KASSON CITY COUNCIL REGULAR MEETING AGENDA Wednesday, September 22, 2021 6:00 PM

PLEDGE OF ALLEGIANCE

6:00 A. COUNCIL

- 1. Approve agenda Make additions, deletions or corrections at this time.
- 2. Consent Agenda All matters listed under Item 2, Consent Agenda, are considered to be routine and noncontroversial by the City Council and will be enacted with one motion. There will not be separate discussion of these items unless a Council Member so requests, in which case the item will be removed from the Consent Agenda and will be considered separately.
 - a. Minutes from September 8, 2021
 - b. Claims processed after the September 8, 2021 regular meeting, as audited for payment
 - c. Evaluations:

i. Nancy Hackenmille	er Library Asst	
ii. Steve Burke	Streets PWW at top	of Grade 7 \$26.88
iii. Isaac Thoe	W/WW Oper I	Remove from probation

d. Committee/Commission/Board Minutes:

i. Library Board Minutes August 2021
ii. Planning Commission Minutes September 2021 – DRAFT
iii. July EMS Minutes
iv. August EMS Minutes
v. Park Board – August
vi. Fire Department Meeting Minutes - September

e. Conferences:

i. Cathy Pletta Liquor Store Manager MMBA Annual Conf Alexandria, MN 9/25-28
 ii. Jesse Kasel SRO, Paul Lindgren Police Officer, Zach Kasper PT Police Officer –
 Fundamentals of Realistic De-escalation Cottage Grove, MN 10/11/21 \$50 each
 iii. Josh Hanson – Police Chief, Jason Peck Sergeant, Gerald Runnells, Investigator, Ryan
 Pacheco Police Officer – Fundamentals of Realistic De-escalation Edina, MN \$50 each
 iv. Matt Stradtmann – K-9 Officer – Taser Instructor Course 11/9/21 \$375

B. VISITORS TO THE COUNCIL

C. MAYOR'S REPORT

D. PUBLIC FORUM

 \cdot May not be used to continue discussion on an agenda item that already had been held as a public hearing.

- \cdot This section is limited to 15 minutes and each speaker is limited to 4 minutes.
- \cdot Speakers not heard will be first to present at the next Council meeting.
- \cdot Speakers will only be recognized once.
- \cdot Matters under negotiation, litigation or related to personnel will not be discussed.
- · Questions posed by a speaker will generally be responded to in writing.
- \cdot Speakers will be required to state their name and their address for the record.

E. PUBLIC HEARING

F. COMMITTEE REPORT

- 1. Pennington Conditional Use Permit to put a fence on the Property Line
 - i. Staff Report
 - ii. Resolution
- 2. Horsman Variance to Rebuild in the Setback
 - i. Staff Report
 - ii. Resolution

G. OLD BUSINESS

1. 2021 Tax Levy Collectible in 2022 and Approve the 2022 Budget

H. NEW BUSINESS

I. ADMINISTRATOR'S REPORT

J. ENGINEER'S REPORT

1. Projects related to the County (Safe Route to School, Fairgrounds Water Tower, 16th Street NW

Extension)

- i.Joint Resolution
- ii. Easements and Deeds
- 2. Fairground Water Tower
 - i. RCA Tower painting

3. TH 57 - Background Information

i. ICE Report

ii. MnDOT – Best Practices for Ped Bike Safety (PDF of the roundabout section) Entire document: <u>https://www.dot.state.mn.us/stateaid/trafficsafety/reference/best-practices-ped-bike-safety.pdf</u>

K. PERSONNEL

L. ATTORNEY

M. CORRESPONDENCE

1. LMC Dues Letter

N. ADJOURN

KASSON CITY COUNCIL REGULAR MEETING MINUTES

Wednesday, September 8, 2021

6:00 PM

Pursuant to due call and notice thereof, a regular City Council meeting was held at City Hall on the 8th day of September, 2021 at 6:00 PM.

THE FOLLOWING MEMBERS WERE PRESENT: Burton, Christensen, Eggler, Ferris and McKern

THE FOLLOWING MEMBERS WERE ABSENT: None

THE FOLLOWING WERE ALSO PRESENT: City Administrator Timothy Ibisch, City Clerk Linda Rappe, City Engineer Brandon Theobald, Police Chief Josh Hanson, City Attorney Melanie Leth, Fire Chief Joe Fitch, Finance Director Nancy Zaworski, Dave Dubbels, Kent and Carole Keller, Mark Hansen, Haven Senjem, Judy Severson, Aaron and Sonja Thompson

PLEDGE OF ALLIEGANCE

APPROVE AGENDA Add L.4 Closed Sessions for Union negotiation and potential litigation Remove K.2 Remove A.2.d.v Park Board Minutes

Motion to Approve the Agenda as presented made by Councilperson Eggler, second by Councilperson Christensen with All Voting Aye

CONSENT AGENDA

Minutes from August 25, 2021

Claims processed after the August 25, 2021 regular meeting, as audited for payment in the amount of \$260,642.66

Evaluations:

Jason PeckSergeant Increase from Grade 13 Step 5 \$37.86 to Grade 13 Step 6 \$39.09 eff 8/29/21Jesse KaselSROIncrease from Grade 12 Step 5 \$35.39 to Grade 12 Step 6 \$36.54 eff 8/29/21

Committee/Commission/Board Minutes:

EDA Minutes – April 2021 EDA Minutes – May 2021 EDA Minutes – June 2021 EDA Minutes – July 2021

Motion to Approve the Consent Agenda as presented made by Councilperson Burton, second by Councilperson Ferris with All Voting Aye.

VISITORS TO THE COUNCIL

MAYOR'S REPORT

The Mayor announced that there will be a public meeting regarding the Highway 57 project on September 30, 2021 at 6PM here at City Hall. The Mayor thanked the Byron, Dodge Center, Mantorville and Kasson Fire Departments for their response to the 1760 Millwork fire.

PUBLIC FORUM

Kent Keller – PO Box 97, Mantorville, MN – Mr. Keller stated that he used to own property at County 34 and Hwy 57. He stated that everyone he talked to did not know or were not aware of a round about being planned at 57 and 34. He wrote to Senator Senjem and Mr. Senjem told him it was a city issue and not a state issue. He stated that MnDOT only controls veto rights on this project. He stated that stop lights and round abouts are equal in traffic control. What he suggests is that the stop lights and roundabouts be presented to the public in equal detail.

PUBLIC HEARING COMMITTEE REPORT OLD BUSINESS

Budget Discussion – Mayor McKern stated that the options listed at 11.62% or 6.33% and he has a goal of getting under 6%. Administrator Ibisch stated that the changes in the percentages are mostly related to public safety. Finance Director Zaworski asked for a target number for December that we can work toward. Councilperson Burton is hesitant at 6.33% because of the unknowns with union negotiations and insurance. Councilperson Ferris agrees with Burton and would like to bring some of the changes to the library budget to the board since they have not had a Library Board meeting yet this month. Councilperson Christensen is concerned with not being able to increase if needed. Administrator Ibisch stated that the public gets sticker shock with the preliminary levy and that the public does not realize that it will go down. Ibisch stated that about \$36,000 is a percentage point. The Council agreed that they would like to wait until the next meeting in September and have it brought back with a number between the 11.6 and 6.3%.

NEW BUSINESS

ADMINISTRATOR'S REPORT

Administrator's Report – Proposal for Architectural Services for the Kasson Liquor Store – Councilpersons Ferris and Eggler have volunteered to be on this liquor committee. Administrator Ibisch will put EMS minutes in packet in the future. They are looking at holding a public meeting in Oct at the fire hall.

Administrator Ibisch asked about City Council meeting schedule for November and December. The Council discussed and decided that the November meeting will be November 10 and then the two December meetings will be December 1 and 8. Councilperson Eggler stated the LMC meeting on September 29 is in conjunction with MN Southeast League meeting.

ENGINEER'S REPORT PERSONNEL

Accept Resignation of Krista Weigel – <u>Motion to accept Made by Councilperson Burton, second by</u> <u>Councilperson Ferris with All Voting Aye.</u> The Council thanked her for her service.

ATTORNEY

Settlement Agreement and Release of All Claims – Heaser – Attorney Leth stated that this is settled and they City received \$20,000 for the Attorney fees. <u>Motion to Approve the Settlement Agreement and Release and the Restatement of Encroachment Agreement made by Councilperson Eggler, second by Councilperson Burton with all Voting Aye.</u>

Restatement of Encroachment Agreement Permitting Encroachment of Garage – Heaser Settlement – State of MN Steven Kleiber Nelson Auto – this is a whistle blower litigation and produced evidence that Nelson Auto was overcharging for work on police vehicles. alledged that Kasson had been over charged over \$600 and this settlement recovers just over \$300 on behalf of the City and we did not have to do or spend anything on this lawsuit. Motion to Approve made by Councilperson Ferris, second by Councilperson Christensen with All Voting Aye.

Closed Session for union Negotiation and potential litigation Closed at 6:36PM Reopened at 6:55PM The Mayor stated that the Council received updates on union negotiations and update on potential litigation regarding a former employee issue

CORRESPONDENCE

Correspondence was reviewed

Theobald stated that WHKS is 90% with the inspection of laterals and about 75% on the sump pump inspections. The Mayor asked with these inspections with significant rain events like we had last week is this making a difference. Engineer Theobald stated that there was a peak but we did not do any bypass pumping.

ADJOURN 7:03PM Motion to Adjourn made by Councilperson Christensen, second by Councilperson Eggler with all Voting Aye to Adjourn.

ATTEST:

Linda Rappe, City Clerk

Chris McKern, Mayor

SIGNATURE PAGE

THE ATTACHED LIST OF BILLS PAYABLE WAS REVIEWED AND APPROVED FOR PAYMENT.

THIS INCLUDES WARRANT NUMBERS:

#1- #3

GRAND TOTAL SUBMITTED FOR PAYMENT \$ 530 105.02

DATE APPROVED: 09-22-2021

09/13/21

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15:38:22

CITY OF KASSON Claim Approval List For the Accounting Period: 9/21 For Pay Date: 09/13/21

Page: 1 of 7 Report ID: AP100V X

For Pay Date = 09/13/21
 * ... Over spent expenditure

Claim/	Check	Vendor #/Name/	Document \$/ Disc \$					Cash
		Invoice #/Inv Date/Description	Line \$	PO #	Fund Org	Acct	Object Proj	Account
37405		6343 ARMENT AGENCY LLC	1,591.28					
0,100	08/25/2	1 BUS. FACADE IMPROV-AM FAM INS	1,591.28		290 650	4650	414	1010
	,,	Total for Vendo	•					
37406		5098 CARDMEMBER SERVICE	143.29					
	08/11/2	1 TRAPP-WW OPER LIC RENEWAL	23.57*		602 947	4947	430	1010
	08/31/2	1 ADA SIGNS-C H BATHROOM	119.72*		101 194	4194	210	1010
37417		5098 CARDMEMBER SERVICE	319.23					
	09/01/2	1 LIBRARY SUPPLIES	37.80		211 550	4550	210	1010
	09/01/2	1 BOOKS	33.47		211 550	4550	218	1010
	09/01/2	1 DVD's	180.21		211 550	4550	219	1010
	09/01/2	1 LIBRARY SERVICES	66.67		211 550	4550	440	1010
	09/01/2	1 COVID SUPPLIES	20,96*		101 417	4417	430	1010
	09/01/2	1 cr-SHARPIE MARKERS	-17.88		211 550	4550	210	1010
	09/01/2	1 AMAZON CREDIT	-2.00		211 550	4550	219	1010
37424		5098 CARDMEMBER SERVICE	1,185.40					
	08/02/2	1 16 GB FLASH DRIVE/BATTERIES	65.36		101 210	4210	210	1010
	08/08/2	1 TACTICAL LT/GALAXY S21 CASE	53.84		101 210	4210	210	1010
	08/11/2	1 LINDGREN-MCPA CONF REGISTR	225.00		101 210	4210	333	1010
	08/13/2	1 NAR TEC ORDER	222.22		101 210	4210	210	1010
	08/13/2	1 DUTY HOLSTER	74.99		101 210	4210	210	1010
	08/17/2	1 KASEL NASRO '21-'22 MEMBERSHIP	40.00		101 210	4210) 334	1010
	08/19/2	1 9 mm RUGER RIFLE	429.98		101 210	4210	240	1010
	08/23/2	1 BATTERIES	29.02		101 210	4210	210	1010
	08/24/2	1 STAMPS, COM	34.77		101 210	4210	210	1010
	08/30/2	1 2 1/4" SQ 9mm 500 PACK	10.22		101 210	4210	210	1010
		Total for Vende	or: 1,647.92					
37407		82 CHS INC	165.01					
	08/31/2	1 27.121 GAL UNLD-STREETS	79.51		101 310	4310) 212	1010
	441IG-76	52 08/09/21 SODIUM BI-CARB-K.A.C.	85.50		101 514	4514	210	1010
		Total for Vende	or: 165.01					

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CITY OF KASSON Claim Approval List For the Accounting Period: 9/21 For Pay Date: 09/13/21

For Pay Date = 09/13/21

Claim/			or #/Name/		Document \$/	Disc \$						Cash
	I1	nvoice #/In	v Date/Descri	ption	Line \$		PO #	Fund	Org Ad	bat	Object Proj	Account
37408		2530 DELUXE			1,479.90							
51100			000 LASER AP	CHECKS	184.99			101	140	4140	210	1010
			000 LASER AP		14.80			101	191	4191		1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	81.39			101	210	4210	210	1010
			000 LASER AP		51.80*			101	220	4220	210	1010
			000 LASER AP		118,39			101	310	4310	210	1010
			000 LASER AP		162,79			101	510	4510	210	1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	59.19			211	550	4550	210	1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	14,80			290	650	4650	210	1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	88,79			601	944	4944	210	1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	51,80			602	947	4947	210	1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	66.59			602	948	4948	210	1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	177.59			604	959	4959	210	1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	44.40			605	964	4964	210	1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	44.40			606	516	4516	210	1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	295,98*			609	976	4976	210	1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	14.80			610	984	4984	210	1010
	2049879869	08/12/21 3	000 LASER AP	CHECKS	7.40*			877	100	4000	430	1010
	2049879869	08/12/21 s	ALES TAX		12,21			604	959	4959	210	1010
	2049879869	08/12/21 s	ALES TAX		-12,21			604		2025	i	1010
	2049879869	08/12/21 E	C TRANSIT T	AX	0.89			604	959	4959	210	1010
	2049879869	08/12/21 D	C TRANSIT T	AX	-0.89			604		2026	5	1010
	2049879869	08/12/21 s	SALES TAX		20.35*			609	976	4976	5 210	1010
	2049879869	08/12/21 5	SALES TAX		-20.35			609	ı –	2025	5	1010
	2049879869	08/12/21 0	C TRANSIT T	AX	1.48*			609	976	4976	5 210	1010
	2049879869	08/12/21 0	C TRANSIT T	AX	-1.48			609	•	2026	5	1010
			Tot	al for Vendo	r: 1,479.9	0						
37409)	5813 ENTERS	RISE FM TRUS	т	10,939.05							
	FBN4276076	09/03/21 N	AINT CARDS-P	D	40.00			101	210	4210	430	1010
	FBN4276076	09/03/21 1	AINT CARDS-F	D	20.00			101	. 220	4220	430	1010
	FBN4276076	09/03/21 1	AINT CARDS-S	TREETS	15.00			101	310	4310	430	1010
	FBN4276076	09/03/21 1	AINT CARDS-P	ARKS	10.00			101	522	4522	2 430	1010
	FBN4276076	09/03/21 N	AINT CARDS-W	ATER	15.00			601	944	4944	430	1010
	FBN4276076	09/03/21 N	MAINT CARDS-W	W	15.00*			602	949	4949	430	1010
	FBN4276076	09/03/21 N	AINT CARDS-E	LECTRIC	15.00			604	959	4959	9 430	1010

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CITY OF KASSON Claim Approval List For the Accounting Period: 9/21 For Pay Date: 09/13/21

For Pay Date = 09/13/21

Claim/	Check	Ven	dor #/Name/	Document \$/	Disc \$						Cash
		Invoice #/I	nv Date/Description	Line \$		PO #	Fund	Org A	cct	Object Proj	Account
	FBN427607	6 09/03/21	LEASES-P D	2,545.79*			101	680	4210	601	1010
	FBN427607	6 09/03/21	LEASES-P D	933.35*			101	680	4210	611	1010
	FBN427607	6 09/03/21	LEASES-STREETS	226.37*			101	680	4310	601	1010
	FBN427607	6 09/03/21	LEASES-STREETS	93.67*			101	680	4310	611	1010
	FBN427607	6 09/03/21	LEASES-PARKS	360.12*			101	680	4522	601	1010
	FBN427607	6 09/03/21	LEASES-PARKS	128.00*			101	680	4522	611	1010
	FBN427607	6 09/03/21	LEASES-WATER	128.62			601		2231		1010
	FBN427607	6 09/03/21	LEASES-WATER	52.80			601	710	4710	611	1010
	FBN427607	6 09/03/21	LEASES-WW	128,63			602		2231		1010
	FBN427607	6 09/03/21	LEASES-WW	52.79*			602	710	4710	611	1010
	FBN42760	6 09/03/21	LEASES-WATER	180.07			601		2231		1010
	FBN42760	16 09/03/21	LEASES-WATER	64.01			601	710	4710	611	1010
	FBN42760	76 09/03/21	LEASES-WW	180.07			602		2231		1010
	FBN42760	76 09/03/21	LEASES-WW	64.00*			602	710	4710	611	1010
	FBN42760'	76 09/03/21	LEASES-ELECTRIC	360.12			604		2231		1010
	FBN42760	76 09/03/21	LEASES-ELECTRIC	128.00*			604	710	4710	611	1010
	FBN42760	76 09/03/21	LEASES-ELECTRIC	345.48			604		2231		1010
	FBN42760	76 09/03/21	LEASES-ELECTRIC	165.20*			604	710	4710	611	1010
	FBN42760	76 09/03/21	LEASES-WATER	161.62			601		2231		1010
	FBN42760	76 09/03/21	LEASES-WATER	73.10			601	710	4710	611	1010
	FBN42760	76 09/03/21	LEASES-WW	161.62			602		2231		1010
	FBN42760	76 09/03/21	LEASES-WW	73.10*			602	710	4710	611	1010
	FBN42760	76 09/03/21	LEASES-STREETS	318.56*			101	680	4310	601	1010
	FBN42760	76 09/03/21	LEASES-STREETS	128.46*			101	680	4310	611	1010
	FBN42760	76 09/03/21	LEASES-FIRE	561.04*			101	680	4220	601	1010
	FBN42760	76 09/03/21	LEASES-FIRE	237.23*			101	680	4220	611	1010
	FBN42760	76 09/03/21	LEASES-FIRE	506.79*			101	680	4220	601	1010
	FBN42760	76 09/03/21	LEASES-FIRE	241.03*			101	680	4220	611	1010
	FBN42760	76 09/03/21	LEASES-PARKS	314.72*			101	680	4522	601	1010
	FBN42760	76 09/03/21	LEASES-PARKS	160.41*			101	680	4522	611	1010
	FBN42760	76 09/03/21	LEASES-WATER	166.96			601		2231		1010
	FBN42760	76 09/03/21	LEASES-WATER	82.64			601	710	4710	611	1010
	FBN42760	76 09/03/21	LEASES-WW	166,95			602		2231		1010
	FBN42760	76 09/03/21	LEASES-WW	82,65*			602	710	4710	611	1010
	FBN42760	76 09/03/21	REPAIRS-DURANGO	1,235.08*			101	210	4210	400	1010

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CITY OF KASSON Claim Approval List For the Accounting Period: 9/21 For Pay Date: 09/13/21

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For Pay Date = 09/13/21

Claim/	Check Vendor #/Name/ Invoice #/Inv Date/Description	Document \$/ Disc \$ Line \$	PO #	Fund Org 1	lact	Object Proj	Cash Account
	·····	,					
37410	28 GRAYBAR ELECTRIC	1,013.62					
	9323087656 08/26/21 LED BULBS	1,013.62		604 957	4957	220	1010
	Total for Vend	dor: 1,013.62					
37419	6307 IMS CONTRACTING LLC	8,153.50					
	2020 08/24/21 MAIN BREAK-506 2 AV NW	3,645.50		601 943	4943	400	1010
	2021 08/24/21 MAIN BREAK-601 N MANT AV	4,508.00		601 943	4943	400	1010
	Total for Vend	dor: 8,153.50					
37411	2198 ITRON INC	1,263.40					
	581434 02/09/21 MAR-MAY MAINT & SUPPORT	252.68		601 944	4944	370	1010
	581434 02/09/21 MAR-MAY MAINT & SUPPORT	252.68		602 949	4949	370	1010
	581434 02/09/21 MAR-MAY MAINT & SUPPORT	505,36*		604 959	4959	370	1010
	581434 02/09/21 MAR-MAY MAINT & SUPPORT	252.68		605 963	4963	370	1010
	581434 02/09/21 SALES TAX	4.80*		604 959	4959	370	1010
	581434 02/09/21 SALES TAX	-4.80		604	2025	5	1010
	581434 02/09/21 D C TRANSIT TAX	0.35*		604 959	4959	370	1010
	581434 02/09/21 D C TRANSIT TAX	-0.35		604	2026	5	1010
	Total for Vend	dor: 1,263.40					
37412	2388 KNUTSON PLUMBING INC	1,455.00					
	09/08/21 RESTORE BATHROOM IN C H	1,455.00		101 194	4194	400	1010
	Total for Vend	dor: 1,455.00					
37413	362 KWIK TRIP STORES	476.44					
	08/31/21 74.713 GAL B20ULS-F D	240.50*		101 220	4220) 212	1010
	08/31/21 34,529 GAL B20PREM-F D	112.11*		101 220	4220	212	1010
	08/31/21 41.235 GAL UNLD-F D	123.83*		101 220	4220	212	1010
	Total for Ven	dor: 476.44					
37420	4919 PEOPLE'S ENERGY COOPERATIVE	70.53					
	2289800 09/03/21 ELEC SERV-CEMETERY 8/1-9/1	30,38		610 984	4984	380	1010
	2289800 09/03/21 ELEC SERV-STR LT-LETH SUBD	8/ 40.15		101 316	4316	5 380	1010
	Total for Ven	dor: 70.53					

09/13/21

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15:38:22

CITY OF KASSON Claim Approval List For the Accounting Period: 9/21 For Pay Date: 09/13/21

Page: 5 of 7 Report ID: AP100V

For Pay Date = 09/13/21

Claim/		cument \$/ Line \$	Disc \$	P0 #	Fund	Org	Acct	Object Proj	Cash Account
37414	6344 SEALMASTER OF MINNESOTA	861.64							
	200667 08/13/21 ASPHALT BINDER-5 GAL PAILS	861,64			101	310	4310	220	1010
	Total for Vendor:	861.64							
37421	123 THRONDSON OIL & LP GAS CO	1,596.40							
	370664 08/26/21 #1 DIESEL-FOR GENERATOR TANKS	1,596.40			602	947	4947	380	1010
	Total for Vendor:	1,596.40							
37415	3382 VERIZON WIRELESS	1,521.11							
	9886662664 08/20/21 CELL PHONES-P D	822,38			101	210	4210	321	1010
	9886662664 08/20/21 CELL PHONES-STREETS	91.95			101	310	4310	321	1010
	9886662664 08/20/21 CELL PHONES-PARKS	100.91			101	510	4510	321	1010
	9886662664 08/20/21 CELL PHONES-WATER	78.20			601	944	4944	321	1010
	9886662664 08/20/21 CELL PHONES-WW	39.10			602	949	4949	321	1010
	9886662664 08/20/21 CELL PHONES-WW PLANT	39.10			602	947	4947	321	1010
	9886662664 08/20/21 CELL PHONE-P.W. DIRECTOR	41.50			604	959	4959	321	1010
	9886662664 08/20/21 CELL PHONES-ELECTRIC	261.49			604	959	4959	321	1010
	9886662664 08/20/21 CELL PHONE-ARENA	46.48			606	516	4516	5 321	1010
	Total for Vendor:	1,521.11							
37422	388 WESCO RECEIVABLES CORP	1,675.69							
	845172 08/24/21 NORDIC 55x10 GRD SL	1,675.69			604	957	4957	220	1010
	Total for Vendor:	1,675.69							
	# of Claims 1	7 Total:	33,910.49						

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CITY OF KASSON Fund Summary for Claims For the Accounting Period: 9/21

Fund/Account	Amount
101 General Fund	
1010 CASH-OPERATING	\$14,029.34
211 Library Fund	
1010 CASH-OPERATING	\$357.46
290 Economic Development	
1010 CASH-OPERATING	\$1,606.08
601 Water Fund	
1010 CASH-OPERATING	\$9,497.99
602 Sewer Fund	
1010 CASH-OPERATING	\$2,994.05
604 Electric Fund	
1010 CASH-OPERATING	\$4,689.05
605 Storm Water	
1010 CASH-OPERATING	\$297.08
606 ICE ARENA	
1010 CASH-OPERATING	\$90.88
609 Liquor Fund	
1010 CASH-OPERATING	\$295,98
610 Maple Grove Cemetery	
1010 CASH-OPERATING	\$45.18
877 Festival in Park Fund	
1010 CASH-OPERATING	\$7.40

Total: \$33,910.49

CITY OF KASSON Claim Approval Signature Page For the Accounting Period: 9 / 21 Page: 7 of 7 Report ID: AP100A

CITY OF KASSON 401 5TH STREET SE KASSON, MN 55944-2204

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UN XN The claim batch dated _are approved for payment. APPROVED uncil Member Council Member

Page: 1 of 6 Report ID: AP100V

* ... Over spent expenditure

Claim/	Check Vendor #/Name/	Document \$/ Disc \$		Cash
	Invoice #/Inv Date/Description	Line \$	PO # Fund Org Acct Object Proj	Account
37495	E 34 CITY OF KASSON	34,477.25		
	08/25/21 CITY UTILITIES-C H	502.27	101 194 4194 380	1010
	08/25/21 CITY UTILITIES-C H BI-DIRECT	20.33	101 194 4194 380	1010
	08/25/21 CITY UTILITIES-P D	449.94	101 210 4210 380	1010
	08/25/21 CITY UTILITIES-STR LTS-LED	354.82	101 316 4316 380	1010
	08/25/21 CITY UTILITIES-STREET LTS	27.04	101 310 4310 380	1010
	08/25/21 CITY UTILITIES-F D	306.48	101 220 4220 380	1010
	08/25/21 CITY UTILITIES-MAIN STR LTS	684.10	101 316 4316 380	1010
	08/25/21 CITY UTILITIES-MANT AV STR LTS	195.96	101 316 4316 380	1010
	08/25/21 CITY UTILITIES-STREET LTS	3,299.80	101 316 4316 380	1010
	08/25/21 CITY UTILITIES-K.A.CHIGH FLO	238.82	101 514 4514 380	1010
	08/25/21 CITY UTILITIES-K.A.CLOW FLOW	2,362.02	101 514 4514 380	1010
	08/25/21 CITY UTILITIES-K.A.CBI-DIREC	3,472.89	101 514 4514 380	1010
	08/25/21 CITY UTILITIES-N2 BALL PARK LT	125.02	101 517 4517 380	1010
	08/25/21 CITY UTILITIES-NO. PARK #3	92.90	101 517 4517 380	1010
	08/25/21 CITY UTILITIES-NO. PARK MAINT	239.72	101 522 4522 380	1010
	08/25/21 CITY UTILITIES-E SHELTER-VETS	33,93	101 522 4522 380	1010
	08/25/21 CITY UTILITIES-NO. PARK CONCES	166.29	101 517 4517 380	1010
	08/25/21 CITY UTILITIES-VETS PARK ATHL	25.62	101 517 4517 380	1010
	08/25/21 CITY UTILITIES-NE YOUTH BALL F	23.11	101 517 4517 380	1010
	08/25/21 CITY UTILITIES-W SHELTER-VETS	36.16	101 522 4522 380	1010
	08/25/21 CITY UTILITIES-NO. PARK #1	62,53	101 310 4310 380	1010
	08/25/21 CITY UTILITIES-WELL #4	2,707.39	601 941 4941 380	1010
	08/25/21 CITY UTILITIES-WELL #2	558.55	601 941 4941 380	1010
	08/25/21 CITY UTILITIES-WELL #3	54.17	601 941 4941 380	1010
	08/25/21 CITY UTILITIES-WELL #5	1,976.77	601 941 4941 380	1010
	08/25/21 CITY UTILITIES-8 AV WATER TOW	246.19	601 941 4941 380	1010
	08/25/21 CITY UTILITIES-LITTLES LIFT ST	78.19	602 948 4948 380	1010
	08/25/21 CITY UTILITIES-LIQUOR STORE	1,053.49	609 979 4979 380	1010
	08/25/21 CITY UTILITIES-NO. PARK #4	24,96	101 522 4522 380	1010
	08/25/21 CITY UTILITIES-WWTP-WA/SE	1,739.12	602 947 4947 380	1010
	08/25/21 CITY UTILITIES-WWTP-ELECTRIC	6,716.30	602 947 4947 381	1010
	08/25/21 CITY UTILITIES-WWTP-BASEMENT	87.48	602 947 4947 380	1010
	08/25/21 CITY UTILITIES-WWTP-GARAGE	19.16	602 947 4947 380	1010
	08/25/21 CITY UTILITIES-NO. PARK #2	36.96	101 522 4522 380	1010
	08/25/21 CITY UTILITIES-OLD WATER TOWE	59.64	101 526 4526 430	1010

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Claim/	Check Vendor #/Name/	Document \$/ Disc	\$				Cash
	Invoice #/Inv Date/Description	Line \$	PO #	Fund Org A	cct	Object Proj	Account
	08/25/21 CITY UTILITIES-D C AMBULANCE S	220.51		101 417	4417	380	1010
	08/25/21 CITY UTILITIES-P.W.B. 1/2	285,40		101 310	4310	380	1010
	08/25/21 CITY UTILITIES-P.W.B. 1/2	285.40		604 957	4957	380	1010
	08/25/21 SALES TAX-ELECTRIC	15.88		604 957	4957	380	1010
	08/25/21 SALES TAX-ELECTRIC	-15.88		604	2025		1010
	08/25/21 D C TRANSIT TAX-ELECTRIC	1.15		604 957	4957	380	1010
	08/25/21 D C TRANSIT TAX-ELECTRIC	-1.15		604	2026		1010
	08/25/21 SALES TAX-WATER	0.76		604 957	4957	380	1010
	08/25/21 SALES TAX-WATER	-0.76		604	2025		1010
	08/25/21 D C TRANSIT TAX-WATER	0.06		604 957	4957	380	1010
	08/25/21 D C TRANSIT TAX-WATER	-0.06		604	2026		1010
	08/25/21 CITY UTILITIES-SOLAR BILLBOARD	14.83		604 956	4956	381	1010
	08/25/21 CITY UTILITIES-D C ICE ARENA	4,116.79		606 516	4516	380	1010
	08/25/21 CITY UTILITIES-ELECTRONIC SIGN	36,82*		101 111	4111	430	1010
	08/25/21 CITY UTILITIES-PARK & RIDE LOT	75.32		101 316	4316	380	1010
	08/25/21 CITY UTILITIES-16 ST-E OF BRID	122,95		101 316	4316	380	1010
	08/25/21 CITY UTILITIES-16 ST-CENTER	167.45		101 316	4316	380	1010
	08/25/21 CITY UTILITIES-16 ST-W OF BRID	87.02		101 316	4316	380	1010
	08/25/21 CITY UTILITIES-LIBRARY	924.71		211 550	4550	380	1010
	08/25/21 CITY UTILITIES-LIONS PARK SHEL	34,59		101 522	4522	380	1010
	08/25/21 CITY UTILITIES-MEADOWLAND SHEL	27.34		101 522	4522	380	1010
	Total for Vend	lor: 34,477.25					
37497	E 108 MN DEPARTMENT OF REVENUE	29,725.00					
	09/14/21 AUGUTILITIES SALES TAX	387.00		601	2025		1010
	09/14/21 AUGUTILITIES SALES TAX	26,913.00		604	2025		1010
	09/14/21 AUGSALES TAX PAYABLE	37.00		101	2025		1010
	09/14/21 AUGSALES TAX PAYABLE	10.00		211	2025		1010
	09/14/21 AUGSALES TAX PAYABLE	110.00		602	2025		1010
	09/14/21 AUGSALES TAX PAYABLE	58.00		604	2025		1010
	09/14/21 AUGUSE TAX PAYABLE	8.00		101	2025		1010
	09/14/21 AUG,-USE TAX PAYABLE	197.00		604	2025		1010
	09/14/21 AUGUSE TAX PAYABLE	54.00		609	2025		1010
	09/14/21 AUGUTILITIES D C TRANS TAX	27.00		601	2026		1010
	09/14/21 AUGUTILITIES D C TRANS TAX	1,889.00		604	2026		1010
	09/14/21 AUGD C TRANS TAX PAYABLE	3.00		101	2026		1010
	09/14/21 AUGD C TRANS TAX PAYABLE	1.00		211	2026		1010

Claim/	Check	Invoice	Vendor #/Nam #/Inv Date/D	-	Docum Lin	ent \$/ e \$	Disc \$	PO #	Fund	Org Acct	Object Proj	Cash Account
	09/14/2	1 AUGD	C TRANS TAX	PAYABLE		8.00			602	2026		1010
	09/14/2	1 AUGD	C TRANS TAX	PAYABLE		4.00			604	2026		1010
	09/14/2	1 AUGD	C TRANS USE	TAX PAYABLE		1.00			101	2026		1010
	09/14/2	1 AUGD	C TRANS USE	TAX PAYABLE		14.00			604	2026		1010
	09/14/2	1 AUGD	C TRANS USE	TAX PAYABLE		4.00			609	2026		1010
				Total for Ve	ndor:	29,725.0	0					
37496	E	973 M	N DEPT OF REV	ENUE		13,247.00	1					
	09/09/2	1 AUGL	IQUOR STORE S	ALES TAX	12	,573.00			609	2025		1010
	09/09/2	1 AUGL	IQUOR STORE D	C TRANS TX		674.00			609	2026		1010
				Total for Ve	ndor:	13,247.0	0					
37509		3850 S	OUTHERN GLAZE	R'S OF MN		4,009.56	5					
	2118969	08/26/21	LIQUOR		1	,375.40			609	975 4975	251	1010
	2118969	08/26/21	WINE			84.00			609	975 4975	251	1010
	2118969	08/26/21	FREIGHT			15.69			609	975 4975	335	1010
	5074590	08/31/21	LIQUOR		1	,438.41			609	975 4975	251	1010
	5074590	08/31/21	WINE			84.00			609	975 4975	251	1010
	5074590	08/31/21	FREIGHT			34.85			609	975 4975	335	1010
	2123196	09/08/21	LIQUOR			618.61			609	975 4975	251	1010
	2123196	09/08/21	WINE			334.00			609	975 4975	251	1010
	2123196	09/08/21	FREIGHT			24,60			609	975 4975	335	1010
				Total for Ve	ndor:	4,009.5	6					
				# of Claim	s 4	Total	: 81,458.81					
				Total	Electroni	c Claims	77,449.25					
				Total Non-	Electroni	c Claims	4009.56					

CITY OF KASSON Claim from Another Period Cancelled in this Period For the Accounting Period: 9/21 For Pay Date: 09/17/21

Claim	Check Invoice #/	Vendor #/Name/ Inv Date/Description		Disc \$	PO #	Fund Org 4	Acat	Object Proj	Cash Account
	Check Invoice #/	inv bace/bescription	Dille A		20 1	Fund org F	1000	00]001 110]	necount
*1	** Cancelled in 9/2	1 **** *** Cla	im from another peri	od (4/19) ****					
31218	4957 CARL	TON INDUSTRIES, L.P.	127.08						
	P084365101 04/08/19	YL CHAR HI REFLEC DE	CAL 127.08			604 957	4957	220	1010
	P084365101 04/08/19	SALES TAX	8.74			604 957	4957	220	1010
	P084365101 04/08/19	SALES TAX	-8.74			604	2025		1010
	P084365101 04/08/19	D C TRANSIT TAX	0.64			604 957	4957	220	1010
	P084365101 04/08/19	D C TRANSIT TAX	-0.64			604	2026		1010
*	** Cancelled in 9/2	1 **** *** Cla	im from another peri	od (7/20) ****					
34472	4188 MSFD	A-REGION 15	50.00						
REPLA	CES CHECK #60046-SEN	T TO STATE OFFICE							
	07/01/20 2020 MEME	ERSHIP DUES	50.00			101 220	4220	334	1010
*	** Cancelled in 9/2	1 **** *** Cla	im from another peri	od (4/21) ****					
36296	4188 MSFT	A-REGION 15	50.00						
	04/01/21 '21 MEMBE	RSHIP DUES	50.00			101 220	4220	334	1010
		# of Claims 3	Total: 227.0	8					

CITY OF KASSON Fund Summary for Claims For the Accounting Period: 9/21

Fund/Account	Amount
101 General Fund	
1010 CASH-OPERATING	\$13,847.71
211 Library Fund	
1010 CASH-OPERATING	\$935.71
601 Water Fund	
1010 CASH-OPERATING	\$5,957.07
602 Sewer Fund	
1010 CASH-OPERATING	\$8,758.25
604 Electric Fund	
1010 CASH-OPERATING	\$29,248.15
606 ICE ARENA	
1010 CASH-OPERATING	\$4,116.79
609 Liquor Fund	
1010 CASH-OPERATING	\$18,368.05

Total: \$81,231.73

09/16/21 11:23:57

CITY OF KASSON 401 5TH STREET SE KASSON. MN 55944-2204

We The claim batch dated _are approved for payment. douncil Member APPROVED Council Member

CITY OF KASSON Claim Approval List For the Accounting Period: 9/21 For Pay Date: 09/23/21

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For Pay Date = 09/23/21

Claim/	Check		Vendor #/Name/	Document \$/	Disc \$					Cash
		Invoic	e #/Inv Date/Description	Line \$		PO #	Fund Org	Acct	Object Proj	Account
37473		2520	A H HERMEL COMPANY	369.39						
31413			POP FOR RESALE	290,70			609 975	4975	254	1010
			DUM DUMS	15.09			609 976	4976		1010
			SALES TAX	1.04			609 976	4976		1010
			SALES TAX	-1.04			609	2025		1010
			D C TRANSIT TAX	0.08			609 976	4976		1010
			D C TRANSIT TAX	-0.08			609	2026		1010
		09/02/21		55,65			609 975	4975		1010
			SALES TAX	3,83			609 975	4975		1010
	892290	09/02/21	SALES TAX	-3.83			609	2025		1010
	892290	09/02/21	D C TRANSIT TAX	0,28			609 975	4975	210	1010
	892290	09/02/21	D C TRANSIT TAX	-0,28			609	2026		1010
	892290	09/02/21	FREIGHT	7,95			609 975	4975	335	1010
			Total for Ve	andor: 369.3	9					
37427		124	ABEL SIGNS INC	505.00						
	10971 (09/08/21	LETTER ON STREET SWEEPER	130.00			101 310	4310	400	1010
	10953 (09/08/21	100 WARNING LABELS	375.00			604 957	4957	220	1010
	10953 (09/08/21	SALES TAX	25.78			604 957	4957	220	1010
	10953 (09/08/21	SALES TAX	-25.78			604	2025	i	1010
	10953 (09/08/21	D C TRANSIT TAX	1.88			604 957	4957	220	1010
	10953 (09/08/21	D C TRANSIT TAX	-1.88			604	2026	;	1010
			Total for Ve	endor: 505.0	0					
37428		2693	AFFORDABLE PORTABLES	435.00						
	17251 (09/01/21	SEPT PORTABLES-5 STD UNITS	435.00			101 522	4522	410	1010
			Total for V	andor: 435.0	0					
37429		3194	AMERICAN LEGAL PUBLISHING	99.75						
	10525 (08/31/21	AUGUST '21 S-10 EDIT	90.00			101 113	4113	430	1010
	10639 (08/31/21	AUGUST '21-FOLIO/INTERNET	DIT 9.75			101 113	4113	430	1010
			Total for V	endor: 99.7	5					

For Pay Date = 09/23/21

* ... Over spent expenditure

CITY OF KASSON Claim Approval List For the Accounting Period: 9/21 For Pay Date: 09/23/21

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Claim/	Check Vendor #/Name/ D Invoice #/Inv Date/Description	ocument \$/ Disc \$ Line \$	PO #	Fund Org	Acct	Object Proj	Cash Account
37430	6193 ARCHKEY TECHNOLOGIES	530,50					
	7924599875 09/08/21 PARK DEPT CAMERAS SERVICED	530.50*		101 522	4522	2 400	1010
	Total for Vendor:	530.50					
37474	5049 ARTISAN BEER COMPANY	345.50					
	3493740 08/31/21 BEER	345.50		609 975	4975	5 252	1010
	Total for Vendor:	345.50					
37431	203 BAKER & TAYLOR INC	272.69					
	2036155720 08/24/21 BOOKS	66.80		211 550	4550	218	1010
	2036172966 08/30/21 BOOKS	139.77		211 550	4550	218	1010
	2036177078 09/02/21 BOOKS	66.12		211 550	4550	218	1010
	Total for Vendor:	272.69					
37432	5158 BATTERIES PLUS BULBS	24.00					
	P43484606 09/09/21 BATTERY FOR PAINT STRIPER	24.00		101 517	451	7 220	1010
	Total for Vendor:	24.00					
37475	1012 BELLBOY CORPORATION	2,357.46					
	91070100 09/02/21 LIQUOR	1,870.65		609 975	497	5 251	1010
	91070100 09/02/21 WINE	80.00		609 975	497	5 251	1010
	91070100 09/02/21 FREIGHT	28.00		609 975	497	5 335	1010
	91167200 09/09/21 LIQUOR	272.00		609 975	497	5 251	1010
	91167200 09/09/21 FREIGHT	6.00		609 975	497	5 335	1010
	103902600 09/09/21 OLIVES/BEANS/ASPARAGUS	100.81*		609 975	497	5 259	1010
	Total for Vendor:	2,357.46					
37499	6291 BOARDMAN & CLARK LLP	660.00					
	241256 09/13/21 LEGAL-ELEC SERV TERRITORY	660.00		604 959	495	9 304	1010
	Total for Vendor	660.00					
37433	22 BORDER STATES INDUSTRIES INC	1,868.33					
	922731429 08/30/21 TANTALUS METERS-60	1,868.33		604 957	495	7 260	1010
	Total for Vendor	: 1,868.33					

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CITY OF KASSON Claim Approval List For the Accounting Period: 9/21 For Pay Date: 09/23/21

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For Pay Date = 09/23/21* ... Over spent expenditure

Claim/	Check	Vendor #/Name/	Do	cument \$/	Disc \$					Cash
		Invoice #/Inv Date/Descri	ption	Line \$		PO #	Fund Org	Acct	Object Proj	Account
37476		5239 BREAKTHRU BEVERAGE	MN WINE &	5,123.30						
	340880430	0 09/01/21 LIQUOR		2,145.89			609 975	4975	5 251	1010
	340880430	0 09/01/21 WINE		216.00			609 975	4975	i 251	1010
	340880430	0 09/01/21 MIXES		86.31			609 975	4975	254	1010
	340880430	0 09/01/21 FREIGHT		34.65			609 975	4975	335	1010
	34094909	6 09/08/21 LIQUOR		792.14			609 975	4975	5 251	1010
	34094909	6 09/08/21 WINE		120,00			609 975	4975	5 251	1010
	34094909	6 09/08/21 FREIGHT		11.70			609 975	4975	335	1010
	34094909	7 09/08/21 BEER		122.75			609 975	4975	5 252	1010
	34103665	9 09/15/21 LIQUOR		1,487.75			609 975	4975	5 251	1010
	34103665	9 09/15/21 MIXES		86.31			609 975	4975	5 254	1010
	34103665	9 09/15/21 FREIGHT		19.80			609 975	4975	335	1010
		Tota	al for Vendor:	5,123.3	0					
37434		4807 BURKE, STEVEN		180.00						
	09/07/2	1 SAFETY BOOT REIMBURSEMEN	1T	180.00			101 920	4920) 433	1010
		Tota	al for Vendor:	180.0	0					
37435		2410 CENTRAL MN MUNICIPA	AL POWER AGE	234,363.85	1					
	7121 08/	31/21 CMMPA DUES-AUGUST		1,500.00			604 959	4959	334	1010
	7121 08/	31/21 FEES FOR SERVICES		1,928.08			604 959	4959	9 430	1010
	7121 08/	31/21 PURCH'D POWER		180,150.84			604 956	4950	5 381	1010
	7121 08/	31/21 PURCH'D POWER-TRANS	AISSION	48,400.15			604 956	495	5 381	1010
	7121 08/	31/21 CAPACITY PURCHASED-2	AUGUST	998.82			604 956	495	5 381	1010
	7121 08/	31/21 CIP MONTHLY ASSMNT-2	AUGUST	1,385.96			604 959	495	9 429	1010
		Tota	al for Vendor:	234,363.8	5					
37515	i	6270 CHAOTIC GOOD BREWIN	1G	111.00	I					
	2157 09/	13/21 BEER		111.00			609 975	497	5 252	1010
		Tota	al for Vendor:	111.0	0					
37477	,	5667 CINTAS		238.17	1					
	40942130	35 08/27/21 MATS-L.S.		79.39*			609 979	497	9 410	1010
	40948950	71 09/03/21 MATS-L.S.		79.39*			609 979	497	9 410	1010
	40955199	34 09/10/21 MATS-L.S.		79.39*			609 979	497	9 410	1010
		Tota	al for Vendor:	238.1	.7					

CITY OF KASSON Claim Approval List For the Accounting Period: 9/21 For Pay Date: 09/23/21

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For Pay Date = 09/23/21* ... Over spent expenditure

Claim/	Check Vendor #/Name/ Invoice #/Inv Date/Description	Document \$/ Line \$	Disc \$	PO #	Fund (Drg	Acct	Object	Proj	Cash Account
37511	4238 CINTAS CORP	73.17								
	8405306412 09/03/21 RESTOCK 1st AID KITS	14.65			101 9	920	4920	433		1010
	8405306412 09/03/21 RESTOCK 1st AID KITS	14.63			601 9	943	4943	433		1010
	8405306412 09/03/21 RESTOCK 1st AID KITS	14.63			602 9	948	4948	433		1010
	8405306412 09/03/21 RESTOCK 1st AID KITS	14,63			604 9	957	4957	433		1010
	8405306412 09/03/21 RESTOCK 1st AID KITS	14.63			605	963	4963	433		1010
	Total for Ver	ndor: 73.1	.7							
37436	34 CITY OF KASSON	77.42	:							
	09/10/21 6430 GAL TO WATER F/B FIELD	77.42*			101 !	517	4517	430		1010
	Total for Ver	ndor: 77.4	2							
37437	30 CMS OF ROCHESTER	5,917.29)							
	21-815 08/31/21 KA BLDG-MILEAGE	311.36			101 :	240	4240) 331		1010
	21-815 08/31/21 KA BLDG-INSPECTION FEES	5,605.93			101 :	240	4240) 444		1010
	Total for Ver	ndor: 5,917.2	29							
37478	4401 COREY'S CLEANING SERVICE	128,85	5							
	34685 08/30/21 CLEAN CARPET-L.S.	128,85			609	979	4979	9 400)	1010
	Total for Ver	ndor: 128.8	35							
37504	6347 CSC ROAD SERVICE	308.00)							
	103699 09/11/21 TOW DODGE RAM TO IMPND	308,00			101	210	4210	430)	1010
	Total for Ver	ndor: 308.0	00							
37438	3 3314 DECKLEVER MECHANICAL INC	1,608.38	3							
	218003712 09/10/21 COMPRESSOR REPAIRS-ARENA	A. 1,608.38			606	516	4516	5 400)	1010
	Total for Ver	ndor: 1,608.3	38							
37439	69 DODGE COUNTY ENVIRONMENTAL	515.00)							
	135971 08/24/21 STREET SWEEPINGS	500.00			101	323	4323	3 430)	1010
	134489 08/05/21 APPLIANCE DISPOSAL	15.00*			101	517	451	7 430)	1010
	Total for Ve	ndor: 515.0	00							

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Claim/	Check	Vendor #/Name/	Document \$/ Dis	с\$				Cash
	Invoid	ce #/Inv Date/Description	Line \$	PO #	Fund Org	Acct	Object Proj	Account
37440	5156	DODGE COUNTY INDEPENDENT/DODG	E 238.10					
	12635 09/02/21	P C HEARING NOTICE	51.48		101 191	4191	. 351	1010
	12639 09/02/21	P C HEARING NOTICE	47.19		101 191	4191	. 351	1010
	12641 09/02/21	'22 BUDGET & LEVY NOTICE	68,64		101 153	4153	351	1010
	12632 09/02/21	ANN'L TIF DISCLOSURE	35.40		101 140	4140	430	1010
	12632 09/02/21	ANN'L TIF DISCLOSURE	35.39		290 650	4650	430	1010
		Total for Vend	or: 238.10					
37442	266	DODGE COUNTY RECORDER	46.00					
	08/30/21 RECO	RD B.V. 8TH DEVELOP AGRMNT	46.00		101	1151	L	1010
		Total for Vend	or: 46.00					
37479	17	EDGAR TRUCKING	531.20					
	07/02/21 FREI	GHT	110.52		609 975	4975	5 335	1010
	26725 08/04/21	FREIGHT	103.39		609 975	4975	5 335	1010
	26748 08/11/21	FREIGHT	90.91		609 975	4975	5 335	1010
	26765 08/18/21	FREIGHT	124.78		609 975	497	5 335	1010
	26784 08/25/21	FREIGHT	101,60		609 975	4975	5 335	1010
		Total for Vend	lor: 531.20					
37443	3096	EQUIPMENT MANAGEMENT COMPANY	1,125.00					
	59611 09/03/21	COMP SERV AGRM-MN FULL	575.00*		101 220	4220	o 400	1010
	59611 09/03/21	COMP SERV AGRM-MN COMBI	475.00*		101 220	4220	400	1010
	59611 09/03/21	TRAVEL TIME	75.00*		101 220	4220	o 400	1010
		Total for Venc	lor: 1,125.00					
37444	5242	GOPHER STATE ONE CALL	178.20					
	1081079 08/31/	21 132 LOCATES-AUGUST	178.20		604 957	495	7 437	1010
		Total for Vend	lor: 178.20					
37480	5036	HOHENSTEINS INC	315.00					
	441184 09/08/2	1 BEER	315.00		609 975	497	5 252	1010
		Total for Vend	lor: 315.00					

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Claim/	Check Vendor #/Nar Invoice #/Inv Date/I		Document \$/ Line \$	Disc \$	PO #	Fund	Org	Acct	Object Proj	Cash Account
			-							
37500	6301 HY-VEE ACCOUN	THE DECETVINET F	20.21							
37300	4832209353 09/08/21 JUICE FO		17.05*			609	975	4975	259	1010
	4832209353 09/08/21 AIR FRES		3,16				975	4975		1010
	4052205555 05,00,21 MIK FRED	Total for Vendo		1		000	375	4975	210	1010
37501	6258 JEREMY'S LAWN		2 100 00							
37501	1239 09/15/21 LAWN MOWING 9/		3,100.00 347.40*			605	963	4963	444	1010
	1239 09/15/21 LAWN MOWING 9/	•	72.34*				963 943	4963		
	1239 09/15/21 LAWN MOWING 9/		559.92*				943	4943		1010 1010
	1239 09/15/21 LAWN MOWING 9/	-	9,80				948			1010
	1239 09/15/21 LAWN MOWING 9/		322,88*				957			1010
	1239 09/15/21 LAWN MOWING 9/		1,238.36*				522			1010
	1239 09/15/21 LAWN MOWING 9/		385,82				984			1010
	1239 09/15/21 LAWN MOWING 9/		163,48				310	4310		1010
	1239 09/15/21 SALES TAX	,	22,20*				957	4957		1010
	1239 09/15/21 SALES TAX		-22,20			604		2025		1010
	1239 09/15/21 D C TRANSIT TA	x	1,61*				957			1010
	1239 09/15/21 D C TRANSIT TA		-1.61			604		2026		1010
		Total for Vendo	or: 3,100.0	0						
37481	25 JOHNSON BROTH	ERS LIQUOR CO	11,010.25							
	1878180 08/31/21 LIQUOR		1,264.82			609	975	4975	5 251	1010
	1878181 08/31/21 WINE		586.07				975			1010
	1881828 09/07/21 LIQUOR		6,062.70				975			1010
	1881829 09/07/21 WINE		748.37				975			1010
	1887765 09/14/21 LIQUOR		1,528.03			609	975	4975	5 251	1010
	1887766 09/14/21 WINE		783,26			609	975	4975	5 251	1010
	1887767 09/14/21 MIXES		37.00			609	975	4975	5 254	1010
		Total for Vendo	or: 11,010.2	5						
37445	6074 KACZMAREK, LI	NDSEY	1,093.79							
	08/28/21 F.P.W. MATERIALS		591,95*			101	. 220	4220	210	1010
	08/28/21 F.P.W. MATERIALS		265.39*			101	. 220	4220) 210	1010
	08/28/21 F.P.W. MATERIALS		236,45*			101	. 220	4220) 210	1010
		Total for Vendo	or: 1,093.7	9						

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Claim/	Check	Vendor #/Name/	Document \$/	Disc \$					Cash
		Invoice #/Inv Date/Description	Line \$		PO #	Fund Org	Acct	Object Proj	Account
37491		35 KASSON HARDWARE HANK	1,238.52						
	08/31/2	1 R&M SUPPLIES-STREETS	30.43			101 310	4310	220	1010
	08/31/2	1 OPER SUPPLIES-P D	2.76			101 210	4210	210	1010
	08/31/2	1 R&M SUPPLIES-PARKS	239,75			101 522	4522	220	1010
	08/31/2	1 R&M SUPPLIES-F D	299.81			101 220	4220	220	1010
	08/31/2	1 R&M SUPPLIES-K.A.C.	92,90			101 514	4514	220	1010
	08/31/2	1 R&M SUPPLIES-ELECTRIC	103,97			604 957	4957	220	1010
	08/31/2	1 SALES TAX	7.15			604 957	4957	220	1010
	08/31/2	1 SALES TAX	-7.15			604	2025		1010
	08/31/2	1 D C TRANSIT TAX	0.52			604 957	4957	220	1010
	08/31/2	21 D C TRANSIT TAX	-0.52			604	2026		1010
	08/31/2	1 R&M SUPPLIES-WATER	21.76			601 943	4943	220	1010
	08/31/2	21 OPER SUPPLIES-L.S.	15,98			609 978	4978	210	1010
	08/31/2	21 SALES TAX	1.10			609 978	4978	210	1010
	08/31/2	21 SALES TAX	-1.10			609	2025		1010
	08/31/2	21 D C TRANSIT TAX	0.08			609 978	4978	210	1010
	08/31/2	21 D C TRANSIT TAX	-0.08			609	2026		1010
	08/31/2	21 OPER SUPPLIES-WATER	6,98			601 943	4943	210	1010
	08/31/2	21 R&M SUPPLIES-C H	23.97			101 140	4140	220	1010
	08/31/2	21 R&M SUPPLIES-WWTP OPERATIONS	261.42			602 947	4947	220	1010
	08/31/2	21 OPER SUPPLIES-WWTP OPERATIONS	22.99			602 947	4947	210	1010
	08/31/2	21 SMALL TOOLS-WWTP OPERATIONS	59,98			602 947	4947	240	1010
	08/31/2	21 R&M SUPPLIES-ARENA	29.07			606 516	4516	220	1010
	08/31/2	21 EQUIP RENTAL-PARKS	26.75			101 522	4522	410	1010
		Total for Vendo	or: 1,238.5	2					
37482		4427 KASSON LASER GRAPHICS	500.00						
	9297 09/	/02/21 500 CAN KOOZIES	500.00			609 976	4976	343	1010
	9297 09/	/02/21 SALES TAX	34.38			609 976	4976	343	1010
	9297 09/	/02/21 SALES TAX	-34,38			609	2025	i	1010
	9297 09/	/02/21 D C TRANSIT TAX	2,50			609 976	4976	343	1010
	9297 09/	/02/21 D C TRANSIT TAX	-2.50			609	2026	5	1010
		Total for Vendo	or: 500.0	0					

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Claim/	Check	Vendor #/Name/	Document \$/ Disc \$					Cash
	Invoice	#/Inv Date/Description	Line \$	PO #	Fund Org	Acct	Object Proj	Account
37483	6342 к	INNEY CREEK BREWERY	363.00					
	1166 08/27/21 BE	ER	99.00		609 975	4975	252	1010
	1181 09/09/21 BE	ER	198.00		609 975	4975	252	1010
	1192 09/14/21 BE	ER	66.00		609 975	4975	252	1010
		Total for Vendo	or: 363.00					
37446	157 L	EAGUE OF MINNESOTA CITIES	7,370.00					
	347833 09/01/21	'21-'22 DUES THRU 12/31/21	1,216.00		101 111	4111	334	1010
	347833 09/01/21	'21-'22 DUES THRU 12/31/21	1,216.00		101 140	4140	334	1010
	347833 09/01/21	'21-'22 DUES THRU 8/31/22	2,469.00		101	1550	I	1010
	347833 09/01/21	'21-'22 DUES THRU 8/31/22	2,469.00		101	1550	•	1010
		Total for Vendo	or: 7,370.00					
37447	2515 L	EAGUE OF MINNESOTA CITIES	30.00					
	09/01/21 MAYOR	DUES '21-'22	30.00		101 111	4111	. 334	1010
		Total for Vendo	or: 30.00					
37448	157 L	EAGUE OF MINNESOTA CITIES	419.00					
	348617 09/07/21	HANSON-DEESCALATION TRNG	50.00		101 210	4210	333	1010
	348617 09/07/21	PECK-DEESCALATION TRNG	50.00		101 210	4210	333	1010
	348617 09/07/21	RUNNELLS-DEESCALATION TRNG	50.00		101 210	4210	333	1010
	348618 09/07/21	PACHECO-DEESCALATION TRNG	50.00		101 210	4210) 333	1010
	348634 09/08/21	LINDGREN-DEESCALATION TRNG	50.00		101 210	4210	333	1010
	348634 09/08/21	KASEL-DEESCALATION TRNG	50.00		101 210	4210	333	1010
	348634 09/08/21	KASPER-DEESCALATION TRNG	50.00		101 210	4210) 333	1010
	353307 09/14/21	IBISCH-'21 FALL FORUM	69.00		101 140	4140) 332	1010
		Total for Vende	or: 419.00					
37449	2689 1	LOCATORS & SUPPLIES INC	169.59					
	0294971-IN 08/31	/21 RED MARKING PAINT	169.59		604 957	4957	220	1010
	0294971-IN 08/31	1/21 SALES TAX	11.66		604 957	4957	220	1010
	0294971-IN 08/31	1/21 SALES TAX	-11.66		604	2025	5	1010
	0294971-IN 08/31	L/21 D C TRANSIT TAX	0.85		604 957	4957	7 220	1010
	0294971-IN 08/31	L/21 D C TRANSIT TAX	~0.85		604	2026	5	1010
		Total for Vend	or: 169.59					

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Claim/	Check Vendor #/Name/ Do Invoice #/Inv Date/Description	ocument \$/ Disc \$ Line \$	PO #	Fund Org A	oot	Object Proj	Cash Account
27450		501 20					
37450	5214 MADDEN GALANTER HANSEN, LLP 07/31/21 SERV THRU 7/31-LABOR RELATIONS	501.30 273.30*		101 111	4111	440	1010
	07/31/21 SERV THRU 7/31-LABOR RELATIONS 07/31/21 SERV THRU 7/31-ADMIN HEARINGS	273.30* 228.00*		101 111	4111		1010
	Total for Vendor:			101 111	4111	440	1010
37451	714 MB REPAIR	213.86					
	7957 08/31/21 BRAKE WORK- IH4700	213.86		101 310	4310	400	1010
	Total for Vendor:	213.86					
37492	47 MC NEILUS STEEL INC	91.70					
	01706115 07/27/21 BLK 1" PIPE/ HR FL	91.70		602 947	4947	220	1010
	Total for Vendor:	91.70					
37505	3487 MCFOA-REGION VI	20.00					
	09/01/21 NAIG-REGION MTG REGISTRATION	20.00		101 140	4140	333	1010
	Total for Vendor:	20.00					
37452	2617 MENARDS-ROCHESTER NORTH	329.28					
	92060 09/07/21 CONCRETE-BB COURT IN LIONS PAR	329,28		101 517	4517	210	1010
	Total for Vendor:	329.28					
37453	728 MN DEPT OF COMMERCE	791.51					
	1000046557 09/01/21 2ND QTR '22 INDIRECT ASSMN	791.51		604	1550)	1010
	Total for Vendor:	791,51					
37454	376 MN DEPT OF HEALTH	6,078.00					
	08/09/21 CLEAN WATER ACT-SERV CONN FEE	6,078.00		601	2080)	1010
	Total for Vendor:	6,078.00					
37455	4188 MSFDA-REGION 15	50.00					
REPLA	CES CHECK # 62120-OVER 90 DAYS OLD AND CANNOT BE	CASHED.					
	04/01/21 '21 MEMBERSHIP DUES	50.00		101 220	4220) 334	1010
	Total for Vendor:	50.00					

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Claim/	Check Vendor #/Name/	Document \$/ Disc \$					Cash
	Invoice #/Inv Date/Description	Line \$	PO #	Fund	Org Acct	Object Proj	Account
37456	5881 NAPA AUTO PARTS	175.99					
	416376 08/11/21 TAILGATE CABLE/TOP MNT ANT	32.23		101	522 452	2 220	1010
	416951 08/17/21 FITTINGS	5,18		101	220 422	0 220	1010
	416952 08/17/21 HOSE CLAMP	3.96		101	220 422	0 220	1010
	416954 08/17/21 ADAPTER	4.64		101	220 422	0 220	1010
	417119 08/19/21 ALUM BRIGHT	5.99		101	220 422	0 220	1010
	417454 08/23/21 OIL FILT/SYNTH OIL/HOOK PICK	s 102.88		101	220 422	0 220	1010
	415989 08/06/21 ELECTRIC DEPT PURCHASE	11.42		604	957 495	7 220	1010
	415989 08/06/21 SALES TAX	0.79		604	957 495	7 220	1010
	415989 08/06/21 SALES TAX	-0.79		604	202	5	1010
	415989 08/06/21 D C TRANSIT TAX	0.06		604	957 495	7 220	1010
	415989 08/06/21 D C TRANSIT TAX	-0.06		604	202	6	1010
	417541 08/24/21 MIXER PART	9.69		101	310 431	0 220	1010
	Total for Vendo	or: 175.99					
37513	4547 NELSON, JARROD	94.08					
	09/15/21 MILES-CMPAS MTG 9/13	94.08		604	959 495	9 333	1010
	Total for Vendo	or: 94.08					
37484	60 NORTHERN BEVERAGE DIST. CO. LI	10,608.75					
	837249 09/02/21 BEER	5,227.40		609	975 497	5 252	1010
	837249 09/02/21 FREIGHT	2.00		609	975 497	5 335	1010
	840278 09/09/21 BEER	5,377.35		609	975 497	5 252	1010
	840278 09/09/21 FREIGHT	2.00		609	975 497	5 335	1010
	Total for Vendo	or: 10,608.75					
37457	502 ON-SITE COMPUTERS INC	107.80					
	CW75217 08/31/21 C H- CHECK PRINT SERVICE	27.50		101	192 419	400	1010
	CW75217 08/31/21 K.A.CSURFACE PRO	27.50		101	514 451	.4 400	1010
	CW75217 08/31/21 P D-REMOTE UPDATE-WEIGEL	52.80*		101	210 421	.0 400	1010
	Total for Vendo	pr: 107.80					
37485	23 PHILLIPS WINE & SPIRITS	3,614.04					
	6263051 08/31/21 LIQUOR	654.00		609	975 497	5 251	1010
	6263052 08/31/21 WINE	630.25		609	975 497	5 251	1010
	641339 09/03/21 LIQUOR CREDIT	-182.90		609	975 497	75 251	1010

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Claim/	Check	Vendor #/Name/	Document \$/ Disc \$						Cash
	Invoice	#/Inv Date/Description	Line \$	PO #	Fund	Org	Acct	Object Proj	Account
	6265916 09/07/21	LIQUOR	355.04		609	975	4975	251	1010
'n	6265917 09/07/21	WINE	53.75		609	975	4975	251	1010
	6265918 09/07/21	MIXES	44.00		609	975	4975	254	1010
	6270456 09/14/21	LIQUOR	1,027.00		609	975	4975	251	1010
	6270457 09/14/21	WINE	865.30		609	975	4975	251	1010
	6270458 09/14/21	MIXES	167.60		609	975	4975	254	1010
		Total for Ver	ndor: 3,614.04						
37506	5684 R	AY O'HERRON CO. INC.	204.00						
	2141705-IN 09/14	/21 AMMO	204.00		101	210	4210	210	1010
		Total for Ver	ndor: 204.00						
37458	5507 R	EINDERS INC	737.50						
	3174674-00 09/01	/21 GRASS SEED	737.50		101	517	4517	220	1010
		Total for Ver	ndor: 737.50						
37493	4358 R	EINHART FOODSERVICE LLC	34.76						
	871981 08/04/21	Gr-PIZZA-K.A.C. CONCESSIONS	5 -100.74*		101	514	4514	262	1010
	881279 08/18/21	K.A.C. CONCESSIONS	135.50*		101	514	4514	262	1010
		Total for Ver	ndor: 34.76						
37459	741 R	IVERLAND COMMUNITY COLLEGE	4,110.00						
	82698 09/09/21 C	HALSTROM-1001 FF TRAINING	1,370.00*		101	220	4220	330	1010
	82698 09/09/21 P	ATTON-1001 FF TRAINING	1,370.00*		101	220	4220	330	1010
	82698 09/09/21 H	AGEDORN-1001 FF TRAINING	1,370.00*		101	220	4220	330	1010
		Total for Ve	ndor: 4,110.00						
37460	95 R	OCHESTER SAND & GRAVEL	5,454.90						
	4900026376 08/30	/21 ASPH MIX-11 ST NE	1,532.82		101	311	4311	220	1010
	4900026376 08/30	/21 ASPH MIX-11 ST NE	473.18		605	963	4963	220	1010
	4900026396 08/31	/21 ASPH MIX-13 AV NW	804.14		101	311	4311	220	1010
	4900026411 08/31	/21 ASPH MIX-13 AV NW	2,016.62		101	311	4311	220	1010
	4900026442 09/03	/21 WATER LEAK-2 AV NW	628.14		601	943	4943	220	1010
		Total for Ve	ndor: 5,454.90						

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Claim/	Check		Vendor #/Name/	Document \$/	Disc \$					Cash
	I	Invoice	#/Inv Date/Description	Line \$		PO #	Fund	Org Acct	Object Proj	Account
37502			ONCO ENGINEERING SALES CO INC		1					
			ELECTRIC SUPPLIES	74.22			604		57 220	1010
			SALES TAX	5,10			604		57 220	1010
			SALES TAX	-5,10			604		25	1010
	3258761 09	9/01/21	D C TRANSIT TAX	0.37			604	957 49	57 220	1010
	3258761 09	9/01/21	D C TRANSIT TAX	-0,37			604	20	26	1010
			Total for Vendo	r: 74.2	2					
37486		63 S	CHOTT DIST CO INC	22,142.90)					
	436768 09/	/02/21	BEER	12,842.10			609	975 49	75 252	1010
	436768 09/	/02/21	NA BEVERAGE	177.05			609	975 49	75 254	1010
	437569 09/	/09/21	BEER	9,123.75			609	975 49	75 252	1010
			Total for Vendo	r: 22,142.9	00					
37461		64 S	ELCO	1,520.63	3					
	049241 09/	/02/21	SEPT-AUTOMATION & P C SUPPORT	1,496.80			211	550 45	50 309	1010
	049298 09/	/14/21	1000 ITEM BAR CODES	23,83			211	550 45	550 218	1010
			Total for Vendo	er: 1,520.6	33					
37462		3571 S	TATE INDUSTRIAL PRODUCTS CORE	9. 117.97	1					
	902128264	09/02/	21 MAGIC MAT-U LOW SPLASH	117.97			606	516 45	516 220	1010
			Total for Vendo	or: 117.9	97					
37463		153 S	TUSSY CONSTRUCTION INC	569.52	2					
	46550 08/3	31/21 3	/4" ROAD ROCK	451.10			601	943 49	943 220	1010
	46550 08/3	31/21 3	/4" ROAD ROCK-BB COURT-LIONS	118,42			101	522 45	522 220	1010
			Total for Vendo	or: 569.5	52					
37487		6231 S	XSE MN BREWING CO.	453.00)					
	30210 08/2	27/21 в	EER	279.00			609	975 49	975 252	1010
	30734 09/3	10/21 B	EER	174.00			609	975 49	975 252	1010
			Total for Vendo	or: 453.0	00					

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Claim/	Check Vendor #/Name/	Document \$/ Disc \$					Cash
	Invoice #/Inv Date/Description	Line \$	PO #	Fund O	rg Acct	Object Proj	Account
37464	3389 T & K TOWING SERVICE LLC	330,00					
	3388 05/01/21 TOW TO IMPD ICR-1512	90.00		101 2	10 4210	430	1010
	3150 08/01/21 TOW TO IMPD ICR-2851	150.00		101 23			1010
	3468 08/09/21 TOW TO IMPD ICR-2937	90.00		101 23	10 4210	430	1010
	Total for Vendo	or: 330.00					
37507	498 TEIGEN PAPER & SUPPLY	140.10					
	94806 09/13/21 T TISSUE	62.40		101 2	10 4210	210	1010
	97077 08/05/21 CAN LINERS	77.70		101 5	14 451	210	1010
	Total for Vendo	or: 140.10					
37465	2737 THOMAS TOOL & SUPPLY INC	179.98					
	M70927 09/07/21 GAS CAN	179.98		101 3	10 4310	220	1010
	Total for Vendo	or: 179.98					
37466	71 UTILITY CONSULTANTS INC	2,742.49					
	109802 09/02/21 TOTAL COLIFORM	105.00		601 9	43 494:	3 440	1010
	109802 09/02/21 CBOD/TSS/FEC COLIF/TOT PHOSPH	2,319.37		602 9	47 494'	7 440	1010
	109802 09/02/21 MANTORVILLE TESTING	318.12		602 9	47 494	7 440	1010
	Total for Vendo	or: 2,742.49					
37467	5035 VALLI INFORMATION SYSTEMS INC	2,251.82					
	77896 08/31/21 UTILITY BILLING MAILING	450.36		601 9	44 494	325	1010
	77896 08/31/21 UTILITY BILLING MAILING	450.36		602 9	49 4949	325	1010
	77896 08/31/21 UTILITY BILLING MAILING	900.74		604 9	59 495	325	1010
	77896 08/31/21 UTILITY BILLING MAILING	450.36		605 9	63 496	3 325	1010
	Total for Vendo	or: 2,251.82					
37488	5047 WATERVILLE FOOD & ICE INC	972.19					
	04-111409 08/31/21 ICE-LIQUOR STORE	270.62*		609 9	75 497	5 257	1010
	04-111500 09/07/21 ICE-LIQUOR STORE	136.45*		609 9	75 497	5 257	1010
	06-102070 09/11/21 ICE-LIQUOR STORE	401.16*		609 9	75 497	5 257	1010
	04-111563 09/14/21 ICE-LIQUOR STORE	163.96*		609 9	75 497	5 257	1010
	Total for Vendo	or: 972,19					

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For Pay Date = 09/23/21

Claim/	Check Vendor #/Name/	Document \$/ Disc \$					Cash
	Invoice #/Inv Date/Description	Line \$	PO #	Fund Org	Acct	Object Proj	Account
37468	637 WEBER, LETH & WOESSNER PLC	2,631.00					
	AUG '21PR 08/31/21 22.3 HRS LEGAL-P D	2,631.00		101 160	4160	304	1010
	Total for Ven	dor: 2,631.00					
37469	388 WESCO RECEIVABLES CORP	23,302.44					
	850974 08/30/21 METER TEST BENCH	3,672.23*		604 957	4957	240	1010
	850976 08/30/21 2" DUCT	10,093.25		604 957	4957	220	1010
	850977 08/30/21 MISC STOCK	9,536.96		604 957	4957	220	1010
	Total for Ven	dor: 23,302.44					
37470	5182 WHKS & CO.	39,879.15					
	43973 09/09/21 KASSON MEADOWS 7-ENG REV & O	BS 524.50		101	1151		1010
	43966 09/09/21 2021 STREET & SIDEWALK MAINT	EN 1,589.00*		101 311	. 4311	. 303	1010
	43973 09/09/21 MEADOWBROOKE II-ENG REV & OB	s 1,865.75		101	1151		1010
	43964 09/09/21 FAIRGROUNDS WATER TOWER	3,150.00		101 196	5 4196	i 303	1010
	43973 09/09/21 ZED-ENG REV & OBS	238.00		101	1151		1010
	43966 09/09/21 Mn DNR TRAIL GRANT	884.00		101 19 6	5 4196	303	1010
	43973 09/09/21 GEN'L ENGINEERING-MISC DEVEL	OP 357.00		101 196	5 419 6	303	1010
	43960 09/09/21 I & I IMPLEMENTATION	2,478.08*		605 963	4963	303	1010
	43973 09/09/21 B. V. 8TH-ENG & REV OBS	178.50		101	1151		1010
	43963 09/09/21 SUMP PUMP/SAN SEWER INSPEC P	RG 20,190.00*		605 963	4963	303	1010
	43971 09/09/21 MASTEN CREEK FLOOD PROTECTIO	N 2,232.32*		605 963	4963	303	1010
	43966 09/09/21 MASTEN CREEK PARKWAY	2,261.00*		605 963	4963	303	1010
	43973 09/09/21 KOMET ACRES-ENG REV & OBS	1,794.00		101	1151	L	1010
	43966 09/09/21 WWTF IND SWPPP PERMIT ASSIST	2,137.00		602 948	8 4948	303	1010
	Total for Ven	dor: 39,879.15					
37471	6345 WILLINGHAM, WILLIAM	145.00					
	0021-17 08/25/21 CL/WA MTR DEP REFUND AFT A	PPL 145.00		604	2212	2	1010
	Total for Ven	dor: 145.00					
37489	2407 WINE MERCHANTS	416.00					
	7344642 08/31/21 WINE	416.00		609 975	5 4975	5 251	1010
	Total for Ven	dor: 416.00					

CITY OF KASSON Claim Approval List For the Accounting Period: 9/21 For Pay Date: 09/23/21

For Pay Date = 09/23/21

Claim/	Check	Vendor #/Name/ Invoice #/Inv Date/Description	Documer Line		Disc \$	PO #	Fund	Org i	Acct	Object Proj	Cash Account
37472		50 XCEL ENERGY		17.01							
	74677928	39 09/03/21 UTIL SERV-STR LT 8/3-9/2		17.01			101	316	4316	380	1010
		Total for Vend	or:	17.01							
		# of Claims	76	Total:	414,962.80						

CITY OF KASSON Fund Summary for Claims For the Accounting Period: 9/21

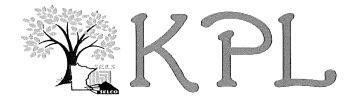
Fund/Account	Amount	
101 General Fund		
1010 CASH-OPERATING	\$45,460.23	
211 Library Fund		
1010 CASH-OPERATING	\$1,793.32	
290 Economic Development		
1010 CASH-OPERATING	\$35.39	
601 Water Fund		
1010 CASH-OPERATING	\$7,828.31	
602 Sewer Fund		
1010 CASH-OPERATING	\$6,245.29	
604 Electric Fund		
1010 CASH-OPERATING	\$263,375.86	
605 Storm Water		
1010 CASH-OPERATING	\$28,446.97	
606 ICE ARENA		
1010 CASH-OPERATING	\$1,755.42	
609 Liquor Fund		
1010 CASH-OPERATING	\$59,636.19	
610 Maple Grove Cemetery		
1010 CASH-OPERATING	\$385.82	

Total: \$414,962.80

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CITY OF KASSON 401 5TH STREET SE KASSON, MN 55944-2204

,p The claim batch dated _are approved for payment. 0 U 5 APPROVED uncil Member Council Member



Kasson Public Library

607 1st St. NW, Kasson, MN 55944 507/634-7615 www.kasson.lib.mn.us

15 September 2021

Timothy Ibisch, City Administrator City of Kasson 401 5th St. SE Kasson, MN 55944

Dear Mr. Ibisch:

I have met with and reviewed Nancy Hackenmiller, Library Assistant, in her annual evaluation on September 8. 2021. Her work has been of the highest quality, she is always ready to accept new responsibilities and is eager to assimilate new skills. We discussed an action plan to further meet her goals of continued growth, as recorded on the Performance Review document. In its regular meeting on September14, 2021, the Kasson Public Library Board reviewed the evaluation as well. I, together with the approval of the Library Board, therefore recommend that Nancy receive an increase from her current Grade 3, Step 6 to Step 7.

I respectfully request your approval, along with that of the City Council in its next meeting.

Thank you.

Sincerely,

-Raticia Shoffer-Gottodalk

Patricia Shaffer-Gottschalk Kasson Public Library Director 605 1st Street NW Kasson, MN 55944



TREE Сіту USA

401 FIFTH STREET SE Kasson, Minnnesota 55944-2204 Phone: (507) 634-7071 FAX: (507) 634-4737

MEMO

To: Mayor and City Council

From: Public Works Director Charlie Bradford

Date: September 22nd, 2021

Subject: Evaluation of Streets/Public Works Worker Steve Burke

To Mayor and City Council:

Streets/Public Works Worker Steve Burke has been given his annual performance review. His performance consistently meets and sometimes exceeds the requirements of the position. Steve is a dedicated employee in the winter months for snow removal. He needs to continue to help train the newer staff of his department. Steve is at the top of his pay scale (Grade 7 Step 7).

Thank you,

Charlie Bradford

Charlie Bradford





TREE Сптү USA

401 FIFTH STREET SE Kasson, Minnnesota 55944-2204 Phone: (507) 634-7071 FAX: (507) 634-4737

MEMO

To: Mayor and City Council

From: Public Works Director Charlie Bradford

Date: September 1st, 2021

Subject: Evaluation of Wastewater Operator I Isaac Thoe

To Mayor and City Council:

Wastewater Operator I Isaac Thoe has been given his performance review. His performance consistently meets and sometimes exceeds the requirements of the position. Isaac is an asset to the Water/Wastewater Department with his knowledge of water/wastewater and his willingness to take on projects. I recommend that Isaac be removed from probation. (Grade 8 Step 1)

Thank you,

Unartis Brandford

Charlie Bradford



KASSON PUBLIC LIBRARY (KPL) BOARD OF TRUSTEES MEETING MINUTES

Tuesday, August 10th, 2021, at 6:00pm in the Library

Present: Lisa Carlsen, Mel Ferris, Tarik Kamel, Laurie Schultz, and Director Pat Shaffer-GottschalkAbsent: Jon WrightVisitors: Beverly Jorgenson

Petitions to the Chair: none

Amendments to Agenda: Pat requested to add "11.2 Covid Concerns" under New Business. Laurie motioned to approve; 2nd by Mel. Motion carried.

Minutes of the July KPL Board Meeting: Motion to approve by Mel, 2nd by Lisa. Motion carried. **Financial Reports/Payables:** Motion to approve by Laurie, 2nd by Tarik. Motion carried. **Monthly Reports/Receivables:** Motion to approve by Tarik, 2nd by Mel. Motion carried.

Director's Report:

Library Activities:

- The Community Room is open to the public and groups are returning.
- Daycare and special-needs groups are returning to the library.
- The KPL "Book Bunch" Relay for Life team raised \$1200 for cancer research.
- Friends Book Sale is scheduled for August 17-20th.
- The fire alarm system was tested on July 21st.
- Staff continued providing monthly services:
 - Book deliveries on 1st & 3rd Wednesdays
- Exam proctoring
- Printing 2 Go service

SRP (Summer Reading Program):

o Curbside checkout

• 600 reading logs, 540 attended Fun Fridays and Storytimes, and over 700 craft kits distributed Planning for Fall Programming:

- Storytimes on Mondays and Thursdays.
- Stitch needlecrafters group is resuming.
- Oxbow animal program for preschoolers on Sept 14th.
- Doug Ohman, author/photographer (sponsored by Friends) on Sept 9th.
- Mike Eckers, author (sponsored by Friends) on Oct 27th.
- Fall Scavenger Hunt, headed by Kelly.
- Trivia Night on November 5th.
- 3D printer workshop hopefully this fall.
- After Labor Day hours will be extended to 6pm on Mon and Tues, with Saturday hours from 9-noon.

Committee Reports:

<u>City Council</u>: ICS gave a presentation on the Fire Hall. They are meeting with a different architecture firm, but the bidding and work for the library remains on target.

Friends of the Library: none

<u>SELCO Board of Director's Meeting</u>: The annual meeting was held online on July 27th. Performance review was held for Krista Ross. SELCO essential frontline workers were recognized. New SELCO officers were elected. Bev has served on the Nominating Committee, Executive Committee, and the Legacy Review Committee. For additional information, see selco.info.

- **Old Business:** Continued discussing the 2022 budget. The proposed KPL budget has an increase of 12% due to technology upgrades, repairs, and a new parking lot. The budget may need to be trimmed by \$10-15,000. SELCO addressed the concerns raised by KPL regarding the new delivery schedule and updated its Delivery Policy Guide. The building key was provided to SELCO on July 30th.
- **New Business:** The KPL computers, some as old as 2010, require upgrades. Pat is in negotiations with SELCO to assist with developing a comprehensive strategy for replacing or leasing new equipment. The cost for leasing equipment on a 3-year rotation is anticipated to be equivalent to purchasing. The library staff is anticipating some level of covid protocol this fall/winter. Dodge County is returning to requiring masks.

General Discussion: none

Adjourn: 7:05pm Respectfully submitted by: Laurie Schultz, secretary

MINUTES OF PLANNING COMMISSION MEETING September 13, 2021

Pursuant to due call and notice thereof, a regular Planning Commission meeting was held at City Hall on the 13th day of September, 2021 at 6:30 PM

THE FOLLOWING WERE PRESENT: Chairman Ferris, Commissioner Burton, Commissioner Thompson, Commissioner Tinsley, Commissioner Eggler and Commissioner Fitch

THE FOLLOWING WERE ABSENT: Commissioner Torkelson

THE FOLLOWING WERE ALSO PRESENT: City Administrator Ibisch, Clerk Rappe, Brad Scheib – HKGi, Mary and Ryan Pennington, Roger and Renee Horsman, Jamie Judisch, Jim Judisch and Tim O'Morro

CALL TO ORDER AT 6:30PM

MINUTES OF THE PREVIOUS MEETING – August 9, 2021 - <u>Motion to Approve the Minutes as Submitted</u> made by Commissioner Thompson, second by Commissioner Burton With All Voting Aye.

PUBLIC HEARING – CONDITIONAL USE PERMIT FOR FENCE ON THE PROPERTY LINE – Administrator Ibisch stated that this property is in Stone Ridge Subdivision and the side/south property line is along the trail that extends all along the Methodist Church north boundary. Mary Pennington property owner, was in attendance and would like the Planning Commission to strike the staff recommendation of putting the fence three feet from the property line on the west side that is not along the trail. Mrs. Pennington has permission from the neighbor to put it on the property line. Brad Scheib stated that an access easement with the neighbor would be needed and filed with the County.

Public hearing open No comments Public hearing closed <u>Motion to Recommend Approval with the modification of Condition #3 To Be Able To Put The Fence On The</u> <u>Property Line with An Access Easement, made by Commissioner Burton, second by Commissioner Fitch with</u> All Voting Aye.

PUBLIC HEARING – VARIANCE TO REBUILD GARAGE 2 FEET FROM PROPERTY LINE – Administrator lbisch stated that the garage burned down and the Horsman's would like to rebuild on the footprint. Roger and Renee Horsman were in attendance. Mr. Horsman stated that they would like to replace the garage that caught fire and was a total loss that is closer to property line than 6.6 feet. Mr. Horsman stated that the pins and corner markers are still there and the neighbors don't have a problem with this. Planning Consultant, Brad Scheib stated that the one thing we want to make sure is that the structure is entirely on your property. If the pins are there that makes it easy for the surveyor to locate.

Public hearing open

No comments

Public hearing closed

Commissioner Tinsley confirmed that the garage would be the same size as the previous.

Commissioner Burton stated that if we can locate the property pins then he has no problem with this. Commissioner Thompson stated that do we want a survey or just locate the pins. Mr. Scheib stated that the survey is suggested out of caution and given the age of this plat.

Commissioner Thompson stated that ultimately it is the homeowner's responsibility if the pins are off and he would do it without a survey. Renee Horsman stated that they are barely getting enough from insurance to rebuild without the extra expense of a survey. Mr. Scheib stated that the certificate of survey would show where the property line is in relation to the foundation.

Commissioner Burton stated that this plat is old enough so he is ok not to have the survey but would like a verification of where the pins. Administrator Ibisch stated that he would like to protect the city from liability when we are not surveyors. Mr. Horsman stated that the neighbor put a fence in 6 years ago and they put up a string line and the back of the garage is actually 3 feet from the property line. The southwest corner of the garage is 2.5 feet and the back of the garage is 3 feet. Mr. Horsman stated that if the garage was moved over to accommodate the 6.5 foot setback it would be behind the house and useless.

Motion to Approve the Garage Following Staff Recommendations made by Commissioner Thompson. Due to the lack of a second the motion fails.

Motion to Approve the Variance With The Findings of Fact and Conditions Minus The Survey Requirement by Commissioner Burton, second by Commissioner Thompson. Roll call: Ayes-Thompson, Burton and Tinsley Abstain: Fitch Nays: Eggler and Ferris

VAIL PROPERTY – UPDATE/DISCUSSION – Administrator Ibisch stated that he received these last week and there are some developers that have expressed interest in the property by the water tower to develop into more townhomes and apartment buildings. Commissioner Thompson asked if they are interested in doing the entire project or just one building. This is a concept. Ibisch stated that there is a large need for affordable housing. Commissioner Eggler likes Concept B better for traffic and emergency vehicle flow. Commissioner Thompson asked if this would be assisted living or senior housing. Ibisch stated it would be senior living. Concept B had the parking lot being a buffer from the railroad tracks. Ibisch stated that fencing and landscaping would have to be worked out. Commissioner Tinsley also favors Concept B also, giving more distance from the train. Commissioner Thompson asked if there would there be a possibility of any of the former viaduct buried there. Commissioner Thompson stated that apartments that have garages instead of just parking tend to be nicer.

 4^{TH} AVE NE APARTMENTS – UPDATE/DISCUSSION – Jamie Judisch presented plans for an apartment building in the Thompson Addition. They believe this location is a prime location for this building given its proximity to the school campus, it is drawn at 33 units and they believe they can fill a fair number with the senior population. Parking garage would come out on 5th Ave NE and they are not sure yet what the grade would be. Judisch is not concerned with traffic flow and sited his building in Pine Island is close to a school. A private drive is going in off 16th St and that would terminate in a parking lot at the apt building. They are figuring one parking spot per unit. The construction could start in early 2022. This would take about 10 month construction schedule. Storm water is a question that is being worked out. Commissioner Fitch has quite a few questions from a fire department viewpoint. He is concerned with the location and access for the fire department. He is not prepared to get into specifics. Mr. Judisch stated that the building would be sprinkled and all of the fire requirements will be met. They will be predominately 2 bedroom apartments. Laura Chamberlain from HKGi sent a letter with requirements that would have to be met.

INFORMATION ON BYRON SOLAR – Administrator Ibisch shared the letter and maps from the Byron solar project, this is a very large solar project and will be close to our borders. This will be approximately 1800 acres. These are not in our urban expansion zone. We can bring more information next month on urban expansion and annexation areas and how much control we actually have.

OTHER – Administrator Ibisch informed the Commissioners that a public meeting will be held Sept 30 6:00PM at the forum room at the KMHS for the Highway 57 project.

ADJOURN - 7:43pm

Respectfully Submitted,

Linda Rappe, City Clerk

Emergency Management Services Committee (EMS)

AGENDA

Roll Call

The regularly scheduled EMS meeting was held at City Hall on the 7rd day of July, 2021 at 5:15 p.m.

THE FOLLOWING MEMBERS WERE PRESENT: Ferris, Hanson, Ersland, and Flom.

THE FOLLOWING MEMBERS WERE ABSENT: Ryan Christensen, Joe Fitch

THE FOLLOWING WERE ALSO PRESENT: City Administrator Ibisch.

Chair Ferris called meeting to order at 5:15 PM.

Agenda: Motion by Flom and second by Ersland, to approve the agenda as listed. Minutes: Motion by Flom and second by Hanson, Approved Unanimously.

OLD BUSINESS

Facility review updates – Staff reports were reviewed and discussed. A number of issues were highlighted, including staffing changes and the difficulties of recruitment. The Police Department has added 2 new officers and the Fire Department is adding 3-4 new firefighters.

NEW BUSINESS

The Committee reviewed the Public Safety Proposals at length. There were a number of questions about the budget and the final product. The review elicited some feedback that additional public hearings will be necessary. Ibisch indicated that the EMS Board would be a good place for those hearings to be held. Ferris noted that the Council had held their financial WorkSession and that now budgeting was needed. They also discussed the need to add some new community space. Ibisch will ask ICS to come to the August meeting to discuss the project steps in more detail.

OTHER BUSINESS None

ADJOURN: With no objections, Chair Ferris adjourned the meeting at 6 p.m.

Emergency Management Services Committee (EMS)

AGENDA

Roll Call

The regularly scheduled EMS meeting was held at City Hall on the 4th day of August, 2021 at 5:00 p.m.

THE FOLLOWING MEMBERS WERE PRESENT: Ferris, Hanson, Ersland, Ryan Christensen, and Flom.

THE FOLLOWING MEMBERS WERE ABSENT: Joe Fitch

THE FOLLOWING WERE ALSO PRESENT: City Administrator Ibisch, Chris Ziemers, Mike Piper

Chair Ferris called meeting to order at 5:00 PM.

Agenda: Motion by Flom and second by Ersland, to approve the agenda as listed. Minutes: Motion by Flom and second by Hanson, Approved Unanimously.

OLD BUSINESS

Facility review updates – Staff reports were included in the packet and they detailed operations for July. The Police Department has added 2 new officers and the Fire Department is adding 3-4 new firefighters. Chief Hanson review his report and noted that speed enforcement hours were up and that drug amounts seemed to be steady for the year.

NEW BUSINESS

The Committee reviewed the Public Safety Facility options with ICS, both Chris Ziemer and Mike Piper were on hand to help facilitate discussion. There were a number of issues addressed about the square footage and what should be included in the approach. Inclusion of a community room seemed prudent to serve the most people and the ICS folks detailed the changes that they've made in the proposals to date. There was a good discussion and Councilmember Christensen noted his desire that a final design be ready to market by August of 2022. That would be in time for the street dance. He also noted that it could help fundraising efforts. At this time, it seems the building will be focused on a Fire/Police/Community concept and that some of that could be phased. The Board desired to have additional public engagement meetings and will plan the schedule for that at its next meeting.

OTHER BUSINESS None

ADJOURN: With no objections, Chair Ferris adjourned the meeting at 6:05 p.m.

KASSON PARK BOARD MINUTES AUGUST 17, 2021 draft

Pursuant to due call and notice thereof, a meeting of the Kasson Park Board was duly held at Kasson City Hall on the 17th day of August 2021 at 6:00 P.M.

THE FOLLOWING PARK BOARD MEMBERS WERE PRESENT: Janet Sinning, Chuck Coleman, Ryan Christensen, Liza Larsen, Chris Petree, Roger Franke and Greg Kuball THE FOLLOWING WERE ABSENT: Sarah Hirsch ALSO PRESENT: Parks & Rec Supervisor Ron Unger and Deputy Clerk Jan Naig

I. Call to Order: The meeting was called to order at 6:02 P.M. by Chairperson Larsen.

II. Approve minutes: Motion by Kuball and second by Franke, with all voting Aye, to approve the minutes of the July 2021 Park Board Meeting.

III. New Business:

- **A. Veterans Park stone wall.** Unger has spoken to John Digley. He will be starting our project the end of August or first week in September. A down-payment for materials will need to be sent prior to the start of the project.
- **B.** Adult softball league. The league wrapped up their season on August 12th. Plaques were awarded to the league champions and playoff champions.
- **C. 2022 Budget.** Unger hi-lited some of the items that he requested in the regular 2022 Budget.

-a second set of bleachers for Lions Park \$3,000.00
-Aquatic Center equipment (slushie machine, popcorn maker and microwave)
\$3,800.00
Requested Capital items:
-Kubota utility vehicle \$22,000.00
-Aquatic Center computer system (hardware) \$6,000.00
-60" grapple attachment for J D tractor \$3,700.00
-replacement camera (tennis court area of Veterans Memorial Park) \$3,500.00
-basketball poles and backboards for East Diamond Park \$3,500.00
- extension of woodchips/border around swings & modular in Veterans Mem Park \$6,500.00
-lights and poles for basketball & pickle ball courts and parking lot in Lions Park \$10,000.00

The total CIP request for 2022 is \$55,200.00.

Unger reminded the Board that there will be some "big ticket" repairs needed at the Aquatic Center in the near future. (Replacement of slides, stairs to slides, pumps and heaters, computer software)

Some other items to consider with future plans: lighting in Lions Park, security cameras in Lions Park, playground modular in East Diamond Park, replace the tennis courts, finish the parking lots in the various parks

IV. Old Business:

- A. Lions Park basketball/pickle ball courts update. Rochester Sand & Gravel has completed blacktopping the courts. There was an additional cost of \$3,000.00 because they needed to "crown the center" for runoff. Midwest Fence should be installing the fence around the pickle ball courts in three weeks. Painting can be done when the fence is completed.
- **B.** Festival in the Park hires-refuse collection. Mason Carstensen and Landen Andrist were hired to do the refuse collection in the park for Festival. They each worked 17 hours and were paid an hourly rate of \$15.00.
- C. Aquatic Center Update. Unger reported that the attendance has been good all summer at the Aquatic Center because the weather conditions were good. There have been fewer bus groups bringing in swimmers. The facility will close on August 22nd this year. City crews will begin draining the pools and preparing the facility for winter next week. Unger has been compiling information from area facilities so that the Board can compare their fees and wages. This will be reviewed in October or November when changes in the Aquatic Center fees for 2022 are considered.

V. Correspondence:

-Unger reported the KMGSA made a donation of \$250.00 to the parks department for use of the East Diamond ball field.

-Unger received an email from K-M Scout Troop #47976 asking permission to install a lending library in Lions Park as a service project. Unger will meet with them to choose the area where the box can be placed.

Motion by Sinning and second by Coleman, with all voting Aye, recommending that Girl Scout Troop #47976 be allowed to install a lending library in Lions Park.

-The K-M Lions would like to place a temporary plaque on the fence around the pickle ball court honoring one of their members. The Board is fine with it, but suggested that Unger touch base with members of Joint Ventures to make sure they also agree to have the temporary plaque. It was suggested that the Lions Club submit their request in writing so that the Joint Ventures and City Council can respond to their specific request. Unger also commented that the Lions Club would also like to place their emblem on the shelter in Lions Park in the future.

-There was also discussion about placing a bench in Lions Park across from the car wash on 2nd Street SW. There are many people that walk the trail who would like a place to rest. Unger indicated that permission must be obtained from the County Engineer to place any benches along West Veterans Memorial Highway. He was advised to talk to the County Engineer to see if placement of any benches would be allowed along the trail. -Larsen has received comments from someone that goes to Stewartville for music in their park. The Park Board tried concerts and movies for a few summers, but we did not get the attendance. Larsen will try to get some additional information about the concerts that are being held and the ages of the people in attendance. Unger asked Petree about his past experiences setting park programs. Someone from the community must champion the project and there must be enough City recreational staff to support the event. He relied on the local Chamber of Commerce to get buy-in. One of the funding sources for park improvements and events was parkland dedication fees.

VI. Adjourn: Motion by Christensen and second by Petree, with all voting Aye, to adjourn the meeting at 7:14 P.M.

Chairperson

Deputy Clerk

The next scheduled meeting will be September 21st.

Kasson Fire Department – Monthly Meeting September 13, 2021 - 1900

Meeting Called to Order: Deputy Chief Seljan Roll Call Minutes of the previous meeting: Read and Approved

Treasurer's Report – Relief General Fund:\$53,586.32Appointment of Entertainment: (OCT)Patton / Peck

Training/Drill(s):

SEPT 20Apartment Fire ResponseSEPT 27SE EMS

Guest(s):

NONE

Old Business:

- Dance update
 - Nice weekend and sold out raffle tickets, great job!
 - FF. Lawrence went over the financial specifics
- Ropes and Rope Bags update
 - D.C. Seljan will be completing the labeling of bags soon
- Legion Event
 - Great turnout and the family was very appreciative

National Night Out

- We went to 10 parties and had a nice time
- Family Picnic for families
 - September 19th at Capt Miller's place
 - Planning on eating around noon, please bring a side to pass
 - Let Miller know if you can help set up
- 20th Anniversary for 9/11 this year
 - We sold a lot of t-shirts, truck pull went well
 - If you want to order t-shirts, fill out the form and return to Derby ASAP
- Par 360 Family Class
 - September 18th in Red Wing, flyer should have been emailed to you
 - Highly recommend that everyone attends this
- Annual training at the school for High School Emergency Response Team
 - Went very well, staff was engaged

Kasson Fire Department – Monthly Meeting cont. September 13, 2021

New Business:

- Thank You
 - Tim Schneider / EMS (preventative maintenance on the jaws)
- Awards Banquet
 - Nominations
- Personnel
 - B. Freerksen
 - Resignation effective 9/14/2021
- Signatures on the log sheets
 - NO initials, X's or O's or lines or anything else
 - If no signature is obtained you will need to come back and sign the paper form
- CEVO
- October 16
 - 0900 1400
 - KFD
- Boy Scouts
 - Popcorn and wreaths will be dropped off November 12th and picked up November 13th
- COVID Response
 - Reminder on PPE for every call
- Form Updates
 - Mutual Aid/Auto Aid to include number of trucks and how many firefighters they brought
- DNR Grant
 - Applied for and was awarded \$6,000 on a 50/50 match
- Calls to dispatch
 - Reminder if there are issues with call they need to be addressed through Chief Fitch, members are not to call dispatch directly
- Talking on the radio
 - Slow down when communicating with dispatch
- Missing Training paperwork from July 26
 - We will look into what happened

Kasson Fire Department – Monthly Meeting cont. September 13, 2021

- State Training Dollars
 - Target Solutions
 - \$3021.44 6/28/21
 - **PAR 360**
 - **\$3,578.56 6/28/21**
 - Firefighter 1 & 2 Certification Invoice #7758
 - \$1,680 6/28/21
 - Redistribution
 - \$2,026.44 7/29/01

• Building Meeting

- October 5 @ 1830
- Building to be cleaned and presentable
- Zumbro Valley Mutual Aid
 - October 12 @ 1900
 - Pine Island

• Fire Prevention Week

- October 6
- Planning on doing the education at the Elementary School in the morning
- Open house from 1800-2000 (be here early to help set up)
- Transportation Fair
 - Sept 21st from 1700-1900, please sign up on the board
- Meeting about Highway 57
 - September 30th @ 1800 at the high school if you would like to attend

Officers Update:

Relief Updates:

Apparatus / Other Status Reports

A

- 🛥 Rescue
- 🛥 Engine I
- 🛥 🛛 Engine II
- 🛥 🛛 Tanker I
 - New tanker still working on it
- 🛥 🛛 Ladder I
- 🛥 Grass Rig
- 🛥 Utility
- Chief's truck still working on it
- 🚌 EMR Unit

Bills Reviews by Relief:

Kasson Fire Department – Monthly Meeting cont. September 13, 2021

Review of Calls:

43	Calls for	August 2021
	EMS	36
	MVA	1
	Rescue	
	Fire	2
	Weather	
	Alarm	1
	Canceled	3
	Other	

Lt. Schuh passed along a thank you to everyone for their hard work in training and on calls. He has received numerous compliments from Dodge Center Ambulance members about our department.

Good of the Assoc: None

Meeting Adjourned

Respectfully Submitted: Lindsey Derby, Sec / Treas '21 Krista Weigel, Administrative Assistant

... Firefighters not in attendance – Please sign and date your reading of the Meeting Minutes ...

Name: Paul Lindgren, Jesse Kasel, Zach Kasper

Name of Meeting: Fundamentals of Realistic De-ecalation

Place of Meeting: Cottage Grove, MN

Published dates of Meeting: 10/11/21

Attendance dates: 10/11/21

Registration costs: \$50 each

Travel:

Vehicle: City

Purpose: Licensure/certification

Previous Education courses:

Department Head

Approvals:

Administrator

Council Approval

Conferen	ce Request

Name: J. Hanson, J. Peck, Gerlad Runnells, Ryan Pacheco

Name of Meeting: Fundamentals of Realistic De-ecalation

Place of Meeting: Edina, MN

Published dates of Meeting: 10/08/21

Attendance dates: 10/08/21

Registration costs: \$50 each

Travel:

Vehicle: City

Purpose: Licensure/certification

Previous Education courses:

Department Head

Approvals:

Administrator

Council Approval

Name: Matt Strad	tmann				
Name of Meeting: Taser Instructor Course					
Place of Meeting: Rochester, MN					
Published dates of Meeting: 11/09/21					
Attendance dates: 11/09/21					
Registration costs: \$375					
Travel: Driver	Travel: Driver Vehicle: City				
Purpose: Licensure/certification					
Previous Education	n courses: Taser User				
Approvals:	Department Head	Administrator	Council Approval		



STAFF REPORT

TO: City Council FROM: Linda Rappe, City Clerk DATE: September 15, 2021 SUBJECT: Consider Conditional Use Permit for Fence on the Property Line APPLICANT: Ryan/Mary Pennington Ryan/Mary Pennington **OWNER:** 901 5th Ave NW; PID No. 24.574.1001 LOCATION: MEETING DATE: September 13, 2021 **COMPREHENSIVE PLAN:** Low Density Residential ZONING: **R-1 Single Family Residential**

BACKGROUND

The applicant, Ryan and Mary Pennington, have applied for a conditional use permit to place the fence on the south side of their property on the property line. A conditional use permit is required to allow the fence to be placed closer than 3 feet from the property line. The Planning and Zoning Commission held a public hearing on September 13, 2021 and voted to recommend approval of the CUP to place the fence on the property line with a recorded access agreement with the neighbors to the west.

REVIEW PROCEDURE

60-Day Land Use Application Review Process

Pursuant to Minnesota State Statutes Section 15.99, local government agencies are required to approve or deny land use requests within 60 days. Within the 60-day period, an automatic extension of no more than 60 days can be obtained by providing the applicant written notice containing the reason for the extension and specifying how much additional time is needed. For the purpose of Minnesota Statutes Section 15.99, "Day 1" for the conditional use permit application was determined to be August 23, 2021. The City's deadline for action is on Oct 23, 2021.

Public Hearing

City Code § 154.312(B)(3) requires a public hearing for review of a conditional use permit to be held by the Planning and Zoning Commission. The public hearing notice for the CUP was published in the Dodge County Independent and mailed to all affected property owners located within 350 feet of the subject properties.

As the application is for a CUP to put the fence on the south side closer than 3 feet from the property line.

APPLICATION REVIEW

Existing Site Character

See attached pictures.

- This parcel borders a bike/walking path for the City of Kasson
- The structure was built to setback standards with a side yard of 6'6"
- There is not an easement on the south property line.
- The owners are aware that the landscaping on the south side would be affected and are willing to change it

Conditional Use Permit Review

As described in Section 154.067(D)(4), the following should be considered during review of a conditional use permit application:

- (1) The effects of the proposed use on the comprehensive plan; and
- (2) The effects of the proposed use upon the health, safety and general welfare of occupants of surrounding lands.

Additionally, the following findings should be made, when applicable:

- (1) This property has a 5 foot utility easement along the south border in its entirety;
- (2) The use is not in conflict with the comprehensive plan of the city;
- (3) The property owner acknowledges that they are putting a fence in a utility easement and would be the property owner's expense if this easement needs to be utilized and the fence is dismanteled;
- (4) The proposed use will not impede the normal and orderly development or improvements of the surrounding property;
- (5) The proposed use will not be injurious to the use and enjoyment of other property in the neighborhood and will not significantly diminish or impair the values of the property;
- (6) The use will not disrupt the character of the neighborhood; and
- (7) The structure and site shall have an appearance that will not have an adverse effect upon adjacent residential properties.

Finally, after consideration and discussion of the proposal, the Planning and Zoning Commission may recommend additional conditions as may be appropriate to facilitate the use on the site.

RECOMMENDATION

The Planning and Zoning Commission made a recommendation to the City Council to approve the application for a CUP for to allow a fence on the south side of the property to be put on the property line, with the following conditions:

- (1) The fence will not encroach beyond the front of the house.
- (2) The fence will not exceed 6 feet in height
- (3) An access agreement be notarized and recorded with the property owners to the west so that the fence can be placed on the property line.
- (4) The property owner at 901 5th Ave NW acknowledges that this fence is in a utility easement and can be dismantled at owner's expense if this easement is utilized.

In recommending approval of the conditional use permit, staff offers the following findings of fact:

- (1) The use is not in conflict with the comprehensive plan of the city;
- (2) The use will not cause traffic hazards and the traffic generated by the proposed use can be safely accommodated on existing or planned street systems; and the existing public roads providing access to the site will not need to be upgraded or improved by the city in order to handle the additional traffic generated by the use;
- (3) The proposed use will not impede the normal and orderly development or improvements of the surrounding property;
- (4) The proposed use will not be injurious to the use and enjoyment of other property in the neighborhood and will not significantly diminish or impair the values of the property; and
- (5) The use will not disrupt the character of the neighborhood.

CITY OF KASSON RESOLUTION # 9.x-21

RESOLUTION APPROVING A CONDITIONAL USE PERMIT TO ALLOW A FENCE ON THE PROPERTY LINE TO THE SOUTH AND WEST OF 901 5TH AVE NW

WHEREAS, the applicant, Mary and Ryan Pennington, on February 12, 2021 submitted a request for a Conditional Use Permit (CUP) to allow for a fence on the property line for the property at 901 5th Ave NW; and,

WHEREAS, the subject site is generally located to the north of a City trail; and,

WHEREAS, Section 154.067(D)(4) requires a conditional use permit for a fence to be put on the property line; and,

WHEREAS, the appropriate City Staff and consultants have performed a technical review of the application and drafted a staff report dated September 15, 2021 with findings;

WHEREAS, at a public hearing duly held on the 13th day of September, 2021, the Planning and Zoning Commission heard testimony of all persons wishing to comment; and

WHEREAS, following the public testimony and report of the technical review, the Planning and Zoning Commission reviewed all relevant information regarding the request for a Conditional Use Permit and recommended approval subject to conditions; and

NOW THEREFORE, BE IT RESOLVED that the City Council of the City of Kasson, Minnesota hereby approves the conditional use to put a fence on the property line at 901 5th Ave NW with the following conditions:

- (1) The fence will not encroach beyond the front of the house.
- (2) The fence will not exceed 6 feet in height
- (3) An access agreement be notarized and recorded with the property owners to the west so that the fence can be placed on the property line.
- (4) The property owner at 901 5th Ave NW acknowledges that this fence is in a utility easement and can be dismantled at owner's expense if this easement is utilized.

BE IT FURTHER RESOLVED, in granting approval of the conditional use, the City Council makes the following findings of fact:

- 1. The use is not in conflict with the comprehensive plan of the city;
- 2. The use will not cause traffic hazards and the traffic generated by the proposed use can be safely accommodated on existing or planned street systems; and the existing public roads providing access to the site will not need to be upgraded or improved by the city in order to handle the additional traffic generated by the use;

- 3. The proposed use will not impede the normal and orderly development or improvements of the surrounding property;
- 4. The proposed use will not be injurious to the use and enjoyment of other property in the neighborhood and will not significantly diminish or impair the values of the property; and

The use will not disrupt the character of the neighborhood

Adopted by the City Council this 22nd of September, 2021.

ATTEST:

Linda Rappe, City Clerk

Chris McKern, Mayor

The motion to approve the foregoing resolution was made by Council Member XX and duly seconded by Council Member XX. Upon a vote being taken, the following members voted in favor thereof: XX. Those against same: XX.



STAFF REPORT

TO: City Council FROM: Linda Rappe, City Clerk/Laura Chamberlain, Consulting Planner, HKGi DATE: September 15, 2021 Variance for 2' Side Yard in R-1 district SUBJECT: **APPLICANT:** Roger/Renee Horsman Roger/Renee Horsman **OWNER:** 609 2nd St SW; PID No. 241004041 LOCATION: MEETING DATE: September 13, 2021 **COMPREHENSIVE PLAN:** Low Density Residential ZONING: **R-1 Single Family Residential**

BACKGROUND

The applicant and owner, Roger/Renee Horsman, have applied for a variance from the side yard setback on the property at 609 2nd St SW. The applicant's detached garage was recently destroyed in a fire. The building is a total loss and they would like to rebuild on the same cement slab. However, the slab and former garage were two feet from the property line and would require a variance of 4'6" to rebuild on that same footprint. A Public Hearing was held at the Planning and Zoning Commission meeting on September 13, 2021. This passed the planning and zoning commission on a 3-2-1 vote to approve without a survey.

REVIEW PROCEDURE

Variance

City Code § 154.02.24 states that a variance may be granted to provide relief to a property owner where strict enforcement of the zoning code would cause a practical difficulty and where it can be demonstrated that such a variance will be in keeping with the spirit and intent of the code.

In its consideration for a variance request, the Planning and Zoning Commission shall consider the following questions when making their recommendation to the City Council:

- (1) Whether or not exceptional, unique or extraordinary circumstances apply to the physical surrounding, shape or topographic conditions of the parcel of land that result in practical difficulties for the owner?
- (2) Whether or not the Variance requested will alter the essential character of the locality?

- (3) Whether or not granting the Variance requested will:
 - (a) Impair an adequate supply of light and air to adjacent property?
 - (b) Substantially increase congestion in adjacent public streets?
 - (c) Endanger the public safety?
 - (d) Substantially diminish or impair property values within the vicinity?
- (4) Whether the Variance requested is the minimum variance that would alleviate the practical difficulties?
- (5) Whether or not the Variance requested is consistent with the intent of this Chapter and the City's Comprehensive Plan?
- (6) Whether or not the Variance requested provides for a reasonable and practical solution that eliminates the practical difficulties?

In its consideration of a variance request, the City Council shall make the following findings:

- (1) The proposed use is not prohibited in the zoning district in which the subject property is located.
- (2) The Variance must be in harmony with the general purposes and intent of this ordinance.
- (3) The terms of the Variance must be consistent with the Comprehensive Plan.
- (4) The landowner must show that the Variance is necessary to alleviate the practical difficulties in complying with the official control.

"Practical Difficulty" as used in connection with the granting of a Variance shall include all the following:

- (1) The property owner proposes to use the property in a reasonable manner that is not otherwise not permitted by an official control;
- (2) The plight of the property owner is due to circumstances unique to the property, not created by the property owner;
- (3) The Variance, if granted, will not alter the essential character of the locality;
- (4) The need for the Variance involves more than economic considerations.
- (5) "Practical Difficulties" also means and includes, but is not limited to, inadequate access to direct sunlight for solar energy systems

60-Day Land Use Application Review Process

Pursuant to Minnesota State Statutes Section 15.99, local government agencies are required to approve or deny land use requests within 60 days. Within the 60-day period, an automatic extension of no more than 60 days can be obtained by providing the applicant written notice containing the reason for the extension and specifying how much additional time is needed. For the purpose of Minnesota Statutes Section 15.99, "Day 1" for the variance application was determined to be August 30, 2021. The City's deadline for action is on October 29, 2021.

DISCUSSION

The former garage had been there for a significant amount of time, was originally built to approved standards and is considered a legally non-conforming structure. The non-conformities section of the zoning code specifies that a non-conforming structure if damaged beyond 50% shall not be restored without bringing the property to current code standards. In order to reuse the foundation, the applicant is requesting a variance to the side yard setback.

The property is guided for low density residential and is zoned R-1 Single Family. The side yard setback in the R-1 district is 6.5 feet. A variance is needed to rebuild the structure closer than the 6.5 foot side yard setback. This is an older part of town with other buildings that are encroached into the setbacks. There are no easements that would be impacted by this.

STAFF RECOMMENDATION

Staff recommends that the Planning and Zoning Commission make recommendation to the City Council to approve the variance for the side yard setbacks for the garage at 609 2nd St SW to allow for setbacks of 2.0' on the west side of the garage in the R-1 district. In recommending approval of the variance, staff offers the following findings of fact:

- (1) The proposed use, a detached garage, is an allowed use in the R-1 zoning district in which the subject property is located.
- (2) The applicant is using this property as a residential use as permitted by the zoning ordinance, therefore the request is in harmony with the intent of the zoning ordinance and is a reasonable use of the property.
- (3) The use of the property as a single-family detached dwelling is consistent with the land use guidance from the Comprehensive Plan.
- (4) The existing character of the neighborhood has a number of buildings that do not meet yard setback standards due to the older nature of the neighborhood. The historical plat and development of the neighborhood creates a unique circumstance and the variance would not alter the essential character of the locality.

The staff recommended that a Condition that a survey be done on the property to verify the setback. The Planning and Zoning Commission voted not to require a survey so the resolution is written that way – if the Council would like to put that in as a condition we can add the language:

"with the Condition setforth;

1. a survey being done to verify setbacks and property lines."

ATTACHMENTS

- A. Application for side yard variance and applicant narrative, dated August 30, 2021
- B. Variance Site Illustration, created by the City of Kasson for reference, from the Dodge County GIS

CITY OF KASSON RESOLUTION # 9.X-21

RESOLUTION APPROVING A VARIANCE FROM THE SIDE YARD SETBACK FOR 609 2nd STREET SOUTHWEST PID #24.100.4041 IN THE CITY OF KASSON, MINNESOTA

WHEREAS, the applicant and owner, Roger and Renee Horsman, submitted a request to the City of Kasson to grant a variance from the side yard setback for the west side yard for the property at $609 2^{nd}$ St SW; and

WHEREAS, the property is zoned R-1 Single Family Residential; and

WHEREAS, the applicant contacted the City of Kasson and applied for a variance from the side yard setback to allow for a setback of two feet on the west side to rebuild on the current foundation; and

WHEREAS, a planning staff report dated September 8, 2021 documented the application request and evaluated the application relative to the city zoning code including relevant findings of fact; and

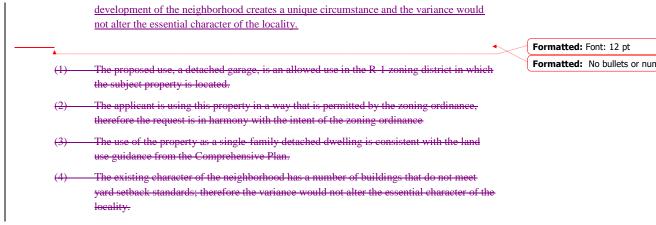
WHEREAS, a public hearing was property noticed and conducted by the Planning and Zoning Commission held on September 13, 2021; and

WHEREAS, the Planning and Zoning Commission recommended Council approval with conditions with the findings as stipulate in the planning report

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Kasson does hereby incorporate and restate the recitals set forth above and approve a variance of a side yard setback in the R-1 district of 2.0 feet on the west side for a detached garage the property at $609 2^{nd}$ St SW₂.

BE IT FURTHER RESOLVED, in granting approval of the variance, the City Council makes the following findings of fact:

(1)	The proposed use, a detached garage, is an allowed use in the R-1 zoning district in which
	the subject property is located.
(2)	The applicant is using this property as a residential use as permitted by the zoning
	ordinance, therefore the request is in harmony with the intent of the zoning ordinance and
	is a reasonable use of the property.
(3)	The use of the property as a single-family detached dwelling is consistent with the land
	use guidance from the Comprehensive Plan.
(4)	The existing character of the neighborhood has a number of buildings that do not meet
	yard setback standards due to the older nature of the neighborhood. The historical plat and



Adopted by the City Council this 22nd of September, 2021.

ATTEST:

Linda Rappe, City Clerk

Chris McKern, Mayor

The motion to approve the foregoing resolution was made by XX and duly seconded by Council Member XX. Upon a vote being taken, the following members voted in favor thereof: XX. Those against same: XX.

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Administrator Report

To: Kasson City Council From: City Administrator Timothy Ibisch Date: September 22, 2021 Subject: 2021 MCMA Annual Conference

The 2021 MCMA Annual Conference was held September 15-17 in Duluth, Minnesota. I attended the event on behalf of the City of Kasson. This was the first Conference that I have every attended for MCMA. The conference had a theme of **'Resiliency in the Face of Adversity.'**

Throughout the Conference, I was able to network with a number of elected and appointed officials from around the State. It was a benefit to speak with other communities about how they are handling ARPA funding, future staffing retirements/replacements, solid waste, housing, and growth in communities. Each community has its own challenges. I believe we are on par in comparison on how we deal with these problems compared to Minnesota Cities of our size.

Conference Itinerary:

The first guest speaker I heard from was **John Kriesel**, On December 2, 2006, the vehicle Kriesel and four of his comrades were riding in encountered a 200-pound improvised explosive device (IED). The blast killed two of Kriesel's best friends, and he was severely injured, losing both legs, suffering numerous broken bones and internal injuries. He was transported to two field hospitals in Iraq, where he died three times on the operating table before doctors saved his life. He woke up in Walter Reed Army Medical Center after an 8-day medically induced coma. Nine months after his near-death experience in Iraq, Mr. Kriesel returned to Minnesota to begin his new life. His transition from military to civilian life offered many challenges, but he credits his positive attitude and sense of humor with helping him bounce back stronger than before.

On Thursday I attended a number of educational sessions. The first was: **Working with Elected Boards and Engaging in Effective Conversations**. It was led by **Pam Whitmore**; she is a shareholder with Eckberg Lammers Law Firm and the lead attorney for their Conflict Management Solutions and Alternative Dispute Resolution/Mediation practice. She also practices extensively in Municipal Law and Employment Law. She specializes in conflict management services, which benefits municipalities and other governmental bodies, as well as private businesses. We discussed how to best respond to conflict, and reviewed processes you can use to uncover everyone's underlying interests and come up with mutually beneficial solutions.

The next educational session focused on **Applying Ethical Principles During Tough Times**. It was led by **Curt Boganey**; Curt was fired by the City of Brooklyn Center after the Mayor felt he should have terminated police officers without due process. The shooting last year is an interesting example of where politics, policy, and media collide. Definitely eye opening to hear exactly how it all went down.

Another educational session that I attended was **Hot Topics in Employment Law**. Led by **Jana Sullivan**, an LMC attorney, we reviewed how 2021 was a momentous year in general with the pandemic and historical events. There have also been a lot of developments in public employment law. This session addressed First Amendment rights of public employees

(including discussion of headlines scenarios), workplace issues in a post-pandemic world (including virtual/hybrid workplaces), police reform measures, and other hot topics.

Finally, on Friday the conference had a session regarding **Public Service in a Time of Social Change** led by **Carl Crawford**, Human Rights Officer for the City of Duluth and **Kevin Skwira-Brown** from Cultural Fluency Associates. This session explored the opportunities and challenges faced by municipal leaders in our times of changing expectations.

The closing session featured Keynote Speaker **Matt Bostrom**. He reviewed ways to increase trust between communities and police through engagement, fair treatment, transparent communication, respectful attitudes, and the implementation of shared values. Currently president of the **Center for Values-Based Initiatives**, Matt began his law enforcement career in 1982 and retired as Ramsey County Sheriff in 2017.

As you can see by the speaker list, the news in the metro areas dominated the desire for followup on issues of policing and mediating conflict. All very useful in the current environment that we're living in. Additionally, the networking opportunities were very valuable and they allow greater connectivity among my colleagues. I appreciate the opportunity to attend conferences like this and thank the Council for their support.

September 1	EMS Committee
September 2	Technical Review
-	City Engineer
	Thompson Apartment Site Overview
September 7	EDA
	MNPEA Union Negotiations
September 8	Chamber of Commerce
	Keller Meeting
	Ice Arena Board meeting
	City Council-Budget meeting
September 9	City Engineer
	Hamilton Re meeting-Ari Kolas
	Zach Cruse-new business guidance
September 13	CMPAS meeting
	Planning and Zoning
September 15-17	MCMA Conference
September 20	Masten Creek Flooding Permit meeting
September 21	Park and Recreation Board
September 22	City Council

Meetings of Event Attended or Planned

CITY OF KASSON RESOLUTION #_____

DODGE COUNTY RESOLUTION #_____

Joint Agreement with Dodge County for Conveyance of Land and Easement for 16th Street NW and North Service Street Right-of-Way; Granting of a Utility Easement for a Water Tower and Watermain; Granting of an Easement for the Construction of a Shared Use Path

WHEREAS, Dodge County (herein after "County") and The City of Kasson (herein after "City") have entered into an agreement for the conveyance of land from the County to the City to be utilized as Right-of-Way for 16th Street NW and the North Service Street, granting of a Utility Easement to the City for the construction of a Water Tower and Watermain and granting of an easement to the City for the construction of a shared use path and stormwater pond.

WHEREAS, the County has provided the City with terms as outlined below pertaining to the Conveyance of land to be utilized as right-of-way for 16th Street NW and the North Service Street and the granting of the easement for the construction of a stormwater pond.

WHEREAS, the certificates of survey and easement agreement agreements for the above noted lands and easements are attached as Exhibit "A".

NOW THEREFORE BE IT RESOLVED; the parties agree to the following terms:

16 Street NW and North Service Street

- 1. City constructs improvements at City costs
- 2. No special assessment to the County
- 3. Excess topsoil that is generated during construction, must be saved and stockpiled on the County property along the north of 16th Street NW.
- 4. The City will construct a concrete turn lane form 240th Avenue northbound onto 16th Street NW.
- 5. Although a southbound left turn lane on 240th Avenue is not justified at this time, the City should be aware that the left turn lanes from both directions may be warranted when 16th Street is continued to the west.
- 6. The stormwater pond shall be designed and constructed to manage and treat runoff from future impervious surfaces on future lots on the County Parcel south of 16th Street NW.
- 7. During the construction of 16th Street NW and the North Service Street, the City shall install the following concrete driveway access:
 - a. Two (2) accesses on 16th Street NW for future lots south of 16th Street NW.
 - b. Two (2) accesses on 16th Street NW for County Owned parcels north of 16th Street NW.

- c. Two (2) access on the North Service Street for the County Owned parcel to the west.
- d. One (1) access on 16th Street NW for the Northern Natural Town Boarder Station.
- e. Access locations to be determined by the County during plan development.
- 8. The buffer width along the north side of the shared use path shall be increased and trees, shrubs, or prairie grass shall be planted. The boulevard width along the south side of 16th Street NW shall be decreased to accommodate the additional buffer width along the north side of the shared use path.

Utility Easement for Water Tower and Watermain at County Fairgrounds

- 1. City construct watermain, tower and hydrants at City cost.
- 2. City construct a 6" water service stub for the County at City cost.
- 3. City shall pay \$10,000 to the County for future water service connection to be completed by the County.
- 4. No special assessment to the County.

Easement for shared Use Path at County Fairgrounds

- 1. City construct and maintain trail at City cost.
- 2. No special assessment to the County.

Adopted by the Kasson City Council this _____ day of _____ 2021.

Mayor Chris McKern

ATTEST:

Linda Rappe, City Clerk

Adopted by the Dodge County Commissioners this _____ day of _____ 2021.

Chair – David Kenworthy

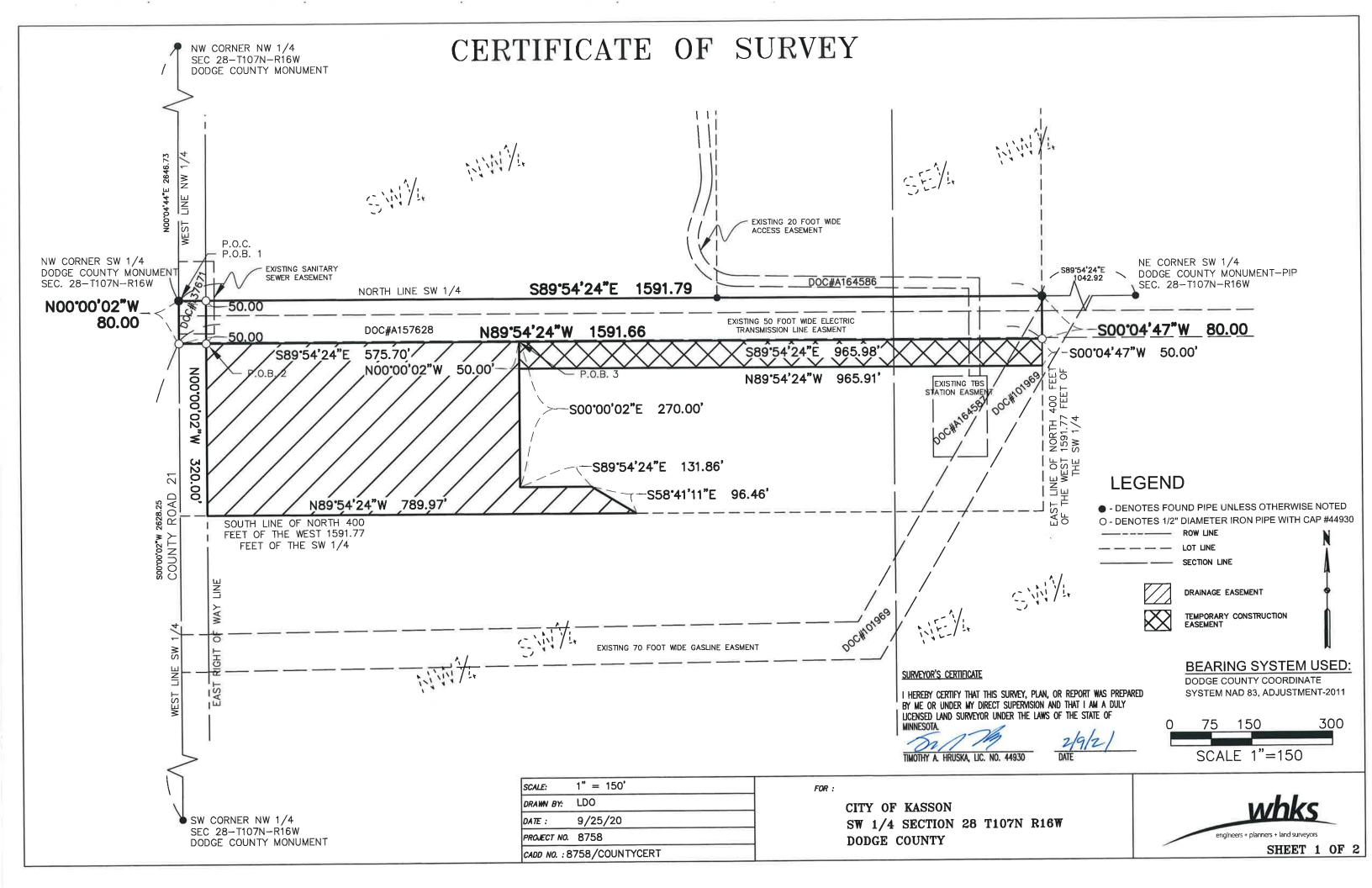
ATTEST:

Becky Lubahn, Deputy Clerk

(Top 3 inches reserved for recording data)

WARRANTY DEED Business Entity to Business Entity	Minnesota Unifor	m Conveyancing Blanks Form 10.1.9 (2011)
DEED TAX DUE: \$	DATE:	(month/day/year)
	(insert name of Grantor) the laws of the State of Minnesota (insert name of Grantee)	("Grantor"),
real property in <u>Dodge</u> County, Minne	the laws of the State of Minnesota stora, legally described as follows:	("Grantee"),
See Certificate of Survey attached hereto and incorporated by re Consideration herein is less than \$500.00. <i>Check here if all or part of the described real property is Registered (To</i> together with all hereditaments and appurtenances belonging thereto, s	orrens) 🗆	
 Check applicable box: The Seller certifies that the Seller does not know of any wells on the described real property. A well disclosure certificate accompanies this document or has been electronically filed. (If electronically filed, insert WDC number:	Grantor Dodge County (name of Grantor) By: (signature) Its: Chair (type of authority) By: (signature) Its: Clerk (type of authority)	

State of Minnesota, County of <u>Dodge</u>			
This instrument was acknowledged before me on		, by	
.	(month/day/year)	(name of authorized signer)
		as <u>Chair</u>	
and by			(type of authority)
/	(name of authorize	d signer)	
as Clerk	of Dodge County		
(type of authority)		((name of Grantor)
(Stamp)			
	(5	ignature of notarial officer)	- 12 - 17 - 17 - 17 - 17 - 17 - 17 - 17
	т	itle (and Rank):	·····
		ly commission expires:	
			(month/day/year)
THIS INSTRUMENT WAS DRAFTED BY: (insert name and address)	11	AX STATEMENTS FOR 1 ISTRUMENT SHOULD B Issert legal name and residential of	
Melanie J. Leth Weber, Leth & Woessner, PLC P.O. Box 130 Dodge Center, MN 55927	4	City of Kasson 401 5th Street SE Kasson, MN 55944	



CERTIFICATE OF SURVEY

PARCEL DESCRIPTION:

That part of the Southwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Beginning at the northwest corner of the Southwest Quarter of said Section 28; thence South 89 degrees 54 minutes 24 seconds East (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the North line of said Southwest Quarter, 1591.79 feet; thence South 00 degrees 04 minutes 47 seconds West, 80.00 feet; thence North 89 degrees 54 minutes 24 seconds West, 1591.66 feet to a point on the west line of said Southwest Quarter; thence North 00 degrees 04 minutes 04 seconds West, along said west line, 80.00 feet to said northwest corner and to the Point of Beginning 1.

Containing 2.92 Acres, more or less and subject to 0.09 Acres of County Road 21 Right-of-Way and any easements and restrictions of record.

DRAINAGE EASEMENT:

That part of the Southwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Commencing at the northwest corner of the Southwest Quarter of said Section 28; thence South 00 degrees 00 minutes 02 seconds East (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the west line of said Southwest Quarter, 80.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 50.00 feet to a point on the easterly Right-of-Way line of County Road 21, also being the Point of Beginning 2; thence continuing South 89 degrees 54 minutes 24 seconds East, 575.70 feet; thence South 00 degrees 00 minutes 02 seconds East, 270.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 575.70 feet; thence South 00 degrees 54 minutes 24 seconds East, 270.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 131.86 feet; thence South 58 degrees 41 minutes 11 seconds East, 96.46 feet to a line being 400.00 feet south to said north line; thence North 89 degrees 54 minutes 24 seconds East and parallel to said north line, 789.97 feet to said easterly Right-of-Way line of County Road 21; thence North 00 degrees 00 minutes 02 seconds 00 minutes 02 seconds West, along a line being 400.00 feet south and parallel to said north line, 789.97 feet to said easterly Right-of-Way line of County Road 21; thence North 00 degrees 00 minutes 02 seconds 00 minutes 02 seconds West, along said easterly line, 320.00 feet to the Point of Beginning 2.

Containing 4.43 Acres, more or less and subject to any easements and restrictions of record.

TEMPORARY CONSTRUCTION EASEMENT:

That part of the Southwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Commencing at the northwest corner of the Southwest Quarter of said Section 28; thence South 00 degrees 00 minutes 02 seconds East (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the west line of said Southwest Quarter, 80.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 625.70 feet to the Point of Beginning 3; thence continuing South 89 degrees 54 minutes 24 seconds East, 965.98 feet to a point on the East line of the North 400 feet of the West 1591.77 feet of the Southwest Quarter; thence South 00 degrees 04 minutes 47 seconds West, 50.00 feet along said East line; thence North 89 degrees 54 minutes 24 seconds West, 965.91 feet; thence North 00 degrees 00 minutes 04 seconds, 50.00 feet to the Point of Beginning 3.

Containing 1.11 Acres, more or less and subject to any easements and restrictions of record.

SCALE:	1" = 150'	FOR :
DRAWN BY:	LDO	CITY OF KASSON
DATE :	9/25/20	SW 1/4 SECTION 28 T10
PROJECT NO.	8758	DODGE COUNTY
CADD NO. : 8	3758/COUNTY_CERT	





engineers + planners + land surveyors

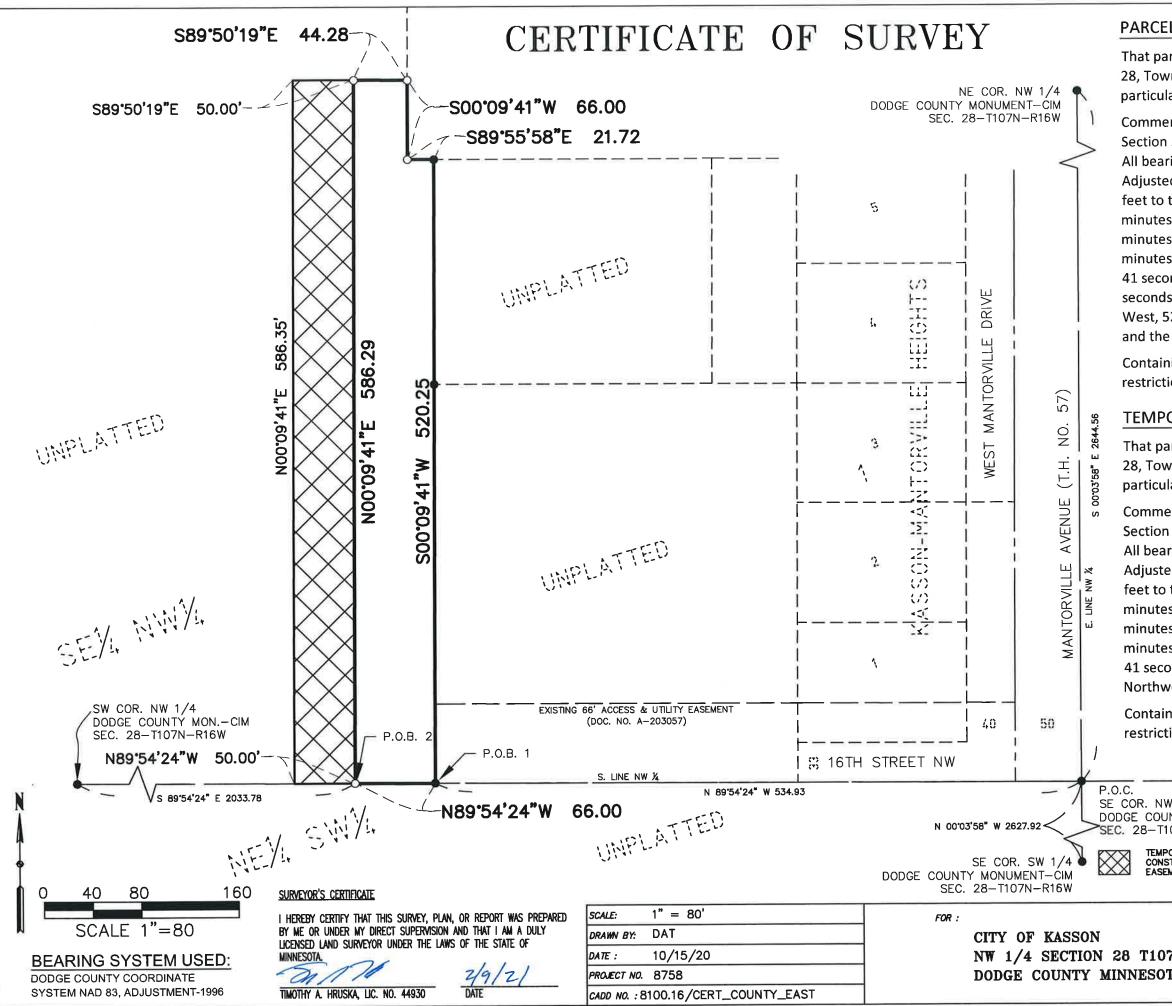
SHEET 2 OF 2

(Top 3 inches reserved for recording data)

WARRANTY DEED Business Entity to Business Entity	Minnesota Unifor	m Conveyancing Blanks Form 10.1.9 (2011)
DEED TAX DUE: \$	DATE:(month/day/year)
	(insert name of Grantor) der the laws of the State of Minnesota (insert name of Grantee)	("Grantor"),
	der the laws of the State of Minnesota nnesota, legally described as follows:	("Grantee"),
Consideration herein is less than \$500.00. Check here if all or part of the described real property is Registered together with all hereditaments and appurtenances belonging theret		
 Check applicable box: The Seller certifies that the Seller does not know of any wells on the described real property. A well disclosure certificate accompanies this document or has been electronically filed. (If electronically filed, insert WDC number:	Grantor Dodge County (name of Grantor) By: (signature) Its: Chair (type of authority) By: (signature) Its: Clerk (type of authority)	·

-

State of Minnesota, County of Dodge		
This instrument was acknowledged before me on	, by	
- <u> </u>	(month/day/year)	(name of authorized signer)
	as Chair	
and by		(type of authority)
	(name of authorized signer)	
as <u>Clerk</u>	of Dodge County	
(type of authority)	(name i	of Grantor)
	Χ.,	
(Stamp)		
	(signature of notarial officer)	
	· <u>-</u> ,	
	Title (and Rank):	
N	My commission expires:	
	· · · · · · · · · · · · · · · · · · ·	(month/day/year)
THIS INSTRUMENT WAS DRAFTED BY: (insert name and address)	TAX STATEMENTS FOR THE F INSTRUMENT SHOULD BE SEI (insert legal name and residential or busin	
Melanie J. Leth Weber, Leth & Woessner, PLC P.O. Box 130 Dodge Center, MN 55927	City of Kasson 401 5th Street SE Kasson, MN 55944	



PARCEL DESCRIPTION:

That part of the Southeast Quarter of the Northwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Commencing at the southeast corner of the Northwest Quarter of said Section 28; thence North 89 degrees 54 minutes 24 seconds West (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the south line of said Northwest Quarter, 534.93 feet to the Point of Beginning 1; thence continuing North 89 degrees 54 minutes 24 seconds West, 66.00 feet; thence North 00 degrees 09 minutes 41 seconds East, 586.29 feet; thence South 89 degrees 50 minutes 19 seconds East, 44.28 feet; thence South 00 degrees 09 minutes 41 seconds West, 66.00 feet; thence South 89 degrees 55 seconds East, 21.72 feet; thence South 89 degrees 55 minutes 58 seconds East, 21.72 feet; thence South 00 degrees 09 minutes 41 seconds West, 520.25 feet to a point on said south line of the Northwest Quarter and the Point of Beginning.

Containing 0.86 Acres, more or less and subject to any easements and restrictions of record.

TEMPORARY CONSTRUCTION EASEMENT:

That part of the Southeast Quarter of the Northwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Commencing at the southeast corner of the Northwest Quarter of said Section 28; thence North 89 degrees 54 minutes 24 seconds West (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the south line of said Northwest Quarter, 600.93 feet to the Point of Beginning 2; thence continuing North 89 degrees 54 minutes 24 seconds West, 50.00 feet; thence North 00 degrees 09 minutes 41 seconds East, 586.35 feet; thence South 89 degrees 50 minutes 19 seconds East, 50.00 feet; thence South 00 degrees 09 minutes 41 seconds West, 586.29 feet to a point on said south line of the Northwest Quarter and also being the Point of Beginning 2.

Containing 0.67 Acres, more or less and subject to any easements and restrictions of record.

LEGEND

7N R16W Ta	engineers + planners + land surveyors		
PORARY STRUCTION EMENT	ROW LINE LOT LINE SECTION LINE		
W 1/4 JNTY MON.—CIM 107N—R16W	O - DENOTES 1/2" DIAMETER IRON PIPE WITH CAP #44930		
<u> </u>	• DENOTES FOUND PIPE UNLESS OTHERWISE NOTED		

SHEET 1 OF 1

DRAINAGE EASEMENT AGREEMENT

THIS AGREEMENT is made this _____ day of _____, 2021, by and between the County of Dodge, a corporation organized and existing pursuant to Minnesota Statutes Chapter 373 (hereinafter "County" or "Grantor") and the City of Kasson, a statutory city organized and existing pursuant to Minnesota Statutes Chapter 412 (hereinafter "City" or "Grantee").

WITNESSETH:

WHEREAS, Grantor represents and warrants to the City, its successors and assigns, that Grantor is the owner of certain real property situated in the County of Dodge, State of Minnesota, legally described on Exhibit A attached hereto and incorporated herein by reference. Grantor further represents and warrants to the City, its successors and assigns that it has the right to sell and convey an easement in the manner and form set forth herein.

WHEREAS, in consideration of the sum of One Dollar and other good and valuable consideration, the receipt of which is hereby acknowledged, Grantor hereby grants to the City a drainage easement as described on Exhibit B (Certificate of Survey) attached hereto and incorporated herein by reference, for the purposes of controlling, preserving, and providing for the flow or storage of water upon and across the property. Upon completion of all improvements to the drainage easement area, the City shall vacate and release from the easement that portion of the property not required to maintain the improvements or for drainage.

WHEREAS, the City shall have the right of ingress and egress to and from the easement premises for any purpose necessary or convenient to the exercise by the City of the rights granted herein, together with the right to remove from said easement any structure, tree, shrub, or other object or obstruction which in the City's opinion interferes with the maintenance of the improvements or the flow or storage of water upon and across the property. The City shall be responsible for maintaining the easement area.

WHEREAS, this easement shall be perpetual and run with the land. The easement shall be binding on and shall inure to the benefit of the parties hereto, their successors, and assigns.

IN WITNESS WHEREOF, the parties have executed this agreement in Dodge County, Minnesota, the day and year first above written.

COUNTY OF DODGE/GRANTOR

CITY OF KASSON/GRANTEE

By:			
Its Chair			

By:		
Chris	McKern,	Mayor

By:	 	
Its Clerk		

By:_____ Timothy Ibisch, City Administrator

STATE OF MINNESOTA)) ss. COUNTY OF DODGE)

The foregoing instrument was acknowledged before me this _____ day of ______, 2021, by ______ and _____, the Chair and Clerk of the Board of Commissioners, on behalf of Dodge County/Grantor.

Notary Public

STATE OF MINNESOTA)) ss. COUNTY OF DODGE)

The foregoing instrument was acknowledged before me this ____ day of _____, 2021, by Chris McKern and Timothy Ibisch, the Mayor and City Administrator of the City of Kasson, on behalf of the City/Grantee.

Notary Public

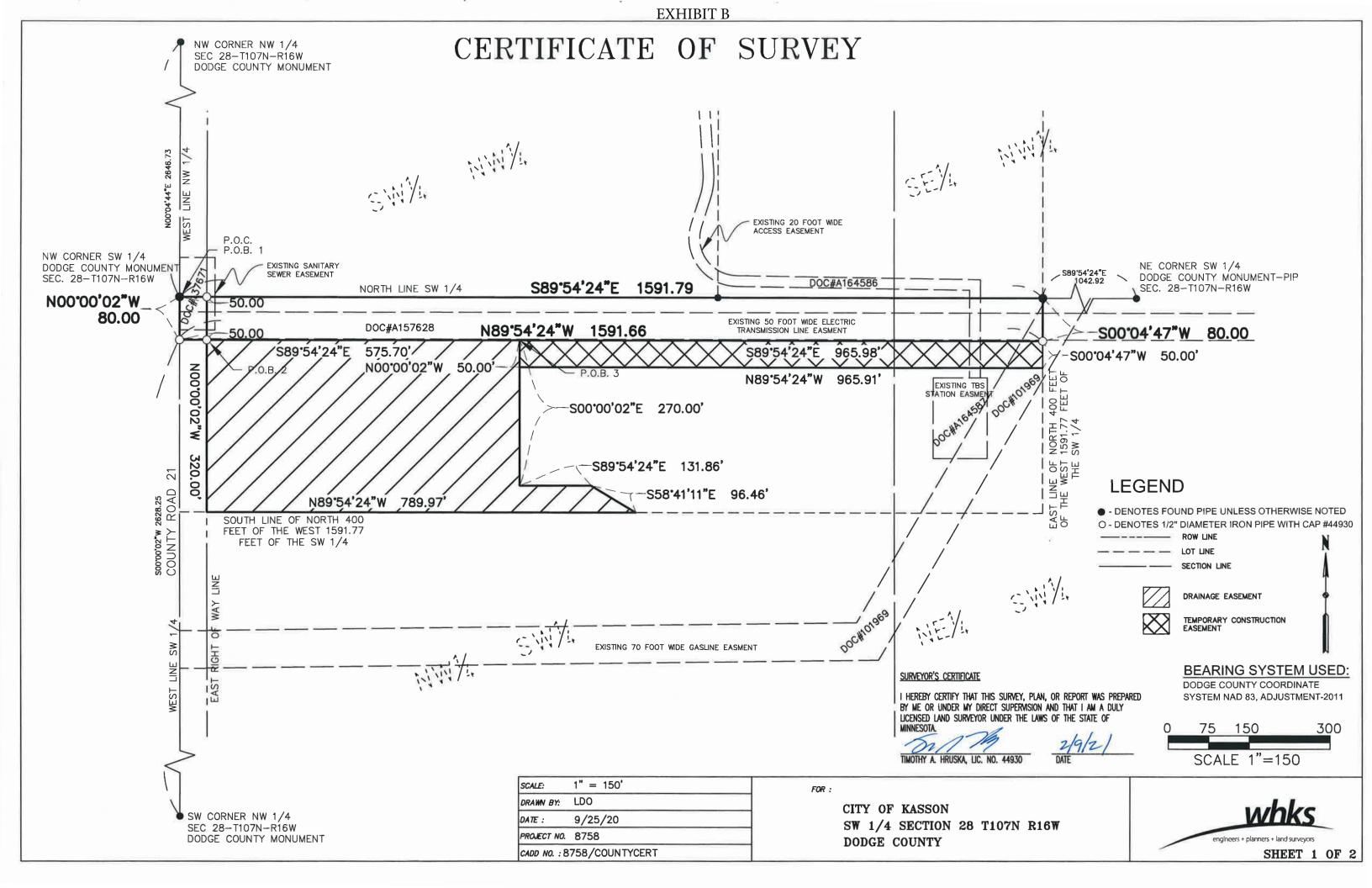
This Document was Drafted By: Melanie J. Leth Weber, Leth & Woessner, PLC P.O. Box 130 Dodge Center, MN 55927

EXHIBIT A

That part of the Southwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota, described as follows:

BEGINNING at the northwest corner of the Southwest Quarter of said Section 28; thence North 89 degrees 20 minutes 14 seconds East (NOTE: all bearings are in relationship with the north line of said Southwest Quarter which is assumed) along the north line of said Southwest Quarter for a distance of 1591.77 feet; thence South 00 degrees 40 minutes 48 seconds East for a distance of 400.00 feet; thence South 89 degrees 20 minutes 14 seconds West for a distance of 1591.23 feet to the west line of said Southwest Quarter; thence North 00 degrees 45 minutes 28 seconds West along said west line for a distance of 400.00 feet to the POINT OF BEGINNING. Containing 14.61 Acres, more or less, and 14.15 Acres, more or less, excluding the County Road Right of Way Easement.

Said Parcel is subject to the Right of Way Easement for Dodge County Highway No. 21 over the west 50 feet thereof.



CERTIFICATE OF SURVEY

PARCEL DESCRIPTION:

That part of the Southwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Beginning at the northwest corner of the Southwest Quarter of said Section 28; thence South 89 degrees 54 minutes 24 seconds East (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the North line of said Southwest Quarter, 1591.79 feet; thence South 00 degrees 04 minutes 47 seconds West, 80.00 feet; thence North 89 degrees 54 minutes 24 seconds West, 1591.66 feet to a point on the west line of said Southwest Quarter; thence North 00 degrees 04 minutes 04 seconds West, along said west line, 80.00 feet to said northwest corner and to the Point of Beginning 1.

Containing 2.92 Acres, more or less and subject to 0.09 Acres of County Road 21 Right-of-Way and any easements and restrictions of record.

DRAINAGE EASEMENT:

That part of the Southwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Commencing at the northwest corner of the Southwest Quarter of said Section 28; thence South 00 degrees 00 minutes 02 seconds East (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the west line of said Southwest Quarter, 80.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 50.00 feet to a point on the easterly Right-of-Way line of County Road 21, also being the Point of Beginning 2; thence continuing South 89 degrees 54 minutes 24 seconds East, 575.70 feet; thence South 00 degrees 00 minutes 02 seconds East, 270.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 575.70 feet; thence South 00 degrees 54 minutes 24 seconds East, 270.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 131.86 feet; thence South 58 degrees 41 minutes 11 seconds East, 96.46 feet to a line being 400.00 feet south to said north line; thence North 89 degrees 54 minutes 24 seconds East and parallel to said north line, 789.97 feet to said easterly Right-of-Way line of County Road 21; thence North 00 degrees 00 minutes 02 seconds 00 minutes 02 seconds West, along a line being 400.00 feet south and parallel to said north line, 789.97 feet to said easterly Right-of-Way line of County Road 21; thence North 00 degrees 00 minutes 02 seconds 00 minutes 02 seconds West, along said easterly line, 320.00 feet to the Point of Beginning 2.

Containing 4.43 Acres, more or less and subject to any easements and restrictions of record.

TEMPORARY CONSTRUCTION EASEMENT:

That part of the Southwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Commencing at the northwest corner of the Southwest Quarter of said Section 28; thence South 00 degrees 00 minutes 02 seconds East (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the west line of said Southwest Quarter, 80.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 625.70 feet to the Point of Beginning 3; thence continuing South 89 degrees 54 minutes 24 seconds East, 965.98 feet to a point on the East line of the North 400 feet of the West 1591.77 feet of the Southwest Quarter; thence South 00 degrees 04 minutes 47 seconds West, 50.00 feet along said East line; thence North 89 degrees 54 minutes 24 seconds West, 965.91 feet; thence North 00 degrees 00 minutes 04 seconds, 50.00 feet to the Point of Beginning 3.

Containing 1.11 Acres, more or less and subject to any easements and restrictions of record.

SCALE:	1" = 150'	FOR :
DRAWN BY:	LDO	CITY OF KASSON
DATE :	9/25/20	SW 1/4 SECTION 28 T10
PROJECT NO.	8758	DODGE COUNTY
CADD NO. : 8	3758/COUNTY_CERT	





engineers + planners + land surveyors

SHEET 2 OF 2

TEMPORARY CONSTRUCTION EASEMENT AGREEMENT

THIS AGREEMENT is made this _____ day of ______, 2021, between Dodge County, a corporation organized and existing pursuant to Minnesota Statutes Chapter 373 (hereinafter the "County" or "Grantor"), and the City of Kasson, a statutory city organized and existing pursuant to Minnesota Statutes Chapter 412 (hereinafter "City" or "Grantee").

WITNESSETH:

WHEREAS, Grantor represents and warrants to the City, its successors and assigns, that Grantor is the owner of two separate parcels of real property situated within Dodge County, legally described on Exhibit A attached hereto and incorporated herein by reference. Grantor further represents and warrants to the City, its successors and assigns that it has the right to sell and convey to the City an easement upon and across the Properties in the manner and form set forth hereinafter.

WHEREAS, Grantee desires to develop an eighty-foot-wide road (16th Street Northwest) running east-west as depicted on Exhibit B (Certificate of Survey dated February 9, 2021), and to develop a sixty-six-foot-wide road (North Service Street) running north-south as depicted on Exhibit C (Certificate of Survey dated February 9, 2021) for the benefit of the general public, subject to the terms and conditions hereinafter contained.

NOW THEREFORE, in consideration of the promises and the mutual covenants hereafter contained, it is hereby agreed by and between the parties hereto, and their respective heirs, successors and assigns, as follows:

- 1. Upon commencement of construction of the above-described improvements, a temporary construction easement is hereby granted to the City over and across the Properties as necessary to complete construction of the improvements.
- 2. Grantor hereby releases the City from any and all claims for damages arising in any way or incident to the construction of the improvements. The City shall restore Grantor's Properties to as near their original condition as is reasonably possible once construction of the improvements is complete.

Any breach of the above restrictions, or any breach of any other portion of this Declaration, shall entitle the Grantee to immediately obtain an injunction against the breaching party, its successors, heirs, agents, and assigns, including the Grantor, if such Grantor is the breaching party, and pursue all other remedies at law or in equity in the enforcement of same.

Any amendment to this Agreement shall affect only that portion outlined in such amendment; all other terms of this Agreement shall remain in full force and effect as outlined herein.

IN WITNESS WHEREOF, the parties have executed this agreement in Dodge County, Minnesota, the day and year first above written.

DODGE COUNTY/GRANTOR

By:		_		
Its Chair				
By: Its Clerk		-		
STATE OF MINNESOTA)) ss.			
COUNTY OF DODGE)			
The foregoing instru	ment was	s acknowledged before me this _	day of	
2021, by		and	, the Ch	ai

____, the Chair and Clerk of the Board of Commissioners, on behalf of Dodge County/Grantor.

Notary Public

CITY OF KASSON/GRANTEE

By: Chris McKern, Mayor

By: Timothy Ibisch, City Administrator

STATE OF MINNESOTA)) ss. COUNTY OF DODGE)

The foregoing instrument was acknowledged before me this ____ day of _____ 2021, by Chris McKern and Timothy Ibisch, the Mayor and City Administrator of the City of Kasson, on behalf of the City/Grantee.

Notary Public

This Document was Drafted By: Melanie J. Leth Weber, Leth & Woessner, PLC P.O. Box 130 Dodge Center, MN 55927

EXHIBIT A

That part of the Southwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota, described as follows:

BEGINNING at the northwest corner of the Southwest Quarter of said Section 28; thence North 89 degrees 20 minutes 14 seconds East (NOTE: all bearings are in relationship with the north line of said Southwest Quarter which is assumed) along the north line of said Southwest Quarter for a distance of 1591.77 feet; thence South 00 degrees 40 minutes 48 seconds East for a distance of 400.00 feet; thence South 89 degrees 20 minutes 14 seconds West for a distance of 1591.23 feet to the west line of said Southwest Quarter; thence North 00 degrees 45 minutes 28 seconds West along said west line for a distance of 400.00 feet to the POINT OF BEGINNING. Containing 14.61 Acres, more or less, and 14.15 Acres, more or less, excluding the County Road Right of Way Easement.

Said Parcel is subject to the Right of Way Easement for Dodge County Highway No. 21 over the west 50 feet thereof.

AND

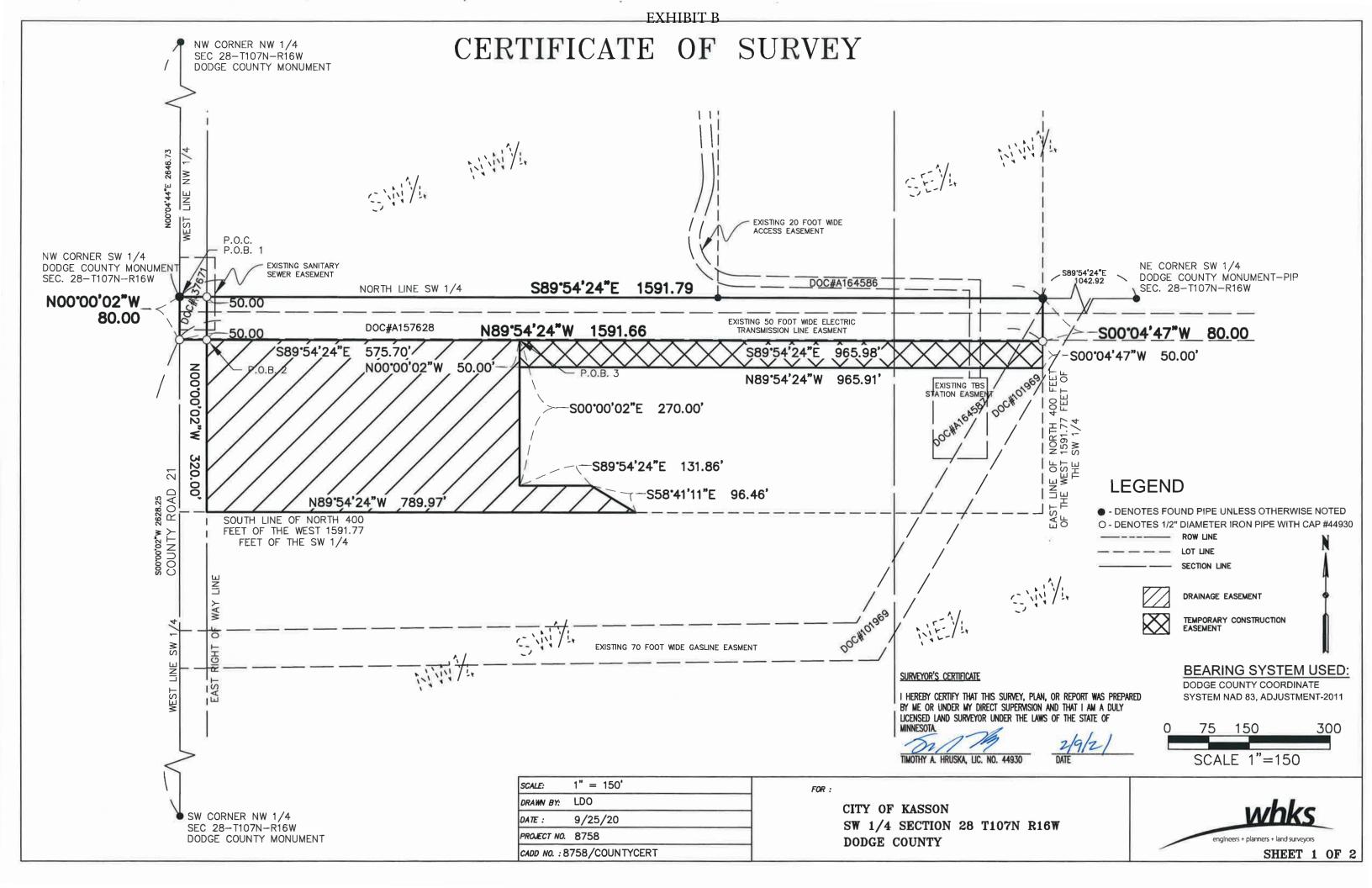
That part of the Northwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota, described as follows:

Commencing at the Southeast Corner of the Northwest Quarter of said Section 28; thence North 89 degrees 54 minutes 39 seconds West (Note: All bearings are In

relationship with the Dodge County Coordinate System NAD '83, Adjusted 1996) along the South line of said Northwest Quarter, 534.93 feet to the POINT OF BEGINNING; thence continuing North 89 degrees 54 minutes 39 seconds West, along sold South line, 507.99 feet; thence North 00 degrees 04 minutes 40 seconds East, 1763.85 feet to the North line of the South 2/3 of said Northwest Quarter; thence South 89 degrees 55 minutes 14 seconds East, along said North line, 488.72 feet; thence South 00 degrees 09 minutes 26 seconds West, 1243.57 feet; thence South 89 degrees 56 minutes 13 seconds East, 21.72 feet; thence South 00 degrees 09 minutes 26 seconds West, 510.36 feet to the point of beginning.

Said parcel contains 20.00 acres more or less.

Said parcel is subject to a 50-foot wide underground gas easement and is subject to any other easements or encumbrances of record.



CERTIFICATE OF SURVEY

PARCEL DESCRIPTION:

That part of the Southwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Beginning at the northwest corner of the Southwest Quarter of said Section 28; thence South 89 degrees 54 minutes 24 seconds East (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the North line of said Southwest Quarter, 1591.79 feet; thence South 00 degrees 04 minutes 47 seconds West, 80.00 feet; thence North 89 degrees 54 minutes 24 seconds West, 1591.66 feet to a point on the west line of said Southwest Quarter; thence North 00 degrees 04 minutes 04 seconds West, along said west line, 80.00 feet to said northwest corner and to the Point of Beginning 1.

Containing 2.92 Acres, more or less and subject to 0.09 Acres of County Road 21 Right-of-Way and any easements and restrictions of record.

DRAINAGE EASEMENT:

That part of the Southwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Commencing at the northwest corner of the Southwest Quarter of said Section 28; thence South 00 degrees 00 minutes 02 seconds East (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the west line of said Southwest Quarter, 80.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 50.00 feet to a point on the easterly Right-of-Way line of County Road 21, also being the Point of Beginning 2; thence continuing South 89 degrees 54 minutes 24 seconds East, 575.70 feet; thence South 00 degrees 00 minutes 02 seconds East, 270.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 575.70 feet; thence South 00 degrees 54 minutes 24 seconds East, 270.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 131.86 feet; thence South 58 degrees 41 minutes 11 seconds East, 96.46 feet to a line being 400.00 feet south to said north line; thence North 89 degrees 54 minutes 24 seconds East and parallel to said north line, 789.97 feet to said easterly Right-of-Way line of County Road 21; thence North 00 degrees 00 minutes 02 seconds 00 minutes 02 seconds West, along a line being 400.00 feet south and parallel to said north line, 789.97 feet to said easterly Right-of-Way line of County Road 21; thence North 00 degrees 00 minutes 02 seconds 00 minutes 02 seconds West, along said easterly line, 320.00 feet to the Point of Beginning 2.

Containing 4.43 Acres, more or less and subject to any easements and restrictions of record.

TEMPORARY CONSTRUCTION EASEMENT:

That part of the Southwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Commencing at the northwest corner of the Southwest Quarter of said Section 28; thence South 00 degrees 00 minutes 02 seconds East (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the west line of said Southwest Quarter, 80.00 feet; thence South 89 degrees 54 minutes 24 seconds East, 625.70 feet to the Point of Beginning 3; thence continuing South 89 degrees 54 minutes 24 seconds East, 965.98 feet to a point on the East line of the North 400 feet of the West 1591.77 feet of the Southwest Quarter; thence South 00 degrees 04 minutes 47 seconds West, 50.00 feet along said East line; thence North 89 degrees 54 minutes 24 seconds West, 965.91 feet; thence North 00 degrees 00 minutes 04 seconds, 50.00 feet to the Point of Beginning 3.

Containing 1.11 Acres, more or less and subject to any easements and restrictions of record.

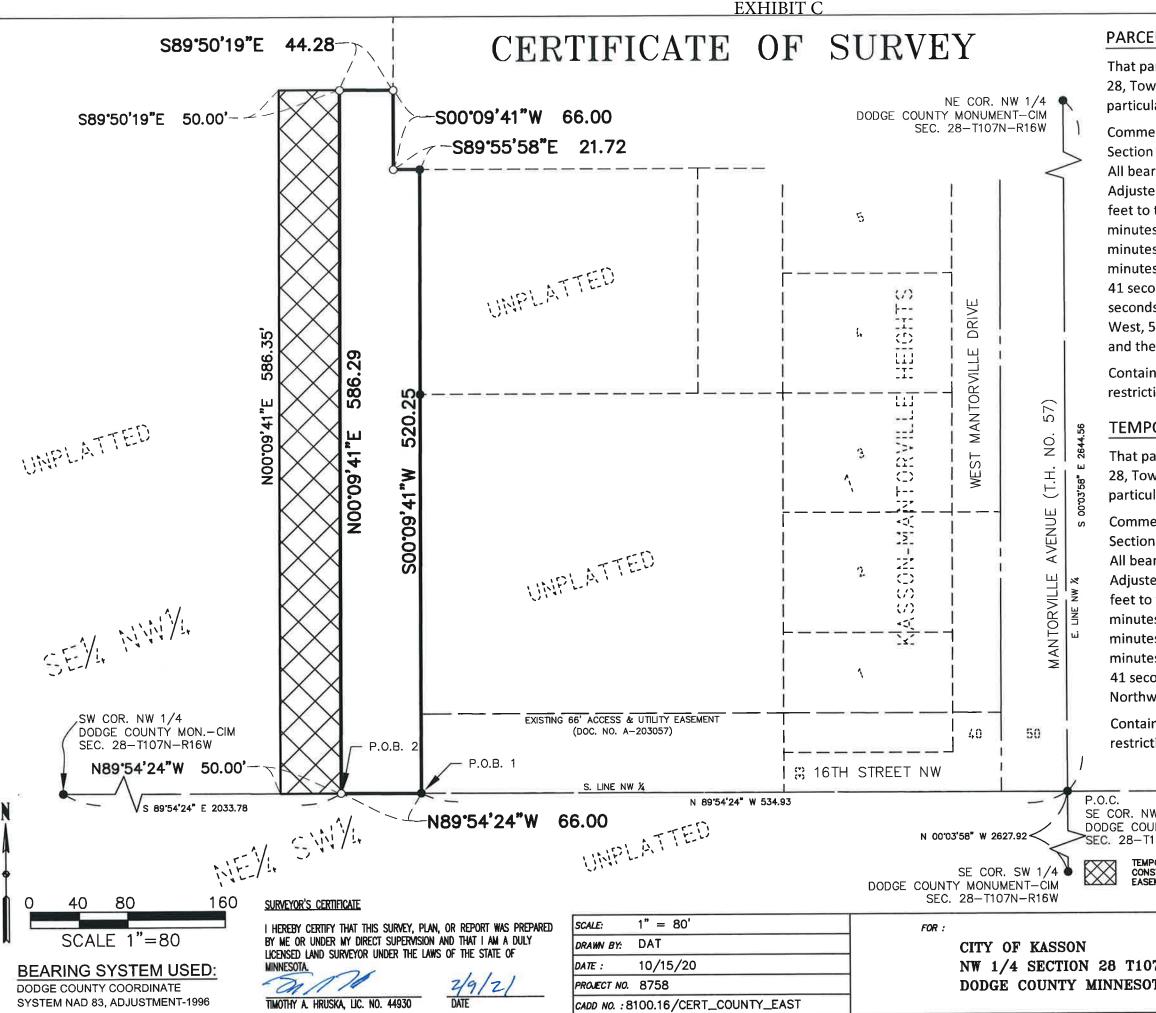
SCALE:	1" = 150'	FOR :
DRAWN BY:	LDO	CITY OF KASSON
DATE :	9/25/20	SW 1/4 SECTION 28 T10
PROJECT NO.	8758	DODGE COUNTY
CADD NO. : 8	3758/COUNTY_CERT	





engineers + planners + land surveyors

SHEET 2 OF 2



PARCEL DESCRIPTION:

That part of the Southeast Quarter of the Northwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Commencing at the southeast corner of the Northwest Quarter of said Section 28; thence North 89 degrees 54 minutes 24 seconds West (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the south line of said Northwest Quarter, 534.93 feet to the Point of Beginning 1; thence continuing North 89 degrees 54 minutes 24 seconds West, 66.00 feet; thence North 00 degrees 09 minutes 41 seconds East, 586.29 feet; thence South 89 degrees 50 minutes 19 seconds East, 44.28 feet; thence South 00 degrees 09 minutes 41 seconds West, 66.00 feet; thence South 89 degrees 55 seconds East, 21.72 feet; thence South 89 degrees 55 minutes 58 seconds East, 21.72 feet; thence South 00 degrees 09 minutes 41 seconds West, 520.25 feet to a point on said south line of the Northwest Quarter and the Point of Beginning.

Containing 0.86 Acres, more or less and subject to any easements and restrictions of record.

TEMPORARY CONSTRUCTION EASEMENT:

That part of the Southeast Quarter of the Northwest Quarter of Section 28, Township 107 North, Range 16 West, Dodge County, Minnesota more particularly described.

Commencing at the southeast corner of the Northwest Quarter of said Section 28; thence North 89 degrees 54 minutes 24 seconds West (Note: All bearings are based on the Dodge County Coordinate System, NAD'83, Adjusted 2011) along the south line of said Northwest Quarter, 600.93 feet to the Point of Beginning 2; thence continuing North 89 degrees 54 minutes 24 seconds West, 50.00 feet; thence North 00 degrees 09 minutes 41 seconds East, 586.35 feet; thence South 89 degrees 50 minutes 19 seconds East, 50.00 feet; thence South 00 degrees 09 minutes 41 seconds West, 586.29 feet to a point on said south line of the Northwest Quarter and also being the Point of Beginning 2.

Containing 0.67 Acres, more or less and subject to any easements and restrictions of record.

LEGEND

7N R16W Ta	engineers + planners + land surveyors		
PORARY STRUCTION EMENT	ROW LINE LOT LINE SECTION LINE		
W 1/4 JNTY MON.—CIM 107N—R16W	O - DENOTES 1/2" DIAMETER IRON PIPE WITH CAP #44930		
	• DENOTES FOUND PIPE UNLESS OTHERWISE NOTED		

SHEET 1 OF 1

TRAIL EASEMENT AGREEMENT

THIS AGREEMENT is made this _____ day of ______, 2021, by and between the County of Dodge, a corporation organized and existing pursuant to Minnesota Statutes Chapter 373 (hereinafter "County" or "Grantor") and the City of Kasson, a statutory city organized and existing pursuant to Minnesota Statutes Chapter 412 (hereinafter "City" or "Grantee").

WITNESSETH:

WHEREAS, Grantor is the owner of certain real property located in Dodge County legally described on the attached Exhibit A. Grantor represents and warrants to the City, its successors and assigns that it has the right to sell and convey an easement upon said property in the manner and form set forth herein.

WHEREAS, Grantee desires to develop a twenty-foot wide non-motorized nonequestrian trail for recreational use upon the property legally described on the attached Exhibit B (Easement Exhibit) for the benefit of the general public subject to the terms and conditions hereinafter contained.

NOW THEREFORE, in consideration of the premises and the mutual covenants hereinafter contained, it is hereby agreed by and between the parties hereto, and their respective heirs, successors and assigns, as follows:

- 1. The term "general public" as herein used, shall mean all persons who are not owners or lawful possessors of the Property and who gain access from similar easement areas or corridors granted to the City for such passageway purposes and who intend to make use thereof for such purposes under the rules and regulations as may be established from time to time by the City under its authority to own and administer a public easement.
- 2. The City shall, at its expense, be permitted to construct upon the Property and maintain a twenty (20) foot wide recreational trail for use by the general public.
- 3. The right of use by the general public of the recreational trail shall not mature until the recreational trail is completed.
- 4. Upon commencement of construction of the recreational trail, temporary construction easements are hereby granted over and across the Property as necessary to complete construction of the recreational trail.

- 5. The recreational trail shall be used for non-motorized and non-equestrian, recreational passage only and shall be open to the general public during hours which City parks are open to the public.
- 6. The use regulations of the recreational trail shall include the following:
 - i. Use limited to the hard-surfaced portion of the trail only.
 - ii. No shooting weapons of any kind.
 - iii. No destruction, cutting, trimming or removing of trees, shrubs, bushes or plants shall be permitted, except as provided herein.
 - iv. No dumping of ashes, trash, junk, rubbish, sawdust, garbage or offal.
- 7. Upon completion of the trail, the City shall assume liability for maintenance of the trail.

Any breach of the above restrictions, or any breach of any other portion of this Declaration, shall entitle the Grantee to immediately obtain an injunction against the breaching party, its successors, heirs, agents, and assigns, including the Grantor of any portion of the Property, if such Grantor is the breaching party, and pursue all other remedies at law or in equity in the enforcement of same.

Any amendment to this Agreement shall affect only that portion outlined in such amendment; all other terms of this Agreement shall remain in full force and effect as outlined herein.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed as of the day and year first above written.

[The rest of this page is intentionally left blank]

COUNTY OF DODGE/GRANTOR

CITY OF KASSON/GRANTEE

By: Its Chair	By: Chris McKern, Mayor
By: Its Clerk	By: Timothy Ibisch, City Administrator
STATE OF MINNESOTA)	
) ss. COUNTY OF DODGE)	
The foregoing instrument was ach , 2021, by the Chair and Clerk of the Board of Commi	knowledged before me this day of and, ssioners, on behalf of Dodge County/Grantor.
	Notary Public
STATE OF MINNESOTA)) ss.	
<i>j</i> 55.	

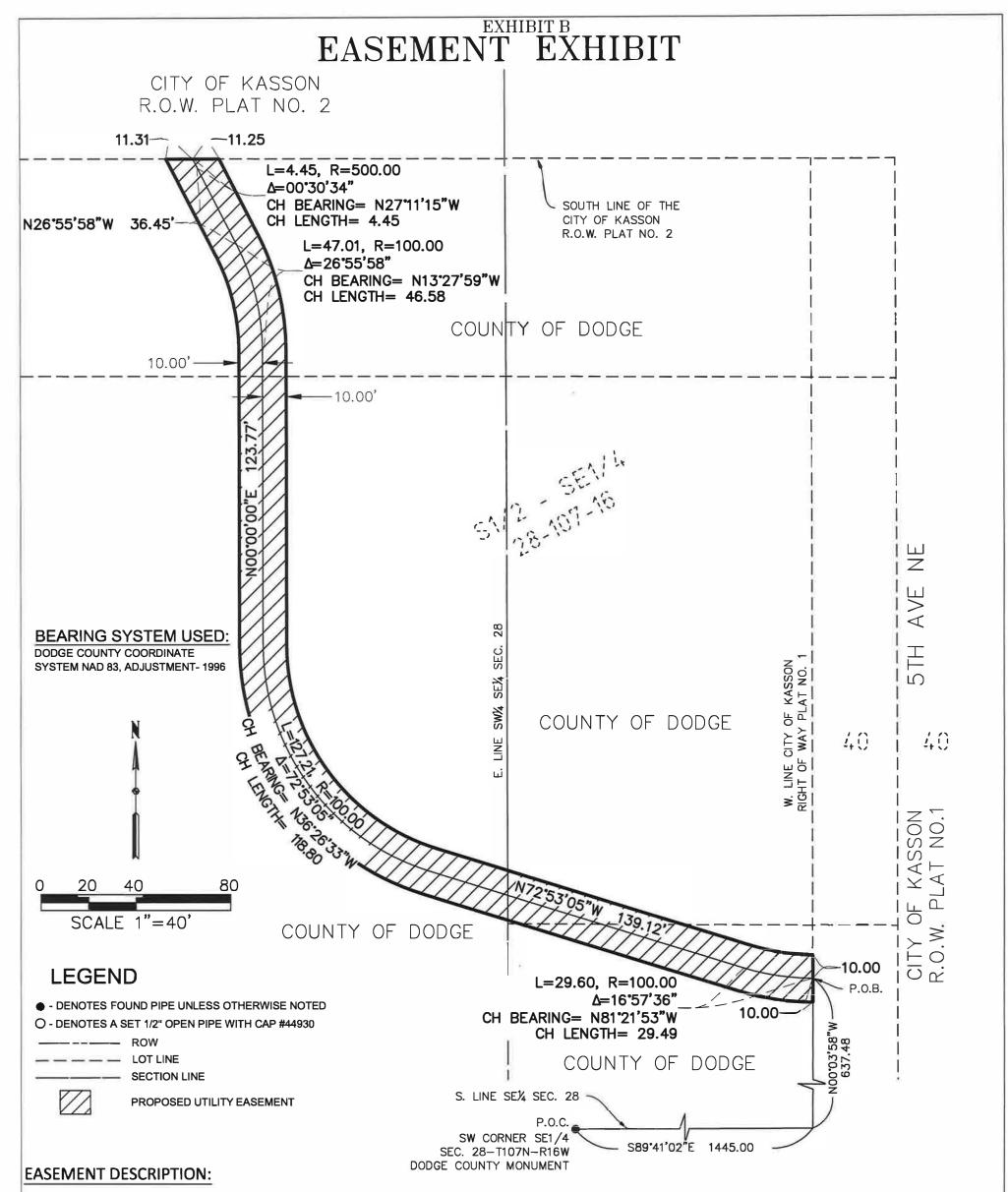
COUNTY OF DODGE)

The foregoing instrument was acknowledged before me this ____ day of , 2021, by Chris McKern and Timothy Ibisch, the Mayor and City Administrator of the City of Kasson, on behalf of the City/Grantee.

Notary Public

This Document was Drafted By: Melanie J. Leth Weber, Leth & Woessner, PLC P.O. Box 130 Dodge Center, MN 55927

EXHIBIT A



That part of the South Half of the Southeast Quarter of Section 28, Township 107 North, Range 16 West, Dodge County Minnesota, being 20.00 feet in width, lying 10.00 feet east, west and being parallel to the following described line:

Commencing at the southwest corner of said Southeast Quarter of Section 28; thence South 89 degrees 41 minutes 02 seconds East, along the south line of said Southeast Quarter, 1445.00 feet to the west line of the CITY OF KASSON RIGHT OF WAY PLAT NO. 1; thence North 00 degrees 03 minutes 58 seconds West, along said west line, 637.48 feet to the point of beginning; thence northwest along a non-tangential curve 29.60 feet and concave to the northeast having a radius of 100.00 feet, a central angle of 16 degrees 57 minutes 36 seconds, and a chord that bears North 81 degrees 21 minutes 53 seconds West for a distance of 29.49 feet; thence North 72 degrees 53 minutes 05 seconds West, 139.12 feet; thence northwest along a tangential curve 127.21 feet and concave to the east having a radius of 100.00 feet, a central angle of 72 degrees 53 minutes 05 seconds, and a chord that bears North 36 degrees 26 minutes 33 seconds West for a distance of 118.80 feet; thence North 00 degrees 00 minutes 00 seconds East, 123.77 feet; thence northwest along a tangential curve 47.01 feet and concave to the southwest having a radius of 100.00 feet, a central angle of 26 degrees 55 minutes 58 seconds, and a chord that bears North 13 degrees 27 minutes 59 seconds West for a distance of 46.58 feet; thence North 26 degrees 55 minutes 58 seconds West, 36.45 feet; thence northwest along a tangential curve 4.45 feet and concave to the south line of 500.00 feet, a central angle of 00 degrees 30 minutes 34 seconds, and a chord that bears North 27 degrees 11 minutes 15 seconds West for a distance of 4.45 feet to the south line of the CITY OF KASSON REAL MASSON REAL MASSON REAL MASSON R.O.W. PLAT NO. 2 and there terminating.

The east and west sidelines shall be shortened or prolonged to terminate on said south line described the CITY OF KASSON R.O.W. PLAT NO. 2 and said west line described as CITY OF KASSON R.O.W. PLAT NO. 1.

Containing 0.23 Acres, more or less and subject to any easements and restrictions of record.

	CAUE: 1'' = 40'				
SCALE:	1 = 40	FOR :			
DRAWN BY:	DAT	CITY OF KASSON			
DATE :	5/28/19	S1/2-SE1/4 SEC. 28,	whks		
PROJECT NO.	8104.19	TOWNSHIP 107N., RNG. 16W	engineers + planners + land surveyors		
CADD NO. : 8	104.19/DRAWINGS/EASEMENT	DODGE COUNTY, MINNESOTA			

UTILITY EASEMENT AGREEMENT

THIS AGREEMENT is made this _____ day of ______, 2021, by and among Dodge County, a corporation organized and existing pursuant to Minnesota Statutes Chapter 373, and the Dodge County Agricultural Society (hereinafter collectively the "County" or "Grantors") and the City of Kasson, a statutory city organized and existing pursuant to Minnesota Statutes Chapter 412 (hereinafter "City" or "Grantee").

WITNESSETH:

WHEREAS, Grantor Dodge County is the owner of certain real property located in Dodge County legally described as: Beginning at the Southwest corner of the Southeast Quarter of Section Twenty-eight (28) in Township One Hundred Seven (107) North, of Range Sixteen (16) West, thence running East Ninety (90) rods, thence North Thirty (30) rods, thence West Ninety (90) rods, thence South Thirty (30) rods to the place of beginning, containing Sixteen and seven-eights acres be the same more or less.

WHEREAS, Grantor Dodge County Agricultural Society is the owner of certain real property located in Dodge County legally described as the North Half of the North Quarter of the Northwest Quarter of the Northeast Quarter of Section Thirty-Three (33), Township One Hundred and Seven (107) North, of Range Sixteen (16) West.

WHEREAS, Grantors represent and warrant to the City, its successors and assigns that each has the right to sell and convey an easement upon the property in the manner and form set forth herein.

WHEREAS, in consideration of the sum of One Dollar and other good and valuable consideration, the receipt of which is hereby acknowledged, Grantors hereby grant to the City an easement described on the Easement Exhibit attached hereto and incorporated herein by reference, for the purposes of constructing, operating, inspecting, maintaining, repairing, and removing a water tower and watermain upon and across the property.

WHEREAS, Dodge County hereby reserves for itself the right to install and maintain at its own cost, communication equipment upon the water tower in compliance with all federal, state and local laws and regulations and as approved by the City Engineer. Dodge County shall defend, indemnify, and hold harmless the City, its officers, and agents from and against any claim, damage, loss, expense, judgment, demand and defense cost arising from the installation, maintenance, or removal of such equipment, except such loss or damage caused by the sole negligence or willful misconduct of the City.

WHEREAS, the City shall have the right of ingress and egress to and from the easement premises for any and all purposes necessary or convenient to the exercise by the City of the rights granted herein, together with the right to remove from said easement any structure, tree, shrub, or other object or obstruction which in the City's opinion interferes with the water tower, watermain, or access to either. WHEREAS, this easement shall be perpetual and run with the land. The easement shall be binding on and shall inure to the benefit of the parties hereto, their successors, and assigns.

WHEREAS, Grantors hereby release the City from any and all claims for damages arising in any way or incident to the construction, operation, or maintenance of the water tower and watermain. The City shall restore the land subject to this Easement to as near its original condition as is reasonably possible once construction of the water tower is complete.

IN WITNESS WHEREOF, the parties have executed this agreement in Dodge County, Minnesota, the day and year first above written.

DODGE COUNTY/GRANTOR

By:_____ Its Chair

By:	 		
Its Clerk			

STATE OF MINNESOTA)	
)	SS.
COUNTY OF DODGE)	

The foregoing instrument was acknowledged before me this _____ day of ______, 2021, by ______ and _____, the Chair and Clerk of the Board of Commissioners, on behalf of Dodge County/Grantor.

Notary Public

THE DODGE COUNTY AGRICULTURAL SOCIETY/GRANTOR

By:		
Its Chair		

By:		
Its Clerk		

STATE OF MINNESOTA)		
)	ss.	
COUNTY OF DODGE)		

The foregoing instrument was acknowledged before me this _____ day of ______, 2021, by ______ and _____, the Chair and Clerk of the Dodge County Agricultural Society/Grantor.

Notary Public

CITY OF KASSON/GRANTEE

By:_____ Chris McKern, Mayor

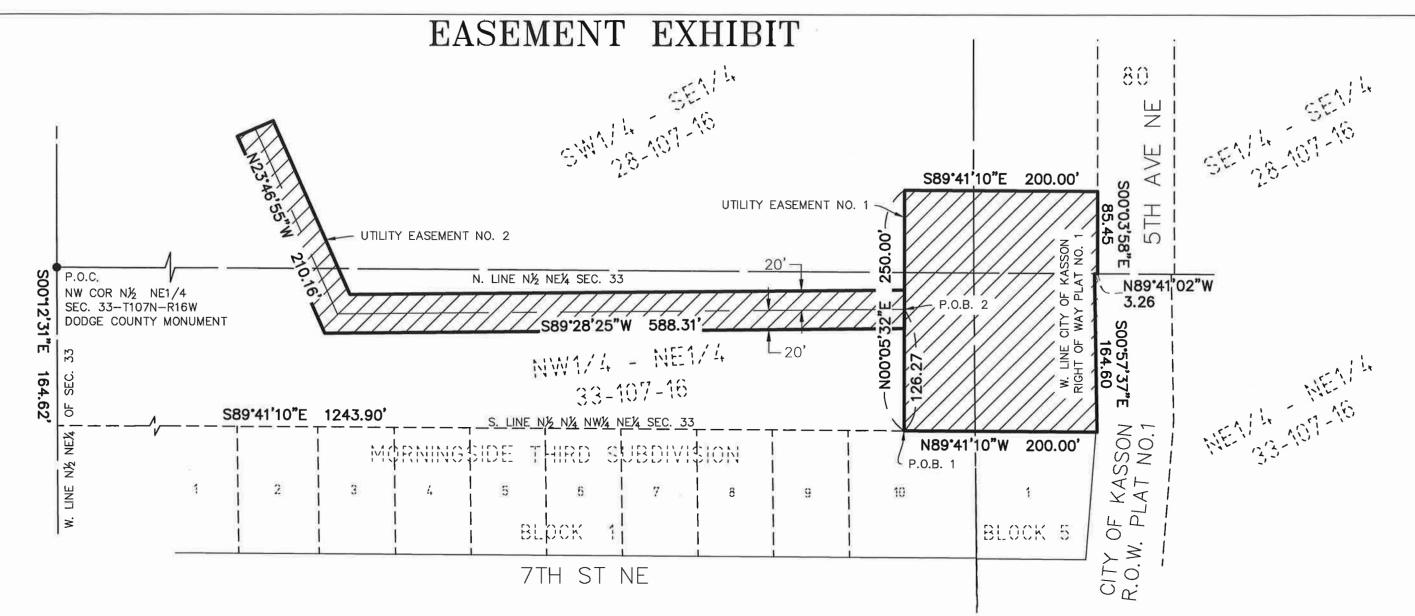
By:_____ Timothy Ibisch, City Administrator

STATE OF MINNESOTA)) ss. COUNTY OF DODGE)

The foregoing instrument was acknowledged before me this ____ day of _____, 2021, by Chris McKern and Timothy Ibisch, the Mayor and City Administrator of the City of Kasson, on behalf of the City/Grantee.

Notary Public

This Document was Drafted By: Melanie J. Leth Weber, Leth & Woessner, PLC P.O. Box 130 Dodge Center, MN 55927



UTILITY EASEMENT DESCRIPTION NO. 1:

That part of the South Half of the Southeast Quarter of Section 28 and the North Half of the Northeast Quarter of Section 33, all in Township 107 North, Range 16 West, Dodge County Minnesota, described as follows:

Commencing at the northwest corner of said North Half of the Northeast Quarter of Section 33; thence South 00 degrees 12 minutes 31 seconds East, along the west line of said North Half of the Northeast Quarter, 164.62 feet to the south line of the North Half of the North One Fourth of the Northwest Quarter of the Northeast Quarter; thence South 89 degrees 41 minutes 10 seconds East, along said south line, 1243.90 feet to the point of beginning 1; thence North 00 degrees 05 minutes 32 seconds East, 250.00 feet; thence South 89 degrees 41 minutes 10 seconds East, 200.00 feet to the west line of CITY OF KASSON RIGHT OF WAY PLAT NO. 1; thence South 00 degrees 03 minutes 58 seconds East, along said west line, 85.45 feet to the south line of the South Half of the Southeast Quarter; thence North 89 degrees 41 minutes 02 seconds West, along said south line of the South Half of the Southeast Quarter, 3.26 feet; thence South 00 degrees 57 minutes 37 seconds East, along said west line of CITY OF KASSON RIGHT OF WAY PLAT NO. 1, 164.60 feet to the south line of the North Half of the North One Fourth of the Northeast Quarter of the Northeast Quarter; thence North 89 degrees 41 minutes 10 seconds East, along said west line of CITY OF KASSON RIGHT OF WAY PLAT NO. 1, 164.60 feet to the south line of the North One Fourth of the Northeast Quarter of the Northeast Quarter; thence North 89 degrees 41 minutes 10 seconds East, along said west line of CITY OF KASSON RIGHT OF WAY PLAT NO. 1, 164.60 feet to the south line of the North Half of the North One Fourth of the Northeast Quarter of the Northeast Quarter; thence North 89 degrees 41 minutes 10 seconds East, 200.00 feet to the south line of the Northeast Quarter; thence North 89 degrees 41 minutes 10 seconds West, 200.00 feet to the point of beginning.

Containing 1.14 Acres, more or less and subject to any easements and restrictions of record.

FOR :

SCALE: 1" = 100' DRAWN BY: DAT DATE : 5/22/19 PROJECT NO. 8104.19 CADD NO. : 8104.19/DRAWINGS/EASEMENT

CITY OF KASSON S1/2-SE1/4 SEC. 28, N1/2-NE1/4 SEC, 33 TOWNSHIP 107N., RNG. 16W DODGE COUNTY, MINNESOTA

UTILITY EASEMENT DESCRIPTION NO. 2:

engineers + planners + land surveyors

That part of the South Half of the Southeast Quarter of Section 28 and the North Half of the Northeast Quarter of Section 33, all in Township 107 North, Range 16 West, Dodge County Minnesota, being 40.00 feet in width, lying 20.00 feet north, south and being parallel to the following described line:

Commencing at the northwest corner of said North Half of the Northeast Quarter of Section 33; thence South 00 degrees 12 minutes 31 seconds East, along the west line of said North Half of the Northeast Quarter, 164.62 feet to the south line of the North Half of the North One Fourth of the Northwest Quarter of the Northeast Quarter; thence South 89 degrees 41 minutes 10 seconds East, along said south line, 1243.90 feet; thence North 00 degrees 05 minutes 32 seconds East, 126.27 feet to the point of beginning 2; thence South 89 degrees 28 minutes 25 seconds West, 588.31 feet; thence North 23 degrees 46 minutes 55 seconds West, 210.16 feet and there terminating.

The north and south sidelines shall be shortened or prolonged to terminate on the west line described Utility Easement No. 1. Containing 0.73 Acres, more or less and subject to any easements and restrictions of record.

BEARING SYSTEM USED:

DODGE COUNTY COORDINATE SYSTEM NAD 83, ADJUSTMENT- 1996

C	50	10	0
-			
10	SCAL	_E	1"=10

LEGEND

USED:

- DENOTES FOUND PIPE UNLESS OTHERWISE NOTED
 O - DENOTES A SET 1/2" OPEN PIPE WITH CAP #44930
 ROW
 LOT LINE



----- SECTION LINE
PROPOSED UTILITY EASEMENT

REQUEST FOR COUNCIL ACTION

Meeting Date: September 22, 2021

AGENDA SECTION:	ORIGINATING DEPT:
Engineering	Engineering
ITEM DESCRIPTION:	PREPARED BY:
Water Tower Painting	Brandon Theobald

BACKGROUND:

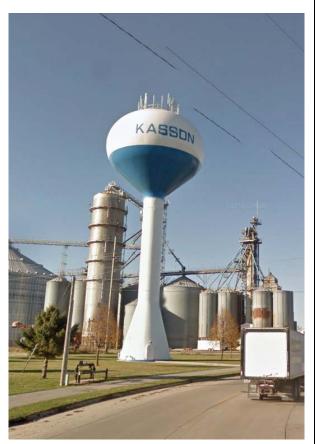
The City is in the process of replacing the fairgrounds water tower in 2022.

The tower will be similar in size and shape to the City's other water tower near the railroad.

The City should consider the color, logo and lettering of the water tower.

Below are possible options to consider:

- 1 Paint it to match the existing tower.
- 2 Provide staff direction on painting.
- 3 Develop a plan to determine paint scheme.



RECOMMENDATION:

Staff is asking for direction on tower painting.

<u>COUNCIL ACTION REQUESTED:</u> Provide direction on proceeding with tower painting.

CITY OF MANTORVILLE DODGE COUNTY, MINNESOTA

RESOLUTION 2021-25

A RESOLUTION REGARDING THE FLOW OF TRAFFIC ON HIGHWAY 57 THROUGH THE CITY OF KASSON FOR THE CITIZENS OF MANTORVILLE

WHEREAS, the citizens of Mantorville routinely travel on Highway 57 through the City of Kasson; and

WHEREAS, traffic lights have provided efficient, safe control of traffic at the intersection of Highway 57 and Kasson's Main Street; and

WHEREAS, traffic on County Road 34 attempting to cross or enter Highway 57 experience excessive waiting which, in turn, leads to drivers taking excessive risks to proceed; and

WHEREAS, an atypical roundabout has been proposed for the Highway 57/County Road 34 intersection; and

WHEREAS, a mini roundabout has been proposed to replace the safe, effective traffic lights at the Highway 57/Main Street intersection; and

WHEREAS, a railroad crossing is between the closely positioned roundabouts; and

WHEREAS, a safe, efficient alternative of traffic lights at both intersections has been identified by Kasson's consulting engineers.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Mantorville that the City Council has listened to the vigorous opposition of not only the citizens of Mantorville but also of other area citizens to the proposed, atypical traffic control measures proposed for Highway 57 through Kasson and has hereby formally memorialized the following:

- (a) The proposed roundabouts will unduly impede the citizens of Mantorville as they travel through Kasson;
- (b) The safety of Mantorville citizens will be compromised by locating two atypical roundabouts proximate to an at-grade railroad crossing; and
- (c) Stop lights at the aforementioned intersections can be synchronized with the railroad crossing lights to provide a safer means of controlling traffic through the railroad crossing.

BE IT FURTHER RESOLVED that the City Council of the City of Mantorville respectfully requests the City Council of our sister City of Kasson to respect the wishes of area citizens who have cried out against the roundabouts.

Resolution No. 2021-25 Page 2 of 2

Adopted by the City Council of the City of Mantorville, Minnesota, this 13th day of September 2021.

Chuck Bradford, Mayor

ATTEST:

Shirley R Buecksler, City Clerk-Treasurer

Trying to Put a Square Peg into a Round Hole

by Kent Keller

Over the past 40 years, I have had the privilege of traveling to many countries for my engineering business. In many of those countries, I encountered roundabouts, learned to like them, and wondered why we didn't have more of them in our country.

Recently, roundabouts have been springing up all over. A good example is the one on Highway 57 at Wanamingo. What a wonderful solution for that dangerous intersection.

Closer to home, we have Highway 57 at the high school where a roundabout could reduce the risk of a student getting killed. Roundabouts do a good job of slowing traffic, so any collision is at a lower speed and at an angle rather than a "T-bone" accident. Fortunately, MnDOT is considering a roundabout for the high school intersection.

Last March, we were advised that a roundabout is proposed for the intersection of Highway 57 and County Road 34. That's the intersection in Kasson just south of the railroad tracks. MnDOT's planning map is in Figure 1.

I used to own property at the 57/34 intersection which would be adversely affected by the roundabout; therefore, I had a vested interest in the project. As a result, I did considerable studying about roundabouts. Even though I have sold that property, I wanted to share what I learned. Other countries have much more experience with roundabouts than the

Other countries have much more experience with roundabouts than the U.S. The U.S. draws on the experience of those other countries; especially the UK where mini-roundabouts were developed. The UK found that mini-roundabouts worked well for "three leg" intersections; that is, where three streets come together. While not ideal for four leg intersections, mini-roundabouts can be used if no better alternative is available.

Intersection at Hwy 57 and Main Street in Kasson

My initial focus was on the 57/34 intersection. From what I learned, I realized the mini-roundabout proposed for the 57/Main Street intersection also will be problematic (see Figure 1). About a half million dollars were spent for the stop lights at the 57/

About a half million dollars were spent for the stop lights at the 57. Main Street intersection. Those stop lights work well especially since they are synchronized with the railroad lights. At that intersection over the past 10 years, there have been 21 accidents, 1 possible injury, and 0 fatalities. That's 2 minor accidents per year with no fatalities. MnDOT's claim is that mini-roundabouts are safer than stop lights

MnDOT's claim is that mini-roundabouts are safer than stop lights because they reduce fatalities; and yet, MnDOT ignores the fact that there haven't been any fatalities at the Kasson stop lights. MnDOT and the UK guidelines specifically state that mini-roundabouts cause more accidents than stop lights, but there are fewer casualities at mini-roundabouts. The Kasson stop lights are not at a high-speed intersection.

The speed limits are 30 mph in both directions. Another fact that has been ignored is that there are two large buildings at this intersection. Looking at Figure 1, you will see the Mini Mall building is especially problematic since it blocks east bound traffic on Main Street from seeing traffic coming from the north.

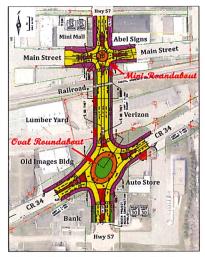


Figure 1: MnDOT's proposal for Hwy 57 in Kasson

If mini-roundabouts are so much safer than stop lights, should Rochester replace all their stop lights with mini-roundabouts? That makes no more sense than replacing the 57/Main Street stop light in Kasson. "If it ain't broke, don't fix it."

Intersection at Hwy 57 and County Road 34

Originally, when I looked at alternative traffic controls for the 57/34 intersection, it appeared a mini-roundabout was a better option than the large oval roundabout proposed for that intersection. After all, if a mini-roundabout is okay for Main Street, why can't it be okay for CR 34? First of all, Federal Highway Administration (FHA) guidelines say right out that oval roundabouts are not a good idea. The FHA points out

that traffic speeds up on the straighter part of the oval and then has to slow down for the tighter curves. The different curvatures force drivers to pay more attention to steering thereby limiting the amount of attention they can devote to finding the right exit and avoiding other traffic, pedestrians and cyclists.

After studying up on mini-roundabouts for the 57/Main Street intersection, it became clear that a mini-roundabout for the other "four leg" intersection was not the best alternative. This intersection has had only 22 accidents, 3 possible injuries, and 0 fatalities over the past 10 years (again only 2 mior accidents new year and no fatalities).

years (again only 2 minor accidents per year and no fatalities). Safety wise, there is nothing but more fender benders to be gained by a roundabout. We will all be furious negotiating that obstacle course knowing that a simpler, safer, much less expensive alternative could have been used.

The best alternative for the two intersections is shown in MnDOT's diagram illustrated as Figure 2.

Specifically:

 Leave the stop lights at the 57/Main Street intersection. Why waste money that has already been spent and then spend more money on a less desirable design?

2. Add stop lights at the 57/34 intersection. There is room for turning lanes.

The above concept has the added advantage that both stop lights can be synchronized with the railroad lights. Also, the stop lights can be synchronized to facilitate the flow of traffic on Hwy 57 since that carries most of the traffic through town. Visualize this: traffic through roundabouts cannot be controlled; so,

Visualize this: traffic through roundabouts cannot be controlled; so, when a train passes through Kasson, cars will back up into the roundabouts and stop traffic in all directions. FHA guidelines specifically state that special consideration should be given to roundabouts near railroads that are "at grade"; that is, not elevated.

A final benefit of stop lights at both intersections is that stop lights are safer than roundabouts for pedestrians, cyclists and the handicapped. In a city, this benefit must be given special attention.

Three different engineering departments are involved with the Kasson Highway 57 Project: 1. MnDOT because of State Highway 57

2. Dodge County because of County Road 34

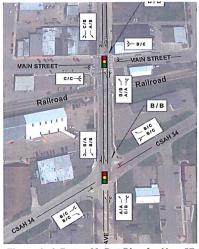


Figure 2: A Better MnDot Plan for Hwy 57

3. City of Kasson because the project is in the city. Kasson does not have an engineer; therefore, Kasson contracts out its engineering to a consultant. The consulting engineer is not a highway engineer and covers many other types of engineering projects for the city. And yet, Kasson and its consulting engineer have been given the lead for this project.

Ironically, none of the above engineers put together the roundabout design illustrated in Figure 1. The design was subcontracted to another company. Imagine trying to get anyone to take responsibility for the design.

MnDOT's Intersection Control Evaluation Report for these intersections specifically states, "Capacity analyses show that signalized control (stop lights for both intersections) would provide acceptable Levels of Service (LOS) for current and future traffic". It appears someone said, "Roundabouts are good. We want more of them. Put them in the Kasson project." For this project, they are a bad application of a good concept. Someone has truly tried to "force a square peg into a round hole".

What can be done?

At this point, no one in the above engineering departments is willing to stand up and demand the re-thinking of a bad design. I have tried and mostly got silence. If you want to see a better design than the one pictured in Figure 1, you must speak out. The project is scheduled for construction next year. Time is running out for making changes. Bids for the project will be let out soon if the design is not changed. I suggest you email the director of the Rochester office of MnDOT (Mark Schoenfelder, mark.schoenfelder@state.mn.us) and express your

I suggest you email the director of the Rochester office of MnDOT (Mark Schoenfelder, mark.schoenfelder@state.mn.us) and express your concern about this project. Be sure to copy the following: mayormckern@cityofkasson.com, Cityadministrator@cityofkasson.com, sen.david. senjem@senate.mn, and me kent@kellertec.com so I can document citizen responses to this bad design.

Do it today! If we humans don't "do it now" it probably won't get done. If you don't do it, you will have to drive through that maze for many years to come.

INTERSECTION CONTROL EVALUATION REPORT FOR

Mantorville Avenue (TH 57) & Main Street Mantorville Avenue (TH 57) & CSAH 34

KASSON, MINNESOTA

Prepared for: City of Kasson, MN 2020

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.

Eric J. Tott, P.E.

05/05/2020

Date

<u>54543</u> License. No.



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Project Description

This intersection control evaluation (ICE) has been prepared for the intersections of Mantorville Avenue (TH 57) / Main Street and Mantorville Avenue (TH 57) / CSAH 34 in the City of Kasson, Dodge County, Minnesota. This report applies the signal justification warrants, as outlined in the Manual on Uniform Traffic Control Devices (MUTCD) and uses engineering methods outlined in the Highway Capacity Manual 6th Edition.

Currently, the area surrounding the intersections is commercial. The analyzed intersections are at the east end of the downtown business district. There is a railroad crossing between the two intersections approximately 80 feet south of Main Street. The analyzed intersections are approximately 2200 feet north of the Mantorville Avenue (TH 57) interchange with US Highway 14.

ICE reports are used to determine which type of intersection control may be the most appropriate for the intersection based on several factors such as warrants, safety and site conditions. Specifically, this report will look at whether side-street stop, multi-way stop, traffic signal, or a roundabout is the most appropriate method of traffic control for the intersections.

Location

The intersections of Mantorville Avenue (TH 57) / Main Street and Mantorville Avenue (TH 57) / CSAH 34 are located in the City of Kasson, Minnesota. The study area lies in the east central region of Dodge County. See Figure 1.



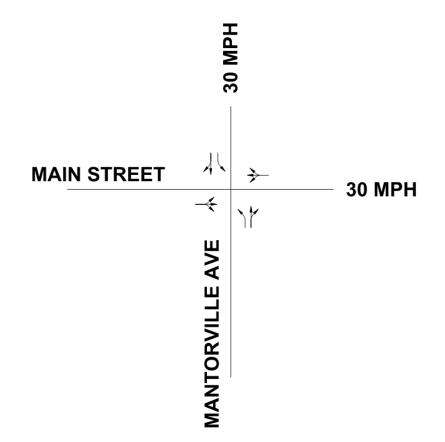
FIGURE 1 – Location Map

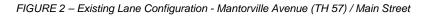


Existing Intersection Characteristics

Mantorville Avenue (TH 57) / Main Street

Mantorville Avenue is a north-south route. The side street, Main Street, is an east-west route. Currently the intersection is a four-leg intersection operating under signalized control. The northbound and southbound approaches consist of one lane in each direction with left turn lanes. The eastbound and westbound approaches consist of one shared lane in each direction. See Figure 2 for existing lane configuration. The speed limit on Mantorville Avenue is 30 mph. The speed limit on Main Street is 30 mph.







Mantorville Avenue (TH 57) / CSAH 34

Mantorville Avenue is a north-south route. The side street, CSAH 34, is an east-west route. Currently the intersection is a four-leg intersection operating under two-way stop control. The northbound and southbound approaches consist of one lane in each direction with left turn lanes. The eastbound and westbound approaches consist of one lane in each direction with right turn lanes. See Figure 3 for existing lane configuration. The speed limit on Mantorville Avenue is 30 mph. The speed limit on CSAH 34 is 35 mph.

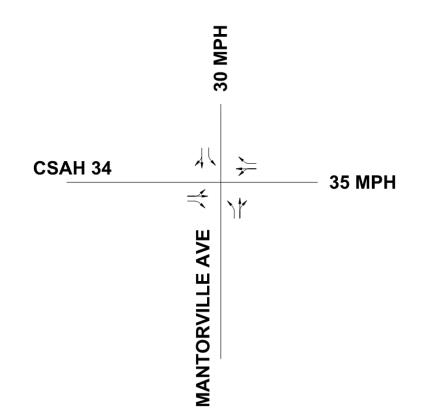


FIGURE 3 – Existing Lane Configuration - Mantorville Avenue (TH 57) / CSAH 34



Traffic Volumes

Mantorville Avenue (TH 57) / Main Street

Directional intersection traffic volumes were obtained from intersection traffic counts performed Tuesday December 18, 2018. Traffic counts were performed from 6 AM to 7 PM. The AM peak hour occurred from 7 AM to 8 AM. The PM peak hour occurred from 5 PM to 6 PM. The growth factor used for the future traffic was 1% per year. Using a 1% compound growth factor, the traffic count volumes were factored up to obtain 2020 and design year (2040) volumes. See Appendix A for the traffic count data.

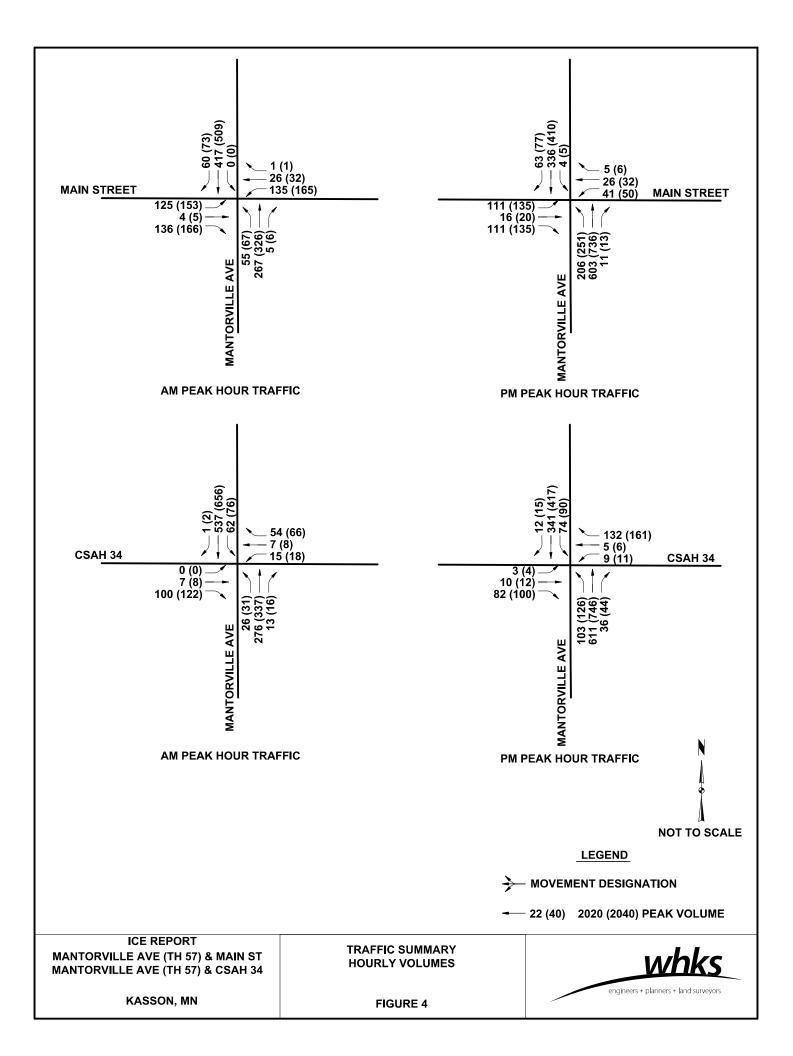
See Figure 4 for a summary of the 2020 and 2040 volumes for each intersection traffic movement.

Mantorville Avenue (TH 57) / CSAH 34

Directional intersection traffic volumes were obtained from MnDOT. The traffic counts were performed Monday September 9, 2019. Traffic counts were performed from 6 AM to 9:15 AM and 3 PM to 7:45. The AM peak hour occurred from 6:45 AM to 7:45 AM. The PM peak hour occurred from 4:45 PM to 5:45 PM. The growth factor used for the future traffic was 1% per year. Using a 1% compound growth factor, the traffic count volumes were factored up to obtain 2020 and design year (2040) volumes. See Appendix A for the traffic count data.

See Figure 4 for a summary of the 2020 and 2040 volumes for each intersection traffic movement.





Intersection Analyses

The capacity of the intersections was analyzed using the procedures outlined in the *Highway Capacity Manual 6th Edition* (HCM), the intersections were modeled using Synchro Studio 11 with SimTraffic 11 and Sidra Intersection 8.0. The results of the analysis for each scenario follow.

Level of Service (LOS) at intersections is primarily a function of peak hour turning movement volumes, intersection lane configuration, and traffic control. For intersection analysis, the HCM defines LOS in terms of the average control delay at the intersection in seconds per vehicle. Level of service is broken down into letter grades, with LOS A representing good operations and LOS F representing poor operations. LOS E is considered to be at capacity. MnDOT policy is that LOS D is acceptable in urban areas. Table 1 shows the level of service correlations to seconds of delay for signalized intersections and stop control (unsignalized) intersections. Currently in the United States, roundabout control is also categorized as unsignalized.

LOS	Signalized Intersection Control Delay (seconds/vehicle)	Unsignalized Intersection Control Delay (seconds/vehicle)
А	<u><</u> 10 sec.	<u><</u> 10 sec.
В	10 - 20 sec.	10 - 15 sec.
С	20 - 35 sec.	15 - 25 sec.
D	35 - 55 sec.	25 - 35 sec.
Е	55 - 80 sec.	35 - 50 sec.
F	> 80 sec.	> 50 sec.

TABLE 1 – Intersection LOS Criteria

Lane Configuration

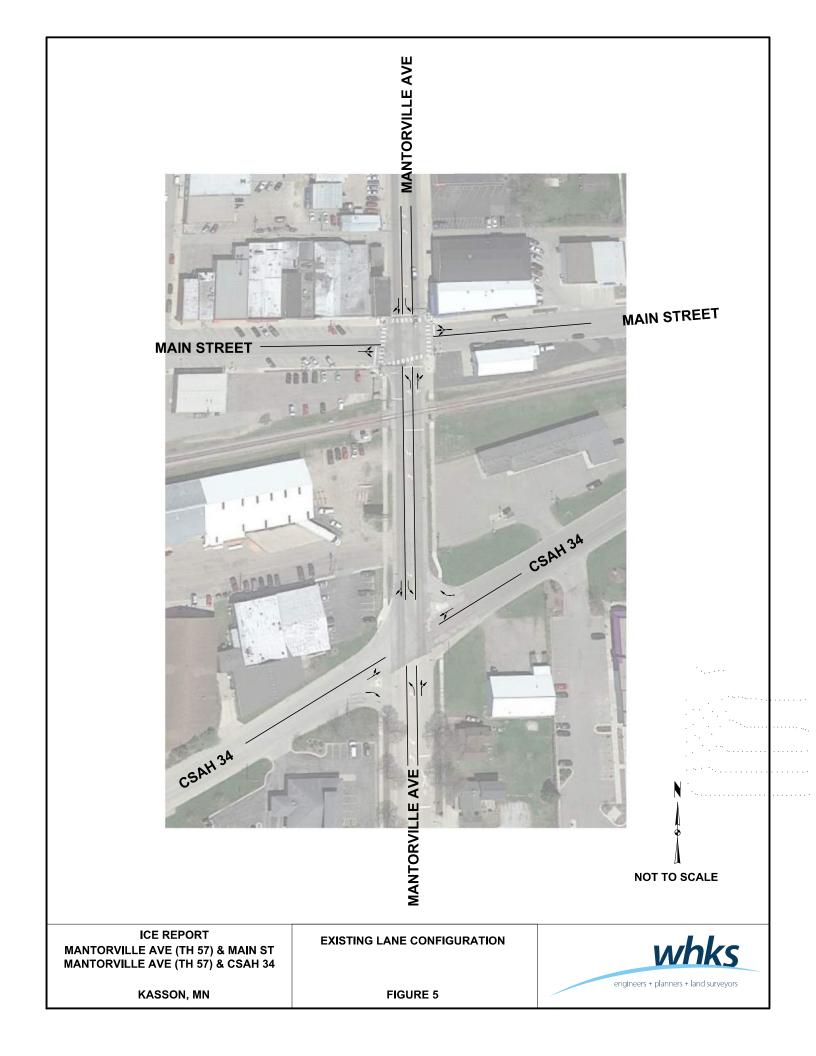
The existing lane configuration was used for the side-street stop, all-way stop and traffic signal analysis. See Figure 5 for the lane configuration.

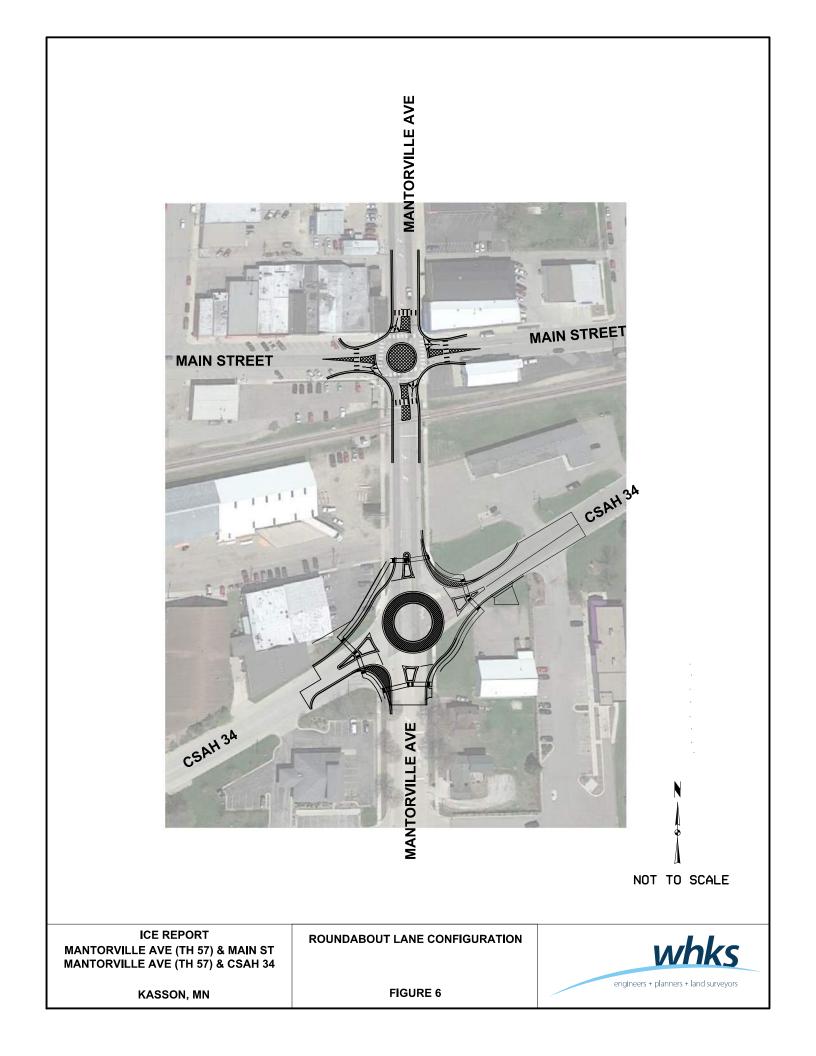
Based on a preliminary geometric analysis, a mini roundabout is feasible for the Mantorville Avenue (TH 57) / Main Street intersection but a single lane roundabout is not feasible based on the close proximity to the railroad crossing.

A single lane roundabout is feasible at the Mantorville Avenue (TH 57) / CSAH 34 intersection.

See Figure 6 for the proposed roundabout lane configuration.

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2020 Existing Traffic Volumes Capacity Analysis

The intersections were analyzed using the Synchro/SimTraffic and Sidra Intersection software programs, which use the Highway Capacity Manual (HCM) methodology. The intersections were analyzed using the 2020 traffic volumes. The intersection control types analyzed include side-street stop, an all-way stop, traffic signal and roundabout control. A summary of the detailed LOS results for each intersection control type are shown in the Appendix B.

Side-Street Stop Control

Mantorville Avenue (TH 57) / Main Street

During the AM and PM peak hours, the eastbound and westbound movements will operate at a LOS F. See Figure 7 for LOS. See Table 2 for LOS Summary.

Mantorville Avenue (TH 57) / CSAH 34

During the AM peak hour, all movements are expected to operate at satisfactory levels of service. During the PM peak hour, the eastbound and westbound movements will operate at a LOS F. See Figure 7 for LOS. See Table 3 for LOS Summary.

All-Way Stop Control

Mantorville Avenue (TH 57) / Main Street

During the AM peak hour, the southbound movements will operate at a LOS F. During the PM peak hour, the northbound through movement will operate at a LOS F and the southbound through movement will operate at a LOS E. See Figure 8 for LOS. See Table 2 for LOS Summary.

Mantorville Avenue (TH 57) / CSAH 34

During the AM peak hour, the southbound movements will operate at a LOS E. During the PM peak hour, the northbound through movement will operate at a LOS F. See Figure 8 for LOS. See Table 3 for LOS Summary.

Signal Control

Mantorville Avenue (TH 57) / Main Street

During the AM and PM peak hours, all movements are expected to operate at satisfactory levels of service. See Figure 9 for LOS. See Table 2 for LOS Summary.

Mantorville Avenue (TH 57) / CSAH 34

During the AM and PM peak hours, all movements are expected to operate at satisfactory levels of service. See Figure 9 for LOS. See Table 3 for LOS Summary.

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Roundabout Control

Mantorville Avenue (TH 57) / Main Street

During the AM and PM peak hours, all movements are expected to operate at satisfactory levels of service. See Figure 10 for LOS. See Table 2 for LOS Summary.

Mantorville Avenue (TH 57) / CSAH 34

During the AM and PM peak hours, all movements are expected to operate at satisfactory levels of service. See Figure 10 for LOS. See Table 3 for LOS Summary.

Mantorville Avenue (TH 57) / Main Street

			2020	Level of S	Service				
		Side S Ste		All-Wa	iy Stop	Traffic	Signal	Round	labout
		AM	PM	AM	PM	AM	PM	AM	PM
н	NB	А	А	С	F	В	В	А	С
APPROACH	SB	Α	Α	F	E	С	В	Α	Α
PR	EB	F	F	С	С	С	С	В	Α
AF	WB	F	F	С	В	В	С	А	В
Intersection	n LOS			E	F	В	В	Α	В
	Acceptable	LOS		Degrad	ling LOS		Fa	ailing LOS	

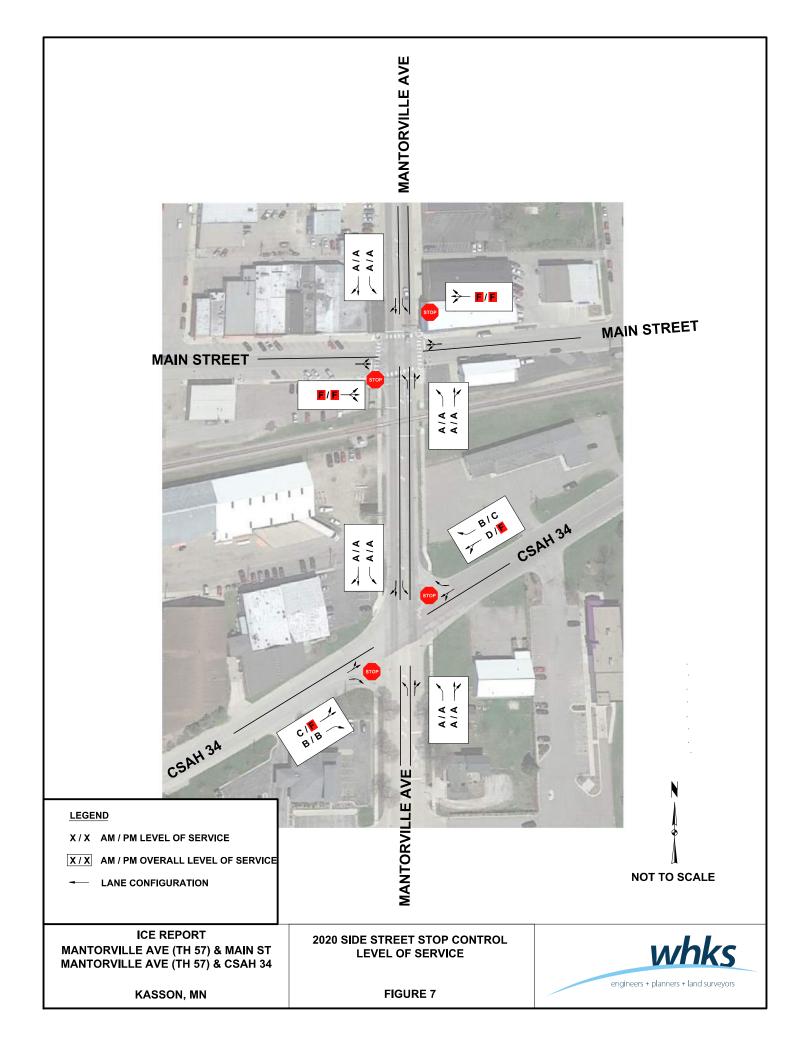
TABLE 2 – 2020 LOS Summary

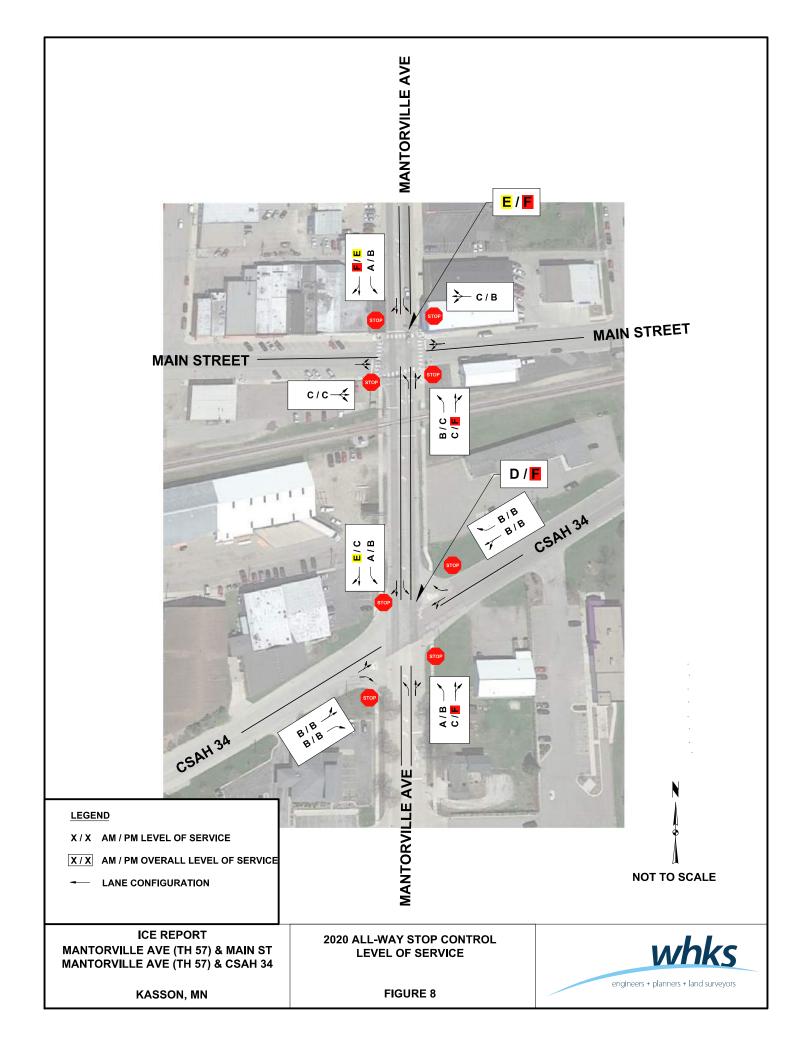
Mantorville Avenue (TH 57) / CSAH 34

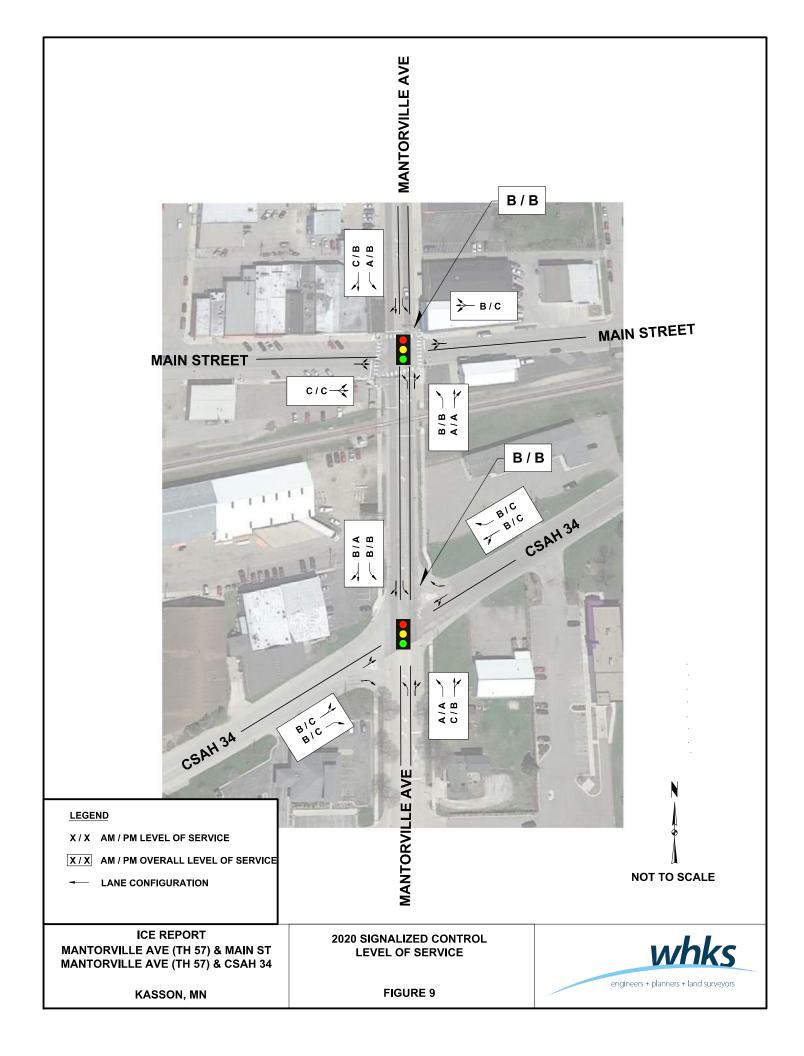
			2020	Level of S	ervice				
		Side S Ste		All-Wa	y Stop	Traffic	Signal	Round	about
		AM	PM	AM	PM	AM	PM	AM	PM
СН	NB	А	А	В	F	С	В	А	В
DA(SB	А	А	E	С	В	Α	Α	Α
APPROA	EB	С	F	В	В	В	С	А	Α
AF	WB	D	F	В	В	В	С	А	Α
Intersection	n LOS			D	F	В	В	Α	Α
	Acceptable	LOS		Degrad	ing LOS		Fa	ailing LOS	

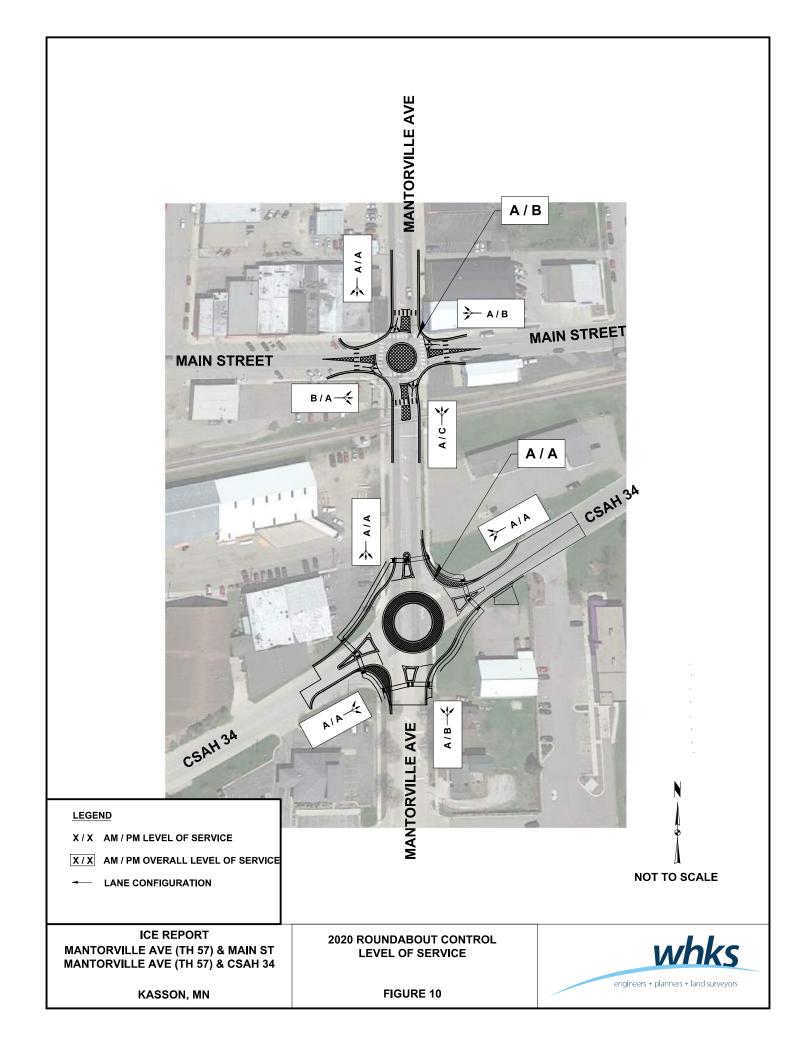
TABLE 3 – 2020 LOS Summary











2040 Traffic Volumes Capacity Analysis

The intersections were analyzed using the Synchro/SimTraffic and Sidra Intersection software programs, which use the Highway Capacity Manual (HCM) methodology. The intersections were analyzed using the 2040 traffic volumes. A summary of the detailed LOS results is shown in Appendix C.

Side-Street Stop Control

Mantorville Avenue (TH 57) / Main Street

Side-Street stop control does not provide an acceptable Level of Service for 2020 traffic, therefore was not analyzed for 2040 traffic.

Mantorville Avenue (TH 57) / CSAH 34

Side-Street stop control does not provide an acceptable Level of Service for 2020 traffic, therefore was not analyzed for 2040 traffic.

All-Way Stop Control

Mantorville Avenue (TH 57) / Main Street

All-way stop control does not provide an acceptable Level of Service for 2020 traffic, therefore was not analyzed for 2040 traffic.

Mantorville Avenue (TH 57) / CSAH 34

All-way stop control does not provide an acceptable Level of Service for 2020 traffic, therefore was not analyzed for 2040 traffic.

Signal Control

Mantorville Avenue (TH 57) / Main Street

During the AM peak hour, the intersection is expected to operate at an overall LOS C. The individual movements during the AM peak hour are also expected to operate at satisfactory levels of service.

During the PM peak hour, the intersection is expected to operate at an overall LOS B. The individual movements during the PM peak hour are also expected to operate at satisfactory levels of service.

See Figure 11 for LOS. See Table 4 for LOS Summary.



Mantorville Avenue (TH 57) / CSAH 34

During the AM peak hour, the intersection is expected to operate at an overall LOS B. The individual movements during the AM peak hour are also expected to operate at satisfactory levels of service.

During the PM peak hour, the intersection is expected to operate at an overall LOS B. The individual movements during the PM peak hour are also expected to operate at satisfactory levels of service.

See Figure 11 for LOS. See Table 5 for LOS Summary.

Roundabout Control

Mantorville Avenue (TH 57) / Main Street

During the AM peak hour, the intersection is expected to operate at an overall LOS B. The individual movements during the AM peak hour are also expected to operate at satisfactory levels of service.

During the PM peak hour, the intersection is expected to operate at an overall LOS D. The northbound approach is expected to operate at a LOS E. All other movements are expected to operate at satisfactory levels of service.

See Figure 12 for LOS. See Table 4 for LOS Summary.

Mantorville Avenue (TH 57) / CSAH 34

During the AM peak hour, the intersection is expected to operate at an overall LOS A. The individual movements during the AM peak hour are also expected to operate at satisfactory levels of service.

During the PM peak hour, the intersection is expected to operate at an overall LOS C. The individual movements during the PM peak hour are also expected to operate at satisfactory levels of service.

See Figure 12 for LOS. See Table 5 for LOS Summary.

Based on this analysis, traffic signal control and roundabout control are suitable methods of control for this intersection.



Mantorville Avenue (TH 57) / Main Street

			2040	Level of S	ervice				
		Side S Sto		All-Wa	y Stop	Traffic	Signal	Round	about
		AM	PM	AM	PM	AM	PM	AM	PM
н	NB					В	В	А	E
APPROACH	SB					D	С	В	В
PR	EB					С	С	С	А
AF	WB					С	С	А	В
Intersection	n LOS					С	В	В	D
	Acceptable	LOS		Degrad	ling LOS		Fa	ailing LOS	

TABLE 4 – 2040 LOS Summary

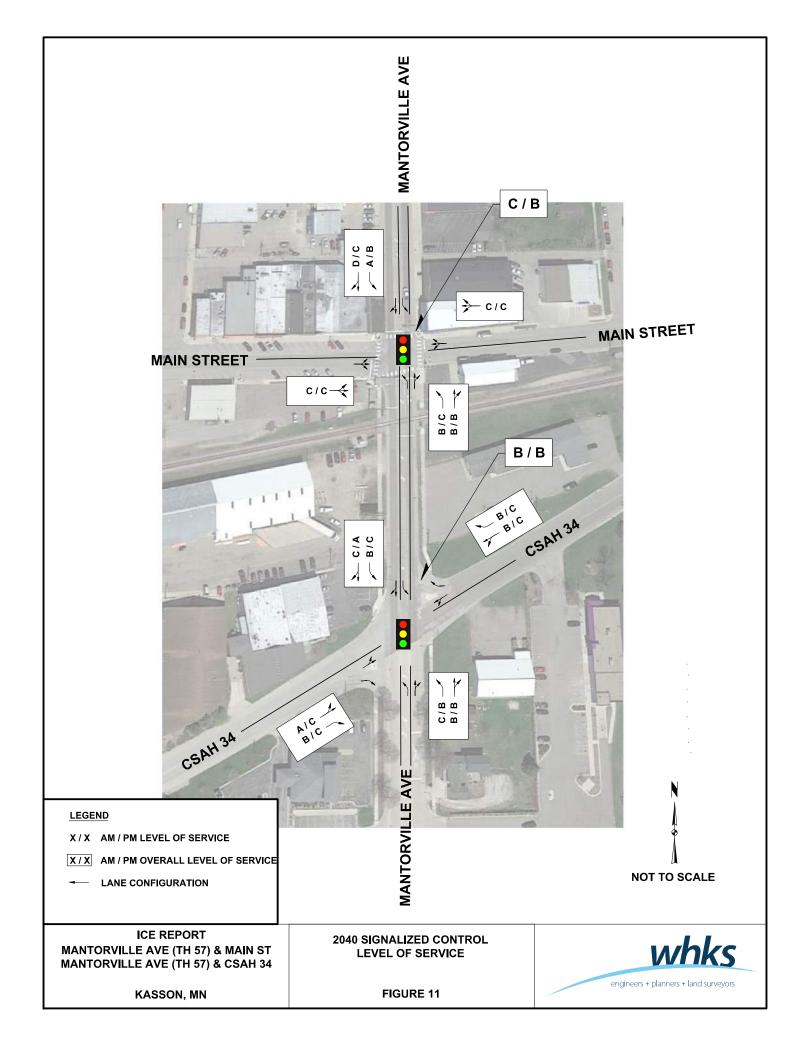
Mantorville Avenue (TH 57) / CSAH 34

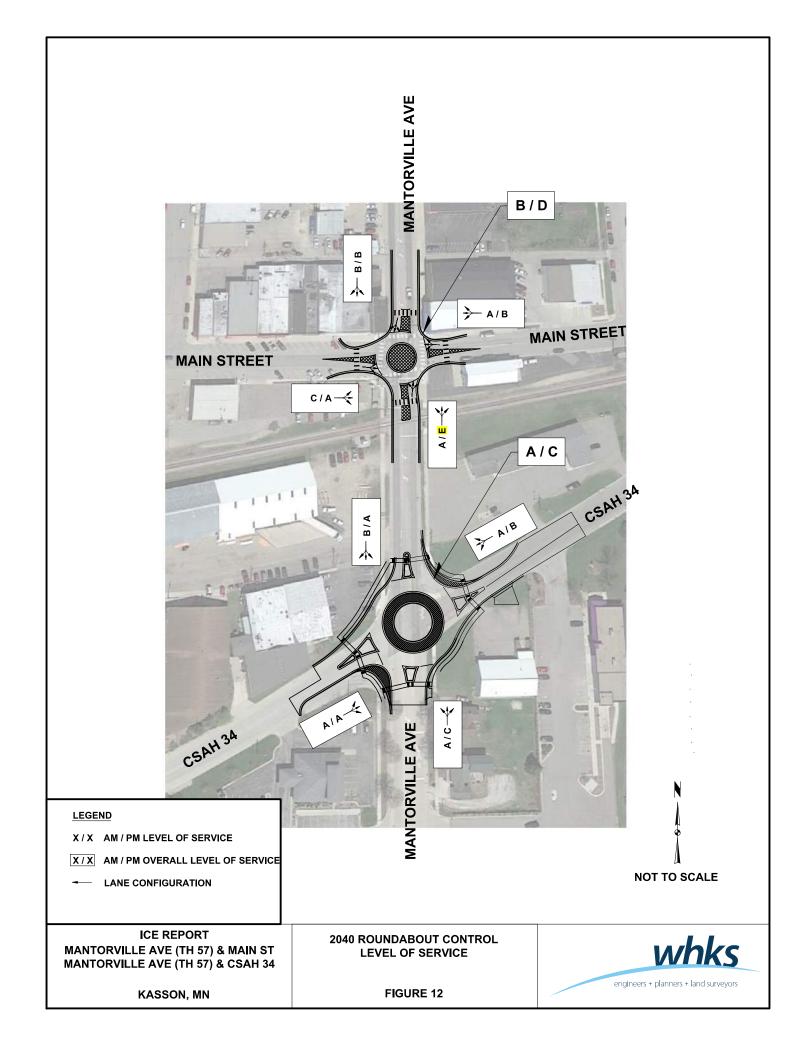
			2040	Level of S	Service				
		Side S		All-Wa	iy Stop	Traffic	Signal	Round	about
		AM	PM	AM	PM	AM	PM	AM	PM
СН	NB					С	В	А	С
DA(SB					С	С	В	Α
APPROACH	EB					В	С	А	Α
AF	WB					В	С	А	В
Intersection	n LOS					В	В	А	С
			_						

Acceptable LOS Degrading LOS Failing LOS

TABLE 5 – 2040 LOS Summary







Warrant Analysis

A warrant analysis was performed in accordance with the Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD). A warrant analysis was performed for a multi-way stop application and for a traffic signal control at the intersection using 2040 traffic.

Multi-way Stop Control

The multi-way stop application warrant was analyzed for the intersections. Warrants are met for both intersections. A detailed warrant analysis for multi-way stop applications can be found in Appendix D.

Traffic Signal Control

A signal warrant analysis was also completed for the intersections. For this analysis the MnMUTCD signal Warrants 1-9 were evaluated for this intersection. For this analysis, the right turning traffic from the minor leg was discounted in the warrant analysis. The traffic signal warrants were analyzed for the intersections and warrants are met. A detailed warrant analysis for signalized applications can be found in Appendix D.

Roundabout Control

Warrants are met for multi-way stop control and traffic signal control for both intersections; therefore, roundabouts are also warranted.



Crash data was obtained from MnDOT MNCMAT2.

Mantorville Avenue (TH 57) / Main Street

There were twenty-three crashes at the intersection of Mantorville Avenue (TH 57) and Main Street from 2010 to 2019. The majority of the crashes were rear end (10) and angle (4). See Appendix E for detailed crash data.

Based on the crash data provided at this location, there is a need to address safety. Rear end and angle crashes are classified as a severe crash type.

General discussion on the type of traffic control and how it affects an intersections safety is listed below.

Mantorville Avenue (TH 57) / CSAH 34

There were twenty-five crashes at the intersection of Mantorville Avenue (TH 57) and CSAH 34 from 2010 to 2019. The majority of the crashes were rear end (8) and other (6). See Appendix E for detailed crash data.

Based on the crash data provided at this location, there is a need to address safety. Rear end crashes are classified as a severe crash type.

General discussion on the type of traffic control and how it affects an intersections safety is listed below.

Side-Street Stop Control

Side-street stop control does not provide an acceptable Level of Service for the amount of traffic at these intersections. Motorists will observe high delays and not receive adequate gaps in traffic. This is not an acceptable type of control for the intersections.

All-Way Stop Control

All-way stop control does not provide an acceptable Level of Service for the amount of traffic at these intersections. Motorists will observe high delays and not receive adequate gaps in traffic. This is not an acceptable type of control for the intersections.

Traffic Signal Control

Traffic signal control allows traffic to flow smoother and safer when used in proper situations. Rear end crashes at signalized intersections can be reduced by optimizing the signal timing, eliminating turn movements such as right turn on red, employing signal coordination with neighboring signals, implementing speed cameras and reducing speed limits.

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Roundabout Control

Studies show that roundabout control improves safety in the following ways:

- 1. Slower vehicle speeds
- 2. The number of conflict points is decreased
- 3. Accidents are less severe

Installing a roundabout is a good traffic calming technique. Reduced vehicle speed is achieved by controlling geometrics and, therefore, speed reduction can be realized at all times of the day and during various traffic volumes. Roundabout control is a flexible type of control that handles varying traffic volumes efficiently.

Installing a roundabout may reduce crashes by 44% (p. 30, DRCRF⁽¹⁾) and may reduce property damage only crashes by 42% and injuries by 82% (p. 31, DRCRF⁽¹⁾). Actual crash reductions may vary due to site-specific factors.

Railroad Crossing

The existing Mantorville Avenue (TH 57) / Main Street intersection is approximately 80 feet north of an at-grade railroad crossing. At-grade railroad crossings near an intersection present safety issues for all types of intersection control. Problems include vehicle queues backing up into the intersection or onto the railroad tracks. Queues spilling back from a rail blockage into the roundabout can fill the circulatory roadway and temporarily prevent movement on any approach.

The current train volumes are low. There are four trains per day traveling at 40 mph. The at-grade crossing already has gates and signals installed to

control vehicles on Mantorville Avenue. Should the volume of trains increase in the future, the following measures can be taken to provide safe operation and additional capacity:

Traffic Signal Control

- Coordinate signal with the railroad crossing signal to provide enough time for northbound vehicles to clear the intersection.
- · Provide additional signage to warn drivers not to stop on tracks.
- · Provide an area for northbound vehicles to move into if they get caught on the tracks.
- · Provide additional storage for northbound Mantorville Avenue.

Roundabout Control

- \cdot Add an additional lane to provide additional queue storage and a way for vehicles to pass other vehicles waiting in the queue.
- · Signalize the roundabout approach to hold vehicles while queue clears.
- Provide an area for vehicles to move into if they get caught on the tracks.

None of these measures described are included in the proposed configurations and are not anticipated to be required at this time for current volumes or trains. If the volumes of trains increase in the future, changes can be made at that time.

For all types of control, the close proximity of an at-grade railroad crossing may present safety issues for semi-tractor trailers. The current proposed geometry does not provide adequate space between the stop bar and the railroad crossing for a southbound semi-tractor trailer (either WB-62 or WB-67). The proposed roundabout will allow northbound traffic to clear the tracks prior to the train arriving.



Access Control

To improve safety at the Mantorville Avenue (TH 57) / Main Street intersection, closing the existing access on the southeast side of the intersection should be considered. Access to the property can be allowed from Main Street at the east end of the property.

Site Review

Right of way

With traffic signal or roundabout control, the intersections can be constructed within the existing rightof-way.

Findings and Recommendations

Capacity Analysis

For both intersections, side-street stop control and all-way stop control does not provide an acceptable Level of Service for current or future traffic.

Capacity analyses show that signalized control would provide acceptable Levels of Service for current and future traffic.

Capacity analyses show that roundabout control would provide acceptable Levels of Service for current and future traffic. During the PM peak hour at Mantorville Avenue (TH 57) / Main Street intersection the northbound approach LOS will be slightly degraded to a LOS E. Studies to determine the capacity of mini roundabouts in the United States are limited at this time. It is anticipated that the capacity of mini roundabouts will be higher than what the software currently estimates as drivers become more familiar with mini roundabouts. MnDOT has stated that they have several mini roundabouts in high traffic areas that are operating very well.

It is desirable to have both intersections controlled with the same type of control to improve traffic flow through the corridor. If there is one signalized intersection and one roundabout, for instance, a platoon may be created by the signalized intersection and create a long queue at the roundabout intersection.

Warrant Analysis

For both intersections, multi-way stop and traffic signal warrants are met for design year volumes. Therefore, roundabout control is also warranted.

Safety Analysis

Based on the crash data provided, specific safety issues do need to be addressed in the proposed improvements.



Roundabouts offer significant safety benefits in comparison to signalized intersections. Roundabouts provide an overall reduction in vehicle speed, eliminate dangerous intersections, such as red-light running, and remove some of the most serious conflict points including angle, left turn, and head-on crashes.⁽²⁾

Regarding the close proximity to the railroad at the Mantorville Avenue (TH 57) / Main Street intersection, both a traffic signal and a roundabout can provide safety benefits for vehicles at the railroad crossing. The traffic signal timing can be set to accommodate vehicles clearing the railroad tracks. The yield condition at a roundabout will allow vehicles to clear the railroad crossing.

Geometric Analysis

With traffic signal or roundabout control, the intersections can be constructed within the existing rightof-way.

Based on preliminary geometric analysis, a mini roundabout is feasible for the Mantorville Avenue (TH 57) / Main Street intersection. A single lane roundabout is feasible at the Mantorville Avenue (TH 57) / CSAH 34 intersection.

Cost Analysis

The estimated construction cost for signalized intersections with associated roadway improvements is estimated to be \$1,084,600.

The estimated construction cost for roundabout intersections with associated roadway improvements is estimated to be \$1,015,900.

Costs do not include engineering.

Summary of Analysis

The appropriate type of intersection control is based on multiple factors and analyses. The side-street stop control and all-way stop control do not provide an acceptable Level of Service; therefore, side-street stop control and all-way stop control would not be acceptable methods of control. The capacity analyses show that signalized and roundabout control would provide acceptable Levels of Service. MnDOT warrants are met for design year volumes for signalized and roundabout control.

Based on the crash data provided, there are specific safety issues that need to be addressed in the proposed improvements. For these intersections, it is recommended that roundabout control be implemented.



References

(1) Geni Bahar, Maurice Masliah, Rhys Wolff, Peter Park, Desktop Reference for Crash Reduction Factors, Report No. FHWA-SA-08-011 (Washington, D.C.: US Department of Transportation Federal Highway Administration, 2008).

(2) Christopher W. Jenks et. al, ROUNDABOUTS: An Informational Guide, Second Edition, Report No. 672 (Washington, D.C.: US Department of Transportation Federal Highway Administration, 2010), p.3-33.



APPENDIX A

Traffic Count Data

11 W Main St - TMC Tue Dec 18, 2018 Full Length (6AM-7PM) All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk) All Movements ID: 598072, Location: 44.029497, -92.748195



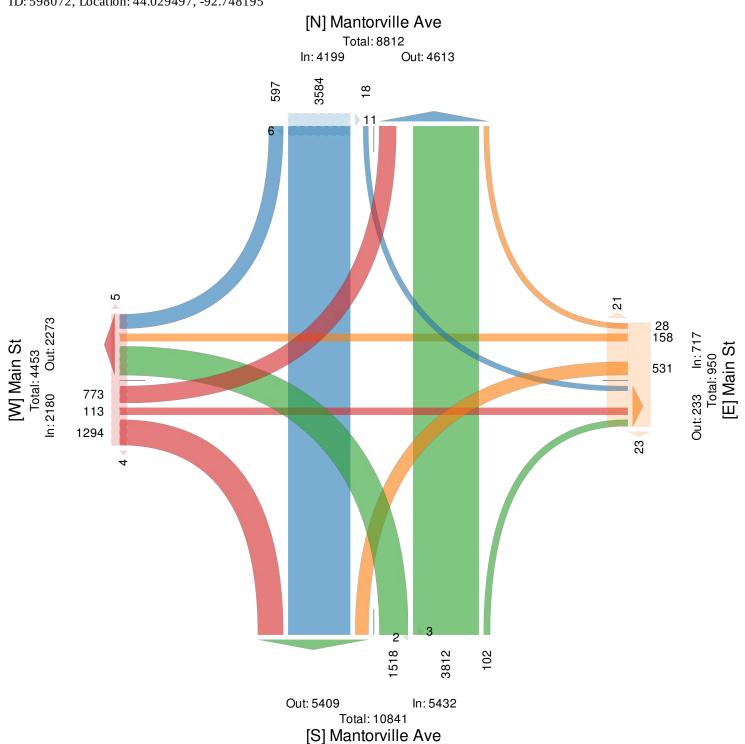
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

.0	Mantory		e				Main S						Mantor		e				Main St						
Dire ction	Southbo	ound					Westbo	ound					Northbo	ound					Eastbou	nd					
Time	R	Т	L	U	Арр	Pe d*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Pe d*	Int
2018-12-18 6:00AM	37	353	1	0	391	0	2	8	63	0	73	0	2	92	28	0	122	1	115	3	15	0	133	0	719
7:00AM	60	417	0	0	477	0	1	26	135	0	162	2	5	267	55	0	327	0	136	4	125	0	265	0	1231
8:00AM	39	245	1	0	285	0	1	10	46	0	57	2	6	171	80	0	257	0	91	4	25	0	120	2	719
9:00AM	27	211	1	0	239	0	3	6	25	0	34	9	8	152	104	0	264	0	81	1	25	0	107	0	644
10:00AM	34	188	3	0	225	2	0	7	24	0	31	5	8	166	115	0	289	0	87	10	32	0	129	2	674
11:00AM	36	234	0	0	270	0	1	9	25	0	35	2	6	226	92	0	324	1	107	9	33	0	149	0	778
12:00PM	43	214	1	0	258	1	3	11	27	0	41	3	9	243	119	0	371	0	92	12	40	0	144	0	814
1:00PM	46	236	2	0	284	4	1	8	23	0	32	4	11	204	113	0	328	1	90	8	45	0	143	1	787
2:00PM	49	224	1	0	274	3	4	3	18	0	25	5	12	321	129	0	462	0	94	7	55	0	156	1	917
3:00PM	67	364	1	0	432	6	2	21	51	0	74	5	8	404	170	0	582	2	85	13	91	0	189	2	1277
4:00PM	68	322	2	0	392	0	3	17	34	0	54	5	13	604	193	0	810	0	136	16	118	0	270	1	1526
5:00PM	63	336	4	0	403	1	5	26	41	0	72	2	11	603	206	0	820	0	111	16	111	0	238	0	1533
6:00PM	28	240	1	0	269	0	2	6	19	0	27	0	3	359	114	0	476	0	69	10	58	0	137	0	909
Total	597	3584	18	0	4 199	17	28	158	531	0	717	44	102	3812	1518	0	5432	5	1294	113	773	0	2180	9	12528
% Approach	14.2%	85.4%	0.4%	0%	-	-	3.9%	22.0%	74.1% ()%	-	-	1.9%	70.2%	27.9% 0	%	-		59.4%	5.2%	35.5% ()%	-	-	
% Total	4.8%	28.6%	0.1%	0% 3	33.5%	-	0.2%	1.3%	4.2% ()%	5.7%	-	0.8%	30.4%	12.1% 0	% 4	3.4%		10.3%	0.9%	6.2%)% 1	17.4%	-	
Lights	584	3492	18	0	4094	-	28	156	524	0	708	-	100	3708	1494	0	5302		1272	112	743	0	2127	-	12231
% Lights	97.8%	97.4%	100%	0% 9	7.5%	-	100%	98.7%	98.7% ()% 9	8.7%	-	98.0%	97.3%	98.4% 0	% 9	97.6%	-	98.3% 9	99.1%	96.1%)% 9	97.6%	-	97.6%
Single-Unit Trucks	4	43	0	0	47	-	0	1	1	0	2	-	2	50	15	0	67		16	1	11	0	28	-	144
% Single -Unit Trucks	0.7%	1.2%	0%	0%	1.1%	-	0%	0.6%	0.2% ()%	0.3%	-	2.0%	1.3%	1.0% 0	%	1.2%		1.2%	0.9%	1.4% ()%	1.3%	-	1.1%
Articulated Trucks	1	23	0	0	24	-	0	0	0	0	0	-	0	26	3	0	29	-	5	0	3	0	8	-	61
% Articulated Trucks	0.2%	0.6%	0%	0%	0.6%	-	0%	0%	0% ()%	0%	-	0%	0.7%	0.2% 0	%	0.5%		0.4%	0%	0.4%)%	0.4%	-	0.5%
Buses	8	26	0	0	34	-	0	1	6	0	7	-	0	28	6	0	34		1	0	16	0	17	-	92
% Buses	1.3%	0.7%	0%	0%	0.8%	-	0%	0.6%	1.1% ()%	1.0%	-	0%	0.7%	0.4% 0	%	0.6%	-	0.1%	0%	2.1%)%	0.8%	-	0.7%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0		0	0	0	0	0	-	C
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0% ()%	0%	-	0%	0%	0% 0	%	0%	-	0%	0%	0% ()%	0%	-	0%
Pedestrians	-	-	-	-	-	17	-	-	-	-	-	44	-	-	-	-	-	5	-	-	-	-	-	9	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	- 1	100%	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Tue Dec 18, 2018 Full Length (6AM-7PM) All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk) All Movements ID: 598072, Location: 44.029497, -92.748195





Tue Dec 18, 2018 AM Peak (7AM - 8AM) All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk) All Movements ID: 598072, Location: 44.029497, -92.748195



625 Forest Edge Drive, Vernon Hills, IL, 60061, US

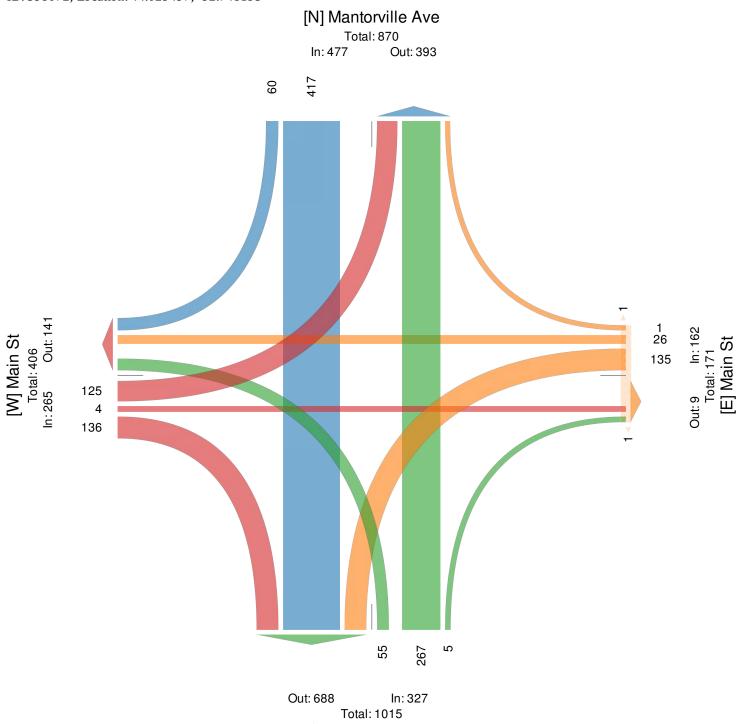
Leg	Mantor	ville Av	e				Main S	t					Manto	rville A	ve				Main S	t					
Direction	Southb	ound					Westb	ound					Northl	oound					Eastbou	ınd					
Time	R	Т	L	U	App P	∙e d∗	R	Т	L	U	Арр	Ped*	R	Т	L	U	App Pe	ed*	R	Т	L	U	App P	e d*	Int
2018-12-18 7:00AM	16	107	0	0	123	0	0	3	25	0	28	1	2	52	9	0	63	0	42	1	19	0	62	0	276
7:15AM	13	106	0	0	119	0	1	3	37	0	41	1	0	75	12	0	87	0	42	0	40	0	82	0	329
7:30AM	8	111	0	0	119	0	0	10	42	0	52	0	0	70	11	0	81	0	30	1	42	0	73	0	325
7:45AM	23	93	0	0	116	0	0	10	31	0	41	0	3	70	23	0	96	0	22	2	24	0	48	0	301
Total	60	417	0	0	477	0	1	26	135	0	162	2	5	267	55	0	327	0	136	4	125	0	265	0	1231
% Approach	12.6%	87.4%	0% (0%	-	-	0.6%	16.0%	83.3%	0%	-	-	1.5%	81.7%	16.8% ()%	-	-	51.3%	1.5%	47.2%	0%	-	-	-
% Total	4.9%	33.9%	0% (0% 3	8.7%	-	0.1%	2.1%	11.0%	0%	13.2%	-	0.4%	21.7%	4.5% 0)% 2	26.6%	-	11.0%	0.3%	10.2%	0%	21.5%	-	-
PHF	0.652	0.939	-	-	0.970	-	0.250	0.650	0.804	-	0.779	-	0.417	0.890	0.598	-	0.852	-	0.810	0.500	0.744	-	0.808	-	0.935
Lights	59	410	0	0	469	-	1	26	134	0	161	-	5	257	55	0	317	-	136	4	118	0	258	-	1205
% Lights	98.3%	98.3%	0% (0% 9	8.3%	-	100%	100%	99.3%	0%	99.4 %	-	100%	96.3%	100% 0)% 9	96.9%	-	100%	100%	94.4%	0% 9	97.4 %	-	97.9%
Single-Unit Trucks	0	4	0	0	4	-	0	0	0	0	0	-	0	1	0	0	1	-	0	0	1	0	1	-	6
% Single-Unit Trucks	0%	1.0%	0% (0%	0.8%	-	0%	0%	0%	0%	0%	-	0%	0.4%	0% 0)%	0.3%	-	0%	0%	0.8%	0%	0.4%	-	0.5%
Articulated Trucks	0	1	0	0	1	-	0	0	0	0	0	-	0	2	0	0	2	-	0	0	1	0	1	-	4
% Articulated Trucks	0%	0.2%	0% (0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0.7%	0% 0)%	0.6%	-	0%	0%	0.8%	0%	0.4%	-	0.3%
Buses	1	2	0	0	3	-	0	0	1	0	1	-	0	7	0	0	7	-	0	0	5	0	5	-	16
% Buses	1.7%	0.5%	0% (0%	0.6%	-	0%	0%	0.7%	0%	0.6%	-	0%	2.6%	0% 0)%	2.1%	-	0%	0%	4.0%	0%	1.9%	-	1.3%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0% (0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0% ()%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Tue Dec 18, 2018 AM Peak (7AM - 8AM) All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk) All Movements ID: 598072, Location: 44.029497, -92.748195



625 Forest Edge Drive, Vernon Hills, IL, 60061, US



[S] Mantorville Ave

11 W Main St - TMC Tue Dec 18, 2018 Midday Peak (1:45PM - 2:45PM) All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk) All Movements ID: 598072, Location: 44.029497, -92.748195



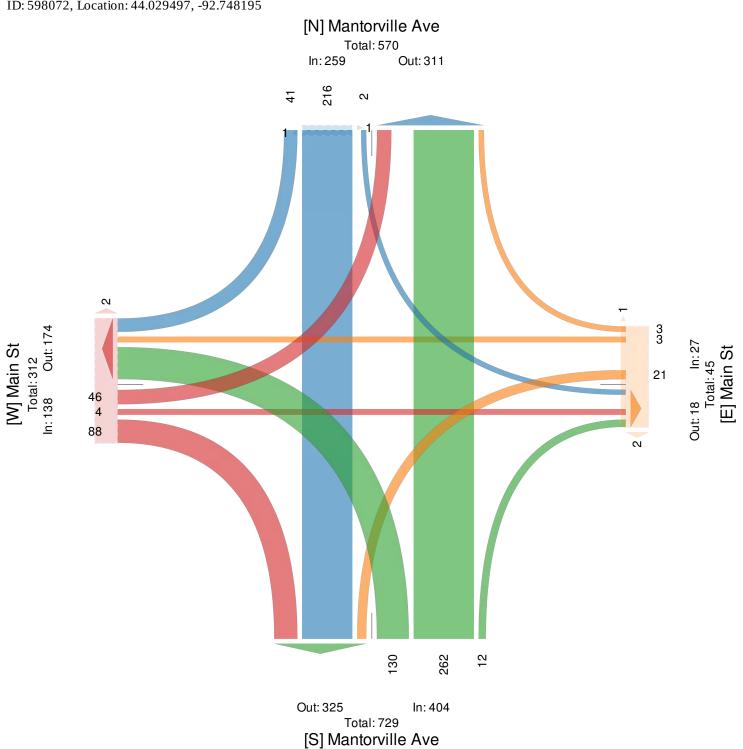
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Mantor	ville Av	'e				Main S	t					Manto	rville A	ve				Main St						
Direction	Southb	ound					Westbo	ound					North	bound					Eastbou	ınd					
Time	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	App Pe	ed*	R	Т	L	U	Арр	Ped*	Int
2018-12-18 1:45PM	9	54	1	0	64	1	0	2	8	0	10	1	4	50	30	0	84	0	20	1	11	0	32	1	190
2:00PM	17	49	0	0	66	0	0	0	5	0	5	1	5	77	29	0	111	0	23	1	9	0	33	0	215
2:15PM	10	57	1	0	68	1	2	0	2	0	4	1	2	59	36	0	97	0	24	2	14	0	40	0	209
2:30PM	5	56	0	0	61	0	1	1	6	0	8	0	1	76	35	0	112	0	21	0	12	0	33	1	214
Total	41	216	2	0	259	2	3	3	21	0	27	3	12	262	130	0	404	0	88	4	46	0	138	2	828
% Approach	15.8%	83.4%	0.8%	0%	-	-	11.1%	11.1%	77.8%	0%	-	-	3.0%	64.9%	32.2%	0%	-	-	63.8%	2.9%	33.3%	0%	-	-	-
% Total	5.0%	26.1%	0.2%	0%	31.3%	-	0.4%	0.4%	2.5%	0%	3.3%	-	1.4%	31.6%	15.7%	0%4	48.8%	-	10.6%	0.5%	5.6%	0%	16.7%	-	-
PHF	0.603	0.947	0.500	-	0.952	-	0.375	0.375	0.656	- (0.675	-	0.600	0.851	0.903	-	0.902	-	0.917	0.500	0.821	-	0.863	-	0.963
Lights	41	213	2	0	256	-	3	3	21	0	27	-	12	254	127	0	393	-	87	4	42	0	133	-	809
% Lights	100%	98.6%	100%	0%	98.8%	-	100%	100%	100%	0%	100%	-	100%	96.9%	97.7%	0% 9	97.3%	-	98.9%	100%	91.3%	0%	96.4%	-	97.7%
Single -Unit Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	5	1	0	6	-	0	0	2	0	2	-	8
% Single -Unit Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	1.9%	0.8%	0%	1.5 %	-	0%	0%	4.3%	0%	1.4 %	-	1.0%
Articulated Trucks	0	1	0	0	1	-	0	0	0	0	0	-	0	2	0	0	2	-	1	0	0	0	1	-	4
% Articulated Trucks	0%	0.5%	0%	0%	0.4%	-	0%	0%	0%	0%	0%	-	0%	0.8%	0%	0%	0.5%	-	1.1%	0%	0%	0%	0.7%	-	0.5%
Buses	0	2	0	0	2	-	0	0	0	0	0	-	0	1	2	0	3	-	0	0	2	0	2	-	7
% Buses	0%	0.9%	0%	0%	0.8%	-	0%	0%	0%	0%	0 %	-	0%	0.4%	1.5%	0%	0.7%	-	0%	0%	4.3%	0%	1.4 %	-	0.8%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0 %	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Tue Dec 18, 2018 Midday Peak (1:45PM - 2:45PM) All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk) All Movements ID: 598072, Location: 44.029497, -92.748195





11 W Main St - TMC Tue Dec 18, 2018 PM Peak (5PM - 6PM) - Overall Peak Hour All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk) All Movements ID: 598072, Location: 44.029497, -92.748195

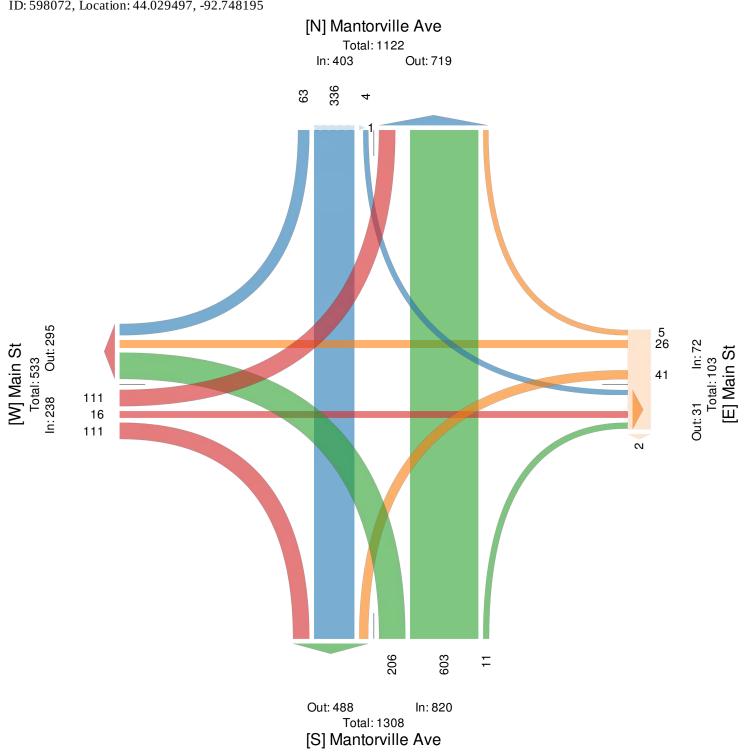


Leg Mantorville Ave Main St Mantorville Ave Main St Dire ction Southbound Westbound Northbound Eastbound Time R U App Ped* R U App Ped* т U R L U App Ped* Int Т L Т L R L App Ped* Т 2018-12-18 5:00PM 12 70 0 0 82 3 8 9 0 20 3 119 54 0 176 0 40 6 32 0 78 0 356 5:15PM 13 73 86 0 154 50 0 206 21 34 0 59 0 0 0 4 10 0 14 0 2 0 4 0 365 5:30PM 21 81 2 0 104 0 1 6 12 0 19 0 2 168 54 0 224 0 25 3 22 0 50 0 397 5:45PM 17 2 0 131 0 10 0 0 4 48 0 214 0 25 3 23 0 51 0 4 15 112 1 8 19 162 41 1533 Total 63 336 4 0 403 0 72 11 603 206 0 820 111 111 0 238 0 5 26 2 0 16 6.9% 36.1% 56.9% 0% 1.3% 73.5% 25.1% 0% 46.6% 6.7% 46.6% 0% % Approach 15.6% 83.4% 1.0% 0% % Total 4.1% 21.9% 0.3% 0% **26.3%** 0.3% 1.7% 2.7% 0% 4.7% 0.7% 39.3% 13.4% 0% 53.5% 7.2% 1.0% 7.2% 0% 15.5% PHF 0.750 0.750 0.500 - 0.769 0.417 0.813 0.854 - 0.900 0.688 0.897 0.954 0.915 0.694 0.667 0.816 - 0.763 0.923 -Lights 63 334 4 0 401 5 26 40 0 71 11 597 204 0 812 11116 1110 238 1522 % Lights 100% 99.4% 100% 0% 99.5% 100% 97.6% 0% 98.6% 100% 99.0% 99.0% 0% **99.0%** 100% 100% 100% 0% 100% 99.3% 100% Single-Unit Trucks 0 0 0 0 0 0 0 0 3 2 0 5 0 0 0 0 0 6 1 1 0 % Single -Unit Trucks 0% 0.3% 0% 0% 0.2% 0% 0% 0% 0% 0% 0% 0.5% 1.0% 0% 0.6% 0% 0% 0% 0% 0% 0.4% Articulated Trucks 0 0 0 0 0 0 0 0 0 2 0 0 0 0 0 0 0 2 1 1 % Articulated Trucks 0% 0.3% 0% 0% 0.2% 0% 0% 0% 0% 0% 0% 0.3% 0% 0% 0.2% 0% 0% 0% 0% 0% 0.2% 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Buses 1 1 1 1 2 % Buses 0% 0% 0% 0% 0% 0% 0% 2.4% 0% 1.4 % 0% 0.2% 0% 0% 0.1% 0% 0% 0% 0% 0% 0.1% Bicycles on Road 0 % Bicycles on Road 0% Pedestrians 0 0 % Pedestrians - 100% - 100% Bicycles on Crosswalk 0 0 0 0 _ -% Bicvcles on Crosswalk 0% 0%

Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Tue Dec 18, 2018 PM Peak (5PM - 6PM) - Overall Peak Hour All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk) All Movements ID: 598072, Location: 44.029497, -92.748195





File Path	C:\Users\Public\Documents\COUNTpro\Study File
File Name	2019_0909_183509_021A
Date	9/9/2019
Start Time	18:30
Interval	15
Site Code	
NB Street	
SB Street	
EB Street	
WB Street	

	А	В	С	D	Е	Н	I	J	М	Ν	0	R	S	Т	V
1	Time		SB Right	SB Thru	SB Left	WB Right	WB Thru	WB Left	NB Right	NB Thru	NB Left	EB Right	EB Thru	EB Left	Totals
2	06:00		0	55	4	5	0	1	2	19	1	14	2	0	103
3	06:15		1	128	13	3	1	3	2	25	3	21	1	0	201
4	06:30		2	136	14	11	3	3	1	32	2	22	1	0	227
5	06:45		0	127	15	14	1	1	4	59	9	21	2	0	253
6	07:00		0	156	16	15	2	5	3	71	6	20	2	0	296
7	07:15		1	116	15	11	2	5	3	75	4	33	1	0	266
8	07:30		0	133	15	13	2	4	3	68	6	25	2	0	272
9	07:45		0	0	0	0	0	0	0	0	0	0	0	0	0
10	08:00		0	0	0	0	0	0	0	0	0	0	0	0	0
11	08:15		0	0	0	0	0	0	0	0	0	0	0	0	0
12	08:30		0	0	0	0	0	0	0	0	0	0	0	0	0
13	08:45		2	47	7	7	1	3	5	24	1	10	0	0	107
14	09:00		1	58	8	18	2	4	3	58	9	14	2	0	177
15	AM Pk Hr:		1	532	61	53	7	15	13	273	25	99	7	0	
16															
17	15:00		4	73	19	18	0	2	3	58	8	11	2	0	198
18	15:15		5	91	16	20	3	2	5	126	10	14	1	0	293
19	15:30		1	93	24	30	3	2	4	107	10	18	1	0	293
20	15:45		1	88	21	30	4	8	3	107	9	16	2	0	289
21	16:00		3	86	15	30	2	7	4	109	18	16	1	0	291
22	16:15		2	89	15	27	2	3	8	131	27	20	2	0	326
23	16:30		8	87	16	34	1	4	2	141	23	26	2	1	345
24	16:45		2	72	22	39	1	3	8	156	26	16	3	2	350
25	17:00		3	96	18	27	1	2	9	144	26	23	3	0	352
26	17:15		4	89	18	36	1	0	8	151	21	19	4	0	351
27	17:30		3	81	15	29	2	4	11	154	29	23	0	1	352
28	17:45		1	84	12	28	1	1	2	139	18	21	0	0	307
29	18:00		0	21	3	6	0	2	3	23	5	2	1	0	66
30	18:30		1	33	8	11	1	2	0	36	7	4	0	1	104
31	18:45		2	44	6	14	1	5	2	72	10	12	0	0	168
32	19:00		1	44	8	13	2	3	4	60	6	12	1	1	155
33	19:15		0	36	6	11	0	0	3	50	6	6	0	0	118
34	19:30		0	12	3	2	1	1	0	21	1	2	0	0	43
35															
36	PM Pk Hr:		12	338	73	131	5	9	36	605	102	81	10	3	

APPENDIX B

2020 Intersection Capacity Analysis Reports

30.1

Intersection

Int Delay, s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	EDL	EDI	EDR	VVDL		VVDR	NDL		NDK	JDL	301	JDK
Lane Configurations		- 4 >			- 4 >		- T	ર્ન 👘		- ግ	- î÷	
Traffic Vol, veh/h	125	4	136	135	26	1	55	267	5	0	417	60
Future Vol, veh/h	125	4	136	135	26	1	55	267	5	0	417	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	0	-	-
Veh in Median Storage,	# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	136	4	148	147	28	1	60	290	5	0	453	65

Major/Minor	Minor2		[Vinor1			Major1		N	lajor2			
Conflicting Flow All	913	901	486	975	931	293	518	0	0	295	0	0	
Stage 1	486	486	-	413	413	-	-	-	-	-	-	-	
Stage 2	427	415	-	562	518	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuver	254	278	581	231	267	746	1048	-	-	1266	-	-	
Stage 1	563	551	-	616	594	-	-	-	-	-	-	-	
Stage 2	606	592	-	512	533	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	222	262	581	163	252	746	1048	-	-	1266	-	-	
Mov Cap-2 Maneuver	222	262	-	163	252	-	-	-	-	-	-	-	
Stage 1	531	551	-	581	560	-	-	-	-	-	-	-	
Stage 2	542	558	-	379	533	-	-	-	-	-	-	-	

Approach	EB	WB	NB	SB	
HCM Control Delay, s	61.1	125.5	1.5	0	
HCM LOS	F	F			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1\	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1048	-	-	326	174	1266	-	-
HCM Lane V/C Ratio	0.057	-	-	0.884	1.012	-	-	-
HCM Control Delay (s)	8.6	-	-	61.1	125.5	0	-	-
HCM Lane LOS	А	-	-	F	F	А	-	-
HCM 95th %tile Q(veh)	0.2	-	-	8.3	8.3	0	-	-

3.3

Intersection

Int Delay, s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		<u>بور</u>	1	ndL	<u>اور،</u>	1	<u> </u>	4	HBR	<u> </u>	1	ODIN	
Traffic Vol, veh/h	0	7	100	15	7	54	26	276	13	62	537	1	
Future Vol, veh/h	0	7	100	15	7	54	26	276	13	62	537	1	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	0	-	-	0	0	-	-	100	-	-	
Veh in Median Storage	,# -	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	0	8	109	16	8	59	28	300	14	67	584	1	

Major/Minor	Minor2			Vinor1			Major1		Ν	/lajor2			
Conflicting Flow All	1116	1089	585	1140	1082	307	585	0	0	314	0	0	
Stage 1	719	719	-	363	363	-	-	-	-	-	-	-	
Stage 2	397	370	-	777	719	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuver	185	215	511	178	217	733	990	-	-	1246	-	-	
Stage 1	420	433	-	656	625	-	-	-	-	-	-	-	
Stage 2	629	620	-	390	433	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	155	198	511	128	200	733	990	-	-	1246	-	-	
Mov Cap-2 Maneuver	155	198	-	128	200	-	-	-	-	-	-	-	
Stage 1	408	410	-	638	608	-	-	-	-	-	-	-	
Stage 2	555	603	-	285	410	-	-	-	-	-	-	-	

Approach	EB	WB	NB	SB	
HCM Control Delay, s	14.6	17.4	0.7	0.8	
HCM LOS	В	С			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2\	WBLn1V	/BLn2	SBL	SBT	SBR	
Capacity (veh/h)	990	-	-	198	511	145	733	1246	-	-	
HCM Lane V/C Ratio	0.029	-	-	0.038	0.213	0.165	0.08	0.054	-	-	
HCM Control Delay (s)	8.7	-	-	23.9	13.9	34.7	10.3	8.1	-	-	
HCM Lane LOS	А	-	-	С	В	D	В	А	-	-	
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.8	0.6	0.3	0.2	-	-	

122.7

Intersection

Int Delay, s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4			4		<u> </u>	f,		۲.	4Î		
Traffic Vol, veh/h	111	16	111	41	26	5	206	603	11	4	336	63	
Future Vol, veh/h	111	16	111	41	26	5	206	603	11	4	336	63	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	100	-	-	0	-	-	
Veh in Median Storage	,# -	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	121	17	121	45	28	5	224	655	12	4	365	68	

Major/Minor	Minor2			Vinor1		1	Vajor1		ſ	Major2				
Conflicting Flow All	1533	1522	399	1585	1550	661	433	0	0	667	0	0		
Stage 1	407	407	-	1109	1109	-	-	-	-	-	-	-		
Stage 2	1126	1115	-	476	441	-	-	-	-	-	-	-		
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-		
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-		
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-		
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-		
Pot Cap-1 Maneuver	~ 95	118	651	88	114	462	1127	-	-	923	-	-		
Stage 1	621	597	-	254	285	-	-	-	-	-	-	-		
Stage 2	249	283	-	570	577	-	-	-	-	-	-	-		
Platoon blocked, %								-	-		-	-		
Mov Cap-1 Maneuver		94	651	52	91	462	1127	-	-	923	-	-		
Mov Cap-2 Maneuver	~ 61	94	-	52	91	-	-	-	-	-	-	-		
Stage 1	497	595	-	203	228	-	-	-	-	-	-	-		
Stage 2	173	227	-	449	575	-	-	-	-	-	-	-		
Approach	EB			WB			NB			SB				
HCM Control Delay, s	\$ 698.4			277			2.3			0.1				
HCM LOS	F			F										
Minor Lane/Major Mvr	nt	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR					
Capacity (veh/h)		1127	-	-	110	66	923	-	-					
HCM Lane V/C Ratio		0.199	-	-	2.352		0.005	-	-					
HCM Control Delay (s	5)	9	-	-\$	698.4	277	8.9	-	-					
HCM Lane LOS		А	-	-	F	F	А	-	-					
HCM 95th %tile Q(veh	ר)	0.7	-	-	22.8	6.2	0	-	-					
Notes														
~: Volume exceeds ca	anacity	\$∙ De	elav exc	eeds 3	005	+ Com	putation	Not De	fined	*· All	maior vol	ume in pla	toon	

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

4.4

Intersection

Int Delay, s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		र्च	1		र्च	1	٦	ef 👘		٦	eî 👘		
Traffic Vol, veh/h	3	10	82	9	5	132	103	611	36	74	341	12	
Future Vol, veh/h	3	10	82	9	5	132	103	611	36	74	341	12	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None										
Storage Length	-	-	0	-	-	0	0	-	-	100	-	-	
Veh in Median Storage,	# -	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	3	11	89	10	5	143	112	664	39	80	371	13	

Major/Minor	Minor2		I	Vinor1		ļ	Major1		Ν	lajor2			
Conflicting Flow All	1520	1465	378	1496	1452	684	384	0	0	703	0	0	
Stage 1	538	538	-	908	908	-	-	-	-	-	-	-	
Stage 2	982	927	-	588	544	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuver	97	128	669	101	130	449	1174	-	-	895	-	-	
Stage 1	527	522	-	330	354	-	-	-	-	-	-	-	
Stage 2	300	347	-	495	519	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	55	105	669	70	107	449	1174	-	-	895	-	-	
Mov Cap-2 Maneuver	55	105	-	70	107	-	-	-	-	-	-	-	
Stage 1	477	476	-	299	320	-	-	-	-	-	-	-	
Stage 2	182	314	-	382	473	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB			

Approach	EB	WB	NB	SB	
HCM Control Delay, s	17.1	20.9	1.2	1.6	
HCM LOS	С	С			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2V	/BLn1W	/BLn2	SBL	SBT	SBR	
Capacity (veh/h)	1174	-	-	87	669	80	449	895	-	-	
HCM Lane V/C Ratio	0.095	-	-	0.162	0.133	0.19	0.32	0.09	-	-	
HCM Control Delay (s)	8.4	-	-	54.2	11.2	60.3	16.7	9.4	-	-	
HCM Lane LOS	А	-	-	F	В	F	С	А	-	-	
HCM 95th %tile Q(veh)	0.3	-	-	0.5	0.5	0.7	1.4	0.3	-	-	

Intersection Intersection Delay, s/veh 40.1 Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		<u>۲</u>	ef 👘		٦.	ef 👘	
Traffic Vol, veh/h	125	4	136	135	26	1	55	267	5	0	417	60
Future Vol, veh/h	125	4	136	135	26	1	55	267	5	0	417	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	136	4	148	147	28	1	60	290	5	0	453	65
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			1			1		
HCM Control Delay	20.3			16.5			20			73		
HCM LOS	С			С			С			F		

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	47%	83%	0%	0%
Vol Thru, %	0%	98%	2%	16%	100%	87%
Vol Right, %	0%	2%	51%	1%	0%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	272	265	162	0	477
LT Vol	55	0	125	135	0	0
Through Vol	0	267	4	26	0	417
RT Vol	0	5	136	1	0	60
Lane Flow Rate	60	296	288	176	0	518
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.133	0.613	0.582	0.394	0	1.025
Departure Headway (Hd)	8.142	7.614	7.428	8.239	7.208	7.118
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Сар	443	476	490	440	0	513
Service Time	5.842	5.314	5.428	6.239	4.908	4.818
HCM Lane V/C Ratio	0.135	0.622	0.588	0.4	0	1.01
HCM Control Delay	12.1	21.6	20.3	16.5	9.9	73
HCM Lane LOS	В	С	С	С	Ν	F
HCM 95th-tile Q	0.5	4	3.7	1.8	0	14.8

Intersection

Intersection Delay, s/veh Intersection LOS

veh 26.9 D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ب ا	1		र्च	1	٦	ef 🔰		٦	eî 🗧	
Traffic Vol, veh/h	0	7	100	15	7	54	26	276	13	62	537	1
Future Vol, veh/h	0	7	100	15	7	54	26	276	13	62	537	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	109	16	8	59	28	300	14	67	584	1
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	0
Approach		EB		WB			NB			SB		
Opposing Approach		WB		EB			SB			NB		
Opposing Lanes		2		2			2			2		
Conflicting Approach Left		SB		NB			EB			WB		
Conflicting Lanes Left		2		2			2			2		
Conflicting Approach Right		NB		SB			WB			EB		
Conflicting Lanes Right		2		2			2			2		
HCM Control Delay		10.9		10.5			14.6			38.3		
HCM LOS		В		В			В			E		

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	
Vol Left, %	100%	0%	0%	0%	68%	0%	100%	0%	
Vol Thru, %	0%	96%	100%	0%	32%	0%	0%	100%	
Vol Right, %	0%	4%	0%	100%	0%	100%	0%	0%	
Sign Control	Stop								
Traffic Vol by Lane	26	289	7	100	22	54	62	538	
LT Vol	26	0	0	0	15	0	62	0	
Through Vol	0	276	7	0	7	0	0	537	
RT Vol	0	13	0	100	0	54	0	1	
Lane Flow Rate	28	314	8	109	24	59	67	585	
Geometry Grp	7	7	7	7	7	7	7	7	
Degree of Util (X)	0.051	0.522	0.015	0.199	0.051	0.109	0.115	0.917	
Departure Headway (Hd)	6.518	5.979	7.305	6.589	7.745	6.678	6.152	5.646	
Convergence, Y/N	Yes								
Сар	549	603	488	542	461	534	582	643	
Service Time	4.269	3.73	5.075	4.358	5.52	4.452	3.892	3.386	
HCM Lane V/C Ratio	0.051	0.521	0.016	0.201	0.052	0.11	0.115	0.91	
HCM Control Delay	9.6	15.1	10.2	11	10.9	10.3	9.7	41.6	
HCM Lane LOS	А	С	В	В	В	В	А	E	
HCM 95th-tile Q	0.2	3	0	0.7	0.2	0.4	0.4	11.8	

Intersection 69.4

F

Intersection Delay, s/veh Intersection LOS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			4		٦	ef 🔰		٦	ef 🔰	
Traffic Vol, veh/h	111	16	111	41	26	5	206	603	11	4	336	63
Future Vol, veh/h	111	16	111	41	26	5	206	603	11	4	336	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	17	121	45	28	5	224	655	12	4	365	68
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			1			1		
HCM Control Delay	17.5			13.2			106.3			35.1		
HCM LOS	С			В			F			E		

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	47%	57%	100%	0%
Vol Thru, %	0%	98%	7%	36%	0%	84%
Vol Right, %	0%	2%	47%	7%	0%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	206	614	238	72	4	399
LT Vol	206	0	111	41	4	0
Through Vol	0	603	16	26	0	336
RT Vol	0	11	111	5	0	63
Lane Flow Rate	224	667	259	78	4	434
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.442	1.219	0.501	0.173	0.009	0.823
Departure Headway (Hd)	7.099	6.575	7.349	8.47	7.823	7.195
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Сар	504	547	494	427	460	507
Service Time	4.892	4.368	5.349	6.47	5.523	4.895
HCM Lane V/C Ratio	0.444	1.219	0.524	0.183	0.009	0.856
HCM Control Delay	15.5	136.7	17.5	13.2	10.6	35.3
HCM Lane LOS	С	F	С	В	В	E
HCM 95th-tile Q	2.2	24.8	2.8	0.6	0	8.1

67.6 F

Intersection

Intersection Delay, s/veh Intersection LOS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		- କ	1		र्भ	1	ሻ	4î		<u>۲</u>	4î	
Traffic Vol, veh/h	3	10	82	9	5	132	103	611	36	74	341	12
Future Vol, veh/h	3	10	82	9	5	132	103	611	36	74	341	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	11	89	10	5	143	112	664	39	80	371	13
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			2			2		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			2			2		
HCM Control Delay	11.9			12.9			112			20.7		
HCM LOS	В			В			F			С		

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	
Vol Left, %	100%	0%	23%	0%	64%	0%	100%	0%	
Vol Thru, %	0%	94%	77%	0%	36%	0%	0%	97%	
Vol Right, %	0%	6%	0%	100%	0%	100%	0%	3%	
Sign Control	Stop								
Traffic Vol by Lane	103	647	13	82	14	132	74	353	
LT Vol	103	0	3	0	9	0	74	0	
Through Vol	0	611	10	0	5	0	0	341	
RT Vol	0	36	0	82	0	132	0	12	
Lane Flow Rate	112	703	14	89	15	143	80	384	
Geometry Grp	7	7	7	7	7	7	7	7	
Degree of Util (X)	0.208	1.202	0.031	0.178	0.034	0.28	0.155	0.684	
Departure Headway (Hd)	6.699	6.152	8.506	7.661	8.516	7.459	7.247	6.712	
Convergence, Y/N	Yes								
Сар	535	591	423	471	423	485	498	541	
Service Time	4.444	3.897	6.206	5.361	6.216	5.159	4.947	4.412	
HCM Lane V/C Ratio	0.209	1.19	0.033	0.189	0.035	0.295	0.161	0.71	
HCM Control Delay	11.2	128	11.5	12	11.5	13	11.3	22.7	
HCM Lane LOS	В	F	В	В	В	В	В	С	
HCM 95th-tile Q	0.8	25.1	0.1	0.6	0.1	1.1	0.5	5.2	

2020 AM SIGNALIZED 3: Mantorville Ave & Main St

04/15/2020

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		<u>۲</u>	eî 👘		ሻ	ef 👘	
Traffic Volume (veh/h)	125	4	136	135	26	1	55	267	5	0	417	60
Future Volume (veh/h)	125	4	136	135	26	1	55	267	5	0	417	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	4	148	147	28	1	60	290	5	0	453	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	37	252	433	74	2	393	703	12	558	610	88
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.09	0.38	0.38	0.00	0.38	0.38
Sat Flow, veh/h	654	120	817	1046	239	7	1781	1833	32	1781	1600	230
Grp Volume(v), veh/h	288	0	0	176	0	0	60	0	295	0	0	518
Grp Sat Flow(s),veh/h/ln	1590	0	0	1292	0	0	1781	0	1865	1781	0	1829
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	0.0	1.1	0.0	7.0	0.0	0.0	14.7
Cycle Q Clear(g_c), s	8.4	0.0	0.0	6.6	0.0	0.0	1.1	0.0	7.0	0.0	0.0	14.7
Prop In Lane	0.47		0.51	0.84	-	0.01	1.00	-	0.02	1.00	-	0.13
Lane Grp Cap(c), veh/h	579	0	0	509	0	0	393	0	715	558	0	698
V/C Ratio(X)	0.50	0.00	0.00	0.35	0.00	0.00	0.15	0.00	0.41	0.00	0.00	0.74
Avail Cap(c_a), veh/h	579	0	0	509	0	0	393	0	715	558	0	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	0.0	16.6	0.0	0.0	10.8	0.0	13.6	0.0	0.0	16.0
Incr Delay (d2), s/veh	3.0	0.0	0.0	1.9	0.0	0.0	0.8	0.0	1.8	0.0	0.0	7.0
Initial Q Delay(d3),s/veh	0.0 3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In		0.0	0.0	2.0	0.0	0.0	0.5	0.0	2.9	0.0	0.0	6.7
Unsig. Movement Delay, s/veh	20.2	0.0	0.0	18.4	0.0	0.0	11.6	0.0	15.3	0.0	0.0	23.0
LnGrp Delay(d),s/veh LnGrp LOS	20.2 C	0.0 A	0.0 A	18.4 B	0.0 A	0.0 A	11.0 B	0.0 A	15.3 B	0.0 A	0.0 A	
	C	288	A	D	176	A	В		D	A	518	C
Approach Vol, veh/h Approach Delay, s/veh		288			176			355 14.7			23.0	
Approach LOS		С			В			В			С	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	27.5		23.0	9.6	27.4		23.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.0		18.5	5.1	22.9		18.5				
Max Q Clear Time (g_c+l1), s	0.0	9.0		10.4	3.1	16.7		8.6				
Green Ext Time (p_c), s	0.0	1.4		1.1	0.0	1.8		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			В									

2020 AM SIGNALIZED 6: Mantorville Ave & CSAH 34

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<u>स</u> ्	1		र्स	1	<u>۲</u>	ef 👘		ሻ	ef 👘	
Traffic Volume (veh/h)	0	7	100	15	7	54	26	276	13	62	537	1
Future Volume (veh/h)	0	7	100	15	7	54	26	276	13	62	537	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	8	109	16	8	59	28	300	14	67	584	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	673	571	443	199	571	322	815	38	517	859	1
Arrive On Green	0.00	0.36	0.36	0.36	0.36	0.36	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	0	1870	1585	898	553	1585	830	1773	83	1066	1867	3
Grp Volume(v), veh/h	0	8	109	24	0	59	28	0	314	67	0	585
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1451	0	1585	830	0	1855	1066	0	1870
Q Serve(g_s), s	0.0	0.1	2.4	0.0	0.0	1.2	1.4	0.0	5.5	2.2	0.0	12.3
Cycle Q Clear(g_c), s	0.0	0.1	2.4	0.4	0.0	1.2	13.7	0.0	5.5	7.7	0.0	12.3
Prop In Lane	0.00		1.00	0.67		1.00	1.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	0	673	571	642	0	571	322	0	854	517	0	860
V/C Ratio(X)	0.00	0.01	0.19	0.04	0.00	0.10	0.09	0.00	0.37	0.13	0.00	0.68
Avail Cap(c_a), veh/h	0	673	571	642	0	571	322	0	854	517	0	860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.3	11.0	10.4	0.0	10.6	16.0	0.0	8.8	11.3	0.0	10.6
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.1	0.0	0.4	0.5	0.0	1.2	0.5	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	0.0	0.1	0.8	0.2	0.0	0.4	0.3	0.0	2.0	0.5	0.0	4.9
Unsig. Movement Delay, s/veh	0.0	10.0	11 7	10 5	0.0	11.0	1/ 5	0.0	10.0	11.0	0.0	14.0
LnGrp Delay(d),s/veh	0.0	10.3	11.7	10.5	0.0	11.0	16.5	0.0	10.0	11.8	0.0	14.9
LnGrp LOS	A	B	В	В	A	В	В	A	А	В	<u>A</u>	B
Approach Vol, veh/h		117			83			342			652	
Approach Delay, s/veh		11.6			10.8			10.5			14.6	
Approach LOS		В			В			В			В	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.5		22.5		27.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.0		18.0		23.0		18.0				
Max Q Clear Time (g_c+I1), s		15.7		4.4		14.3		3.2				
Green Ext Time (p_c), s		1.2		0.3		2.7		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			12.9									
HCM 6th LOS			В									

2020 PM SIGNALIZED 3: Mantorville Ave & Main St

04/15/2020

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			- ↔		<u>۲</u>	eî 👘		ሻ	ef 👘	
Traffic Volume (veh/h)	111	16	111	41	26	5	206	603	11	4	336	63
Future Volume (veh/h)	111	16	111	41	26	5	206	603	11	4	336	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	121	17	121	45	28	5	224	655	12	4	365	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	46	177	254	145	22	559	928	17	459	681	127
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.26	1.00	1.00	0.07	0.44	0.44
Sat Flow, veh/h	632	187	718	724	588	90	1781	1831	34	1781	1533	286
Grp Volume(v), veh/h	259	0	0	78	0	0	224	0	667	4	0	433
Grp Sat Flow(s),veh/h/ln	1536	0	0	1402	0	0	1781	0	1864	1781	0	1819
Q Serve(g_s), s	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	13.0
Cycle Q Clear(g_c), s	11.2	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	13.0
Prop In Lane	0.47		0.47	0.58		0.06	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	449	0	0	421	0	0	559	0	945	459	0	808
V/C Ratio(X)	0.58	0.00	0.00	0.19	0.00	0.00	0.40	0.00	0.71	0.01	0.00	0.54
Avail Cap(c_a), veh/h	449	0	0	421	0	0	559	0	945	459	0	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.3	0.0	0.0	22.3	0.0	0.0	15.7	0.0	0.0	13.1	0.0	15.2
Incr Delay (d2), s/veh	5.3	0.0	0.0	1.0	0.0	0.0	2.1	0.0	4.4	0.0	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	4.6	0.0	0.0	1.2	0.0	0.0	2.8	0.0	1.2	0.0	0.0	5.5
Unsig. Movement Delay, s/veh		0.0	0.0	00.0	0.0	0.0	17.0	0.0		10.1	0.0	17.0
LnGrp Delay(d),s/veh	30.7	0.0	0.0	23.3	0.0	0.0	17.8	0.0	4.4	13.1	0.0	17.8
LnGrp LOS	С	A	A	С	A 70	A	В	A	A	В	A	B
Approach Vol, veh/h		259			78			891			437	
Approach Delay, s/veh		30.7			23.3			7.8			17.7	
Approach LOS		С			С			А			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	42.5		23.0	14.2	37.8		23.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	38.0		18.5	9.7	33.3		18.5				
Max Q Clear Time (g_c+I1), s	2.1	2.0		13.2	2.0	15.0		4.9				
Green Ext Time (p_c), s	0.0	5.4		0.7	0.4	2.6		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			14.7									
HCM 6th LOS			В									

2020 PM SIGNALIZED 6: Mantorville Ave & CSAH 34

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		र्भ	1		र्भ	1	ሻ	4Î		ሻ	4	
Traffic Volume (veh/h)	3	10	82	9	5	132	103	611	36	74	341	12
Future Volume (veh/h)	3	10	82	9	5	132	103	611	36	74	341	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	11	89	10	5	143	112	664	39	80	371	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	374	391	304	137	391	633	1108	65	400	1138	40
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	234	1518	1585	910	556	1585	999	1749	103	744	1796	63
Grp Volume(v), veh/h	14	0	89	15	0	143	112	0	703	80	0	384
Grp Sat Flow(s),veh/h/ln	1752	0	1585	1466	0	1585	999	0	1852	744	0	1859
Q Serve(g_s), s	0.0	0.0	3.4	0.0	0.0	5.6	4.4	0.0	16.8	5.3	0.0	7.2
Cycle Q Clear(g_c), s	0.4	0.0	3.4	0.5	0.0	5.6	11.5	0.0	16.8	22.2	0.0	7.2
Prop In Lane	0.21		1.00	0.67		1.00	1.00		0.06	1.00		0.03
Lane Grp Cap(c), veh/h	490	0	391	442	0	391	633	0	1173	400	0	1177
V/C Ratio(X)	0.03	0.00	0.23	0.03	0.00	0.37	0.18	0.00	0.60	0.20	0.00	0.33
Avail Cap(c_a), veh/h	490	0	391	442	0	391	633	0	1173	400	0	1177
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.4	0.0	22.5	21.5	0.0	23.4	9.0	0.0	8.1	14.7	0.0	6.4
Incr Delay (d2), s/veh	0.1	0.0	1.4	0.1	0.0	2.6	0.6	0.0	2.3	1.1	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.4	0.2	0.0	2.3	1.0	0.0	6.1	1.0	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	23.9	21.6	0.0	26.0	9.6	0.0	10.4	15.8	0.0	7.1
LnGrp LOS	С	A	С	С	A	С	A	A	В	В	A	<u> </u>
Approach Vol, veh/h		103			158			815			464	
Approach Delay, s/veh		23.6			25.6			10.3			8.6	
Approach LOS		С			С			В			А	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		23.0		52.0		23.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		47.5		18.5		47.5		18.5				
Max Q Clear Time (g_c+l1), s		18.8		5.4		24.2		7.6				
Green Ext Time (p_c), s		6.3		0.2		3.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			12.2									
HCM 6th LOS			В									

₩ Site: 1 [2020 AM MAIN ST ROUNDABOUT]

New Site Site Category: (None) Roundabout

Move	ement P	erformance	e - Veh	icles								
Mov ID	Turn	Demand F Total	lows- HV	Deg. Satn	Average Delay	Level of Service	95% Back Vehicles	of Queue Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	v/c	sec		veh	ft				' mph
South	: RoadNa	ame										
3	L2	60	3.0	0.308	6.0	LOS A	1.7	42.3	0.36	0.22	0.36	32.5
8	T1	290	3.0	0.308	6.0	LOS A	1.7	42.3	0.36	0.22	0.36	32.7
18	R2	5	3.0	0.308	6.0	LOS A	1.7	42.3	0.36	0.22	0.36	32.1
Appro		355	3.0	0.308	6.0	LOS A	1.7	42.3	0.36	0.22	0.36	32.7
East:	RoadNa	me										
1	L2	147	3.0	0.219	6.8	LOS A	0.9	24.2	0.57	0.53	0.57	31.1
6	T1	28	3.0	0.219	6.8	LOS A	0.9	24.2	0.57	0.53	0.57	31.3
16	R2	1	3.0	0.219	6.8	LOS A	0.9	24.2	0.57	0.53	0.57	30.7
Appro	bach	176	3.0	0.219	6.8	LOS A	0.9	24.2	0.57	0.53	0.57	31.1
North	: RoadNa	ame										
7	L2	1	3.0	0.496	9.3	LOS A	3.1	80.0	0.57	0.44	0.57	31.3
4	T1	453	3.0	0.496	9.3	LOS A	3.1	80.0	0.57	0.44	0.57	31.5
14	R2	65	3.0	0.496	9.3	LOS A	3.1	80.0	0.57	0.44	0.57	31.0
Appro	ach	520	3.0	0.496	9.3	LOS A	3.1	80.0	0.57	0.44	0.57	31.5
West:	RoadNa	me										
5	L2	136	3.0	0.404	10.5	LOS B	2.2	55.4	0.69	0.74	0.84	30.1
2	T1	4	3.0	0.404	10.5	LOS B	2.2	55.4	0.69	0.74	0.84	30.3
12	R2	148	3.0	0.404	10.5	LOS B	2.2	55.4	0.69	0.74	0.84	29.8
Appro	ach	288	3.0	0.404	10.5	LOS B	2.2	55.4	0.69	0.74	0.84	30.0
All Ve	hicles	1339	3.0	0.496	8.3	LOS A	3.1	80.0	0.54	0.46	0.57	31.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies. Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: WHKS & CO. | Processed: Wednesday, April 15, 2020 11:18:00 AM Project: C:\Users\ETott\Desktop\Transfer\8771 Kasson TH 57 - Main St\Kasson MN Main St CSAH 34 ICE Report\Sidra\2020 AM MAIN ST.sip8

₩ Site: 1 [2020 PM MAIN ST ROUNDABOUT]

New Site Site Category: (None) Roundabout

Move	ement P	erformance	e - Veh	icles								
Mov ID	Turn	Demand I Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance ft	Prop. Queued		Aver. No. Cycles	Average Speed mph
South	: RoadNa	ame										
3	L2	224	3.0	0.773	16.7	LOS C	13.8	354.0	0.77	0.61	0.96	28.1
8	T1	655	3.0	0.773	16.7	LOS C	13.8	354.0	0.77	0.61	0.96	28.2
18	R2	12	3.0	0.773	16.7	LOS C	13.8	354.0	0.77	0.61	0.96	27.8
Appro	ach	891	3.0	0.773	16.7	LOS C	13.8	354.0	0.77	0.61	0.96	28.2
East:	RoadNar	ne										
1	L2	45	3.0	0.167	10.1	LOS B	0.6	15.7	0.69	0.69	0.69	30.1
6	T1	28	3.0	0.167	10.1	LOS B	0.6	15.7	0.69	0.69	0.69	30.3
16	R2	5	3.0	0.167	10.1	LOS B	0.6	15.7	0.69	0.69	0.69	29.8
Appro	ach	78	3.0	0.167	10.1	LOS B	0.6	15.7	0.69	0.69	0.69	30.2
North	: RoadNa	ame										
7	L2	4	3.0	0.447	8.8	LOS A	2.5	65.1	0.58	0.49	0.58	31.5
4	T1	365	3.0	0.447	8.8	LOS A	2.5	65.1	0.58	0.49	0.58	31.7
14	R2	68	3.0	0.447	8.8	LOS A	2.5	65.1	0.58	0.49	0.58	31.1
Appro	ach	438	3.0	0.447	8.8	LOS A	2.5	65.1	0.58	0.49	0.58	31.6
West:	RoadNa	me										
5	L2	121	3.0	0.298	7.4	LOS A	1.4	35.9	0.57	0.52	0.57	31.4
2	T1	17	3.0	0.298	7.4	LOS A	1.4	35.9	0.57	0.52	0.57	31.6
12	R2	121	3.0	0.298	7.4	LOS A	1.4	35.9	0.57	0.52	0.57	31.1
Appro	ach	259	3.0	0.298	7.4	LOS A	1.4	35.9	0.57	0.52	0.57	31.3
All Ve	hicles	1666	3.0	0.773	12.9	LOS B	13.8	354.0	0.68	0.56	0.79	29.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies. Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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₩ Site: 1 [2020 AM CSAH 34 ROUNDABOUT]

New Site Site Category: (None) Roundabout

Move	ement P	erformance	e - Veh	icles								
Mov ID	Turn	Demand I Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Speed
South	: RoadNa		70	V/C	Sec	_	ven	п	_	_	_	mph
3	L2	28	3.0	0.277	5.4	LOS A	1.5	38.0	0.25	0.12	0.25	34.8
8	T1	300	3.0	0.277	5.4	LOS A	1.5	38.0	0.25	0.12	0.25	34.8
18	R2	14	3.0	0.277	5.4	LOS A	1.5	38.0	0.25	0.12	0.25	33.8
Appro	ach	342	3.0	0.277	5.4	LOS A	1.5	38.0	0.25	0.12	0.25	34.7
East:	RoadNa	ne										
1	L2	16	3.0	0.087	4.6	LOS A	0.4	9.2	0.45	0.33	0.45	34.8
6	T1	8	3.0	0.087	4.6	LOS A	0.4	9.2	0.45	0.33	0.45	34.8
16	R2	59	3.0	0.087	4.6	LOS A	0.4	9.2	0.45	0.33	0.45	33.7
Appro	ach	83	3.0	0.087	4.6	LOS A	0.4	9.2	0.45	0.33	0.45	34.1
North	: RoadNa	ame										
7	L2	67	3.0	0.514	8.4	LOS A	3.9	100.9	0.29	0.13	0.29	33.3
4	T1	584	3.0	0.514	8.4	LOS A	3.9	100.9	0.29	0.13	0.29	33.2
14	R2	1	3.0	0.514	8.4	LOS A	3.9	100.9	0.29	0.13	0.29	32.3
Appro	ach	652	3.0	0.514	8.4	LOS A	3.9	100.9	0.29	0.13	0.29	33.2
West:	RoadNa	me										
5	L2	1	3.0	0.177	7.5	LOS A	0.7	18.1	0.62	0.62	0.62	33.9
2	T1	8	3.0	0.177	7.5	LOS A	0.7	18.1	0.62	0.62	0.62	33.8
12	R2	109	3.0	0.177	7.5	LOS A	0.7	18.1	0.62	0.62	0.62	32.8
Appro	ach	117	3.0	0.177	7.5	LOS A	0.7	18.1	0.62	0.62	0.62	32.9
All Ve	hicles	1195	3.0	0.514	7.2	LOS A	3.9	100.9	0.32	0.19	0.32	33.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies. Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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₩ Site: 1 [2020 PM CSAH 34 ROUNDABOUT]

New Site Site Category: (None) Roundabout

Move	ement P	erformance	e - Veh	icles								
Mov	Turn	Demand F		Deg.	Average	Level of	95% Back		Prop.		Aver. No.	
ID		Total	HV	Satn	Delay	Service	Vehicles	Distance	Queued	Stop Rate	Cycles	Speed
South	: RoadNa	veh/h	%	v/c	sec		veh	ft				mph
3	L2	112	3.0	0.672	12.2	LOS B	6.6	168.8	0.53	0.30	0.53	31.4
-	T1					LOS B						31.4
8		664	3.0	0.672	12.2		6.6	168.8	0.53	0.30	0.53	
18	R2	39	3.0	0.672	12.2	LOS B	6.6	168.8	0.53	0.30	0.53	30.6
Appro	ach	815	3.0	0.672	12.2	LOS B	6.6	168.8	0.53	0.30	0.53	31.4
East:	RoadNar	ne										
1	L2	10	3.0	0.269	9.7	LOS A	1.1	27.9	0.68	0.68	0.68	32.6
6	T1	5	3.0	0.269	9.7	LOS A	1.1	27.9	0.68	0.68	0.68	32.6
16	R2	143	3.0	0.269	9.7	LOS A	1.1	27.9	0.68	0.68	0.68	31.7
Appro	ach	159	3.0	0.269	9.7	LOS A	1.1	27.9	0.68	0.68	0.68	31.8
North	: RoadNa	me										
7	L2	80	3.0	0.396	7.0	LOS A	2.4	61.0	0.38	0.23	0.38	33.7
4	T1	371	3.0	0.396	7.0	LOS A	2.4	61.0	0.38	0.23	0.38	33.7
14	R2	13	3.0	0.396	7.0	LOS A	2.4	61.0	0.38	0.23	0.38	32.7
Appro	ach	464	3.0	0.396	7.0	LOS A	2.4	61.0	0.38	0.23	0.38	33.7
West:	RoadNa	me										
5	L2	3	3.0	0.125	5.6	LOS A	0.5	13.1	0.53	0.45	0.53	34.8
2	T1	11	3.0	0.125	5.6	LOS A	0.5	13.1	0.53	0.45	0.53	34.7
12	R2	89	3.0	0.125	5.6	LOS A	0.5	13.1	0.53	0.45	0.53	33.7
Appro		103	3.0	0.125	5.6	LOSA	0.5	13.1	0.53	0.45	0.53	33.8
All Ve	hicles	1541	3.0	0.672	9.9	LOS A	6.6	168.8	0.50	0.33	0.50	32.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies. Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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APPENDIX C

2040 Intersection Capacity Analysis Reports

2040 AM SIGNALIZED 3: Mantorville Ave & Main St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	eî 👘		ሻ	ef 👘	
Traffic Volume (veh/h)	125	4	136	135	26	1	55	267	5	0	417	60
Future Volume (veh/h)	125	4	136	135	26	1	55	267	5	0	417	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	166	5	180	179	34	1	73	354	7	0	553	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	29	254	411	69	2	315	701	14	508	610	88
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.09	0.38	0.38	0.00	0.38	0.38
Sat Flow, veh/h	688	94	823	974	224	6	1781	1828	36	1781	1598	231
Grp Volume(v), veh/h	351	0	0	214	0	0	73	0	361	0	0	633
Grp Sat Flow(s),veh/h/ln	1606	0	0	1204	0	0	1781	0	1864	1781	0	1829
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	1.4	0.0	8.9	0.0	0.0	19.6
Cycle Q Clear(g_c), s	10.8	0.0	0.0	9.4	0.0	0.0	1.4	0.0	8.9	0.0	0.0	19.6
Prop In Lane	0.47		0.51	0.84	-	0.00	1.00	-	0.02	1.00	-	0.13
Lane Grp Cap(c), veh/h	583	0	0	481	0	0	315	0	714	508	0	698
V/C Ratio(X)	0.60	0.00	0.00	0.44	0.00	0.00	0.23	0.00	0.51	0.00	0.00	0.91
Avail Cap(c_a), veh/h	583	0	0	481	0	0	315	0	714	508	0	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	18.0	0.0	0.0	17.5	0.0	0.0	12.4	0.0	14.1	0.0	0.0	17.5
Incr Delay (d2), s/veh	4.5	0.0	0.0	3.0	0.0	0.0	1.7	0.0	2.5	0.0	0.0	17.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	4.5	0.0	0.0	2.7	0.0	0.0	0.6	0.0	3.8	0.0	0.0	10.6
Unsig. Movement Delay, s/veh		0.0	0.0	20.5	0.0	0.0	14.2	0.0	16.7	0.0	0.0	35.2
LnGrp Delay(d),s/veh LnGrp LOS	22.6 C	0.0 A	0.0 A	20.5 C	0.0 A	0.0 A	14.Z B	0.0 A	10.7 B	0.0 A	0.0 A	
	C	351	A	C	214	A	D		D	A		<u> </u>
Approach Vol, veh/h Approach Delay, s/veh		35T 22.6			214			434 16.3			633 35.2	
, II , J.												
Approach LOS		С			С			В			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	27.5		23.0	9.6	27.4		23.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.0		18.5	5.1	22.9		18.5				
Max Q Clear Time (g_c+l1), s	0.0	10.9		12.8	3.4	21.6		11.4				
Green Ext Time (p_c), s	0.0	1.7		1.1	0.0	0.6		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			25.5									
HCM 6th LOS			С									

2040 AM SIGNALIZED 6: Mantorville Ave & CSAH 34

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<u>स</u> ्	1		र्भ	1	<u>۲</u>	f,		ሻ	4	
Traffic Volume (veh/h)	0	7	100	15	7	54	26	276	13	62	537	1
Future Volume (veh/h)	0	7	100	15	7	54	26	276	13	62	537	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	9	133	20	9	72	34	366	17	82	712	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	673	571	450	181	571	238	816	38	464	859	1
Arrive On Green	0.00	0.36	0.36	0.36	0.36	0.36	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	0	1870	1585	911	503	1585	737	1773	82	1000	1867	3
Grp Volume(v), veh/h	0	9	133	29	0	72	34	0	383	82	0	713
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1414	0	1585	737	0	1856	1000	0	1870
Q Serve(g_s), s	0.0	0.2	2.9	0.0	0.0	1.5	2.1	0.0	7.0	3.0	0.0	16.6
Cycle Q Clear(g_c), s	0.0	0.2	2.9	0.5	0.0	1.5	18.8	0.0	7.0	10.1	0.0	16.6
Prop In Lane	0.00		1.00	0.69		1.00	1.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	0	673	571	631	0	571	238	0	854	464	0	860
V/C Ratio(X)	0.00	0.01	0.23	0.05	0.00	0.13	0.14	0.00	0.45	0.18	0.00	0.83
Avail Cap(c_a), veh/h	0	673	571	631	0	571	238	0	854	464	0	860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.3	11.2	10.4	0.0	10.7	20.0	0.0	9.2	12.6	0.0	11.8
Incr Delay (d2), s/veh	0.0	0.0	1.0	0.1	0.0	0.5	1.3	0.0	1.7	0.8	0.0	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	0.0	0.1	1.0	0.2	0.0	0.5	0.4	0.0	2.6	0.7	0.0	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.3	12.1	10.5	0.0	11.2	21.2	0.0	10.9	13.4	0.0	20.9
LnGrp LOS	A	В	В	В	Α	В	С	A	В	В	A	С
Approach Vol, veh/h		142			101			417			795	
Approach Delay, s/veh		12.0			11.0			11.7			20.1	
Approach LOS		В			В			В			С	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.5		22.5		27.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.0		18.0		23.0		18.0				
Max Q Clear Time (g_c+I1), s		20.8		4.9		18.6		3.5				
Green Ext Time (p_c), s		0.6		0.3		2.1		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			16.3									
HCM 6th LOS			В									

2040 PM SIGNALIZED 3: Mantorville Ave & Main St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		.			.		<u> </u>	ef 👘		- ሽ	ef 👘	
Traffic Volume (veh/h)	111	16	111	41	26	5	206	603	11	4	336	63
Future Volume (veh/h)	111	16	111	41	26	5	206	603	11	4	336	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	21	147	54	34	7	273	800	15	5	446	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	39	179	240	138	24	491	927	17	427	679	128
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.26	1.00	1.00	0.07	0.44	0.44
Sat Flow, veh/h	670	158	725	669	561	98	1781	1830	34	1781	1530	288
Grp Volume(v), veh/h	315	0	0	95	0	0	273	0	815	5	0	530
Grp Sat Flow(s),veh/h/ln	1553	0	0	1328	0	0	1781	0	1864	1781	0	1818
Q Serve(g_s), s	10.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	17.2
Cycle Q Clear(g_c), s	14.1	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	17.2
Prop In Lane	0.47	0	0.47	0.57	0	0.07	1.00	0	0.02	1.00	0	0.16
Lane Grp Cap(c), veh/h	454	0	0	403	0	0	491	0	945	427	0	807
V/C Ratio(X)	0.69	0.00	0.00	0.24	0.00	0.00	0.56	0.00	0.86	0.01 427	0.00	0.66
Avail Cap(c_a), veh/h HCM Platoon Ratio	454	0 1.00	0 1.00	403 1.00	0 1.00	0 1.00	491 2.00	0 2.00	945 2.00	427	0 1.00	807 1.00
Upstream Filter(I)	1.00 1.00	0.00	0.00	1.00	0.00	0.00	2.00	0.00	2.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.4	0.00	0.00	22.6	0.00	0.00	19.9	0.00	0.0	13.1	0.00	16.4
Incr Delay (d2), s/veh	20.4 8.5	0.0	0.0	1.4	0.0	0.0	4.5	0.0	10.3	0.0	0.0	4.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	4.J 0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	0.0	1.4	0.0	0.0	4.2	0.0	2.7	0.0	0.0	7.4
Unsig. Movement Delay, s/veh		0.0	0.0	1.4	0.0	0.0	7.2	0.0	2.1	0.1	0.0	Г.Т
LnGrp Delay(d),s/veh	34.9	0.0	0.0	24.0	0.0	0.0	24.4	0.0	10.3	13.1	0.0	20.5
LnGrp LOS	C	A	A	24.0 C	A	A	24.4 C	A	В	B	A	20.0 C
Approach Vol, veh/h	0	315		0	95		0	1088	D	D	535	
Approach Delay, s/veh		34.9			24.0			13.8			20.4	
Approach LOS		C			C 24.0			B			C	
											0	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	42.5		23.0	14.2	37.8		23.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	38.0		18.5	9.7	33.3		18.5				
Max Q Clear Time (g_c+l1), s	2.1	2.0		16.1	2.0	19.2		5.9				
Green Ext Time (p_c), s	0.0	7.4		0.4	0.5	3.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			19.3									
HCM 6th LOS			В									

2040 PM SIGNALIZED 6: Mantorville Ave & CSAH 34

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		- सी	1		- सी	1	<u> </u>	ef 👘			ef 👘	
Traffic Volume (veh/h)	3	10	82	9	5	132	103	611	36	74	341	12
Future Volume (veh/h)	3	10	82	9	5	132	103	611	36	74	341	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	13	109	12	7	175	137	810	48	98	452	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	360	391	288	152	391	568	1107	66	300	1137	40
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	264	1460	1585	852	615	1585	925	1748	104	644	1795	64
Grp Volume(v), veh/h	17	0	109	19	0	175	137	0	858	98	0	468
Grp Sat Flow(s),veh/h/ln	1724	0	1585	1467	0	1585	925	0	1852	644	0	1859
Q Serve(g_s), s	0.0	0.0	4.2	0.0	0.0	7.0	6.4	0.0	23.7	9.2	0.0	9.3
Cycle Q Clear(g_c), s	0.5	0.0	4.2	0.6	0.0	7.0	15.6	0.0	23.7	32.9	0.0	9.3
Prop In Lane	0.24		1.00	0.63		1.00	1.00		0.06	1.00		0.03
Lane Grp Cap(c), veh/h	484	0	391	440	0	391	568	0	1173	300	0	1177
V/C Ratio(X)	0.04	0.00	0.28	0.04	0.00	0.45	0.24	0.00	0.73	0.33	0.00	0.40
Avail Cap(c_a), veh/h	484	0	391	440	0	391	568	0	1173	300	0	1177
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	22.9	21.5	0.0	23.9	10.6	0.0	9.4	20.7	0.0	6.7
Incr Delay (d2), s/veh	0.1	0.0	1.8	0.2	0.0	3.7	1.0	0.0	4.0	2.9	0.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	0.2	0.0	1.7	0.3	0.0	2.9	1.3	0.0	8.9	1.6	0.0	3.3
Unsig. Movement Delay, s/veh			<u></u>	04 7		07 (10.1	00.5		
LnGrp Delay(d),s/veh	21.6	0.0	24.6	21.7	0.0	27.6	11.6	0.0	13.4	23.5	0.0	7.7
LnGrp LOS	С	A	С	С	A	С	В	A	В	С	A	<u> </u>
Approach Vol, veh/h		126			194			995			566	
Approach Delay, s/veh		24.2			27.0			13.2			10.5	_
Approach LOS		С			С			В			В	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		23.0		52.0		23.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		47.5		18.5		47.5		18.5				
Max Q Clear Time (g_c+I1), s		25.7		6.2		34.9		9.0				
Green Ext Time (p_c), s		7.8		0.3		3.1		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			14.5									
HCM 6th LOS			В									

₩ Site: 1 [2040 AM MAIN ST ROUNDABOUT]

New Site Site Category: (None) Roundabout

Move	ement P	erformance	e - Veh	icles								
Mov	Turn	Demand I		Deg.	Average	Level of	95% Back		Prop.		Aver. No.	
ID		Total veh/h	HV %	Satn v/c	Delay sec	Service	Vehicles veh	Distance ft	Queued	Stop Rate	Cycles	Speed mph
South	: RoadN		70	V/0	000		VOIT					тірп
3	L2	73	3.0	0.388	7.2	LOS A	2.2	57.5	0.44	0.30	0.44	32.0
8	T1	354	3.0	0.388	7.2	LOS A	2.2	57.5	0.44	0.30	0.44	32.2
18	R2	7	3.0	0.388	7.2	LOS A	2.2	57.5	0.44	0.30	0.44	31.6
Appro	ach	434	3.0	0.388	7.2	LOS A	2.2	57.5	0.44	0.30	0.44	32.2
East:	RoadNa	me										
1	L2	179	3.0	0.300	8.6	LOS A	1.3	33.7	0.64	0.64	0.64	30.3
6	T1	35	3.0	0.300	8.6	LOS A	1.3	33.7	0.64	0.64	0.64	30.5
16	R2	1	3.0	0.300	8.6	LOS A	1.3	33.7	0.64	0.64	0.64	30.0
Appro	ach	215	3.0	0.300	8.6	LOS A	1.3	33.7	0.64	0.64	0.64	30.4
North	RoadNa	ame										
7	L2	1	3.0	0.639	13.0	LOS B	7.7	196.7	0.72	0.78	1.07	29.8
4	T1	553	3.0	0.639	13.0	LOS B	7.7	196.7	0.72	0.78	1.07	29.9
14	R2	79	3.0	0.639	13.0	LOS B	7.7	196.7	0.72	0.78	1.07	29.4
Appro	ach	634	3.0	0.639	13.0	LOS B	7.7	196.7	0.72	0.78	1.07	29.9
West:	RoadNa	ime										
5	L2	166	3.0	0.568	16.0	LOS C	3.9	100.3	0.79	0.95	1.29	28.0
2	T1	5	3.0	0.568	16.0	LOS C	3.9	100.3	0.79	0.95	1.29	28.2
12	R2	180	3.0	0.568	16.0	LOS C	3.9	100.3	0.79	0.95	1.29	27.7
Appro	ach	352	3.0	0.568	16.0	LOS C	3.9	100.3	0.79	0.95	1.29	27.9
All Ve	hicles	1635	3.0	0.639	11.5	LOS B	7.7	196.7	0.65	0.67	0.90	30.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies. Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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₩ Site: 1 [2040 PM MAIN ST ROUNDABOUT]

New Site Site Category: (None) Roundabout

Move	ement P	erformance	e - Veh	icles								
Mov	Turn	Demand I		Deg.	Average	Level of	95% Back		Prop.		Aver. No.	
ID		Total	HV	Satn	Delay	Service	Vehicles	Distance	Queued	Stop Rate	Cycles	Speed
South	: RoadN	veh/h	%	v/c	sec	_	veh	ft	_	_	_	mph
3	L2	273	3.0	0.974	40.3	LOS E	58.8	1504.6	1.00	1.55	2.66	21.7
-	T1					LOS E						21.7
8		800	3.0	0.974	40.3		58.8	1504.6	1.00	1.55	2.66	
18	R2	14	3.0	0.974	40.3	LOS E	58.8	1504.6	1.00	1.55	2.66	21.5
Appro	ach	1087	3.0	0.974	40.3	LOS E	58.8	1504.6	1.00	1.55	2.66	21.7
East:	RoadNa	me										
1	L2	54	3.0	0.257	14.3	LOS B	0.9	24.1	0.78	0.79	0.82	28.5
6	T1	35	3.0	0.257	14.3	LOS B	0.9	24.1	0.78	0.79	0.82	28.7
16	R2	7	3.0	0.257	14.3	LOS B	0.9	24.1	0.78	0.79	0.82	28.2
Appro	ach	96	3.0	0.257	14.3	LOS B	0.9	24.1	0.78	0.79	0.82	28.6
North	: RoadNa	ame										
7	L2	5	3.0	0.584	12.2	LOS B	5.6	142.4	0.72	0.79	1.04	30.1
4	T1	446	3.0	0.584	12.2	LOS B	5.6	142.4	0.72	0.79	1.04	30.3
14	R2	84	3.0	0.584	12.2	LOS B	5.6	142.4	0.72	0.79	1.04	29.7
Appro	ach	535	3.0	0.584	12.2	LOS B	5.6	142.4	0.72	0.79	1.04	30.2
West:	RoadNa	me										
5	L2	147	3.0	0.400	9.6	LOS A	2.1	54.8	0.66	0.69	0.74	30.5
2	T1	22	3.0	0.400	9.6	LOS A	2.1	54.8	0.66	0.69	0.74	30.7
12	R2	147	3.0	0.400	9.6	LOS A	2.1	54.8	0.66	0.69	0.74	30.1
Appro		315	3.0	0.400	9.6	LOSA	2.1	54.8	0.66	0.69	0.74	30.3
All Ve	hicles	2033	3.0	0.974	26.9	LOS D	58.8	1504.6	0.86	1.18	1.85	24.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies. Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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₩ Site: 1 [2040 AM CSAH 34 ROUNDABOUT]

New Site Site Category: (None) Roundabout

Movement Performance - Vehicles													
Mov ID	Turn	Demand F Total	ΗV	Deg. Satn	Average Delay	Level of Service	95% Back Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Speed	
South	: RoadN	veh/h	%	v/c	sec		veh	ft				mph	
		34	0.0	0.040	0.0		0.0	50.0	0.04	0.40	0.04	04.4	
3	L2		3.0	0.343	6.2	LOS A	2.0	50.6	0.31	0.16	0.31	34.4	
8	T1	366	3.0	0.343	6.2	LOS A	2.0	50.6	0.31	0.16	0.31	34.4	
18	R2	17	3.0	0.343	6.2	LOS A	2.0	50.6	0.31	0.16	0.31	33.4	
Appro	ach	417	3.0	0.343	6.2	LOS A	2.0	50.6	0.31	0.16	0.31	34.3	
East:	RoadNa	me											
1	L2	20	3.0	0.114	5.2	LOS A	0.5	12.0	0.50	0.40	0.50	34.5	
6	T1	9	3.0	0.114	5.2	LOS A	0.5	12.0	0.50	0.40	0.50	34.5	
16	R2	72	3.0	0.114	5.2	LOS A	0.5	12.0	0.50	0.40	0.50	33.5	
Appro	ach	100	3.0	0.114	5.2	LOS A	0.5	12.0	0.50	0.40	0.50	33.7	
North	RoadNa	ame											
7	L2	83	3.0	0.636	10.9	LOS B	6.1	155.7	0.40	0.19	0.40	32.1	
4	T1	713	3.0	0.636	10.9	LOS B	6.1	155.7	0.40	0.19	0.40	32.0	
14	R2	2	3.0	0.636	10.9	LOS B	6.1	155.7	0.40	0.19	0.40	31.2	
Appro	ach	798	3.0	0.636	10.9	LOS B	6.1	155.7	0.40	0.19	0.40	32.0	
West:	RoadNa	me											
5	L2	1	3.0	0.250	9.7	LOS A	1.0	25.5	0.68	0.68	0.68	32.8	
2	T1	9	3.0	0.250	9.7	LOS A	1.0	25.5	0.68	0.68	0.68	32.7	
12	R2	133	3.0	0.250	9.7	LOS A	1.0	25.5	0.68	0.68	0.68	31.8	
Appro		142	3.0	0.250	9.7	LOSA	1.0	25.5	0.68	0.68	0.68	31.8	
All Ve	hicles	1458	3.0	0.636	9.0	LOS A	6.1	155.7	0.41	0.24	0.41	32.8	

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies. Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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₩ Site: 1 [2040 PM CSAH 34 ROUNDABOUT]

New Site Site Category: (None) Roundabout

Move	ement P	erformance	e - Veh	icles								
Mov	Turn	Demand I		Deg.	Average	Level of	95% Back		Prop.		Aver. No.	
ID		Total	HV	Satn	Delay	Service	Vehicles	Distance	Queued	Stop Rate	Cycles	Speed
South	: RoadNa	veh/h	%	v/c	sec		veh	ft				mph
3	L2	137	3.0	0.839	20.6	LOS C	17.6	451.2	0.87	0.63	1.01	28.2
-	T1					LOS C						28.1
8		811	3.0	0.839	20.6		17.6	451.2	0.87	0.63	1.01	
18	R2	48	3.0	0.839	20.6	LOS C	17.6	451.2	0.87	0.63	1.01	27.5
Appro	ach	996	3.0	0.839	20.6	LOS C	17.6	451.2	0.87	0.63	1.01	28.1
East:	RoadNar	ne										
1	L2	12	3.0	0.393	13.9	LOS B	1.8	46.8	0.74	0.81	0.98	30.7
6	T1	7	3.0	0.393	13.9	LOS B	1.8	46.8	0.74	0.81	0.98	30.7
16	R2	175	3.0	0.393	13.9	LOS B	1.8	46.8	0.74	0.81	0.98	29.9
Appro	ach	193	3.0	0.393	13.9	LOS B	1.8	46.8	0.74	0.81	0.98	29.9
North	: RoadNa	ame										
7	L2	98	3.0	0.499	8.8	LOS A	3.4	86.2	0.48	0.32	0.48	32.9
4	T1	453	3.0	0.499	8.8	LOS A	3.4	86.2	0.48	0.32	0.48	32.8
14	R2	16	3.0	0.499	8.8	LOS A	3.4	86.2	0.48	0.32	0.48	31.9
Appro	ach	567	3.0	0.499	8.8	LOS A	3.4	86.2	0.48	0.32	0.48	32.8
West:	RoadNa	me										
5	L2	4	3.0	0.170	6.7	LOS A	0.7	17.8	0.59	0.55	0.59	34.2
2	T1	13	3.0	0.170	6.7	LOS A	0.7	17.8	0.59	0.55	0.59	34.1
12	R2	109	3.0	0.170	6.7	LOS A	0.7	17.8	0.59	0.55	0.59	33.1
Appro		126	3.0	0.170	6.7	LOSA	0.7	17.8	0.59	0.55	0.59	33.3
All Ve	hicles	1883	3.0	0.839	15.4	LOS C	17.6	451.2	0.72	0.55	0.82	29.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies. Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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APPENDIX D

Warrants

MnDOT Warrants:

	Met	Not Met
A. Where traffic control signals are justified, the multiway stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.	\checkmark	
B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and leftturn collisions as well as right-angle collisions.	\checkmark	
C. Minimum volumes:		
1 The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and	\checkmark	
2 The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but	\checkmark	
3 If the 85th-percentile approach speed of the major street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.		~
 D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition. 		✓

MnDOT Warrants:

	Met	Not Met
A. Where traffic control signals are justified, the multiway stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.	\checkmark	
B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and leftturn collisions as well as right-angle collisions.	\checkmark	
C. Minimum volumes:		
1 The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and	\checkmark	
2 The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but		~
3 If the 85th-percentile approach speed of the major street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.		~
 D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition. 		~

				Sig	nal Wa	rrants A	nalysis					
File Name:			-	2020Warran	its.xsw							
Analyst:			L	WHKS								
Agency:			l	WHKS								
Date Perform	med:		4	4/21/2020								
Time Analyze				2020								
Analysis Yea			-	2020								
Project Des				MANTORVILL	F / MA	тм						
Units:	ci ipcion.			U.S. Custo	-	TIN						
UNITS.			l	0.3. Custo	mary							
Maian Cturned	t Dinasti	and Nonth	Cauth			General_	- (10, 000	Ver				
Major Street			-South				n <10,000 ed Signal		• No			
Starting Tir							er Year:		. NO			
Median Type										1+		Na
Major Street Nearest Sign					A	dequate	Trials of	Crash	Experien	ce Alteri	natives:	NO
Ū												
Number of St	tudents i	n Highest	Hour:				adway Net re Major		No			
Number of Ad							Count: No					
Number of M:				-			owth Fact	or $(%)$.	0			
Number of M.			~		J	ycar di	Swen ract	5. (//).	0			
Cread = C	ing Ar					oad Cros						
Grade Cross:							fic (trai					
Highest Volu				ĸnown			pancy Bus					
Distance to	Stop Lir	ne (ft): 5	5		T	ractor-T	railer Tr	ucks (%): 10			
	[-	astbound			eometr tbound	y and Tr		rthboun	d	c/	outhboun	
	Ea	T	R	l wes	Т	R		T	R		T	R
		I	ĸ	L 	I	N		I	ĸ		1	ĸ
No. Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Lane Usage	! •	LTR	•		LTR	U U	i ī	- TR	•	i L	TR	•
	·			I								
Traffic Volu		n∕h) astbound		l Mor	tbound		l No	rthboun	d	c/	outhboun	ч
	Ea	T	R	l L wes	T	R		T	R		T	R
Hour			ix.	, L 		IX.		I	IX.		•	i c
07 - 08	128	4	0	138	27	0	56	272	5	0	425	61
08 - 09	26	4	0	47	10	0	82	174	6		250	40
09 - 10	26	1	0	26	6	0	106	155	8		215	28
10 - 11	33	10	0	20	7	0	1117	169	8		192	35
10 - 11	34	9	0	24	9	0	94	231	6		239	37
	1						1			1		
12 - 13		12	0	28	11	0		248	9		218	44
13 - 14	46	8	0	23	8	0	115	208	11	2	241	47
14 - 15	56	7	0		3	0	132	327	12	1	229	50
15 - 16	93	13	0	52	21	0	173	412	8	1	371	68
16 - 17	120	16	0	35	17	0	197	616	13	2	328	69
17 - 18	113	16	0	42	27	0	210	615	11	4	343	64
18 - 19	59	10	0	19	6	0	116	366	3	1	245	29
Pedestrian \	Volumes a	and Gaps (Per Hoi	ur)								
		astbound			tbound		No.	rthboun	d	5	outhboun	d
	Gaps		ume	Gaps		olume	Gaps		olume	Gap		olume
Hour	3005						3005	v		300	- v	
07 - 08	0	0		0		2	0		0	0		0
08 - 09	0	2		0		2	0		0	0		0
09 - 10	0	2		0		2			0			0
10 - 11	0	2		0		5			0			2
	!						1			-		
11 - 12	0	0		0		2			1			0
12 - 13	0	0		0		3			0	0		1
13 - 14	0	1		0		4	0		1	0		4
14 - 15	0	1		0		5	0		0	0		3
15 - 16	0	2		0		5	0		2	0		6
16 - 17	0	1		0		5	0		0	0		0
17 - 18	0	0		0		2	0		0	0		1
18 - 19	0	0		0		0	0		0	0		0

	Eastbo	ound	Westbo	ound	North	bound	South!	oound
	secs/veh	veh-hrs	secs/veh	veh-hrs	secs/veh	veh-hrs	secs/veh	veh-hrs
Hour								
07 - 08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08 - 09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
09 - 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 - 11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 - 12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 - 13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 - 14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 - 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 - 16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 - 17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 - 18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 - 19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Summary													
	Major	Minor	Total	1A	1A	1B	1B	2	3A	3B	4A	4B	
	Volume	Volume	Volume	70%	56%	70%	56%	70%	70%	70%	70%	70%	
Hour													
07 - 08	819	165	1116	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	
08 - 09	553	57	640	No	No	No	Yes	No	No	No	No	No	
09 - 10	513	32	572	No									
10 - 11	524	43	598	No	No	No	Yes	No	No	No	No	No	
11 - 12	607	43	685	No	No	No	Yes	No	No	No	No	No	
12 - 13	641	53	733	No	No	Yes	Yes	No	No	No	No	No	
13 - 14	624	54	709	No	No	No	Yes	No	No	No	No	No	
14 - 15	751	63	835	No	No	Yes	Yes	No	No	No	No	No	
15 - 16	1033	106	1212	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	
16 - 17	1225	136	1413	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	
17 - 18	1247	129	1445	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	
18 - 19	760	69	854	No	No	Yes	Yes	No	No	No	No	No	
Total	9297	950	10812	4	4	7	11	4	0	4	0	0	

Results	
Warrant 1: Eight-Hour Vehicular Volume	[]
A. Minimum Vehicular Volumes	[]
B. Interruption of Continuous Traffic	[]
56% Vehicularand Interruption Volumes	[]
Warrant 2: Four-Hour Vehicular Volume	[X]
Four-Hour Vehicular Volumes	[X]
Warrant 3: Peak Hour	[X]
A. Peak-Hour Conditions	[]
B. Peak-Hour Vehicular Volume Hours Met	[X]
Warrant 4: Pedestrian Volume	[]
A. Four Hour Volumes	[]
B. One-Hour Volumes	[]
Warrant 5: School Crossing Gaps Same Period Student Volumes Nearest Traffic Control Signal	[] [] []
Warrant 6: Coordinated Signal System	[]
Degree of Platooning	[]
Warrant 7: Crash Experience A. Adequate Trials of Alternatives B. Reported Crashes C. 56% Volumes for Warrants 1A, 1Bor 4	[] [] [X]
Warrant 8: Roadway Network	[]
A. Weekday Volume	[]
B. Weekend Volume	[]

Delay

Warrant 9: Grade Crossing

A. Grade Crossing within 140 ft --and--

B. Peak-Hour Vehicular Volumes

This text report was created in HCS™ Signal Warrants Version 7.7 on 4/21/2020 9:19:28 AM

[] [X] [] ___Signal Warrants Analysis______

					-		analysis					
File Name:				2040Warra	nts.xsw							
Analyst:				NHKS								
Agency:			I	NHKS								
Date Perform	med:		(04/21/202	0							
Time Analyze	ed:			2040								
Jurisdictior												
Analysis Yea				2040								
Project Desc				ANTORVIL	IF / ΜΔ	TN						
Units:	er iperon.			J.S. Cust	-	114						
JII1 C3 .			,	J.J. Cust	oliar y							
						General_						
lajor Street	t Directi	.on: Nor	th-South		P	opulatic	on <10,000					
Starting Tir	ne Interv	al: 7			C	oordinat	ed Signal:	l System	: No			
Aedian Type:	: Undivid	led			C	rashes F	Per Year:	2				
lajor Street	t Speed (_mi/h):	30		A	dequate	Trials of	F Crash	Experien	ce Alter	natives:	No
learest Sign	nal (ft):	0				-			-			
lumber of St	tudorta i	n Uigha	st Hour:				badway Net		No			
							ore Major	Rouces:	NO			
lumber of Ad				0			Count: No	1012	•			
lumber of Mi	inutes in	Period	: 0		5	-year Gr	owth Fact	cor (%):	0			
					Railn	oad Cros	sing					
Grade Cross	ing Appro	ach: NB	or EB				fic (trai	ins/dav)	: 4			
Highest Volu				known			ipancy Bus					
Distance to							railer Tr					
-scance to	Stob LTU		22		1			ack3 (//	,. 10			
					Geometr	y and Tr	affic					
	Ea	stbound			stbound			orthboun	d	5	outhboun	d
	L	Т	R	L	T	R	L	Т	R	ĹĹ	Т	R
	İ			İ			_i			İ		
lo. Lanes	0	1	0	0	1	0	1	1	0	1	1	0
ane Usage		LTR			LTR		L	TR		L	TR	
raffic Volu				1./~	cthourd		N-	nthhour	Ч		outhhour	А
		stbound T			stbound T	-		orthboun		i .	outhboun T	
	L	Т	R	L	Т	R		Т	R	L	Т	R
our							-					
07 - 08	156	5	0	168	32	0	68	332	6	0	519	75
8 - 09	31	5	0	57	12	0	100	213	7	1	305	49
9 - 10	31	1	0	31	7	0	129	189	10	1	263	34
.0 - 11	40	12	0	30	9	0	143	207	10	4	234	42
1 - 12	41	11	0	31	11	0	115	281	7	j ø	291	45
	50	15	0	34	14	0	148	302	11	1	266	54
2 - 13			õ	29					14	2	294	57
		10			10	0	141	254	14			
.3 - 14	56	10 9			10 4	0 0	141 161	254 400		:		61
.3 - 14 .4 - 15	56 68	9	0	22	4	0	161	400	15	1	279	61 83
.3 - 14 .4 - 15 .5 - 16	56 68 113	9 16	0 0	22 63	4 26	0 0	161 212	400 503	15 10	1 1	279 453	83
.3 - 14 .4 - 15 .5 - 16 .6 - 17	56 68 113 147	9 16 20	0 0 0	22 63 42	4 26 21	0 0 0	161 212 240	400 503 752	15 10 16	1 1 2	279 453 401	83 85
.3 - 14 .4 - 15 .5 - 16 .6 - 17 .7 - 18	56 68 113 147 138	9 16 20 20	0 0 0 0	22 63 42 51	4 26 21 32	0 0 0 0	161 212 240 256	400 503 752 751	15 10 16 14	1 1 2 5	279 453 401 418	83 85 78
3 - 14 4 - 15 5 - 16 6 - 17 7 - 18	56 68 113 147	9 16 20	0 0 0	22 63 42	4 26 21	0 0 0	161 212 240	400 503 752	15 10 16	1 1 2	279 453 401	83 85
.3 - 14 .4 - 15 .5 - 16 .6 - 17 .7 - 18 .8 - 19	56 68 113 147 138 72	9 16 20 20 12	0 0 0 0	22 63 42 51 24	4 26 21 32	0 0 0 0	161 212 240 256	400 503 752 751	15 10 16 14	1 1 2 5	279 453 401 418	83 85 78
13 - 14 14 - 15 15 - 16 16 - 17 17 - 18 18 - 19	56 68 113 147 138 72 /olumes a	9 16 20 20 12 and Gaps	0 0 0 0 5 (Per Hou	22 63 42 51 24	4 26 21 32 7	0 0 0 0	161 212 240 256 142	400 503 752 751	15 10 16 14 4	1 1 2 5 1	279 453 401 418	83 85 78 35
13 - 14 14 - 15 15 - 16 16 - 17 17 - 18 18 - 19	56 68 113 147 138 72 Volumes a Ea	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou	22 63 42 51 24 ur) We	4 26 21 32 7 stbound	0 0 0 0	161 212 240 256 142	400 503 752 751 447	15 10 16 14 4	1 2 5 1	279 453 401 418 299 outhbourn	83 85 78 35 d
3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 Pedestrian N	56 68 113 147 138 72 /olumes a	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou	22 63 42 51 24	4 26 21 32 7 stbound	0 0 0 0	161 212 240 256 142	400 503 752 751 447	15 10 16 14 4	1 1 2 5 1	279 453 401 418 299 outhbourn	83 85 78 35
.3 - 14 .4 - 15 .5 - 16 .6 - 17 .7 - 18 .8 - 19 Pedestrian N	56 68 113 147 138 72 /olumes a Ea Gaps	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou 1 /olume	22 63 42 51 24 ur) We Gaps	4 26 21 32 7 stbound	0 0 0 0 0	161 212 240 256 142 Mc Gaps	400 503 752 751 447	15 10 16 14 4 d	1 2 5 1 S Gap	279 453 401 418 299 outhbourn	83 85 78 35 d
3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 edestrian N our 7 - 08	56 68 113 147 138 72 /olumes a Ea 6 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou 7 0 0	22 63 42 51 24 We Gaps	4 26 21 32 7 stbound	0 0 0 0 0 0	161 212 240 256 142 Mc Gaps 	400 503 752 751 447	15 10 16 14 4 d olume	1 2 5 1 Gap 	279 453 401 418 299 outhbourn	83 85 78 35 d olume 0
3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 Pedestrian N lour 17 - 08 18 - 09	56 68 113 147 138 72 /olumes a Ea 6 0 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou 7 0 1 0 2	22 63 42 51 24 We Gaps 0 0	4 26 21 32 7 stbound	0 0 0 0 0 0 0 0 0 0 0	161 212 240 256 142 Mc Gaps 0 0	400 503 752 751 447	15 10 16 14 4 d olume	1 2 5 1 Gap 0 0	279 453 401 418 299 outhbourn	83 85 78 35 d olume 0 0
3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 Pedestrian N lour 97 - 08 98 - 09 99 - 10	56 68 113 147 138 72 /olumes a Ea 6 0 0 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou 7 0 1 0 0	22 63 42 51 24 We Gaps 0 0 0	4 26 21 32 7 stbound	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	161 212 240 256 142 6 6 0 0	400 503 752 751 447	15 10 16 14 4 d olume 0 0	1 2 5 1 Gap 0 0	279 453 401 418 299 outhbourn	83 85 78 35 d olume 0 0
3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 Pedestrian V lour 7 - 08 8 - 09 9 - 10 .0 - 11	56 68 113 147 138 72 /olumes a Ea 6 0 0 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou 7 0 1 0 2 0 2	22 63 42 51 24 6aps 0 0 0	4 26 21 32 7 stbound	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	161 212 240 256 142 6 6 0 0 0	400 503 752 751 447	15 10 16 14 4 olume 0 0 0	1 2 5 1 Gap 0 0 0	279 453 401 418 299 outhbourn	83 85 78 35 d olume 0 0 2
.3 - 14 .4 - 15 .5 - 16 .6 - 17 .7 - 18 .8 - 19 Pedestrian V lour 07 - 08 08 - 09 09 - 10 .0 - 11 .1 - 12	56 68 113 147 138 72 /olumes a Ea 6 0 0 0 0 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou 7 0 1 0 0 2 0 2 0	22 63 42 51 24 6aps 0 0 0 0 0	4 26 21 32 7 stbound	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	161 212 240 256 142 40 60 0 0 0 0	400 503 752 751 447	15 10 16 14 4 olume 0 0 0 0 1	1 2 5 1 Gap 0 0 0 0	279 453 401 418 299 outhbourn	83 85 78 35 d olume 0 0 2 0
.3 - 14 .4 - 15 .5 - 16 .6 - 17 .7 - 18 .8 - 19 Pedestrian V lour 07 - 08 08 - 09 09 - 10 .0 - 11 .1 - 12 .2 - 13	56 68 113 147 138 72 /olumes a Ea 6 0 0 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou 7 0 1 0 0 2 0 2 0 0 0	22 63 42 51 24 6aps 0 0 0	4 26 21 32 7 stbound	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	161 212 240 256 142 6 6 0 0 0	400 503 752 751 447	15 10 16 14 4 olume 0 0 0	1 2 5 1 Gap 0 0 0	279 453 401 418 299 outhbourn	83 85 78 35 d olume 0 0 2 0 1
.3 - 14 .4 - 15 .5 - 16 .6 - 17 .7 - 18 .8 - 19 Pedestrian V lour 07 - 08 08 - 09 09 - 10 .0 - 11 .1 - 12 .2 - 13	56 68 113 147 138 72 /olumes a Ea 6 0 0 0 0 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou 7 0 1 0 0 2 0 2 0	22 63 42 51 24 6aps 0 0 0 0 0	4 26 21 32 7 stbound	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	161 212 240 256 142 40 60 0 0 0 0	400 503 752 751 447	15 10 16 14 4 olume 0 0 0 0 1	1 2 5 1 Gap 0 0 0 0	279 453 401 418 299 outhbourn	83 85 78 35 d olume 0 0 2 0
 .3 - 14 .4 - 15 .5 - 16 .6 - 17 .7 - 18 .8 - 19 Pedestrian V Address Addres Addres Addres Addres	56 68 113 147 138 72 /olumes a Ea 6 0 0 0 0 0 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou 7 0 1 0 0 2 0 2 0 0 0	22 63 42 51 24 0 0 0 0 0 0 0 0	4 26 21 32 7 stbound	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	161 212 240 256 142 6 6 0 0 0 0 0 0 0 0	400 503 752 751 447	15 10 16 14 4 olume 0 0 0 0 1 0	1 2 5 1 Gap 0 0 0 0 0	279 453 401 418 299 outhbourn	83 85 78 35 d olume 0 0 2 0 1
 13 - 14 14 - 15 15 - 16 16 - 17 17 - 18 18 - 19 Pedestrian V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V<!--</td--><td> 56 68 113 147 138 72 /olumes a 2 6 6 0 0 0 0 0 0 0 0 0 0</td><td>9 16 20 20 12 and Gaps astbound</td><td>0 0 0 0 5 (Per Hou 7 0 1 2 0 2 0 1 1</td><td> 22 63 42 51 24 6 6 0 0 0 0 0 0 0 0 0 0</td><td>4 26 21 32 7 stbound</td><td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td> 161 212 240 256 142 6 6 0 0 0 0 0 0 0 0 0 0</td><td>400 503 752 751 447</td><td>15 10 16 14 4 olume 0 0 0 0 1 0 1</td><td> 1 2 5 1 Gap 0 0 0 0 0 0 0</td><td>279 453 401 418 299 outhbourn</td><td>83 85 78 35 0lume 0 0 2 0 1 4</td>	56 68 113 147 138 72 /olumes a 2 6 6 0 0 0 0 0 0 0 0 0 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 5 (Per Hou 7 0 1 2 0 2 0 1 1	22 63 42 51 24 6 6 0 0 0 0 0 0 0 0 0 0	4 26 21 32 7 stbound	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	161 212 240 256 142 6 6 0 0 0 0 0 0 0 0 0 0	400 503 752 751 447	15 10 16 14 4 olume 0 0 0 0 1 0 1	1 2 5 1 Gap 0 0 0 0 0 0 0	279 453 401 418 299 outhbourn	83 85 78 35 0lume 0 0 2 0 1 4
 13 - 14 14 - 15 15 - 16 16 - 17 17 - 18 18 - 19 Pedestrian V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V Point V<!--</td--><td> 56 68 113 147 138 72 /olumes a 2 6 6 0 0 0 0 0 0 0 0 0 0</td><td>9 16 20 20 12 and Gaps astbound</td><td>0 0 0 0 3 (Per Hou 7 0 1 2 0 2 0 2 0 1 1 2</td><td> 22 63 42 51 24 6 6 0 0 0 0 0 0 0 0 0 0</td><td>4 26 21 32 7 stbound</td><td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td> 161 212 240 256 142 6 6 0 0 0 0 0 0 0 0 0 0</td><td>400 503 752 751 447</td><td>15 10 16 14 4 olume 0 0 0 0 1 0 1 0 2</td><td> 1 2 5 1 Gap 0 0 0 0 0 0 0 0 0 0</td><td>279 453 401 418 299 outhbourn</td><td>83 85 78 35 0lume 0 0 2 0 1 4 3 6</td>	56 68 113 147 138 72 /olumes a 2 6 6 0 0 0 0 0 0 0 0 0 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 3 (Per Hou 7 0 1 2 0 2 0 2 0 1 1 2	22 63 42 51 24 6 6 0 0 0 0 0 0 0 0 0 0	4 26 21 32 7 stbound	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	161 212 240 256 142 6 6 0 0 0 0 0 0 0 0 0 0	400 503 752 751 447	15 10 16 14 4 olume 0 0 0 0 1 0 1 0 2	1 2 5 1 Gap 0 0 0 0 0 0 0 0 0 0	279 453 401 418 299 outhbourn	83 85 78 35 0lume 0 0 2 0 1 4 3 6
.3 - 14 .4 - 15 .5 - 16 .6 - 17 .7 - 18 .8 - 19 Pedestrian V Nour 07 - 08 08 - 09 09 - 10 .0 - 11 .1 - 12 .2 - 13 .3 - 14 .4 - 15 .5 - 16 .6 - 17	56 68 113 147 138 72 /olumes a 2 6 6 0 0 0 0 0 0 0 0 0 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 0 5 7 0 1 2 0 2 0 2 0 1 1 2 1	22 63 42 51 24 6 6 6 6 6 6 6 6 6 6	4 26 21 32 7 stbound	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	161 212 240 256 142 6 6 0 0 0 0 0 0 0 0 0 0	400 503 752 751 447	15 10 16 14 4 olume 0 0 0 0 1 0 1 0 1 0 2 0	1 2 5 1 Gap 0 0 0 0 0 0 0 0 0 0	279 453 401 418 299 outhbourn	83 85 78 35 0lume 0 0 2 0 1 4 3 6 0
<pre>L2 - 13 L3 - 14 L4 - 15 L5 - 16 L6 - 17 L7 - 18 L8 - 19 Pedestrian \ Podestrian \ Pode - 11 L1 - 12 L2 - 13 L3 - 14 L4 - 15 L5 - 16 L6 - 17 L7 - 18 L8 - 19</pre>	56 68 113 147 138 72 /olumes a 2 6 6 0 0 0 0 0 0 0 0 0 0	9 16 20 20 12 and Gaps astbound	0 0 0 0 3 (Per Hou 7 0 1 2 0 2 0 2 0 1 1 2	22 63 42 51 24 6 6 0 0 0 0 0 0 0 0 0 0	4 26 21 32 7 stbound	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	161 212 240 256 142 6 6 0 0 0 0 0 0 0 0 0 0	400 503 752 751 447	15 10 16 14 4 olume 0 0 0 0 1 0 1 0 2	1 2 5 1 Gap 0 0 0 0 0 0 0 0 0 0	279 453 401 418 299 outhbourn	83 85 78 35 0lume 0 0 2 0 1 4 3 6

2	Eastbound		Westbo	ound	North	bound	South!	bound
	secs/veh	veh-hrs	secs/veh	veh-hrs	secs/veh	veh-hrs	secs/veh	veh-hrs
Hour								
07 - 08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08 - 09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
09 - 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 - 11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 - 12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 - 13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 - 14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 - 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 - 16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 - 17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 - 18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 - 19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Summary													
	Major	Minor	Total	1A	1A	1B	1B	2	3A	3B	4A	4B	
	Volume	Volume	Volume	70%	56%	70%	56%	70%	70%	70%	70%	70%	
Hour													
07 - 08	1000	200	1361	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	
08 - 09	675	69	780	No	No	Yes	Yes	No	No	No	No	No	
09 - 10	626	38	696	No	No	No	No	No	No	No	No	No	
10 - 11	640	52	731	No	No	No	Yes	No	No	No	No	No	
11 - 12	739	52	833	No	No	No	Yes	No	No	No	No	No	
12 - 13	782	65	895	No	No	Yes	Yes	No	No	No	No	No	
13 - 14	762	66	867	No	No	Yes	Yes	No	No	No	No	No	
14 - 15	917	77	1020	No	No	Yes	Yes	Yes	No	No	No	No	
15 - 16	1262	129	1480	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	
16 - 17	1496	167	1726	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	
17 - 18	1522	158	1763	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	
18 - 19	928	84	1043	No	Yes	Yes	Yes	Yes	No	No	No	No	
Total	11349	1157	13195	4	5	9	11	6	0	4	0	0	

Results	
Warrant 1: Eight-Hour Vehicular Volume	[X]
A. Minimum Vehicular Volumes	[]
B. Interruption of Continuous Traffic	[X]
56% Vehicularand Interruption Volumes	[]
Warrant 2: Four-Hour Vehicular Volume	[X]
Four-Hour Vehicular Volumes	[X]
Warrant 3: Peak Hour	[X]
A. Peak-Hour Conditions	[]
B. Peak-Hour Vehicular Volume Hours Met	[X]
Warrant 4: Pedestrian Volume	[]
A. Four Hour Volumes	[]
B. One-Hour Volumes	[]
Warrant 5: School Crossing	[]
Gaps Same Period	[]
Student Volumes	[]
Nearest Traffic Control Signal	[]
Warrant 6: Coordinated Signal System	[]
Degree of Platooning	[]
Warrant 7: Crash Experience	[]
A. Adequate Trials of Alternatives	[]
B. Reported Crashes	[]
C. 56% Volumes for Warrants 1A, 1Bor 4	[X]
Warrant 8: Roadway Network	[]
A. Weekday Volume	[]
B. Weekend Volume	[]

Delay

Warrant 9: Grade Crossing

A. Grade Crossing within 140 ft --and--

B. Peak-Hour Vehicular Volumes

This text report was created in HCS™ Signal Warrants Version 7.7 on 4/21/2020 9:35:13 AM

[] [X] []

				sig 2020Warran	nal Warr ts - CS4							
ile Name: Analyst:				VHKS	L3 - L34	-1124•851	/N					
gency:				NHKS NHKS								
ate Perform	ed·			4/21/2020								
ime Analyze				2020								
urisdiction			4	_020								
Analysis Yea				2020								
Project Desc				MANTORVILL		131						
Jnits:	11011.			J.S. Custo		154						
mills.			,	J.J. Custo	liai y							
						eneral_					. <u></u>	
Aajor Street			th-South				n <10,000					
Starting Tim					Coc	ordinat	ed Signal	L System	: No			
1edian Type:							er Year:					
1ajor Street			30		Ade	equate [·]	Trials of	F Crash	Experien	ce Altern	natives:	No
learest Sign	al (ft):	0										
				School C	rossing	and Ro	adway Not	work				
lumber of St	udents i	n Highe	st Hour:				adway Net re Major		No			
lumber of Ad							ount: No		-			
lumber of Mi		•		-			owth Fact	cor (%):	0			
					-							
	ng Anna-		on EP			ad Cros		inc (day)	• 1			
Grade Crossi				(0000			fic (trai					
Highest Volu				CHOWII			pancy Bus					
Distance to	Stop Lin	e (TC):	טשכ		ira	actor-1	railer Tr	ucks (%): 10			
				C	eometry	and Tr	affic					
I	Fa	stbound			tbound			orthboun	d	Sc	outhbound	d
	L	T	R	L	T	R	L	T	R	L	Т	R
 								1		.	1	
lo. Lanes	0	1 LT	1 R	0	1 LT	1 R	1 L	1 TR	0	1 L	1 TR	0
ane Usage		L (N	I	L I	IX.		1 IX		1 -	11	
raffic Volu	mes (veh	/h)										
I		stbound		Wes	tbound		No	orthboun	d	Sc	outhbound	d
	L	Т	R	L	Т	R	L	Т	R	L	Т	R
lour										<u> </u>		
97 - 08	0	2	7	1	0	3	1	19	2	4	55	0
)8 - 09	0	6	42	12	7	22	20	187	10	58	547	3
	0	5	43	13	6	20	17	206	10	50	431	2
19 - 10	0	2	12	7	3	13	10	82	8	15	105	3
			0				I = -		•		0	0
0 - 11	0	0	0	0	0	0	0	0	0	0	0	
.0 - 11 .1 - 12	0 0	0 0	0	0	0 0	0 0	:	0 0	0 0	0 0	0	0
.0 - 11 .1 - 12 .2 - 13							0			1		0 0
.0 - 11 .1 - 12 .2 - 13 .3 - 14	0	0	0	0	0	0	0 0	0	0	0	0	
.0 - 11 .1 - 12 .2 - 13 .3 - 14 .4 - 15	0 0	0 0	0 0	0 0	0 0	0 0	0 0 0	0 0	0 0	0	0 0	0
.0 - 11 .1 - 12 .2 - 13 .3 - 14 .4 - 15 .5 - 16	0 0 0	0 0 6	0 0 30	0 0 14	0 0 10	0 0 49	0 0 0 37	0 0 398	0 0 15	0 0 80	0 0 345	0 11
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0 0 3 1	0 0 6 8	0 0 30 39	0 0 14 17	0 0 10 6	0 0 49 65	0 0 37 94	0 0 398 537	0 0 15 22	0 0 80 68	0 0 345 334	0 11 15
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0 0 0 3	0 0 6 8 7	0 0 30 39 43	0 0 14 17 7	0 0 10 6 5	0 0 49 65 60	0 0 37 94 94	0 0 398 537 588	0 0 15 22 30	0 0 80 68 63	0 0 345 334 350	0 11 15 11
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0 0 3 1 2 0	0 6 8 7 2 0	0 30 39 43 15 4	0 14 17 7 12 1	0 0 10 6 5 4	0 0 49 65 60 22	0 0 37 94 94 28	0 398 537 588 191	0 0 15 22 30 9	0 0 80 68 63 25	0 345 334 350 142	0 11 15 11 4
$ \begin{bmatrix} 0 & - & 11 \\ 1 & - & 12 \\ 2 & - & 13 \\ 3 & - & 14 \\ 4 & - & 15 \\ 5 & - & 16 \\ 16 & - & 17 \\ 17 & - & 18 \\ 18 & - & 19 \\ \end{bmatrix} $	0 0 3 1 2 0 Yolumes a	0 6 8 7 2 0 nd Gaps	0 0 30 39 43 15 4 (Per Hou	0 0 14 17 7 12 1	0 0 10 6 5 4 1	0 0 49 65 60 22	0 0 37 94 94 28 7	0 398 537 588 191 71	0 0 15 22 30 9 3	0 80 68 63 25 9	0 345 334 350 142 48	0 11 15 11 4 0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0 0 3 1 2 0 Yolumes a Ea	0 0 6 8 7 2 0 nd Gaps stbound	0 30 39 43 15 4 (Per Hou	0 0 14 17 7 12 1 wes	0 0 10 6 5 4 1 1	0 49 65 60 22 7	0 0 37 94 94 28 7	0 0 398 537 588 191 71	0 0 15 22 30 9 3	0 80 68 63 25 9	0 345 334 350 142 48	0 11 15 11 4 0
0 - 11 1 - 12 2 - 13 3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 Pedestrian V	0 0 3 1 2 0 Yolumes a	0 0 6 8 7 2 0 nd Gaps stbound	0 0 30 39 43 15 4 (Per Hou	0 0 14 17 7 12 1	0 0 10 6 5 4 1 1	0 0 49 65 60 22	0 0 37 94 94 28 7	0 0 398 537 588 191 71	0 0 15 22 30 9 3	0 80 68 63 25 9	0 345 334 350 142 48	0 11 15 11 4 0
0 - 11 1 - 12 2 - 13 3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 Pedestrian V Nour	0 0 3 1 2 0 Volumes a Ea Gaps	0 0 6 8 7 2 0 nd Gaps stbound	0 30 39 43 15 4 (Per Hou olume	0 14 17 12 1 1 Wes Wes	0 0 10 6 5 4 1 tbound Vol	0 0 49 65 60 22 7	0 0 37 94 28 7 No Gaps	0 0 398 537 588 191 71	0 0 15 22 30 9 3 0	0 80 68 63 25 9 Sc Gaps	0 345 334 350 142 48	0 11 15 11 4 0 d
0 - 11 1 - 12 2 - 13 3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 edestrian V our 7 - 08	0 0 3 1 2 0 Volumes a Ea Gaps 0	0 0 6 8 7 2 0 nd Gaps stbound	0 0 30 39 43 15 4 (Per Hou rolume 0	0 0 14 17 7 12 1 Wes Gaps	0 0 10 6 5 4 1 tbound Vol	0 0 49 65 60 22 7	0 0 37 94 28 7 No Gaps 0	0 0 398 537 588 191 71	0 0 15 22 30 9 3 d olume	0 80 68 63 25 9 Sc Gaps 0	0 345 334 350 142 48	0 11 15 11 4 0 d olume 0
0 - 11 1 - 12 2 - 13 3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 edestrian V our 7 - 08 8 - 09	0 0 3 1 2 0 Volumes a Ea Gaps 0 0	0 0 6 8 7 2 0 nd Gaps stbound	0 30 39 43 15 4 (Per Hou olume 0 2	0 14 17 12 1 Wes Wes	0 0 10 6 5 4 1 tbound Vol	0 0 49 65 60 22 7 1ume	0 0 37 94 28 7 0 0	0 0 398 537 588 191 71	0 0 15 22 30 9 3 d olume	0 80 68 63 25 9 Sc Gaps 0 0	0 345 334 350 142 48	0 11 15 11 4 0 0 d olume
0 - 11 1 - 12 2 - 13 3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 Pedestrian V Iour 17 - 08 18 - 09 19 - 10	0 0 3 1 2 0 Volumes a Ea Gaps 0 0 0	0 0 6 8 7 2 0 nd Gaps stbound	0 30 39 43 15 4 (Per Hou rolume 0 2 0	0 14 17 12 1 Wes 	0 0 10 6 5 4 1 tbound Vol	0 0 49 65 60 22 7 1ume 2 2 9	0 0 37 94 28 7 0 0 0	0 0 398 537 588 191 71	0 0 15 22 30 9 3 d olume 0 0 0	0 80 68 63 25 9 50 6 6 0 0	0 345 334 350 142 48	0 11 15 11 4 0 0 0 0 0 0
L0 - 11 L1 - 12 L2 - 13 L4 - 15 L5 - 16 L6 - 17 L7 - 18 L8 - 19 Pedestrian V Hour N7 - 08 N8 - 09 N9 - 10 L0 - 11	0 0 3 1 2 0 Volumes a Ea Gaps 0 0 0 0	0 0 6 8 7 2 0 nd Gaps stbound	0 30 39 43 15 4 (Per Hou rolume 0 2 0 2	0 14 17 12 1 Wes 	0 0 10 6 5 4 1 tbound Vol	0 0 49 65 60 22 7 Lume 2 2 5	0 0 37 94 28 7 0 0 0 0	0 0 398 537 588 191 71	0 0 15 22 30 9 3 d olume 0 0 0 0	0 80 68 63 25 9 6 6 0 0 0	0 345 334 350 142 48	0 11 15 11 4 0 0 0 0 0 2
.0 - 11 .1 - 12 .2 - 13 .3 - 14 .4 - 15 .5 - 16 .6 - 17 .7 - 18 .8 - 19 Pedestrian W Nour .97 - 08 .98 - 09 .99 - 10 .00 - 11 .1 - 12	0 0 3 1 2 0 0 Columes a Ea Gaps 0 0 0 0 0	0 0 6 8 7 2 0 nd Gaps stbound	0 0 30 39 43 15 4 (Per Hou rolume 0 2 0 2 0	0 14 17 12 1 Wes 	0 0 10 6 5 4 1 tbound Vol	0 0 49 65 60 22 7 Lume 2 2 3 5 2	0 0 37 94 28 7 0 0 0 0 0	0 0 398 537 588 191 71	0 0 15 22 30 9 3 d olume 0 0 0 1	0 80 68 63 25 9 6 6 0 0 0 0 0	0 345 334 350 142 48	0 11 15 11 4 0 0 0 0 0 2 0
.0 - 11 .1 - 12 .2 - 13 .3 - 14 .4 - 15 .5 - 16 .6 - 17 .7 - 18 .8 - 19 Pedestrian W Mour .00 - 08 .09 - 10 .00 - 11 .1 - 12 .2 - 13	0 0 3 1 2 0 0 5 6 6 0 0 0 0 0 0 0 0 0	0 0 6 8 7 2 0 nd Gaps stbound	0 0 30 39 43 15 4 (Per Hou rolume 0 2 0 2 0 0 0	0 14 17 12 1 Wes 	0 0 10 6 5 4 1 tbound Vol	0 0 49 65 60 22 7 Lume 2 2 3	0 0 37 94 28 7 0 0 0 0 0 0	0 0 398 537 588 191 71	0 0 15 22 30 9 3 d olume 0 0 0 1 0	0 80 68 63 25 9 6 6 0 0 0 0 0 0	0 345 334 350 142 48	0 11 15 11 4 0 0 0 0 0 2 0 1
.0 - 11 .1 - 12 .2 - 13 .3 - 14 .4 - 15 .5 - 16 .6 - 17 .7 - 18 .8 - 19 Pedestrian W Mour .00 - 10 .00 - 11 .00 - 11 .1 - 12 .2 - 13	0 0 3 1 2 0 0 Columes a Ea Gaps 0 0 0 0 0 0 0 0 0 0 0	0 0 6 8 7 2 0 nd Gaps stbound	0 0 30 39 43 15 4 (Per Hou rolume 0 2 0 2 0 1	0 0 14 17 7 12 1 0 0 0 0 0 0 0 0 0 0	0 0 10 6 5 4 1 Vol	0 0 49 65 60 22 7 Lume 2 2 3 4	0 0 37 94 28 7 0 0 0 0 0 0 0 0	0 0 398 537 588 191 71	0 0 15 22 30 9 3 d olume 0 0 0 1 0 1	0 80 68 63 25 9 9 6 0 0 0 0 0 0 0 0	0 345 334 350 142 48	0 11 15 11 4 0 0 0 0 0 2 0 1 4
0 - 11 1 - 12 12 - 13 13 - 14 14 - 15 15 - 16 15 - 16 15 - 16 15 - 16 16 - 17 17 - 18 18 - 19 16 - 17 17 - 18 18 - 19 18 - 19 10 - 10 10 - 11 10 - 11 12 - 13 13 - 14	0 0 3 1 2 0 0 Columes a Ea Gaps 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 6 8 7 2 0 nd Gaps stbound	0 0 30 39 43 15 4 (Per Hou rolume 0 2 0 2 0 1 1	0 14 17 7 12 1 Wes Gaps 0 0 0 0 0 0 0 0 0 0	0 0 10 6 5 4 1 Vol	0 0 49 65 60 22 7 Lume 2 2 3 4 5	0 0 37 94 28 7 0 0 0 0 0 0 0 0 0 0	0 0 398 537 588 191 71	0 0 15 22 30 9 3 d olume 0 0 0 1 0 1 0	0 80 68 63 25 9 9 6 0 0 0 0 0 0 0 0 0 0	0 345 334 350 142 48	0 11 15 11 4 0 0 0 0 0 2 0 1 4 3
0 - 11 1 - 12 12 - 13 13 - 14 14 - 15 15 - 16 15 - 16 15 - 16 16 - 17 17 - 18 18 - 19 16 - 17 17 - 18 18 - 19 18 - 19 10 - 10 10 - 11 11 - 12 12 - 13 13 - 14 14 - 15	0 0 3 1 2 0 0 Columes a Ea Gaps 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 6 8 7 2 0 nd Gaps stbound	0 0 30 39 43 15 4 (Per Hou rolume 0 2 0 2 0 1 1 2	0 14 17 7 12 1 Wes Gaps 0 0 0 0 0 0 0 0 0 0	0 0 10 6 5 4 1 Vol	0 0 49 65 60 22 7 Lume 2 2 3 4 5 5 5 5	0 0 37 94 28 7 0 0 0 0 0 0 0 0 0 0	0 0 398 537 588 191 71	0 0 15 22 30 9 3 d olume 0 0 0 1 0 1 0 2	0 80 68 63 25 9 6 6 0 0 0 0 0 0 0 0 0 0	0 345 334 350 142 48	0 11 15 11 4 0 0 0 0 0 2 0 1 4 3 6
L0 - 11 L1 - 12 L2 - 13 L3 - 14 L4 - 15 L5 - 16 L6 - 17 L7 - 18 L8 - 19 Pedestrian V Hour Pedestrian V Hour Pedestrian V Hour L0 - 18 L1 - 12 L2 - 13 L3 - 14 L4 - 15 L5 - 16 L6 - 17 L5 - 16 L6 - 17 L1 - 12 L4 - 15 L5 - 16 L6 - 17 L1 - 12 L5 - 16 L6 - 17 L1 - 12 L5 - 16 L6 - 17 L1 - 12 L5 - 16 L6 - 17 L1 - 12 L2 - 13 L2 - 13 L3 - 14 L4 - 15 L5 - 16 L6 - 17 L5 - 16 L6 - 17 L6 - 17 L1 - 12 L1 - 12 L2 - 13 L2 - 13 L4 - 15 L5 - 16 L6 - 17 L5 - 16 L6 - 17 L6 - 18 L6 - 17	0 0 3 1 2 0 0 Columes a Ea Gaps 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 6 8 7 2 0 nd Gaps stbound	0 0 30 39 43 15 4 (Per Hou rolume 0 2 0 2 0 1 1 2 1	0 14 17 7 12 1 Wes Gaps 0 0 0 0 0 0 0 0 0 0	0 0 10 6 5 4 1 Vol	0 0 49 65 60 22 7 Lume 2 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5	0 0 37 94 28 7 0 0 0 0 0 0 0 0 0 0	0 0 398 537 588 191 71	0 0 15 22 30 9 3 d olume 0 0 0 1 0 1 0 2 0	0 80 68 63 25 9 6 6 0 0 0 0 0 0 0 0 0 0	0 345 334 350 142 48	0 11 15 11 4 0 0 0 0 0 2 0 1 4 3 6 0
39 - 10 10 - 11 11 - 12 12 - 13 13 - 14 14 - 15 15 - 16 15 - 16 15 - 16 16 - 17 17 - 18 18 - 19 Pedestrian V 40ur 0 10 - 11 12 - 08 03 - 10 10 - 11 11 - 12 12 - 13 13 - 14 14 - 15 15 - 16 </td <td>0 0 3 1 2 0 0 Columes a Ea Gaps 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>0 0 6 8 7 2 0 nd Gaps stbound</td> <td>0 0 30 39 43 15 4 (Per Hou rolume 0 2 0 2 0 1 1 2</td> <td> 0 14 17 7 12 1 Wes Gaps 0 0 0 0 0 0 0 0 0 0</td> <td>0 0 10 6 5 4 1 Vol</td> <td>0 0 49 65 60 22 7 Lume 2 2 3 4 5 5 5 5</td> <td> 0 0 37 94 28 7 0 0 0 0 0 0 0 0 0 0</td> <td>0 0 398 537 588 191 71</td> <td>0 0 15 22 30 9 3 d olume 0 0 0 1 0 1 0 2</td> <td> 0 80 68 63 25 9 6 6 0 0 0 0 0 0 0 0 0 0</td> <td>0 345 334 350 142 48</td> <td>0 11 15 11 4 0 d olume 0 0 2 0 1 4 3 6</td>	0 0 3 1 2 0 0 Columes a Ea Gaps 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 6 8 7 2 0 nd Gaps stbound	0 0 30 39 43 15 4 (Per Hou rolume 0 2 0 2 0 1 1 2	0 14 17 7 12 1 Wes Gaps 0 0 0 0 0 0 0 0 0 0	0 0 10 6 5 4 1 Vol	0 0 49 65 60 22 7 Lume 2 2 3 4 5 5 5 5	0 0 37 94 28 7 0 0 0 0 0 0 0 0 0 0	0 0 398 537 588 191 71	0 0 15 22 30 9 3 d olume 0 0 0 1 0 1 0 2	0 80 68 63 25 9 6 6 0 0 0 0 0 0 0 0 0 0	0 345 334 350 142 48	0 11 15 11 4 0 d olume 0 0 2 0 1 4 3 6

2	Eastbound		Westbo	ound	North	bound	South!	ound
	secs/veh	veh-hrs	secs/veh	veh-hrs	secs/veh	veh-hrs	secs/veh	veh-hrs
Hour								
07 - 08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08 - 09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
09 - 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 - 11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 - 12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 - 13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 - 14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 - 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 - 16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 - 17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 - 18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 - 19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

					9	Summary						
	Major	Minor	Total	1A	1A	1B	1B	2	3A	3B	4A	4B
	Volume	Volume	Volume	70%	56%	70%	56%	70%	70%	70%	70%	70%
Hour												
07 - 08	81	9	94	No	No	No	No	No	No	No	No	No
08 - 09	825	48	914	No	No	No	No	No	No	No	No	No
09 - 10	716	48	803	No	No	No	No	No	No	No	No	No
10 - 11	223	23	260	No	No	No	No	No	No	No	No	No
11 - 12	0	0	0	No	No	No	No	No	No	No	No	No
12 - 13	0	0	0	No	No	No	No	No	No	No	No	No
13 - 14	0	0	0	No	No	No	No	No	No	No	No	No
14 - 15	886	73	995	No	No	Yes	Yes	No	No	No	No	No
15 - 16	1070	88	1208	No	No	Yes	Yes	Yes	No	No	No	No
16 - 17	1136	72	1259	No	No	Yes	Yes	No	No	No	No	No
17 - 18	399	38	456	No	No	No	No	No	No	No	No	No
18 - 19	138	9	151	No	No	No	No	No	No	No	No	No
Total	5474	408	6140	0	0	3	3	1	0	0	0	0

_____Results_____

Results	
Warrant 1: Eight-Hour Vehicular Volume A. Minimum Vehicular Volumes B. Interruption of Continuous Traffic 56% Vehicularand Interruption Volumes	[] [] []
Warrant 2: Four-Hour Vehicular Volume Four-Hour Vehicular Volumes	[]
Warrant 3: Peak Hour A. Peak-Hour Conditions B. Peak-Hour Vehicular Volume Hours Met	[] [] []
Warrant 4: Pedestrian Volume A. Four Hour Volumes B. One-Hour Volumes	[] [] []
Warrant 5: School Crossing Gaps Same Period Student Volumes Nearest Traffic Control Signal	[] [] []
Warrant 6: Coordinated Signal System Degree of Platooning	[]
Warrant 7: Crash Experience A. Adequate Trials of Alternatives B. Reported Crashes C. 56% Volumes for Warrants 1A, 1Bor 4	[] [] [] []
Warrant 8: Roadway Network A. Weekday Volume B. Weekend Volume	[] [] []

Delay

Warrant 9: Grade Crossing

A. Grade Crossing within 140 ft --and--B. Peak-Hour Vehicular Volumes

This text report was created in HCS™ Signal Warrants Version 7.7 on 4/21/2020 2:39:06 PM

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Project Desc	ription:				E / CSAH34							
Inits:				U.S. Custo	mary							
					General							
ajor Street	Directi	on: Nort	th-South			on <10,000): Yes					
tarting Tim						ted Signal		: No				
ledian Type:						Per Year:						
lajor Street			30			Trials of		Experien	ce Alterr	natives:	No	
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raffic Volu our 7 - 08 8 - 09	Ea L 0 0	n/h) astbound T 2 7	R 9 51	L 1 15	tbound T R 0 3 9 26	No L 	orthbound T 23 228	R 2 12	So L 5 71	T 67 667	R 0 4	
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raffic Volu our 7 - 08 8 - 09 9 - 10 0 - 11 1 - 12	Ea L 0 0 0 0 0 0	n/h) astbound T 2 7 6 2 0	R 9 51 56 15 0	L 1 15 17 9 0	tbound T R 9 26 8 26 4 16 0 0	No L 1 24 23 12 0	23 228 268 100 0	R 2 12 13 10 0	Sc L 	T 667 575 128 0	R 0 4 3 4 0	
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raffic Volu our 7 - 08 8 - 09 9 - 10 0 - 11 1 - 12 2 - 13 3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 edestrian V our 7 - 08 8 - 09 9 - 10 0 - 11 1 - 12 2 - 13 3 - 14 4 - 15	Ea L 0 0 0 0 0 0 0 0 4 1 2 0 0 4 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	n/h) astbound T 2 7 6 2 0 0 0 7 10 9 2 0 0 and Gaps astbound	R 9 51 56 15 0 0 36 48 52 19 5 (Per Ho olume 0 2 0 2 0 1	L 1 1 15 17 9 0 0 0 0 17 21 9 15 1 15 1 0 Gaps 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tbound T R 0 3 9 26 8 26 4 16 0 0 0 0 12 60 7 80 6 83 5 27 1 8 tbound Volume 2 2 9 5 2 3 4	No L 1 24 23 12 0 0 0 0 45 115 115 115 115 34 9 0 0 0 0 0 0 0 0 0 0	orthbound T 23 228 268 100 0 486 655 717 233 87 orthbound	R 2 12 13 10 0 0 18 27 37 11 4 d olume 0 0 0 0 1 0 1	Sc L 5 71 66 18 0 0 0 98 83 77 31 11 11 Sc Gaps 0 0 0 0 0 0 0 0 0 0	T 667 575 128 0 0 421 407 427 173 59 outhboun	R 0 4 3 4 0 0 0 1 3 18 13 5 0 0 4 0 0 0 2 0 1 4	
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raffic Volu our 7 - 08 8 - 09 9 - 10 0 - 11 1 - 12 2 - 13 3 - 14 4 - 15 5 - 16 6 - 17 7 - 18 8 - 19 redestrian V our 7 - 08 8 - 09 9 - 10 0 - 11 1 - 12 2 - 13 3 - 14 4 - 15 1 - 12 2 - 13 3 - 14 4 - 15 5 - 16 1 - 12 2 - 13 3 - 14 4 - 15 5 - 16 5 - 16 5 - 16 7 - 18 9 - 10 1 - 12 1 - 12 1 - 12 2 - 13 3 - 14 4 - 15 5 - 16 5 - 16 6 - 17 1 - 12 1	Ea L 0 0 0 0 0 0 0 4 1 2 0 0 4 1 2 0 0 0 4 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	n/h) astbound T 2 7 6 2 0 0 0 7 10 9 2 0 0 and Gaps astbound	R 9 51 56 15 0 0 36 48 52 19 5 (Per Ho olume 0 2 0 0 1 1 2	L 1 1 15 17 9 0 0 0 0 17 21 9 15 1 15 1 15 Gaps 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tbound T R 0 3 9 26 8 26 4 16 0 0 0 0 12 60 7 80 6 83 5 27 1 8 tbound Volume 2 2 9 5 2 3 4 5 5 5	No L 1 24 23 12 0 0 0 0 45 115 115 115 34 9 0 0 0 0 0 0 0 0 0 0	orthbound T 23 228 268 100 0 486 655 717 233 87 orthbound	R 2 12 13 10 0 0 18 27 37 11 4 d olume 0 0 0 1 0 1 0 1 0 2	Sc L 5 71 66 18 0 0 0 0 98 83 77 31 11 11 Sc Gaps 0 0 0 0 0 0 0 0 0 0	T 667 575 128 0 0 421 407 427 173 59 outhboun	R 0 4 3 4 0 0 0 13 18 13 5 0 0 4 3 6	

-	Eastbound		Westbo	ound	North	bound	South	ound
	secs/veh	veh-hrs	secs/veh	veh-hrs	secs/veh	veh-hrs	secs/veh	veh-hrs
Hour								
07 - 08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08 - 09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
09 - 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 - 11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 - 12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 - 13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 - 14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 - 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 - 16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 - 17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 - 18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 - 19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Delay

					9	Summary_						
	Major	Minor	Total	1A	1A	1B	1B	2	3A	3B	4A	4B
	Volume	Volume	Volume	70%	56%	70%	56%	70%	70%	70%	70%	70%
Hour												
07 - 08	98	11	113	No	No	No	No	No	No	No	No	No
08 - 09	1006	58	1114	No	No	No	Yes	No	No	No	No	No
09 - 10	948	62	1061	No	No	No	Yes	No	No	No	No	No
10 - 11	272	29	318	No	No	No	No	No	No	No	No	No
11 - 12	0	0	0	No	No	No	No	No	No	No	No	No
12 - 13	0	0	0	No	No	No	No	No	No	No	No	No
13 - 14	0	0	0	No	No	No	No	No	No	No	No	No
14 - 15	1081	89	1213	No	No	Yes	Yes	Yes	No	No	No	No
15 - 16	1305	108	1475	No	No	Yes	Yes	Yes	No	Yes	No	No
16 - 17	1386	98	1546	No	No	Yes	Yes	Yes	No	No	No	No
17 - 18	487	47	557	No	No	No	No	No	No	No	No	No
18 - 19	170	10	185	No	No	No	No	No	No	No	No	No
Total	6753	512	7582	0	0	3	5	3	0	1	0	0

_____Results_____

Results	
Warrant 1: Eight-Hour Vehicular Volume	[]
A. Minimum Vehicular Volumes	[]
B. Interruption of Continuous Traffic	[]
56% Vehicularand Interruption Volumes	[]
Warrant 2: Four-Hour Vehicular Volume	[]
Four-Hour Vehicular Volumes	[]
Warrant 3: Peak Hour	[X]
A. Peak-Hour Conditions	[]
B. Peak-Hour Vehicular Volume Hours Met	[X]
Warrant 4: Pedestrian Volume	[]
A. Four Hour Volumes	[]
B. One-Hour Volumes	[]
Warrant 5: School Crossing	[]
Gaps Same Period	[]
Student Volumes	[]
Nearest Traffic Control Signal	[]
Warrant 6: Coordinated Signal System	[]
Degree of Platooning	[]
Warrant 7: Crash Experience	[]
A. Adequate Trials of Alternatives	[]
B. Reported Crashes	[]
C. 56% Volumes for Warrants 1A, 1Bor 4	[]
Warrant 8: Roadway Network	[]
A. Weekday Volume	[]
B. Weekend Volume	[]

Warrant 9: Grade Crossing

A. Grade Crossing within 140 ft --and--B. Peak-Hour Vehicular Volumes

This text report was created in HCS™ Signal Warrants Version 7.7 on 4/21/2020 2:50:06 PM

[] [] []

APPENDIX E

Crash Data



Crash Summary Mantorville Ave / Main St

Crash Severity	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
K - Fatal	0	0	0	0	0	0	0	0	0	0	(
A - Serious Injury	0	0	0	0	0	0	0	0	0	0	
B - Minor Injury 2 0			0	0	0	0	0	1	1	0	
C - Possible Injury	2	1	0	0	0	0	1	0	0	0	
N - Prop Dmg Only	19	1	2	1	0	1	2	5	1	2	
U - Unkown	0	0	0	0	0	0	0	0	0	0	
Total	23	2	2	1	0	1	3	6	2	2	
Crash Severity/Number	of Vehicles	;			Relatio	onship to	Intersecti	on Summ	ary	Total	0
Crash Severity	Total	0 1	2	3+	Not at I	ntersectior	n/Interchan	ge		1	4.
K - Fatal	0	0 0	0	0	Four-W	ay Intersed	ction			15	65.
A - Serious Injury	0	0 0	0	0	-	ntersectior				0	0.
B - Minor Injury	2	0 2	0	0	Five-Wa	ay Intersec	tion or Mo	re		0	0.
C - Possible Injury	2	0 1	0	1	Rounda	about				0	0.
N - Prop Dmg Only	16	0 2	13	1		ction Relat				3	13.
U - Unkown	0	0 0	0	0		ay Access				1	4.
Total	20	0 5	13	2		ool Crossir	0	0.			
						Grade Cro	•			3	13.
Basic Type Summary			Total	%		Use Path of				0	0.
Pedestrian			1	4.3		ange or Ra	0	0.			
Bike			2	8.7		ver Related	0	0.			
Single Vehicle Run Off Roa	d		2	8.7		ation/Dece	0	0.			
Single Vehicle Other			0	0.0		Inknown	0	0.			
Sideswipe Same Direction			1	4.3	Total					23	100.
Sideswipe Opposing			0	0.0							
Rear End			10	43.5	-	er 1 Sumr	nary			Total	0
Head On			0	0.0						18	78.
Left Turn			0	0.0	-		3	13.			
Angle			4	17.4			1	4.			
Other			3	13.0			1	4.			
Total			23	100.0			ng Rain/Dr	izzle)		0	0.
						og/Smoke				0	0.
First Harmful Event Sum	nmary		Total	%			I/Dirt/Snow	1		0	0.
Pedestrian			1	4.3		Crosswind	ls			0	0.
Bicyclist			2	8.7		Inknown				0	0.
Motor Vehicle In Transport			14	60.9	Total					23	100.
Parked Motor Vehicle			1	4.3			•				
Train			0	0.0			Summary	/		Total	0
Deer/Animal			0	0.0						21	91.
Other - Non Fixed Object			0	0.0						0	0.
Collision Fixed Object	2	8.7			0	0.					
Non-Collision Harmful Even	0	0.0		tr Lights O	2	8.					
Non-Harmful Events	0	0.0		tr Lights O	0	0					
Other/Unknown	13.0		o Str Light	0	0						
Total			23	100.0		nknown Li	ght)			0	0
			•		- Othor/L	Inknown				0	0

Crash Summary Mantorville Ave / Main St

	00:00	02:00	04:00	06:00	08:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00		
From To	01:59	03:59	05:59	07:59	09:59	11:59	13:59	15:59	17:59	19:59	21:59	23:59	Total	%
SUN	0	0	0	0	0	0	0	1	0	1	0	0	2	8.7
MON	0	0	0	0	2	0	0	1	2	0	0	0	5	21.7
TUE	0	0	0	0	2	0	0	2	1	0	0	0	5	21.7
WED	0	0	0	0	0	1	1	1	1	0	0	0	4	17.4
THU	0	0	0	1	0	0	0	0	1	1	0	0	3	13.0
FRI	0	0	0	0	1	0	0	0	1	0	0	0	2	8.7
SAT	0	0	0	0	0	2	0	0	0	0	0	0	2	8.7
Total	0	0	0	1	5	3	1	5	6	2	0	0	23	100.0
%	0.0	0.0	0.0	4.3	21.7	13.0	4.3	21.7	26.1	8.7	0.0	0.0	100.0	100.0
Driver & N	on-Motor	ist Age/0	Gender S	ummary			Мо	nth Sumr	nary				Total	%
Age	М	F	NR	No Value	Tota	al	% Jan	uary	-				1	4.3
<14	1	0	0	0		1	2.2 Feb	ruary					5	21.7
14	1	0	0	0		1	2.2 Mar						1	4.3
15	0	0	0	0		0	0.0 Apr	April				0	0.0	
16	0	0	0	0		0	0.0 May	Мау				4	17.4	
17	1	0	0	0		1	2.2 Jun	June				2	8.	
18	0	0	0	0			••••	July				1	4.3	
19	1	0	0	0		1		August				1	4.3	
20	1	0	0	0		1		September				1	4.3	
21-24	2	2	0	0		4	•	ober					1	4.:
25-29	1	2	0	0		3	0.0	ember					3	13.0
30-34	4	1	0	0		5 1	0.9 Dec	ember					3	13.0
35-39	5	0	0	0			0.9 Tota	ıl					23	100.0
40-44	0	4	0	0			8.7							
45-49	2	1	0	0				sical Co	ndition S	ummary			Total	%
50-54	3	1	0	0				arently No	ormal (Incl	uding No	Drugs/Alc	ohol)	39	84.8
55-59	1	2	0	0				sical Disa	bility (Sho	rt Term or	Long Terr	m)	1	2.2
60-64	1	2	0	0				lical Issue	(III, Sick o	r Fainted)			0	0.0
65-69	0	1	0	0					pression,	Angry, Dis	sturbed, e	tc.)	0	0.0
70-74	3	1	0	0				ep or Fati	igued				1	2.2
75-79	1	0	0	0					nking Alco				2	4.3
80-84	0	0	0	0					ing Illicit D				0	0.0
85-89	0	0	0	0					ing Medica	ations			0	0.0
90-94	0	0	0	0				er/Unknow					1	2.2
95+	0	0	0	0				Applicable	e				2	4.3
No Value	0	0	0	1			2.2 Tota	d 🗌					46	100.0
Total	28	17	0	1			0.0							
%	60.9	37.0	0.0	2.2	100.	0 10	0.0							

Selection Filter:

WORK AREA: County('659465')	- SPATIAL FILTER APPLIED
Analyst:	Notes:
Analyst: Eric Tott	



Crash Summary Mantorville Ave / CSAH 34

Crash Severity	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
K - Fatal	0	0	0	0	0	0	0	0	0	0	
A - Serious Injury	0	0	0	0	0	0	0	0	0	0	
B - Minor Injury	0	0	0	0	0	0	0	0	0	0	
C - Possible Injury	4	1	0	0	1	0	2	0	0	0	
N - Prop Dmg Only	21	4	2	2	0	4	4	3	1	0	
U - Unkown	0	0	0	0	0	0	0	0	0	0	
Total	25	5	2	2	1	4	6	3	1	0	
Crash Severity/Number of	of Vehicles				Relatio	onship to	Intersecti	on Summ	ary	Total	9
Crash Severity	Total () 1	2	3+	Not at I	ntersectior	n/Interchan	ge		4	16.
K - Fatal	0 () 0	0	0	Four-W	ay Intersed	tion			18	72.
A - Serious Injury	0 0) 0	0	0	T or Y I	ntersectior	ı			0	0.
B - Minor Injury	0 0	0 (0	0	Five-Wa	ay Intersec	tion or Mo	e		0	0.
C - Possible Injury	4 () 2	2	0	Rounda	about				0	0.
N - Prop Dmg Only	21 () 4	15	2		ction Relat				2	8.
U - Unkown	0 0	0 (0	0		ay Access				0	0.0
Total	25 () 6	17	2		ool Crossir	0	0.			
					-	Grade Cro	-			1	4.
Basic Type Summary			Total	%		Use Path of				0	0.
Pedestrian			0	0.0		ange or Ra	0	0.			
Bike			1	4.0		ver Related	0	0.0			
Single Vehicle Run Off Roa	d		1	4.0			eleration La	ine		0	0.0
Single Vehicle Other			4	16.0		Inknown				0	0.0
Sideswipe Same Direction			0	0.0	Total					25	100.0
Sideswipe Opposing			0	0.0							
Rear End			8	32.0		er 1 Sumr	nary			Total	%
Head On			0	0.0						15	60.
Left Turn			1	4.0	-					6	24.
Angle			4	16.0			3	12.			
Other			6	24.0			1	4.0			
Total			25	100.0			ng Rain/Dri	zzle)		0	0.
						og/Smoke				0	0.
First Harmful Event Sum	mary		Total	%			l/Dirt/Snow	1		0	0.
Pedestrian			0	0.0		Crosswind	IS			0	0.
Bicyclist			1	4.0		Inknown				0	0.
Motor Vehicle In Transport			21	84.0	Total					25	100.
Parked Motor Vehicle			1	4.0	1 1 1 1 1 4 6		• •••••			.	
Train			1	4.0			Summary	/		Total	9
Deer/Animal			0	0.0						24	96.
Other - Non Fixed Object			0	0.0						0	0.
Collision Fixed Object			1	4.0						1	4.
Non-Collision Harmful Ever	nts		0	0.0	•	tr Lights O	,			0	0.
Non-Harmful Events			0	0.0		tr Lights O				0	0.
Other/Unknown			0	0.0		o Str Light				0	0
Fotal			25	100.0		nknown Li	ght)			0	0.
					- Other/I	Inknown				0	0.

Crash Summary Mantorville Ave / CSAH 34

Time of Da	y/Day of	Week													
From To	00:00 01:59	02:00 03:59	04:00 05:59	06:00 07:59	08:00 09:59	10:00 11:59	12:0 13:0		14:00 15:59	16:00 17:59	18:00 19:59	20:00 21:59	22:00 23:59	Total	%
SUN	0	0	0	0	0	0		0	0	1	1	0	0	2	8.0
MON	0	0	0	0	0	2		0	0	1	0	0	0	3	12.0
TUE	0	0	0	0	0	1		0	0	2	0	0	0	3	12.
WED	0	0	0	0	1	1		1	1	2	0	0	0	6	24.
THU	0	0	0	1	1	0		0	0	2	0	0	0	4	16.
FRI	0	0	0	0	0	1		0	1	2	2	0	0	6	24
SAT	0	0	0	0	0	0		0	0	1	0	0	0	1	4
Total	0	0	0	1	2	5		1	2	11	3	0	0	25	100
%	0.0	0.0	0.0	4.0	8.0	20.0	4	.0	8.0	44.0	12.0	0.0	0.0	100.0	100
Driver & N	on-Motor	rist Age/0	Gender S	Summary				Month	n Sumr	nary				Total	9
Age	М	F	NR	No Value	Tot	al	%	Janua	у					4	16.
<14	1	0	0	0		1	2.0	Februa	ary					2	8.
14	0	0	0	0		0	0.0	March						1	4
15	0	0	0	0		0	0.0	April					1	4	
16	1	1	0	0		2	4.0	Мау				4	16		
17	0	1	0	0		1	2.0	June				1	4		
18	2	2	0	0		4	0.0	July				4	16		
19	0	0	0	0		0		August				0	0		
20	0	0	0	0		0		September				4	16		
21-24	2	2	0	0		4	0.0	Octob						1	4
25-29	1	4	0	0			10.0	Noven						2	8
30-34	5	0	0	0				Decem	lber					1	4
35-39	2	4	0	0				Total						25	100
40-44	0	2	0	0			4.0								
45-49	3	0	0	0		3		Physi	cal Co	ndition S	ummary			Total	
50-54	1	2	0	0		3	6.0	Appar	ently No	ormal (Incl	uding No	Drugs/Alc	ohol)	49	100
55-59	0	1	0	0		1	2.0	Physic	al Disa	bility (Sho	rt Term or	Long Terr	m)	0	0
60-64	0	4	0	0		4	8.0	Medica	al Issue	(III, Sick o	or Fainted)			0	0
65-69	3	1	0	0		4		Emotio	onal (De	pression,	Angry, Di	sturbed, e	tc.)	0	0
70-74	1	0	0	0		1		Asleep	or Fati	gued				0	0
75-79	1	0	0	0		1		Has B	en Drir	nking Alco	hol			0	0
80-84	0	1	0	0		1		Has Be	en Tak	ing Illicit D	Drugs			0	0
85-89	0	1	0	0		1		Has Be	en Tak	ing Medica	ations			0	0
90-94	0	0	0	0		0		Other/	Unknov	vn				0	0
95+	0	0	0	0		0		Not Ap	plicabl	e				0	0
No Value	0	0	0	1		1	2.0	Total						49	100
Total	23	26	0	1			0.0								
%	46.0	52.0	0.0	2.0	100	.0 10	0.00								

Selection Filter

WORK AREA: County('659465')	- SPATIAL FILTER APPLIED
,	
Analyst	Notes:
Analyst: Eric Tott	
Ello lott	

Minnesota's Best Practices for Pedestrian and Bicycle Safety



January 2021

Roundabouts

What is their purpose?

The modern roundabout is a circular intersection that helps traffic move safely and efficiently. Roundabouts include channelized approaches and a center island, and entering traffic yields to vehicles already circulating. They have lower speeds and fewer conflict points than a typical signalized intersection, which leads to improved operational performance.

Generally, there are two types of roundabouts: single-lane and multi-lane. Single-lane roundabouts are typically simpler and safer for pedestrians and bicyclists to cross. Neighborhood traffic circles and mini-roundabouts are similar strategies for streets with lower traffic volumes and speeds.



Roundabout at CSAH 15 and 7th Street, New Prague, MN

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Are they a proven strategy?

Roundabouts provide substantial safety and operational benefits for motorists compared to other intersection types, most notably a reduction in severe crashes. Roundabouts are an effective strategy for reducing severe crashes involving vehicles. Comprehensive studies of both pedestrian and bicycle safety at roundabouts are limited, so they are considered **TRIED**.

Roundabouts have demonstrated improved safety performance compared to traffic signal control, especially for the most severe types of crashes. In Minnesota, the most common type of severe intersection-related crash is an angle crash. In roundabouts, angle crashes still may occur, but at lower speeds and at shallower angles.

A 2017-2018 MnDOT study of Minnesota roundabout traffic safety found that single-lane roundabouts had an 89% reduction in fatal crashes. The study also found that while some other roundabouts had an increase in total crash rates, the severity of the crashes was reduced. The study found that roundabouts do not increase the risk to pedestrians and bicyclists from collisions with motor vehicles. Further research in Minnesota found that roundabouts provide an approximate 60% Crash Reduction Factor (CRF) for pedestrian crashes after conversion from a four-legged intersection.

Supporting Documentation: <u>FHWA Proven Safety</u> <u>Countermeasures, MnDOT Roundabout Study, MnDOT</u> <u>Roundabout Study Addendum</u>





Roundabouts

+ What are the advantages?

- Crash Reduction Factor (CRF) for all crash types vary widely according to FHWA.
 When converting a two-way stop-controlled intersection, there is an 82% reduction in severe crashes for all crash types. When converting a signalized intersection, there is a 60% reduction in severe crashes for all crash types.
- Can reduce vehicle speeds, which benefits bicyclists and pedestrians crossing the roundabout.
- Can increase the capacity of an intersection compared to traditional stop sign or signal-controlled intersections.
- Observational studies have found that vehicles in single-lane roundabouts have higher rates of yielding to pedestrians than vehicles in multi-lane roundabouts.

Where would we use them?

Roundabouts can be considered at the following locations:

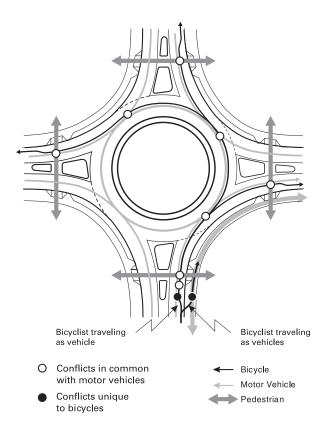
- At intersections with a pattern of fatal, angle, turning, and head-on crashes.
- Roundabouts can be implemented in both urban and rural areas under a wide range of traffic conditions, but are commonly installed when intersections experience undesirable delay at stop-controlled or signalized intersections.

What are the challenges?

- Multi-lane roundabout crosswalks can present the same multiple-threat sight line challenges as other uncontrolled crossings.
- Available right-of-way can restrict or limit the construction of a roundabout.
- Additional enhancements may be necessary for pedestrians with visual impairments or at intersections with significant pedestrian, bicycle, and vehicle traffic, particularly at multi-lane roundabouts. Supplemental treatments include raised crosswalks and RRFBs or PHBs at the splitter islands.
- Roundabouts are commonly installed as an alternative to all-way stop controlled or signalized intersections

What are the maintenance impacts?

Due to the lack of hardware, electric needs, and timing equipment, the costs to maintain and operate a roundabout are typically less than the maintenance costs for signal-controlled intersections.



An illustration of bicycle conflict points at a roundabout, Source: FHWA Roundabouts: An Informational Guide

(\$) How much do they cost?

The typical cost of a basic roundabout is approximately \$1 million, not including right-of-way acquisition. Costs will vary depending on location and size of the roundabout.

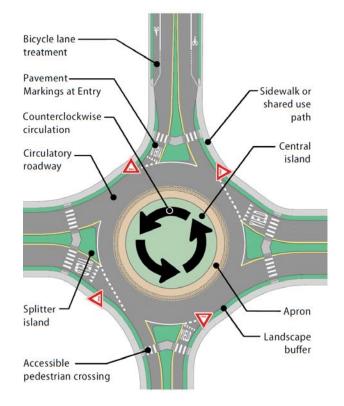


Roundabouts

Design Features

MnDOT specific roundabout design details can be found in Chapter 7 of <u>MnDOT's Bicycle Facility Manual</u>, Chapter 12 of <u>MnDOT's Road Design Manual</u>, and <u>NCHRP Report 672 - Roundabouts: An Informational Guide</u>. General roundabout design considerations to maintain or improve pedestrian/bicycle safety include the following:

- If long-term traffic projections suggest the need for a multi-lane roundabout, but the need isn't likely for several years, the roundabout can be constructed as a single-lane roundabout and designed for additional lanes to be constructed if warranted in the future.
- Designers should be cognizant of bicycle traffic when designing roundabouts, constraining design speeds to those compatible with typical bicycle speeds to promote bicyclist safety and comfort, refer to MnDOT's Bicycle Facility Manual for more information.
- Separated bike lanes can be continued through roundabouts, with crossings that are similar to, and typically adjacent to, pedestrian crosswalks. Drivers approach the bicycle crossings at a perpendicular angle, maximizing visibility of approaching bicyclists.
- Roundabouts can include truck aprons along the approaches or exits to keep entering and exiting vehicle speeds low at conflict points with pedestrians and bicyclists while still accommodating larger design vehicles.
- Proper roadway deflection angles at all entries and exits and are critical to reducing motor vehicle speeds through the intersection.
- Bicycle slip lanes or exit ramps to shared use paths are another design element that should receive detailed consideration.



An illustration of a roundabout, Source: FHWA



A pedestrian crossing at a roundabout

Resources

- <u>https://safety.fhwa.dot.gov/provencountermeasures/roundabouts/</u>
- <u>http://www.dot.state.mn.us/bike/design-engineering.html</u>
- https://safety.fhwa.dot.gov/tools/crf/resources/fhwasa08011/fhwasa08011.pdf
- http://www.dot.state.mn.us/trafficeng/safety/docs/roundaboutstudy.pdf
- http://www.dot.state.mn.us/trafficeng/safety/docs/roundaboutsafetyaddendum.pdf



Nancy Zaworski

From:	League of Minnesota Cities <lmcinfo@lmc.org></lmcinfo@lmc.org>
Sent:	Tuesday, September 7, 2021 3:56 PM
То:	financedept@cityofkasson.com
Subject:	2022 Membership Dues Invoice
Attachments:	2022 Mayors Dues Invoice.pdf; Membership Dues Invoice_Orders_347833_15314.pdf

Dear city official,

Greetings from the Board of Directors and staff at the League of Minnesota Cities. We are writing to let you know that, after careful and deliberate discussions, the Board has adopted a 3% final dues schedule increase for the League's 2022 fiscal year. This is only the second dues increase in the past five fiscal years and reflects the evolving needs of our members in a post-pandemic environment.

Even though membership dues were held flat in fiscal year 2021 because of COVID-19 related concerns, we are pleased to report the League's operating and capital budgets were not significantly impacted by the effects of the pandemic. Our financial position remains healthy, backed by reasonable and stable fund balances and careful and deliberate planning for unforeseen expenses all reflected in positive audits.

As we noted in a letter to you in June, the past year has certainly been unique and challenging for all of us. Though the COVID-19 pandemic impact is not over yet, we are proud of our role in helping cities maintain budget stability over the past year through our advocacy for federal and state financial relief for our members, and through our efforts to keep League membership costs affordable. Our adopted budget does more than maintain the status quo by supporting expanded online learning for our members and broadens the League's capacity to respond to emerging issues and trends of our members.

You might recall that earlier this summer the League Board approved the staff recommendation to adopt a preliminary 4% dues schedule increase. The one percent reduction reflected in the final total was due to two primary considerations: 1) an increase in estimated 4M fee revenue; and 2) a reduction in the amount set aside for salary adjustments.

Attached is your 2022 membership dues invoice effective September 1. Please note that despite the fact that the scheduled dues increase for the coming year is 3%, a shift in your city's population might have an additional effect on the total dues your city pays for the coming year. To learn more about how your dues are calculated, visit <u>www.lmc.org/dues</u>.

Thank you for your continued support of League services and your partnership with our 830+ members to keep our association fiscally healthy and relevant. Please feel free to reach out to us at any time if you have questions about your city's dues or your League membership.

D. Love - President David Unmacht - Executive Director