



Request for Action

To Mayor and City Council		Item Number 8.2
Agenda Section General Business	Meeting Date October 20, 2014	Prepared by Justin Femrite, P.E., City Engineer
Item Description Feasibility Report for 2015 Street Improvement Project		Reviewed by Tim Simon, Finance Director
		Reviewed by Cal Portner, City Administrator

Action Requested

Approve, by motion, the Feasibility Report with direction on design alternative for 165th Avenue and Jarvis Street.

Background/Discussion

On July 7, 2014, Council provided direction on the scope for the 2015 Street Improvement project. Our consultant, Bolton & Menk, has since completed the Feasibility Report for the improvements and will provide a presentation on its findings.

One alternative that the Council asked to see was for a detached trail along the 165th Avenue and Jarvis Street. This single component has a large impact on the estimated cost of the project. A detached trail along this corridor adds an estimated cost of \$957,000 to the project. This segment of trail is not identified in the draft Comprehensive Parks Plan nor has it been discussed by staff or the Park Commission as a high priority segment.

Financial Impact

The total project cost for the improvement project, including the trail along 165th Avenue and Jarvis Street, is estimated at \$7,386,724. The same project without the trail being included is estimated at \$6,429,724. The financial impacts of the lower cost project, not including the trail, are shown in the attached Pavement Management fund analysis and the updated Capital Improvement Plan worksheet.

The City of Ramsey Public Works Committee has preliminarily approved the funding of their costs for improvements along Jarvis Street. The preliminary agreement identifies that Elk River will pay for the full project costs from our Minnesota State Aid (MSA) account. Ramsey will then reimburse Elk River over a three-year period starting in 2016. To cover these initial project costs we will need to apply for an advancement of funds into our MSA account. An advance allows us to borrow money against future allocations without penalty or interest. The attached MSA account analysis shows the estimated Ramsey repayment and the projected fund balance over the next five years.

Attachments

- Feasibility Report
- Pavement Management Program CIP Worksheet
- Pavement Management Fund Analysis
- Municipal State Aid Account Analysis



Feasibility Report for 2015 Street and Utility Improvements

City of Elk River, MN
BMI Project No. N15.108340

October 8, 2014



Submitted by:

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October 8, 2014

Honorable Mayor and City Council
13065 Orono Parkway NW
Elk River, MN 55330

RE: 2015 Street and Utility Improvements
Project No.: N15.108340

Honorable Mayor and City Council Members,

Enclosed for your review is the 2015 Street and Utility Improvements Feasibility Report. The report includes street and utility improvements on 165th Avenue NW and Jarvis Street NW as well as reclamation and mill and overlays on various streets within the City. This report includes a brief description of the proposed improvements, permits, ponding areas, wetlands impacts and estimated construction costs.

Sincerely,

BOLTON & MENK, INC.

Cody Holmes, P.E.
Project Engineer

Cc: Justin Femrite, P.E., City Engineer
Mark Kasma, P.E., Senior Principal Engineer



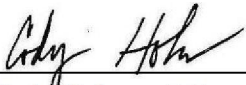
CERTIFICATION

Feasibility Report

for


2015 Street and Utility Improvements

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

By: 
Cody Holmes, P.E.
License No. 49143

Date: October 8, 2014

and

By: 
Mark D. Kasma, P.E.
License No. 21282

Date: October 8, 2014



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APPENDIX B

PRELIMINARY COST ESTIMATE:

- **EDGE MILL AND OVERLAY**
- **RECLAMATION**

APPENDIX C

PRELIMINARY COST ESTIMATE:

- **165TH AVENUE NW AND JARVIS STREET NW**

APPENDIX D

PRELIMINARY COST ESTIMATE:

- **165TH AVENUE NW AND JARVIS STREET NW – NO TRAIL OPTION**

INTRODUCTION

The 2015 Street Improvements include improvements on multiple streets throughout the City. Different pavement management procedures are proposed to be utilized on each street, depending on the existing condition of the street. Each street was reviewed by Bolton & Menk and City Staff to determine the procedure that would be applied to it. Each procedure is described below, along with the street that is scheduled for that type of procedure.

Edge Mill and Overlay

Edge Mill and Overlay of a roadway consists of milling the existing bituminous along the existing gutter or bituminous edge in order to match the new overlay to the existing elevations. Areas of roadway will also be Milled and Overlaid, this consists of milling the existing bituminous surface along the roadway to a uniform depth and overlaying bituminous on the remaining pavement. The streets proposed to be edge milled and overlaid are in fair condition. The proposed Edge Mill and Overlay improvements are shown on Figure No. 1 and 2 in Appendix A.

The following streets are proposed to be edge milled and overlaid:

- School Street NW (Proctor Avenue NW to TH 169)
- 8th Street NW (Dodge Avenue NW to Cul-de-Sac)
- Tyler Street Area – 197th Avenue NW (Evans Street NW to Dodge Street NW), 198th Avenue NW (Dodge Street NW to Zane Street NW), 197th Avenue NW (Zane Street NW to Tyler Street NW), 200th Avenue NW (Cul-de-Sac to Tyler Street NW), Vance Circle NW, Vance Street NW (Vance Circle to Ulysses Street NW), Ulysses Street NW (South Cul-de-Sac to 202nd Avenue NW), 195th Avenue NW (Ulysses Street NW to Tyler Street NW), Tyler Street NW (197th Avenue NW to 201st Circle NW), 201st Circle NW, 203rd Avenue NW (Smith Street NW to 560-feet east of Quincy Circle NW), Quincy Circle NW

Reclamation

Reclaiming of bituminous pavement is a process whereby the pavement and underlying aggregate base are milled together in-place, regraded and compacted as base material for the new pavement overlay. The new pavement section shall be a 9-Ton design and shall consist of 3.5-inches of bituminous pavement with 8-inches of aggregate base. The streets proposed to be reclaimed are in poor condition. The proposed reclamation improvements are shown on Figure No. 2 in Appendix A.

The following streets are proposed to be reclaimed:

- Elk Hills Area – Elk Hills Drive NW, Fawn Road NW, Line Avenue NW, and 700-feet of Elk Lane NW beginning at Elk Hills Drive
- Tyler Street Area – Tyler Street NW (Twin Lakes Road to 197th Avenue NW), Smith Street NW (201st Circle NW to 205th Avenue NW), 202nd Avenue NW (Smith Street NW to Ulysses Street NW), Ulysses Street NW (202nd Avenue NW to Vance Street NW, Vance Street NW (Vance Circle NW to 205th Avenue NW)

165TH AVENUE NW AND JARVIS STREET NW

The City is proposing to reconstruct 165th Avenue NW from Great River Energy on the west to Jarvis Street. Jarvis Street NW is proposed to be reconstructed from 165th Avenue NW on the north to Trunk Highway 10/169. The total length of the improvements is 2.4 miles. Figure No. 3 in Appendix A identifies the project limits.

165th Avenue NW and Jarvis Street NW is an existing 22' wide bituminous roadway with 0-2' wide aggregate shoulders. The typical section is rural with shallow ditches. Wetlands exist along both roadways. Figure No. 4 in Appendix A identifies the wetlands being affected by the improvements. The filling of these wetlands will be mitigated via the purchase of wetland bank credits overseen by the Soil and Water Conservation District (SWCD).

The proposed improvements consist of reconstructing both roadways to an urban section with a 32' wide face of curb to face of curb. Concrete curb and gutter shall be MnDOT Design B618. A 10' wide bituminous trail along the south side of 165th Avenue NW and along the west side of Jarvis Street NW was reviewed as possible option. Cost estimates were developed for each option. The typical section for the street is identified in Figure No. 5 in Appendix A. Figure No. 6 in Appendix A identifies a typical section for the street without the bituminous trail.

Figure No. 7 in Appendix A identifies locations for possible stormwater features. Final design will confirm which locations are needed to meet stormwater rate control and water quality requirements.

Railroad crossing improvements on 165th Avenue NW and Jarvis Street NW are proposed in this report. Improvements include the installation of concrete curbing, medians concrete panels, new rail, ties and ballast along with the installation of two-quadrant gate systems with flashers. These improvements are included to accommodate future quiet zones at the crossings. Coordination with the BNSF Railway will be necessary.

PERMITS

Permits will be required from the following agencies:

- Minnesota Department of Transportation (Drainage and Work Within the Right-of-Way)
- Minnesota Pollution Control Agency (Phase II General Stormwater Permit for Construction Activities)
- Department of Natural Resources (Work Within Waters Permit)
- Wetland Conservation Act (Wetland Permit)
- BNSF Railway (Notice of Intent - Quiet Zone Permit)

EASEMENTS AND LAND ACQUISITION

Temporary grading easements will be required from residents in both Elk River and the City of Ramsey along the route. Final design will identify which parcels are affected.

Land is proposed to be acquired for stormwater ponding. Figure No. 7 in Appendix A identifies possible ponding alternatives. Final design will identify the exact area required.

ESTIMATED COSTS

Appendix B identifies a preliminary cost estimate that includes estimated quantities and unit prices for the reclamations and edge mill and overlays. The cost estimate includes a contingency factor of 10% to account for any elements of construction that are unknown at this time. They also include indirect projects costs of construction such as engineering, legal fees and administrative costs which together are estimated at 10% of the project construction cost. The total project cost is estimated at \$2,634,324 and is based on current public construction cost information.

Appendix C identifies a preliminary cost estimate that includes estimated quantities and unit prices for 165th Avenue NW and Jarvis Street NW. The cost estimate includes a contingency factor of 10% to account for any elements of construction that are unknown at this time. They also include indirect projects costs of construction such as engineering, legal fees and administrative costs which together are estimated at 10% of the project construction cost. The total project cost is estimated at \$4,752,400 and is based on current public construction cost information.

Appendix D identifies a preliminary cost estimate that includes estimated quantities and unit prices for 165th Avenue NW and Jarvis Street NW without a trail. The cost estimate includes a contingency factor of 10% to account for any elements of construction that are unknown at this time. They also include indirect projects costs of construction such as engineering, legal fees and administrative costs which together are estimated at 10% of the project construction cost. The total project cost is estimated at \$3,795,400 and is based on current public construction cost information.

No costs have been included for purchasing temporary easements.

\$40,000 has been included for land purchases for ponding.

FUNDING

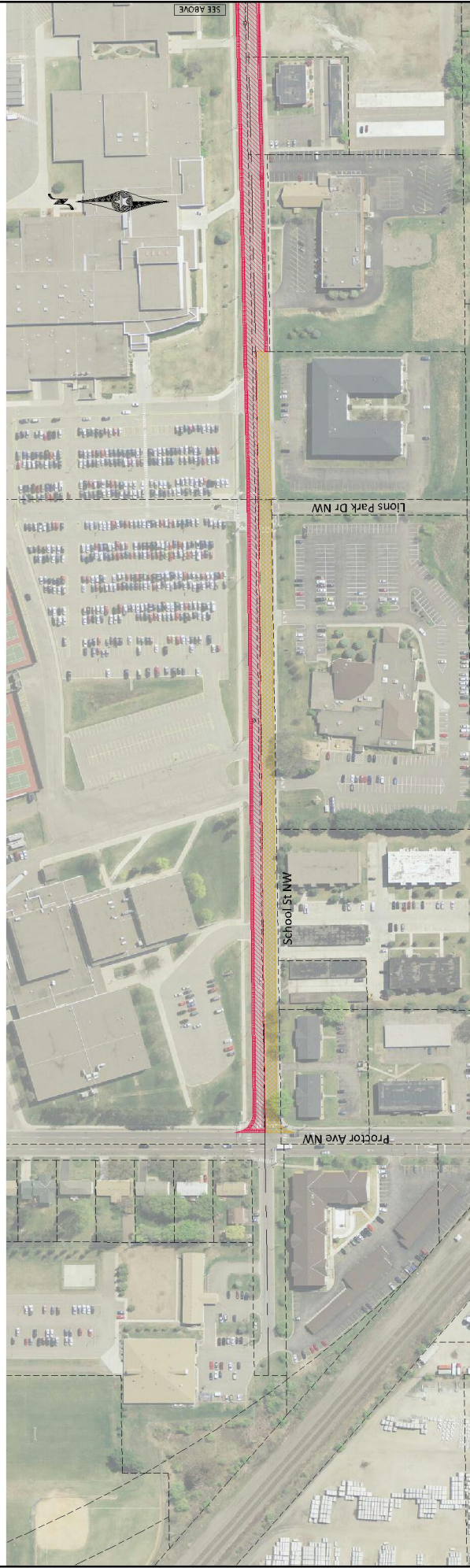
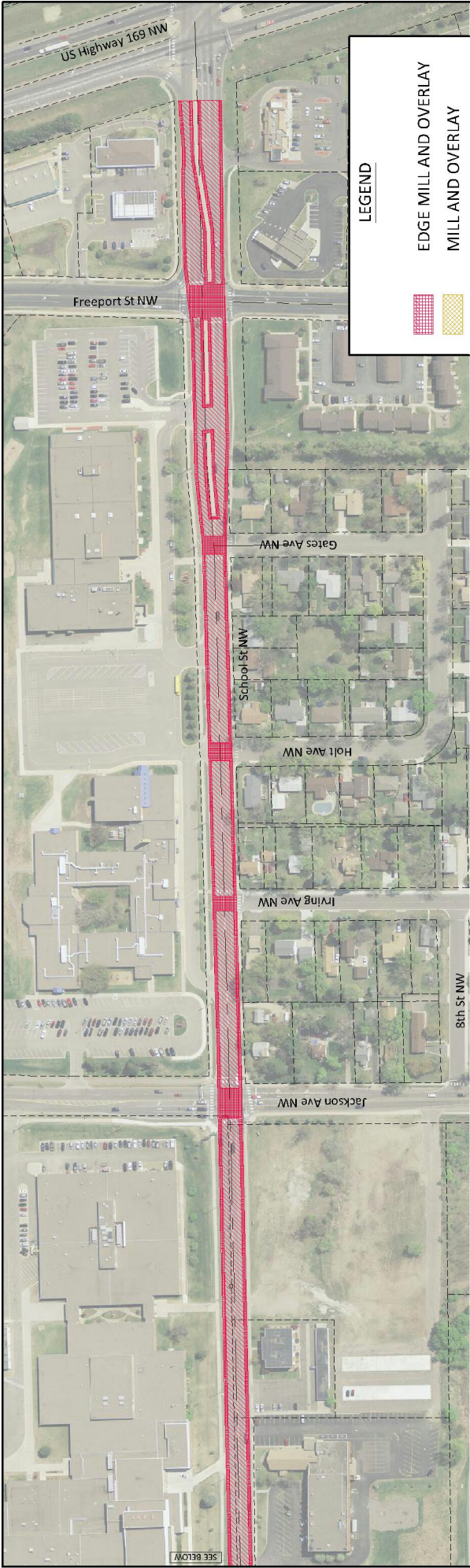
The City proposes to utilize Municipal State Aid (MSA) Funds and Local Funds for the improvements. MSA Funds will be used on all Municipal State Aid Streets. These streets include, Jarvis Street NW, 165th Avenue NW, School Street, Tyler Street, Smith Street, 197th Avenue and 198th Avenue. The remaining costs will be funded with revenue collected from the city franchise fee. The total project cost for the improvements herein are estimated at \$7,386,724 with a trail on Jarvis Street NW and 165th Avenue NW. The total project cost for the improvements herein are estimated at \$6,429,724 without the trail.

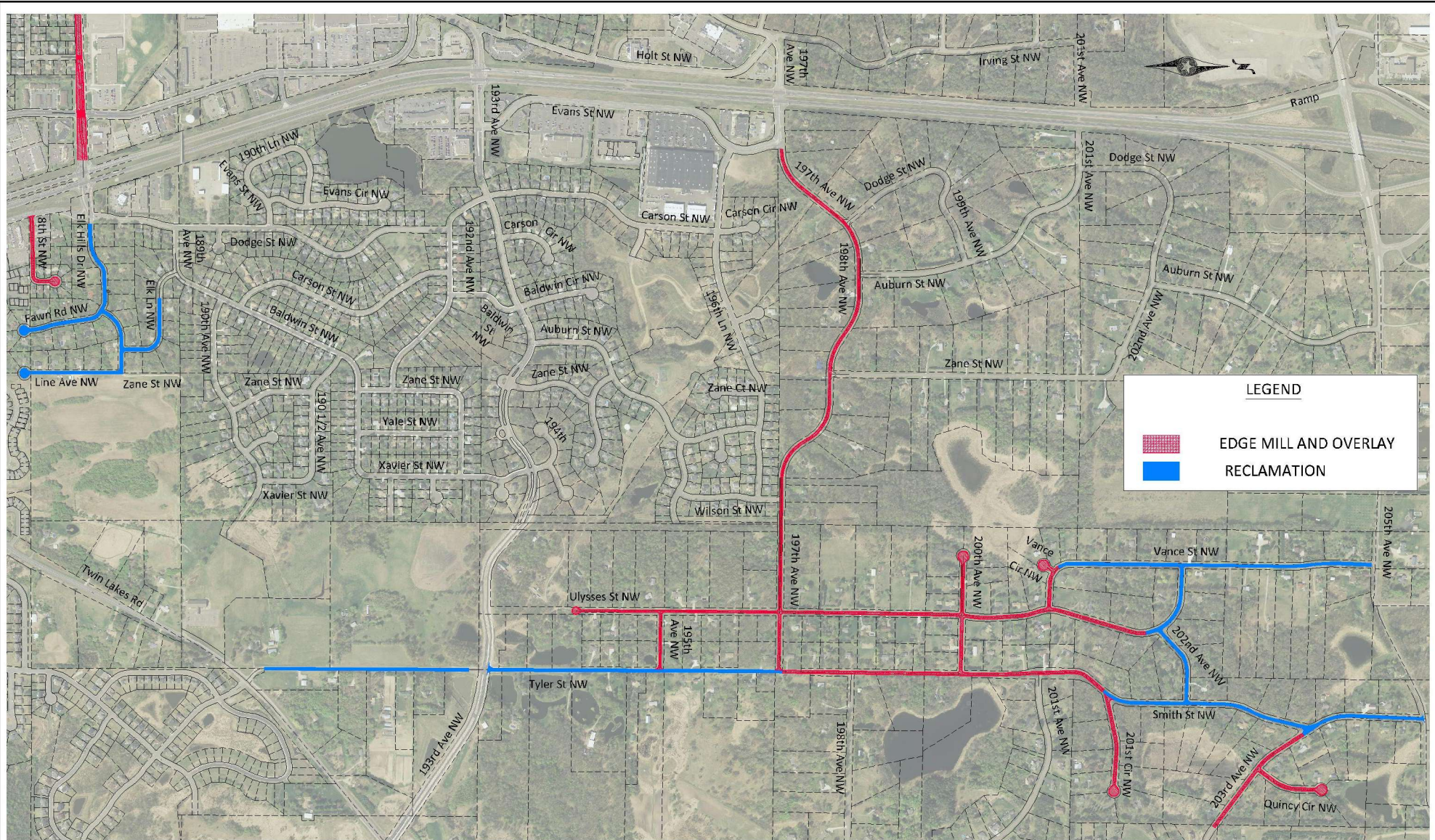
RECOMMENDATIONS

From an engineering standpoint, this project is feasible, cost effective and necessary, and can best be accomplished by letting competitive bids for the work.



APPENDIX A





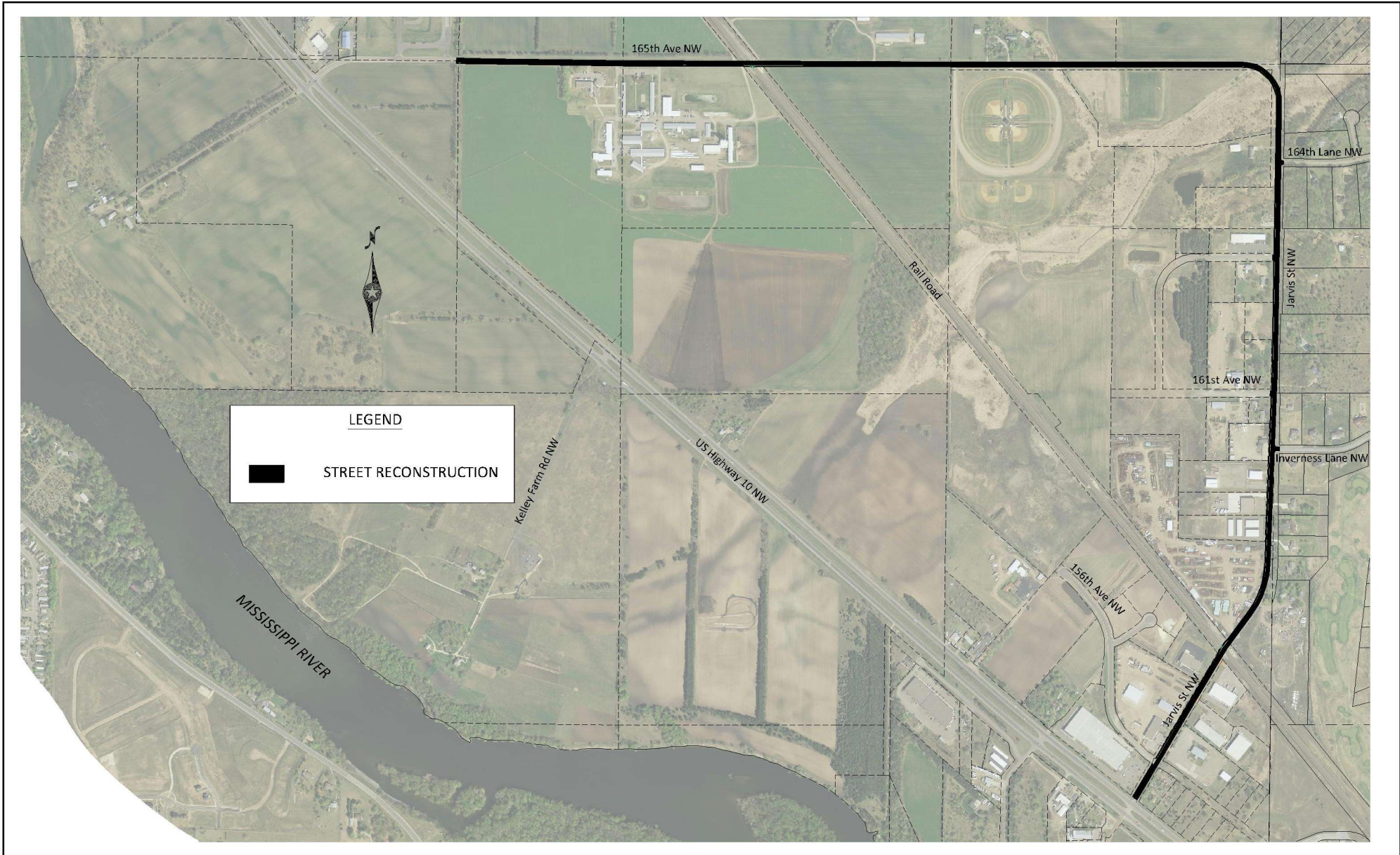
LEGEND

	EDGE MILL AND OVERLAY
	RECLAMATION



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ELK RIVER, MINNESOTA
 8TH STREET NW, ELK HILLS AREA, TYLER STREET AREA
 STREET IMPROVEMENTS



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ELK RIVER, MINNESOTA
165TH AVENUE NW AND JARVIS STREET NW
STREET IMPROVEMENTS



**TOTAL WETLAND IMPACT =
33275.92 Sq. Ft. 0.76 Acres**

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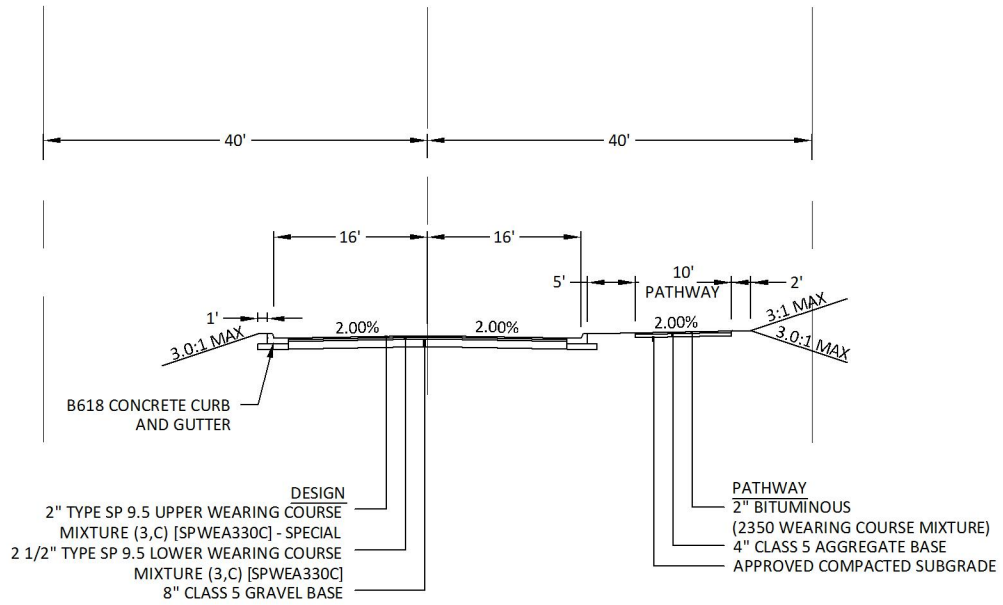


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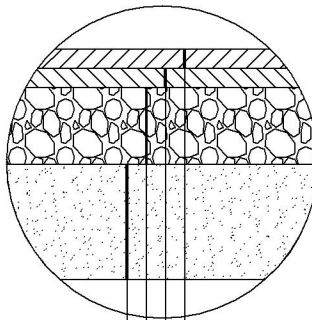
ELK RIVER, MINNESOTA
 165TH AVENUE NW AND JARVIS STREET NW

WETLAND IMPACTS

FIGURE 4



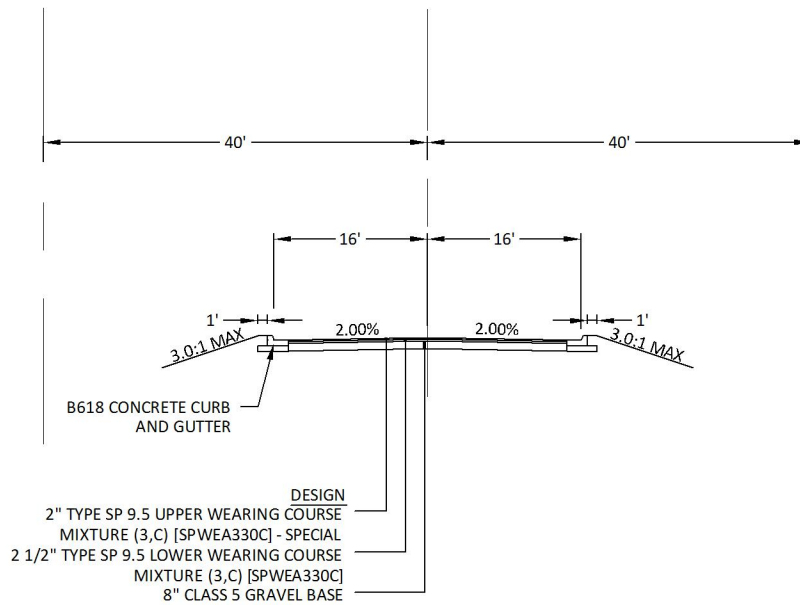
TYPICAL SECTION
32' FACE TO FACE WITH TRAIL



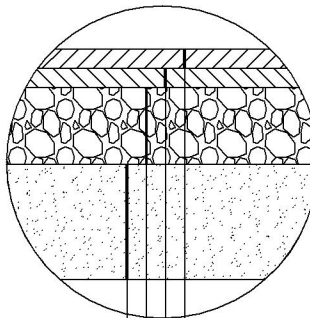
- DESIGN
- 2" TYPE SP 9.5 UPPER WEARING COURSE MIXTURE (3,C) [SPWEA330C] - SPECIAL
 - 2 1/2" TYPE SP 9.5 LOWER WEARING COURSE MIXTURE (3,C) [SPWEA330C]
 - 8" CLASS 5 GRAVEL BASE
 - 24"-60" SELECT GRANULAR BORROW (VARIES)

TYPICAL SECTION
SUBGRADE EXCAVATION





**TYPICAL SECTION
32' FACE TO FACE WITHOUT TRAIL**



- DESIGN
- 2" TYPE SP 9.5 UPPER WEARING COURSE MIXTURE (3,C) [SPWEA330C] - SPECIAL
 - 2 1/2" TYPE SP 9.5 LOWER WEARING COURSE MIXTURE (3,C) [SPWEA330C]
 - 8" CLASS 5 GRAVEL BASE
 - 24"-60" SELECT GRANULAR BORROW (VARIES)

**TYPICAL SECTION
SUBGRADE EXCAVATION**





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ELK RIVER, MINNESOTA
 165TH AVENUE NW AND JARVIS STREET NW

POSSIBLE PONDING ALTERNATIVES

FIGURE 7



APPENDIX B

MILL AND OVERLAY & RECLAIM

PRELIMINARY COST ESTIMATE CITY OF ELK RIVER

ITEM NO.	MN/DOT SPEC NO.	ITEM DESCRIPTION	NOTES	UNIT	TOTAL QUANTITY	UNIT COST	TOTAL COST
SCHOOL STREET							
1	2021.501	MOBILIZATION		LUMP SUM	1	\$20,000.00	\$20,000.00
2	2104.501	REMOVE AND REPLACE CURB AND GUTTER		LIN FT	50	\$20.00	\$1,000.00
3	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT		SQ YD	20	\$6.00	\$120.00
4	2105.507	SUBGRADE EXCAVATION (EV)		CU YD	50	\$20.00	\$1,000.00
5	2211.503	AGGREGATE BASE CLASS 5		CU YD	50	\$30.00	\$1,500.00
6	2231.501	BITUMINOUS PATCHING MIXTURE		TON	175	\$100.00	\$17,500.00
7	2232.501	MILL BITUMINOUS SURFACE (2.0")		SQ YD	4450	\$2.50	\$11,125.00
8	2232.604	EDGE MILL BITUMINOUS SURFACE 6" WIDE (0.0" TO 2")		SQ YD	7145	\$1.50	\$10,717.50
9	2360.501	TYPE SP 12.5 WEARING COURSE (2,C) (SPWEB240C) (2360)		TON	3400	\$75.00	\$255,000.00
10	2504.602	ADJUST GATE VALVE		EACH	12	\$350.00	\$4,200.00
11	2504.602	RECONSTRUCT VALVE BOX		EACH	4	\$500.00	\$2,000.00
12	2506.522	ADJUST FRAME & RING CASTING		EACH	13	\$400.00	\$5,200.00
13	2531.507	6" CONCRETE DRIVEWAY PAVEMENT		SQ FT	20	\$52.00	\$1,040.00
14	2563.601	TRAFFIC CONTROL		LUMP SUM	1	\$5,000.00	\$5,000.00
15	2573.530	STORM DRAIN INLET PROTECTION		EACH	18	\$150.00	\$2,700.00
16	2582.501	PAVEMENT MESSAGE (LEFT TURN ARROW) EPOXY		EACH	9	\$180.00	\$1,620.00
17	2582.501	PAVEMENT MESSAGE (RIGHT TURN ARROW) EPOXY		EACH	6	\$180.00	\$1,080.00
18	2582.501	PAVEMENT MESSAGE (LEFT-THRU ARROW) EPOXY		EACH	2	\$180.00	\$360.00
19	2582.501	PAVEMENT MESSAGE (THRU ARROW) EPOXY		EACH	2	\$180.00	\$360.00
20	2582.502	4" SOLID LINE WHITE-EPOXY		LIN FT	1490	\$0.90	\$1,341.00
21	2582.502	4" BROKEN LINE WHITE-EPOXY		LIN FT	1660	\$0.90	\$1,494.00
22	2582.502	24" SOLID LINE WHITE-EPOXY		LIN FT	135	\$8.50	\$1,147.50
23	2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY		LIN FT	3780	\$1.50	\$5,670.00
24	2582.503	CROSSWALK MARKING-EPOXY		SQ FT	1314	\$7.50	\$9,855.00
TOTAL COST SCHOOL STREET IMPROVEMENTS:							\$361,030.00
8TH STREET AREA							
1	2021.501	MOBILIZATION		LUMP SUM	1	\$2,000.00	\$2,000.00
2	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT		SQ YD	10	\$8.00	\$80.00
3	2231.501	BITUMINOUS PATCHING MIXTURE		TON	40	\$100.00	\$4,000.00
4	2232.604	EDGE MILL BITUMINOUS SURFACE 6" WIDE (0.0" TO 2")		SQ YD	1110	\$1.50	\$1,665.00
5	2360.501	TYPE SP 12.5 WEARING COURSE (2,C) (SPWEB240C) (2360)		TON	350	\$75.00	\$26,250.00
6	2506.522	ADJUST FRAME & RING CASTING		EACH	13	\$400.00	\$5,200.00
7	2531.507	6" CONCRETE DRIVEWAY PAVEMENT		SQ YD	10	\$52.00	\$520.00
8	2573.530	STORM DRAIN INLET PROTECTION		EACH	1	\$150.00	\$150.00
9	2582.502	24" SOLID LINE WHITE-EPOXY		LIN FT	16	\$8.50	\$136.00
10	2582.503	CROSSWALK MARKING-EPOXY		SQ FT	144	\$6.00	\$864.00
TOTAL COST 8TH STREET IMPROVEMENTS:							\$40,865.00
ELK HILLS AREA							
1	2021.501	MOBILIZATION		LUMP SUM	1	\$5,000.00	\$5,000.00
2	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT		SQ YD	150	\$6.00	\$900.00
3	2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		SQ YD	200	\$4.00	\$800.00
4	2105.501	COMMON EXCAVATION		CU YD	100	\$20.00	\$2,000.00
5	2105.507	SUBGRADE EXCAVATION (EV)		CU YD	300	\$20.00	\$6,000.00
6	2211.503	AGGREGATE BASE CLASS 5		CU YD	500	\$30.00	\$15,000.00
7	2331.604	BITUMINOUS PAVEMENT RECLAMATION (FULL DEPTH)		SQ YD	12910	\$1.50	\$19,365.00
8	2360.501	TYPE SP 9.5 WEARING COURSE (2,C) (SPWEA240C) (2360)		TON	1120	\$75.00	\$84,000.00
9	2360.501	TYPE SP 12.5 NON-WEARING COURSE (2,B) (SPNWB240B) (2360)		TON	1490	\$70.00	\$104,300.00
10	2360.503	TYPE SP 9.5 WEARING COURSE MIXTURE (2,B) 3.0" THICK		SQ YD	200	\$30.00	\$6,000.00
11	2501.601	DRAINAGE IMPROVEMENTS AND REPAIR PIPE CULVERT		LUMP SUM	1	\$3,000.00	\$3,000.00
12	2506.522	ADJUST FRAME & RING CASTING		EACH	4	\$400.00	\$1,600.00
13	2531.507	6" CONCRETE DRIVEWAY PAVEMENT		SQ YD	150	\$52.00	\$7,800.00
14	2535.501	MONOLITHIC BITUMINOUS CURB (6" HEIGHT)		LIN FT	7600	\$8.00	\$60,800.00
15	2563.601	TRAFFIC CONTROL		LUMP SUM	1	\$5,000.00	\$5,000.00
16	2573.530	STORM DRAIN INLET PROTECTION		EACH	5	\$150.00	\$750.00
17	2582.502	24" SOLID LINE WHITE-EPOXY		LIN FT	18	\$10.00	\$180.00
18	2582.503	CROSSWALK MARKING-EPOXY		SQ FT	144	\$6.00	\$864.00
TOTAL COST ELK HILLS IMPROVEMENTS:							\$323,359.00

MILL AND OVERLAY & RECLAIM

PRELIMINARY COST ESTIMATE

CITY OF ELK RIVER

ITEM NO.	MN/DOT SPEC NO.	ITEM DESCRIPTION	NOTES	UNIT	TOTAL QUANTITY	UNIT COST	TOTAL COST
TYLER STREET							
1	2021.501	MOBILIZATION		LUMP SUM	1	\$50,000.00	\$50,000.00
2	2104.501	REMOVE CURB AND GUTTER		LIN FT	50	\$5.00	\$250.00
3	2104.501	REMOVE AND REPLACE CURB AND GUTTER		LIN FT	200	\$20.00	\$4,000.00
4	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT		SQ YD	300	\$6.00	\$1,800.00
5	2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		SQ YD	300	\$4.00	\$1,200.00
6	2104.505	REMOVE CONCRETE VALLEY GUTTER		SQ YD	40	\$6.00	\$240.00
7	2104.505	REMOVE BITUMINOUS PAVEMENT		SQ YD	310	\$4.00	\$1,240.00
8	2105.501	COMMON EXCAVATION		CU YD	120	\$14.00	\$1,680.00
9	2105.507	SUBGRADE EXCAVATION (EV)		CU YD	210	\$20.00	\$4,200.00
10	2105.522	SELECT GRANULAR BORROW (CV)		CU YD	210	\$18.00	\$3,780.00
11	2211.503	AGGREGATE BASE CLASS 5		CU YD	120	\$30.00	\$3,600.00
12	2231.501	BITUMINOUS PATCHING MIXTURE		TON	300	\$100.00	\$30,000.00
13	2331.604	BITUMINOUS PAVEMENT RECLAMATION (FULL DEPTH)		SQ YD	36210	\$1.50	\$54,315.00
14	2232.604	EDGE MILL BITUMINOUS SURFACE 6" WIDE (0.0" TO 2")		SQ YD	23942	\$1.50	\$35,913.00
15	2360.501	TYPE SP 12.5 WEARING COURSE (2,C) (SPWEB240C) (2360)		TON	10610	\$75.00	\$795,750.00
16	2360.501	TYPE SP 12.5 NON-WEARING COURSE (2,B) (SPNWB240B) (2360)		TON	4180	\$70.00	\$292,600.00
17	2360.503	TYPE SP 9.5 WEARING COURSE MIXTURE (2,B) 3.0" THICK		SQ YD	300	\$30.00	\$9,000.00
18	2501.601	DRAINAGE IMPROVEMENTS AND REPAIR PIPE CULVERT		LUMP SUM	1	\$5,000.00	\$5,000.00
19	2506.522	ADJUST FRAME & RING CASTING		EACH	5	\$400.00	\$2,000.00
20	2531.501	CONCRETE CURB & GUTTER DESIGN B618		LIN FT	200	\$15.00	\$3,000.00
21	2531.507	6" CONCRETE DRIVEWAY PAVEMENT		SQ YD	300	\$52.00	\$15,600.00
22	2531.604	7" CONCRETE VALLEY GUTTER		SQ YD	40	\$52.00	\$2,080.00
23	2535.501	MONOLITHIC BITUMINOUS CURB (6" HEIGHT)		LIN FT	14290	\$8.00	\$114,320.00
24	2563.601	TRAFFIC CONTROL		LUMP SUM	1	\$5,000.00	\$5,000.00
25	2573.530	STORM DRAIN INLET PROTECTION		EACH	18	\$150.00	\$2,700.00
26	2582.502	24" SOLID LINE WHITE-EPOXY		LIN FT	80	\$10.00	\$800.00
27	2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY		LIN FT	15740	\$0.75	\$11,805.00
TOTAL COST TYLER STREET IMPROVEMENTS:							\$1,451,873.00

TOTAL COST STREET IMPROVEMENTS:	\$2,177,127.00
10% CONTINGENCIES	\$217,713.00
TOTAL STREET IMPROVEMENT COST	\$2,394,840.00
INDIRECT COSTS (10%)	\$239,484.00
TOTAL STREET IMPROVEMENT COST	\$2,634,324.00



APPENDIX C

**165TH AVENUE NW & JARVIS STREET NW
PRELIMINARY COST ESTIMATE
STA. 12+48 TO STA. 139+10
CITY OF ELK RIVER**

NO.	ITEM	UNITS	QTY	UNIT PRICE	TOTAL PRICE
STREETS					
1	MOBILIZATION	LUMP SUM	1.00	\$50,000.00	\$50,000.00
2	TRAFFIC CONTROL	LUMP SUM	1.00	\$15,000.00	\$15,000.00
3	RECLAIM BITUMINOUS PAVEMENT (8")	SQ YD	30952	\$4.00	\$123,808.00
4	SUBGRADE EXCAVATION	CU YD	10370	\$3.50	\$36,295.00
5	COMMON EXCAVATION	CU YD	21146	\$2.00	\$42,292.00
6	POND EXCAVATION	CU YD	5000	\$8.00	\$40,000.00
7	GRANULAR BORROW (LV)	CU YD	33990	\$5.00	\$169,950.00
8	AGGREGATE BASE CLASS 5	TON	31482	\$11.00	\$346,302.00
9	TYPE SP 12.5 WEARING COURSE MIX (4,E) - 2"	TON	4937	\$75.00	\$370,275.00
10	TYPE SP 12.5 NON WEARING COURSE MIX (4,B) - 2.5"	TON	6171	\$70.00	\$431,970.00
11	TACK COAT	GA	4100	\$5.00	\$20,500.00
12	REMOVE & REPLACE DRIVEWAYS	EA	40	\$800.00	\$32,000.00
13	BITUMINOUS TRAIL (10')	TON	1780	\$100.00	\$178,000.00
14	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	25324	\$11.00	\$278,564.00
15	COMMON TOPSOIL BORROW	CU YD	9910	\$15.00	\$148,650.00
16	SODDING TYPE LAWN	SQ YD	20000	\$3.50	\$70,000.00
17	STRIPING AND SIGNAGE	LUMP SUM	1	\$15,000.00	\$15,000.00
18	SILT FENCE	LIN FT	27800	\$2.00	\$55,600.00
19	TREE REMOVAL	ACRE	3.0	\$10,000.00	\$30,000.00
20	REMOVE & REPLACE LANDSCAPING	LUMP SUM	1	\$12,000.00	\$12,000.00
21	LAND ACQUISITION	SQ FT	10000	\$4.00	\$40,000.00
22	SEED, FERTILIZER & MULCH	ACRE	11	\$2,500.00	\$27,500.00
SUBTOTAL STREETS COST					\$2,533,700.00
10% CONTINGENCIES					\$253,400.00
TOTAL STREETS COST					\$2,787,100.00
INDIRECT COSTS (10%)					\$278,700.00
TOTAL STREETS COST					\$3,065,800.00
STORM SEWER					
1	REMOVE CULVERT	LIN FT	1172	\$10.00	\$11,720.00
2	REMOVE DRAINAGE STRUCTURE	EACH	2	\$400.00	\$800.00
3	CONNECT TO EXISTING	EACH	3	\$300.00	\$900.00
4	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	122	\$310.00	\$37,820.00
5	CONST DRAINAGE STRUCTURE DES 48-4022	LIN FT	181	\$300.00	\$54,300.00
6	CASTINGS	EACH	75	\$700.00	\$52,500.00
7	12" RC PIPE CULVERT	LIN FT	6320	\$32.00	\$202,240.00
8	15" RC PIPE CULVERT	LIN FT	1692	\$30.00	\$50,760.00
9	18" RC PIPE CULVERT	LIN FT	1661	\$35.00	\$58,135.00
10	12" RC PIPE APRON	EACH	10	\$600.00	\$6,000.00
11	15" RC PIPE APRON	EACH	3	\$500.00	\$1,500.00
12	18" RC PIPE APRON	EACH	4	\$650.00	\$2,600.00
13	RANDOM RIPRAP CLASS IV	CU YD	225	\$90.00	\$20,250.00
14	STORM DRAIN INLET PROTECTION	EACH	75	\$150.00	\$11,250.00
SUBTOTAL STORM SEWER COST					\$510,800.00
10% CONTINGENCIES					\$51,100.00
TOTAL STORM SEWER COST					\$561,900.00
INDIRECT COSTS (10%)					\$56,200.00
TOTAL STORM SEWER COST					\$618,100.00

**165TH AVENUE NW & JARVIS STREET NW
PRELIMINARY COST ESTIMATE
STA. 12+48 TO STA. 139+10
CITY OF ELK RIVER**

NO.	ITEM	UNITS	QTY	UNIT PRICE	TOTAL PRICE
RAILROAD CROSSING IMPROVEMENTS AT 165TH AVENUE & JARVIS STREET					
1	PROPOSED CROSSING SURFACE (INCLUDES CONCRETE PANELS, NEW RAIL, TIES, AND BALLAST)	LF	224	\$1,400.00	\$313,600.00
2	PROPOSED SAFETY MEASURE (TWO-QUADRANT GATE SYSTEM WITH FLASHERS & CWT)	LUMP SUM	2	\$250,000.00	\$500,000.00
3	COMMON EXCAVATION	CU YD	300	\$14.00	\$4,200.00
4	AGGREGATE BASE CLASS 5	TON	160	\$28.00	\$4,480.00
5	5" CONCRETE WALK	SQ FT	2000	\$6.00	\$12,000.00
6	CONCRETE CURB & GUTTER DESIGN B818 (NON-TRAVERSABLE MEDIAN)	LIN FT	640	\$18.00	\$11,520.00
7	TRUNCATED DOMES	SQ FT	160	\$42.00	\$6,720.00
8	FLAG PERSON (BNSF CROSSING)	LUMP SUM	2	\$12,500.00	\$25,000.00
9	SIGN PANEL TYPE C	SQ FT	100	\$35.00	\$3,500.00
10	HYDRAULIC SOIL STABILIZER, TYPE 5, WITH SEED & FERT.	SQ YD	1000	\$2.00	\$2,000.00
				SUBTOTAL QUIET ZONE COST	\$883,000.00
				10% CONTINGENCIES	\$88,300.00
				TOTAL QUIET ZONE COST	\$971,300.00
				INDIRECT COSTS (10%)	\$97,200.00
				TOTAL QUIET ZONE COST	\$1,068,500.00
				TOTAL PROJECT COST	\$4,752,400.00



APPENDIX D

**165TH AVENUE NW & JARVIS STREET NW - NO TRAIL OPTION
PRELIMINARY COST ESTIMATE
STA. 12+48 TO STA. 139+10
CITY OF ELK RIVER**

NO.	ITEM	UNITS	QTY	UNIT PRICE	TOTAL PRICE
STREETS					
1	MOBILIZATION	LUMP SUM	1.00	\$50,000.00	\$50,000.00
2	TRAFFIC CONTROL	LUMP SUM	1.00	\$15,000.00	\$15,000.00
3	RECLAIM BITUMINOUS PAVEMENT (8")	SQ YD	30952	\$4.00	\$123,808.00
4	SUBGRADE EXCAVATION	CU YD	9074	\$3.50	\$31,759.00
5	COMMON EXCAVATION	CU YD	20250	\$2.00	\$40,500.00
6	POND EXCAVATION	CU YD	5000	\$8.00	\$40,000.00
7	GRANULAR BORROW (LV)	CU YD	4000	\$5.00	\$20,000.00
8	AGGREGATE BASE CLASS 5	TON	26225	\$11.00	\$288,475.00
9	TYPE SP 12.5 WEARING COURSE MIX (4,E) - 2"	TON	4937	\$75.00	\$370,275.00
10	TYPE SP 12.5 NON WEARING COURSE MIX (4,B) - 2.5"	TON	6171	\$70.00	\$431,970.00
11	TACK COAT	GA	4100	\$5.00	\$20,500.00
12	REMOVE & REPLACE DRIVEWAYS	EA	40	\$800.00	\$32,000.00
13	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	25324	\$11.00	\$278,564.00
14	COMMON TOPSOIL BORROW	CU YD	9910	\$15.00	\$148,650.00
15	SODDING TYPE LAWN	SQ YD	20000	\$3.50	\$70,000.00
16	STRIPING AND SIGNAGE	LUMP SUM	1	\$15,000.00	\$15,000.00
17	SILT FENCE	LIN FT	27800	\$2.00	\$55,600.00
18	TREE REMOVAL	ACRE	3.0	\$10,000.00	\$30,000.00
19	REMOVE & REPLACE LANDSCAPING	LUMP SUM	1	\$12,000.00	\$12,000.00
20	LAND ACQUISITION	SQ FT	10000	\$4.00	\$40,000.00
21	SEED, FERTILIZER & MULCH	ACRE	11	\$2,500.00	\$27,500.00
				SUBTOTAL STREETS COST	\$2,141,600.00
				10% CONTINGENCIES	\$214,200.00
				TOTAL STREETS COST	\$2,355,800.00
				INDIRECT COSTS (10%)	\$235,600.00
				TOTAL STREETS COST	\$2,591,400.00
STORM SEWER					
1	REMOVE CULVERT	LIN FT	1172	\$10.00	\$11,720.00
2	REMOVE DRAINAGE STRUCTURE	EACH	2	\$400.00	\$800.00
3	CONNECT TO EXISTING	EACH	3	\$300.00	\$900.00
4	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	72	\$310.00	\$22,320.00
5	CONST DRAINAGE STRUCTURE DES 48-4022	LIN FT	118	\$300.00	\$35,400.00
6	CASTINGS	EACH	38	\$700.00	\$26,600.00
7	12" RC PIPE CULVERT	LIN FT	2108	\$32.00	\$67,456.00
8	15" RC PIPE CULVERT	LIN FT	29	\$30.00	\$870.00
9	18" RC PIPE CULVERT	LIN FT	288	\$35.00	\$10,080.00
10	24" RC PIPE CULVERT	LIN FT	64	\$36.00	\$2,304.00
11	12" RC PIPE APRON	EACH	3	\$600.00	\$1,800.00
12	15" RC PIPE APRON	EACH	1	\$500.00	\$500.00
13	18" RC PIPE APRON	EACH	1	\$650.00	\$650.00
14	24" RC PIPE APRON	EACH	2	\$700.00	\$1,400.00
15	RANDOM RIPRAP CLASS IV	CU YD	75	\$90.00	\$6,750.00
16	STORM DRAIN INLET PROTECTION	EACH	38	\$150.00	\$5,700.00
17	SPILLWAYS	EACH	56	\$800.00	\$44,800.00
18	DRIVEWAY CULVERT	LIN FT	1000	\$25.00	\$25,000.00
				SUBTOTAL STORM SEWER COST	\$265,100.00
				10% CONTINGENCIES	\$26,500.00
				TOTAL STORM SEWER COST	\$291,600.00
				INDIRECT COSTS (10%)	\$29,200.00
				TOTAL STORM SEWER COST	\$320,800.00

**165TH AVENUE NW & JARVIS STREET NW - NO TRAIL OPTION
PRELIMINARY COST ESTIMATE
STA. 12+48 TO STA. 139+10
CITY OF ELK RIVER**

NO.	ITEM	UNITS	QTY	UNIT PRICE	TOTAL PRICE
RAILROAD CROSSING IMPROVEMENTS AT 165TH AVENUE & JARVIS STREET					
1	PROPOSED CROSSING SURFACE (INCLUDES CONCRETE PANELS, NEW RAIL, TIES, AND BALLAST)	LF	128	\$1,400.00	\$179,200.00
2	PROPOSED SAFETY MEASURE (TWO-QUADRANT GATE SYSTEM WITH FLASHERS & CWT)	LUMP SUM	2	\$250,000.00	\$500,000.00
3	COMMON EXCAVATION	CU YD	300	\$14.00	\$4,200.00
4	AGGREGATE BASE CLASS 5	TON	160	\$28.00	\$4,480.00
5	5" CONCRETE WALK	SQ FT	0	\$6.00	\$0.00
6	CONCRETE CURB & GUTTER DESIGN B818 (NON-TRAVERSABLE MEDIAN)	LIN FT	640	\$18.00	\$11,520.00
7	TRUNCATED DOMES	SQ FT	0	\$42.00	\$0.00
8	FLAG PERSON (BNSF CROSSING)	LUMP SUM	2	\$12,500.00	\$25,000.00
9	SIGN PANEL TYPE C	SQ FT	100	\$35.00	\$3,500.00
10	HYDRAULIC SOIL STABILIZER, TYPE 5, WITH SEED & FERT.	SQ YD	1000	\$2.00	\$2,000.00
				SUBTOTAL QUIET ZONE COST	\$729,900.00
				10% CONTINGENCIES	\$73,000.00
				TOTAL QUIET ZONE COST	\$802,900.00
				INDIRECT COSTS (10%)	\$80,300.00
				TOTAL QUIET ZONE COST	\$883,200.00
				TOTAL PROJECT COST	\$3,795,400.00

Capital Improvement Plan
City of Elk River, Minnesota

2015 *thru* 2019

Department Infrastructure Improvements
Contact Engineer
Type Improvement
Useful Life 25 years
Category Street & Utility Construction
Priority n/a

Project # PM-01
Project Name Pavement Management Program

Description
 Replace, overlay or rehabilitate aged and deteriorated streets, storm drainage, and adjacent walks. Projects will be completed every other year.

Justification
 Individual street pavement conditions will dictate what pavement management technique will be utilized to extend the life of that specific street segment. These techniques may range from a full reconstruction of the surface and aggregate base to simply overlaying the existing pavement. As they are implemented, the prescribed techniques will continually be gauged to assure their performance is proper in extending the life of our pavements.

Expenditures	2015	2016	2017	2018	2019	Total
Construction/Maintenance	6,429,724		4,330,000		4,500,000	15,259,724
Total	6,429,724		4,330,000		4,500,000	15,259,724

Funding Sources	2015	2016	2017	2018	2019	Total
Municipal State Aid	3,795,400		1,000,000		1,000,000	5,795,400
Pavement Management Fund	2,484,324		3,180,000		3,350,000	9,014,324
Storm Sewer	150,000		150,000		150,000	450,000
Total	6,429,724		4,330,000		4,500,000	15,259,724

Pavement Management CIP analysis

	2013 Actual	2014 Estimate	2015 Estimate	2016 Estimate	2017 Estimate	2018 Estimate	2019 Estimate
Revenues							
Charges for Services							
Franchise Fee	714,983	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000
Other Revenue							
Interest	(10,524)	18,113	37,469	26,878	52,811	15,750	41,759
Municipal State Aid (MSA)	-	301,951	4,103,390	314,150	1,320,433	326,841	1,333,378
Transfers In							
Street Improvement Reserve	3,000,000	-	-	-	-	-	-
Storm Water	-	-	150,000	-	150,000	-	150,000
Sanitary Sewer	-	-	-	-	-	-	-
ERMU/Trunk Utility (Water)	121,171	-	-	-	-	-	-
Total Revenue	<u>3,825,630</u>	<u>1,670,064</u>	<u>5,640,859</u>	<u>1,691,028</u>	<u>2,873,244</u>	<u>1,692,591</u>	<u>2,875,137</u>
Expenditures							
Capital Outlay	2,618,089	-	6,429,724	-	4,330,000	-	4,500,000
Sealcoat/Overlay program	-	379,650	365,199	394,382	396,268	392,156	403,921
Total Expenditures	<u>2,618,089</u>	<u>379,650</u>	<u>6,794,923</u>	<u>394,382</u>	<u>4,726,268</u>	<u>392,156</u>	<u>4,903,921</u>
Revenues less Expenditures	<u>1,207,541</u>	<u>1,290,414</u>	<u>(1,154,064)</u>	<u>1,296,646</u>	<u>(1,853,024)</u>	<u>1,300,435</u>	<u>(2,028,784)</u>
Fund Balance - Beginning	-	1,207,541	2,497,955	1,343,891	2,640,537	787,513	2,087,948
Fund Balance - Ending	1,207,541	2,497,955	1,343,891	2,640,537	787,513	2,087,948	59,165

Notes

Municipal State Aid (MSA) Balance

	2014	2% 2015F	2% 2016F	2% 2017F	2% 2018F	2% 2019F
Beginning balance	\$ 708,248	\$ 1,614,101	\$(1,257,329)	\$ (50,502)	\$ 175,173	\$ 1,420,074
New Allotment(average)	1,207,804	1,231,960	1,256,599	1,281,731	1,307,366	1,333,513
Pavement Management Plan**	-	(3,795,400)	-	(1,000,000)	-	(1,000,000)
Maintenance (sealcoat)*	(301,951)	(307,990)	(314,150)	(320,433)	(326,841)	(333,378)
Ramsey Payback	-	-	264,377	264,377	264,377	-
Ending Balance	\$ 1,614,101	\$(1,257,329)	\$ (50,502)	\$ 175,173	\$ 1,420,074	\$ 1,420,209

*=25% of MSA allocation (2015-2019)

** = Funds will be advanced from future state-aid allotment