

Alley 5-358

Project Feasibility Report

City Project Number 10536

February 18, 2016



Project Feasibility Report

Alley 5-358 Improvements
City Project Number 10536
City Of Mankato

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II. CERTIFICATION PAGE

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CERTIFICATION

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the state of Minnesota.

Michael J McCarty PE
Reg. No. 45505

Date

III. PROJECT CONTACTS

TITLE	NAME	PHONE	EMAIL
Mayor	Eric Anderson	507.386.1750	eanderson@ mankatomn.gov
Councilor at Large	Christopher Frederick	507.382.7299	cfrederick@ mankatomn.gov
Councilor Ward 1	Karen Foreman	507.382.4256	kforeman@ mankatomn.gov
Councilor Ward 2	Tamra Rovney	507.388.3326	trovney@ mankatomn.gov
Councilor Ward 3	Mark Frost	507.387.3169	mfrost@ mankatomn.gov
Councilor Ward 4	Jason Mattick	507.720.8787	jmattick@ mankatomn.gov
Councilor Ward 5	Trudy Kunkel	507.317.6990	tkunkel@ mankatomn.gov
City Manager	Patrick Hentges	507.387.8695	phentges@ mankatomn.gov
City Engineer	Jeffrey Johnson	507.387.8640	jjohnson@ mankatomn.gov
Project Engineer	Michael McCarty	507.387.8643	mmccarty@ mankatomn.gov
Project Operations	Jim Tatge	507.387.8504	jtatge@ mankatomn.gov
Project Designer	Dylan Koch	507.387.8787	dkoch@ mankatomn.gov
Project Representative	Dylan Koch	507.387.8787	dkoch@ mankatomn.gov

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IV. EXECUTIVE SUMMARY

In June of 2009, SEH assisted the city of Mankato in developing an Alley Master Plan to more efficiently program alley improvements over the next 5 to 10 years. The master plan is meant to assist in prioritizing and budgeting improvements, and provide engineering staff, the public, and city officials with a public relations and information tool.

Information in the report was primarily gathered from city sources. GIS data was made available for streets, alleys, storm sewer, and parcel information. Also used were aerial photographs, previous alley improvement project record drawings, and alley surface ratings conducted by city personnel. Field observations of alleys within the Alley Master Plan were conducted by SEH staff to look for outstanding conditions beyond pavement quality, including drainage and topography.

Alley 5-358 was petitioned in 2015, with residents stating that they alley was in a deteriorating state, and would issue high maintenance costs and prove to be labor intensive. The alley to be resurfaced is listed in Table 1.

ALLEY	FROM	TO	BETWEEN		
5-358	MAY ST	RUTH ST	2ND ST	AND	N. BROAD

Table 1

Suggested improvements include removing the existing bituminous on the alley and then grade and pave it to provide adequate drainage.

The estimated cost of these necessary improvements will be \$42,434.29

The proposed improvements, from an engineering standpoint, are necessary, cost-effective, and feasible. This can best be accomplished by letting competitive bids for the work. It is recommended that the council accept this project feasibility report and schedule a preliminary assessment hearing for the proposed improvements.

V. PROJECT INTRODUCTION

The recommended pavement and utility improvements on Alley 5-358 between the center line of May Street and the center line of Ruth Street are being proposed for the summer of 216. In accordance with Minnesota Statutes, Chapter 429, the City Council has authorized the preparation of a project feasibility report to define the scope and determine the reasonableness of the project. The specific objectives of this preliminary engineering report are to:

- Evaluate the need for this project.
- Determine the necessary improvements.
- Provide information on the estimated costs for the proposed project.
- Determine the project schedule.
- Determine the feasibility of the proposed project.

This project, as proposed, is one block long. Specific items that will be included in the construction are as follows:

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- Remove existing gravel surface
- Install new aggregate base and bituminous pavement
- Install new concrete approach

VI. EXISTING CONDITIONS

A. STREET

The alley that is listed in table 1 is bituminous and generally in poor condition and can experience poor drainage.

The soils in this area of the city are expected to be clay and sandy loam. If unsuitable soils are discovered during construction, engineering fill may be required to provide a more stable base.

The existing layouts of the proposed alley can be seen in the appendix.

B. STORM SEWER

There is no storm sewer located in alley 5-358.

C. SANITARY SEWER

There is no sanitary sewer located in alley 5-358.

D. WATERMAIN

There is no watermain located in alley 5-358.

E. OTHER UTILITIES

Other non-municipal-owned utilities may be present in the right-of-way. These include natural gas, electric, and telecommunications. The condition of these utilities is unknown and their replacement is beyond the scope of this report.

VII. PROPOSED IMPROVEMENTS

A. STREET

Existing bituminous and aggregate surfacing as applicable will be removed. An alley width of 12-feet is proposed as part of the improvements. Both bituminous surfacing as well as a concrete pavement alternative are being considered for surfacing on this alleys. If bituminous is chosen, the alleyway section will consist of 3-inches of bituminous on top of 8-inches of class 5 aggregate. Limited replacement of the existing curb and gutter and alley aprons will also be completed as well as select sidewalk as applicable.

Any temporary damages that occur to the boulevard during construction will be repaired after the project with sod in all of the disturbed areas. Trees, bushes, and other vegetation located in the construction zone will be protected where possible; however, some trees and bushes may need to be removed as part of construction due to direct conflict with the proposed utilities or due to unavoidable root damage.

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B. STORM SEWER

The alley will be designed to be properly drained without a storm sewer system, therefore meaning no storm sewer will be installed.

C. OTHER UTILITIES

The design of the proposed improvements will be coordinated with the owners of private utilities such as natural gas, electric, telephone, and cable television. A design coordination meeting will be held with all private utility companies to identify those utilities that are in conflict with the proposed improvements. Private utility companies will be requested to submit proposed designs and construction schedules for any relocation. The construction schedule for the proposed improvements will be coordinated with the utility relocation schedule to avoid unnecessary delays.

VIII. RIGHT-OF-WAY AND EASEMENT

The alley has an existing right-of-way of 15 feet and no right-of-way acquisition will be required for this project.

IX. APPROVALS/PERMITS

Approvals and permits are required from various agencies for the construction of the project. They include:

- City of Mankato Land Disturbance Permit

X. PROJECT COST ESTIMATE AND FINANCING

Estimated projections for the cost of this project are summarized below. A detailed cost estimate is included at the end of the report.

ITEM	COST
Street	\$18,745.22
Construction Contingency	\$1,874.52
TOTAL CONSTRUCTION	\$20,619.74
Admin/bonding	\$1,237.18
Engineering	\$2,061.97
TOTAL PROJECT COST	\$23,918.90

Funding for the proposed improvements is shown in the table below.

FUNDING SOURCE	AMOUNT	PERCENT
Special Assessments	\$10,200.00	43%
G.O. Bonding	\$13,718.90	57%
TOTAL FUNDS	\$23,918.90	100%

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XI. POSSIBLE SCHEDULE

The following is a possible schedule for the proposed improvements on Alley 5-358:

03/14/2016 Project Feasibility Hearing
04/11/2016 Advertise for Bids
04/11/2016 Preliminary Assessment Hearing
05/13/2016 Bid Opening
05/23/2016 Award Bid
06/06/2016 Begin construction
08/12/2016 Final Completion
11/14/2016 Final Assessments

XII. CONCLUSION AND RECOMMENDATIONS

The existing conditions of Alley 5-358 are unfavorable with only further deteriorations to come. If these road and utility improvements are not made, maintenance costs will continue to be an issue and failure of the road and system will occur. From an engineering standpoint, this project is cost effective, necessary, and feasible. The best way to accomplish this project is by letting competitive bids for the work. Feasibility is contingent upon City Council findings with respect to project financing.

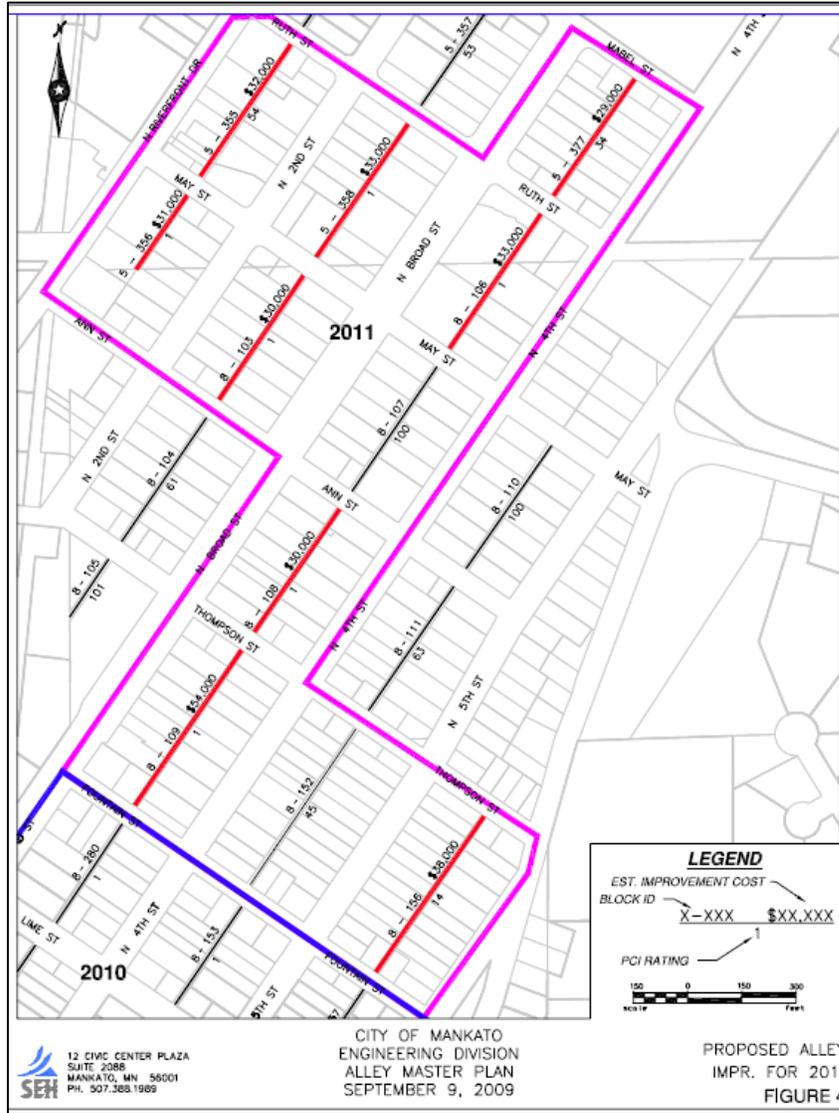
We recommend the Council accept this project feasibility report, set a date for the preliminary assessment hearing, order the City Engineer to prepare final plans and specifications and instruct the City Manager to advertise for bids in accordance with the requirement of law.

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XIII. APPENDIX

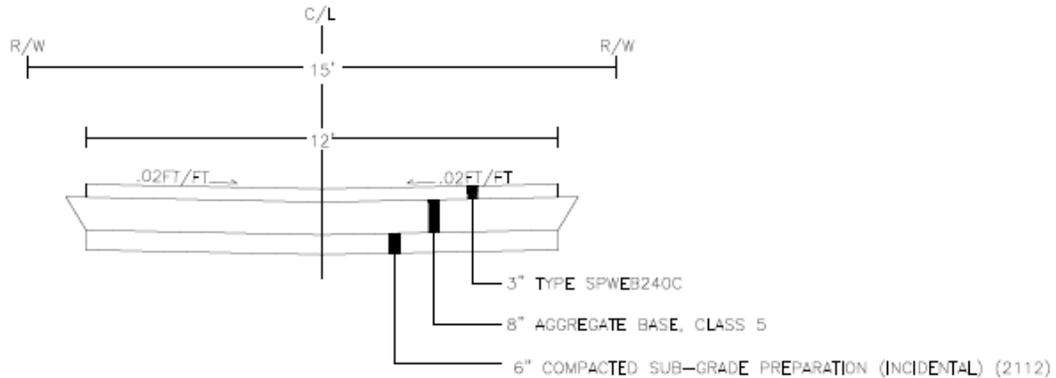
A. FIGURE 1: EXISTING LAYOUT OF ALLEY 5-358



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B. FIGURE 2: ALLEY 5-358 EXISTING STORM SEWER LAYOUT



C. ENGINEERS ESTIMATE

CITY PROJECT NUMBER 10536 Alley 5-358 ENGINEERS ESTIMATE				
CONTRACT ITEM	UNIT	EST QTY	BID UNIT PRICE	BID PRICE
MOBILIZATION	LS	1	\$70,283.22	\$70,283.22
MOBILIZATION	LS	1.00	\$ 2,020.68	\$ 2,020.68
CLEARING (6" TO 18")	TREE	2.00	\$ 292.64	\$ 585.27
CLEARING (18" TO 30")	TREE	2.00	\$ 519.51	\$ 1,039.02
CLEARING (GREATER THAN 30")	TREE	2.00	\$ 561.98	\$ 1,123.96
GRUBBING (6" TO 18")	TREE	2.00	\$ 204.49	\$ 408.98
GRUBBING (18" TO 30")	TREE	2.00	\$ 174.35	\$ 348.71
GRUBBING (GREATER THAN 30")	TREE	2.00	\$ 481.41	\$ 962.83
REMOVE CONCRETE SIDEWALK	SF	125.00	\$ 1.40	\$ 174.56
REMOVE CONCRETE PAVEMENT	SY	20.00	\$ 7.35	\$ 147.00
REMOVE CONCRETE DRIVEWAY PAVEMENT	SY	50.00	\$ 7.36	\$ 368.03
REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SY	81.67	\$ 4.63	\$ 378.17
REMOVE BITUMINOUS PAVEMENT	SY	353.33	\$ 5.07	\$ 1,791.91
REMOVE CONCRETE STEPS	EA	5.00	\$ 490.00	\$ 2,450.02
SAWING CONCRETE PAVEMENT	LF	90.00	\$ 4.99	\$ 448.88
SAWCUT BITUMINOUS PAVEMENT	LF	147.00	\$ 3.58	\$ 526.33

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COMMON EXCAVATION (P)(EV)	CY	107.96	\$ 10.57	\$ 1,141.52
SELECT GRANULAR BORROW (CV)	CY	2.00	\$ 20.61	\$ 41.22
STABILIZING AGGREGATE 0"-4" (CV)	CY	100.00	\$ 36.27	\$ 3,626.70
GEOTEXTILE FABRIC TYPE V	SY	353.33	\$ 1.42	\$ 500.85
COMMON LABORERS	HR	30.00	\$ 57.75	\$ 1,732.50
DOZER	HR	5.00	\$ 108.78	\$ 543.90
TAMPING ROLLER	HR	5.00	\$ 92.05	\$ 460.27
CRAWLER MOUNTED BACKHOE	HR	5.00	\$ 135.85	\$ 679.25
SKID LOADER	HR	5.00	\$ 92.05	\$ 460.27
STREET SWEEPER (WITH PICKUP BROOM)	HR	10.00	\$ 105.63	\$ 1,056.30
AGGREGATE BASE (CV) (P), CLASS 5	CY	78.50	\$ 24.14	\$ 1,894.95
CONCRETE PAVEMENT 8.0"	SY	20.00	\$ 33.60	\$ 672.00
TYPE SP 12.5 WEAR CRS MIX (2,C) 3" THICK	SY	88.33	\$ 14.90	\$ 1,316.07
CONCRETE STEP	EA	5.00	\$ 337.05	\$ 1,685.25
4" CONCRETE WALK	SF	125.00	\$ 5.16	\$ 644.44
6" CONCRETE DRIVEWAY PAVEMENT	SY	50.00	\$ 52.37	\$ 2,618.70
TRAFFIC CONTROL	LS	1.00	\$ 4,961.53	\$ 4,961.53
STORM DRAIN INLET PROTECTION	EA	1.00	\$ 157.48	\$ 157.48
STABILIZED CONSTRUCTION EXIT	EA	1.00	\$ 1,299.95	\$ 1,299.95
PERIMETER PROTECTION	LF	200.00	\$ 3.18	\$ 636.30
COMMON TOPSOIL BORROW (LV)	CY	9.88	\$ 20.50	\$ 202.50
SODDING TYPE SALT TOLERANT	SY	19.78	\$ 6.05	\$ 119.63
RAPID STABILIZATION METHOD 3	MGAL	5.00	\$ 641.68	\$ 3,208.38
			TOTAL	\$ 42,343.29

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D. PRELIMINARY ASSESSMENT ROLL

ALLEY 05-358 End to Ruth St between N 2nd St and N Broad St Preliminary Assessment Roll City Project 10536					
CC= Denotes Corner Credit Applied; SB= Denotes Setback; REAR=Denotes Rearrage					
Parcel Number / Owner / Address	Property Description	Frontage Charge		Requested Additional Work	Total Estimated Assessment
		Front Feet	Cost/ft \$20.00		
01.09.05.358.003 Richard Meyer 1627 N Second St Mankato, MN 56001	Dukes 2nd Addition Lot 3 Block 26 0.00	50.00	\$ 1,000.00	\$ -	\$ 1,000.00
01.09.05.358.004 Michael P Wolf 1623 N Second St Mankato, MN 56001	Dukes 2nd Addition Lot 4 Block 26 0.00	50.00	\$ 1,000.00	\$ -	\$ 1,000.00
01.09.05.358.005 Shawn M & Logan Lorrie Schroeder 1621 N Second St Mankato, MN 56001	Dukes 2nd Addition N 45' of Lot 5 Block 26 0.00	45.00	\$ 900.00	\$ -	\$ 900.00
01.09.05.358.006 Daryl Holzinger 1619 N Second St Mankato, MN 56001	Dukes 2nd Addition S 5' of Lot 5 & All of Lot 6 Block 26	55.00	\$ 1,100.00	\$ -	\$ 1,100.00
01.09.05.358.009 James Jakobe 4444 Washington Blvd Madison Lake, MN 56063	Dukes 2nd Addition Exc S 45' of Lot 17 & All of Lot 18, Block 26 (1638 N Broad St)	55.00	\$ 1,100.00	\$ -	\$ 1,100.00

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01.09.05.358.010 Nathan A Bartell & Candace E Deal 1634 N Broad St Mankato, MN 56001	Dukes 2nd Addition S45' of Lot 17 Block 26 0.00	45.00	\$ 900.00	\$ -	\$ 900.00
01.09.05.358.011 Daniel E & Susan W Duffy 1628 N Broad St Mankato, MN 56001	Dukes 2nd Addition Lots 15 & 16 Block 26 0.00	100.00	\$ 2,000.00	\$ -	\$ 2,000.00
01.09.05.358.012 John P & Lorrain Busch 1616 N Broad St Mankato, MN 56001	Dukes 2nd Addition N 40' of Lot 12 & All of Lots 13 & 14 Block 26	50.00 140.00 Creek	\$ 1,000.00	\$ -	\$ 1,000.00
01.09.05.358.017 David L Sathe & Cynthia F Weiss 203 E Ruth St Mankato, MN 56001	Dukes 2nd Addition Lot 1 Block 26 0.00	50.00	\$ 1,000.00	\$ -	\$ 1,000.00
01.09.05.358.018 Diane A Berge 1631 N Second St Mankato, MN 56001	Dukes 2nd Addition Lot 2 Block 26 0.00	50.00	\$ 1,000.00	\$ -	\$ 1,000.00