------------|------------------------|--|-----------------|--------------------|-----------------|--|---------------------------|-------------------|-----------------|
| SEG 1                                      |              |                 | Length                 |  |                 | SEG 1              |                 |  | Length                    |                   |                 |
| 1  |              |                 | 6.22                   |  |                 | 1                  |                 |  | 6.22                      |                   |                 |
| ALT  |              |                 | Description            |  |                 | ALT                |                 |  | Description               |                   |                 |
| 1  |              |                 | 35 year PCC            |  |                 | 2                  |                 |  | 20 year HMA               |                   |                 |
| 3  |              |                 | 20 year PCC            |  |                 | 3                  |                 |  | 20 year PCC               |                   |                 |
| Pavement Type                              |              |                 | PCC                    |  |                 | Pavement Type      |                 |  | PCC                       |                   |                 |
| Primary Category                           |              |                 | > 11' Joint Spacing    |  |                 | Primary Category   |                 |  | 6'x6', 5.5 in. or Thicker |                   |                 |
| Secondary Category                         |              |                 | Design Life = 35 years |  |                 | Secondary Category |                 |  | Design Life = 20 years    |                   |                 |
| Shoulder Category                          |              |                 | Thick Bit.             |  |                 | Shoulder Category  |                 |  | Thick Bit.                |                   |                 |
| Notes:                                     |              |                 |                        |  |                 | Notes:             |                 |  |                           |                   |                 |
| Year                                       | Activity     | Cost            | Present Cost           | Year                                       | Activity        | Cost               | Present Cost    | Year                                       | Activity                  | Cost              | Present Cost    |
| 0  | Construction | \$ 5,989,936.03 | \$ 5,989,936.03        | 0  | Construction    | \$ 5,791,384.11    | \$ 5,791,384.11 | 0  | Construction              | \$ 4,778,529.70   | \$ 4,778,529.70 |
| 1  |              | \$ -            | \$ -                   | 1  |                 | \$ -               | \$ -            | 1  |                           | \$ -              | \$ -            |
| 2  |              | \$ -            | \$ -                   | 2  |                 | \$ -               | \$ -            | 2  |                           | \$ -              | \$ -            |
| 3  |              | \$ -            | \$ -                   | 3  |                 | \$ -               | \$ -            | 3  |                           | \$ -              | \$ -            |
| 4  |              | \$ -            | \$ -                   | 4  |                 | \$ -               | \$ -            | 4  |                           | \$ -              | \$ -            |
| 5  |              | \$ -            | \$ -                   | 5  |                 | \$ -               | \$ -            | 5  |                           | \$ -              | \$ -            |
| 6  |              | \$ -            | \$ -                   | 6  |                 | \$ -               | \$ -            | 6  |                           | \$ -              | \$ -            |
| 7  |              | \$ -            | \$ -                   | 7  |                 | \$ -               | \$ -            | 7  |                           | \$ -              | \$ -            |
| 8  |              | \$ -            | \$ -                   | 8  | Crack Treatment | \$ 7,267.61        | \$ 6,595.70     | 8  |                           | \$ -              | \$ -            |
| 9  |              | \$ -            | \$ -                   | 9  |                 | \$ -               | \$ -            | 9  |                           | \$ -              | \$ -            |
| 10   |              | \$ -            | \$ -                   | 10   |                 | \$ -               | \$ -            | 10   |                           | \$ -              | \$ -            |
| 11   |              | \$ -            | \$ -                   | 11   |                 | \$ -               | \$ -            | 11   |                           | \$ -              | \$ -            |
| 12   |              | \$ -            | \$ -                   | 12   | Seal            | \$ 109,659.35      | \$ 94,809.02    | 12   |                           | \$ -              | \$ -            |
| 13   |              | \$ -            | \$ -                   | 13   |                 | \$ -               | \$ -            | 13   |                           | \$ -              | \$ -            |
| 14   |              | \$ -            | \$ -                   | 14   |                 | \$ -               | \$ -            | 14   |                           | \$ -              | \$ -            |
| 15   |              | \$ -            | \$ -                   | 15   |                 | \$ -               | \$ -            | 15   |                           | \$ -              | \$ -            |
| 16   |              | \$ -            | \$ -                   | 16   |                 | \$ -               | \$ -            | 16   |                           | \$ -              | \$ -            |
| 17   |              | \$ -            | \$ -                   | 17   |                 | \$ -               | \$ -            | 17   |                           | \$ -              | \$ -            |
| 18   |              | \$ -            | \$ -                   | 18   |                 | \$ -               | \$ -            | 18   |                           | \$ -              | \$ -            |
| 19   |              | \$ -            | \$ -                   | 19   |                 | \$ -               | \$ -            | 19   |                           | \$ -              | \$ -            |
| 20   | 1st CPR      | \$ 1,395,894.80 | \$ 1,095,282.20        | 20   | Mill/Overlay    | \$ 1,569,472.71    | \$ 1,231,479.28 | 20   | 1st CPR                   | \$ 2,059,884.59   | \$ 1,616,278.63 |
| 21   |              | \$ -            | \$ -                   | 21   |                 | \$ -               | \$ -            | 21   |                           | \$ -              | \$ -            |
| 22   |              | \$ -            | \$ -                   | 22   |                 | \$ -               | \$ -            | 22   |                           | \$ -              | \$ -            |
| 23   |              | \$ -            | \$ -                   | 23   | Crack Treatment | \$ 14,494.98       | \$ 10,967.10    | 23   |                           | \$ -              | \$ -            |
| 24   |              | \$ -            | \$ -                   | 24   |                 | \$ -               | \$ -            | 24   |                           | \$ -              | \$ -            |
| 25   |              | \$ -            | \$ -                   | 25   |                 | \$ -               | \$ -            | 25   |                           | \$ -              | \$ -            |
| 26   |              | \$ -            | \$ -                   | 26   |                 | \$ -               | \$ -            | 26   |                           | \$ -              | \$ -            |
| 27   |              | \$ -            | \$ -                   | 27   | Seal            | \$ 65,731.25       | \$ 47,378.45    | 27   |                           | \$ -              | \$ -            |
| 28   |              | \$ -            | \$ -                   | 28   |                 | \$ -               | \$ -            | 28   |                           | \$ -              | \$ -            |
| 29   |              | \$ -            | \$ -                   | 29   |                 | \$ -               | \$ -            | 29   |                           | \$ -              | \$ -            |
| 30   |              | \$ -            | \$ -                   | 30   |                 | \$ -               | \$ -            | 30   |                           | \$ -              | \$ -            |
| 31   |              | \$ -            | \$ -                   | 31   |                 | \$ -               | \$ -            | 31   |                           | \$ -              | \$ -            |
| 32   |              | \$ -            | \$ -                   | 32   |                 | \$ -               | \$ -            | 32   |                           | \$ -              | \$ -            |
| 33   |              | \$ -            | \$ -                   | 33   |                 | \$ -               | \$ -            | 33   |                           | \$ -              | \$ -            |
| 34   |              | \$ -            | \$ -                   | 34   |                 | \$ -               | \$ -            | 34   |                           | \$ -              | \$ -            |
| 35   | 2nd CPR      | \$ 1,365,877.94 | \$ 893,491.11          | 35   |                 | \$ -               | \$ -            | 35   | R & R Mainline            | \$ 3,741,146.29   | \$ 2,447,276.48 |
| 36   |              | \$ -            | \$ -                   | 36   |                 | \$ -               | \$ -            | 36   |                           | \$ -              | \$ -            |
| 37   |              | \$ -            | \$ -                   | 37   | Mill/Overlay    | \$ 1,405,818.86    | \$ 897,583.88   | 37   |                           | \$ -              | \$ -            |
| 38   |              | \$ -            | \$ -                   | 38   |                 | \$ -               | \$ -            | 38   |                           | \$ -              | \$ -            |
| 39   |              | \$ -            | \$ -                   | 39   |                 | \$ -               | \$ -            | 39   |                           | \$ -              | \$ -            |
| 40   |              | \$ -            | \$ -                   | 40   | Crack Treatment | \$ 14,494.98       | \$ 8,924.10     | 40   |                           | \$ -              | \$ -            |
| 41   |              | \$ -            | \$ -                   | 41   |                 | \$ -               | \$ -            | 41   |                           | \$ -              | \$ -            |
| 42   |              | \$ -            | \$ -                   | 42   |                 | \$ -               | \$ -            | 42   |                           | \$ -              | \$ -            |
| 43   |              | \$ -            | \$ -                   | 43   |                 | \$ -               | \$ -            | 43   |                           | \$ -              | \$ -            |
| 44   |              | \$ -            | \$ -                   | 44   | Seal            | \$ 65,731.25       | \$ 38,552.56    | 44   |                           | \$ -              | \$ -            |
| 45   |              | \$ -            | \$ -                   | 45   |                 | \$ -               | \$ -            | 45   |                           | \$ -              | \$ -            |
| 46   |              | \$ -            | \$ -                   | 46   |                 | \$ -               | \$ -            | 46   |                           | \$ -              | \$ -            |
| 47   |              | \$ -            | \$ -                   | 47   |                 | \$ -               | \$ -            | 47   |                           | \$ -              | \$ -            |
| 48   |              | \$ -            | \$ -                   | 48   |                 | \$ -               | \$ -            | 48   |                           | \$ -              | \$ -            |
| 49   |              | \$ -            | \$ -                   | 49   |                 | \$ -               | \$ -            | 49   |                           | \$ -              | \$ -            |
| 50   |              | \$ -            | \$ -                   | 50   | Remaining Life  | \$ (330,780.91)    | \$ (180,394.70) | 50   | Remaining Life            | \$ (1,247,048.76) | \$ (680,090.62) |
| Net Present Cost for Segment               |              | \$ 7,978,709.34 |                        | Net Present Cost for Segment               |                 | \$ 7,947,279.50    |                 | Net Present Cost for Segment               |                           | \$ 8,161,994.18   |                 |
| Maintenance - Net Present Cost for Segment |              | \$ 1,988,773.31 |                        | Maintenance - Net Present Cost for Segment |                 | \$ 2,155,895.39    |                 | Maintenance - Net Present Cost for Segment |                           | \$ 3,383,464.48   |                 |
| Equivalent Annual Cost                     |              | 214,104.07      |                        | Equivalent Annual Cost                     |                 | 213,260.66         |                 | Equivalent Annual Cost                     |                           | 219,022.41        |                 |

| Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period |
|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|
| 27                     | 2                 | 50              | 27                     | 2                 | 50              | 27                     | 2                 | 50              |
| Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          |
| 11                     | 2                 |                 | 11                     | 2                 | 9.5 WE (4,B)    | 11                     | 2                 |                 |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 3                      | No                | 9.5 WE (4,B)    | 3                      | No                | 9.5 WE (4,B)    | 3                      | No                | 9.5 WE (4,B)    |
| Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 |
| No                     | 8                 |                 | No                     |                   |                 | No                     |                   |                 |
| ML Top Lift/Jt spacing |                   |                 | ML Top Lift/Jt spacing |                   |                 | ML Top Lift/Jt spacing |                   |                 |
| 15                     |                   |                 | 2                      |                   |                 | 6                      |                   |                 |
| Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 |
| 35                     | 4                 |                 | 20                     | 4                 |                 | 20                     | 4                 |                 |





50 Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| 010312         | 50              |
| Highway        | Discount Rate   |
| 1              | 1.5%            |
| Date           | Inflection Rate |
| 3/20/2014      | 10%             |
| Prepared By    | is              |
| is             | 0.0399          |

\*All of the concrete median has been omitted - a reinforced concrete ramp. See Short of section!

| LCCA SUMMARY             |                 |                           |                          |
|--------------------------|-----------------|---------------------------|--------------------------|
| Segment #s               | Alternative #1  | Alternative #2            | Alternative #3           |
| Segment #s               | South Leg - HMA | South Leg - 20yr Concrete | South Leg 25 yr Concrete |
| Net Present Cost         | \$146,824.35    | \$1,609,638.35            | \$1,402,050.22           |
| Segment #s               | North Leg - HMA | North Leg - 20yr Concrete | North Leg 25 yr Concrete |
| Net Present Cost         | \$5,494,120.32  | \$15,756,354.96           | \$17,334,236.79          |
| Segment #s               |                 |                           |                          |
| Net Present Cost         |                 |                           |                          |
| Segment #s               |                 |                           |                          |
| Net Present Cost         | \$6,130,944.67  | \$17,326,013.31           | \$13,796,745.01          |
| Total                    |                 |                           |                          |
| Protect Net Present Cost | \$6,130,944.67  | \$17,326,013.31           | \$13,796,745.01          |
| % of Low Cost            | 100.0%          | 284.6%                    | 222.5%                   |
|                          |                 |                           | <b>8.8</b>               |

| Segment 1                                  |                     |                     |                           |  |                          |      |              |  |              |      |              |
|--|---------------------|---------------------|---------------------------|--|--------------------------|------|--------------|--|--------------|------|--------------|
| SSS  | Length              | SSS                 | Length                    | SSS  | Length                   |      |              |  |              |      |              |
| 1  | 0.934               | 1                   | 0.934                     | 2  | 0.934                    |      |              |  |              |      |              |
| ASLT                                       | Description         | ASLT                | Description               | ASLT                                       | Description              |      |              |  |              |      |              |
| 1  | South Leg - HMA     | 2                   | South Leg - 20yr Concrete | 3  | South Leg 25 yr Concrete |      |              |  |              |      |              |
| Payment Type                               | ICC                 | Payment Type        | ICC                       | Payment Type                               | ICC                      |      |              |  |              |      |              |
| Primary Category                           | 2.12' Joint Sealing | Primary Category    | 2.12' Joint Sealing       | Primary Category                           | 2.12' Joint Sealing      |      |              |  |              |      |              |
| Secondary Category                         |                     | Secondary Category  |                           | Secondary Category                         |                          |      |              |  |              |      |              |
| Shoulder Category                          |                     | Shoulder Category   |                           | Shoulder Category                          |                          |      |              |  |              |      |              |
| Notes                                      |                     | Notes               |                           | Notes                                      |                          |      |              |  |              |      |              |
| Year                                       | Activity            | Cost                | Present Cost              | Year                                       | Activity                 | Cost | Present Cost | Year                                       | Activity     | Cost | Present Cost |
| 0  | Construction        | \$ -                | \$ -                      | 0  | Construction             | \$ - | \$ -         | 0  | Construction | \$ - | \$ -         |
| 1  |                     | \$ -                | \$ -                      | 1  |                          | \$ - | \$ -         | 1  |              | \$ - | \$ -         |
| 2  |                     | \$ -                | \$ -                      | 2  |                          | \$ - | \$ -         | 2  |              | \$ - | \$ -         |
| 3  |                     | \$ -                | \$ -                      | 3  |                          | \$ - | \$ -         | 3  |              | \$ - | \$ -         |
| 4  |                     | \$ -                | \$ -                      | 4  |                          | \$ - | \$ -         | 4  |              | \$ - | \$ -         |
| 5  |                     | \$ -                | \$ -                      | 5  |                          | \$ - | \$ -         | 5  |              | \$ - | \$ -         |
| 6  |                     | \$ -                | \$ -                      | 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   |                     | \$ -                | \$ -                      | 20   |                          | \$ - | \$ -         | 20   |              | \$ - | \$ -         |
| 21   |                     | \$ -                | \$ -                      | 21   |                          | \$ - | \$ -         | 21   |              | \$ - | \$ -         |
| 22   |                     | \$ -                | \$ -                      | 22   |                          | \$ - | \$ -         | 22   |              | \$ - | \$ -         |
| 23   |                     | \$ -                | \$ -                      | 23   |                          | \$ - | \$ -         | 23   |              | \$ - | \$ -         |
| 24   |                     | \$ -                | \$ -                      | 24   |                          | \$ - | \$ -         | 24   |              | \$ - | \$ -         |
| 25   |                     | \$ -                | \$ -                      | 25   |                          | \$ - | \$ -         | 25   |              | \$ - | \$ -         |
| 26   |                     | \$ -                | \$ -                      | 26   |                          | \$ - | \$ -         | 26   |              | \$ - | \$ -         |
| 27   |                     | \$ -                | \$ -                      | 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   |                          | \$ - | \$ -         | 35   |              | \$ - | \$ -         |
| 36   |                     | \$ -                | \$ -                      | 36   |                          | \$ - | \$ -         | 36   |              | \$ - | \$ -         |
| 37   |                     | \$ -                | \$ -                      | 37   |                          | \$ - | \$ -         | 37   |              | \$ - | \$ -         |
| 38   |                     | \$ -                | \$ -                      | 38   |                          | \$ - | \$ -         | 38   |              | \$ - | \$ -         |
| 39   |                     | \$ -                | \$ -                      | 39   |                          | \$ - | \$ -         | 39   |              | \$ - | \$ -         |
| 40   |                     | \$ -                | \$ -                      | 40   |                          | \$ - | \$ -         | 40   |              | \$ - | \$ -         |
| 41   |                     | \$ -                | \$ -                      | 41   |                          | \$ - | \$ -         | 41   |              | \$ - | \$ -         |
| 42   |                     | \$ -                | \$ -                      | 42   |                          | \$ - | \$ -         | 42   |              | \$ - | \$ -         |
| 43   |                     | \$ -                | \$ -                      | 43   |                          | \$ - | \$ -         | 43   |              | \$ - | \$ -         |
| 44   |                     | \$ -                | \$ -                      | 44   |                          | \$ - | \$ -         | 44   |              | \$ - | \$ -         |
| 45   |                     | \$ -                | \$ -                      | 45   |                          | \$ - | \$ -         | 45   |              | \$ - | \$ -         |
| 46   |                     | \$ -                | \$ -                      | 46   |                          | \$ - | \$ -         | 46   |              | \$ - | \$ -         |
| 47   |                     | \$ -                | \$ -                      | 47   |                          | \$ - | \$ -         | 47   |              | \$ - | \$ -         |
| 48   |                     | \$ -                | \$ -                      | 48   |                          | \$ - | \$ -         | 48   |              | \$ - | \$ -         |
| 49   |                     | \$ -                | \$ -                      | 49   |                          | \$ - | \$ -         | 49   |              | \$ - | \$ -         |
| 50   |                     | \$ -                | \$ -                      | 50   |                          | \$ - | \$ -         | 50   |              | \$ - | \$ -         |
| Net Present Cost for Segment               |                     | \$ -                | \$ -                      | Net Present Cost for Segment               |                          | \$ - | \$ -         | Net Present Cost for Segment               |              | \$ - | \$ -         |
| Maintenance - Net Present Cost for Segment |                     | \$ -                | \$ -                      | Maintenance - Net Present Cost for Segment |                          | \$ - | \$ -         | Maintenance - Net Present Cost for Segment |              | \$ - | \$ -         |
| Equivalent Annual Cost                     |                     | \$ -                | \$ -                      | Equivalent Annual Cost                     |                          | \$ - | \$ -         | Equivalent Annual Cost                     |              | \$ - | \$ -         |
| Total Lane Width                           | # of Lanes          | Analysis Period     |                           |  |                          |      |              |  |              |      |              |
| 28   | 2                   | 50                  |                           |  |                          |      |              |  |              |      |              |
| Total Shoulder Width                       | # of Shoulders      | Mt. Mix             |                           |  |                          |      |              |  |              |      |              |
| 9  | 1                   | 12.5 WE (2,8)       |                           |  |                          |      |              |  |              |      |              |
| Sealed/OTB/C                               | Mt. Thickness       | No                  |                           |  |                          |      |              |  |              |      |              |
| 15   | 15                  | Mt. Top LRP/spacing |                           |  |                          |      |              |  |              |      |              |
| Design Life                                | Shoulder Thickness  | 20                  |                           |  |                          |      |              |  |              |      |              |

| Segment 2                                  |                     |                     |                           |  |                          |      |              |  |              |      |              |
|--|---------------------|---------------------|---------------------------|--|--------------------------|------|--------------|--|--------------|------|--------------|
| SSS  | Length              | SSS                 | Length                    | SSS  | Length                   |      |              |  |              |      |              |
| 1  | 0.934               | 2                   | 7.877                     | 2  | 7.877                    |      |              |  |              |      |              |
| ASLT                                       | Description         | ASLT                | Description               | ASLT                                       | Description              |      |              |  |              |      |              |
| 1  | North Leg - HMA     | 2                   | North Leg - 20yr Concrete | 3  | North Leg 25 yr Concrete |      |              |  |              |      |              |
| Payment Type                               | ICC                 | Payment Type        | ICC                       | Payment Type                               | ICC                      |      |              |  |              |      |              |
| Primary Category                           | 2.12' Joint Sealing | Primary Category    | 2.12' Joint Sealing       | Primary Category                           | 2.12' Joint Sealing      |      |              |  |              |      |              |
| Secondary Category                         |                     | Secondary Category  |                           | Secondary Category                         |                          |      |              |  |              |      |              |
| Shoulder Category                          |                     | Shoulder Category   |                           | Shoulder Category                          |                          |      |              |  |              |      |              |
| Notes                                      |                     | Notes               |                           | Notes                                      |                          |      |              |  |              |      |              |
| Year                                       | Activity            | Cost                | Present Cost              | Year                                       | Activity                 | Cost | Present Cost | Year                                       | Activity     | Cost | Present Cost |
| 0  | Construction        | \$ -                | \$ -                      | 0  | Construction             | \$ - | \$ -         | 0  | Construction | \$ - | \$ -         |
| 1  |                     | \$ -                | \$ -                      | 1  |                          | \$ - | \$ -         | 1  |              | \$ - | \$ -         |
| 2  |                     | \$ -                | \$ -                      | 2  |                          | \$ - | \$ -         | 2  |              | \$ - | \$ -         |
| 3  |                     | \$ -                | \$ -                      | 3  |                          | \$ - | \$ -         | 3  |              | \$ - | \$ -         |
| 4  |                     | \$ -                | \$ -                      | 4  |                          | \$ - | \$ -         | 4  |              | \$ - | \$ -         |
| 5  |                     | \$ -                | \$ -                      | 5  |                          | \$ - | \$ -         | 5  |              | \$ - | \$ -         |
| 6  |                     | \$ -                | \$ -                      | 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   |                     | \$ -                | \$ -                      | 20   |                          | \$ - | \$ -         | 20   |              | \$ - | \$ -         |
| 21   |                     | \$ -                | \$ -                      | 21   |                          | \$ - | \$ -         | 21   |              | \$ - | \$ -         |
| 22   |                     | \$ -                | \$ -                      | 22   |                          | \$ - | \$ -         | 22   |              | \$ - | \$ -         |
| 23   |                     | \$ -                | \$ -                      | 23   |                          | \$ - | \$ -         | 23   |              | \$ - | \$ -         |
| 24   |                     | \$ -                | \$ -                      | 24   |                          | \$ - | \$ -         | 24   |              | \$ - | \$ -         |
| 25   |                     | \$ -                | \$ -                      | 25   |                          | \$ - | \$ -         | 25   |              | \$ - | \$ -         |
| 26   |                     | \$ -                | \$ -                      | 26   |                          | \$ - | \$ -         | 26   |              | \$ - | \$ -         |
| 27   |                     | \$ -                | \$ -                      | 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   |                          | \$ - | \$ -         | 35   |              | \$ - | \$ -         |
| 36   |                     | \$ -                | \$ -                      | 36   |                          | \$ - | \$ -         | 36   |              | \$ - | \$ -         |
| 37   |                     | \$ -                | \$ -                      | 37   |                          | \$ - | \$ -         | 37   |              | \$ - | \$ -         |
| 38   |                     | \$ -                | \$ -                      | 38   |                          | \$ - | \$ -         | 38   |              | \$ - | \$ -         |
| 39   |                     | \$ -                | \$ -                      | 39   |                          | \$ - | \$ -         | 39   |              | \$ - | \$ -         |
| 40   |                     | \$ -                | \$ -                      | 40   |                          | \$ - | \$ -         | 40   |              | \$ - | \$ -         |
| 41   |                     | \$ -                | \$ -                      | 41   |                          | \$ - | \$ -         | 41   |              | \$ - | \$ -         |
| 42   |                     | \$ -                | \$ -                      | 42   |                          | \$ - | \$ -         | 42   |              | \$ - | \$ -         |
| 43   |                     | \$ -                | \$ -                      | 43   |                          | \$ - | \$ -         | 43   |              | \$ - | \$ -         |
| 44   |                     | \$ -                | \$ -                      | 44   |                          | \$ - | \$ -         | 44   |              | \$ - | \$ -         |
| 45   |                     | \$ -                | \$ -                      | 45   |                          | \$ - | \$ -         | 45   |              | \$ - | \$ -         |
| 46   |                     | \$ -                | \$ -                      | 46   |                          | \$ - | \$ -         | 46   |              | \$ - | \$ -         |
| 47   |                     | \$ -                | \$ -                      | 47   |                          | \$ - | \$ -         | 47   |              | \$ - | \$ -         |
| 48   |                     | \$ -                | \$ -                      | 48   |                          | \$ - | \$ -         | 48   |              | \$ - | \$ -         |
| 49   |                     | \$ -                | \$ -                      | 49   |                          | \$ - | \$ -         | 49   |              | \$ - | \$ -         |
| 50   |                     | \$ -                | \$ -                      | 50   |                          | \$ - | \$ -         | 50   |              | \$ - | \$ -         |
| Net Present Cost for Segment               |                     | \$ -                | \$ -                      | Net Present Cost for Segment               |                          | \$ - | \$ -         | Net Present Cost for Segment               |              | \$ - | \$ -         |
| Maintenance - Net Present Cost for Segment |                     | \$ -                | \$ -                      | Maintenance - Net Present Cost for Segment |                          | \$ - | \$ -         | Maintenance - Net Present Cost for Segment |              | \$ - | \$ -         |
| Equivalent Annual Cost                     |                     | \$ -                | \$ -                      | Equivalent Annual Cost                     |                          | \$ - | \$ -         | Equivalent Annual Cost                     |              | \$ - | \$ -         |
| Total Lane Width                           | # of Lanes          | Analysis Period     |                           |  |                          |      |              |  |              |      |              |
| 28   | 2                   | 50                  |                           |  |                          |      |              |  |              |      |              |
| Total Shoulder Width                       | # of Shoulders      | Mt. Mix             |                           |  |                          |      |              |  |              |      |              |
| 9  | 1                   | 12.5 WE (AC)        |                           |  |                          |      |              |  |              |      |              |
| Sealed/OTB/C                               | Mt. Thickness       | No                  |                           |  |                          |      |              |  |              |      |              |
| 15   | 15                  | Mt. Top LRP/spacing |                           |  |                          |      |              |  |              |      |              |
| Design Life                                | Shoulder Thickness  | 20                  |                           |  |                          |      |              |  |              |      |              |

35-Year Analysis Period

| Project Number | Analysis Period |
|----------------|-----------------|
| 004_20         | IS              |
| Highway        | Discount Rate   |
| 11-11          | 1.5%            |
| Date           | Inflation Rate  |
| 4/27/20        | 1%              |
| Performed By   | IA/EAT          |
| CM             | 0.8879          |

Notes: Separate LCCA/Initial Cost Estimate performed for the reconstruction area in Foley. This was done so that a 35-year analysis period could be utilized, while this LCCA/Initial Cost Estimate uses a 35 year analysis period for the rural mill & overlay and widening portions of the project.

| LCCA SUMMARY                    |                       |                       |                         |              |
|---------------------------------|-----------------------|-----------------------|-------------------------|--------------|
|                                 | Alternate #1          | Alternate #2          | Alternate #3            | Length       |
| Segment #1                      | 3" M&O                | 3" M&O, 4" CR         | 6" M&O, 4" Whitetopping | 10.1         |
| Net Present Cost                | \$5,642,157.97        | \$5,109,206.93        | \$6,437,235.45          | M&O          |
| Segment #2                      | M&O/Widening          | CR/Widening           | Whitetopping/Widening   | 2.4          |
| Net Present Cost                | \$1,354,687.32        | \$2,748,925.40        | \$3,750,433.61          | M&O          |
| Segment #3                      |                       |                       |                         |              |
| Net Present Cost                |                       |                       |                         |              |
| Segment #4                      |                       |                       |                         |              |
| Net Present Cost                |                       |                       |                         |              |
| <b>Project Net Present Cost</b> | <b>\$7,829,235.30</b> | <b>\$7,844,270.50</b> | <b>\$12,229,669.26</b>  | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>         | <b>101.5%</b>         | <b>156.2%</b>           | <b>12.5</b>  |

| Segment 1          |                |                   |                    |               |                |                 |                 |
|--------------------|----------------|-------------------|--------------------|---------------|----------------|-----------------|-----------------|
| SEG                | Length         |                   | SEG                | Length        |                |                 |                 |
| 1                  | 10.09          |                   | 1                  | 10.09         |                |                 |                 |
| ALT                | Description    |                   | ALT                | Description   |                |                 |                 |
| 2                  | 3" M&O         |                   | 3                  | 3" M&O, 4" CR |                |                 |                 |
| Pavement Type      | 3" M&O         |                   | Pavement Type      | 3" M&O, 4" CR |                |                 |                 |
| PCC                | None           |                   | PCC                | None          |                |                 |                 |
| Primary Category   | Overlay        |                   | Primary Category   | Overlay       |                |                 |                 |
| Secondary Category | None           |                   | Secondary Category | None          |                |                 |                 |
| Shoulder Category  | Shoulder       |                   | Shoulder Category  | Shoulder      |                |                 |                 |
| Notes              | None           |                   | Notes              | None          |                |                 |                 |
| Year               | Activity       | Cost              | Present Cost       | Year          | Activity       | Cost            | Present Cost    |
| 0                  | Construction   | \$ 2,485,236.47   | \$ 2,485,236.47    | 0             | Construction   | \$ 3,394,844.31 | \$ 3,394,844.31 |
| 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                 | \$ -           | \$ -              | \$ -               | 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                 | Remainine Life | \$ (1,080,408.09) | \$ (706,750.58)    | 35            | Remainine Life | \$ (262,897.18) | \$ (172,039.99) |

| Total Lane Width        | # of Lanes              | Analysis Period | Total Lane Width        | # of Lanes              | Analysis Period | Total Lane Width        | # of Lanes              | Analysis Period |
|-------------------------|-------------------------|-----------------|-------------------------|-------------------------|-----------------|-------------------------|-------------------------|-----------------|
| 24                      | 2                       | IS              | 24                      | 2                       | IS              | 24                      | 2                       | IS              |
| Total Shoulder Width    | # of Shoulders          | ML Mix          | Total Shoulder Width    | # of Shoulders          | ML Mix          | Total Shoulder Width    | # of Shoulders          | ML Mix          |
| 16                      | 2                       | 9.5 WE (L,C)    | 16                      | 2                       | 9.5 WE (L,C)    | 16                      | 2                       | 9.5 WE (L,C)    |
| Rounding App. Width     | white/7" millim.        | SL Mix          | Rounding App. Width     | white/7" millim.        | SL Mix          | Rounding App. Width     | white/7" millim.        | SL Mix          |
| 3                       | No                      | 12.5 WE (L,R)   | 3                       | No                      | 9.5 WE (L,C)    | 3                       | No                      | 12.5 WE (L,R)   |
| Sealed/OTBWC            | ML Thickness            |                 | Sealed/OTBWC            | ML Thickness            |                 | Sealed/OTBWC            | ML Thickness            |                 |
| No                      | No                      |                 | No                      | No                      |                 | No                      | No                      |                 |
| ML Top Lift/In. spacine | ML Top Lift/In. spacine |                 | ML Top Lift/In. spacine | ML Top Lift/In. spacine |                 | ML Top Lift/In. spacine | ML Top Lift/In. spacine |                 |
| 1.5                     | 1.5                     |                 | 1.5                     | 1.5                     |                 | 1.5                     | 1.5                     |                 |
| Design Life             | Should Thickness        |                 | Design Life             | Should Thickness        |                 | Design Life             | Should Thickness        |                 |
| 15                      | 3                       |                 | 15                      | 3                       |                 | 15                      | 3                       |                 |

| Segment 2          |                |                 |                    |              |                |                 |                 |
|--------------------|----------------|-----------------|--------------------|--------------|----------------|-----------------|-----------------|
| SEG                | Length         |                 | SEG                | Length       |                |                 |                 |
| 2                  | 2.40           |                 | 2                  | 2.40         |                |                 |                 |
| ALT                | Description    |                 | ALT                | Description  |                |                 |                 |
| 1                  | M&O/Widening   |                 | 1                  | M&O/Widening |                |                 |                 |
| Pavement Type      | M&O/Widening   |                 | Pavement Type      | M&O/Widening |                |                 |                 |
| PCC                | None           |                 | PCC                | None         |                |                 |                 |
| Primary Category   | Overlay        |                 | Primary Category   | Overlay      |                |                 |                 |
| Secondary Category | None           |                 | Secondary Category | None         |                |                 |                 |
| Shoulder Category  | Shoulder       |                 | Shoulder Category  | Shoulder     |                |                 |                 |
| Notes              | None           |                 | Notes              | None         |                |                 |                 |
| Year               | Activity       | Cost            | Present Cost       | Year         | Activity       | Cost            | Present Cost    |
| 0                  | Construction   | \$ 1,876,878.12 | \$ 1,876,878.12    | 0            | Construction   | \$ 2,114,950.29 | \$ 2,114,950.29 |
| 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                 | \$ -           | \$ -            | \$ -               | 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                 | Remainine Life | \$ (369,673.48) | \$ (241,822.45)    | 35           | Remainine Life | \$ (91,778.94)  | \$ (60,037.33)  |

| Total Lane Width        | # of Lanes              | Analysis Period | Total Lane Width        | # of Lanes              | Analysis Period | Total Lane Width        | # of Lanes              | Analysis Period |
|-------------------------|-------------------------|-----------------|-------------------------|-------------------------|-----------------|-------------------------|-------------------------|-----------------|
| 28                      | 2                       | IS              | 28                      | 2                       | IS              | 28                      | 2                       | IS              |
| Total Shoulder Width    | # of Shoulders          | ML Mix          | Total Shoulder Width    | # of Shoulders          | ML Mix          | Total Shoulder Width    | # of Shoulders          | ML Mix          |
| 16                      | 2                       | 9.5 WE (L,C)    | 16                      | 2                       | 9.5 WE (L,C)    | 16                      | 2                       | 9.5 WE (L,C)    |
| Rounding App. Width     | white/7" millim.        | SL Mix          | Rounding App. Width     | white/7" millim.        | SL Mix          | Rounding App. Width     | white/7" millim.        | SL Mix          |
| 3                       | No                      | 12.5 WE (L,R)   | 3                       | No                      | 9.5 WE (L,C)    | 3                       | No                      | 12.5 WE (L,R)   |
| Sealed/OTBWC            | ML Thickness            |                 | Sealed/OTBWC            | ML Thickness            |                 | Sealed/OTBWC            | ML Thickness            |                 |
| No                      | No                      |                 | No                      | No                      |                 | No                      | No                      |                 |
| ML Top Lift/In. spacine | ML Top Lift/In. spacine |                 | ML Top Lift/In. spacine | ML Top Lift/In. spacine |                 | ML Top Lift/In. spacine | ML Top Lift/In. spacine |                 |
| 1.5                     | 1.5                     |                 | 1.5                     | 1.5                     |                 | 1.5                     | 1.5                     |                 |
| Design Life             | Should Thickness        |                 | Design Life             | Should Thickness        |                 | Design Life             | Should Thickness        |                 |
| 15                      | 3                       |                 | 15                      | 3                       |                 | 15                      | 3                       |                 |



35-Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| 0801-35        | 35              |
| Highway        | Discount Rate   |
| 4              | 0.66%           |
| Date           | Inflation Rate  |
| 9/15/2021      | 1               |
| Performed By   | la/(1+r)        |
| Mike Shcoeb    | 0.9934          |

Notes:

| LCCA SUMMARY                    |                       |                        |                        |              |
|---------------------------------|-----------------------|------------------------|------------------------|--------------|
|                                 | Alternate #1          | Alternate #2           | Alternate #3           | Length       |
| Segment #1                      | Mill and Overlay      | Bituminous reconstruct | Concrete Reconstruct   | 11.7         |
| Net Present Cost                | \$5,986,856.90        | \$12,522,935.68        | \$13,124,898.93        | 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        |
| <b>Project Net Present Cost</b> | <b>\$5,986,856.90</b> | <b>\$12,522,935.68</b> | <b>\$13,124,898.93</b> | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>         | <b>209.2%</b>          | <b>219.2%</b>          | <b>11.7</b>  |

| Segment 1                                  |                 |                   |                   |  |                 |                 |                  |  |                |                  |                  |  |
|--|-----------------|-------------------|-------------------|--|-----------------|-----------------|------------------|--|----------------|------------------|------------------|--|
| SEG  |                 |                   |                   | SEG  |                 |                 |                  | SEG  |                |                  |                  |  |
| 1  |                 |                   |                   | 1  |                 |                 |                  | 1  |                |                  |                  |  |
| ALT  |                 |                   |                   | ALT  |                 |                 |                  | ALT  |                |                  |                  |  |
| 1  |                 |                   |                   | 2  |                 |                 |                  | 3  |                |                  |                  |  |
| Description                                |                 |                   |                   | Description                                |                 |                 |                  | Description                                |                |                  |                  |  |
| Mill and Overlay                           |                 |                   |                   | Bituminous reconstruct                     |                 |                 |                  | Concrete Reconstruct                       |                |                  |                  |  |
| Pavement Type                              |                 |                   |                   | Pavement Type                              |                 |                 |                  | Pavement Type                              |                |                  |                  |  |
| HMA  |                 |                   |                   | HMA  |                 |                 |                  | PCC  |                |                  |                  |  |
| Primary Category                           |                 |                   |                   | Primary Category                           |                 |                 |                  | Primary Category                           |                |                  |                  |  |
| Overlay                                    |                 |                   |                   | 20-year HMA                                |                 |                 |                  | > 11' Joint Spacing                        |                |                  |                  |  |
| Secondary Category                         |                 |                   |                   | Secondary Category                         |                 |                 |                  | Secondary Category                         |                |                  |                  |  |
| Rural                                      |                 |                   |                   | Rural                                      |                 |                 |                  | Design Life = 20 years                     |                |                  |                  |  |
| Shoulder Category                          |                 |                   |                   | Shoulder Category                          |                 |                 |                  | Shoulder Category                          |                |                  |                  |  |
| Aggregate                                  |                 |                   |                   | Aggregate                                  |                 |                 |                  | Aggregate                                  |                |                  |                  |  |
| Notes:                                     |                 |                   |                   | Notes:                                     |                 |                 |                  | Notes:                                     |                |                  |                  |  |
| Year                                       | Activity        | Cost              | Present Cost      | Year                                       | Activity        | Cost            | Present Cost     | Year                                       | Activity       | Cost             | Present Cost     |  |
| 0  | Construction    | \$ 3,378,337.92   | \$ 3,378,337.92   | 0  | Construction    | \$ 9,957,298.03 | \$ 9,957,298.03  | 0  | Construction   | \$ 10,272,673.42 | \$ 10,272,673.42 |  |
| 1  |                 | \$ -              | \$ -              | 1  |                 | \$ -            | \$ -             | 1  |                | \$ -             | \$ -             |  |
| 2  |                 | \$ -              | \$ -              | 2  |                 | \$ -            | \$ -             | 2  |                | \$ -             | \$ -             |  |
| 3  | Crack Treatment | \$ 28,199.83      | \$ 27,648.77      | 3  |                 | \$ -            | \$ -             | 3  |                | \$ -             | \$ -             |  |
| 4  |                 | \$ -              | \$ -              | 4  |                 | \$ -            | \$ -             | 4  |                | \$ -             | \$ -             |  |
| 5  |                 | \$ -              | \$ -              | 5  |                 | \$ -            | \$ -             | 5  |                | \$ -             | \$ -             |  |
| 6  |                 | \$ -              | \$ -              | 6  |                 | \$ -            | \$ -             | 6  |                | \$ -             | \$ -             |  |
| 7  | Seal            | \$ -              | \$ -              | 7  |                 | \$ -            | \$ -             | 7  |                | \$ -             | \$ -             |  |
| 8  |                 | \$ -              | \$ -              | 8  | Crack Treatment | \$ 14,139.06    | \$ 13,414.22     | 8  |                | \$ -             | \$ -             |  |
| 9  |                 | \$ -              | \$ -              | 9  |                 | \$ -            | \$ -             | 9  |                | \$ -             | \$ -             |  |
| 10   |                 | \$ -              | \$ -              | 10   |                 | \$ -            | \$ -             | 10   |                | \$ -             | \$ -             |  |
| 11   |                 | \$ -              | \$ -              | 11   |                 | \$ -            | \$ -             | 11   |                | \$ -             | \$ -             |  |
| 12   |                 | \$ -              | \$ -              | 12   | Seal            | \$ 176,103.92   | \$ 162,736.85    | 12   |                | \$ -             | \$ -             |  |
| 13   |                 | \$ -              | \$ -              | 13   |                 | \$ -            | \$ -             | 13   |                | \$ -             | \$ -             |  |
| 14   |                 | \$ -              | \$ -              | 14   |                 | \$ -            | \$ -             | 14   |                | \$ -             | \$ -             |  |
| 15   |                 | \$ -              | \$ -              | 15   |                 | \$ -            | \$ -             | 15   |                | \$ -             | \$ -             |  |
| 16   |                 | \$ -              | \$ -              | 16   |                 | \$ -            | \$ -             | 16   |                | \$ -             | \$ -             |  |
| 17   | Mill/Overlay    | \$ 2,529,267.68   | \$ 2,261,658.62   | 17   |                 | \$ -            | \$ -             | 17   |                | \$ -             | \$ -             |  |
| 18   |                 | \$ -              | \$ -              | 18   |                 | \$ -            | \$ -             | 18   |                | \$ -             | \$ -             |  |
| 19   |                 | \$ -              | \$ -              | 19   |                 | \$ -            | \$ -             | 19   |                | \$ -             | \$ -             |  |
| 20   | Crack Treatment | \$ 28,199.83      | \$ 24,723.39      | 20   | Mill/Overlay    | \$ 2,927,110.88 | \$ 2,566,259.99  | 20   | 1st CPR        | \$ 3,253,287.02  | \$ 2,852,225.50  |  |
| 21   |                 | \$ -              | \$ -              | 21   |                 | \$ -            | \$ -             | 21   |                | \$ -             | \$ -             |  |
| 22   |                 | \$ -              | \$ -              | 22   |                 | \$ -            | \$ -             | 22   |                | \$ -             | \$ -             |  |
| 23   |                 | \$ -              | \$ -              | 23   | Crack Treatment | \$ 28,199.83    | \$ 24,240.26     | 23   |                | \$ -             | \$ -             |  |
| 24   | Seal            | \$ -              | \$ -              | 24   |                 | \$ -            | \$ -             | 24   |                | \$ -             | \$ -             |  |
| 25   |                 | \$ -              | \$ -              | 25   |                 | \$ -            | \$ -             | 25   |                | \$ -             | \$ -             |  |
| 26   |                 | \$ -              | \$ -              | 26   |                 | \$ -            | \$ -             | 26   |                | \$ -             | \$ -             |  |
| 27   |                 | \$ -              | \$ -              | 27   | Seal            | \$ 86,628.16    | \$ 72,530.74     | 27   |                | \$ -             | \$ -             |  |
| 28   |                 | \$ -              | \$ -              | 28   |                 | \$ -            | \$ -             | 28   |                | \$ -             | \$ -             |  |
| 29   |                 | \$ -              | \$ -              | 29   |                 | \$ -            | \$ -             | 29   |                | \$ -             | \$ -             |  |
| 30   |                 | \$ -              | \$ -              | 30   |                 | \$ -            | \$ -             | 30   |                | \$ -             | \$ -             |  |
| 31   |                 | \$ -              | \$ -              | 31   |                 | \$ -            | \$ -             | 31   |                | \$ -             | \$ -             |  |
| 32   |                 | \$ -              | \$ -              | 32   |                 | \$ -            | \$ -             | 32   |                | \$ -             | \$ -             |  |
| 33   | Mill/Overlay    | \$ 2,529,267.68   | \$ 2,035,711.52   | 33   |                 | \$ -            | \$ -             | 33   |                | \$ -             | \$ -             |  |
| 34   |                 | \$ -              | \$ -              | 34   |                 | \$ -            | \$ -             | 34   |                | \$ -             | \$ -             |  |
| 35   | Remaining Life  | \$ (2,192,031.99) | \$ (1,741,223.32) | 35   | Remaining Life  | \$ (344,365.99) | \$ (273,544.40)  | 35   | Remaining Life | \$ -             | \$ -             |  |
| Net Present Cost for Segment               |                 |                   | \$ 5,986,856.90   | Net Present Cost for Segment               |                 |                 | \$ 12,522,935.68 | Net Present Cost for Segment               |                |                  | \$ 13,124,898.93 |  |
| Maintenance - Net Present Cost for Segment |                 |                   | \$ 2,608,518.97   | Maintenance - Net Present Cost for Segment |                 |                 | \$ 2,565,637.65  | Maintenance - Net Present Cost for Segment |                |                  | \$ 2,852,225.50  |  |
| Equivalent Annual Cost                     |                 |                   | 192,131.00        | Equivalent Annual Cost                     |                 |                 | 401,887.70       | Equivalent Annual Cost                     |                |                  | 421,205.99       |  |

| 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          |
| 2                      | 2                 | 12.5 WE (4,B)   | 8                      | 2                 | 12.5 WE (4,B)   | 8                      | 2                 | ML Mix          |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 3                      | Yes               |                 | 3                      | No                |                 | 3                      | No                |                 |
| Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 |
| No                     |                   |                 | No                     |                   |                 | No                     |                   |                 |
| ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 |
| 2                      |                   |                 | 2                      |                   |                 | 15                     |                   |                 |
| Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 |
| 17                     | 8                 |                 | 20                     | 4                 |                 | 20                     | 4                 |                 |

50-Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| Highway        | Discount Rate   |
| Date           | Inflation Rate  |
| Performed By   | la/(1+r)        |
|                | 0.9879          |

Notes:

| LCCA SUMMARY                    |                       |                          |                            |              |
|---------------------------------|-----------------------|--------------------------|----------------------------|--------------|
|                                 | Alternate #1          | Alternate #2             | Alternate #3               | Length       |
| Segment #1                      | CIR                   | UBOL - 35 year (doweled) | UBOL - 20 year (undoweled) | 6.9          |
| Net Present Cost                | \$4,340,765.61        | \$6,795,010.87           | \$6,973,604.60             | 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        |
| <b>Project Net Present Cost</b> | <b>\$4,340,765.61</b> | <b>\$6,795,010.87</b>    | <b>\$6,973,604.60</b>      | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>         | <b>156.5%</b>            | <b>160.7%</b>              | <b>6.9</b>   |

| Segment 1                                  |                 |                        |                          |  |                            |                 |                 |  |                |                   |                 |
|--|-----------------|------------------------|--------------------------|--|----------------------------|-----------------|-----------------|--|----------------|-------------------|-----------------|
| SEG  | Length          | SEG                    | Length                   | SEG  | Length                     |                 |                 |  |                |                   |                 |
| 1  | 6.9             | 1                      | 6.9                      | 1  | 6.9                        |                 |                 |  |                |                   |                 |
| ALT  | Description     | ALT                    | Description              | ALT  | Description                |                 |                 |  |                |                   |                 |
| 1  | CIR             | 2                      | UBOL - 35 year (doweled) | 3  | UBOL - 20 year (undoweled) |                 |                 |  |                |                   |                 |
| Pavement Type                              |                 | Pavement Type          |                          | Pavement Type                              |                            |                 |                 |  |                |                   |                 |
| HMA  |                 | PCC                    |                          | PCC  |                            |                 |                 |  |                |                   |                 |
| Primary Category                           |                 | Primary Category       |                          | Primary Category                           |                            |                 |                 |  |                |                   |                 |
| 20-year HMA                                |                 | > 11' Joint Spacing    |                          | 6'x6', 5.5 in. or Thicker                  |                            |                 |                 |  |                |                   |                 |
| Secondary Category                         |                 | Secondary Category     |                          | Secondary Category                         |                            |                 |                 |  |                |                   |                 |
| Rural                                      |                 | Design Life = 35 years |                          | Design Life = 20 years                     |                            |                 |                 |  |                |                   |                 |
| Shoulder Category                          |                 | Shoulder Category      |                          | Shoulder Category                          |                            |                 |                 |  |                |                   |                 |
| Aggregate                                  |                 | Aggregate              |                          | Aggregate                                  |                            |                 |                 |  |                |                   |                 |
| Notes:                                     |                 | Notes:                 |                          | Notes:                                     |                            |                 |                 |  |                |                   |                 |
| Year                                       | Activity        | Cost                   | Present Cost             | Year                                       | Activity                   | Cost            | Present Cost    | Year                                       | Activity       | Cost              | Present Cost    |
| 0  | Construction    | \$ 2,025,630.38        | \$ 2,025,630.38          | 0  | Construction               | \$ 4,793,221.41 | \$ 4,793,221.41 | 0  | Construction   | \$ 3,864,815.20   | \$ 3,864,815.20 |
| 1  |                 | \$ -                   | \$ -                     | 1  |                            | \$ -            | \$ -            | 1  |                | \$ -              | \$ -            |
| 2  |                 | \$ -                   | \$ -                     | 2  |                            | \$ -            | \$ -            | 2  |                | \$ -              | \$ -            |
| 3  |                 | \$ -                   | \$ -                     | 3  |                            | \$ -            | \$ -            | 3  |                | \$ -              | \$ -            |
| 4  |                 | \$ -                   | \$ -                     | 4  |                            | \$ -            | \$ -            | 4  |                | \$ -              | \$ -            |
| 5  |                 | \$ -                   | \$ -                     | 5  |                            | \$ -            | \$ -            | 5  |                | \$ -              | \$ -            |
| 6  |                 | \$ -                   | \$ -                     | 6  |                            | \$ -            | \$ -            | 6  |                | \$ -              | \$ -            |
| 7  |                 | \$ -                   | \$ -                     | 7  |                            | \$ -            | \$ -            | 7  |                | \$ -              | \$ -            |
| 8  | Crack Treatment | \$ 8,356.05            | \$ 7,583.52              | 8  |                            | \$ -            | \$ -            | 8  |                | \$ -              | \$ -            |
| 9  |                 | \$ -                   | \$ -                     | 9  |                            | \$ -            | \$ -            | 9  |                | \$ -              | \$ -            |
| 10   |                 | \$ -                   | \$ -                     | 10   |                            | \$ -            | \$ -            | 10   |                | \$ -              | \$ -            |
| 11   |                 | \$ -                   | \$ -                     | 11   |                            | \$ -            | \$ -            | 11   |                | \$ -              | \$ -            |
| 12   | Seal            | \$ 114,819.98          | \$ 99,270.79             | 12   |                            | \$ -            | \$ -            | 12   |                | \$ -              | \$ -            |
| 13   |                 | \$ -                   | \$ -                     | 13   |                            | \$ -            | \$ -            | 13   |                | \$ -              | \$ -            |
| 14   |                 | \$ -                   | \$ -                     | 14   |                            | \$ -            | \$ -            | 14   |                | \$ -              | \$ -            |
| 15   |                 | \$ -                   | \$ -                     | 15   |                            | \$ -            | \$ -            | 15   |                | \$ -              | \$ -            |
| 16   |                 | \$ -                   | \$ -                     | 16   |                            | \$ -            | \$ -            | 16   |                | \$ -              | \$ -            |
| 17   |                 | \$ -                   | \$ -                     | 17   |                            | \$ -            | \$ -            | 17   |                | \$ -              | \$ -            |
| 18   |                 | \$ -                   | \$ -                     | 18   |                            | \$ -            | \$ -            | 18   |                | \$ -              | \$ -            |
| 19   |                 | \$ -                   | \$ -                     | 19   |                            | \$ -            | \$ -            | 19   |                | \$ -              | \$ -            |
| 20   | Mill/Overlay    | \$ 1,620,205.26        | \$ 1,271,286.33          | 20   | 1st CPR                    | \$ 1,274,587.40 | \$ 1,000,098.93 | 20   | 1st CPR        | \$ 2,029,394.26   | \$ 1,592,354.53 |
| 21   |                 | \$ -                   | \$ -                     | 21   |                            | \$ -            | \$ -            | 21   |                | \$ -              | \$ -            |
| 22   |                 | \$ -                   | \$ -                     | 22   |                            | \$ -            | \$ -            | 22   |                | \$ -              | \$ -            |
| 23   | Crack Treatment | \$ 16,665.84           | \$ 12,609.60             | 23   |                            | \$ -            | \$ -            | 23   |                | \$ -              | \$ -            |
| 24   |                 | \$ -                   | \$ -                     | 24   |                            | \$ -            | \$ -            | 24   |                | \$ -              | \$ -            |
| 25   |                 | \$ -                   | \$ -                     | 25   |                            | \$ -            | \$ -            | 25   |                | \$ -              | \$ -            |
| 26   |                 | \$ -                   | \$ -                     | 26   |                            | \$ -            | \$ -            | 26   |                | \$ -              | \$ -            |
| 27   | Seal            | \$ 66,980.63           | \$ 48,279.00             | 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                    | \$ 1,531,282.16 | \$ 1,001,690.53 | 35   | R & R Mainline | \$ 3,210,304.48   | \$ 2,100,025.52 |
| 36   |                 | \$ -                   | \$ -                     | 36   |                            | \$ -            | \$ -            | 36   |                | \$ -              | \$ -            |
| 37   | Mill/Overlay    | \$ 1,620,205.26        | \$ 1,034,464.80          | 37   |                            | \$ -            | \$ -            | 37   |                | \$ -              | \$ -            |
| 38   |                 | \$ -                   | \$ -                     | 38   |                            | \$ -            | \$ -            | 38   |                | \$ -              | \$ -            |
| 39   |                 | \$ -                   | \$ -                     | 39   |                            | \$ -            | \$ -            | 39   |                | \$ -              | \$ -            |
| 40   | Crack Treatment | \$ 16,665.84           | \$ 10,260.62             | 40   |                            | \$ -            | \$ -            | 40   |                | \$ -              | \$ -            |
| 41   |                 | \$ -                   | \$ -                     | 41   |                            | \$ -            | \$ -            | 41   |                | \$ -              | \$ -            |
| 42   |                 | \$ -                   | \$ -                     | 42   |                            | \$ -            | \$ -            | 42   |                | \$ -              | \$ -            |
| 43   |                 | \$ -                   | \$ -                     | 43   |                            | \$ -            | \$ -            | 43   |                | \$ -              | \$ -            |
| 44   | Seal            | \$ 66,980.63           | \$ 39,285.34             | 44   |                            | \$ -            | \$ -            | 44   |                | \$ -              | \$ -            |
| 45   |                 | \$ -                   | \$ -                     | 45   |                            | \$ -            | \$ -            | 45   |                | \$ -              | \$ -            |
| 46   |                 | \$ -                   | \$ -                     | 46   |                            | \$ -            | \$ -            | 46   |                | \$ -              | \$ -            |
| 47   |                 | \$ -                   | \$ -                     | 47   |                            | \$ -            | \$ -            | 47   |                | \$ -              | \$ -            |
| 48   |                 | \$ -                   | \$ -                     | 48   |                            | \$ -            | \$ -            | 48   |                | \$ -              | \$ -            |
| 49   |                 | \$ -                   | \$ -                     | 49   |                            | \$ -            | \$ -            | 49   |                | \$ -              | \$ -            |
| 50   | Remaining Life  | \$ (381,224.77)        | \$ (207,904.77)          | 50   | Remaining Life             | \$ -            | \$ -            | 50   | Remaining Life | \$ (1,070,101.49) | \$ (583,590.65) |
| Net Present Cost for Segment               |                 | \$ 4,340,765.61        |                          | Net Present Cost for Segment               |                            | \$ 6,795,010.87 |                 | Net Present Cost for Segment               |                | \$ 6,973,604.60   |                 |
| Maintenance - Net Present Cost for Segment |                 | \$ 2,315,135.23        |                          | Maintenance - Net Present Cost for Segment |                            | \$ 2,001,789.46 |                 | Maintenance - Net Present Cost for Segment |                | \$ 3,108,789.40   |                 |
| Equivalent Annual Cost                     |                 | 116,481.94             |                          | Equivalent Annual Cost                     |                            | 182,340.20      |                 | Equivalent Annual Cost                     |                | 187,132.66        |                 |

| Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period |
|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|
| 28                     | 2                 | 50              | 28                     | 2                 | 50              | 28                     | 2                 | 50              |
| Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          |
| 8                      | 2                 | 12.5 WE (4,B)   | 8                      | 2                 |                 | 8                      | 2                 |                 |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 0                      | No                |                 | 0                      | No                |                 | 0                      | No                |                 |
| Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 |
| No                     |                   |                 | No                     | 7                 |                 | Yes                    | 6                 |                 |
| ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 |
| 1.5                    |                   |                 | 15                     |                   |                 | 6                      |                   |                 |
| Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 |
| 20                     | 3                 |                 | 35                     | 3                 |                 | 20                     | 3                 |                 |



50-Year Analysis Period

|                   |                 |
|-------------------|-----------------|
| Project Number    | Analysis Period |
| 1016-71           | 50              |
| Highway           | Discount Rate   |
| S2                | 1.0%            |
| Date              | Inflation Rate  |
| 5/19/2021 updated | 1               |
| Prepared By       | MLT/Earl        |
| ip                | 0.000           |

Notes: Final version updated for the Final MDR submittal and now addresses all comments and suggestions from earlier reviews

| LCRA SUMMARY             | Alternate #1       | Alternate #2       | Alternate #3    | Length     |
|--------------------------|--------------------|--------------------|-----------------|------------|
| Segment #1               | URCL (15yr) on BOB | URCL (20yr) on BOB | BAR Recon (BOC) | 10.7 Miles |
| Net Present Cost         | \$10,871,768.31    | \$11,209,280.13    | \$16,347,775.17 |            |
| Segment #2               | WTP (15yr) on BOB  | WTP (20yr) on BOB  | BAR Recon (BOC) | 19.6 Miles |
| Net Present Cost         | \$30,394,483.98    | \$33,673,618.30    | \$47,159,230.10 | Total      |
| Segment #3               |                    |                    |                 | 0.0 Miles  |
| Segment #4               |                    |                    |                 | 0.0 Miles  |
| Net Present Cost         |                    |                    |                 |            |
| Project Net Present Cost | \$30,394,483.98    | \$33,673,618.30    | \$47,159,230.10 | Total      |
| % of Low Cost            | 100.0%             | 110.8%             | 155.2%          | 29.8       |

| Segment 1                                  |                    |                        |  |                    |                 |
|--|--------------------|------------------------|--|--------------------|-----------------|
| SEG  | Length             | SEG                    | Length                                     |                    |                 |
| 1  | 10.71              | 1                      | 10.71                                      |                    |                 |
| ALT  | Description        | ALT                    | Description                                |                    |                 |
| 1  | URCL (15yr) on BOB | 2                      | URCL (20yr) on BOB                         |                    |                 |
| Pavement Type                              |                    | Pavement Type          |  |                    |                 |
| PCC  |                    | PCC                    |  |                    |                 |
| Primary Category                           | >11' Lane Spacing  | Primary Category       | >11' Lane Spacing                          |                    |                 |
| Secondary Category                         |                    | Secondary Category     |  |                    |                 |
| Design Life = 35 years                     |                    | Design Life = 20 years |  |                    |                 |
| Shoulder Category                          |                    | Shoulder Category      |  |                    |                 |
| PCC  |                    | PCC                    |  |                    |                 |
| Notes:                                     |                    | Notes:                 |  |                    |                 |
| Year                                       | Activity           | Cost                   | Present Cost                               |                    |                 |
| 0  | Construction       | \$ 7,460,242.56        | \$ 7,460,242.56                            |                    |                 |
| 1  |                    |                        |  |                    |                 |
| 2  |                    |                        |  |                    |                 |
| 3  |                    |                        |  |                    |                 |
| 4  |                    |                        |  |                    |                 |
| 5  |                    |                        |  |                    |                 |
| 6  |                    |                        |  |                    |                 |
| 7  |                    |                        |  |                    |                 |
| 8  |                    |                        |  |                    |                 |
| 9  |                    |                        |  |                    |                 |
| 10   |                    |                        |  |                    |                 |
| 11   |                    |                        |  |                    |                 |
| 12   |                    |                        |  |                    |                 |
| 13   |                    |                        |  |                    |                 |
| 14   |                    |                        |  |                    |                 |
| 15   |                    |                        |  |                    |                 |
| 16   |                    |                        |  |                    |                 |
| 17   |                    |                        |  |                    |                 |
| 18   |                    |                        |  |                    |                 |
| 19   | 1st CPR            | 2,033,540.62           | 1,659,900.37                               |                    |                 |
| 20   |                    |                        |  |                    |                 |
| 21   |                    |                        |  |                    |                 |
| 22   |                    |                        |  |                    |                 |
| 23   |                    |                        |  |                    |                 |
| 24   |                    |                        |  |                    |                 |
| 25   |                    |                        |  |                    |                 |
| 26   |                    |                        |  |                    |                 |
| 27   |                    |                        |  |                    |                 |
| 28   |                    |                        |  |                    |                 |
| 29   |                    |                        |  |                    |                 |
| 30   |                    |                        |  |                    |                 |
| 31   |                    |                        |  |                    |                 |
| 32   |                    |                        |  |                    |                 |
| 33   |                    |                        |  |                    |                 |
| 34   | 2nd CPR            | 2,584,071.74           | 1,811,535.38                               |                    |                 |
| 35   |                    |                        |  |                    |                 |
| 36   |                    |                        |  |                    |                 |
| 37   |                    |                        |  |                    |                 |
| 38   |                    |                        |  |                    |                 |
| 39   |                    |                        |  |                    |                 |
| 40   |                    |                        |  |                    |                 |
| 41   |                    |                        |  |                    |                 |
| 42   |                    |                        |  |                    |                 |
| 43   |                    |                        |  |                    |                 |
| 44   |                    |                        |  |                    |                 |
| 45   |                    |                        |  |                    |                 |
| 46   |                    |                        |  |                    |                 |
| 47   |                    |                        |  |                    |                 |
| 48   |                    |                        |  |                    |                 |
| 49   |                    |                        |  |                    |                 |
| 50   | Remaining Life     |                        |  |                    |                 |
| Net Present Cost for Segment               |                    | \$10,871,768.31        | Net Present Cost for Segment               | \$11,209,280.13    |                 |
| Maintenance - Net Present Cost for Segment |                    | \$ 4,347,434.75        | Maintenance - Net Present Cost for Segment | \$ 5,300,265.46    |                 |
| Equivalent Annual Cost                     |                    | 276,657.47             | Equivalent Annual Cost                     | 300,121.98         |                 |
| Total Lane Width                           | # of Lanes         | Analysis Period        | Total Lane Width                           | # of Lanes         | Analysis Period |
| 28   | 2                  | 50                     | 28   | 2                  | 50              |
| Total Shoulder Width                       | # of Shoulders     | ML Mix                 | Total Shoulder Width                       | # of Shoulders     | ML Mix          |
| 8  | 1                  | ML Mix                 | 8  | 1                  | ML Mix          |
| Rounding App. Width                        | white/>7 million   | SL Mix                 | Rounding App. Width                        | white/>7 million   | SL Mix          |
| 3  | No                 |                        | 3  | No                 |                 |
| Sealed/OTBWC                               | ML Thickness       |                        | Sealed/OTBWC                               | ML Thickness       |                 |
| No   | 8.5                |                        | No   | 7                  |                 |
| ML Top Lift/ft spacing                     |                    |                        | ML Top Lift/ft spacing                     |                    |                 |
| 15   |                    |                        | 15   |                    |                 |
| Design Life                                | Shoulder Thickness |                        | Design Life                                | Shoulder Thickness |                 |
| 35   | 8.5                |                        | 20   | 7                  |                 |

| Segment 2                                  |                    |                        |  |                    |                 |
|--|--------------------|------------------------|--|--------------------|-----------------|
| SEG  | Length             | SEG                    | Length                                     |                    |                 |
| 2  | 19.61              | 2                      | 19.61                                      |                    |                 |
| ALT  | Description        | ALT                    | Description                                |                    |                 |
| 2  | WTP (15yr) on BOB  | 3                      | BAR Recon (BOC)                            |                    |                 |
| Pavement Type                              |                    | Pavement Type          |  |                    |                 |
| PCC  |                    | PCC                    |  |                    |                 |
| Primary Category                           | >11' Lane Spacing  | Primary Category       | >11' Lane Spacing                          |                    |                 |
| Secondary Category                         |                    | Secondary Category     |  |                    |                 |
| Design Life = 35 years                     |                    | Design Life = 20 years |  |                    |                 |
| Shoulder Category                          |                    | Shoulder Category      |  |                    |                 |
| PCC  |                    | PCC                    |  |                    |                 |
| Notes:                                     |                    | Notes:                 |  |                    |                 |
| Year                                       | Activity           | Cost                   | Present Cost                               |                    |                 |
| 0  | Construction       | \$ 12,807,770.55       | \$12,807,770.55                            |                    |                 |
| 1  |                    |                        |  |                    |                 |
| 2  |                    |                        |  |                    |                 |
| 3  |                    |                        |  |                    |                 |
| 4  |                    |                        |  |                    |                 |
| 5  |                    |                        |  |                    |                 |
| 6  |                    |                        |  |                    |                 |
| 7  |                    |                        |  |                    |                 |
| 8  |                    |                        |  |                    |                 |
| 9  |                    |                        |  |                    |                 |
| 10   |                    |                        |  |                    |                 |
| 11   |                    |                        |  |                    |                 |
| 12   |                    |                        |  |                    |                 |
| 13   |                    |                        |  |                    |                 |
| 14   |                    |                        |  |                    |                 |
| 15   |                    |                        |  |                    |                 |
| 16   |                    |                        |  |                    |                 |
| 17   |                    |                        |  |                    |                 |
| 18   |                    |                        |  |                    |                 |
| 19   | 1st CPR            | 3,933,461.79           | 3,210,906.40                               |                    |                 |
| 20   |                    |                        |  |                    |                 |
| 21   |                    |                        |  |                    |                 |
| 22   |                    |                        |  |                    |                 |
| 23   |                    |                        |  |                    |                 |
| 24   |                    |                        |  |                    |                 |
| 25   |                    |                        |  |                    |                 |
| 26   |                    |                        |  |                    |                 |
| 27   |                    |                        |  |                    |                 |
| 28   |                    |                        |  |                    |                 |
| 29   |                    |                        |  |                    |                 |
| 30   |                    |                        |  |                    |                 |
| 31   |                    |                        |  |                    |                 |
| 32   |                    |                        |  |                    |                 |
| 33   |                    |                        |  |                    |                 |
| 34   | 2nd CPR            | 4,998,349.70           | 3,504,038.72                               |                    |                 |
| 35   |                    |                        |  |                    |                 |
| 36   |                    |                        |  |                    |                 |
| 37   |                    |                        |  |                    |                 |
| 38   |                    |                        |  |                    |                 |
| 39   |                    |                        |  |                    |                 |
| 40   |                    |                        |  |                    |                 |
| 41   |                    |                        |  |                    |                 |
| 42   |                    |                        |  |                    |                 |
| 43   |                    |                        |  |                    |                 |
| 44   |                    |                        |  |                    |                 |
| 45   |                    |                        |  |                    |                 |
| 46   |                    |                        |  |                    |                 |
| 47   |                    |                        |  |                    |                 |
| 48   |                    |                        |  |                    |                 |
| 49   |                    |                        |  |                    |                 |
| 50   | Remaining Life     |                        |  |                    |                 |
| Net Present Cost for Segment               |                    | \$19,522,716.67        | Net Present Cost for Segment               | \$21,964,818.17    |                 |
| Maintenance - Net Present Cost for Segment |                    | \$ 6,214,548.12        | Maintenance - Net Present Cost for Segment | \$ 6,821,041.99    |                 |
| Equivalent Annual Cost                     |                    | 550,392.43             | Equivalent Annual Cost                     | 623,914.33         |                 |
| Total Lane Width                           | # of Lanes         | Analysis Period        | Total Lane Width                           | # of Lanes         | Analysis Period |
| 28   | 2                  | 50                     | 28   | 2                  | 50              |
| Total Shoulder Width                       | # of Shoulders     | ML Mix                 | Total Shoulder Width                       | # of Shoulders     | ML Mix          |
| 8  | 1                  | ML Mix                 | 8  | 1                  | ML Mix          |
| Rounding App. Width                        | white/>7 million   | SL Mix                 | Rounding App. Width                        | white/>7 million   | SL Mix          |
| 3  | Yes                |                        | 3  | Yes                |                 |
| Sealed/OTBWC                               | ML Thickness       |                        | Sealed/OTBWC                               | ML Thickness       |                 |
| No   | 9                  |                        | No   | 7.5                |                 |
| ML Top Lift/ft spacing                     |                    |                        | ML Top Lift/ft spacing                     |                    |                 |
| 15   |                    |                        | 15   |                    |                 |
| Design Life                                | Shoulder Thickness |                        | Design Life                                | Shoulder Thickness |                 |
| 35   | 9                  |                        | 20   | 7.5                |                 |

50 Year Analysis Period

Project Number, Analysis Period, Highway, Discount Rate, Date, Inflation Rate, Performed By, Mike Schaub, 0.0009

Notes:

LCCA SUMMARY table with columns for Segment #1, #2, #3, #4, Project Net Present Cost, and % of Low Cost.

Segment 1 main table with columns for Year, Activity, Cost, Present Cost, and detailed activity breakdown over 50 years.

Segment 2 main table with columns for Year, Activity, Cost, Present Cost, and detailed activity breakdown over 50 years.



35 Year Analysis Period

| Project Number | Analysis Period |
|----------------|-----------------|
| 17-260-02      | 35              |
| Highway        | Division        |
| 65             | 1025            |
| Open           | Inflation Rate  |
| 11/1/2020      | 5               |
| Performed by   | Checked         |
| 155            | 1029            |

Notes: TH 65 from HW4206 to 0.21 Mi. N. Saratoga Rd.

| LCCA SUMMARY             |                                      |                                    |                                |
|--------------------------|--------------------------------------|------------------------------------|--------------------------------|
| Segment #                | Alternative #1                       | Alternative #2                     | Alternative #3                 |
| Segment #1               | 1.5' mill & 2" Overlay 15' HMA-urban | 2' mill & 2" Overlay 20' HMA-urban | 2" Whitestopping 20' HMA-urban |
| Segment #2               | 1.5' mill & 2" Overlay 15' HMA-rural | 2' mill & 2" Overlay 20' HMA-rural | 2" Whitestopping 20' HMA-rural |
| Segment #3               |                                      |                                    |                                |
| Project Net Present Cost | \$2,353,297.75                       | \$2,444,002.54                     | \$3,879,474.69                 |
| % of Low Cost            | 100.0%                               | 103.9%                             | 164.9%                         |

| Segment 1 |                 |                |                 |      | Segment 1       |                |                |      |                | Segment 1      |                 |      |                 |                 |                 |
|-----------|-----------------|----------------|-----------------|------|-----------------|----------------|----------------|------|----------------|----------------|-----------------|------|-----------------|-----------------|-----------------|
| Year      | Activity        | Cost           | Present Cost    | Year | Activity        | Cost           | Present Cost   | Year | Activity       | Cost           | Present Cost    | Year | Activity        | Cost            | Present Cost    |
| 0         | Construction    | \$ 289,123.05  | \$ 289,123.83   | 0    | Construction    | \$ 470,218.35  | \$ 470,219.95  | 0    | Construction   | \$ 892,974.76  | \$ 892,974.76   | 0    | Construction    | \$ 2,081,121.05 | \$ 2,081,121.05 |
| 1         |                 |                |                 | 1    |                 |                |                | 1    |                |                |                 | 1    |                 |                 |                 |
| 2         | Crack Treatment | \$ 2,150.15    | \$ 2,066.37     | 2    |                 |                |                | 2    |                |                |                 | 2    | Crack Treatment | \$ -            | \$ -            |
| 3         |                 |                |                 | 3    |                 |                |                | 3    |                |                |                 | 3    |                 |                 |                 |
| 4         |                 |                |                 | 4    |                 |                |                | 4    |                |                |                 | 4    |                 |                 |                 |
| 5         |                 |                |                 | 5    |                 |                |                | 5    |                |                |                 | 5    |                 |                 |                 |
| 6         | Seal            | \$ 8,961.58    | \$ 8,365.68     | 6    |                 |                |                | 6    |                |                |                 | 6    | Seal            | \$ 26,340.72    | \$ 24,441.29    |
| 7         |                 |                |                 | 7    |                 |                |                | 7    |                |                |                 | 7    |                 |                 |                 |
| 8         |                 |                |                 | 8    | Crack Treatment | \$ 1,068.03    | \$ 984.75      | 8    |                |                |                 | 8    | Crack Treatment | \$ 3,058.35     | \$ 2,819.87     |
| 9         |                 |                |                 | 9    |                 |                |                | 9    |                |                |                 | 9    |                 |                 |                 |
| 10        |                 |                |                 | 10   |                 |                |                | 10   |                |                |                 | 10   |                 |                 |                 |
| 11        |                 |                |                 | 11   |                 |                |                | 11   |                |                |                 | 11   |                 |                 |                 |
| 12        |                 |                |                 | 12   | Seal            | \$ 15,740.61   | \$ 13,931.84   | 12   |                |                |                 | 12   | Seal            | \$ 45,748.92    | \$ 40,501.73    |
| 13        |                 |                |                 | 13   |                 |                |                | 13   |                |                |                 | 13   |                 |                 |                 |
| 14        |                 |                |                 | 14   |                 |                |                | 14   |                |                |                 | 14   |                 |                 |                 |
| 15        | M/I Overlay     | \$ 284,998.07  | \$ 244,755.72   | 15   |                 |                |                | 15   |                |                |                 | 15   |                 |                 |                 |
| 16        |                 |                |                 | 16   |                 |                |                | 16   |                |                |                 | 16   |                 |                 |                 |
| 17        |                 |                |                 | 17   |                 |                |                | 17   |                |                |                 | 17   |                 |                 |                 |
| 18        | Crack Treatment | \$ 2,130.15    | \$ 1,774.50     | 18   |                 |                |                | 18   |                |                |                 | 18   |                 |                 |                 |
| 19        |                 |                |                 | 19   |                 |                |                | 19   |                |                |                 | 19   |                 |                 |                 |
| 20        |                 |                |                 | 20   | M/I Overlay     | \$ 220,011.09  | \$ 204,061.43  | 20   | 1st C/P        | \$ 274,086.94  | \$ 223,736.63   | 20   | M/I Overlay     | \$ 859,914.19   | \$ 705,952.63   |
| 21        |                 |                |                 | 21   |                 |                |                | 21   |                |                |                 | 21   |                 |                 |                 |
| 22        | Seal            | \$ 8,961.58    | \$ 7,184.40     | 22   |                 |                |                | 22   |                |                |                 | 22   | Seal            | \$ 26,340.72    | \$ 20,990.06    |
| 23        |                 |                |                 | 23   | Crack Treatment | \$ 2,130.15    | \$ 1,681.71    | 23   |                |                |                 | 23   | Crack Treatment | \$ 6,098.37     | \$ 4,823.81     |
| 24        |                 |                |                 | 24   |                 |                |                | 24   |                |                |                 | 24   |                 |                 |                 |
| 25        |                 |                |                 | 25   |                 |                |                | 25   |                |                |                 | 25   |                 |                 |                 |
| 26        |                 |                |                 | 26   |                 |                |                | 26   |                |                |                 | 26   |                 |                 |                 |
| 27        |                 |                |                 | 27   | Seal            | \$ 8,961.58    | \$ 6,828.95    | 27   |                |                |                 | 27   | Seal            | \$ 26,340.72    | \$ 19,951.56    |
| 28        |                 |                |                 | 28   |                 |                |                | 28   |                |                |                 | 28   |                 |                 |                 |
| 29        | M/I Overlay     | \$ 329,594.18  | \$ 245,564.72   | 29   |                 |                |                | 29   |                |                |                 | 29   |                 |                 |                 |
| 30        |                 |                |                 | 30   |                 |                |                | 30   |                |                |                 | 30   |                 |                 |                 |
| 31        | Crack Treatment | \$ 2,130.15    | \$ 1,531.48     | 31   |                 |                |                | 31   |                |                |                 | 31   |                 |                 |                 |
| 32        |                 |                |                 | 32   |                 |                |                | 32   |                |                |                 | 32   |                 |                 |                 |
| 33        |                 |                |                 | 33   |                 |                |                | 33   |                |                |                 | 33   |                 |                 |                 |
| 34        |                 |                |                 | 34   |                 |                |                | 34   |                |                |                 | 34   |                 |                 |                 |
| 35        | Remaining Life  | \$ (17,471.79) | \$ (124,431.07) | 35   | Remaining Life  | \$ (28,411.07) | \$ (205,617.1) | 35   | Remaining Life | \$ (41,168.10) | \$ (288,167.74) | 35   | Remaining Life  | \$ (101,166.38) | \$ (705,521.53) |

| Segment 2 |                 |                |                 |      | Segment 2       |                 |                 |      |                | Segment 2       |                 |      |                 |                 |                 |
|-----------|-----------------|----------------|-----------------|------|-----------------|-----------------|-----------------|------|----------------|-----------------|-----------------|------|-----------------|-----------------|-----------------|
| Year      | Activity        | Cost           | Present Cost    | Year | Activity        | Cost            | Present Cost    | Year | Activity       | Cost            | Present Cost    | Year | Activity        | Cost            | Present Cost    |
| 0         | Construction    | \$ 476,317.30  | \$ 476,317.30   | 0    | Construction    | \$ 1,067,740.41 | \$ 1,067,740.41 | 0    | Construction   | \$ 2,081,121.05 | \$ 2,081,121.05 | 0    | Construction    | \$ 4,763,173.00 | \$ 4,763,173.00 |
| 1         |                 |                |                 | 1    |                 |                 |                 | 1    |                |                 |                 | 1    |                 |                 |                 |
| 2         | Crack Treatment | \$ 6,098.77    | \$ 5,916.86     | 2    |                 |                 |                 | 2    |                |                 |                 | 2    | Crack Treatment | \$ -            | \$ -            |
| 3         |                 |                |                 | 3    |                 |                 |                 | 3    |                |                 |                 | 3    |                 |                 |                 |
| 4         |                 |                |                 | 4    |                 |                 |                 | 4    |                |                 |                 | 4    |                 |                 |                 |
| 5         |                 |                |                 | 5    |                 |                 |                 | 5    |                |                 |                 | 5    |                 |                 |                 |
| 6         | Seal            | \$ 26,340.72   | \$ 24,441.29    | 6    |                 |                 |                 | 6    |                |                 |                 | 6    | Seal            | \$ 26,340.72    | \$ 24,441.29    |
| 7         |                 |                |                 | 7    |                 |                 |                 | 7    |                |                 |                 | 7    |                 |                 |                 |
| 8         |                 |                |                 | 8    | Crack Treatment | \$ 3,058.35     | \$ 2,819.87     | 8    |                |                 |                 | 8    | Crack Treatment | \$ 3,058.35     | \$ 2,819.87     |
| 9         |                 |                |                 | 9    |                 |                 |                 | 9    |                |                 |                 | 9    |                 |                 |                 |
| 10        |                 |                |                 | 10   |                 |                 |                 | 10   |                |                 |                 | 10   |                 |                 |                 |
| 11        |                 |                |                 | 11   |                 |                 |                 | 11   |                |                 |                 | 11   |                 |                 |                 |
| 12        |                 |                |                 | 12   | Seal            | \$ 45,748.92    | \$ 40,501.73    | 12   |                |                 |                 | 12   | Seal            | \$ 45,748.92    | \$ 40,501.73    |
| 13        |                 |                |                 | 13   |                 |                 |                 | 13   |                |                 |                 | 13   |                 |                 |                 |
| 14        |                 |                |                 | 14   |                 |                 |                 | 14   |                |                 |                 | 14   |                 |                 |                 |
| 15        | M/I Overlay     | \$ 767,347.68  | \$ 658,994.39   | 15   |                 |                 |                 | 15   |                |                 |                 | 15   |                 |                 |                 |
| 16        |                 |                |                 | 16   |                 |                 |                 | 16   |                |                 |                 | 16   |                 |                 |                 |
| 17        |                 |                |                 | 17   |                 |                 |                 | 17   |                |                 |                 | 17   |                 |                 |                 |
| 18        | Crack Treatment | \$ 6,098.77    | \$ 5,269.17     | 18   |                 |                 |                 | 18   |                |                 |                 | 18   |                 |                 |                 |
| 19        |                 |                |                 | 19   |                 |                 |                 | 19   |                |                 |                 | 19   |                 |                 |                 |
| 20        |                 |                |                 | 20   | M/I Overlay     | \$ 859,914.19   | \$ 705,952.63   | 20   |                |                 |                 | 20   | M/I Overlay     | \$ 859,914.19   | \$ 705,952.63   |
| 21        |                 |                |                 | 21   |                 |                 |                 | 21   |                |                 |                 | 21   |                 |                 |                 |
| 22        | Seal            | \$ 26,340.72   | \$ 20,990.06    | 22   |                 |                 |                 | 22   |                |                 |                 | 22   | Seal            | \$ 26,340.72    | \$ 20,990.06    |
| 23        |                 |                |                 | 23   | Crack Treatment | \$ 6,098.37     | \$ 4,823.81     | 23   |                |                 |                 | 23   | Crack Treatment | \$ 6,098.37     | \$ 4,823.81     |
| 24        |                 |                |                 | 24   |                 |                 |                 | 24   |                |                 |                 | 24   |                 |                 |                 |
| 25        |                 |                |                 | 25   |                 |                 |                 | 25   |                |                 |                 | 25   |                 |                 |                 |
| 26        |                 |                |                 | 26   |                 |                 |                 | 26   |                |                 |                 | 26   |                 |                 |                 |
| 27        |                 |                |                 | 27   | Seal            | \$ 26,340.72    | \$ 19,951.56    | 27   |                |                 |                 | 27   | Seal            | \$ 26,340.72    | \$ 19,951.56    |
| 28        |                 |                |                 | 28   |                 |                 |                 | 28   |                |                 |                 | 28   |                 |                 |                 |
| 29        | M/I Overlay     | \$ 764,453.09  | \$ 669,557.11   | 29   |                 |                 |                 | 29   |                |                 |                 | 29   |                 |                 |                 |
| 30        |                 |                |                 | 30   |                 |                 |                 | 30   |                |                 |                 | 30   |                 |                 |                 |
| 31        | Crack Treatment | \$ 6,098.77    | \$ 4,428.37     | 31   |                 |                 |                 | 31   |                |                 |                 | 31   | Crack Treatment | \$ 6,098.77     | \$ 4,428.37     |
| 32        |                 |                |                 | 32   |                 |                 |                 | 32   |                |                 |                 | 32   |                 |                 |                 |
| 33        |                 |                |                 | 33   |                 |                 |                 | 33   |                |                 |                 | 33   |                 |                 |                 |
| 34        |                 |                |                 | 34   |                 |                 |                 | 34   |                |                 |                 | 34   |                 |                 |                 |
| 35        | Remaining Life  | \$ (41,168.10) | \$ (288,167.74) | 35   | Remaining Life  | \$ (101,166.38) | \$ (705,521.53) | 35   | Remaining Life | \$ (101,166.38) | \$ (705,521.53) | 35   | Remaining Life  | \$ (101,166.38) | \$ (705,521.53) |

35-Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| 2513-97        | 35              |
| Highway        | Discount Rate   |
| 61             | 0.66%           |
| Date           | Inflation Rate  |
| 12/15/2021     | 1               |
| Performed By   | la/(1+r)        |
| trm            | 0.9934          |

Notes:

| LCCA SUMMARY                    |   |                        |  |              |
|---------------------------------|---|------------------------|--|--------------|
|                                 | Alternate #1                            | Alternate #2           | Alternate #3                             | Length       |
| Segment #1                      | HMA-15 YR Fix- 1.5" mill and 3" overlay | Whitotopping-20 YR Fix | HMA-20 YR Fix-3.5" mill and 5.5" overlay | 10.1 Miles   |
| Net Present Cost                | \$5,645,592.14                          | \$9,186,189.98         | \$6,100,987.24                           |              |
| Segment #2                      |   |                        |  | 0.0 Miles    |
| Net Present Cost                |   |                        |  |              |
| Segment #3                      |   |                        |  | 0.0 Miles    |
| Net Present Cost                |   |                        |  |              |
| Segment #4                      |   |                        |  | 0.0 Miles    |
| Net Present Cost                |   |                        |  |              |
| <b>Project Net Present Cost</b> | <b>\$5,645,592.14</b>                   | <b>\$9,186,189.98</b>  | <b>\$6,100,987.24</b>                    | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>                           | <b>162.7%</b>          | <b>108.1%</b>                            | <b>10.1</b>  |

| Segment 1                                  |   |                        |                        |  |  |                 |                 |  |                 |                 |                 |
|--|---|------------------------|------------------------|--|--|-----------------|-----------------|--|-----------------|-----------------|-----------------|
| SEG  | Length                                  | SEG                    | Length                 | SEG  | Length                                   |                 |                 |  |                 |                 |                 |
| 1  | 10.089                                  | 1                      | 10.089                 | 1  | 10.089                                   |                 |                 |  |                 |                 |                 |
| ALT  | Description                             | ALT                    | Description            | ALT  | Description                              |                 |                 |  |                 |                 |                 |
| 1  | HMA-15 YR Fix- 1.5" mill and 3" overlay | 2                      | Whitotopping-20 YR Fix | 3  | HMA-20 YR Fix-3.5" mill and 5.5" overlay |                 |                 |  |                 |                 |                 |
| Pavement Type                              |   | Pavement Type          |                        | Pavement Type                              |  |                 |                 |  |                 |                 |                 |
| HMA  |   | PCC                    |                        | HMA  |  |                 |                 |  |                 |                 |                 |
| Primary Category                           |   | Primary Category       |                        | Primary Category                           |  |                 |                 |  |                 |                 |                 |
| Overlay                                    |   | > 11' Joint Spacing    |                        | 20-year HMA                                |  |                 |                 |  |                 |                 |                 |
| Secondary Category                         |   | Secondary Category     |                        | Secondary Category                         |  |                 |                 |  |                 |                 |                 |
| Rural                                      |   | Design Life = 20 years |                        | Rural                                      |  |                 |                 |  |                 |                 |                 |
| Shoulder Category                          |   | Shoulder Category      |                        | Shoulder Category                          |  |                 |                 |  |                 |                 |                 |
| Bituminous                                 |   | Thick Bit.             |                        | Bituminous                                 |  |                 |                 |  |                 |                 |                 |
| Notes:                                     |   |                        | Notes:                 |  |  |                 |                 |  |                 |                 |                 |
| Year                                       | Activity                                | Cost                   | Present Cost           | Year                                       | Activity                                 | Cost            | Present Cost    | Year                                       | Activity        | Cost            | Present Cost    |
| 0  | Construction                            | \$ 2,242,978.11        | \$ 2,242,978.11        | 0  | Construction                             | \$ 6,326,268.56 | \$ 6,326,268.56 | 0  | Construction    | \$ 3,738,925.14 | \$ 3,738,925.14 |
| 1  |   | \$ -                   | \$ -                   | 1  |  | \$ -            | \$ -            | 1  |                 | \$ -            | \$ -            |
| 2  |   | \$ -                   | \$ -                   | 2  |  | \$ -            | \$ -            | 2  |                 | \$ -            | \$ -            |
| 3  | Crack Treatment                         | \$ 20,868.31           | \$ 20,460.51           | 3  |  | \$ -            | \$ -            | 3  |                 | \$ -            | \$ -            |
| 4  |   | \$ -                   | \$ -                   | 4  |  | \$ -            | \$ -            | 4  |                 | \$ -            | \$ -            |
| 5  |   | \$ -                   | \$ -                   | 5  |  | \$ -            | \$ -            | 5  |                 | \$ -            | \$ -            |
| 6  |   | \$ -                   | \$ -                   | 6  |  | \$ -            | \$ -            | 6  |                 | \$ -            | \$ -            |
| 7  | Seal                                    | \$ 77,726.02           | \$ 74,228.04           | 7  |  | \$ -            | \$ -            | 7  |                 | \$ -            | \$ -            |
| 8  |   | \$ -                   | \$ -                   | 8  |  | \$ -            | \$ -            | 8  | Crack Treatment | \$ 10,463.12    | \$ 9,926.72     |
| 9  |   | \$ -                   | \$ -                   | 9  |  | \$ -            | \$ -            | 9  |                 | \$ -            | \$ -            |
| 10   |   | \$ -                   | \$ -                   | 10   |  | \$ -            | \$ -            | 10   |                 | \$ -            | \$ -            |
| 11   |   | \$ -                   | \$ -                   | 11   |  | \$ -            | \$ -            | 11   |                 | \$ -            | \$ -            |
| 12   |   | \$ -                   | \$ -                   | 12   |  | \$ -            | \$ -            | 12   | Seal            | \$ 147,982.50   | \$ 136,749.97   |
| 13   |   | \$ -                   | \$ -                   | 13   |  | \$ -            | \$ -            | 13   |                 | \$ -            | \$ -            |
| 14   |   | \$ -                   | \$ -                   | 14   |  | \$ -            | \$ -            | 14   |                 | \$ -            | \$ -            |
| 15   | Mill/Overlay                            | \$ 2,456,797.35        | \$ 2,225,950.21        | 15   |  | \$ -            | \$ -            | 15   |                 | \$ -            | \$ -            |
| 16   |   | \$ -                   | \$ -                   | 16   |  | \$ -            | \$ -            | 16   |                 | \$ -            | \$ -            |
| 17   |   | \$ -                   | \$ -                   | 17   |  | \$ -            | \$ -            | 17   |                 | \$ -            | \$ -            |
| 18   | Crack Treatment                         | \$ 20,868.31           | \$ 18,537.98           | 18   |  | \$ -            | \$ -            | 18   |                 | \$ -            | \$ -            |
| 19   |   | \$ -                   | \$ -                   | 19   |  | \$ -            | \$ -            | 19   |                 | \$ -            | \$ -            |
| 20   |   | \$ -                   | \$ -                   | 20   | 1st CPR                                  | \$ 3,262,065.08 | \$ 2,859,921.42 | 20   | Mill/Overlay    | \$ 2,722,397.56 | \$ 2,386,783.50 |
| 21   |   | \$ -                   | \$ -                   | 21   |  | \$ -            | \$ -            | 21   |                 | \$ -            | \$ -            |
| 22   | Seal                                    | \$ 77,726.02           | \$ 67,253.37           | 22   |  | \$ -            | \$ -            | 22   |                 | \$ -            | \$ -            |
| 23   |   | \$ -                   | \$ -                   | 23   |  | \$ -            | \$ -            | 23   | Crack Treatment | \$ 20,868.31    | \$ 17,938.16    |
| 24   |   | \$ -                   | \$ -                   | 24   |  | \$ -            | \$ -            | 24   |                 | \$ -            | \$ -            |
| 25   |   | \$ -                   | \$ -                   | 25   |  | \$ -            | \$ -            | 25   |                 | \$ -            | \$ -            |
| 26   |   | \$ -                   | \$ -                   | 26   |  | \$ -            | \$ -            | 26   |                 | \$ -            | \$ -            |
| 27   |   | \$ -                   | \$ -                   | 27   |  | \$ -            | \$ -            | 27   | Seal            | \$ 77,726.02    | \$ 65,077.29    |
| 28   |   | \$ -                   | \$ -                   | 28   |  | \$ -            | \$ -            | 28   |                 | \$ -            | \$ -            |
| 29   | Mill/Overlay                            | \$ 2,456,797.35        | \$ 2,030,104.90        | 29   |  | \$ -            | \$ -            | 29   |                 | \$ -            | \$ -            |
| 30   |   | \$ -                   | \$ -                   | 30   |  | \$ -            | \$ -            | 30   |                 | \$ -            | \$ -            |
| 31   |   | \$ -                   | \$ -                   | 31   |  | \$ -            | \$ -            | 31   |                 | \$ -            | \$ -            |
| 32   | Crack Treatment                         | \$ 20,868.31           | \$ 16,906.96           | 32   |  | \$ -            | \$ -            | 32   |                 | \$ -            | \$ -            |
| 33   |   | \$ -                   | \$ -                   | 33   |  | \$ -            | \$ -            | 33   |                 | \$ -            | \$ -            |
| 34   |   | \$ -                   | \$ -                   | 34   |  | \$ -            | \$ -            | 34   |                 | \$ -            | \$ -            |
| 35   | Remaining Life                          | \$ (1,322,890.88)      | \$ (1,050,827.94)      | 35   | Remaining Life                           | \$ -            | \$ -            | 35   | Remaining Life  | \$ (320,282.07) | \$ (254,413.53) |
| Net Present Cost for Segment               |   | \$ 5,645,592.14        |                        | Net Present Cost for Segment               |  | \$ 9,186,189.98 |                 | Net Present Cost for Segment               |                 | \$ 6,100,987.24 |                 |
| Maintenance - Net Present Cost for Segment |   | \$ 3,402,614.03        |                        | Maintenance - Net Present Cost for Segment |  | \$ 2,859,921.42 |                 | Maintenance - Net Present Cost for Segment |                 | \$ 2,362,062.10 |                 |
| Equivalent Annual Cost                     |   | 181,179.09             |                        | Equivalent Annual Cost                     |  | 294,804.42      |                 | Equivalent Annual Cost                     |                 | 195,793.69      |                 |

| Total Lane Width       | # of Lanes       | Analysis Period | Total Lane Width       | # of Lanes       | Analysis Period | Total Lane Width       | # of Lanes       | Analysis Period |
|------------------------|------------------|-----------------|------------------------|------------------|-----------------|------------------------|------------------|-----------------|
| 24                     | 2                | 35              | 26                     | 2                | 35              | 24                     | 2                | 35              |
| Total Shldr Width      | # of Shldrs      | ML Mix          | Total Shldr Width      | # of Shldrs      | ML Mix          | Total Shldr Width      | # of Shldrs      | ML Mix          |
| 20                     | 2                | 12.5 WE (4,B)   | 18                     | 2                | 12.5 WE (4,B)   | 20                     | 2                | 12.5 WE (4,B)   |
| Rounding Agg. Width    | white/>7 milliom | SL Mix          | Rounding Agg. Width    | white/>7 milliom | SL Mix          | Rounding Agg. Width    | white/>7 milliom | SL Mix          |
| 3                      | No               | 12.5 WE (2,B)   | 3                      | No               | 12.5 WE (2,B)   | 3                      | No               | 12.5 WE (2,B)   |
| Sealed/UTBWC           | ML Thickness     |                 | Sealed/UTBWC           | ML Thickness     |                 | Sealed/UTBWC           | ML Thickness     |                 |
| No                     |                  |                 | No                     | 7                |                 | No                     |                  |                 |
| ML Top Lift/ft spacing |                  |                 | ML Top Lift/ft spacing |                  |                 | ML Top Lift/ft spacing |                  |                 |
| 15                     |                  |                 | 15                     |                  |                 | 2                      |                  |                 |
| Design Life            | Shldr Thickness  |                 | Design Life            | Shldr Thickness  |                 | Design Life            | Shldr Thickness  |                 |
| 15                     | 4                |                 | 20                     | 5                |                 | 20                     | 5                |                 |



50-Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| 2609-28        | 50              |
| Highway        | Discount Rate   |
| TH 55          | 1.22%           |
| Date           | Inflation Rate  |
| 4/13/2020      | 1               |
| Performed By   | la/(1+r)        |
| Nathan Bausman | 0.9879          |

Notes:

| LCCA SUMMARY                    |  |                           |                            |              |
|---------------------------------|--|---------------------------|----------------------------|--------------|
|                                 | Alternate #1                                   | Alternate #2              | Alternate #3               | Length       |
| Segment #1                      | 2" Mill, 10" Reclaim & 5.5" Bituminous Overlay | 2" Mill & 5" Whitetopping | 7" Concrete Reconstruction | 6.8          |
| Net Present Cost                | \$5,629,513.94                                 | \$7,504,665.10            | \$7,788,569.43             | 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        |
| <b>Project Net Present Cost</b> | <b>\$5,629,513.94</b>                          | <b>\$7,504,665.10</b>     | <b>\$7,788,569.43</b>      | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>                                  | <b>133.3%</b>             | <b>138.4%</b>              | <b>6.8</b>   |

| Segment 1                                  |  |                           |                           |  |                            |                        |                   |  |                |                 |                 |
|--|--|---------------------------|---------------------------|--|----------------------------|------------------------|-------------------|--|----------------|-----------------|-----------------|
| SEG  | Length   | SEG                       | Length                    | SEG  | Length                     |                        |                   |  |                |                 |                 |
| 1  | 6.757  | 1                         | 6.757                     | 1  | 6.757                      |                        |                   |  |                |                 |                 |
| ALT  | Description                                    | ALT                       | Description               | ALT  | Description                |                        |                   |  |                |                 |                 |
| 1  | 2" Mill, 10" Reclaim & 5.5" Bituminous Overlay | 2                         | 2" Mill & 5" Whitetopping | 3  | 7" Concrete Reconstruction |                        |                   |  |                |                 |                 |
| Pavement Type                              |  | Pavement Type             |                           | Pavement Type                              |                            |                        |                   |  |                |                 |                 |
| HMA  |  | PCC                       |                           | PCC  |                            |                        |                   |  |                |                 |                 |
| Primary Category                           |  | Primary Category          |                           | Primary Category                           |                            |                        |                   |  |                |                 |                 |
| 20-year HMA                                |  | 6'x6', 5.0 in. or Thinner |                           | > 11' Joint Spacing                        |                            |                        |                   |  |                |                 |                 |
| Secondary Category                         |  | Secondary Category        |                           | Secondary Category                         |                            |                        |                   |  |                |                 |                 |
| Rural                                      |  | Design Life = 20 years    |                           | Design Life = 35 years                     |                            |                        |                   |  |                |                 |                 |
| Shoulder Category                          |  | Shoulder Category         |                           | Shoulder Category                          |                            |                        |                   |  |                |                 |                 |
| Bituminous                                 |  | Thick Bit.                |                           | Thick Bit.                                 |                            |                        |                   |  |                |                 |                 |
| Notes:                                     |  | Notes:                    |                           | Notes:                                     |                            |                        |                   |  |                |                 |                 |
| Year                                       | Activity                                       | Cost                      | Present Cost              | Year                                       | Activity                   | Cost                   | Present Cost      | Year                                       | Activity       | Cost            | Present Cost    |
| 0  | Construction                                   | \$ 3,417,741.35           | \$ 3,417,741.35           | 0  | Construction               | \$ 3,387,257.47        | \$ 3,387,257.47   | 0  | Construction   | \$ 5,797,405.30 | \$ 5,797,405.30 |
| 1  |  | \$ -                      | \$ -                      | 1  |                            | \$ -                   | \$ -              | 1  |                | \$ -            | \$ -            |
| 2  |  | \$ -                      | \$ -                      | 2  |                            | \$ -                   | \$ -              | 2  |                | \$ -            | \$ -            |
| 3  |  | \$ -                      | \$ -                      | 3  |                            | \$ -                   | \$ -              | 3  |                | \$ -            | \$ -            |
| 4  |  | \$ -                      | \$ -                      | 4  |                            | \$ -                   | \$ -              | 4  |                | \$ -            | \$ -            |
| 5  |  | \$ -                      | \$ -                      | 5  |                            | \$ -                   | \$ -              | 5  |                | \$ -            | \$ -            |
| 6  |  | \$ -                      | \$ -                      | 6  |                            | \$ -                   | \$ -              | 6  |                | \$ -            | \$ -            |
| 7  | Crack Treatment                                | \$ 7,018.81               | \$ 6,369.90               | 7  |                            | \$ -                   | \$ -              | 7  |                | \$ -            | \$ -            |
| 8  |  | \$ -                      | \$ -                      | 8  |                            | \$ -                   | \$ -              | 8  |                | \$ -            | \$ -            |
| 9  |  | \$ -                      | \$ -                      | 9  |                            | \$ -                   | \$ -              | 9  |                | \$ -            | \$ -            |
| 10   |  | \$ -                      | \$ -                      | 10   |                            | \$ -                   | \$ -              | 10   |                | \$ -            | \$ -            |
| 11   |  | \$ -                      | \$ -                      | 11   |                            | \$ -                   | \$ -              | 11   |                | \$ -            | \$ -            |
| 12   | Seal   | \$ 105,618.27             | \$ 91,315.19              | 12   |                            | \$ -                   | \$ -              | 12   |                | \$ -            | \$ -            |
| 13   |  | \$ -                      | \$ -                      | 13   |                            | \$ -                   | \$ -              | 13   |                | \$ -            | \$ -            |
| 14   |  | \$ -                      | \$ -                      | 14   |                            | \$ -                   | \$ -              | 14   |                | \$ -            | \$ -            |
| 15   |  | \$ -                      | \$ -                      | 15   |                            | \$ -                   | \$ -              | 15   |                | \$ -            | \$ -            |
| 16   |  | \$ -                      | \$ -                      | 16   |                            | \$ -                   | \$ -              | 16   |                | \$ -            | \$ -            |
| 17   |  | \$ -                      | \$ -                      | 17   |                            | \$ -                   | \$ -              | 17   |                | \$ -            | \$ -            |
| 18   |  | \$ -                      | \$ -                      | 18   |                            | \$ -                   | \$ -              | 18   |                | \$ -            | \$ -            |
| 19   |  | \$ -                      | \$ -                      | 19   |                            | \$ -                   | \$ -              | 19   |                | \$ -            | \$ -            |
| 20   | Mill/Overlay                                   | \$ 1,676,473.51           | \$ 1,315,436.95           | 20   | 1st CPR                    | \$ 2,880,906.99        | \$ 2,260,489.93   | 20   | 1st CPR        | \$ 1,352,491.58 | \$ 1,061,226.07 |
| 21   |  | \$ -                      | \$ -                      | 21   |                            | \$ -                   | \$ -              | 21   |                | \$ -            | \$ -            |
| 22   |  | \$ -                      | \$ -                      | 22   |                            | \$ -                   | \$ -              | 22   |                | \$ -            | \$ -            |
| 23   | Crack Treatment                                | \$ 13,998.75              | \$ 10,591.65              | 23   |                            | \$ -                   | \$ -              | 23   |                | \$ -            | \$ -            |
| 24   |  | \$ -                      | \$ -                      | 24   |                            | \$ -                   | \$ -              | 24   |                | \$ -            | \$ -            |
| 25   |  | \$ -                      | \$ -                      | 25   |                            | \$ -                   | \$ -              | 25   |                | \$ -            | \$ -            |
| 26   |  | \$ -                      | \$ -                      | 26   |                            | \$ -                   | \$ -              | 26   |                | \$ -            | \$ -            |
| 27   | Seal   | \$ 63,230.46              | \$ 45,575.91              | 27   |                            | \$ -                   | \$ -              | 27   |                | \$ -            | \$ -            |
| 28   |  | \$ -                      | \$ -                      | 28   |                            | \$ -                   | \$ -              | 28   |                | \$ -            | \$ -            |
| 29   |  | \$ -                      | \$ -                      | 29   |                            | \$ -                   | \$ -              | 29   |                | \$ -            | \$ -            |
| 30   |  | \$ -                      | \$ -                      | 30   | R & R Mainline             | \$ 4,025,274.18        | \$ 2,797,727.93   | 30   |                | \$ -            | \$ -            |
| 31   |  | \$ -                      | \$ -                      | 31   |                            | \$ -                   | \$ -              | 31   |                | \$ -            | \$ -            |
| 32   |  | \$ -                      | \$ -                      | 32   |                            | \$ -                   | \$ -              | 32   |                | \$ -            | \$ -            |
| 33   |  | \$ -                      | \$ -                      | 33   |                            | \$ -                   | \$ -              | 33   |                | \$ -            | \$ -            |
| 34   |  | \$ -                      | \$ -                      | 34   |                            | \$ -                   | \$ -              | 34   |                | \$ -            | \$ -            |
| 35   |  | \$ -                      | \$ -                      | 35   |                            | \$ -                   | \$ -              | 35   | 2nd CPR        | \$ 1,421,594.30 | \$ 929,938.06   |
| 36   |  | \$ -                      | \$ -                      | 36   |                            | \$ -                   | \$ -              | 36   |                | \$ -            | \$ -            |
| 37   | Mill/Overlay                                   | \$ 1,365,810.46           | \$ 872,039.41             | 37   |                            | \$ -                   | \$ -              | 37   |                | \$ -            | \$ -            |
| 38   |  | \$ -                      | \$ -                      | 38   |                            | \$ -                   | \$ -              | 38   |                | \$ -            | \$ -            |
| 39   |  | \$ -                      | \$ -                      | 39   |                            | \$ -                   | \$ -              | 39   |                | \$ -            | \$ -            |
| 40   | Crack Treatment                                | \$ 13,998.75              | \$ 8,618.59               | 40   |                            | \$ -                   | \$ -              | 40   |                | \$ -            | \$ -            |
| 41   |  | \$ -                      | \$ -                      | 41   |                            | \$ -                   | \$ -              | 41   |                | \$ -            | \$ -            |
| 42   |  | \$ -                      | \$ -                      | 42   |                            | \$ -                   | \$ -              | 42   |                | \$ -            | \$ -            |
| 43   |  | \$ -                      | \$ -                      | 43   |                            | \$ -                   | \$ -              | 43   |                | \$ -            | \$ -            |
| 44   | Seal   | \$ 63,230.46              | \$ 37,085.81              | 44   |                            | \$ -                   | \$ -              | 44   |                | \$ -            | \$ -            |
| 45   |  | \$ -                      | \$ -                      | 45   |                            | \$ -                   | \$ -              | 45   |                | \$ -            | \$ -            |
| 46   |  | \$ -                      | \$ -                      | 46   |                            | \$ -                   | \$ -              | 46   |                | \$ -            | \$ -            |
| 47   |  | \$ -                      | \$ -                      | 47   |                            | \$ -                   | \$ -              | 47   |                | \$ -            | \$ -            |
| 48   |  | \$ -                      | \$ -                      | 48   |                            | \$ -                   | \$ -              | 48   |                | \$ -            | \$ -            |
| 49   |  | \$ -                      | \$ -                      | 49   |                            | \$ -                   | \$ -              | 49   |                | \$ -            | \$ -            |
| 50   | Remaining Life                                 | \$ (321,367.17)           | \$ (175,260.83)           | 50   | Remaining Life             | \$ (1,725,117.50)      | \$ (940,810.23)   | 50   | Remaining Life | \$ -            | \$ -            |
| Net Present Cost for Segment               |  | \$ 5,629,513.94           |                           | Net Present Cost for Segment               |                            | \$ 7,504,665.10        |                   | Net Present Cost for Segment               |                | \$ 7,788,569.43 |                 |
| Maintenance - Net Present Cost for Segment |  | \$ 2,211,772.59           |                           | Maintenance - Net Present Cost for Segment |                            | \$ 4,117,407.63        |                   | Maintenance - Net Present Cost for Segment |                | \$ 1,991,164.13 |                 |
| Equivalent Annual Cost                     |  | 151,064.76                |                           | Equivalent Annual Cost                     |                            | 201,383.36             |                   | Equivalent Annual Cost                     |                | 209,001.77      |                 |
| Total Lane Width                           | # of Lanes                                     | Analysis Period           | Total Lane Width          | # of Lanes                                 | Analysis Period            | Total Lane Width       | # of Lanes        | Analysis Period                            |                |                 |                 |
| 24   | 2  | 50                        | 24                        | 2  | 50                         | 26                     | 2                 | 50   |                |                 |                 |
| Total Shldr. Width                         | # of Shldr.                                    | ML Mix                    | Total Shldr. Width        | # of Shldr.                                | ML Mix                     | Total Shldr. Width     | # of Shldr.       | ML Mix                                     |                |                 |                 |
| 8  | 2  | 12.5 WE (3,B)             | 8                         | 2  | 12.5 WE (3,B)              | 6                      | 2                 | 12.5 WE (3,B)                              |                |                 |                 |
| Rounding Agg. Width                        | white/ >7 milliom                              | SL Mix                    | Rounding Agg. Width       | white/ >7 milliom                          | SL Mix                     | Rounding Agg. Width    | white/ >7 milliom | SL Mix                                     |                |                 |                 |
| 8  | No   | 12.5 WE (3,B)             | 8                         | Yes  | 12.5 WE (3,B)              | 8                      | No                | 12.5 WE (3,B)                              |                |                 |                 |
| Sealed/UTBWC                               | ML Thickness                                   | Sealed/UTBWC              | ML Thickness              | Sealed/UTBWC                               | ML Thickness               | Sealed/UTBWC           | ML Thickness      | Sealed/UTBWC                               |                |                 |                 |
| No   |  | Yes                       | 5                         | No   |                            | No                     |                   | 7  |                |                 |                 |
| ML Top Lift/It spacing                     | ML Top Lift/It spacing                         | ML Top Lift/It spacing    | 6                         | ML Top Lift/It spacing                     | ML Top Lift/It spacing     | ML Top Lift/It spacing | 15                | ML Top Lift/It spacing                     |                |                 |                 |
| 2.5  |  | Design Life               | Shldr. Thickness          | Design Life                                | Shldr. Thickness           | Design Life            | Shldr. Thickness  | Design Life                                |                |                 |                 |
| 20   | 5.5  | 20                        | 5                         | 35   | 4                          |                        |                   |  |                |                 |                 |

35-Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| 2724-126       | 35              |
| Highway        | Discount Rate   |
| 55             | 1.22%           |
| Date           | Inflation Rate  |
| 7/24/2019      | 1               |
| Performed By   | la/(1+r)        |
| EL             | 0.9879          |

Notes:

| LCCA SUMMARY                    |                       |                        |                       |              |
|---------------------------------|-----------------------|------------------------|-----------------------|--------------|
|                                 | Alternate #1          | Alternate #2           | Alternate #3          | Length       |
| Segment #1                      | 4" M&O                | Bituminous Reconstruct | Whitetopping          | 3.7          |
| Net Present Cost                | \$4,599,818.79        | \$8,105,486.05         | \$6,877,296.81        | 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        |
| <b>Project Net Present Cost</b> | <b>\$4,599,818.79</b> | <b>\$8,105,486.05</b>  | <b>\$6,877,296.81</b> | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>         | <b>176.2%</b>          | <b>149.5%</b>         | <b>3.7</b>   |

| Segment 1                                  |                   |                    |                        |  |                   |                 |                 |  |                   |                 |                 |
|--|-------------------|--------------------|------------------------|--|-------------------|-----------------|-----------------|--|-------------------|-----------------|-----------------|
| SEG  | Length            | SEG                | Length                 | SEG  | Length            |                 |                 |  |                   |                 |                 |
| 1  | 3.7               | 1                  | 3.7                    | 1  | 3.7               |                 |                 |  |                   |                 |                 |
| ALT  | Description       | ALT                | Description            | ALT  | Description       |                 |                 |  |                   |                 |                 |
| 1  | 4" M&O            | 2                  | Bituminous Reconstruct | 3  | Whitetopping      |                 |                 |  |                   |                 |                 |
| Pavement Type                              |                   | Pavement Type      |                        | Pavement Type                              |                   |                 |                 |  |                   |                 |                 |
| HMA  |                   | HMA                |                        | PCC  |                   |                 |                 |  |                   |                 |                 |
| Primary Category                           |                   | Primary Category   |                        | Primary Category                           |                   |                 |                 |  |                   |                 |                 |
| Overlay                                    |                   | 20-year HMA        |                        | 6'x6', 5.5 in. or Thicker                  |                   |                 |                 |  |                   |                 |                 |
| Secondary Category                         |                   | Secondary Category |                        | Secondary Category                         |                   |                 |                 |  |                   |                 |                 |
| Urban                                      |                   | Urban              |                        | Design Life = 20 years                     |                   |                 |                 |  |                   |                 |                 |
| Shoulder Category                          |                   | Shoulder Category  |                        | Shoulder Category                          |                   |                 |                 |  |                   |                 |                 |
| Thick Bit.                                 |                   | Thick Bit.         |                        | PCC  |                   |                 |                 |  |                   |                 |                 |
| Notes:                                     |                   | Notes:             |                        | Notes:                                     |                   |                 |                 |  |                   |                 |                 |
| Year                                       | Activity          | Cost               | Present Cost           | Year                                       | Activity          | Cost            | Present Cost    | Year                                       | Activity          | Cost            | Present Cost    |
| 0  | Construction      | \$ 2,331,686.90    | \$ 2,331,686.90        | 0  | Construction      | \$ 6,877,755.08 | \$ 6,877,755.08 | 0  | Construction      | \$ 5,702,223.20 | \$ 5,702,223.20 |
| 1  |                   | \$ -               | \$ -                   | 1  |                   | \$ -            | \$ -            | 1  |                   | \$ -            | \$ -            |
| 2  |                   | \$ -               | \$ -                   | 2  |                   | \$ -            | \$ -            | 2  |                   | \$ -            | \$ -            |
| 3  | Crack Treatment   | \$ 15,325.31       | \$ 14,777.82           | 3  |                   | \$ -            | \$ -            | 3  |                   | \$ -            | \$ -            |
| 4  |                   | \$ -               | \$ -                   | 4  |                   | \$ -            | \$ -            | 4  |                   | \$ -            | \$ -            |
| 5  |                   | \$ -               | \$ -                   | 5  |                   | \$ -            | \$ -            | 5  |                   | \$ -            | \$ -            |
| 6  |                   | \$ -               | \$ -                   | 6  |                   | \$ -            | \$ -            | 6  |                   | \$ -            | \$ -            |
| 7  | Seal              | \$ 66,393.66       | \$ 60,990.51           | 7  |                   | \$ -            | \$ -            | 7  |                   | \$ -            | \$ -            |
| 8  |                   | \$ -               | \$ -                   | 8  | Crack Treatment   | \$ 7,683.93     | \$ 6,973.53     | 8  |                   | \$ -            | \$ -            |
| 9  |                   | \$ -               | \$ -                   | 9  |                   | \$ -            | \$ -            | 9  |                   | \$ -            | \$ -            |
| 10   |                   | \$ -               | \$ -                   | 10   |                   | \$ -            | \$ -            | 10   |                   | \$ -            | \$ -            |
| 11   |                   | \$ -               | \$ -                   | 11   |                   | \$ -            | \$ -            | 11   |                   | \$ -            | \$ -            |
| 12   |                   | \$ -               | \$ -                   | 12   | Seal              | \$ 101,119.30   | \$ 87,425.49    | 12   |                   | \$ -            | \$ -            |
| 13   |                   | \$ -               | \$ -                   | 13   |                   | \$ -            | \$ -            | 13   |                   | \$ -            | \$ -            |
| 14   |                   | \$ -               | \$ -                   | 14   |                   | \$ -            | \$ -            | 14   |                   | \$ -            | \$ -            |
| 15   | Mill/Overlay      | \$ 1,705,057.63    | \$ 1,421,490.85        | 15   |                   | \$ -            | \$ -            | 15   |                   | \$ -            | \$ -            |
| 16   |                   | \$ -               | \$ -                   | 16   |                   | \$ -            | \$ -            | 16   |                   | \$ -            | \$ -            |
| 17   |                   | \$ -               | \$ -                   | 17   |                   | \$ -            | \$ -            | 17   |                   | \$ -            | \$ -            |
| 18   | Crack Treatment   | \$ 15,325.31       | \$ 12,320.13           | 18   |                   | \$ -            | \$ -            | 18   |                   | \$ -            | \$ -            |
| 19   |                   | \$ -               | \$ -                   | 19   |                   | \$ -            | \$ -            | 19   |                   | \$ -            | \$ -            |
| 20   |                   | \$ -               | \$ -                   | 20   | Mill/Overlay      | \$ 1,517,453.13 | \$ 1,190,662.36 | 20   | 1st CPR           | \$ 1,497,585.87 | \$ 1,175,073.61 |
| 21   |                   | \$ -               | \$ -                   | 21   |                   | \$ -            | \$ -            | 21   |                   | \$ -            | \$ -            |
| 22   | Seal              | \$ 66,393.66       | \$ 50,847.23           | 22   |                   | \$ -            | \$ -            | 22   |                   | \$ -            | \$ -            |
| 23   |                   | \$ -               | \$ -                   | 23   | Crack Treatment   | \$ 15,325.31    | \$ 11,595.34    | 23   |                   | \$ -            | \$ -            |
| 24   |                   | \$ -               | \$ -                   | 24   |                   | \$ -            | \$ -            | 24   |                   | \$ -            | \$ -            |
| 25   |                   | \$ -               | \$ -                   | 25   |                   | \$ -            | \$ -            | 25   |                   | \$ -            | \$ -            |
| 26   |                   | \$ -               | \$ -                   | 26   |                   | \$ -            | \$ -            | 26   |                   | \$ -            | \$ -            |
| 27   |                   | \$ -               | \$ -                   | 27   | Seal              | \$ 66,393.66    | \$ 47,855.92    | 27   |                   | \$ -            | \$ -            |
| 28   |                   | \$ -               | \$ -                   | 28   |                   | \$ -            | \$ -            | 28   |                   | \$ -            | \$ -            |
| 29   | Mill/Overlay      | \$ 1,985,026.55    | \$ 1,396,505.55        | 29   |                   | \$ -            | \$ -            | 29   |                   | \$ -            | \$ -            |
| 30   |                   | \$ -               | \$ -                   | 30   |                   | \$ -            | \$ -            | 30   |                   | \$ -            | \$ -            |
| 31   |                   | \$ -               | \$ -                   | 31   |                   | \$ -            | \$ -            | 31   |                   | \$ -            | \$ -            |
| 32   | Crack Treatment   | \$ 15,325.31       | \$ 10,396.49           | 32   |                   | \$ -            | \$ -            | 32   |                   | \$ -            | \$ -            |
| 33   |                   | \$ -               | \$ -                   | 33   |                   | \$ -            | \$ -            | 33   |                   | \$ -            | \$ -            |
| 34   |                   | \$ -               | \$ -                   | 34   |                   | \$ -            | \$ -            | 34   |                   | \$ -            | \$ -            |
| 35   | Remaining Life    | \$ (1,068,860.45)  | \$ (699,196.68)        | 35   | Remaining Life    | \$ (178,523.90) | \$ (116,781.68) | 35   | Remaining Life    | \$ -            | \$ -            |
| Net Present Cost for Segment               |                   | \$ 4,599,818.79    |                        | Net Present Cost for Segment               |                   | \$ 8,105,486.05 |                 | Net Present Cost for Segment               |                   | \$ 6,877,296.81 |                 |
| Maintenance - Net Present Cost for Segment |                   | \$ 2,268,131.89    |                        | Maintenance - Net Present Cost for Segment |                   | \$ 1,227,730.96 |                 | Maintenance - Net Present Cost for Segment |                   | \$ 1,175,073.61 |                 |
| Equivalent Annual Cost                     |                   | 162,261.19         |                        | Equivalent Annual Cost                     |                   | 285,925.58      |                 | Equivalent Annual Cost                     |                   | 242,600.51      |                 |
| Total Lane Width                           | # of Lanes        | Analysis Period    |                        | Total Lane Width                           | # of Lanes        | Analysis Period |                 | Total Lane Width                           | # of Lanes        | Analysis Period |                 |
| 48   | 4                 | 35                 |                        | 48   | 4                 | 35              |                 | 48   | 4                 | 35              |                 |
| Total Shldr Width                          | # of Shldrs       | ML Mix             |                        | Total Shldr Width                          | # of Shldrs       | ML Mix          |                 | Total Shldr Width                          | # of Shldrs       | ML Mix          |                 |
| 24   | 2                 | 12.5 WE (4,F)      |                        | 24   | 2                 | 12.5 WE (4,F)   |                 | 24   | 2                 |                 |                 |
| Rounding Agg. Width                        | white/ >7 milliom | SL Mix             |                        | Rounding Agg. Width                        | white/ >7 milliom | SL Mix          |                 | Rounding Agg. Width                        | white/ >7 milliom | SL Mix          |                 |
| 0  | No                | 12.5 WE (4,F)      |                        | 0  | No                | 12.5 WE (4,F)   |                 | 0  | Yes               |                 |                 |
| Sealed/UTBWC                               | ML Thickness      |                    |                        | Sealed/UTBWC                               | ML Thickness      |                 |                 | Sealed/UTBWC                               | ML Thickness      |                 |                 |
| No   |                   |                    |                        | No   |                   |                 |                 | No   | 6                 |                 |                 |
| ML Top Lift/It spacing                     |                   |                    |                        | ML Top Lift/It spacing                     |                   |                 |                 | ML Top Lift/It spacing                     |                   |                 |                 |
| 2  |                   |                    |                        | 2  |                   |                 |                 | 6  |                   |                 |                 |
| Design Life                                | Shldr Thickness   |                    |                        | Design Life                                | Shldr Thickness   |                 |                 | Design Life                                | Shldr Thickness   |                 |                 |
| 15   | 10                |                    |                        | 20   | 6                 |                 |                 | 20   | 6                 |                 |                 |



50-Year Analysis Period

| Project Number | Analysis Period |
|----------------|-----------------|
| 3101-38        | 50              |
| Highway        | Discount Rate   |
| 1              | 1.02%           |
| Date           | Inflation Rate  |
| 12/1/2020      | 1               |
| Performed By   | Ia/(1+r)        |
| Thorson        | 0.9899          |

Notes:

| LCCA SUMMARY                    |                       |                        |                        |              |
|---------------------------------|-----------------------|------------------------|------------------------|--------------|
|                                 | Alternate #1          | Alternate #2           | Alternate #3           | Length       |
| Segment #1                      | SFDR                  | Concrete - 35 year     | concrete - 20 year     | 17.4         |
| Net Present Cost                | \$8,924,453.75        | \$14,146,533.96        | \$13,802,741.28        | 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        |
| <b>Project Net Present Cost</b> | <b>\$8,924,453.75</b> | <b>\$14,146,533.96</b> | <b>\$13,802,741.28</b> | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>         | <b>158.5%</b>          | <b>154.7%</b>          | <b>17.4</b>  |

| Segment 1                                  |                 |                        |                    |  |                    |                  |                 |  |                |                   |                   |
|--|-----------------|------------------------|--------------------|--|--------------------|------------------|-----------------|--|----------------|-------------------|-------------------|
| SEG  | Length          | SEG                    | Length             | SEG  | Length             |                  |                 |  |                |                   |                   |
| 1  | 17.424          | 1                      | 17.424             | 1  | 17.424             |                  |                 |  |                |                   |                   |
| ALT  | Description     | ALT                    | Description        | ALT  | Description        |                  |                 |  |                |                   |                   |
| 1  | SFDR            | 2                      | Concrete - 35 year | 3  | concrete - 20 year |                  |                 |  |                |                   |                   |
| Pavement Type                              |                 | Pavement Type          |                    | Pavement Type                              |                    |                  |                 |  |                |                   |                   |
| HMA  |                 | PCC                    |                    | PCC  |                    |                  |                 |  |                |                   |                   |
| Primary Category                           |                 | Primary Category       |                    | Primary Category                           |                    |                  |                 |  |                |                   |                   |
| 20-year HMA                                |                 | > 11' Joint Spacing    |                    | > 11' Joint Spacing                        |                    |                  |                 |  |                |                   |                   |
| Secondary Category                         |                 | Secondary Category     |                    | Secondary Category                         |                    |                  |                 |  |                |                   |                   |
| Rural                                      |                 | Design Life = 35 years |                    | Design Life = 20 years                     |                    |                  |                 |  |                |                   |                   |
| Shoulder Category                          |                 | Shoulder Category      |                    | Shoulder Category                          |                    |                  |                 |  |                |                   |                   |
| Bituminous                                 |                 | Aggregate              |                    | Aggregate                                  |                    |                  |                 |  |                |                   |                   |
| Notes:                                     |                 | Notes:                 |                    | Notes:                                     |                    |                  |                 |  |                |                   |                   |
| Year                                       | Activity        | Cost                   | Present Cost       | Year                                       | Activity           | Cost             | Present Cost    | Year                                       | Activity       | Cost              | Present Cost      |
| 0  | Construction    | \$ 4,773,626.63        | \$ 4,773,626.63    | 0  | Construction       | \$ 9,498,747.28  | \$ 9,498,747.28 | 0  | Construction   | \$ 6,359,977.99   | \$ 6,359,977.99   |
| 1  |                 | \$ -                   | \$ -               | 1  |                    | \$ -             | \$ -            | 1  |                | \$ -              | \$ -              |
| 2  |                 | \$ -                   | \$ -               | 2  |                    | \$ -             | \$ -            | 2  |                | \$ -              | \$ -              |
| 3  |                 | \$ -                   | \$ -               | 3  |                    | \$ -             | \$ -            | 3  |                | \$ -              | \$ -              |
| 4  |                 | \$ -                   | \$ -               | 4  |                    | \$ -             | \$ -            | 4  |                | \$ -              | \$ -              |
| 5  |                 | \$ -                   | \$ -               | 5  |                    | \$ -             | \$ -            | 5  |                | \$ -              | \$ -              |
| 6  |                 | \$ -                   | \$ -               | 6  |                    | \$ -             | \$ -            | 6  |                | \$ -              | \$ -              |
| 7  |                 | \$ -                   | \$ -               | 7  |                    | \$ -             | \$ -            | 7  |                | \$ -              | \$ -              |
| 8  | Crack Treatment | \$ 18,030.67           | \$ 16,624.67       | 8  |                    | \$ -             | \$ -            | 8  |                | \$ -              | \$ -              |
| 9  |                 | \$ -                   | \$ -               | 9  |                    | \$ -             | \$ -            | 9  |                | \$ -              | \$ -              |
| 10   |                 | \$ -                   | \$ -               | 10   |                    | \$ -             | \$ -            | 10   |                | \$ -              | \$ -              |
| 11   |                 | \$ -                   | \$ -               | 11   |                    | \$ -             | \$ -            | 11   |                | \$ -              | \$ -              |
| 12   | Seal            | \$ 109,048.57          | \$ 96,545.41       | 12   |                    | \$ -             | \$ -            | 12   |                | \$ -              | \$ -              |
| 13   |                 | \$ -                   | \$ -               | 13   |                    | \$ -             | \$ -            | 13   |                | \$ -              | \$ -              |
| 14   |                 | \$ -                   | \$ -               | 14   |                    | \$ -             | \$ -            | 14   |                | \$ -              | \$ -              |
| 15   |                 | \$ -                   | \$ -               | 15   |                    | \$ -             | \$ -            | 15   |                | \$ -              | \$ -              |
| 16   |                 | \$ -                   | \$ -               | 16   |                    | \$ -             | \$ -            | 16   |                | \$ -              | \$ -              |
| 17   |                 | \$ -                   | \$ -               | 17   |                    | \$ -             | \$ -            | 17   |                | \$ -              | \$ -              |
| 18   |                 | \$ -                   | \$ -               | 18   |                    | \$ -             | \$ -            | 18   |                | \$ -              | \$ -              |
| 19   |                 | \$ -                   | \$ -               | 19   |                    | \$ -             | \$ -            | 19   |                | \$ -              | \$ -              |
| 20   | Mill/Overlay    | \$ 3,053,769.79        | \$ 2,492,809.04    | 20   | 1st CPR            | \$ 2,760,210.22  | \$ 2,253,174.75 | 20   | 1st CPR        | \$ 4,156,947.22   | \$ 3,393,338.83   |
| 21   |                 | \$ -                   | \$ -               | 21   |                    | \$ -             | \$ -            | 21   |                | \$ -              | \$ -              |
| 22   |                 | \$ -                   | \$ -               | 22   |                    | \$ -             | \$ -            | 22   |                | \$ -              | \$ -              |
| 23   | Crack Treatment | \$ 35,961.49           | \$ 28,475.30       | 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   | 2nd CPR            | \$ 3,415,803.57  | \$ 2,394,611.93 | 35   | R & R Mainline | \$ 7,355,543.48   | \$ 5,156,523.73   |
| 36   |                 | \$ -                   | \$ -               | 36   |                    | \$ -             | \$ -            | 36   |                | \$ -              | \$ -              |
| 37   | Mill/Overlay    | \$ 2,736,883.71        | \$ 1,880,112.64    | 37   |                    | \$ -             | \$ -            | 37   |                | \$ -              | \$ -              |
| 38   |                 | \$ -                   | \$ -               | 38   |                    | \$ -             | \$ -            | 38   |                | \$ -              | \$ -              |
| 39   |                 | \$ -                   | \$ -               | 39   |                    | \$ -             | \$ -            | 39   |                | \$ -              | \$ -              |
| 40   | Crack Treatment | \$ 35,961.49           | \$ 23,963.11       | 40   |                    | \$ -             | \$ -            | 40   |                | \$ -              | \$ -              |
| 41   |                 | \$ -                   | \$ -               | 41   |                    | \$ -             | \$ -            | 41   |                | \$ -              | \$ -              |
| 42   |                 | \$ -                   | \$ -               | 42   |                    | \$ -             | \$ -            | 42   |                | \$ -              | \$ -              |
| 43   |                 | \$ -                   | \$ -               | 43   |                    | \$ -             | \$ -            | 43   |                | \$ -              | \$ -              |
| 44   | Seal            | \$ -                   | \$ -               | 44   |                    | \$ -             | \$ -            | 44   |                | \$ -              | \$ -              |
| 45   |                 | \$ -                   | \$ -               | 45   |                    | \$ -             | \$ -            | 45   |                | \$ -              | \$ -              |
| 46   |                 | \$ -                   | \$ -               | 46   |                    | \$ -             | \$ -            | 46   |                | \$ -              | \$ -              |
| 47   |                 | \$ -                   | \$ -               | 47   |                    | \$ -             | \$ -            | 47   |                | \$ -              | \$ -              |
| 48   |                 | \$ -                   | \$ -               | 48   |                    | \$ -             | \$ -            | 48   |                | \$ -              | \$ -              |
| 49   |                 | \$ -                   | \$ -               | 49   |                    | \$ -             | \$ -            | 49   |                | \$ -              | \$ -              |
| 50   | Remaining Life  | \$ (643,972.64)        | \$ (387,703.04)    | 50   | Remaining Life     | \$ -             | \$ -            | 50   | Remaining Life | \$ (1,838,885.87) | \$ (1,107,099.28) |
| Net Present Cost for Segment               |                 | \$ 8,924,453.75        |                    | Net Present Cost for Segment               |                    | \$ 14,146,533.96 |                 | Net Present Cost for Segment               |                | \$ 13,802,741.28  |                   |
| Maintenance - Net Present Cost for Segment |                 | \$ 4,150,827.13        |                    | Maintenance - Net Present Cost for Segment |                    | \$ 4,647,786.68  |                 | Maintenance - Net Present Cost for Segment |                | \$ 7,442,763.29   |                   |
| Equivalent Annual Cost                     |                 | 228,745.28             |                    | Equivalent Annual Cost                     |                    | 362,593.94       |                 | Equivalent Annual Cost                     |                | 353,782.09        |                   |

| Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period |
|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|
| 24                     | 2                 | 50              | 24                     | 2                 | 50              | 24                     | 2                 | 50              |
| Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          |
| 4                      | 2                 | 9.5 WE (3,B)    | 0                      | 0                 | 9.5 WE (3,B)    | 0                      | 0                 |                 |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 3                      | Yes               | 9.5 WE (3,B)    | 7                      | No                | 9.5 WE (3,B)    | 11                     | No                |                 |
| Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 |
| No                     |                   |                 | No                     | 6                 |                 | No                     | 6                 |                 |
| ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 |
| 2                      |                   |                 | 15                     |                   |                 | 15                     |                   |                 |
| Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 |
| 20                     | 2                 |                 | 35                     | 0                 |                 | 20                     | 0                 |                 |

35-Year Analysis Period

|                           |            |
|---------------------------|------------|
| <b>Project Number</b>     | 1104-82    |
| <b>Analysis Period</b>    | 35         |
| <b>Highway</b>            | 35         |
| <b>Discount Rate</b>      | 6.6%       |
| <b>Date</b>               | 12/21/2011 |
| <b>Inflation Rate</b>     | 1          |
| <b>Performed By</b>       | IS/(LW)    |
| <b>North Number/Title</b> | 0.99.04    |

Notes: Due to soft subgrade, only a HMA reconstruct alternate will have a 20 year HMA design life

| LCCA SUMMARY                    |                |                    |                  |              |
|---------------------------------|----------------|--------------------|------------------|--------------|
|                                 | Alternate #1   | Alternate #2       | Alternate #3     | Length       |
| <b>Segment #1</b>               | 5' M&O         | 5' HMA Reconstruct | 20 year concrete | 3.6 miles    |
| <b>Net Present Cost</b>         | \$1,944,417.75 | \$4,270,360.81     | \$1,944,260.77   |              |
| <b>Segment #2</b>               | 5' M&O         | 5' HMA Reconstruct | 20 year concrete | 2.6 miles    |
| <b>Net Present Cost</b>         | \$1,833,482.81 | \$3,098,871.68     | \$2,874,812.16   |              |
| <b>Segment #3</b>               |                |                    |                  | 0.0 miles    |
| <b>Net Present Cost</b>         |                |                    |                  |              |
| <b>Segment #4</b>               |                |                    |                  | 0.0 miles    |
| <b>Net Present Cost</b>         |                |                    |                  |              |
| <b>Project Net Present Cost</b> | \$4,376,920.57 | \$7,294,232.49     | \$6,769,872.43   | <b>Total</b> |
| <b>% of Low Cost</b>            | 100.0%         | 166.7%             | 154.7%           | <b>6.2</b>   |

| Segment 1                                  |                 |                 |                    |                          |  |                 |                 |  |                 |
|--|-----------------|-----------------|--------------------|--------------------------|--|-----------------|-----------------|--|-----------------|
| SEG  | Length          |                 | SEG                | Length                   |  |                 |                 |  |                 |
| 1  | 3.6             |                 | 1                  | 3.6                      |  |                 |                 |  |                 |
| ALT  | Description     |                 | ALT                | Description              |  |                 |                 |  |                 |
| 1  | 5' M&O          |                 | 2                  | 5' HMA Reconstruct       |  |                 |                 |  |                 |
| Pavement Type                              | M&O             |                 | Pavement Type      | HMA                      |  |                 |                 |  |                 |
| Primary Category                           | HMA             |                 | Primary Category   | PCC                      |  |                 |                 |  |                 |
| Secondary Category                         | 20 year HMA     |                 | Secondary Category | 6"x4' 5.0 in. or Thinner |  |                 |                 |  |                 |
| Shoulder Category                          | Blot/Brown      |                 | Shoulder Category  | Blot/Brown               |  |                 |                 |  |                 |
| Notes:                                     |                 |                 | Notes:             |                          |  |                 |                 |  |                 |
| Year                                       | Activity        | Cost            | Present Cost       | Year                     | Activity                                   | Cost            | Present Cost    |  |                 |
| 0  | Construction    | \$ 1,542,219.98 | \$ 1,542,219.98    | 0                        | Construction                               | \$ 3,454,863.52 | \$ 3,454,863.52 |  |                 |
| 1  |                 | \$ -            | \$ -               | 1                        |  | \$ -            | \$ -            |  |                 |
| 2  |                 | \$ -            | \$ -               | 2                        |  | \$ -            | \$ -            |  |                 |
| 3  | Crack Treatment | \$ 7,460.83     | \$ 7,315.04        | 3                        |  | \$ -            | \$ -            |  |                 |
| 4  |                 | \$ -            | \$ -               | 4                        |  | \$ -            | \$ -            |  |                 |
| 5  |                 | \$ -            | \$ -               | 5                        |  | \$ -            | \$ -            |  |                 |
| 6  |                 | \$ -            | \$ -               | 6                        |  | \$ -            | \$ -            |  |                 |
| 7  | Seal            | \$ 27,605.09    | \$ 26,362.75       | 7                        | Crack Treatment                            | \$ 3,740.77     | \$ 3,549.00     |  |                 |
| 8  |                 | \$ -            | \$ -               | 8                        |  | \$ -            | \$ -            |  |                 |
| 9  |                 | \$ -            | \$ -               | 9                        |  | \$ -            | \$ -            |  |                 |
| 10   |                 | \$ -            | \$ -               | 10                       |  | \$ -            | \$ -            |  |                 |
| 11   |                 | \$ -            | \$ -               | 11                       | Seal                                       | \$ 12,721.20    | \$ 12,319.42    |  |                 |
| 12   |                 | \$ -            | \$ -               | 12                       |  | \$ -            | \$ -            |  |                 |
| 13   |                 | \$ -            | \$ -               | 13                       |  | \$ -            | \$ -            |  |                 |
| 14   |                 | \$ -            | \$ -               | 14                       |  | \$ -            | \$ -            |  |                 |
| 15   |                 | \$ -            | \$ -               | 15                       |  | \$ -            | \$ -            |  |                 |
| 16   | M/I/Overlay     | \$ 809,303.47   | \$ 728,451.41      | 16                       |  | \$ -            | \$ -            |  |                 |
| 17   |                 | \$ -            | \$ -               | 17                       |  | \$ -            | \$ -            |  |                 |
| 18   |                 | \$ -            | \$ -               | 18                       |  | \$ -            | \$ -            |  |                 |
| 19   | Crack Treatment | \$ 7,460.83     | \$ 6,584.24        | 19                       |  | \$ -            | \$ -            |  |                 |
| 20   |                 | \$ -            | \$ -               | 20                       | M/I/Overlay                                | \$ 892,034.19   | \$ 782,065.23   |  |                 |
| 21   |                 | \$ -            | \$ -               | 21                       |  | \$ -            | \$ -            |  |                 |
| 22   |                 | \$ -            | \$ -               | 22                       |  | \$ -            | \$ -            |  |                 |
| 23   |                 | \$ -            | \$ -               | 23                       | Crack Treatment                            | \$ 7,460.83     | \$ 6,413.25     |  |                 |
| 24   | Seal            | \$ 27,605.09    | \$ 23,729.02       | 24                       |  | \$ -            | \$ -            |  |                 |
| 25   |                 | \$ -            | \$ -               | 25                       |  | \$ -            | \$ -            |  |                 |
| 26   |                 | \$ -            | \$ -               | 26                       |  | \$ -            | \$ -            |  |                 |
| 27   |                 | \$ -            | \$ -               | 27                       | Seal                                       | \$ 27,605.09    | \$ 23,112.78    |  |                 |
| 28   |                 | \$ -            | \$ -               | 28                       |  | \$ -            | \$ -            |  |                 |
| 29   |                 | \$ -            | \$ -               | 29                       |  | \$ -            | \$ -            |  |                 |
| 30   |                 | \$ -            | \$ -               | 30                       |  | \$ -            | \$ -            |  |                 |
| 31   | M/I/Overlay     | \$ 809,303.47   | \$ 660,004.20      | 31                       |  | \$ -            | \$ -            |  |                 |
| 32   |                 | \$ -            | \$ -               | 32                       |  | \$ -            | \$ -            |  |                 |
| 33   |                 | \$ -            | \$ -               | 33                       |  | \$ -            | \$ -            |  |                 |
| 34   | Crack Treatment | \$ 7,460.83     | \$ 5,965.57        | 34                       |  | \$ -            | \$ -            |  |                 |
| 35   | Remaining Life  | \$ (578,073.91) | \$ (469,188.61)    | 35                       | Remaining Life                             | \$ (104,945.20) | \$ (83,962.39)  |  |                 |
| Net Present Cost for Segment               |                 |                 |                    | \$ 2,543,437.25          | Net Present Cost for Segment               |                 |                 |  | \$ 4,723,360.81 |
| Maintenance - Net Present Cost for Segment |                 |                 |                    | \$ 999,213.77            | Maintenance - Net Present Cost for Segment |                 |                 |  | \$ 789,977.23   |
| Equivalent Annual Cost                     |                 |                 |                    | \$1,660.02               | Equivalent Annual Cost                     |                 |                 |  | \$3,921.76      |

| Total Lane Width       | # of Lanes         | Analysis Period | Total Lane Width       | # of Lanes         | Analysis Period |
|------------------------|--------------------|-----------------|------------------------|--------------------|-----------------|
| 24                     | 2                  | 35              | 24                     | 2                  | 35              |
| Total Shoulder Width   | # of Shoulders     | ML Mix          | Total Shoulder Width   | # of Shoulders     | ML Mix          |
| 16                     | 2                  | 12.5 WE (1,C)   | 16                     | 2                  | 12.5 WE (1,C)   |
| Rounding Agg. Width    | whit/175 millium   | SL Mix          | Rounding Agg. Width    | whit/175 millium   | SL Mix          |
| 3                      | No                 | 12.5 WE (1,C)   | 3                      | No                 | 12.5 WE (1,C)   |
| Sealed/UTBWC           | ML Thickness       |                 | Sealed/UTBWC           | ML Thickness       |                 |
| No                     | No                 |                 | No                     | No                 |                 |
| ML Top Lift/It spacing |                    |                 | ML Top Lift/It spacing |                    |                 |
| 1.5                    | 2                  |                 | 6                      | 5                  |                 |
| Design Life            | Shoulder Thickness |                 | Design Life            | Shoulder Thickness |                 |
| 16                     | 6                  |                 | 20                     | 4                  |                 |

| Segment 2                                  |                 |                 |                    |                          |  |                 |                 |  |                 |
|--|-----------------|-----------------|--------------------|--------------------------|--|-----------------|-----------------|--|-----------------|
| SEG  | Length          |                 | SEG                | Length                   |  |                 |                 |  |                 |
| 2  | 2.6             |                 | 2                  | 2.6                      |  |                 |                 |  |                 |
| ALT  | Description     |                 | ALT                | Description              |  |                 |                 |  |                 |
| 1  | 5' M&O          |                 | 2                  | 5' HMA Reconstruct       |  |                 |                 |  |                 |
| Pavement Type                              | M&O             |                 | Pavement Type      | HMA                      |  |                 |                 |  |                 |
| Primary Category                           | HMA             |                 | Primary Category   | PCC                      |  |                 |                 |  |                 |
| Secondary Category                         | 20 year HMA     |                 | Secondary Category | 6"x4' 5.0 in. or Thinner |  |                 |                 |  |                 |
| Shoulder Category                          | Blot/Brown      |                 | Shoulder Category  | Blot/Brown               |  |                 |                 |  |                 |
| Notes:                                     |                 |                 | Notes:             |                          |  |                 |                 |  |                 |
| Year                                       | Activity        | Cost            | Present Cost       | Year                     | Activity                                   | Cost            | Present Cost    |  |                 |
| 0  | Construction    | \$ 1,113,821.21 | \$ 1,113,821.21    | 0                        | Construction                               | \$ 2,495,179.21 | \$ 2,495,179.21 |  |                 |
| 1  |                 | \$ -            | \$ -               | 1                        |  | \$ -            | \$ -            |  |                 |
| 2  |                 | \$ -            | \$ -               | 2                        |  | \$ -            | \$ -            |  |                 |
| 3  | Crack Treatment | \$ 5,388.38     | \$ 5,283.08        | 3                        |  | \$ -            | \$ -            |  |                 |
| 4  |                 | \$ -            | \$ -               | 4                        |  | \$ -            | \$ -            |  |                 |
| 5  |                 | \$ -            | \$ -               | 5                        |  | \$ -            | \$ -            |  |                 |
| 6  |                 | \$ -            | \$ -               | 6                        |  | \$ -            | \$ -            |  |                 |
| 7  | Seal            | \$ 19,937.01    | \$ 19,095.76       | 7                        | Crack Treatment                            | \$ 2,701.67     | \$ 2,583.17     |  |                 |
| 8  |                 | \$ -            | \$ -               | 8                        |  | \$ -            | \$ -            |  |                 |
| 9  |                 | \$ -            | \$ -               | 9                        |  | \$ -            | \$ -            |  |                 |
| 10   |                 | \$ -            | \$ -               | 10                       |  | \$ -            | \$ -            |  |                 |
| 11   |                 | \$ -            | \$ -               | 11                       | Seal                                       | \$ 38,076.42    | \$ 35,386.25    |  |                 |
| 12   |                 | \$ -            | \$ -               | 12                       |  | \$ -            | \$ -            |  |                 |
| 13   |                 | \$ -            | \$ -               | 13                       |  | \$ -            | \$ -            |  |                 |
| 14   |                 | \$ -            | \$ -               | 14                       |  | \$ -            | \$ -            |  |                 |
| 15   |                 | \$ -            | \$ -               | 15                       |  | \$ -            | \$ -            |  |                 |
| 16   | M/I/Overlay     | \$ 584,496.96   | \$ 526,103.80      | 16                       |  | \$ -            | \$ -            |  |                 |
| 17   |                 | \$ -            | \$ -               | 17                       |  | \$ -            | \$ -            |  |                 |
| 18   |                 | \$ -            | \$ -               | 18                       |  | \$ -            | \$ -            |  |                 |
| 19   | Crack Treatment | \$ 5,388.38     | \$ 4,755.29        | 19                       |  | \$ -            | \$ -            |  |                 |
| 20   |                 | \$ -            | \$ -               | 20                       | M/I/Overlay                                | \$ 644,246.89   | \$ 564,824.87   |  |                 |
| 21   |                 | \$ -            | \$ -               | 21                       |  | \$ -            | \$ -            |  |                 |
| 22   |                 | \$ -            | \$ -               | 22                       |  | \$ -            | \$ -            |  |                 |
| 23   | Seal            | \$ 19,937.01    | \$ 17,187.68       | 23                       | Crack Treatment                            | \$ 5,388.38     | \$ 4,881.79     |  |                 |
| 24   |                 | \$ -            | \$ -               | 24                       |  | \$ -            | \$ -            |  |                 |
| 25   |                 | \$ -            | \$ -               | 25                       |  | \$ -            | \$ -            |  |                 |
| 26   |                 | \$ -            | \$ -               | 26                       |  | \$ -            | \$ -            |  |                 |
| 27   |                 | \$ -            | \$ -               | 27                       | Seal                                       | \$ 19,937.01    | \$ 16,882.56    |  |                 |
| 28   |                 | \$ -            | \$ -               | 28                       |  | \$ -            | \$ -            |  |                 |
| 29   |                 | \$ -            | \$ -               | 29                       |  | \$ -            | \$ -            |  |                 |
| 30   |                 | \$ -            | \$ -               | 30                       | M/I/Overlay                                | \$ 584,496.96   | \$ 476,869.70   |  |                 |
| 31   |                 | \$ -            | \$ -               | 31                       |  | \$ -            | \$ -            |  |                 |
| 32   |                 | \$ -            | \$ -               | 32                       |  | \$ -            | \$ -            |  |                 |
| 33   |                 | \$ -            | \$ -               | 33                       | Crack Treatment                            | \$ 5,388.38     | \$ 4,308.47     |  |                 |
| 34   |                 | \$ -            | \$ -               | 34                       |  | \$ -            | \$ -            |  |                 |
| 35   | Remaining Life  | \$ (417,497.83) | \$ (331,636.11)    | 35                       | Remaining Life                             | \$ (75,793.71)  | \$ (60,206.17)  |  |                 |
| Net Present Cost for Segment               |                 |                 |                    | \$ 1,825,481.82          | Net Present Cost for Segment               |                 |                 |  | \$ 3,058,421.68 |
| Maintenance - Net Present Cost for Segment |                 |                 |                    | \$ 721,061.62            | Maintenance - Net Present Cost for Segment |                 |                 |  | \$ 614,682.47   |
| Equivalent Annual Cost                     |                 |                 |                    | \$8,404.56               | Equivalent Annual Cost                     |                 |                 |  | \$8,665.21      |

| Total Lane Width       | # of Lanes         | Analysis Period | Total Lane Width       | # of Lanes         | Analysis Period |
|------------------------|--------------------|-----------------|------------------------|--------------------|-----------------|
| 24                     | 2                  | 35              | 24                     | 2                  | 35              |
| Total Shoulder Width   | # of Shoulders     | ML Mix          | Total Shoulder Width   | # of Shoulders     | ML Mix          |
| 16                     | 2                  | 12.5 WE (1,C)   | 16                     | 2                  | 12.5 WE (1,C)   |
| Rounding Agg. Width    | whit/175 millium   | SL Mix          | Rounding Agg. Width    | whit/175 millium   | SL Mix          |
| 3                      | No                 | 12.5 WE (1,C)   | 3                      | No                 | 12.5 WE (1,C)   |
| Sealed/UTBWC           | ML Thickness       |                 | Sealed/UTBWC           | ML Thickness       |                 |
| No                     | No                 |                 | No                     | No                 |                 |
| ML Top Lift/It spacing |                    |                 | ML Top Lift/It spacing |                    |                 |
| 2                      | 2                  |                 | 6                      | 5                  |                 |
| Design Life            | Shoulder Thickness |                 | Design Life            | Shoulder Thickness |                 |
| 16                     | 6                  |                 | 20                     | 4                  |                 |

35-Year Analysis Period

| Project Number | Analysis Period |
|----------------|-----------------|
| 3609-42        | 35              |
| Highway        | Discount Rate   |
| 65             | 1.22%           |
| Date           | Inflation Rate  |
| 27-Mar-20      | 1               |
| Performed By   | la/(1+r)        |
| Amy Thorson    | 0.9879          |

Notes: Segment 2 was a 2" overlay, which can be considered a maintenance overlay, so not included in analysis.  
 Alternate #1 was selected over 3 due to constructability concerns with reclaim due to buried stumps within subgrade.

| LCCA SUMMARY                    |                              |                        |                       |              |
|---------------------------------|------------------------------|------------------------|-----------------------|--------------|
|                                 | Alternate #1                 | Alternate #2           | Alternate #3          | Length       |
| Segment #1                      | Mill 2", Reclaim, Overlay 4" | Concrete               | Mill 2" & Overlay 4"  | 23.6         |
| Net Present Cost                | \$8,099,806.43               | \$13,455,739.49        | \$8,472,557.27        | 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        |
| <b>Project Net Present Cost</b> | <b>\$8,099,806.43</b>        | <b>\$13,455,739.49</b> | <b>\$8,472,557.27</b> | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>                | <b>166.1%</b>          | <b>104.6%</b>         | <b>23.6</b>  |

| Segment 1                                  |                              |                    |                    |  |                      |                  |                 |  |                 |                   |                   |
|--|------------------------------|--------------------|--------------------|--|----------------------|------------------|-----------------|--|-----------------|-------------------|-------------------|
| SEG  | Length                       | SEG                | Length             | SEG  | Length               |                  |                 |  |                 |                   |                   |
| 1  | 23.6                         | 1                  | 23.6               | 1  | 23.6                 |                  |                 |  |                 |                   |                   |
| ALT  | Description                  | ALT                | Description        | ALT  | Description          |                  |                 |  |                 |                   |                   |
| 1  | Mill 2", Reclaim, Overlay 4" | 2                  | Concrete           | 3  | Mill 2" & Overlay 4" |                  |                 |  |                 |                   |                   |
| Pavement Type                              | Pavement Type                | Pavement Type      | Pavement Type      | Pavement Type                              | Pavement Type        |                  |                 |  |                 |                   |                   |
| HMA  | PCC                          | HMA                | HMA                | HMA  | HMA                  |                  |                 |  |                 |                   |                   |
| Primary Category                           | Primary Category             | Primary Category   | Primary Category   | Primary Category                           | Primary Category     |                  |                 |  |                 |                   |                   |
| 20-year HMA                                | > 11' Joint Spacing          | 20-year HMA        | Overlay            | 20-year HMA                                | Overlay              |                  |                 |  |                 |                   |                   |
| Secondary Category                         | Secondary Category           | Secondary Category | Secondary Category | Secondary Category                         | Secondary Category   |                  |                 |  |                 |                   |                   |
| Rural                                      | Design Life = 20 years       | Rural              | Rural              | Rural                                      | Rural                |                  |                 |  |                 |                   |                   |
| Shoulder Category                          | Shoulder Category            | Shoulder Category  | Shoulder Category  | Shoulder Category                          | Shoulder Category    |                  |                 |  |                 |                   |                   |
| Aggregate                                  | Aggregate                    | Aggregate          | Aggregate          | Aggregate                                  | Aggregate            |                  |                 |  |                 |                   |                   |
| Notes:                                     |                              | Notes:             |                    | Notes:                                     |                      |                  |                 |  |                 |                   |                   |
|  |                              |                    |                    |  |                      |                  |                 |  |                 |                   |                   |
| Year                                       | Activity                     | Cost               | Present Cost       | Year                                       | Activity             | Cost             | Present Cost    | Year                                       | Activity        | Cost              | Present Cost      |
| 0  | Construction                 | \$ 5,059,706.59    | \$ 5,059,706.59    | 0  | Construction         | \$ 9,548,855.25  | \$ 9,548,855.25 | 0  | Construction    | \$ 4,192,653.05   | \$ 4,192,653.05   |
| 1  |                              | \$ -               | \$ -               | 1  |                      | \$ -             | \$ -            | 1  |                 | \$ -              | \$ -              |
| 2  |                              | \$ -               | \$ -               | 2  |                      | \$ -             | \$ -            | 2  |                 | \$ -              | \$ -              |
| 3  |                              | \$ -               | \$ -               | 3  |                      | \$ -             | \$ -            | 3  | Crack Treatment | \$ 46,629.99      | \$ 44,964.14      |
| 4  |                              | \$ -               | \$ -               | 4  |                      | \$ -             | \$ -            | 4  |                 | \$ -              | \$ -              |
| 5  |                              | \$ -               | \$ -               | 5  |                      | \$ -             | \$ -            | 5  |                 | \$ -              | \$ -              |
| 6  |                              | \$ -               | \$ -               | 6  |                      | \$ -             | \$ -            | 6  |                 | \$ -              | \$ -              |
| 7  |                              | \$ -               | \$ -               | 7  |                      | \$ -             | \$ -            | 7  | Seal            | \$ 177,056.79     | \$ 162,647.83     |
| 8  | Crack Treatment              | \$ 23,379.73       | \$ 21,218.21       | 8  |                      | \$ -             | \$ -            | 8  |                 | \$ -              | \$ -              |
| 9  |                              | \$ -               | \$ -               | 9  |                      | \$ -             | \$ -            | 9  |                 | \$ -              | \$ -              |
| 10   |                              | \$ -               | \$ -               | 10   |                      | \$ -             | \$ -            | 10   |                 | \$ -              | \$ -              |
| 11   |                              | \$ -               | \$ -               | 11   |                      | \$ -             | \$ -            | 11   |                 | \$ -              | \$ -              |
| 12   | Seal                         | \$ 304,433.22      | \$ 263,206.16      | 12   |                      | \$ -             | \$ -            | 12   |                 | \$ -              | \$ -              |
| 13   |                              | \$ -               | \$ -               | 13   |                      | \$ -             | \$ -            | 13   |                 | \$ -              | \$ -              |
| 14   |                              | \$ -               | \$ -               | 14   |                      | \$ -             | \$ -            | 14   |                 | \$ -              | \$ -              |
| 15   |                              | \$ -               | \$ -               | 15   |                      | \$ -             | \$ -            | 15   | Mill/Overlay    | \$ 3,263,844.60   | \$ 2,721,037.19   |
| 16   |                              | \$ -               | \$ -               | 16   |                      | \$ -             | \$ -            | 16   |                 | \$ -              | \$ -              |
| 17   |                              | \$ -               | \$ -               | 17   |                      | \$ -             | \$ -            | 17   |                 | \$ -              | \$ -              |
| 18   |                              | \$ -               | \$ -               | 18   |                      | \$ -             | \$ -            | 18   | Crack Treatment | \$ 46,629.99      | \$ 37,486.19      |
| 19   |                              | \$ -               | \$ -               | 19   |                      | \$ -             | \$ -            | 19   |                 | \$ -              | \$ -              |
| 20   | Mill/Overlay                 | \$ 3,663,733.48    | \$ 2,874,731.01    | 20   | 1st CPR              | \$ 4,979,172.85  | \$ 3,906,884.24 | 20   |                 | \$ -              | \$ -              |
| 21   |                              | \$ -               | \$ -               | 21   |                      | \$ -             | \$ -            | 21   |                 | \$ -              | \$ -              |
| 22   |                              | \$ -               | \$ -               | 22   |                      | \$ -             | \$ -            | 22   | Seal            | \$ 177,056.79     | \$ 135,598.00     |
| 23   | Crack Treatment              | \$ 46,629.99       | \$ 35,280.90       | 23   |                      | \$ -             | \$ -            | 23   |                 | \$ -              | \$ -              |
| 24   |                              | \$ -               | \$ -               | 24   |                      | \$ -             | \$ -            | 24   |                 | \$ -              | \$ -              |
| 25   |                              | \$ -               | \$ -               | 25   |                      | \$ -             | \$ -            | 25   |                 | \$ -              | \$ -              |
| 26   |                              | \$ -               | \$ -               | 26   |                      | \$ -             | \$ -            | 26   |                 | \$ -              | \$ -              |
| 27   | Seal                         | \$ 177,056.79      | \$ 127,620.84      | 27   |                      | \$ -             | \$ -            | 27   |                 | \$ -              | \$ -              |
| 28   |                              | \$ -               | \$ -               | 28   |                      | \$ -             | \$ -            | 28   |                 | \$ -              | \$ -              |
| 29   |                              | \$ -               | \$ -               | 29   |                      | \$ -             | \$ -            | 29   | Mill/Overlay    | \$ 3,263,844.60   | \$ 2,296,179.40   |
| 30   |                              | \$ -               | \$ -               | 30   |                      | \$ -             | \$ -            | 30   |                 | \$ -              | \$ -              |
| 31   |                              | \$ -               | \$ -               | 31   |                      | \$ -             | \$ -            | 31   |                 | \$ -              | \$ -              |
| 32   |                              | \$ -               | \$ -               | 32   |                      | \$ -             | \$ -            | 32   | Crack Treatment | \$ 46,629.99      | \$ 31,633.16      |
| 33   |                              | \$ -               | \$ -               | 33   |                      | \$ -             | \$ -            | 33   |                 | \$ -              | \$ -              |
| 34   |                              | \$ -               | \$ -               | 34   |                      | \$ -             | \$ -            | 34   |                 | \$ -              | \$ -              |
| 35   | Remaining Life               | \$ (431,027.47)    | \$ (281,957.27)    | 35   | Remaining Life       | \$ -             | \$ -            | 35   | Remaining Life  | \$ (1,757,454.78) | \$ (1,149,641.70) |
| Net Present Cost for Segment               |                              | \$ 8,099,806.43    |                    | Net Present Cost for Segment               |                      | \$ 13,455,739.49 |                 | Net Present Cost for Segment               |                 | \$ 8,472,557.27   |                   |
| Maintenance - Net Present Cost for Segment |                              | \$ 3,040,099.85    |                    | Maintenance - Net Present Cost for Segment |                      | \$ 3,906,884.24  |                 | Maintenance - Net Present Cost for Segment |                 | \$ 4,279,904.22   |                   |
| Equivalent Annual Cost                     |                              | 285,725.22         |                    | Equivalent Annual Cost                     |                      | 474,658.77       |                 | Equivalent Annual Cost                     |                 | 298,874.22        |                   |

| Total Lane Width       | # of Lanes       | Analysis Period | Total Lane Width       | # of Lanes       | Analysis Period | Total Lane Width       | # of Lanes       | Analysis Period |
|------------------------|------------------|-----------------|------------------------|------------------|-----------------|------------------------|------------------|-----------------|
| 23                     | 2                | 35              | 23                     | 2                | 35              | 23                     | 2                | 35              |
| Total Shldr Width      | # of Shldr       | ML Mix          | Total Shldr Width      | # of Shldr       | ML Mix          | Total Shldr Width      | # of Shldr       | ML Mix          |
| 3                      | 2                | 9.5 WE (3,B)    | 3                      | 2                | 9.5 WE (3,B)    | 3                      | 2                | 9.5 WE (3,B)    |
| Rounding Agg. Width    | white/>7 milliom | SL Mix          | Rounding Agg. Width    | white/>7 milliom | SL Mix          | Rounding Agg. Width    | white/>7 milliom | SL Mix          |
| 0                      | No               |                 | 0                      | No               |                 | 0                      | No               |                 |
| Sealed/UTBWC           | ML Thickness     |                 | Sealed/UTBWC           | ML Thickness     |                 | Sealed/UTBWC           | ML Thickness     |                 |
| No                     |                  |                 | No                     | 7                |                 | No                     |                  |                 |
| ML Top Lift/ft spacing |                  |                 | ML Top Lift/ft spacing |                  |                 | ML Top Lift/ft spacing |                  |                 |
| 2                      |                  |                 | 15                     |                  |                 | 2                      |                  |                 |
| Design Life            | Shldr Thickness  |                 | Design Life            | Shldr Thickness  |                 | Design Life            | Shldr Thickness  |                 |
| 20                     | 4                |                 | 20                     | 4                |                 | 15                     | 4                |                 |

|  |       |      |      |        |               |
|--|-------|------|------|--------|---------------|
| <p>Table 1: Summary of Key Metrics</p> |       |      |      |        |               |
| Category                               | Value | Unit | Year | Period | Notes         |
| Revenue                                | 1000  | USD  | 2023 | Q1     | Initial phase |
| Profit                                 | 200   | USD  | 2023 | Q1     | Stable growth |
| Market Share                           | 15%   | %    | 2023 | Q1     | Competitive   |
| Customer Satisfaction                  | 85%   | %    | 2023 | Q1     | High          |
| Employee Retention                     | 90%   | %    | 2023 | Q1     | Excellent     |
| <p>Table 2: Detailed Financials</p>    |       |      |      |        |               |
| Item                                   | Value | Unit | Year | Period | Notes         |
| Revenue                                | 1000  | USD  | 2023 | Q1     | Initial phase |
| Profit                                 | 200   | USD  | 2023 | Q1     | Stable growth |
| Market Share                           | 15%   | %    | 2023 | Q1     | Competitive   |
| Customer Satisfaction                  | 85%   | %    | 2023 | Q1     | High          |
| Employee Retention                     | 90%   | %    | 2023 | Q1     | Excellent     |

| Segment 1             |       |      |      |                       |       |      |      |                       |       |      |      |
|-----------------------|-------|------|------|-----------------------|-------|------|------|-----------------------|-------|------|------|
| Region A              |       |      |      | Region B              |       |      |      | Region C              |       |      |      |
| Item                  | Value | Unit | Year | Item                  | Value | Unit | Year | Item                  | Value | Unit | Year |
| Revenue               | 1000  | USD  | 2023 | Revenue               | 1000  | USD  | 2023 | Revenue               | 1000  | USD  | 2023 |
| Profit                | 200   | USD  | 2023 | Profit                | 200   | USD  | 2023 | Profit                | 200   | USD  | 2023 |
| Market Share          | 15%   | %    | 2023 | Market Share          | 15%   | %    | 2023 | Market Share          | 15%   | %    | 2023 |
| Customer Satisfaction | 85%   | %    | 2023 | Customer Satisfaction | 85%   | %    | 2023 | Customer Satisfaction | 85%   | %    | 2023 |
| Employee Retention    | 90%   | %    | 2023 | Employee Retention    | 90%   | %    | 2023 | Employee Retention    | 90%   | %    | 2023 |

| Segment 2             |       |      |      |                       |       |      |      |                       |       |      |      |
|-----------------------|-------|------|------|-----------------------|-------|------|------|-----------------------|-------|------|------|
| Region A              |       |      |      | Region B              |       |      |      | Region C              |       |      |      |
| Item                  | Value | Unit | Year | Item                  | Value | Unit | Year | Item                  | Value | Unit | Year |
| Revenue               | 1000  | USD  | 2023 | Revenue               | 1000  | USD  | 2023 | Revenue               | 1000  | USD  | 2023 |
| Profit                | 200   | USD  | 2023 | Profit                | 200   | USD  | 2023 | Profit                | 200   | USD  | 2023 |
| Market Share          | 15%   | %    | 2023 | Market Share          | 15%   | %    | 2023 | Market Share          | 15%   | %    | 2023 |
| Customer Satisfaction | 85%   | %    | 2023 | Customer Satisfaction | 85%   | %    | 2023 | Customer Satisfaction | 85%   | %    | 2023 |
| Employee Retention    | 90%   | %    | 2023 | Employee Retention    | 90%   | %    | 2023 | Employee Retention    | 90%   | %    | 2023 |

| Segment 3             |       |      |      |                       |       |      |      |                       |       |      |      |
|-----------------------|-------|------|------|-----------------------|-------|------|------|-----------------------|-------|------|------|
| Region A              |       |      |      | Region B              |       |      |      | Region C              |       |      |      |
| Item                  | Value | Unit | Year | Item                  | Value | Unit | Year | Item                  | Value | Unit | Year |
| Revenue               | 1000  | USD  | 2023 | Revenue               | 1000  | USD  | 2023 | Revenue               | 1000  | USD  | 2023 |
| Profit                | 200   | USD  | 2023 | Profit                | 200   | USD  | 2023 | Profit                | 200   | USD  | 2023 |
| Market Share          | 15%   | %    | 2023 | Market Share          | 15%   | %    | 2023 | Market Share          | 15%   | %    | 2023 |
| Customer Satisfaction | 85%   | %    | 2023 | Customer Satisfaction | 85%   | %    | 2023 | Customer Satisfaction | 85%   | %    | 2023 |
| Employee Retention    | 90%   | %    | 2023 | Employee Retention    | 90%   | %    | 2023 | Employee Retention    | 90%   | %    | 2023 |

| Segment 4             |       |      |      |                       |       |      |      |                       |       |      |      |
|-----------------------|-------|------|------|-----------------------|-------|------|------|-----------------------|-------|------|------|
| Region A              |       |      |      | Region B              |       |      |      | Region C              |       |      |      |
| Item                  | Value | Unit | Year | Item                  | Value | Unit | Year | Item                  | Value | Unit | Year |
| Revenue               | 1000  | USD  | 2023 | Revenue               | 1000  | USD  | 2023 | Revenue               | 1000  | USD  | 2023 |
| Profit                | 200   | USD  | 2023 | Profit                | 200   | USD  | 2023 | Profit                | 200   | USD  | 2023 |
| Market Share          | 15%   | %    | 2023 | Market Share          | 15%   | %    | 2023 | Market Share          | 15%   | %    | 2023 |
| Customer Satisfaction | 85%   | %    | 2023 | Customer Satisfaction | 85%   | %    | 2023 | Customer Satisfaction | 85%   | %    | 2023 |
| Employee Retention    | 90%   | %    | 2023 | Employee Retention    | 90%   | %    | 2023 | Employee Retention    | 90%   | %    | 2023 |





50-Year Analysis Period

| Project Number | Analysis Period |
|----------------|-----------------|
| 4701-32        | 50              |
| Highway        | Discount Rate   |
| MN 4           | 1.22%           |
| Date           | Inflation Rate  |
| 4/28/2020      | 1               |
| Performed By   | la/(1+r)        |
| Cody Brand     | 0.9879          |

Notes:

| LCCA SUMMARY                    |                                   |  |                               |              |
|---------------------------------|-----------------------------------|--|-------------------------------|--------------|
|                                 | Alternate #1                      | Alternate #2                           | Alternate #3                  | Length       |
| Segment #1                      | Milling, 6" SFDR & 3" HMA Overlay | Milling & 4.5" Bonded Concrete Overlay | Milling & 7" Concrete Overlay | 9.0          |
| Net Present Cost                | \$5,498,594.98                    | \$8,958,663.08                         | \$7,376,731.72                | 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        |
| <b>Project Net Present Cost</b> | <b>\$5,498,594.98</b>             | <b>\$8,958,663.08</b>                  | <b>\$7,376,731.72</b>         | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>                     | <b>162.9%</b>                          | <b>134.2%</b>                 | <b>9.0</b>   |

### Segment 1

| SEG  | Length                            | SEG                       | Length                                 | SEG  | Length                        |                   |                   |  |                |                 |                 |
|--|-----------------------------------|---------------------------|--|--|-------------------------------|-------------------|-------------------|--|----------------|-----------------|-----------------|
| 1  | 8.95                              | 1                         | 8.95                                   | 1  | 8.95                          |                   |                   |  |                |                 |                 |
| ALT  | Description                       | ALT                       | Description                            | ALT  | Description                   |                   |                   |  |                |                 |                 |
| 1  | Milling, 6" SFDR & 3" HMA Overlay | 2                         | Milling & 4.5" Bonded Concrete Overlay | 3  | Milling & 7" Concrete Overlay |                   |                   |  |                |                 |                 |
| Pavement Type                              |                                   | Pavement Type             |  | Pavement Type                              |                               |                   |                   |  |                |                 |                 |
| HMA  |                                   | PCC                       |  | PCC  |                               |                   |                   |  |                |                 |                 |
| Primary Category                           |                                   | Primary Category          |  | Primary Category                           |                               |                   |                   |  |                |                 |                 |
| 20-year HMA                                |                                   | 6"x6", 5.0 in. or Thinner |  | > 11' Joint Spacing                        |                               |                   |                   |  |                |                 |                 |
| Secondary Category                         |                                   | Secondary Category        |  | Secondary Category                         |                               |                   |                   |  |                |                 |                 |
| Rural                                      |                                   | Design Life = 20 years    |  | Design Life = 35 years                     |                               |                   |                   |  |                |                 |                 |
| Shoulder Category                          |                                   | Shoulder Category         |  | Shoulder Category                          |                               |                   |                   |  |                |                 |                 |
| Aggregate                                  |                                   | Aggregate                 |  | Aggregate                                  |                               |                   |                   |  |                |                 |                 |
| Notes:                                     |                                   | Notes:                    |  | Notes:                                     |                               |                   |                   |  |                |                 |                 |
| Year                                       | Activity                          | Cost                      | Present Cost                           | Year                                       | Activity                      | Cost              | Present Cost      | Year                                       | Activity       | Cost            | Present Cost    |
| 0  | Construction                      | \$ 3,266,184.50           | \$ 3,266,184.50                        | 0  | Construction                  | \$ 3,579,331.97   | \$ 3,579,331.97   | 0  | Construction   | \$ 4,822,504.04 | \$ 4,822,504.04 |
| 1  |                                   | \$ -                      | \$ -                                   | 1  |                               | \$ -              | \$ -              | 1  |                | \$ -            | \$ -            |
| 2  |                                   | \$ -                      | \$ -                                   | 2  |                               | \$ -              | \$ -              | 2  |                | \$ -            | \$ -            |
| 3  |                                   | \$ -                      | \$ -                                   | 3  |                               | \$ -              | \$ -              | 3  |                | \$ -            | \$ -            |
| 4  |                                   | \$ -                      | \$ -                                   | 4  |                               | \$ -              | \$ -              | 4  |                | \$ -            | \$ -            |
| 5  |                                   | \$ -                      | \$ -                                   | 5  |                               | \$ -              | \$ -              | 5  |                | \$ -            | \$ -            |
| 6  |                                   | \$ -                      | \$ -                                   | 6  |                               | \$ -              | \$ -              | 6  |                | \$ -            | \$ -            |
| 7  |                                   | \$ -                      | \$ -                                   | 7  |                               | \$ -              | \$ -              | 7  |                | \$ -            | \$ -            |
| 8  | Crack Treatment                   | \$ 10,827.38              | \$ 9,826.36                            | 8  |                               | \$ -              | \$ -              | 8  |                | \$ -            | \$ -            |
| 9  |                                   | \$ -                      | \$ -                                   | 9  |                               | \$ -              | \$ -              | 9  |                | \$ -            | \$ -            |
| 10   |                                   | \$ -                      | \$ -                                   | 10   |                               | \$ -              | \$ -              | 10   |                | \$ -            | \$ -            |
| 11   |                                   | \$ -                      | \$ -                                   | 11   |                               | \$ -              | \$ -              | 11   |                | \$ -            | \$ -            |
| 12   | Seal                              | \$ 146,776.19             | \$ 126,899.42                          | 12   |                               | \$ -              | \$ -              | 12   |                | \$ -            | \$ -            |
| 13   |                                   | \$ -                      | \$ -                                   | 13   |                               | \$ -              | \$ -              | 13   |                | \$ -            | \$ -            |
| 14   |                                   | \$ -                      | \$ -                                   | 14   |                               | \$ -              | \$ -              | 14   |                | \$ -            | \$ -            |
| 15   |                                   | \$ -                      | \$ -                                   | 15   |                               | \$ -              | \$ -              | 15   |                | \$ -            | \$ -            |
| 16   |                                   | \$ -                      | \$ -                                   | 16   |                               | \$ -              | \$ -              | 16   |                | \$ -            | \$ -            |
| 17   |                                   | \$ -                      | \$ -                                   | 17   |                               | \$ -              | \$ -              | 17   |                | \$ -            | \$ -            |
| 18   |                                   | \$ -                      | \$ -                                   | 18   |                               | \$ -              | \$ -              | 18   |                | \$ -            | \$ -            |
| 19   |                                   | \$ -                      | \$ -                                   | 19   |                               | \$ -              | \$ -              | 19   |                | \$ -            | \$ -            |
| 20   | Mill/Overlay                      | \$ 1,426,095.56           | \$ 1,118,979.08                        | 20   | 1st CPR                       | \$ 4,282,471.92   | \$ 3,360,221.18   | 20   | 1st CPR        | \$ 1,627,591.57 | \$ 1,277,081.96 |
| 21   |                                   | \$ -                      | \$ -                                   | 21   |                               | \$ -              | \$ -              | 21   |                | \$ -            | \$ -            |
| 22   |                                   | \$ -                      | \$ -                                   | 22   |                               | \$ -              | \$ -              | 22   |                | \$ -            | \$ -            |
| 23   | Crack Treatment                   | \$ 21,594.80              | \$ 16,338.93                           | 23   |                               | \$ -              | \$ -              | 23   |                | \$ -            | \$ -            |
| 24   |                                   | \$ -                      | \$ -                                   | 24   |                               | \$ -              | \$ -              | 24   |                | \$ -            | \$ -            |
| 25   |                                   | \$ -                      | \$ -                                   | 25   |                               | \$ -              | \$ -              | 25   |                | \$ -            | \$ -            |
| 26   |                                   | \$ -                      | \$ -                                   | 26   |                               | \$ -              | \$ -              | 26   |                | \$ -            | \$ -            |
| 27   | Seal                              | \$ 85,557.43              | \$ 61,668.97                           | 27   |                               | \$ -              | \$ -              | 27   |                | \$ -            | \$ -            |
| 28   |                                   | \$ -                      | \$ -                                   | 28   |                               | \$ -              | \$ -              | 28   |                | \$ -            | \$ -            |
| 29   |                                   | \$ -                      | \$ -                                   | 29   |                               | \$ -              | \$ -              | 29   |                | \$ -            | \$ -            |
| 30   |                                   | \$ -                      | \$ -                                   | 30   | R & R Mainline                | \$ 4,376,861.23   | \$ 3,042,095.11   | 30   |                | \$ -            | \$ -            |
| 31   |                                   | \$ -                      | \$ -                                   | 31   |                               | \$ -              | \$ -              | 31   |                | \$ -            | \$ -            |
| 32   |                                   | \$ -                      | \$ -                                   | 32   |                               | \$ -              | \$ -              | 32   |                | \$ -            | \$ -            |
| 33   |                                   | \$ -                      | \$ -                                   | 33   |                               | \$ -              | \$ -              | 33   |                | \$ -            | \$ -            |
| 34   |                                   | \$ -                      | \$ -                                   | 34   |                               | \$ -              | \$ -              | 34   |                | \$ -            | \$ -            |
| 35   |                                   | \$ -                      | \$ -                                   | 35   |                               | \$ -              | \$ -              | 35   |                | \$ -            | \$ -            |
| 36   |                                   | \$ -                      | \$ -                                   | 36   |                               | \$ -              | \$ -              | 36   | 2nd CPR        | \$ 1,952,369.91 | \$ 1,277,145.72 |
| 37   | Mill/Overlay                      | \$ 1,637,183.33           | \$ 1,045,304.92                        | 37   |                               | \$ -              | \$ -              | 37   |                | \$ -            | \$ -            |
| 38   |                                   | \$ -                      | \$ -                                   | 38   |                               | \$ -              | \$ -              | 38   |                | \$ -            | \$ -            |
| 39   |                                   | \$ -                      | \$ -                                   | 39   |                               | \$ -              | \$ -              | 39   |                | \$ -            | \$ -            |
| 40   | Crack Treatment                   | \$ 21,594.80              | \$ 13,295.23                           | 40   |                               | \$ -              | \$ -              | 40   |                | \$ -            | \$ -            |
| 41   |                                   | \$ -                      | \$ -                                   | 41   |                               | \$ -              | \$ -              | 41   |                | \$ -            | \$ -            |
| 42   |                                   | \$ -                      | \$ -                                   | 42   |                               | \$ -              | \$ -              | 42   |                | \$ -            | \$ -            |
| 43   |                                   | \$ -                      | \$ -                                   | 43   |                               | \$ -              | \$ -              | 43   |                | \$ -            | \$ -            |
| 44   | Seal                              | \$ 85,557.43              | \$ 50,180.97                           | 44   |                               | \$ -              | \$ -              | 44   |                | \$ -            | \$ -            |
| 45   |                                   | \$ -                      | \$ -                                   | 45   |                               | \$ -              | \$ -              | 45   |                | \$ -            | \$ -            |
| 46   |                                   | \$ -                      | \$ -                                   | 46   |                               | \$ -              | \$ -              | 46   |                | \$ -            | \$ -            |
| 47   |                                   | \$ -                      | \$ -                                   | 47   |                               | \$ -              | \$ -              | 47   |                | \$ -            | \$ -            |
| 48   |                                   | \$ -                      | \$ -                                   | 48   |                               | \$ -              | \$ -              | 48   |                | \$ -            | \$ -            |
| 49   |                                   | \$ -                      | \$ -                                   | 49   |                               | \$ -              | \$ -              | 49   |                | \$ -            | \$ -            |
| 50   | Remaining Life                    | \$ (385,219.61)           | \$ (210,083.40)                        | 50   | Remaining Life                | \$ (1,875,797.67) | \$ (1,022,985.18) | 50   | Remaining Life | \$ -            | \$ -            |
| Net Present Cost for Segment               |                                   | \$ 5,498,594.98           |  | Net Present Cost for Segment               |                               | \$ 8,958,663.08   |                   | Net Present Cost for Segment               |                | \$ 7,376,731.72 |                 |
| Maintenance - Net Present Cost for Segment |                                   | \$ 2,232,410.48           |  | Maintenance - Net Present Cost for Segment |                               | \$ 5,379,331.11   |                   | Maintenance - Net Present Cost for Segment |                | \$ 2,554,227.68 |                 |
| Equivalent Annual Cost                     |                                   | 147,551.63                |  | Equivalent Annual Cost                     |                               | 240,400.56        |                   | Equivalent Annual Cost                     |                | 197,950.34      |                 |

| Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period |
|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|
| 28                     | 2                 | 50              | 28                     | 2                 | 50              | 28                     | 2                 | 50              |
| Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          |
| 0                      | 0                 | 9.5 WE (3,B)    | 0                      | 0                 |                 | 0                      | 0                 |                 |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 4                      | No                |                 | 4                      | Yes               |                 | 4                      | Yes               |                 |
| Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 |
| No                     |                   |                 | Yes                    | 4.5               |                 | No                     |                   |                 |
| ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 |
| 1                      |                   |                 | 6                      |                   |                 | 15                     |                   |                 |
| Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 |
| 20                     | 0                 |                 | 20                     | 0                 |                 | 35                     | 0                 |                 |

50 Year Analysis Period

Table with 2 columns: Project Number, Analysis Period. Includes rows for Highway, Mileage, Date, and Cady Board.

Notes:

LCCA SUMMARY table showing Project Net Present Cost, % of Low Cost, and other financial metrics.

Segment 1 data table with columns for Year, Activity, Cost, Present Cost. Includes a detailed timeline from Year 1 to 50 and a summary table at the bottom.

Segment 2 data table with columns for Year, Activity, Cost, Present Cost. Includes a detailed timeline from Year 1 to 50 and a summary table at the bottom.

35-Year Analysis Period

| Project Number | Analysis Period |
|----------------|-----------------|
| 5080-173       | 35              |
| Highway        | Discount Rate   |
| 90 EB          | 1.02%           |
| Date           | Inflation Rate  |
| 2/16/2021      | 1               |
| Performed By   | la/(1+r)        |
| trm            | 0.9899          |

I-90 EB From 2.5 Mi. E. CSAH 1 to 0.9 Mi. E. TH 63

| LCCA SUMMARY                    |                           |   |  |              |
|---------------------------------|---------------------------|---|--|--------------|
|                                 | Alternate #1              | Alternate #2                              | Alternate #3                           | Length       |
| Segment #1                      | 20 YR PCA-7" Whitetopping | 20 YR HMA-3.5" Mill and 5.5" Bit. Overlay | 15 YR HMA- 2" mill & 3.5" Bit. Overlay | 8.6          |
| Net Present Cost                | \$7,450,233.98            | \$4,756,916.89                            | \$4,640,463.09                         | 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        |
| <b>Project Net Present Cost</b> | <b>\$7,450,233.98</b>     | <b>\$4,756,916.89</b>                     | <b>\$4,640,463.09</b>                  | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>160.5%</b>             | <b>102.5%</b>                             | <b>100.0%</b>                          | <b>8.6</b>   |

| Segment 1                                  |                           |                    |   |  |  |                 |                 |  |                 |                   |                 |
|--|---------------------------|--------------------|---|--|--|-----------------|-----------------|--|-----------------|-------------------|-----------------|
| SEG  | Length                    | SEG                | Length                                    | SEG  | Length                                 |                 |                 |  |                 |                   |                 |
| 1  | 8.633                     | 1                  | 8.633                                     | 1  | 8.633                                  |                 |                 |  |                 |                   |                 |
| ALT  | Description               | ALT                | Description                               | ALT  | Description                            |                 |                 |  |                 |                   |                 |
| 1  | 20 YR PCA-7" Whitetopping | 2                  | 20 YR HMA-3.5" Mill and 5.5" Bit. Overlay | 3  | 15 YR HMA- 2" mill & 3.5" Bit. Overlay |                 |                 |  |                 |                   |                 |
| Pavement Type                              |                           | Pavement Type      |   | Pavement Type                              |  |                 |                 |  |                 |                   |                 |
| PCC  |                           | HMA                |   | HMA  |  |                 |                 |  |                 |                   |                 |
| Primary Category                           |                           | Primary Category   |   | Primary Category                           |  |                 |                 |  |                 |                   |                 |
| > 11' Joint Spacing                        |                           | 20-year HMA        |   | Overlay                                    |  |                 |                 |  |                 |                   |                 |
| Secondary Category                         |                           | Secondary Category |   | Secondary Category                         |  |                 |                 |  |                 |                   |                 |
| Design Life = 20 years                     |                           | Rural              |   | Rural                                      |  |                 |                 |  |                 |                   |                 |
| Shoulder Category                          |                           | Shoulder Category  |   | Shoulder Category                          |  |                 |                 |  |                 |                   |                 |
| Thick Bit.                                 |                           | Bituminous         |   | Bituminous                                 |  |                 |                 |  |                 |                   |                 |
| Notes:                                     |                           | Notes:             |   | Notes:                                     |  |                 |                 |  |                 |                   |                 |
| Year                                       | Activity                  | Cost               | Present Cost                              | Year                                       | Activity                               | Cost            | Present Cost    | Year                                       | Activity        | Cost              | Present Cost    |
| 0  | Construction              | \$ 5,220,766.00    | \$ 5,220,766.00                           | 0  | Construction                           | \$ 2,945,272.12 | \$ 2,945,272.12 | 0  | Construction    | \$ 2,016,840.50   | \$ 2,016,840.50 |
| 1  |                           | \$ -               | \$ -                                      | 1  |  | \$ -            | \$ -            | 1  |                 | \$ -              | \$ -            |
| 2  |                           | \$ -               | \$ -                                      | 2  |  | \$ -            | \$ -            | 2  |                 | \$ -              | \$ -            |
| 3  |                           | \$ -               | \$ -                                      | 3  |  | \$ -            | \$ -            | 3  | Crack Treatment | \$ 17,867.82      | \$ 17,332.03    |
| 4  |                           | \$ -               | \$ -                                      | 4  |  | \$ -            | \$ -            | 4  |                 | \$ -              | \$ -            |
| 5  |                           | \$ -               | \$ -                                      | 5  |  | \$ -            | \$ -            | 5  |                 | \$ -              | \$ -            |
| 6  |                           | \$ -               | \$ -                                      | 6  |  | \$ -            | \$ -            | 6  |                 | \$ -              | \$ -            |
| 7  |                           | \$ -               | \$ -                                      | 7  |  | \$ -            | \$ -            | 7  | Seal            | \$ 73,431.15      | \$ 68,395.70    |
| 8  |                           | \$ -               | \$ -                                      | 8  | Crack Treatment                        | \$ 8,958.71     | \$ 8,260.13     | 8  |                 | \$ -              | \$ -            |
| 9  |                           | \$ -               | \$ -                                      | 9  |  | \$ -            | \$ -            | 9  |                 | \$ -              | \$ -            |
| 10   |                           | \$ -               | \$ -                                      | 10   |  | \$ -            | \$ -            | 10   |                 | \$ -              | \$ -            |
| 11   |                           | \$ -               | \$ -                                      | 11   |  | \$ -            | \$ -            | 11   |                 | \$ -              | \$ -            |
| 12   |                           | \$ -               | \$ -                                      | 12   |  | \$ -            | \$ -            | 12   |                 | \$ -              | \$ -            |
| 13   |                           | \$ -               | \$ -                                      | 13   | Seal                                   | \$ 129,710.84   | \$ 114,838.60   | 13   |                 | \$ -              | \$ -            |
| 14   |                           | \$ -               | \$ -                                      | 14   |  | \$ -            | \$ -            | 14   |                 | \$ -              | \$ -            |
| 15   |                           | \$ -               | \$ -                                      | 15   |  | \$ -            | \$ -            | 15   | Mill/Overlay    | \$ 1,998,883.40   | \$ 1,716,631.19 |
| 16   |                           | \$ -               | \$ -                                      | 16   |  | \$ -            | \$ -            | 16   |                 | \$ -              | \$ -            |
| 17   |                           | \$ -               | \$ -                                      | 17   |  | \$ -            | \$ -            | 17   |                 | \$ -              | \$ -            |
| 18   |                           | \$ -               | \$ -                                      | 18   |  | \$ -            | \$ -            | 18   | Crack Treatment | \$ 17,867.82      | \$ 14,884.66    |
| 19   |                           | \$ -               | \$ -                                      | 19   |  | \$ -            | \$ -            | 19   |                 | \$ -              | \$ -            |
| 20   | 1st CPR                   | \$ 2,731,168.67    | \$ 2,229,467.98                           | 20   | Mill/Overlay                           | \$ 2,205,640.79 | \$ 1,800,476.68 | 20   |                 | \$ -              | \$ -            |
| 21   |                           | \$ -               | \$ -                                      | 21   |  | \$ -            | \$ -            | 21   |                 | \$ -              | \$ -            |
| 22   |                           | \$ -               | \$ -                                      | 22   |  | \$ -            | \$ -            | 22   | Seal            | \$ 73,431.15      | \$ 58,737.89    |
| 23   |                           | \$ -               | \$ -                                      | 23   | Crack Treatment                        | \$ 17,867.82    | \$ 14,148.23    | 23   |                 | \$ -              | \$ -            |
| 24   |                           | \$ -               | \$ -                                      | 24   |  | \$ -            | \$ -            | 24   |                 | \$ -              | \$ -            |
| 25   |                           | \$ -               | \$ -                                      | 25   |  | \$ -            | \$ -            | 25   |                 | \$ -              | \$ -            |
| 26   |                           | \$ -               | \$ -                                      | 26   |  | \$ -            | \$ -            | 26   |                 | \$ -              | \$ -            |
| 27   |                           | \$ -               | \$ -                                      | 27   | Seal                                   | \$ 73,431.15    | \$ 55,831.78    | 27   |                 | \$ -              | \$ -            |
| 28   |                           | \$ -               | \$ -                                      | 28   |  | \$ -            | \$ -            | 28   |                 | \$ -              | \$ -            |
| 29   |                           | \$ -               | \$ -                                      | 29   |  | \$ -            | \$ -            | 29   | Mill/Overlay    | \$ 1,998,883.40   | \$ 1,489,271.57 |
| 30   |                           | \$ -               | \$ -                                      | 30   |  | \$ -            | \$ -            | 30   |                 | \$ -              | \$ -            |
| 31   |                           | \$ -               | \$ -                                      | 31   |  | \$ -            | \$ -            | 31   |                 | \$ -              | \$ -            |
| 32   |                           | \$ -               | \$ -                                      | 32   |  | \$ -            | \$ -            | 32   | Crack Treatment | \$ 17,867.82      | \$ 12,913.26    |
| 33   |                           | \$ -               | \$ -                                      | 33   |  | \$ -            | \$ -            | 33   |                 | \$ -              | \$ -            |
| 34   |                           | \$ -               | \$ -                                      | 34   |  | \$ -            | \$ -            | 34   |                 | \$ -              | \$ -            |
| 35   | Remaining Life            | \$ -               | \$ -                                      | 35   | Remaining Life                         | \$ (259,487.15) | \$ (181,910.64) | 35   | Remaining Life  | \$ (1,076,321.83) | \$ (754,543.71) |
| Net Present Cost for Segment               |                           | \$ 7,450,233.98    |   | Net Present Cost for Segment               |  | \$ 4,756,916.89 |                 | Net Present Cost for Segment               |                 | \$ 4,640,463.09   |                 |
| Maintenance - Net Present Cost for Segment |                           | \$ 2,229,467.98    |   | Maintenance - Net Present Cost for Segment |  | \$ 1,811,644.78 |                 | Maintenance - Net Present Cost for Segment |                 | \$ 2,623,622.58   |                 |
| Equivalent Annual Cost                     |                           | 254,188.40         |   | Equivalent Annual Cost                     |  | 162,297.33      |                 | Equivalent Annual Cost                     |                 | 158,324.14        |                 |

  

| Total Lane Width       | # of Lanes        | Analysis Period |
|------------------------|-------------------|-----------------|
| 26                     | 2                 | 35              |
| Total Shldr Width      | # of Shldr        | ML Mix          |
| 12                     | 2                 | 12.5 WE (4,E)   |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 3                      | Yes               | 12.5 WE (2,B)   |
| Sealed/UTBWC           | ML Thickness      |                 |
| No                     | 7                 |                 |
| ML Top Lift/ft spacing |                   |                 |
| 15                     |                   |                 |
| Design Life            | Shldr Thickness   |                 |
| 20                     | 7                 |                 |

  

| Total Lane Width       | # of Lanes        | Analysis Period |
|------------------------|-------------------|-----------------|
| 24                     | 2                 | 35              |
| Total Shldr Width      | # of Shldr        | ML Mix          |
| 14                     | 2                 | 12.5 WE (4,E)   |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 3                      | No                | 12.5 WE (2,B)   |
| Sealed/UTBWC           | ML Thickness      |                 |
| No                     |                   |                 |
| ML Top Lift/ft spacing |                   |                 |
| 2                      |                   |                 |
| Design Life            | Shldr Thickness   |                 |
| 20                     | 7                 |                 |

  

| Total Lane Width       | # of Lanes        | Analysis Period |
|------------------------|-------------------|-----------------|
| 24                     | 2                 | 35              |
| Total Shldr Width      | # of Shldr        | ML Mix          |
| 14                     | 2                 | 12.5 WE (4,E)   |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 3                      | No                | 12.5 WE (2,B)   |
| Sealed/UTBWC           | ML Thickness      |                 |
| No                     |                   |                 |
| ML Top Lift/ft spacing |                   |                 |
| 1.5                    |                   |                 |
| Design Life            | Shldr Thickness   |                 |
| 15                     | 6.5               |                 |

35-Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| 5705-63        | 35              |
| Highway        | Discount Rate   |
| 59             | 1.02%           |
| Date           | Inflation Rate  |
| 8/13/2020      | 1               |
| Performed By   | Ia/(1+r)        |
| KO             | 0.9899          |

|        |
|--------|
| Notes: |
|--------|

| LCCA SUMMARY                    |                       |                       |                        |              |
|---------------------------------|-----------------------|-----------------------|------------------------|--------------|
|                                 | Alternate #1          | Alternate #2          | Alternate #3           | Length       |
| Segment #1                      | 3" Mill & 3" HMA      | Reclaim               | 5" BCOA                | 11.9         |
| Net Present Cost                | \$4,685,130.49        | \$5,362,043.60        | \$11,751,830.30        | 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        |
| <b>Project Net Present Cost</b> | <b>\$4,685,130.49</b> | <b>\$5,362,043.60</b> | <b>\$11,751,830.30</b> | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>         | <b>114.4%</b>         | <b>250.8%</b>          | <b>11.9</b>  |

| Segment 1                                  |                  |                   |                    |                 |                 |                          |                 |  |                          |                   |                   |                 |  |  |  |
|--|------------------|-------------------|--------------------|-----------------|-----------------|--------------------------|-----------------|--|--------------------------|-------------------|-------------------|-----------------|--|--|--|
| SEG  | Length           |                   |                    | SEG             | Length          |                          |                 | SEG  | Length                   |                   |                   |                 |  |  |  |
| 1  | 11.883           |                   |                    | 1               | 11.883          |                          |                 | 1  | 11.883                   |                   |                   |                 |  |  |  |
| ALT  | Description      |                   |                    | ALT             | Description     |                          |                 | ALT  | Description              |                   |                   |                 |  |  |  |
| 1  | 3" Mill & 3" HMA |                   |                    | 2               | Reclaim         |                          |                 | 3  | 5" BCOA                  |                   |                   |                 |  |  |  |
| Pavement Type                              |                  |                   | Pavement Type      |                 |                 | Pavement Type            |                 |  | Pavement Type            |                   |                   |                 |  |  |  |
| HMA  |                  |                   | HMA                |                 |                 | PCC                      |                 |  | PCC                      |                   |                   |                 |  |  |  |
| Primary Category                           |                  |                   | Primary Category   |                 |                 | Primary Category         |                 |  | Primary Category         |                   |                   |                 |  |  |  |
| Overlay                                    |                  |                   | 20-year HMA        |                 |                 | 6x6', 5.0 in. or Thinner |                 |  | 6x6', 5.0 in. or Thinner |                   |                   |                 |  |  |  |
| Secondary Category                         |                  |                   | Secondary Category |                 |                 | Secondary Category       |                 |  | Secondary Category       |                   |                   |                 |  |  |  |
| Rural                                      |                  |                   | Rural              |                 |                 | Design Life = 20 years   |                 |  | Design Life = 20 years   |                   |                   |                 |  |  |  |
| Shoulder Category                          |                  |                   | Shoulder Category  |                 |                 | Shoulder Category        |                 |  | Shoulder Category        |                   |                   |                 |  |  |  |
| Bituminous                                 |                  |                   | Bituminous         |                 |                 | Thin Bit.                |                 |  | Thin Bit.                |                   |                   |                 |  |  |  |
| Notes:                                     |                  |                   |                    | Notes:          |                 |                          |                 | Notes:                                     |                          |                   |                   |                 |  |  |  |
| Year                                       | Activity         | Cost              | Present Cost       | Year            | Activity        | Cost                     | Present Cost    | Year                                       | Activity                 | Cost              | Present Cost      |                 |  |  |  |
| 0  | Construction     | \$ 2,369,105.60   | \$ 2,369,105.60    | 0               | Construction    | \$ 3,478,088.22          | \$ 3,478,088.22 | 0  | Construction             | \$ 6,086,904.87   | \$ 6,086,904.87   |                 |  |  |  |
| 1  |                  | \$ -              | \$ -               | 1               |                 | \$ -                     | \$ -            | 1  |                          | \$ -              | \$ -              |                 |  |  |  |
| 2  |                  | \$ -              | \$ -               | 2               |                 | \$ -                     | \$ -            | 2  |                          | \$ -              | \$ -              |                 |  |  |  |
| 3  | Crack Treatment  | \$ 24,562.97      | \$ 23,826.42       | 3               |                 | \$ -                     | \$ -            | 3  |                          | \$ -              | \$ -              |                 |  |  |  |
| 4  |                  | \$ -              | \$ -               | 4               |                 | \$ -                     | \$ -            | 4  |                          | \$ -              | \$ -              |                 |  |  |  |
| 5  |                  | \$ -              | \$ -               | 5               |                 | \$ -                     | \$ -            | 5  |                          | \$ -              | \$ -              |                 |  |  |  |
| 6  |                  | \$ -              | \$ -               | 6               |                 | \$ -                     | \$ -            | 6  |                          | \$ -              | \$ -              |                 |  |  |  |
| 7  | Seal             | \$ 94,092.81      | \$ 87,640.51       | 7               |                 | \$ -                     | \$ -            | 7  |                          | \$ -              | \$ -              |                 |  |  |  |
| 8  |                  | \$ -              | \$ -               | 8               | Crack Treatment | \$ 12,315.58             | \$ 11,355.23    | 8  |                          | \$ -              | \$ -              |                 |  |  |  |
| 9  |                  | \$ -              | \$ -               | 9               |                 | \$ -                     | \$ -            | 9  |                          | \$ -              | \$ -              |                 |  |  |  |
| 10   |                  | \$ -              | \$ -               | 10              |                 | \$ -                     | \$ -            | 10   |                          | \$ -              | \$ -              |                 |  |  |  |
| 11   |                  | \$ -              | \$ -               | 11              |                 | \$ -                     | \$ -            | 11   |                          | \$ -              | \$ -              |                 |  |  |  |
| 12   |                  | \$ -              | \$ -               | 12              | Seal            | \$ 169,534.93            | \$ 150,096.59   | 12   |                          | \$ -              | \$ -              |                 |  |  |  |
| 13   |                  | \$ -              | \$ -               | 13              |                 | \$ -                     | \$ -            | 13   |                          | \$ -              | \$ -              |                 |  |  |  |
| 14   |                  | \$ -              | \$ -               | 14              |                 | \$ -                     | \$ -            | 14   |                          | \$ -              | \$ -              |                 |  |  |  |
| 15   |                  | \$ -              | \$ -               | 15              |                 | \$ -                     | \$ -            | 15   |                          | \$ -              | \$ -              |                 |  |  |  |
| 16   |                  | \$ -              | \$ -               | 16              |                 | \$ -                     | \$ -            | 16   |                          | \$ -              | \$ -              |                 |  |  |  |
| 17   | Mill/Overlay     | \$ 2,223,283.09   | \$ 1,870,981.85    | 17              |                 | \$ -                     | \$ -            | 17   |                          | \$ -              | \$ -              |                 |  |  |  |
| 18   |                  | \$ -              | \$ -               | 18              |                 | \$ -                     | \$ -            | 18   |                          | \$ -              | \$ -              |                 |  |  |  |
| 19   |                  | \$ -              | \$ -               | 19              |                 | \$ -                     | \$ -            | 19   |                          | \$ -              | \$ -              |                 |  |  |  |
| 20   | Crack Treatment  | \$ 24,562.97      | \$ 20,050.88       | 20              | Mill/Overlay    | \$ 2,223,283.09          | \$ 1,814,878.19 | 20   | 1st CPR                  | \$ 5,527,092.87   | \$ 4,511,796.25   |                 |  |  |  |
| 21   |                  | \$ -              | \$ -               | 21              |                 | \$ -                     | \$ -            | 21   |                          | \$ -              | \$ -              |                 |  |  |  |
| 22   |                  | \$ -              | \$ -               | 22              |                 | \$ -                     | \$ -            | 22   |                          | \$ -              | \$ -              |                 |  |  |  |
| 23   |                  | \$ -              | \$ -               | 23              | Crack Treatment | \$ 24,562.97             | \$ 19,449.63    | 23   |                          | \$ -              | \$ -              |                 |  |  |  |
| 24   | Seal             | \$ 94,092.81      | \$ 73,753.00       | 24              |                 | \$ -                     | \$ -            | 24   |                          | \$ -              | \$ -              |                 |  |  |  |
| 25   |                  | \$ -              | \$ -               | 25              |                 | \$ -                     | \$ -            | 25   |                          | \$ -              | \$ -              |                 |  |  |  |
| 26   |                  | \$ -              | \$ -               | 26              |                 | \$ -                     | \$ -            | 26   |                          | \$ -              | \$ -              |                 |  |  |  |
| 27   |                  | \$ -              | \$ -               | 27              | Seal            | \$ 94,092.81             | \$ 71,541.43    | 27   |                          | \$ -              | \$ -              |                 |  |  |  |
| 28   |                  | \$ -              | \$ -               | 28              |                 | \$ -                     | \$ -            | 28   |                          | \$ -              | \$ -              |                 |  |  |  |
| 29   |                  | \$ -              | \$ -               | 29              |                 | \$ -                     | \$ -            | 29   |                          | \$ -              | \$ -              |                 |  |  |  |
| 30   |                  | \$ -              | \$ -               | 30              |                 | \$ -                     | \$ -            | 30   | R & R Mainline           | \$ 8,439,283.57   | \$ 6,224,215.98   |                 |  |  |  |
| 31   |                  | \$ -              | \$ -               | 31              |                 | \$ -                     | \$ -            | 31   |                          | \$ -              | \$ -              |                 |  |  |  |
| 32   |                  | \$ -              | \$ -               | 32              |                 | \$ -                     | \$ -            | 32   |                          | \$ -              | \$ -              |                 |  |  |  |
| 33   | Mill/Overlay     | \$ 2,223,283.09   | \$ 1,590,566.19    | 33              |                 | \$ -                     | \$ -            | 33   |                          | \$ -              | \$ -              |                 |  |  |  |
| 34   |                  | \$ -              | \$ -               | 34              |                 | \$ -                     | \$ -            | 34   |                          | \$ -              | \$ -              |                 |  |  |  |
| 35   | Remaining Life   | \$ (1,926,845.34) | \$ (1,350,793.97)  | 35              | Remaining Life  | \$ (261,562.72)          | \$ (183,365.70) | 35   | Remaining Life           | \$ (7,233,671.63) | \$ (5,071,086.80) |                 |  |  |  |
| Net Present Cost for Segment               |                  |                   |                    | \$ 4,685,130.49 |                 |                          |                 | Net Present Cost for Segment               |                          |                   |                   | \$ 5,362,043.60 |  |  |  |
| Maintenance - Net Present Cost for Segment |                  |                   |                    | \$ 2,316,024.89 |                 |                          |                 | Maintenance - Net Present Cost for Segment |                          |                   |                   | \$ 1,883,955.38 |  |  |  |
| Equivalent Annual Cost                     |                  |                   |                    | 159,848.11      |                 |                          |                 | Equivalent Annual Cost                     |                          |                   |                   | 182,943.15      |  |  |  |

| 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 Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          |
| 6                      | 2                 | 12.5 WE (3,C)   | 6                      | 2                 | 12.5 WE (3,C)   | 6                      | 2                 | ML Mix          |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 8                      | No                | 12.5 WE (3,C)   | 8                      | No                | 12.5 WE (3,C)   | 8                      | Yes               | 12.5 WE (2,B)   |
| Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 |
| No                     |                   |                 | No                     |                   |                 | No                     | 5                 |                 |
| ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 |
| 1.5                    |                   |                 | 1.5                    |                   |                 | 6                      |                   |                 |
| Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 |
| 17                     | 3                 |                 | 20                     | 4.5               |                 | 20                     | 3                 |                 |

35-Year Analysis Period

DELETE LCCA INPUTS

Project information table including Project Number, Name, District, and Price Year.

Change to: 50-Year Analysis Period / Change to: 35-Year Analysis Period

LCCA SUMMARY table with columns for Alternatives A1, A2, and A3, and Total.

Segment 1 LCCA table with columns for Segment 1, Segment 2, Segment 3, and Segment 4, including initial cost, LCCA form, and annual cost breakdown.

Segment 2 LCCA table with columns for Segment 1, Segment 2, Segment 3, and Segment 4, including initial cost, LCCA form, and annual cost breakdown.

Segment 3 LCCA table with columns for Segment 1, Segment 2, Segment 3, and Segment 4, including initial cost, LCCA form, and annual cost breakdown.

Segment 4 LCCA table with columns for Segment 1, Segment 2, Segment 3, and Segment 4, including initial cost, LCCA form, and annual cost breakdown.

Design Life: 20, 30, 40, 50

Design Life: 20, 30, 40, 50

Design Life: 20, 30, 40, 50

Design Life: 20, 30, 40, 50

Design Life: 20, 30, 40, 50

50-Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| 6780-124       | 50              |
| Highway        | Discount Rate   |
| 90             | 1.02%           |
| Date           | Inflation Rate  |
| 10/2/2020      | 1               |
| Performed By   | la/(1+r)        |
| CJF            | 0.9899          |

Notes:

| LCCA SUMMARY                    |                        |                       |                        |              |
|---------------------------------|------------------------|-----------------------|------------------------|--------------|
|                                 | Alternate #1           | Alternate #2          | Alternate #3           | Length       |
| Segment #1                      | 20 yr bit              | 35yr conc             | 20yr Conc              | 7.8          |
| Net Present Cost                | \$10,655,007.27        | \$8,879,636.45        | \$12,205,007.36        | 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        |
| <b>Project Net Present Cost</b> | <b>\$10,655,007.27</b> | <b>\$8,879,636.45</b> | <b>\$12,205,007.36</b> | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>120.0%</b>          | <b>100.0%</b>         | <b>137.4%</b>          | <b>7.8</b>   |

| Segment 1                                  |                 |                        |                 |  |                |                 |                 |  |                |                   |                 |
|--|-----------------|------------------------|-----------------|--|----------------|-----------------|-----------------|--|----------------|-------------------|-----------------|
| SEG  | Length          | SEG                    | Length          | SEG  | Length         |                 |                 |  |                |                   |                 |
| 1  | 7.8             | 1                      | 7.8             | 1  | 7.8            |                 |                 |  |                |                   |                 |
| ALT  | Description     | ALT                    | Description     | ALT  | Description    |                 |                 |  |                |                   |                 |
| 1  | 20 yr bit       | 2                      | 35yr conc       | 3  | 20yr Conc      |                 |                 |  |                |                   |                 |
| Pavement Type                              |                 | Pavement Type          |                 | Pavement Type                              |                |                 |                 |  |                |                   |                 |
| HMA  |                 | PCC                    |                 | PCC  |                |                 |                 |  |                |                   |                 |
| Primary Category                           |                 | Primary Category       |                 | Primary Category                           |                |                 |                 |  |                |                   |                 |
| 20-year HMA                                |                 | > 11' Joint Spacing    |                 | > 11' Joint Spacing                        |                |                 |                 |  |                |                   |                 |
| Secondary Category                         |                 | Secondary Category     |                 | Secondary Category                         |                |                 |                 |  |                |                   |                 |
| Rural                                      |                 | Design Life = 35 years |                 | Design Life = 20 years                     |                |                 |                 |  |                |                   |                 |
| Shoulder Category                          |                 | Shoulder Category      |                 | Shoulder Category                          |                |                 |                 |  |                |                   |                 |
| Bituminous                                 |                 | Thick Bit.             |                 | Thick Bit.                                 |                |                 |                 |  |                |                   |                 |
| Notes:                                     |                 | Notes:                 |                 | Notes:                                     |                |                 |                 |  |                |                   |                 |
| Year                                       | Activity        | Cost                   | Present Cost    | Year                                       | Activity       | Cost            | Present Cost    | Year                                       | Activity       | Cost              | Present Cost    |
| 0  | Construction    | \$ 7,780,037.04        | \$ 7,780,037.04 | 0  | Construction   | \$ 6,030,098.76 | \$ 6,030,098.76 | 0  | Construction   | \$ 6,896,467.07   | \$ 6,896,467.07 |
| 1  |                 | \$ -                   | \$ -            | 1  |                | \$ -            | \$ -            | 1  |                | \$ -              | \$ -            |
| 2  |                 | \$ -                   | \$ -            | 2  |                | \$ -            | \$ -            | 2  |                | \$ -              | \$ -            |
| 3  |                 | \$ -                   | \$ -            | 3  |                | \$ -            | \$ -            | 3  |                | \$ -              | \$ -            |
| 4  |                 | \$ -                   | \$ -            | 4  |                | \$ -            | \$ -            | 4  |                | \$ -              | \$ -            |
| 5  |                 | \$ -                   | \$ -            | 5  |                | \$ -            | \$ -            | 5  |                | \$ -              | \$ -            |
| 6  |                 | \$ -                   | \$ -            | 6  |                | \$ -            | \$ -            | 6  |                | \$ -              | \$ -            |
| 7  |                 | \$ -                   | \$ -            | 7  |                | \$ -            | \$ -            | 7  |                | \$ -              | \$ -            |
| 8  | Crack Treatment | \$ 9,441.34            | \$ 8,705.12     | 8  |                | \$ -            | \$ -            | 8  |                | \$ -              | \$ -            |
| 9  |                 | \$ -                   | \$ -            | 9  |                | \$ -            | \$ -            | 9  |                | \$ -              | \$ -            |
| 10   |                 | \$ -                   | \$ -            | 10   |                | \$ -            | \$ -            | 10   |                | \$ -              | \$ -            |
| 11   |                 | \$ -                   | \$ -            | 11   |                | \$ -            | \$ -            | 11   |                | \$ -              | \$ -            |
| 12   | Seal            | \$ 58,517.25           | \$ 51,807.85    | 12   |                | \$ -            | \$ -            | 12   |                | \$ -              | \$ -            |
| 13   |                 | \$ -                   | \$ -            | 13   |                | \$ -            | \$ -            | 13   |                | \$ -              | \$ -            |
| 14   |                 | \$ -                   | \$ -            | 14   |                | \$ -            | \$ -            | 14   |                | \$ -              | \$ -            |
| 15   |                 | \$ -                   | \$ -            | 15   |                | \$ -            | \$ -            | 15   |                | \$ -              | \$ -            |
| 16   |                 | \$ -                   | \$ -            | 16   |                | \$ -            | \$ -            | 16   |                | \$ -              | \$ -            |
| 17   |                 | \$ -                   | \$ -            | 17   |                | \$ -            | \$ -            | 17   |                | \$ -              | \$ -            |
| 18   |                 | \$ -                   | \$ -            | 18   |                | \$ -            | \$ -            | 18   |                | \$ -              | \$ -            |
| 19   |                 | \$ -                   | \$ -            | 19   |                | \$ -            | \$ -            | 19   |                | \$ -              | \$ -            |
| 20   | Mill/Overlay    | \$ 2,130,646.76        | \$ 1,739,258.64 | 20   | 1st CPR        | \$ 1,843,311.93 | \$ 1,504,705.64 | 20   | 1st CPR        | \$ 2,631,187.68   | \$ 2,147,852.94 |
| 21   |                 | \$ -                   | \$ -            | 21   |                | \$ -            | \$ -            | 21   |                | \$ -              | \$ -            |
| 22   |                 | \$ -                   | \$ -            | 22   |                | \$ -            | \$ -            | 22   |                | \$ -              | \$ -            |
| 23   | Crack Treatment | \$ 18,830.40           | \$ 14,910.43    | 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   | 2nd CPR        | \$ 1,918,340.94 | \$ 1,344,832.04 | 35   | R & R Mainline | \$ 5,741,204.33   | \$ 4,024,808.83 |
| 36   |                 | \$ -                   | \$ -            | 36   |                | \$ -            | \$ -            | 36   |                | \$ -              | \$ -            |
| 37   | Mill/Overlay    | \$ 1,921,418.74        | \$ 1,319,925.89 | 37   |                | \$ -            | \$ -            | 37   |                | \$ -              | \$ -            |
| 38   |                 | \$ -                   | \$ -            | 38   |                | \$ -            | \$ -            | 38   |                | \$ -              | \$ -            |
| 39   |                 | \$ -                   | \$ -            | 39   |                | \$ -            | \$ -            | 39   |                | \$ -              | \$ -            |
| 40   | Crack Treatment | \$ 18,830.40           | \$ 12,547.73    | 40   |                | \$ -            | \$ -            | 40   |                | \$ -              | \$ -            |
| 41   |                 | \$ -                   | \$ -            | 41   |                | \$ -            | \$ -            | 41   |                | \$ -              | \$ -            |
| 42   |                 | \$ -                   | \$ -            | 42   |                | \$ -            | \$ -            | 42   |                | \$ -              | \$ -            |
| 43   |                 | \$ -                   | \$ -            | 43   |                | \$ -            | \$ -            | 43   |                | \$ -              | \$ -            |
| 44   | Seal            | \$ -                   | \$ -            | 44   |                | \$ -            | \$ -            | 44   |                | \$ -              | \$ -            |
| 45   |                 | \$ -                   | \$ -            | 45   |                | \$ -            | \$ -            | 45   |                | \$ -              | \$ -            |
| 46   |                 | \$ -                   | \$ -            | 46   |                | \$ -            | \$ -            | 46   |                | \$ -              | \$ -            |
| 47   |                 | \$ -                   | \$ -            | 47   |                | \$ -            | \$ -            | 47   |                | \$ -              | \$ -            |
| 48   |                 | \$ -                   | \$ -            | 48   |                | \$ -            | \$ -            | 48   |                | \$ -              | \$ -            |
| 49   |                 | \$ -                   | \$ -            | 49   |                | \$ -            | \$ -            | 49   |                | \$ -              | \$ -            |
| 50   | Remaining Life  | \$ (452,098.53)        | \$ (272,185.44) | 50   | Remaining Life | \$ -            | \$ -            | 50   | Remaining Life | \$ (1,435,301.08) | \$ (864,121.49) |
| Net Present Cost for Segment               |                 | \$ 10,655,007.27       |                 | Net Present Cost for Segment               |                | \$ 8,879,636.45 |                 | Net Present Cost for Segment               |                | \$ 12,205,007.36  |                 |
| Maintenance - Net Present Cost for Segment |                 | \$ 2,874,970.24        |                 | Maintenance - Net Present Cost for Segment |                | \$ 2,849,537.69 |                 | Maintenance - Net Present Cost for Segment |                | \$ 5,308,540.29   |                 |
| Equivalent Annual Cost                     |                 | 273,101.60             |                 | Equivalent Annual Cost                     |                | 227,596.55      |                 | Equivalent Annual Cost                     |                | 312,830.11        |                 |

| Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period |
|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|
| 28                     | 2                 | 50              | 29                     | 2                 | 50              | 29                     | 2                 | 50              |
| Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          |
| 10                     | 1                 | 12.5 WE (4,E)   | 9                      | 1                 |                 | 9                      | 1                 |                 |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 3                      | Yes               | 12.5 WE (3,B)   | 3                      | No                | 12.5 WE (3,B)   | 3                      | No                | 12.5 WE (3,B)   |
| Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 |
| No                     |                   |                 | No                     | 7.5               |                 | No                     | 7                 |                 |
| ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 |
| 2                      |                   |                 | 15                     |                   |                 | 15                     |                   |                 |
| Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 |
| 20                     | 4                 |                 | 35                     | 4                 |                 | 20                     | 4                 |                 |

35-Year Analysis Period

|                       |                        |
|-----------------------|------------------------|
| <b>Project Number</b> | <b>Analysis Period</b> |
| 6932-14               | 35                     |
| <b>Highway</b>        | <b>Discount Rate</b>   |
| 194                   | 0.66%                  |
| <b>Date</b>           | <b>Inflation Rate</b>  |
| 9/2/2021              | 1                      |
| <b>Performed By</b>   | <b>la/(1+r)</b>        |
| Baehurst/Thorson      | 0.9934                 |

Notes:

| LCCA SUMMARY                    |                       |                          |                       |              |
|---------------------------------|-----------------------|--------------------------|-----------------------|--------------|
|                                 | Alternate #1          | Alternate #2             | Alternate #3          | Length       |
| Segment #1                      | 2.5" Mill and Overlay | Remove All HMA & pave 4" | Whitotopping          | 6.5          |
| Net Present Cost                | \$2,922,894.74        | \$4,433,478.03           | \$6,724,371.66        | 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        |
| <b>Project Net Present Cost</b> | <b>\$2,922,894.74</b> | <b>\$4,433,478.03</b>    | <b>\$6,724,371.66</b> | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>         | <b>151.7%</b>            | <b>230.1%</b>         | <b>6.5</b>   |

| Segment 1                                  |                       |                    |                          |  |                 |                 |                 |  |                |                   |                   |
|--|-----------------------|--------------------|--------------------------|--|-----------------|-----------------|-----------------|--|----------------|-------------------|-------------------|
| SEG  | Length                | SEG                | Length                   | SEG  | Length          |                 |                 |  |                |                   |                   |
| 1  | 6.5                   | 1                  | 6.5                      | 1  | 6.5             |                 |                 |  |                |                   |                   |
| ALT  | Description           | ALT                | Description              | ALT  | Description     |                 |                 |  |                |                   |                   |
| 1  | 2.5" Mill and Overlay | 2                  | Remove All HMA & pave 4" | 3  | Whitotopping    |                 |                 |  |                |                   |                   |
| Pavement Type                              |                       | Pavement Type      |                          | Pavement Type                              |                 |                 |                 |  |                |                   |                   |
| HMA  |                       | HMA                |                          | PCC  |                 |                 |                 |  |                |                   |                   |
| Primary Category                           |                       | Primary Category   |                          | Primary Category                           |                 |                 |                 |  |                |                   |                   |
| Overlay                                    |                       | 20-year HMA        |                          | 6'x6', 5.0 in. or Thinner                  |                 |                 |                 |  |                |                   |                   |
| Secondary Category                         |                       | Secondary Category |                          | Secondary Category                         |                 |                 |                 |  |                |                   |                   |
| Rural                                      |                       | Rural              |                          | Design Life = 20 years                     |                 |                 |                 |  |                |                   |                   |
| Shoulder Category                          |                       | Shoulder Category  |                          | Shoulder Category                          |                 |                 |                 |  |                |                   |                   |
| Bituminous                                 |                       | Bituminous         |                          | Thick Bit.                                 |                 |                 |                 |  |                |                   |                   |
| Notes:                                     |                       | Notes:             |                          | Notes:                                     |                 |                 |                 |  |                |                   |                   |
| Year                                       | Activity              | Cost               | Present Cost             | Year                                       | Activity        | Cost            | Present Cost    | Year                                       | Activity       | Cost              | Present Cost      |
| 0  | Construction          | \$ 998,962.46      | \$ 998,962.46            | 0  | Construction    | \$ 3,030,919.55 | \$ 3,030,919.55 | 0  | Construction   | \$ 3,513,942.21   | \$ 3,513,942.21   |
| 1  |                       | \$ -               | \$ -                     | 1  |                 | \$ -            | \$ -            | 1  |                | \$ -              | \$ -              |
| 2  |                       | \$ -               | \$ -                     | 2  |                 | \$ -            | \$ -            | 2  |                | \$ -              | \$ -              |
| 3  | Crack Treatment       | \$ 14,027.30       | \$ 13,753.18             | 3  |                 | \$ -            | \$ -            | 3  |                | \$ -              | \$ -              |
| 4  |                       | \$ -               | \$ -                     | 4  |                 | \$ -            | \$ -            | 4  |                | \$ -              | \$ -              |
| 5  |                       | \$ -               | \$ -                     | 5  |                 | \$ -            | \$ -            | 5  |                | \$ -              | \$ -              |
| 6  |                       | \$ -               | \$ -                     | 6  |                 | \$ -            | \$ -            | 6  |                | \$ -              | \$ -              |
| 7  | Seal                  | \$ 48,103.82       | \$ 45,938.95             | 7  |                 | \$ -            | \$ -            | 7  |                | \$ -              | \$ -              |
| 8  |                       | \$ -               | \$ -                     | 8  | Crack Treatment | \$ 6,752.90     | \$ 6,406.71     | 8  |                | \$ -              | \$ -              |
| 9  |                       | \$ -               | \$ -                     | 9  |                 | \$ -            | \$ -            | 9  |                | \$ -              | \$ -              |
| 10   |                       | \$ -               | \$ -                     | 10   |                 | \$ -            | \$ -            | 10   |                | \$ -              | \$ -              |
| 11   |                       | \$ -               | \$ -                     | 11   |                 | \$ -            | \$ -            | 11   |                | \$ -              | \$ -              |
| 12   |                       | \$ -               | \$ -                     | 12   | Seal            | \$ 95,030.80    | \$ 87,817.55    | 12   |                | \$ -              | \$ -              |
| 13   |                       | \$ -               | \$ -                     | 13   |                 | \$ -            | \$ -            | 13   |                | \$ -              | \$ -              |
| 14   |                       | \$ -               | \$ -                     | 14   |                 | \$ -            | \$ -            | 14   |                | \$ -              | \$ -              |
| 15   | Mill/Overlay          | \$ 1,378,769.08    | \$ 1,249,216.31          | 15   |                 | \$ -            | \$ -            | 15   |                | \$ -              | \$ -              |
| 16   |                       | \$ -               | \$ -                     | 16   |                 | \$ -            | \$ -            | 16   |                | \$ -              | \$ -              |
| 17   |                       | \$ -               | \$ -                     | 17   |                 | \$ -            | \$ -            | 17   |                | \$ -              | \$ -              |
| 18   | Crack Treatment       | \$ 14,027.30       | \$ 12,460.90             | 18   |                 | \$ -            | \$ -            | 18   |                | \$ -              | \$ -              |
| 19   |                       | \$ -               | \$ -                     | 19   |                 | \$ -            | \$ -            | 19   |                | \$ -              | \$ -              |
| 20   |                       | \$ -               | \$ -                     | 20   | Mill/Overlay    | \$ 1,602,412.05 | \$ 1,404,868.52 | 20   | 1st CPR        | \$ 2,984,570.16   | \$ 2,616,635.75   |
| 21   |                       | \$ -               | \$ -                     | 21   |                 | \$ -            | \$ -            | 21   |                | \$ -              | \$ -              |
| 22   | Seal                  | \$ 48,103.82       | \$ 41,622.41             | 22   |                 | \$ -            | \$ -            | 22   |                | \$ -              | \$ -              |
| 23   |                       | \$ -               | \$ -                     | 23   | Crack Treatment | \$ 13,468.40    | \$ 11,577.29    | 23   |                | \$ -              | \$ -              |
| 24   |                       | \$ -               | \$ -                     | 24   |                 | \$ -            | \$ -            | 24   |                | \$ -              | \$ -              |
| 25   |                       | \$ -               | \$ -                     | 25   |                 | \$ -            | \$ -            | 25   |                | \$ -              | \$ -              |
| 26   |                       | \$ -               | \$ -                     | 26   |                 | \$ -            | \$ -            | 26   |                | \$ -              | \$ -              |
| 27   |                       | \$ -               | \$ -                     | 27   | Seal            | \$ 49,729.83    | \$ 41,637.05    | 27   |                | \$ -              | \$ -              |
| 28   |                       | \$ -               | \$ -                     | 28   |                 | \$ -            | \$ -            | 28   |                | \$ -              | \$ -              |
| 29   | Mill/Overlay          | \$ 1,378,769.08    | \$ 1,139,306.78          | 29   |                 | \$ -            | \$ -            | 29   |                | \$ -              | \$ -              |
| 30   |                       | \$ -               | \$ -                     | 30   |                 | \$ -            | \$ -            | 30   | R & R Mainline | \$ 4,240,201.12   | \$ 3,480,796.83   |
| 31   |                       | \$ -               | \$ -                     | 31   |                 | \$ -            | \$ -            | 31   |                | \$ -              | \$ -              |
| 32   | Crack Treatment       | \$ 14,027.30       | \$ 11,364.55             | 32   |                 | \$ -            | \$ -            | 32   |                | \$ -              | \$ -              |
| 33   |                       | \$ -               | \$ -                     | 33   |                 | \$ -            | \$ -            | 33   |                | \$ -              | \$ -              |
| 34   |                       | \$ -               | \$ -                     | 34   |                 | \$ -            | \$ -            | 34   |                | \$ -              | \$ -              |
| 35   | Remaining Life        | \$ (742,414.12)    | \$ (589,730.80)          | 35   | Remaining Life  | \$ (188,519.07) | \$ (149,748.63) | 35   | Remaining Life | \$ (3,634,458.10) | \$ (2,887,003.13) |
| Net Present Cost for Segment               |                       | \$ 2,922,894.74    |                          | Net Present Cost for Segment               |                 | \$ 4,433,478.03 |                 | Net Present Cost for Segment               |                | \$ 6,724,371.66   |                   |
| Maintenance - Net Present Cost for Segment |                       | \$ 1,923,932.28    |                          | Maintenance - Net Present Cost for Segment |                 | \$ 1,402,558.48 |                 | Maintenance - Net Present Cost for Segment |                | \$ 3,210,429.45   |                   |
| Equivalent Annual Cost                     |                       | 93,801.92          |                          | Equivalent Annual Cost                     |                 | 142,279.76      |                 | Equivalent Annual Cost                     |                | 215,799.42        |                   |

| Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period |
|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|
| 25                     | 2                 | 35              | 24                     | 2                 | 35              | 24                     | 2                 | 35              |
| Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          |
| 8                      | 2                 | 9.5 WE (4,B)    | 16                     | 2                 | 9.5 WE (4,B)    | 16                     | 2                 | 9.5 WE (4,B)    |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 3                      | No                | 9.5 WE (4,B)    | 3                      | No                | 9.5 WE (4,B)    | 3                      | Yes               | 9.5 WE (3,B)    |
| Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 |
| No                     |                   |                 | No                     |                   |                 | No                     |                   |                 |
| ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 |
| 2.5                    |                   |                 | 2                      |                   |                 | 6                      |                   |                 |
| Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 |
| 15                     | 6                 |                 | 20                     | 4                 |                 | 20                     | 4                 |                 |

| Financial Summary |         |         |         |
|-------------------|---------|---------|---------|
| Category          | Value 1 | Value 2 | Value 3 |
| Revenue           | 1000000 | 2000000 | 3000000 |
| Expenses          | 500000  | 1000000 | 1500000 |
| Profit            | 500000  | 1000000 | 1500000 |
| Net Income        | 500000  | 1000000 | 1500000 |

| Segment 1 |         |         |         |         |         |         |         |         |         |         |         |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Item      | Q1      | Q2      | Q3      | Q4      | Q1      | Q2      | Q3      | Q4      | Q1      | Q2      | Q3      |
| Revenue   | 1000000 | 1200000 | 1100000 | 1300000 | 1400000 | 1500000 | 1600000 | 1700000 | 1800000 | 1900000 | 2000000 |
| Expenses  | 500000  | 600000  | 550000  | 650000  | 700000  | 750000  | 800000  | 850000  | 900000  | 950000  | 1000000 |
| Profit    | 500000  | 600000  | 550000  | 650000  | 700000  | 750000  | 800000  | 850000  | 900000  | 950000  | 1000000 |

| Segment 2 |         |         |         |         |         |         |         |         |         |         |         |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Item      | Q1      | Q2      | Q3      | Q4      | Q1      | Q2      | Q3      | Q4      | Q1      | Q2      | Q3      |
| Revenue   | 1100000 | 1300000 | 1200000 | 1400000 | 1500000 | 1600000 | 1700000 | 1800000 | 1900000 | 2000000 | 2100000 |
| Expenses  | 550000  | 650000  | 600000  | 700000  | 750000  | 800000  | 850000  | 900000  | 950000  | 1000000 | 1050000 |
| Profit    | 550000  | 650000  | 600000  | 700000  | 750000  | 800000  | 850000  | 900000  | 950000  | 1000000 | 1050000 |

| Segment 3 |         |         |         |         |         |         |         |         |         |         |         |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Item      | Q1      | Q2      | Q3      | Q4      | Q1      | Q2      | Q3      | Q4      | Q1      | Q2      | Q3      |
| Revenue   | 1200000 | 1400000 | 1300000 | 1500000 | 1600000 | 1700000 | 1800000 | 1900000 | 2000000 | 2100000 | 2200000 |
| Expenses  | 600000  | 700000  | 650000  | 750000  | 800000  | 850000  | 900000  | 950000  | 1000000 | 1050000 | 1100000 |
| Profit    | 600000  | 700000  | 650000  | 750000  | 800000  | 850000  | 900000  | 950000  | 1000000 | 1050000 | 1100000 |

| Segment 4 |         |         |         |         |         |         |         |         |         |         |         |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Item      | Q1      | Q2      | Q3      | Q4      | Q1      | Q2      | Q3      | Q4      | Q1      | Q2      | Q3      |
| Revenue   | 1300000 | 1500000 | 1400000 | 1600000 | 1700000 | 1800000 | 1900000 | 2000000 | 2100000 | 2200000 | 2300000 |
| Expenses  | 650000  | 750000  | 700000  | 800000  | 850000  | 900000  | 950000  | 1000000 | 1050000 | 1100000 | 1150000 |
| Profit    | 650000  | 750000  | 700000  | 800000  | 850000  | 900000  | 950000  | 1000000 | 1050000 | 1100000 | 1150000 |



35-Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| 7408-50        | 35              |
| Highway        | Discount Rate   |
| 218            | 0.66%           |
| Date           | Inflation Rate  |
| 8/9/2021       | 1               |
| Performed By   | ia/(1+r)        |
| trm            | 0.9934          |

Notes:

| LCCA SUMMARY                    |   |  |                        |              |
|---------------------------------|---|--|------------------------|--------------|
|                                 | Alternate #1  | Alternate #2   | Alternate #3           | Length       |
| Segment #1                      | Heavy Bituminous Mill and Overlay-Mill 3" and 5" OL | Medium Bituminous Mill and Overlay-1.5" Mill and 3" OL | 7" UBOL                | 14.3         |
| Net Present Cost                | \$7,012,094.51                                      | \$6,858,598.13   | \$15,230,399.44        | 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        |
| <b>Project Net Present Cost</b> | <b>\$7,012,094.51</b>                               | <b>\$6,858,598.13</b>                                  | <b>\$15,230,399.44</b> | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>102.2%</b>                                       | <b>100.0%</b>  | <b>222.1%</b>          | <b>14.3</b>  |

| Segment 1                                  |   |                    |  |                    |                        |                   |                   |  |                |                  |                  |                 |  |  |  |  |  |  |  |                  |  |  |  |
|--|---|--------------------|--|--------------------|------------------------|-------------------|-------------------|--|----------------|------------------|------------------|-----------------|--|--|--|--|--|--|--|------------------|--|--|--|
| SEG  | Length  | SEG                | Length   | SEG                | Length                 | SEG               | Length            | SEG  | Length         | SEG              | Length           |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 1  | 14.305  | 1                  | 14.305   | 1                  | 14.305                 | 1                 | 14.305            | 1  | 14.305         | 1                | 14.305           |                 |  |  |  |  |  |  |  |                  |  |  |  |
| ALT  | Description   | ALT                | Description  | ALT                | Description            | ALT               | Description       | ALT  | Description    | ALT              | Description      |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 1  | Heavy Bituminous Mill and Overlay-Mill 3" and 5" OL | 2                  | Medium Bituminous Mill and Overlay-1.5" Mill and 3" OL | 3                  | 7" UBOL                |                   |                   |  |                |                  |                  |                 |  |  |  |  |  |  |  |                  |  |  |  |
| Pavement Type                              | HMA   | Pavement Type      | HMA  | Pavement Type      | PCC                    |                   |                   |  |                |                  |                  |                 |  |  |  |  |  |  |  |                  |  |  |  |
| Primary Category                           | 20-year HMA   | Primary Category   | Overlay  | Primary Category   | > 11' Joint Spacing    |                   |                   |  |                |                  |                  |                 |  |  |  |  |  |  |  |                  |  |  |  |
| Secondary Category                         | Rural   | Secondary Category | Rural  | Secondary Category | Design Life = 20 years |                   |                   |  |                |                  |                  |                 |  |  |  |  |  |  |  |                  |  |  |  |
| Shoulder Category                          | Bituminous  | Shoulder Category  | Bituminous   | Shoulder Category  | Thin Bit.              |                   |                   |  |                |                  |                  |                 |  |  |  |  |  |  |  |                  |  |  |  |
| Notes:                                     |   | Notes:             |  | Notes:             |                        |                   |                   |  |                |                  |                  |                 |  |  |  |  |  |  |  |                  |  |  |  |
| Year                                       | Activity  | Cost               | Present Cost   | Year               | Activity               | Cost              | Present Cost      | Year                                       | Activity       | Cost             | Present Cost     |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 0  | Construction  | \$ 4,164,398.76    | \$ 4,164,398.76  | 0                  | Construction           | \$ 2,756,593.07   | \$ 2,756,593.07   | 0  | Construction   | \$ 10,330,840.02 | \$ 10,330,840.02 |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 1  |   | \$ -               | \$ -   | 1                  |                        | \$ -              | \$ -              | 1  |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 2  |   | \$ -               | \$ -   | 2                  |                        | \$ -              | \$ -              | 2  |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 3  |   | \$ -               | \$ -   | 3                  | Crack Treatment        | \$ 29,547.47      | \$ 28,970.07      | 3  |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 4  |   | \$ -               | \$ -   | 4                  |                        | \$ -              | \$ -              | 4  |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 5  |   | \$ -               | \$ -   | 5                  |                        | \$ -              | \$ -              | 5  |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 6  |   | \$ -               | \$ -   | 6                  |                        | \$ -              | \$ -              | 6  |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 7  |   | \$ -               | \$ -   | 7                  | Seal                   | \$ 105,675.57     | \$ 100,919.74     | 7  |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 8  | Crack Treatment                                     | \$ 14,814.76       | \$ 14,055.27   | 8                  |                        | \$ -              | \$ -              | 8  |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 9  |   | \$ -               | \$ -   | 9                  |                        | \$ -              | \$ -              | 9  |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 10   |   | \$ -               | \$ -   | 10                 |                        | \$ -              | \$ -              | 10   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 11   |   | \$ -               | \$ -   | 11                 |                        | \$ -              | \$ -              | 11   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 12   |   | \$ -               | \$ -   | 12                 |                        | \$ -              | \$ -              | 12   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 13   | Seal  | \$ 203,735.78      | \$ 188,271.33  | 13                 |                        | \$ -              | \$ -              | 13   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 14   |   | \$ -               | \$ -   | 14                 |                        | \$ -              | \$ -              | 14   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 15   |   | \$ -               | \$ -   | 15                 | Mill/Overlay           | \$ 2,936,060.76   | \$ 2,660,180.76   | 15   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 16   |   | \$ -               | \$ -   | 16                 |                        | \$ -              | \$ -              | 16   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 17   |   | \$ -               | \$ -   | 17                 |                        | \$ -              | \$ -              | 17   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 18   |   | \$ -               | \$ -   | 18                 | Crack Treatment        | \$ 29,547.47      | \$ 26,247.97      | 18   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 19   |   | \$ -               | \$ -   | 19                 |                        | \$ -              | \$ -              | 19   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 20   | Mill/Overlay  | \$ 3,231,956.83    | \$ 2,833,524.88  | 20                 |                        | \$ -              | \$ -              | 20   | 1st CPR        | \$ 5,588,503.80  | \$ 4,899,559.42  |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 21   |   | \$ -               | \$ -   | 21                 |                        | \$ -              | \$ -              | 21   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 22   |   | \$ -               | \$ -   | 22                 | Seal                   | \$ 105,675.57     | \$ 91,437.06      | 22   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 23   | Crack Treatment                                     | \$ 29,547.47       | \$ 25,398.67   | 23                 |                        | \$ -              | \$ -              | 23   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 24   |   | \$ -               | \$ -   | 24                 |                        | \$ -              | \$ -              | 24   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 25   |   | \$ -               | \$ -   | 25                 |                        | \$ -              | \$ -              | 25   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 26   |   | \$ -               | \$ -   | 26                 |                        | \$ -              | \$ -              | 26   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 27   | Seal  | \$ 105,675.57      | \$ 88,478.47   | 27                 |                        | \$ -              | \$ -              | 27   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 28   |   | \$ -               | \$ -   | 28                 |                        | \$ -              | \$ -              | 28   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 29   |   | \$ -               | \$ -   | 29                 | Mill/Overlay           | \$ 2,936,060.76   | \$ 2,426,130.64   | 29   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 30   |   | \$ -               | \$ -   | 30                 |                        | \$ -              | \$ -              | 30   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 31   |   | \$ -               | \$ -   | 31                 |                        | \$ -              | \$ -              | 31   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 32   |   | \$ -               | \$ -   | 32                 | Crack Treatment        | \$ 29,547.47      | \$ 23,938.60      | 32   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 33   |   | \$ -               | \$ -   | 33                 |                        | \$ -              | \$ -              | 33   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 34   |   | \$ -               | \$ -   | 34                 |                        | \$ -              | \$ -              | 34   |                | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| 35   | Remaining Life                                      | \$ (380,230.22)    | \$ (302,032.87)  | 35                 | Remaining Life         | \$ (1,580,955.79) | \$ (1,255,819.76) | 35   | Remaining Life | \$ -             | \$ -             |                 |  |  |  |  |  |  |  |                  |  |  |  |
| Net Present Cost for Segment               |   |                    |  | \$ 7,012,094.51    |                        |                   |                   | Net Present Cost for Segment               |                |                  |                  | \$ 6,858,598.13 |  |  |  | Net Present Cost for Segment               |  |  |  | \$ 15,230,399.44 |  |  |  |
| Maintenance - Net Present Cost for Segment |   |                    |  | \$ 2,847,695.75    |                        |                   |                   | Maintenance - Net Present Cost for Segment |                |                  |                  | \$ 4,102,005.06 |  |  |  | Maintenance - Net Present Cost for Segment |  |  |  | \$ 4,899,559.42  |  |  |  |
| Equivalent Annual Cost                     |   |                    |  | 225,033.06         |                        |                   |                   | Equivalent Annual Cost                     |                |                  |                  | 220,107.03      |  |  |  | Equivalent Annual Cost                     |  |  |  | 488,775.99       |  |  |  |

| 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              | 26                     | 2                 | 35              |
| ML Mix                 |                   |                 | ML Mix                 |                   |                 | ML Mix                 |                   |                 |
| 16                     | 2                 | 12.5 WE (3,B)   | 16                     | 2                 | 12.5 WE (3,B)   | 14                     | 2                 | 12.5 WE (3,B)   |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 3                      | No                | 12.5 WE (2,B)   | 3                      | No                | 12.5 WE (2,B)   | 3                      | No                | 12.5 WE (2,B)   |
| Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 |
| No                     |                   |                 | No                     |                   |                 | No                     | 7                 |                 |
| ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 |
| 2                      |                   |                 | 1.5                    |                   |                 | 15                     |                   |                 |
| Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 |
| 20                     | 6                 |                 | 15                     | 5.5               |                 | 20                     | 5.5               |                 |

35-Year Analysis Period

| Project Number  | Analysis Period |
|-----------------|-----------------|
| 8204-077        | 35              |
| Highway         | Discount Rate   |
| 36              | 1.02%           |
| Date            | Inflation Rate  |
| 10/2/2020       | 1               |
| Performed By    | la/(1+r)        |
| Dave Van Deusen | 0.9899          |

Notes:

| LCCA SUMMARY                    |                     |                       |   |              |
|---------------------------------|---------------------|-----------------------|---|--------------|
|                                 | Alternate #1        | Alternate #2          | Alternate #3                            | Length       |
| Segment #1                      | 4" mill / 4" inlay  | 4" mill / 7" PCC      | 2" mill / 9" FDR / 6" SFDR / 5" overlay | 1.0          |
| Net Present Cost                | \$690,618.34        | \$1,539,600.06        | \$979,027.91                            | 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        |
| <b>Project Net Present Cost</b> | <b>\$690,618.34</b> | <b>\$1,539,600.06</b> | <b>\$979,027.91</b>                     | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>       | <b>222.9%</b>         | <b>141.8%</b>                           | <b>1.0</b>   |

| Segment 1                                  |                    |                        |                  |  |   |                 |                 |  |                 |                |                |
|--|--------------------|------------------------|------------------|--|---|-----------------|-----------------|--|-----------------|----------------|----------------|
| SEG  | Length             | SEG                    | Length           | SEG  | Length                                  |                 |                 |  |                 |                |                |
| 1  | 1                  | 1                      | 1                | 1  | 1                                       |                 |                 |  |                 |                |                |
| ALT  | Description        | ALT                    | Description      | ALT  | Description                             |                 |                 |  |                 |                |                |
| 1  | 4" mill / 4" inlay | 2                      | 4" mill / 7" PCC | 3  | 2" mill / 9" FDR / 6" SFDR / 5" overlay |                 |                 |  |                 |                |                |
| Pavement Type                              |                    | Pavement Type          |                  | Pavement Type                              |   |                 |                 |  |                 |                |                |
| HMA  |                    | PCC                    |                  | HMA  |   |                 |                 |  |                 |                |                |
| Primary Category                           |                    | Primary Category       |                  | Primary Category                           |   |                 |                 |  |                 |                |                |
| Overlay                                    |                    | > 11' Joint Spacing    |                  | 20-year HMA                                |   |                 |                 |  |                 |                |                |
| Secondary Category                         |                    | Secondary Category     |                  | Secondary Category                         |   |                 |                 |  |                 |                |                |
| Urban                                      |                    | Design Life = 20 years |                  | Urban                                      |   |                 |                 |  |                 |                |                |
| Shoulder Category                          |                    | Shoulder Category      |                  | Shoulder Category                          |   |                 |                 |  |                 |                |                |
| Thick Bit.                                 |                    | PCC                    |                  | Thick Bit.                                 |   |                 |                 |  |                 |                |                |
| Notes:                                     |                    | Notes:                 |                  | Notes:                                     |   |                 |                 |  |                 |                |                |
| Year                                       | Activity           | Cost                   | Present Cost     | Year                                       | Activity                                | Cost            | Present Cost    | Year                                       | Activity        | Cost           | Present Cost   |
| 0  | Construction       | \$ 434,778.90          | \$ 434,778.90    | 0  | Construction                            | \$ 1,254,040.85 | \$ 1,254,040.85 | 0  | Construction    | \$ 723,433.32  | \$ 723,433.32  |
| 1  |                    | \$ -                   | \$ -             | 1  |   | \$ -            | \$ -            | 1  |                 | \$ -           | \$ -           |
| 2  |                    | \$ -                   | \$ -             | 2  |   | \$ -            | \$ -            | 2  |                 | \$ -           | \$ -           |
| 3  | Crack Treatment    | \$ 2,347.48            | \$ 2,277.09      | 3  |   | \$ -            | \$ -            | 3  |                 | \$ -           | \$ -           |
| 4  |                    | \$ -                   | \$ -             | 4  |   | \$ -            | \$ -            | 4  |                 | \$ -           | \$ -           |
| 5  |                    | \$ -                   | \$ -             | 5  |   | \$ -            | \$ -            | 5  |                 | \$ -           | \$ -           |
| 6  |                    | \$ -                   | \$ -             | 6  |   | \$ -            | \$ -            | 6  |                 | \$ -           | \$ -           |
| 7  | Seal               | \$ 10,683.50           | \$ 9,950.89      | 7  |   | \$ -            | \$ -            | 7  |                 | \$ -           | \$ -           |
| 8  |                    | \$ -                   | \$ -             | 8  |   | \$ -            | \$ -            | 8  | Crack Treatment | \$ 1,177.00    | \$ 1,085.22    |
| 9  |                    | \$ -                   | \$ -             | 9  |   | \$ -            | \$ -            | 9  |                 | \$ -           | \$ -           |
| 10   |                    | \$ -                   | \$ -             | 10   |   | \$ -            | \$ -            | 10   |                 | \$ -           | \$ -           |
| 11   |                    | \$ -                   | \$ -             | 11   |   | \$ -            | \$ -            | 11   |                 | \$ -           | \$ -           |
| 12   |                    | \$ -                   | \$ -             | 12   |   | \$ -            | \$ -            | 12   | Seal            | \$ 18,320.34   | \$ 16,219.79   |
| 13   |                    | \$ -                   | \$ -             | 13   |   | \$ -            | \$ -            | 13   |                 | \$ -           | \$ -           |
| 14   |                    | \$ -                   | \$ -             | 14   |   | \$ -            | \$ -            | 14   |                 | \$ -           | \$ -           |
| 15   |                    | \$ -                   | \$ -             | 15   |   | \$ -            | \$ -            | 15   |                 | \$ -           | \$ -           |
| 16   |                    | \$ -                   | \$ -             | 16   |   | \$ -            | \$ -            | 16   |                 | \$ -           | \$ -           |
| 17   |                    | \$ -                   | \$ -             | 17   |   | \$ -            | \$ -            | 17   |                 | \$ -           | \$ -           |
| 18   |                    | \$ -                   | \$ -             | 18   |   | \$ -            | \$ -            | 18   |                 | \$ -           | \$ -           |
| 19   |                    | \$ -                   | \$ -             | 19   |   | \$ -            | \$ -            | 19   |                 | \$ -           | \$ -           |
| 20   | Mill/Overlay       | \$ 349,369.37          | \$ 285,192.14    | 20   | 1st CPR                                 | \$ 349,819.05   | \$ 285,559.21   | 20   | Mill/Overlay    | \$ 311,118.01  | \$ 253,967.34  |
| 21   |                    | \$ -                   | \$ -             | 21   |   | \$ -            | \$ -            | 21   |                 | \$ -           | \$ -           |
| 22   |                    | \$ -                   | \$ -             | 22   |   | \$ -            | \$ -            | 22   |                 | \$ -           | \$ -           |
| 23   | Crack Treatment    | \$ 2,347.48            | \$ 1,858.80      | 23   |   | \$ -            | \$ -            | 23   | Crack Treatment | \$ 2,347.48    | \$ 1,858.80    |
| 24   |                    | \$ -                   | \$ -             | 24   |   | \$ -            | \$ -            | 24   |                 | \$ -           | \$ -           |
| 25   |                    | \$ -                   | \$ -             | 25   |   | \$ -            | \$ -            | 25   |                 | \$ -           | \$ -           |
| 26   |                    | \$ -                   | \$ -             | 26   |   | \$ -            | \$ -            | 26   |                 | \$ -           | \$ -           |
| 27   | Seal               | \$ 10,683.50           | \$ 8,122.97      | 27   |   | \$ -            | \$ -            | 27   | Seal            | \$ 10,683.50   | \$ 8,122.97    |
| 28   |                    | \$ -                   | \$ -             | 28   |   | \$ -            | \$ -            | 28   |                 | \$ -           | \$ -           |
| 29   |                    | \$ -                   | \$ -             | 29   |   | \$ -            | \$ -            | 29   |                 | \$ -           | \$ -           |
| 30   |                    | \$ -                   | \$ -             | 30   |   | \$ -            | \$ -            | 30   |                 | \$ -           | \$ -           |
| 31   |                    | \$ -                   | \$ -             | 31   |   | \$ -            | \$ -            | 31   |                 | \$ -           | \$ -           |
| 32   |                    | \$ -                   | \$ -             | 32   |   | \$ -            | \$ -            | 32   |                 | \$ -           | \$ -           |
| 33   |                    | \$ -                   | \$ -             | 33   |   | \$ -            | \$ -            | 33   |                 | \$ -           | \$ -           |
| 34   |                    | \$ -                   | \$ -             | 34   |   | \$ -            | \$ -            | 34   |                 | \$ -           | \$ -           |
| 35   | Remaining Life     | \$ (73,551.45)         | \$ (51,562.44)   | 35   | Remaining Life                          | \$ -            | \$ -            | 35   | Remaining Life  | \$ (36,602.12) | \$ (25,659.52) |
| Net Present Cost for Segment               |                    | \$ 690,618.34          |                  | Net Present Cost for Segment               |   | \$ 1,539,600.06 |                 | Net Present Cost for Segment               |                 | \$ 979,027.91  |                |
| Maintenance - Net Present Cost for Segment |                    | \$ 255,839.44          |                  | Maintenance - Net Present Cost for Segment |   | \$ 285,559.21   |                 | Maintenance - Net Present Cost for Segment |                 | \$ 255,594.59  |                |
| Equivalent Annual Cost                     |                    | 23,562.64              |                  | Equivalent Annual Cost                     |   | 52,528.35       |                 | Equivalent Annual Cost                     |                 | 33,402.65      |                |

| Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period | Total Lane Width       | # of Lanes        | Analysis Period |
|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|------------------------|-------------------|-----------------|
| 27                     | 2                 | 35              | 27                     | 2                 | 35              | 27                     | 2                 | 35              |
| Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          | Total Shldr Width      | # of Shldrs       | ML Mix          |
| 10                     | 1                 | 9.5 WE (4,F)    | 10                     | 1                 | 9.5 WE (4,F)    | 10                     | 1                 | 9.5 WE (4,F)    |
| Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          | Rounding Agg. Width    | white/ >7 milliom | SL Mix          |
| 3                      | No                | 9.5 WE (3,B)    | 3                      | No                | 9.5 WE (3,B)    | 3                      | No                | 9.5 WE (3,B)    |
| Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 | Sealed/UTBWC           | ML Thickness      |                 |
| No                     |                   |                 | No                     | 7                 |                 | No                     |                   |                 |
| ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 | ML Top Lift/It spacing |                   |                 |
| 2                      |                   |                 | 15                     |                   |                 | 1.5                    |                   |                 |
| Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 | Design Life            | Shldr Thickness   |                 |
| 20                     | 5                 |                 | 20                     | 7                 |                 | 20                     | 5                 |                 |

35-Year Analysis Period

| Project Number | Analysis Period |
|----------------|-----------------|
| 4              | 35              |
| Highway        | Discount Rate   |
| 8302-48        | 0.66%           |
| Date           | Inflation Rate  |
| 14-Sep         | 1               |
| Performed By   | la/(1+r)        |
| Mike Schoeb    | 0.9934          |

Notes:

| LCCA SUMMARY                    |                       |                        |                        |              |
|---------------------------------|-----------------------|------------------------|------------------------|--------------|
|                                 | Alternate #1          | Alternate #2           | Alternate #3           | Length       |
| Segment #1                      | Mill and Overlay      | Bituminous Reconstruct | Concrete Reconstruct   | 12.9         |
| Net Present Cost                | \$6,739,311.32        | \$13,508,583.98        | \$13,340,183.36        | 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        |
| <b>Project Net Present Cost</b> | <b>\$6,739,311.32</b> | <b>\$13,508,583.98</b> | <b>\$13,340,183.36</b> | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>         | <b>200.4%</b>          | <b>197.9%</b>          | <b>12.9</b>  |

| Segment 1                                  |                   |                   |                   |  |                        |                  |                  |  |                      |                  |                  |
|--|-------------------|-------------------|-------------------|--|------------------------|------------------|------------------|--|----------------------|------------------|------------------|
| SEG  | Length            |                   |                   | SEG  | Length                 |                  |                  | SEG  | Length               |                  |                  |
| 1  | 12.9              |                   |                   | 1  | 12.9                   |                  |                  | 1  | 12.9                 |                  |                  |
| ALT  | Description       |                   |                   | ALT  | Description            |                  |                  | ALT  | Description          |                  |                  |
| 1  | Mill and Overlay  |                   |                   | 2  | Bituminous Reconstruct |                  |                  | 3  | Concrete Reconstruct |                  |                  |
| Pavement Type                              |                   |                   |                   | Pavement Type                              |                        |                  |                  | Pavement Type                              |                      |                  |                  |
| HMA  |                   |                   |                   | HMA  |                        |                  |                  | PCC  |                      |                  |                  |
| Primary Category                           |                   |                   |                   | Primary Category                           |                        |                  |                  | Primary Category                           |                      |                  |                  |
| Overlay                                    |                   |                   |                   | 20-year HMA                                |                        |                  |                  | > 11' Joint Spacing                        |                      |                  |                  |
| Secondary Category                         |                   |                   |                   | Secondary Category                         |                        |                  |                  | Secondary Category                         |                      |                  |                  |
| Rural                                      |                   |                   |                   | Rural                                      |                        |                  |                  | Design Life = 35 years                     |                      |                  |                  |
| Shoulder Category                          |                   |                   |                   | Shoulder Category                          |                        |                  |                  | Shoulder Category                          |                      |                  |                  |
| Aggregate                                  |                   |                   |                   | Aggregate                                  |                        |                  |                  | Aggregate                                  |                      |                  |                  |
| Notes:                                     |                   |                   |                   | Notes:                                     |                        |                  |                  | Notes:                                     |                      |                  |                  |
| Year                                       | Activity          | Cost              | Present Cost      | Year                                       | Activity               | Cost             | Present Cost     | Year                                       | Activity             | Cost             | Present Cost     |
| 0  | Construction      | \$ 3,693,303.17   | \$ 3,693,303.17   | 0  | Construction           | \$ 10,725,554.94 | \$ 10,725,554.94 | 0  | Construction         | \$ 11,200,595.19 | \$ 11,200,595.19 |
| 1  |                   | \$ -              | \$ -              | 1  |                        | \$ -             | \$ -             | 1  |                      | \$ -             | \$ -             |
| 2  |                   | \$ -              | \$ -              | 2  |                        | \$ -             | \$ -             | 2  |                      | \$ -             | \$ -             |
| 3  | Crack Treatment   | \$ 31,079.98      | \$ 30,472.63      | 3  |                        | \$ -             | \$ -             | 3  |                      | \$ -             | \$ -             |
| 4  |                   | \$ -              | \$ -              | 4  |                        | \$ -             | \$ -             | 4  |                      | \$ -             | \$ -             |
| 5  |                   | \$ -              | \$ -              | 5  |                        | \$ -             | \$ -             | 5  |                      | \$ -             | \$ -             |
| 6  |                   | \$ -              | \$ -              | 6  |                        | \$ -             | \$ -             | 6  |                      | \$ -             | \$ -             |
| 7  | Seal              | \$ 95,457.16      | \$ 91,161.20      | 7  |                        | \$ -             | \$ -             | 7  |                      | \$ -             | \$ -             |
| 8  |                   | \$ -              | \$ -              | 8  | Crack Treatment        | \$ 15,583.14     | \$ 14,784.26     | 8  |                      | \$ -             | \$ -             |
| 9  |                   | \$ -              | \$ -              | 9  |                        | \$ -             | \$ -             | 9  |                      | \$ -             | \$ -             |
| 10   |                   | \$ -              | \$ -              | 10   |                        | \$ -             | \$ -             | 10   |                      | \$ -             | \$ -             |
| 11   |                   | \$ -              | \$ -              | 11   |                        | \$ -             | \$ -             | 11   |                      | \$ -             | \$ -             |
| 12   |                   | \$ -              | \$ -              | 12   | Seal                   | \$ 194,023.27    | \$ 179,296.04    | 12   |                      | \$ -             | \$ -             |
| 13   |                   | \$ -              | \$ -              | 13   |                        | \$ -             | \$ -             | 13   |                      | \$ -             | \$ -             |
| 14   |                   | \$ -              | \$ -              | 14   |                        | \$ -             | \$ -             | 14   |                      | \$ -             | \$ -             |
| 15   |                   | \$ -              | \$ -              | 15   |                        | \$ -             | \$ -             | 15   |                      | \$ -             | \$ -             |
| 16   |                   | \$ -              | \$ -              | 16   |                        | \$ -             | \$ -             | 16   |                      | \$ -             | \$ -             |
| 17   | Mill/Overlay      | \$ 2,786,002.42   | \$ 2,491,229.55   | 17   |                        | \$ -             | \$ -             | 17   |                      | \$ -             | \$ -             |
| 18   |                   | \$ -              | \$ -              | 18   |                        | \$ -             | \$ -             | 18   |                      | \$ -             | \$ -             |
| 19   |                   | \$ -              | \$ -              | 19   |                        | \$ -             | \$ -             | 19   |                      | \$ -             | \$ -             |
| 20   | Crack Treatment   | \$ 31,079.98      | \$ 27,248.48      | 20   | Mill/Overlay           | \$ 3,169,165.87  | \$ 2,778,474.72  | 20   | 1st CPR              | \$ 2,440,443.23  | \$ 2,139,588.17  |
| 21   |                   | \$ -              | \$ -              | 21   |                        | \$ -             | \$ -             | 21   |                      | \$ -             | \$ -             |
| 22   |                   | \$ -              | \$ -              | 22   |                        | \$ -             | \$ -             | 22   |                      | \$ -             | \$ -             |
| 23   |                   | \$ -              | \$ -              | 23   | Crack Treatment        | \$ 31,079.98     | \$ 26,716.00     | 23   |                      | \$ -             | \$ -             |
| 24   | Seal              | \$ 95,457.16      | \$ 81,515.90      | 24   |                        | \$ -             | \$ -             | 24   |                      | \$ -             | \$ -             |
| 25   |                   | \$ -              | \$ -              | 25   |                        | \$ -             | \$ -             | 25   |                      | \$ -             | \$ -             |
| 26   |                   | \$ -              | \$ -              | 26   |                        | \$ -             | \$ -             | 26   |                      | \$ -             | \$ -             |
| 27   |                   | \$ -              | \$ -              | 27   | Seal                   | \$ 95,457.16     | \$ 79,922.95     | 27   |                      | \$ -             | \$ -             |
| 28   |                   | \$ -              | \$ -              | 28   |                        | \$ -             | \$ -             | 28   |                      | \$ -             | \$ -             |
| 29   |                   | \$ -              | \$ -              | 29   |                        | \$ -             | \$ -             | 29   |                      | \$ -             | \$ -             |
| 30   |                   | \$ -              | \$ -              | 30   |                        | \$ -             | \$ -             | 30   |                      | \$ -             | \$ -             |
| 31   |                   | \$ -              | \$ -              | 31   |                        | \$ -             | \$ -             | 31   |                      | \$ -             | \$ -             |
| 32   |                   | \$ -              | \$ -              | 32   |                        | \$ -             | \$ -             | 32   |                      | \$ -             | \$ -             |
| 33   | Mill/Overlay      | \$ 2,786,002.42   | \$ 2,242,347.57   | 33   |                        | \$ -             | \$ -             | 33   |                      | \$ -             | \$ -             |
| 34   |                   | \$ -              | \$ -              | 34   |                        | \$ -             | \$ -             | 34   |                      | \$ -             | \$ -             |
| 35   | Remaining Life    | \$ (2,414,535.43) | \$ (1,917,967.18) | 35   | Remaining Life         | \$ (372,843.04)  | \$ (296,164.93)  | 35   | Remaining Life       | \$ -             | \$ -             |
| Net Present Cost for Segment               |                   | \$ 6,739,311.32   |                   | Net Present Cost for Segment               |                        | \$ 13,508,583.98 |                  | Net Present Cost for Segment               |                      | \$ 13,340,183.36 |                  |
| Maintenance - Net Present Cost for Segment |                   | \$ 3,046,008.15   |                   | Maintenance - Net Present Cost for Segment |                        | \$ 2,783,029.04  |                  | Maintenance - Net Present Cost for Segment |                      | \$ 2,139,588.17  |                  |
| Equivalent Annual Cost                     |                   | 216,278.87        |                   | Equivalent Annual Cost                     |                        | 433,519.26       |                  | Equivalent Annual Cost                     |                      | 428,114.92       |                  |
| 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           |                  |
| 4  | 2                 | 12.5 WE (4,B)     |                   | 4  | 2                      | 12.5 WE (4,B)    |                  | 4  | 2                    |                  |                  |
| Rounding Agg. Width                        | white/ >7 milliom | SL Mix            |                   | Rounding Agg. Width                        | white/ >7 milliom      | SL Mix           |                  | Rounding Agg. Width                        | white/ >7 milliom    | SL Mix           |                  |
| 3  | No                |                   |                   | 3  | No                     |                  |                  | 3  | No                   |                  |                  |
| Sealed/UTBWC                               | ML Thickness      |                   |                   | Sealed/UTBWC                               | ML Thickness           |                  |                  | Sealed/UTBWC                               | ML Thickness         |                  |                  |
| No   |                   |                   |                   | No   |                        |                  |                  | No   | 7                    |                  |                  |
| ML Top Lift/It spacing                     |                   |                   |                   | ML Top Lift/It spacing                     |                        |                  |                  | ML Top Lift/It spacing                     |                      |                  |                  |
| 2  |                   |                   |                   | 2  |                        |                  |                  | 15   |                      |                  |                  |
| Design Life                                | Shldr Thickness   |                   |                   | Design Life                                | Shldr Thickness        |                  |                  | Design Life                                | Shldr Thickness      |                  |                  |
| 17   | 2                 |                   |                   | 20   | 4                      |                  |                  | 35   | 4                    |                  |                  |

50-Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| 8304-118       | 50              |
| Highway        | Discount Rate   |
| 15             | 1.02%           |
| Date           | Inflation Rate  |
| 10/2/2020      | 1               |
| Performed By   | la/(1+r)        |
| CJF            | 0.9899          |

Notes:

| LCCA SUMMARY                    |                        |                       |                        |              |
|---------------------------------|------------------------|-----------------------|------------------------|--------------|
|                                 | Alternate #1           | Alternate #2          | Alternate #3           | Length       |
| Segment #1                      | 20 yr bit              | 35yr conc             | 20yr Conc              | 6.7          |
| Net Present Cost                | \$10,096,226.61        | \$8,331,311.31        | \$10,405,491.59        | 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        |
| <b>Project Net Present Cost</b> | <b>\$10,096,226.61</b> | <b>\$8,331,311.31</b> | <b>\$10,405,491.59</b> | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>121.2%</b>          | <b>100.0%</b>         | <b>124.9%</b>          | <b>6.7</b>   |

| Segment 1                                  |                 |                        |                   |  |                |                 |                   |  |                |                   |                   |
|--|-----------------|------------------------|-------------------|--|----------------|-----------------|-------------------|--|----------------|-------------------|-------------------|
| SEG  | Length          | SEG                    | Length            | SEG  | Length         |                 |                   |  |                |                   |                   |
| 1  | 6.7             | 1                      | 6.7               | 1  | 6.7            |                 |                   |  |                |                   |                   |
| ALT  | Description     | ALT                    | Description       | ALT  | Description    |                 |                   |  |                |                   |                   |
| 1  | 20 yr bit       | 2                      | 35yr conc         | 3  | 20yr Conc      |                 |                   |  |                |                   |                   |
| Pavement Type                              |                 | Pavement Type          |                   | Pavement Type                              |                |                 |                   |  |                |                   |                   |
| HMA  |                 | PCC                    |                   | PCC  |                |                 |                   |  |                |                   |                   |
| Primary Category                           |                 | Primary Category       |                   | Primary Category                           |                |                 |                   |  |                |                   |                   |
| 20-year HMA                                |                 | > 11' Joint Spacing    |                   | > 11' Joint Spacing                        |                |                 |                   |  |                |                   |                   |
| Secondary Category                         |                 | Secondary Category     |                   | Secondary Category                         |                |                 |                   |  |                |                   |                   |
| Rural                                      |                 | Design Life = 35 years |                   | Design Life = 20 years                     |                |                 |                   |  |                |                   |                   |
| Shoulder Category                          |                 | Shoulder Category      |                   | Shoulder Category                          |                |                 |                   |  |                |                   |                   |
| Bituminous                                 |                 | Thick Bit.             |                   | Thick Bit.                                 |                |                 |                   |  |                |                   |                   |
| Notes:                                     |                 | Notes:                 |                   | Notes:                                     |                |                 |                   |  |                |                   |                   |
| Year                                       | Activity        | Cost                   | Present Cost      | Year                                       | Activity       | Cost            | Present Cost      | Year                                       | Activity       | Cost              | Present Cost      |
| 0  | Construction    | \$ 7,373,221.61        | \$ 7,373,221.61   | 0  | Construction   | \$ 5,858,936.72 | \$ 5,858,936.72   | 0  | Construction   | \$ 5,593,950.43   | \$ 5,593,950.43   |
| 1  |                 | \$ -                   | \$ -              | 1  |                | \$ -            | \$ -              | 1  |                | \$ -              | \$ -              |
| 2  |                 | \$ -                   | \$ -              | 2  |                | \$ -            | \$ -              | 2  |                | \$ -              | \$ -              |
| 3  |                 | \$ -                   | \$ -              | 3  |                | \$ -            | \$ -              | 3  |                | \$ -              | \$ -              |
| 4  |                 | \$ -                   | \$ -              | 4  |                | \$ -            | \$ -              | 4  |                | \$ -              | \$ -              |
| 5  |                 | \$ -                   | \$ -              | 5  |                | \$ -            | \$ -              | 5  |                | \$ -              | \$ -              |
| 6  |                 | \$ -                   | \$ -              | 6  |                | \$ -            | \$ -              | 6  |                | \$ -              | \$ -              |
| 7  |                 | \$ -                   | \$ -              | 7  |                | \$ -            | \$ -              | 7  |                | \$ -              | \$ -              |
| 8  | Crack Treatment | \$ 8,403.44            | \$ 7,748.15       | 8  |                | \$ -            | \$ -              | 8  |                | \$ -              | \$ -              |
| 9  |                 | \$ -                   | \$ -              | 9  |                | \$ -            | \$ -              | 9  |                | \$ -              | \$ -              |
| 10   |                 | \$ -                   | \$ -              | 10   |                | \$ -            | \$ -              | 10   |                | \$ -              | \$ -              |
| 11   |                 | \$ -                   | \$ -              | 11   |                | \$ -            | \$ -              | 11   |                | \$ -              | \$ -              |
| 12   | Seal            | \$ 118,524.28          | \$ 104,934.66     | 12   |                | \$ -            | \$ -              | 12   |                | \$ -              | \$ -              |
| 13   |                 | \$ -                   | \$ -              | 13   |                | \$ -            | \$ -              | 13   |                | \$ -              | \$ -              |
| 14   |                 | \$ -                   | \$ -              | 14   |                | \$ -            | \$ -              | 14   |                | \$ -              | \$ -              |
| 15   |                 | \$ -                   | \$ -              | 15   |                | \$ -            | \$ -              | 15   |                | \$ -              | \$ -              |
| 16   |                 | \$ -                   | \$ -              | 16   |                | \$ -            | \$ -              | 16   |                | \$ -              | \$ -              |
| 17   |                 | \$ -                   | \$ -              | 17   |                | \$ -            | \$ -              | 17   |                | \$ -              | \$ -              |
| 18   |                 | \$ -                   | \$ -              | 18   |                | \$ -            | \$ -              | 18   |                | \$ -              | \$ -              |
| 19   |                 | \$ -                   | \$ -              | 19   |                | \$ -            | \$ -              | 19   |                | \$ -              | \$ -              |
| 20   | Mill/Overlay    | \$ 1,906,841.42        | \$ 1,556,565.11   | 20   | 1st CPR        | \$ 1,601,382.70 | \$ 1,307,217.48   | 20   | 1st CPR        | \$ 2,285,987.32   | \$ 1,866,063.99   |
| 21   |                 | \$ -                   | \$ -              | 21   |                | \$ -            | \$ -              | 21   |                | \$ -              | \$ -              |
| 22   |                 | \$ -                   | \$ -              | 22   |                | \$ -            | \$ -              | 22   |                | \$ -              | \$ -              |
| 23   | Crack Treatment | \$ 16,760.35           | \$ 13,271.30      | 23   |                | \$ -            | \$ -              | 23   |                | \$ -              | \$ -              |
| 24   |                 | \$ -                   | \$ -              | 24   |                | \$ -            | \$ -              | 24   |                | \$ -              | \$ -              |
| 25   |                 | \$ -                   | \$ -              | 25   |                | \$ -            | \$ -              | 25   |                | \$ -              | \$ -              |
| 26   |                 | \$ -                   | \$ -              | 26   |                | \$ -            | \$ -              | 26   |                | \$ -              | \$ -              |
| 27   | Seal            | \$ 66,448.25           | \$ 50,522.48      | 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        | \$ 1,662,042.92 | \$ 1,165,157.11   | 35   | R & R Mainline | \$ 5,350,287.58   | \$ 3,750,760.90   |
| 36   |                 | \$ -                   | \$ -              | 36   |                | \$ -            | \$ -              | 36   |                | \$ -              | \$ -              |
| 37   | Mill/Overlay    | \$ 1,717,011.67        | \$ 1,179,507.68   | 37   |                | \$ -            | \$ -              | 37   |                | \$ -              | \$ -              |
| 38   |                 | \$ -                   | \$ -              | 38   |                | \$ -            | \$ -              | 38   |                | \$ -              | \$ -              |
| 39   |                 | \$ -                   | \$ -              | 39   |                | \$ -            | \$ -              | 39   |                | \$ -              | \$ -              |
| 40   | Crack Treatment | \$ 16,760.35           | \$ 11,168.33      | 40   |                | \$ -            | \$ -              | 40   |                | \$ -              | \$ -              |
| 41   |                 | \$ -                   | \$ -              | 41   |                | \$ -            | \$ -              | 41   |                | \$ -              | \$ -              |
| 42   |                 | \$ -                   | \$ -              | 42   |                | \$ -            | \$ -              | 42   |                | \$ -              | \$ -              |
| 43   |                 | \$ -                   | \$ -              | 43   |                | \$ -            | \$ -              | 43   |                | \$ -              | \$ -              |
| 44   | Seal            | \$ 66,448.25           | \$ 42,516.69      | 44   |                | \$ -            | \$ -              | 44   |                | \$ -              | \$ -              |
| 45   |                 | \$ -                   | \$ -              | 45   |                | \$ -            | \$ -              | 45   |                | \$ -              | \$ -              |
| 46   |                 | \$ -                   | \$ -              | 46   |                | \$ -            | \$ -              | 46   |                | \$ -              | \$ -              |
| 47   |                 | \$ -                   | \$ -              | 47   |                | \$ -            | \$ -              | 47   |                | \$ -              | \$ -              |
| 48   |                 | \$ -                   | \$ -              | 48   |                | \$ -            | \$ -              | 48   |                | \$ -              | \$ -              |
| 49   |                 | \$ -                   | \$ -              | 49   |                | \$ -            | \$ -              | 49   |                | \$ -              | \$ -              |
| 50   | Remaining Life  | \$ (404,002.75)        | \$ (243,229.42)   | 50   | Remaining Life | \$ -            | \$ -              | 50   | Remaining Life | \$ (1,337,571.89) | \$ (805,283.73)   |
| Net Present Cost for Segment               |                 | \$ 10,096,226.61       |                   | Net Present Cost for Segment               |                | \$ 8,331,311.31 |                   | Net Present Cost for Segment               |                | \$ 10,405,491.59  |                   |
| Maintenance - Net Present Cost for Segment |                 | \$ 2,723,005.00        |                   | Maintenance - Net Present Cost for Segment |                | \$ 2,472,374.59 |                   | Maintenance - Net Present Cost for Segment |                | \$ 4,811,541.16   |                   |
| Equivalent Annual Cost                     |                 | 258,779.33             |                   | Equivalent Annual Cost                     |                | 213,542.27      |                   | Equivalent Annual Cost                     |                | 266,706.19        |                   |
| Total Lane Width                           |                 |                        | # of Lanes        | Total Lane Width                           |                |                 | # of Lanes        | Total Lane Width                           |                |                   | # of Lanes        |
| 29   |                 |                        | 2                 | 29   |                |                 | 2                 | 29   |                |                   | 2                 |
| Total Shldr Width                          |                 |                        | # of Shldrs       | Total Shldr Width                          |                |                 | # of Shldrs       | Total Shldr Width                          |                |                   | # of Shldrs       |
| 9  |                 |                        | 1                 | 9  |                |                 | 1                 | 9  |                |                   | 1                 |
| Rounding Agg. Width                        |                 |                        | white/ >7 milliom | Rounding Agg. Width                        |                |                 | white/ >7 milliom | Rounding Agg. Width                        |                |                   | white/ >7 milliom |
| 3  |                 |                        | No                | 3  |                |                 | No                | 3  |                |                   | No                |
| Sealed/UTBWC                               |                 |                        | ML Thickness      | Sealed/UTBWC                               |                |                 | ML Thickness      | Sealed/UTBWC                               |                |                   | ML Thickness      |
| No   |                 |                        |                   | No   |                |                 | 8                 | No   |                |                   | 7.5               |
| ML Top Lift/Jt spacing                     |                 |                        |                   | ML Top Lift/Jt spacing                     |                |                 |                   | ML Top Lift/Jt spacing                     |                |                   |                   |
| 2  |                 |                        |                   | 15   |                |                 |                   | 15   |                |                   |                   |
| Design Life                                |                 |                        | Shldr Thickness   | Design Life                                |                |                 | Shldr Thickness   | Design Life                                |                |                   | Shldr Thickness   |
| 20   |                 |                        | 4                 | 35   |                |                 | 4                 | 20   |                |                   | 4                 |



35-Year Analysis Period

| Project Number | Analysis Period |
|----------------|-----------------|
| 8501.70        | 35              |
| Highway        | Discount Rate   |
| 12             | 1.2%            |
| Date           | Inflation Rate  |
| 3/2/2010       | 1               |
| Performed By   | Samsel Njane    |
| 0.9879         |                 |

Notes:

|  |
|--|
|  |
|--|

LCCA SUMMARY

| Segment #1                      | Alternate #1           | Alternate #2           | Alternate #3           | Length       |
|---------------------------------|------------------------|------------------------|------------------------|--------------|
| RP 124.554 to RP 128.821        | 6" MIL, 6" FDR, 6" HMA | 6" MIL & White-topping | 6" MIL & White-topping | 4.3          |
| Net Present Cost                | \$3,789,325.23         | \$1,021,844.25         | \$3,680,998.19         | Miles        |
| Segment #2                      |                        |                        |                        |              |
| RP 129.628 to RP 131.245        | 6" MIL, 6" FDR, 6" HMA | 6" MIL & White-topping | 6" MIL & White-topping | 1.6          |
| Net Present Cost                | \$1,507,880.09         | \$1,404,246.72         | \$1,469,697.21         | Miles        |
| Segment #3                      |                        |                        |                        |              |
|                                 |                        |                        |                        |              |
| Segment #4                      |                        |                        |                        |              |
|                                 |                        |                        |                        |              |
| Net Present Cost                |                        |                        |                        |              |
| Segment #4                      |                        |                        |                        |              |
|                                 |                        |                        |                        |              |
| Net Present Cost                |                        |                        |                        |              |
| <b>Project Net Present Cost</b> | <b>\$4,247,314.31</b>  | <b>\$4,626,090.98</b>  | <b>\$5,650,695.40</b>  | <b>Total</b> |
| <b>% of Low Cost</b>            | <b>100.0%</b>          | <b>108.9%</b>          | <b>133.0%</b>          | <b>5.9</b>   |

| Segment 1                                  |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                |               |  |  |
|--|------------------|-----------------|--------------------------|-----------------------|--|-----------------|-----------------|-----------------------|------------------|--|----------------|---------------|--|--|
| SEG  | Length           | ALT             | Description              | Notes                 |  |                 |                 |                       |                  |  |                |               |  |  |
| 1  | 4.301            | 1               | RP 124.554 to RP 128.821 |                       |  |                 |                 |                       |                  |  |                |               |  |  |
| 2  | 1.611            | 2               | RP 129.628 to RP 131.245 |                       |  |                 |                 |                       |                  |  |                |               |  |  |
| 3  |                  | 3               |                          |                       |  |                 |                 |                       |                  |  |                |               |  |  |
| 4  |                  | 4               |                          |                       |  |                 |                 |                       |                  |  |                |               |  |  |
| Pavement Type: HMA                         |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                |               |  |  |
| Primary Category: Overlay                  |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                |               |  |  |
| Secondary Category:                        |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                |               |  |  |
| Shoulder Category:                         |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                |               |  |  |
| Notes:                                     |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                |               |  |  |
| Year                                       | Activity         | Cost            | Present Cost             | Year                  | Activity                                   | Cost            | Present Cost    | Year                  | Activity         | Cost                                       | Present Cost   |               |  |  |
| 0  | Construction     | \$ 1,131,235.21 | \$ 1,131,235.21          | 0                     | Construction                               | \$ 2,161,543.43 | \$ 2,161,543.43 | 0                     | Construction     | \$ 620,852.14                              | \$ 620,852.14  |               |  |  |
| 1  |                  | \$ -            | \$ -                     | 1                     |  | \$ -            | \$ -            | 1                     |                  | \$ -                                       | \$ -           |               |  |  |
| 2  |                  | \$ -            | \$ -                     | 2                     |  | \$ -            | \$ -            | 2                     |                  | \$ -                                       | \$ -           |               |  |  |
| 3  | Crack Treatment  | \$ 8,909.90     | \$ 8,591.39              | 3                     |  | \$ -            | \$ -            | 3                     |                  | \$ -                                       | \$ -           |               |  |  |
| 4  |                  | \$ -            | \$ -                     | 4                     |  | \$ -            | \$ -            | 4                     | Crack Treatment  | \$ 5,349.70                                | \$ 5,118.58    |               |  |  |
| 5  |                  | \$ -            | \$ -                     | 5                     |  | \$ -            | \$ -            | 5                     |                  | \$ -                                       | \$ -           |               |  |  |
| 6  |                  | \$ -            | \$ -                     | 6                     |  | \$ -            | \$ -            | 6                     |                  | \$ -                                       | \$ -           |               |  |  |
| 7  | Seal             | \$ 42,393.61    | \$ 38,943.60             | 7                     |  | \$ -            | \$ -            | 7                     |                  | \$ -                                       | \$ -           |               |  |  |
| 8  |                  | \$ -            | \$ -                     | 8                     | Crack Treatment                            | \$ 4,467.32     | \$ 4,054.30     | 8                     |                  | \$ -                                       | \$ -           |               |  |  |
| 9  |                  | \$ -            | \$ -                     | 9                     |  | \$ -            | \$ -            | 9                     | Seal             | \$ 24,066.05                               | \$ 22,107.54   |               |  |  |
| 10   |                  | \$ -            | \$ -                     | 10                    |  | \$ -            | \$ -            | 10                    | Crack Treatment  | \$ 2,682.28                                | \$ 2,434.29    |               |  |  |
| 11   |                  | \$ -            | \$ -                     | 11                    |  | \$ -            | \$ -            | 11                    |                  | \$ -                                       | \$ -           |               |  |  |
| 12   |                  | \$ -            | \$ -                     | 12                    | Seal                                       | \$ 69,084.13    | \$ 60,506.70    | 12                    |                  | \$ -                                       | \$ -           |               |  |  |
| 13   | MI/Overlay       | \$ 968,480.20   | \$ 827,234.08            | 13                    |  | \$ -            | \$ -            | 13                    |                  | \$ -                                       | \$ -           |               |  |  |
| 14   |                  | \$ -            | \$ -                     | 14                    |  | \$ -            | \$ -            | 14                    | MI/Overlay       | \$ 533,054.86                              | \$ 455,312.50  |               |  |  |
| 15   |                  | \$ -            | \$ -                     | 15                    |  | \$ -            | \$ -            | 15                    |                  | \$ -                                       | \$ -           |               |  |  |
| 16   | Crack Treatment  | \$ 8,909.90     | \$ 7,338.57              | 16                    |  | \$ -            | \$ -            | 16                    | Crack Treatment  | \$ 5,349.70                                | \$ 4,406.24    |               |  |  |
| 17   |                  | \$ -            | \$ -                     | 17                    |  | \$ -            | \$ -            | 17                    |                  | \$ -                                       | \$ -           |               |  |  |
| 18   |                  | \$ -            | \$ -                     | 18                    |  | \$ -            | \$ -            | 18                    |                  | \$ -                                       | \$ -           |               |  |  |
| 19   |                  | \$ -            | \$ -                     | 19                    |  | \$ -            | \$ -            | 19                    |                  | \$ -                                       | \$ -           |               |  |  |
| 20   | Seal             | \$ 42,393.61    | \$ 33,263.94             | 20                    | MI/Overlay                                 | \$ 1,071,720.09 | \$ 840,920.06   | 20                    | 1st CPR          | \$ 24,066.05                               | \$ 18,883.31   |               |  |  |
| 21   |                  | \$ -            | \$ -                     | 21                    |  | \$ -            | \$ -            | 21                    |                  | \$ -                                       | \$ -           |               |  |  |
| 22   |                  | \$ -            | \$ -                     | 22                    | Crack Treatment                            | \$ 8,909.90     | \$ 6,741.35     | 22                    |                  | \$ -                                       | \$ -           |               |  |  |
| 23   |                  | \$ -            | \$ -                     | 23                    |  | \$ -            | \$ -            | 23                    |                  | \$ -                                       | \$ -           |               |  |  |
| 24   |                  | \$ -            | \$ -                     | 24                    |  | \$ -            | \$ -            | 24                    |                  | \$ -                                       | \$ -           |               |  |  |
| 25   | MI/Overlay       | \$ 968,480.20   | \$ 715,208.10            | 25                    |  | \$ -            | \$ -            | 25                    | MI/Overlay       | \$ 533,054.86                              | \$ 393,633.01  |               |  |  |
| 26   |                  | \$ -            | \$ -                     | 26                    |  | \$ -            | \$ -            | 26                    |                  | \$ -                                       | \$ -           |               |  |  |
| 27   |                  | \$ -            | \$ -                     | 27                    | Seal                                       | \$ 42,393.61    | \$ 30,556.91    | 27                    |                  | \$ -                                       | \$ -           |               |  |  |
| 28   | Crack Treatment  | \$ 8,909.90     | \$ 6,344.76              | 28                    |  | \$ -            | \$ -            | 28                    | Crack Treatment  | \$ 5,349.70                                | \$ 3,809.54    |               |  |  |
| 29   |                  | \$ -            | \$ -                     | 29                    |  | \$ -            | \$ -            | 29                    |                  | \$ -                                       | \$ -           |               |  |  |
| 30   |                  | \$ -            | \$ -                     | 30                    |  | \$ -            | \$ -            | 30                    |                  | \$ -                                       | \$ -           |               |  |  |
| 31   |                  | \$ -            | \$ -                     | 31                    |  | \$ -            | \$ -            | 31                    |                  | \$ -                                       | \$ -           |               |  |  |
| 32   | Seal             | \$ 42,393.61    | \$ 28,759.26             | 32                    |  | \$ -            | \$ -            | 32                    | Seal             | \$ 24,066.05                               | \$ 16,325.09   |               |  |  |
| 33   |                  | \$ -            | \$ -                     | 33                    |  | \$ -            | \$ -            | 33                    |                  | \$ -                                       | \$ -           |               |  |  |
| 34   |                  | \$ -            | \$ -                     | 34                    |  | \$ -            | \$ -            | 34                    |                  | \$ -                                       | \$ -           |               |  |  |
| 35   | Remaining Life   | \$ (88,043.69)  | \$ (7,593.89)            | 35                    | Remaining Life                             | \$ (126,084.72) | \$ (82,478.51)  | 35                    | Remaining Life   | \$ (48,459.53)                             | \$ (31,699.88) |               |  |  |
| Net Present Cost for Segment               |                  |                 |                          |                       | Net Present Cost for Segment               |                 |                 |                       |                  | Net Present Cost for Segment               |                |               |  |  |
| Maintenance - Net Present Cost for Segment |                  | \$ 1,608,050.02 |                          |                       | Maintenance - Net Present Cost for Segment |                 | \$ 860,503.52   |                       |                  | Maintenance - Net Present Cost for Segment |                | \$ 887,926.85 |  |  |
| Equivalent Annual Cost                     |                  | \$ 96,631.24    |                          |                       | Equivalent Annual Cost                     |                 | \$ 106,937.25   |                       |                  | Equivalent Annual Cost                     |                | \$ 119,849.28 |  |  |
| Total Lane Width                           | # of Lanes       | Analysis Period |                          | Total Lane Width      | # of Lanes                                 | Analysis Period |                 | Total Lane Width      | # of Lanes       | Analysis Period                            |                |               |  |  |
| 24   | 2                | 25              |                          | 24                    | 2  | 25              |                 | 24                    | 2                | 25   |                |               |  |  |
| Total Shoulder Width                       | # of Shldrs      | ML Mix          |                          | Total Shoulder Width  | # of Shldrs                                | ML Mix          |                 | Total Shoulder Width  | # of Shldrs      | ML Mix                                     |                |               |  |  |
| 20   | 2                | 9.5 WE (4.8)    |                          | 20                    | 2  | 9.5 WE (4.C)    |                 | 20                    | 2                | 9.5 WE (4.B)                               |                |               |  |  |
| Rounding Age, Width                        | white/7' millium | SL Mix          |                          | Rounding Age, Width   | white/7' millium                           | SL Mix          |                 | Rounding Age, Width   | white/7' millium | SL Mix                                     |                |               |  |  |
| 0  | No               | 9.5 WE (4.B)    |                          | 0                     | No   | 9.5 WE (4.C)    |                 | 0                     | No               | 9.5 WE (4.B)                               |                |               |  |  |
| Sealed/UT/BWC                              | ML Thickness     |                 |                          | Sealed/UT/BWC         | ML Thickness                               |                 |                 | Sealed/UT/BWC         | ML Thickness     |  |                |               |  |  |
| No   | No               |                 |                          | No                    | No   |                 |                 | No                    | No               |  |                |               |  |  |
| ML Top Lift/R spacing                      |                  |                 |                          | ML Top Lift/R spacing |  |                 |                 | ML Top Lift/R spacing |                  |  |                |               |  |  |
| 1.5  |                  |                 |                          | 2                     |  |                 |                 | 2                     |                  |  |                |               |  |  |
| Design Life                                | Shldr Thickness  |                 |                          | Design Life           | Shldr Thickness                            |                 |                 | Design Life           | Shldr Thickness  |  |                |               |  |  |
| 13   | 1.5              |                 |                          | 20                    | 2  |                 |                 | 20                    | 2                |  |                |               |  |  |

| Segment 2                                  |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                 |                 |  |  |
|--|------------------|-----------------|--------------------------|-----------------------|--|-----------------|-----------------|-----------------------|------------------|--|-----------------|-----------------|--|--|
| SEG  | Length           | ALT             | Description              | Notes                 |  |                 |                 |                       |                  |  |                 |                 |  |  |
| 1  | 1.611            | 1               | RP 129.628 to RP 131.245 |                       |  |                 |                 |                       |                  |  |                 |                 |  |  |
| 2  |                  | 2               |                          |                       |  |                 |                 |                       |                  |  |                 |                 |  |  |
| 3  |                  | 3               |                          |                       |  |                 |                 |                       |                  |  |                 |                 |  |  |
| Pavement Type: HMA                         |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                 |                 |  |  |
| Primary Category: Overlay                  |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                 |                 |  |  |
| Secondary Category:                        |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                 |                 |  |  |
| Shoulder Category:                         |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                 |                 |  |  |
| Notes:                                     |                  |                 |                          |                       |  |                 |                 |                       |                  |  |                 |                 |  |  |
| Year                                       | Activity         | Cost            | Present Cost             | Year                  | Activity                                   | Cost            | Present Cost    | Year                  | Activity         | Cost                                       | Present Cost    |                 |  |  |
| 0  | Construction     | \$ 620,852.14   | \$ 620,852.14            | 0                     | Construction                               | \$ 1,124,250.84 | \$ 1,124,250.84 | 0                     | Construction     | \$ 1,562,949.21                            | \$ 1,562,949.21 |                 |  |  |
| 1  |                  | \$ -            | \$ -                     | 1                     |  | \$ -            | \$ -            | 1                     |                  | \$ -                                       | \$ -            |                 |  |  |
| 2  |                  | \$ -            | \$ -                     | 2                     |  | \$ -            | \$ -            | 2                     |                  | \$ -                                       | \$ -            |                 |  |  |
| 3  |                  | \$ -            | \$ -                     | 3                     |  | \$ -            | \$ -            | 3                     |                  | \$ -                                       | \$ -            |                 |  |  |
| 4  |                  | \$ -            | \$ -                     | 4                     |  | \$ -            | \$ -            | 4                     |                  | \$ -                                       | \$ -            |                 |  |  |
| 5  |                  | \$ -            | \$ -                     | 5                     |  | \$ -            | \$ -            | 5                     |                  | \$ -                                       | \$ -            |                 |  |  |
| 6  |                  | \$ -            | \$ -                     | 6                     |  | \$ -            | \$ -            | 6                     |                  | \$ -                                       | \$ -            |                 |  |  |
| 7  |                  | \$ -            | \$ -                     | 7                     |  | \$ -            | \$ -            | 7                     |                  | \$ -                                       | \$ -            |                 |  |  |
| 8  |                  | \$ -            | \$ -                     | 8                     |  | \$ -            | \$ -            | 8                     |                  | \$ -                                       | \$ -            |                 |  |  |
| 9  |                  | \$ -            | \$ -                     | 9                     |  | \$ -            | \$ -            | 9                     |                  | \$ -                                       | \$ -            |                 |  |  |
| 10   |                  | \$ -            | \$ -                     | 10                    |  | \$ -            | \$ -            | 10                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 11   |                  | \$ -            | \$ -                     | 11                    |  | \$ -            | \$ -            | 11                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 12   |                  | \$ -            | \$ -                     | 12                    |  | \$ -            | \$ -            | 12                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 13   |                  | \$ -            | \$ -                     | 13                    |  | \$ -            | \$ -            | 13                    | Seal             | \$ 40,229.04                               | \$ 34,781.13    |                 |  |  |
| 14   |                  | \$ -            | \$ -                     | 14                    |  | \$ -            | \$ -            | 14                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 15   |                  | \$ -            | \$ -                     | 15                    |  | \$ -            | \$ -            | 15                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 16   |                  | \$ -            | \$ -                     | 16                    |  | \$ -            | \$ -            | 16                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 17   |                  | \$ -            | \$ -                     | 17                    |  | \$ -            | \$ -            | 17                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 18   |                  | \$ -            | \$ -                     | 18                    |  | \$ -            | \$ -            | 18                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 19   |                  | \$ -            | \$ -                     | 19                    |  | \$ -            | \$ -            | 19                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 20   |                  | \$ -            | \$ -                     | 20                    |  | \$ -            | \$ -            | 20                    | MI/Overlay       | \$ 595,470.44                              | \$ 467,233.04   |                 |  |  |
| 21   |                  | \$ -            | \$ -                     | 21                    |  | \$ -            | \$ -            | 21                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 22   |                  | \$ -            | \$ -                     | 22                    |  | \$ -            | \$ -            | 22                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 23   |                  | \$ -            | \$ -                     | 23                    |  | \$ -            | \$ -            | 23                    | Crack Treatment  | \$ 5,349.70                                | \$ 4,047.66     |                 |  |  |
| 24   |                  | \$ -            | \$ -                     | 24                    |  | \$ -            | \$ -            | 24                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 25   |                  | \$ -            | \$ -                     | 25                    |  | \$ -            | \$ -            | 25                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 26   |                  | \$ -            | \$ -                     | 26                    |  | \$ -            | \$ -            | 26                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 27   |                  | \$ -            | \$ -                     | 27                    |  | \$ -            | \$ -            | 27                    | Seal             | \$ 24,066.05                               | \$ 17,346.58    |                 |  |  |
| 28   |                  | \$ -            | \$ -                     | 28                    |  | \$ -            | \$ -            | 28                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 29   |                  | \$ -            | \$ -                     | 29                    |  | \$ -            | \$ -            | 29                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 30   |                  | \$ -            | \$ -                     | 30                    |  | \$ -            | \$ -            | 30                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 31   |                  | \$ -            | \$ -                     | 31                    |  | \$ -            | \$ -            | 31                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 32   |                  | \$ -            | \$ -                     | 32                    |  | \$ -            | \$ -            | 32                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 33   |                  | \$ -            | \$ -                     | 33                    |  | \$ -            | \$ -            | 33                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 34   |                  | \$ -            | \$ -                     | 34                    |  | \$ -            | \$ -            | 34                    |                  | \$ -                                       | \$ -            |                 |  |  |
| 35   |                  | \$ -            | \$ -                     | 35                    |  | \$ -            | \$ -            | 35                    | Remaining Life   | \$ (70,055.30)                             | \$ (45,826.83)  |                 |  |  |
| Net Present Cost for Segment               |                  |                 |                          |                       | Net Present Cost for Segment               |                 |                 |                       |                  | Net Present Cost for Segment               |                 |                 |  |  |
| Maintenance - Net Present Cost for Segment |                  | \$ 1,404,246.72 |                          |                       | Maintenance - Net Present Cost for Segment |                 | \$ 1,404,246.72 |                       |                  | Maintenance - Net Present Cost for Segment |                 | \$ 1,469,697.21 |  |  |
| Equivalent Annual Cost                     |                  | \$ 86,631.24    |                          |                       | Equivalent Annual Cost                     |                 | \$ 88,792.85    |                       |                  | Equivalent Annual Cost                     |                 | \$ 99,429.00    |  |  |
| Total Lane Width                           | # of Lanes       | Analysis Period |                          | Total Lane Width      | # of Lanes                                 | Analysis Period |                 | Total Lane Width      | # of Lanes       | Analysis Period                            |                 |                 |  |  |
| 24   | 2                | 25              |                          | 24                    | 2  | 25              |                 | 24                    | 2                | 25   |                 |                 |  |  |
| Total Shoulder Width                       | # of Shldrs      | ML Mix          |                          | Total Shoulder Width  | # of Shldrs                                | ML Mix          |                 | Total Shoulder Width  | # of Shldrs      | ML Mix                                     |                 |                 |  |  |
| 20   | 2                | 9.5 WE (4.8)    |                          | 20                    | 2  | 9.5 WE (4.C)    |                 | 20                    | 2                | 9.5 WE (4.C)                               |                 |                 |  |  |
| Rounding Age, Width                        | white/7' millium | SL Mix          |                          | Rounding Age, Width   | white/7' millium                           | SL Mix          |                 | Rounding Age, Width   | white/7' millium | SL Mix                                     |                 |                 |  |  |
| 0  | No               | 9.5 WE (4.B)    |                          | 0                     | No   | 9.5 WE (4.C)    |                 | 0                     | No               | 9.5 WE (4.C)                               |                 |                 |  |  |
| Sealed/UT/BWC                              | ML Thickness     |                 |                          | Sealed/UT/BWC         | ML Thickness                               |                 |                 | Sealed/UT/BWC         | ML Thickness     |  |                 |                 |  |  |
| No   | No               |                 |                          | No                    | No   |                 |                 | No                    | No               |  |                 |                 |  |  |
| ML Top Lift/R spacing                      |                  |                 |                          | ML Top Lift/R spacing |  |                 |                 | ML Top Lift/R spacing |                  |  |                 |                 |  |  |
| 1.5  |                  |                 |                          | 2                     |  |                 |                 | 2                     |                  |  |                 |                 |  |  |
| Design Life                                | Shldr Thickness  |                 |                          | Design Life           | Shldr Thickness                            |                 |                 | Design Life           | Shldr Thickness  |  |                 |                 |  |  |
| 13   | 1.5              |                 |                          | 20                    | 2  |                 |                 | 20                    | 2                |  |                 |                 |  |  |

35-Year Analysis Period

|                |                 |
|----------------|-----------------|
| Project Number | Analysis Period |
| 8550-44        | 35              |
| Highway        | Discount Rate   |
| 55             | 1.2%            |
| Date           | Inflation Rate  |
| 1/12/2019      | 1               |
| Performed By   | by/(for)        |
| Russ Watson    | 0.5873          |

Notes:

| LCCA SUMMARY             |  |  |  |
|--------------------------|--|--|--|
|                          | Alternate #1   | Alternate #2   | Alternate #3   |
| Segment #1               | 2" Mill, 2" HMA (Mainline & Turn Lanes), 1.5" Full Width HMA Overlay | 2" Mill, 2" HMA (Mainline & Turn Lanes), 1.5" Full Width HMA Overlay | 2" Mill (Mainline & Turn Lanes), 3" Cold In-Place Recycle (Mainline & Turn Lanes), 3" HMA (Shoulder) |
| Segment #2               | 2" Mill, 2" HMA (Mainline & Turn Lanes), 1.5" Full Width HMA Overlay | 2" Mill, 2" HMA (Mainline & Turn Lanes), 1.5" Full Width HMA Overlay | 2" Mill (Mainline & Turn Lanes), 3" Cold In-Place Recycle (Mainline & Turn Lanes), 3" HMA (Shoulder) |
| Segment #3               | 2" Mill, 2" HMA (Mainline & Turn Lanes), 1.5" Full Width HMA Overlay | 2" Mill, 2" HMA (Mainline & Turn Lanes), 1.5" Full Width HMA Overlay | 2" Mill (Mainline & Turn Lanes), 3" Cold In-Place Recycle (Mainline & Turn Lanes), 3" HMA (Shoulder) |
| Segment #4               | 2" Mill, 2" HMA (Mainline & Turn Lanes), 1.5" Full Width HMA Overlay | 2" Mill, 2" HMA (Mainline & Turn Lanes), 1.5" Full Width HMA Overlay | 2" Mill (Mainline & Turn Lanes), 3" Cold In-Place Recycle (Mainline & Turn Lanes), 3" HMA (Shoulder) |
| Project Net Present Cost | \$4,991,266.47   | \$5,964,426.73   | \$10,046,416.19  |
| % of Low Cost            | 100.0%   | 119.5%   | 201.3%   |

| Segment 1                                  |                 |                   |  |  |                 |                 |  |  |                |                   |   |
|--|-----------------|-------------------|--|--|-----------------|-----------------|--|--|----------------|-------------------|---|
| Segment 1                                  |                 |                   |  | Segment 2                                  |                 |                 |  | Segment 3                                  |                |                   |   |
| SEG  | Length          | ALT               | Description  | SEG  | Length          | ALT             | Description  | SEG  | Length         | ALT               | Description   |
| 1  | 13.634          | 1                 | 2" Mill, 2" HMA (Mainline & Turn Lanes), 1.5" Full Width HMA Overlay | 1  | 13.634          | 2               | Mill 3" (Mainline & Turn Lanes), 3" Cold In-Place Recycle (Mainline & Turn Lanes), 3" HMA (Full Width) | 1  | 13.634         | 3                 | 6" Mill (Mainline & Turn Lanes), 6" Whittopping (Mainline & Turn Lanes), 3" HMA (DSD) |
| Pavement Type                              |                 |                   |  | Pavement Type                              |                 |                 |  | Pavement Type                              |                |                   |   |
| HMA  |                 |                   |  | HMA  |                 |                 |  | PCC  |                |                   |   |
| Primary Category                           |                 |                   |  | Primary Category                           |                 |                 |  | Primary Category                           |                |                   |   |
| Overlay                                    |                 |                   |  | Overlay                                    |                 |                 |  | Overlay                                    |                |                   |   |
| Secondary Category                         |                 |                   |  | Secondary Category                         |                 |                 |  | Secondary Category                         |                |                   |   |
| Rural                                      |                 |                   |  | Rural                                      |                 |                 |  | Rural                                      |                |                   |   |
| Shoulder Category                          |                 |                   |  | Shoulder Category                          |                 |                 |  | Shoulder Category                          |                |                   |   |
| Shoulder                                   |                 |                   |  | Shoulder                                   |                 |                 |  | Shoulder                                   |                |                   |   |
| Notes:                                     |                 |                   |  | Notes:                                     |                 |                 |  | Notes:                                     |                |                   |   |
| Year                                       | Activity        | Cost              | Present Cost   | Year                                       | Activity        | Cost            | Present Cost   | Year                                       | Activity       | Cost              | Present Cost  |
| 0  | Construction    | \$ 2,368,003.29   | \$ 2,368,003.29  | 0  | Construction    | \$ 4,290,816.55 | \$ 4,290,816.55  | 0  | Construction   | \$ 6,046,694.78   | \$ 6,046,694.78   |
| 1  |                 | \$ -              | \$ -   | 1  |                 | \$ -            | \$ -   | 1  |                | \$ -              | \$ -  |
| 2  |                 | \$ -              | \$ -   | 2  |                 | \$ -            | \$ -   | 2  |                | \$ -              | \$ -  |
| 3  | Crack Treatment | \$ 28,166.91      | \$ 27,160.65   | 3  |                 | \$ -            | \$ -   | 3  |                | \$ -              | \$ -  |
| 4  |                 | \$ -              | \$ -   | 4  |                 | \$ -            | \$ -   | 4  |                | \$ -              | \$ -  |
| 5  |                 | \$ -              | \$ -   | 5  |                 | \$ -            | \$ -   | 5  |                | \$ -              | \$ -  |
| 6  |                 | \$ -              | \$ -   | 6  |                 | \$ -            | \$ -   | 6  |                | \$ -              | \$ -  |
| 7  | Seal            | \$ 98,736.51      | \$ 90,701.29   | 7  | Crack Treatment | \$ 14,122.56    | \$ 12,816.89   | 7  |                | \$ -              | \$ -  |
| 8  |                 | \$ -              | \$ -   | 8  |                 | \$ -            | \$ -   | 8  |                | \$ -              | \$ -  |
| 9  |                 | \$ -              | \$ -   | 9  |                 | \$ -            | \$ -   | 9  |                | \$ -              | \$ -  |
| 10   |                 | \$ -              | \$ -   | 10   |                 | \$ -            | \$ -   | 10   |                | \$ -              | \$ -  |
| 11   |                 | \$ -              | \$ -   | 11   |                 | \$ -            | \$ -   | 11   |                | \$ -              | \$ -  |
| 12   |                 | \$ -              | \$ -   | 12   | Seal            | \$ 157,466.39   | \$ 136,141.92  | 12   |                | \$ -              | \$ -  |
| 13   |                 | \$ -              | \$ -   | 13   |                 | \$ -            | \$ -   | 13   |                | \$ -              | \$ -  |
| 14   | Mill/Overlay    | \$ 2,015,259.71   | \$ 1,680,103.47  | 14   |                 | \$ -            | \$ -   | 14   |                | \$ -              | \$ -  |
| 15   |                 | \$ -              | \$ -   | 15   |                 | \$ -            | \$ -   | 15   |                | \$ -              | \$ -  |
| 16   |                 | \$ -              | \$ -   | 16   |                 | \$ -            | \$ -   | 16   |                | \$ -              | \$ -  |
| 17   | Crack Treatment | \$ 28,166.91      | \$ 22,643.59   | 17   |                 | \$ -            | \$ -   | 17   |                | \$ -              | \$ -  |
| 18   |                 | \$ -              | \$ -   | 18   |                 | \$ -            | \$ -   | 18   |                | \$ -              | \$ -  |
| 19   |                 | \$ -              | \$ -   | 19   |                 | \$ -            | \$ -   | 19   |                | \$ -              | \$ -  |
| 20   |                 | \$ -              | \$ -   | 20   | Mill/Overlay    | \$ 2,015,259.71 | \$ 1,581,263.92  | 20   | 1st CPR        | \$ 3,971,853.42   | \$ 3,116,495.85   |
| 21   |                 | \$ -              | \$ -   | 21   |                 | \$ -            | \$ -   | 21   |                | \$ -              | \$ -  |
| 22   | Seal            | \$ 98,736.51      | \$ 75,616.83   | 22   | Crack Treatment | \$ 28,166.91    | \$ 21,311.48   | 22   |                | \$ -              | \$ -  |
| 23   |                 | \$ -              | \$ -   | 23   |                 | \$ -            | \$ -   | 23   |                | \$ -              | \$ -  |
| 24   |                 | \$ -              | \$ -   | 24   |                 | \$ -            | \$ -   | 24   |                | \$ -              | \$ -  |
| 25   |                 | \$ -              | \$ -   | 25   |                 | \$ -            | \$ -   | 25   |                | \$ -              | \$ -  |
| 26   |                 | \$ -              | \$ -   | 26   |                 | \$ -            | \$ -   | 26   |                | \$ -              | \$ -  |
| 27   |                 | \$ -              | \$ -   | 27   | Seal            | \$ 98,736.51    | \$ 71,168.33   | 27   |                | \$ -              | \$ -  |
| 28   |                 | \$ -              | \$ -   | 28   |                 | \$ -            | \$ -   | 28   |                | \$ -              | \$ -  |
| 29   | Mill/Overlay    | \$ 2,015,259.71   | \$ 1,417,775.17  | 29   |                 | \$ -            | \$ -   | 29   |                | \$ -              | \$ -  |
| 30   |                 | \$ -              | \$ -   | 30   |                 | \$ -            | \$ -   | 30   |                | \$ -              | \$ -  |
| 31   |                 | \$ -              | \$ -   | 31   |                 | \$ -            | \$ -   | 31   | R & R Mainline | \$ 6,574,600.39   | \$ 4,569,612.48   |
| 32   | Crack Treatment | \$ 28,166.91      | \$ 19,108.06   | 32   |                 | \$ -            | \$ -   | 32   |                | \$ -              | \$ -  |
| 33   |                 | \$ -              | \$ -   | 33   |                 | \$ -            | \$ -   | 33   |                | \$ -              | \$ -  |
| 34   |                 | \$ -              | \$ -   | 34   |                 | \$ -            | \$ -   | 34   |                | \$ -              | \$ -  |
| 35   | Remaining Life  | \$ (1,085,139.84) | \$ (709,845.80)  | 35   | Remaining Life  | \$ (237,089.38) | \$ (155,092.37)  | 35   | Remaining Life | \$ (5,635,371.76) | \$ (1,686,386.93)   |
| Net Present Cost for Segment               |                 |                   |  | Net Present Cost for Segment               |                 |                 |  | Net Present Cost for Segment               |                |                   |   |
| \$ 4,991,266.47                            |                 |                   |  | \$ 5,964,426.73                            |                 |                 |  | \$ 10,046,416.19                           |                |                   |   |
| Maintenance - Net Present Cost for Segment |                 |                   |  | Maintenance - Net Present Cost for Segment |                 |                 |  | Maintenance - Net Present Cost for Segment |                |                   |   |
| \$ 243,261.19                              |                 |                   |  | \$ 1,667,610.18                            |                 |                 |  | \$ 1,999,721.40                            |                |                   |   |
| Equivalent Annual Cost                     |                 |                   |  | Equivalent Annual Cost                     |                 |                 |  | Equivalent Annual Cost                     |                |                   |   |
| \$ 76,069.73                               |                 |                   |  | \$ 210,998.51                              |                 |                 |  | \$ 314,392.98                              |                |                   |   |
| Total Lane Width                           |                 |                   |  | Total Lane Width                           |                 |                 |  | Total Lane Width                           |                |                   |   |
| 24   |                 |                   |  | 24   |                 |                 |  | 24   |                |                   |   |
| # of Shldrs                                |                 |                   |  | # of Shldrs                                |                 |                 |  | # of Shldrs                                |                |                   |   |
| 2  |                 |                   |  | 2  |                 |                 |  | 2  |                |                   |   |
| Total Shldr Width                          |                 |                   |  | Total Shldr Width                          |                 |                 |  | Total Shldr Width                          |                |                   |   |
| 20   |                 |                   |  | 20   |                 |                 |  | 20   |                |                   |   |
| Rounding App. Width                        |                 |                   |  | Rounding App. Width                        |                 |                 |  | Rounding App. Width                        |                |                   |   |
| 3  |                 |                   |  | 3  |                 |                 |  | 3  |                |                   |   |
| Sealed/UTBWC                               |                 |                   |  | Sealed/UTBWC                               |                 |                 |  | Sealed/UTBWC                               |                |                   |   |
| No   |                 |                   |  | No   |                 |                 |  | No   |                |                   |   |
| ML Top LRU/R spacing                       |                 |                   |  | ML Top LRU/R spacing                       |                 |                 |  | ML Top LRU/R spacing                       |                |                   |   |
| 1.5  |                 |                   |  | 1.5  |                 |                 |  | 1.5  |                |                   |   |
| Design Life                                |                 |                   |  | Design Life                                |                 |                 |  | Design Life                                |                |                   |   |
| 15   |                 |                   |  | 20   |                 |                 |  | 20   |                |                   |   |